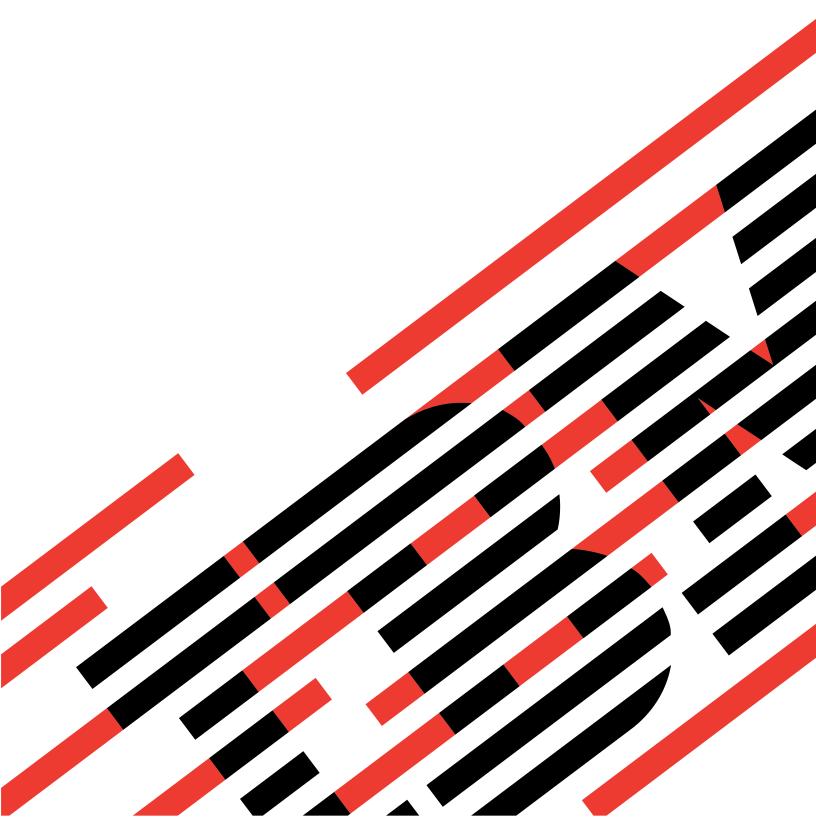# IBM

@server

iSeries

Performance Tools for iSeries Commands

Version 5 Release 3

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> **Note**
>
> Before using this information and the product it supports, be sure to read the information in
> "Notices," on page 255.

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Analyze Process Access Group (ANZACCGRP)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Analyze Process Access Group (ANZACCGRP) command produces a report that summarizes the Process Access Group (PAG) data collected earlier with the Display Access Group (DSPACCGRP) command. The report is useful in examining the process-access group data from a large number of jobs.

The environment section of the report shows a summary of all job types, the average number of files, duplicate files, display files, I/O counts, and process-access group size for the different job types. The job section shows information for each selected job. The file section shows, for each open file, the file name and type, the number of jobs using the file, the number of opens, the I/O count, and the average ODP (Open Data Path) size.

The report output is written to the printer file QSYSPRT.

Parameters

Keyword	Description	Choices	Notes
MBR	Data base file member	*Name*, **QAPAGDTA**	Optional
LIB	Data base file library	*Name*, **QPFRDATA**	Optional
TITLE	Report title	*Character value*, ***BLANK**	Optional
JOB	Job name	*Name*, **ANZACCGRP**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Data base file member (MBR)

Specifies the member in file QAPTPAGD in which the process access group data is saved by the Display Access Group (DSPACCGRP) command.

QAPAGDTA
> The standard member name, QAPAGDTA, is used.

member-name
> Specify the name of the member in which the data is saved.

Data base file library (LIB)

Specifies the library where the process access group data is saved by the Display Access Group (DSPACCGRP) command.

QPFRDATA
> The process access group data is saved in the IBM-supplied performance data library, QPFRDATA.

library-name
> Specify the name of the library where the process access group data is saved.

Report title (TITLE)

Specifies a short title that is printed at the top of each page of the report.

*BLANK
> No title is used.

report-title
> Specify a title of up to 40 characters enclosed in apostrophes.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

ANZACCGRP
> The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for any and all batch jobs.

Batch job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
>Specify the name of an alternate job description.

*NONE
>A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL   All libraries in the job's library list are searched until the first match is found.

*CURLIB
>The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
>Specify the library in which the job description is located.

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Examples

ANZACCGRP

This command produces a report from the process access group data previously stored in the default location, member QAPAGDTA of QPFRDATA/QAPTPAGD, by the Display Access Group (DSPACCGRP) command.

<div align="right">Top</div>

Error messages

*ESCAPE Messages

PFR5431
>Cannot access process access group data file.

PFR9802
>Unexpected message monitored.

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Analyze Database Files (ANZDBF)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Analyze Database Files (ANZDBF) command produces two reports that show the physical and logical files in a set of libraries and the relationships between the files. It saves the information in a database file for further analysis by the Analyze Database File Keys (ANZDBFKEY) command. Both reports (physical to logical file relationships and logical to physical file relationships) are written to the printer file QPPTANZD. Two printer files with the same name are produced. The data is saved in member QAPTAZDR of the database file QPFRDATA/QAPTAZDR.

Parameters

Keyword	Description	Choices	Notes
LIBL	Application libraries	Values (up to 10 repetitions): *Name*	Required, Positional 1
JOB	Job name	*Name*, **ANZDBF**	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Application libraries (LIBL)

Specifies the libraries that contain the database files on which to report.

This is a required parameter.

You can enter multiple values for this parameter.

library-name
> Specify up to 10 library names that are to be included in the Analyze Database File report.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

ANZDBF
> The command name is used for the job name.

job-name
> Specify the name to be used for any and all batch jobs.

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Batch job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

<div align="right">Top</div>

Examples

```
ANZDBF   LIBL(APDTA ARDTA)
```

This command produces reports showing the relationships for all files in the Accounts Payable (APDTA) and Accounts Receivable (ARDTA) data libraries.

<div align="right">Top</div>

Error messages

*ESCAPE Messages

CPF9801
> Object &2 in library &3 not found.

CPF9802
> Not authorized to object &2 in &3.

PFR9802
    Unexpected message monitored.

Analyze Database File Keys (ANZDBFKEY)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Analyze Database File Keys (ANZDBFKEY) command produces, from the data generated by the Analyze Database File (ANZDBF) command, two reports showing the key structure of the database files.

One report is written to the printer file QPPTANZK. The other report is written to the printer file QPPTANKM. QPPTANZK contains a listing of the access paths and (logical files only) selection criteria for each key field or selection rule. QPPTANKM contains a matrix of the key fields for all logical files based on the physical file.

Parameters

Keyword	Description	Choices	Notes
FILE	Physical file	*Name*, ***NUMLF**	Optional
NUMLF	Min number of logical files	1.0-99999.0, **5**	Optional
JOB	Job name	*Name*, **ANZDBFKEY**	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Physical file (FILE)

Specifies which physical files to select from the list processed by the Analyze Database File (ANZDBF) command. The report includes all logical files associated with each selected physical file.

*NUMLF
>   Specifies all physical files that have at least a minimum number of associated logical files. The specific minimum is defined by the **Min number of logical files** prompt (NUMLF parameter).

file-name
>   Specify the name of a particular physical file.

Min number of logical files (NUMLF)

Specifies the minimum number of logical files associated with a physical file before that physical file is selected. This parameter is valid only when *NUMLF is specified on the **Physical file** prompt (FILE parameter).

5   At least 5 logical files must be associated with a physical file.

file-count
>   Specify the minimum number of logical files required.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

ANZDBFKEY
>   The command name is used for the job name.

job-name
>   Specify the name to be used for any and all batch jobs.

Batch job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
>   The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
>   Specify the name of an alternate job description.

*NONE
>   A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL   All libraries in the job's library list are searched until the first match is found.

*CURLIB
>   The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
>   Specify the library in which the job description is located.

Examples

```
ANZDBFKEY   FILE(*NUMLF)  NUMLF(2)
```

This command produces reports on the keys for all files that refer to physical files with at least two associated logical files.

Error messages

*ESCAPE Messages

PFR5251
> Cannot access data to analyze data base file.

PFR9802
> Unexpected message monitored.

Analyze Performance Data (ANZPFRDTA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Analyze Performance Data (ANZPFRDTA) command produces recommendations to improve the performance of the user's system. In the interactive mode, you can request that the system make the recommended changes. In the batch mode, the recommended changes are printed, and you must then enter the individual commands to make the recommended changes.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*, ***SELECT**	Optional, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
OUTPUT	Output	*****, *PRINT	Optional, Positional 3
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**, *SELECT	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
DATATYPE	Data type	***ALL**, *SAMPLE	Optional

Member (MBR)

Specifies the member that contains the performance data collected by Collections Services from the Operations Navigator interface.

*SELECT
> An interval selection display is shown from which you can select one or more intervals for inclusion. This value is valid only in the interactive mode.

member-name
> Specify the name of the member containing the performance data.

Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA

The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name

Specify the name of the library where the performance database files are located.

Output (OUTPUT)

Specifies whether the output is printed or displayed.

*

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

*PRINT

The output is printed with the job's spooled output.

Time period for report (PERIOD)

Specifies the period of time on which to report. The parameter consists of four elements: a starting time and date, and an ending time and date. Data collected prior to the starting time on the starting date and after the ending time on the ending date is not included in the report.

The symbol *N can be used to designate the default value for any of the four elements.

The possible **starting time** values are:

*FIRST

Data records starting from the beginning of the first day (00:00:00) of the collection period are included.

*SELECT

An interval selection screen is displayed from which you can select one or more intervals for inclusion. This value is valid only in the interactive environment. If this value is used, the remaining values of this parameter (starting time and date and ending time and date) are ignored.

start-time

Specify the time of the first data record to include in the report, using the format, **hhmm** or **hhmmss**, where **hh** is the hours, **mm** is the minutes, and **ss** is the seconds.

The time is specified in 24-hour format with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

All time and date entries must be 2-digits in length, meaning zeros must be included.

The possible **starting date** values are:

*FIRST

Data records starting from the first day of the collection period are included in the report.

start-date
> Specify the date of the first data record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

The possible **ending time** values are:

*LAST
> Data records through the end of the day (23:59:59) are included in the report.

end-time
> Specify the time of the last data record to include in the report. Use the same format used for the starting time.

The possible **ending date** values are:

*LAST
> Data records through the last day of the collection period are included in the report.

end-date
> Specify the date of the last record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

Report option (DATATYPE)

Specifies the type of data that is analyzed.

*ALL All data (sample data and trace data) is analyzed.

*SAMPLE
> Only sample data is analyzed.

Examples

ANZPFRDTA

This command provides recommendations for improving the performance of the system.

Error messages

*ESCAPE Messages

PFR1010
> Cannot process request because of missing data.

PFR5501
> Performance data file(s) are not upward compatible.

PFR5502
> Performance data file(s) are not downward compatible.

PFR7003
> Cannot show performance data.

PFR7005
> Cannot show performance data.

Analyze Programs (ANZPGM)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Analyze Programs (ANZPGM) command produces a report that shows the programs and files in a set of libraries and the relationships between them. Both reports are written to the printer file QPPTANZP. Two printer files are produced with the same name. One printer file contains Program-to-File cross reference information. The other printer file contains File-to-Program cross reference information.

Parameters

Keyword	Description	Choices	Notes
LIBL	Application libraries	Values (up to 10 repetitions): *Name*	Required, Positional 1
JOB	Job name	*Name*, **ANZPGM**	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Application libraries (LIBL)

Specifies the libraries that contain the programs on which to report.

This is a required parameter.

You can enter multiple values for this parameter.

library-name
> Specify up to 10 library names to be included in the Analyze Program report.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

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The possible **job name** values are:

ANZPGM

> The command name is used for the job name.

job-name

> Specify the name to be used for any and all batch jobs.

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Batch job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD

> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name

> Specify the name of an alternate job description.

*NONE

> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL   All libraries in the job's library list are searched until the first match is found.

*CURLIB

> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name

> Specify the library in which the job description is located.

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Examples

```
ANZPGM   LIBL(APPGM ARPGM)
```

This command produces reports showing the program and file relationships for all programs in the Accounts Payable (APPGM) and Accounts Receivable (ARPGM) program libraries.

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Error messages

*ESCAPE Messages

CPF9801

> Object &2 in library &3 not found.

CPF9802

> Not authorized to object &2 in &3.

PFR9802
Unexpected message monitored.

Change Functional Area (CHGFCNARA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Change Functional Area (CHGFCNARA) command allows you to change functional areas on your system. Functional areas are used by performance tools for reports and graphics. A functional area is a pre-defined list of job names and/or user names that are to be included in a report or graph.

Parameters

Keyword	Description	Choices	Notes
FCNARA	Functional area	*Character value*	Required, Key, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional, Key, Positional 2
TEXT	Text 'description'	*Character value*, *BLANK, ***SAME**	Optional
JOB	Job name	Single values: ***SAME**, *NONE Other values (up to 250 repetitions): *Qualified object name*	Optional
	Qualifier 1: Job name	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*	

Functional area (FCNARA)

Specifies the name of the functional area to be created or changed. Enclose the name in apostrophes if it contains any spaces between characters.

This is a required parameter.

Library (LIB)

Specifies the library where the functional area is located.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the functional area is located.

library-name
> Specify the name of the library where the functional area is located.

Text 'description' (TEXT)

Specifies text that briefly describes the functional area.

*SAME
> The text does not change.

*BLANK
> No text is specified.

description
> Specify no more than 30 characters of text, enclosed in apostrophes.

Job name (JOB)

Specifies a list of jobs to include in a functional area. A job identifier is either the special value *SAME, *NONE, or a qualified name with up to two elements, for example:

```
*SAME
job-name
user-name/job-name
```

*N may be used in place of an element that follows the values being specified. For example, USER1/*N specifies the user name USER1, regardless of the job name. Without specifying *N, USER1 would have been interpreted as the job name, not the user name.

*SAME
> The jobs do not change.

*NONE
> The functional area is cleared of all jobs.

job-name
> Specify the name of the job to include in the functional area. This can be either a specific or generic name.

user-name
> Specify the name of user to include in the functional area. This can be either a specific or generic name.

Examples

Example 1: Changing Functional Area to Three Entries

```
CHGFCNARA   FCNARA(PERSONNEL)  JOB(DAN/*N  MARCY/*N  RANDY/QPG*)
```

This command changes the functional area PERSONNEL to three entries:

- The user DAN.
- The user MARCY.
- Any job beginning with QPG submitted by RANDY.

The functional area is changed in the QPFRDATA library.

Example 2: Changing Functional Area to Four Entries

```
CHGFCNARA   FCNARA('Performance Tools')  LIB(RPFT)
            JOB(PRT*  TERESA/*N  KAREN/*N  JIM/QPFRXXX)
```

This command changes the functional area 'Performance Tools' to four entries:

- Any job beginning with PRT.
- The user TERESA.
- The user KAREN.
- Any QPFRXXX job submitted by JIM.

The functional area is created in library RPFT.

Error messages

*ESCAPE Messages

CPF0011
    Error detected by prompt override program.

PFR9064
    Cannot change functional area &2.

Change Graph Format (CHGGPHFMT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Change Graph Format (CHGGPHFMT) command changes a graph format used to display performance and historical graphs.

Parameters

Keyword	Description	Choices	Notes
GPHFMT	Graph format	*Qualified object name*	Required, Key, Positional 1
	Qualifier 1: Graph format	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**	
TEXT	Text 'description'	*Character value*, ***SAME**, *BLANK	Optional, Positional 2
TITLE	Title	*Character value*, ***SAME**, *BLANK, *MBRTEXT	Optional
SUBTITLE	Subtitle	*Character value*, ***SAME**, *BLANK, *MBRTEXT	Optional
GPHTYPE	Graph type	***SAME**, *SURFACE, *LINE, *CBAR, *FBAR, *SCATTER	Optional
DATATYPE	Data type	***SAME**, *FCNARA, *JOBTYPE, *PRIORITY, *IOP, *DISK, *CMNLINE, *ALL	Optional
AREAFILL	Area fill	***SAME**, *YES, *NO	Optional
REFLINE	Reference line	1-99999, ***SAME**, *NONE	Optional
XAXIS	X-axis	*Element list*	Optional
	Element 1: Variable	***SAME**, *TIME, *CPU, *TNS, *NBRTNS, *RSP, *SYNCIO, *NBRSYNC, *ASYNCIO, *NBRASYNC, *TOTDSKIO, *NBRDSKIO	
	Element 2: Title	*Character value*, ***SAME**, *DFT, *BLANK	
	Element 3: Range	Single values: ***SAME**, *AUTO Other values: *Element list*	
	Element 1: First	0-99999	
	Element 2: Last	0-99999	
YAXIS	Y-axis	*Element list*	Optional
	Element 1: Variable	***SAME**, *CPU, *TNS, *NBRTNS, *RSP, *SYNCIO, *NBRSYNC, *ASYNCIO, *NBRASYNC, *TOTDSKIO, *NBRDSKIO, *CMNIOP, *DSKIOP, *LWSIOP, *MFCIOP, *MFDIOP, *DSKARM, *PCTDSKOCC, *CMNLINE, *LGLDBIO	
	Element 2: Title	*Character value*, ***SAME**, *DFT, *BLANK	
	Element 3: Range	Single values: ***SAME**, *AUTO Other values: *Element list*	
	Element 1: First	0-99999	
	Element 2: Last	0-99999	

Keyword	Description	Choices	Notes
FCNARA	Functional area entry	Single values: ***SAME** Other values (up to 16 repetitions): *Element list*	Optional
	Element 1: Functional area	*Character value*, *OTHER	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	
JOBTYPE	Job type entry	Single values: ***SAME** Other values (up to 16 repetitions): *Element list*	Optional
	Element 1: Job type	*ALL, *ALLINTER, *ALLBATCH, *ALLSYSTEM, *ASJ, *BCH, *CA4, *DDM, *EVK, *INT, *MRT, *PCS, *PDJ, *PJ, *PTH, *RDR, *S36, *SBS, *SYS, *WTR, *OTHER	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	
PRIORITY	Job priority entry	Single values: ***SAME** Other values (up to 16 repetitions): *Element list*	Optional
	Element 1: Lower priority boundary	0-99, *OTHER, *ALL	
	Element 2: Upper priority boundary	0-99	
	Element 3: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 4: Line type	1-8, **7**	
	Element 5: Non-graphic display symbol	*Character value*, *****	
IOP	IOP data entry	Single values: ***SAME** Other values (up to 2 repetitions): *Element list*	Optional
	Element 1: Type of utilization	*AVG, *MAX	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	
DISK	Disk data entry	Single values: ***SAME** Other values (up to 2 repetitions): *Element list*	Optional
	Element 1: Type of utilization	*AVG, *MAX	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	

Keyword	Description	Choices	Notes
CMNLINE	Communications line entry	Single values: *SAME Other values (up to 16 repetitions): *Element list*	Optional
	Element 1: Communications line	*Name*, *MAX	
	Element 2: Legend 'description'	*Character value*, **DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	
ALLDATA	All data entry	Single values: *SAME Other values: *Element list*	Optional
	Element 1: Legend 'description'	*Character value*, **DFT**, *BLANK	
	Element 2: Line type	1-8, **7**	
	Element 3: Non-graphic display symbol	*Character value*, *****	

Graph format (GPHFMT)

Specifies the graph format to be changed.

This is a required parameter.

QPFRDATA
>	The IBM-supplied performance data library, QPFRDATA, is where the graph format is located.

library-name
>	Specify the name of the library where the graph format is located.

format-name
>	Specify the name of the graph format to be changed.

Text 'description' (TEXT)

Specifies the user-defined text that briefly describes the graph format or graph package.

*SAME
>	The text does not change.

*BLANK
>	The text description for the graph format or graph package is left blank.

description
>	Specify text no more than 50 characters enclosed in apostrophes.

Title (TITLE)

Specifies the title for the graph.

*SAME
> The title does not change.

*BLANK
> The title is left blank.

*MBRTEXT
> The text of the database member used in creating the graph with this format is used as the title.

graph-title
> Specify a graph title of no more than 50 characters in length. Enclose the user-defined title in apostrophes.

Subtitle (SUBTITLE)

Specifies the subtitle for the graph.

*SAME
> The subtitle does not change.

*BLANK
> The subtitle for the graph is left blank.

*MBRTEXT
> The text of the database member used in creating the graph with this format is used as the subtitle.

graph-subtitle
> Specify a graph subtitle of not more than 50 characters in length. Enclose the user defined subtitle in apostrophes.

Graph type (GPHTYPE)

Specifies the type of graph being created using this format.

*SAME
> The type of graph to produce does not change.

*SURFACE
> The graph is a surface graph.

*LINE The graph is a line graph.

*CBAR
> The graph is a composite bar graph.

*FBAR
> The graph is a floating bar graph.

*SCATTER
> The graph is a scatter diagram.

Data type (DATATYPE)

Specifies the type of data to include in the graph.

*SAME
> The data type does not change.

*ALL   The graph presents information for all jobs.

*FCNARA
> This value puts jobs into each of the functional areas that are to be graphed. Functional areas must be unique over the data that is graphed. That is, if a job exists in more than one of the functional areas selected for the graph, an error message is issued indicating that the job exists in more than one functional area. Also, you cannot use functional areas to graph historical data.

*JOBTYPE
> This value includes individual job types, such as interactive, and conglomerate types, such as *ALLINTER (all interactive), *ALLBATCH (all batch), and *ALLSYSTEM (all system). All interactive refers to a job with a job type of I and includes interactive, iSeries Access, System/36, MRT, and display station pass-through jobs.

*PRIORITY
> This value puts jobs into priority ranges. For example, the range 10-20 includes all jobs that have priorities between 10 and 20, inclusive.

*IOP   This value allows you to graph maximum and average utilization lines for the particular type of input/output processor.

> If you specify DATATYPE(*IOP), one of the following combinations must be specified:
> * YAXIS(*CMNIOP) and XAXIS(*TIME)
> * YAXIS(*DSKIOP) and XAXIS(*TIME)
> * YAXIS(*LWSIOP) and XAXIS(*TIME)
> * YAXIS(*MFCIOP) and XAXIS(*TIME)
> * YAXIS(*MFDIOP) and XAXIS(*TIME)

*DISK
> This value allows you to graph maximum and average utilization lines for the disk arms. It also allows maximum and average lines for the percentage of disk occupied.

> If you specify DATATYPE(*DISK), then one of the following combinations must be specified:
> * YAXIS(*DSKARM) and XAXIS(*TIME)
> * YAXIS(*PCTDSKOCC) and XAXIS(*TIME)

*CMNLINE
> This value allows you to graph individual communications line use or the maximum use of all communications lines. This value is valid only if YAXIS(*CMNLINE) and XAXIS(*TIME) are specified.

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Area fill (AREAFILL)

Specifies whether areas on the graph are filled in.

*SAME
> The area-fill value does not change.

*YES   The areas on the graph are filled in.

*NO   The areas on the graph are not filled in.

<div align="right">Top</div>

Reference line (REFLINE)

Specifies where to place a reference line on the graph. The reference line is placed on the Y-axis. The line is parallel to the X-axis.

*SAME

> The reference line value does not change.

*NONE

> No reference line is placed on the graph.

reference-line-number

> Specify the number on the Y-axis on which the reference line is placed.

X-axis (XAXIS)

Specifies the list of characteristics that are used for changing the X-axis on the graph.

The possible **X-axis variable** values are:

*SAME

> The X-axis variable does not change.

*TIME

> Time is mapped along the X-axis.

*CPU   Utilization of the processing unit is mapped along the X-axis.

*TNS   The number of transactions per hour is mapped along the X-axis.

*NBRTNS

> The total number of transactions is mapped along the X-axis.

*RSP   Response time is mapped along the X-axis.

*SYNCIO

> Synchronous disk input/output (I/O) per second is mapped along the X-axis.

*NBRSYNC

> The total number of synchronous disk I/O operations is mapped along the X-axis.

*ASYNCIO

> Asynchronous disk I/O per second is mapped along the X-axis.

*NBRASYNC

> The total number of asynchronous disk I/O operations is mapped along the X-axis.

*TOTDSKIO

> Total disk I/O operations per second is mapped along the X-axis.

*NBRDSKIO

> The total number of disk I/O is mapped along the X-axis.

The possible **X-axis Title** values are:

*SAME

> The X-axis title does not change.

*DFT   The X-axis variable is used for the X-axis title.

*BLANK

> The title for the X-axis is left blank.

X-axis-title

Specify a title of no more than 30 characters for the X-axis. Enclose the title in apostrophes.

The possible **Starting and Ending Range for the X-axis** values are:

*SAME

The X-axis range values do not change.

*AUTO

The X-axis range is automatically calculated. This value must be specified if *TIME is specified for the X-axis variable.

starting-number

Specify the starting number for the range on the X-axis. If you specify a starting number, you must also specify an ending number.

ending-number

Specify the ending number for the range on the X-axis. If you specify an ending number, you must also specify a starting number.

<div align="right">Top</div>

Y-axis (YAXIS)

Specifies the list of characteristics that are used for changing the Y-axis on the graph.

The possible **Y-axis variable** values are:

*SAME

The Y-axis variable does not change.

*CPU   Utilization of the processing unit is mapped along the Y-axis.

*TNS   The number of transactions per hour is mapped along the Y-axis.

*NBRTNS

The total number of transactions is mapped along the Y-axis.

*RSP   Response time is mapped along the Y-axis.

*SYNCIO

Synchronous disk input/output (I/O) per second is mapped along the Y-axis.

*NBRSYNC

The total number of synchronous disk I/O operations is mapped along the Y-axis.

*ASYNCIO

Asynchronous disk I/O per second is mapped along the Y-axis.

*NBRASYNC

The total number of asynchronous disk I/O operations is mapped along the Y-axis.

*TOTDSKIO

Total disk I/O per second is mapped along the Y-axis.

*NBRDSKIO

The total number of disk I/O operations is mapped along the Y-axis.

*CMNIOP

Utilization of the communications input/output processor (IOP) is mapped along the Y-axis. If **YAXIS(*CMNIOP)** is specified, then **XAXIS(*TIME)** must be specified.

*DSKIOP

Utilization of the disk IOP is mapped along the Y-axis. If **YAXIS(*DSKIOP)** is specified, then **XAXIS(*TIME)** must be specified.

*LWSIOP

Utilization of the local work station IOP is mapped along the Y-axis. If **YAXIS(*LWSIOP)** is specified, then **XAXIS(*TIME)** must be specified.

*MFCIOP

Utilization of the multifunction IOP for communications is mapped along the Y-axis. If **YAXIS(*MFCIOP)** is specified, then **XAXIS(*TIME)** must be specified.

*MFDIOP

Utilization of the multifunction IOP for disks is mapped along the Y-axis. If **YAXIS(*MFDIOP)** is specified, then **XAXIS(*TIME)** must be specified.

*DSKARM

Utilization of the disk arm is mapped along the Y-axis. If **YAXIS(*DSKARM)** is specified, then **XAXIS(*TIME)** must be specified.

*PCTDSKOCC

The percentage of information occupying the disk is mapped along the Y-axis. If **YAXIS(*PCTDSKOCC)** is specified, then **XAXIS(*TIME)** must be specified.

*CMNLINE

Utilization of communications lines is mapped along the Y-axis. If **YAXIS(*CMNLINE)** is specified, then **XAXIS(*TIME)** must be specified.

*LGLDBIO

The total number of logical database I/O operations is mapped along the Y-axis.

The possible **Y-axis Title** values are:

*SAME

The Y-axis title does not change.

*DFT   The Y-axis variable is used for the Y-axis title.

*BLANK

The title for the Y-axis is left blank.

Y-axis-title

Specify a title of no more than 30 characters for the Y-axis. Enclose the title in apostrophes.

The possible **Starting and Ending Range for the Y-axis** values are:

*SAME

The Y-axis range values do not change.

*AUTO

The Y-axis range is automatically calculated.

starting-number

Specify the starting number for the range on the Y-axis. If you specify a starting number, you must also specify an ending number.

ending-number

Specify the ending number for the range on the Y-axis. If you specify an ending number, you must also specify a starting number.

Top

Functional area entry (FCNARA)

Specifies the list of characteristics to be used for each functional area on the graph. This parameter is valid only when **DATATYPE(*FCNARA)** is specified. When **DATATYPE(*FCNARA)** is specified, at least 1, but not more than 16 functional area entries must be specified.

*SAME
>   The characteristics of the functional areas do not change.

The possible **Functional Area Name** values are:

*OTHER
>   All jobs that do not belong in one of the functional areas specified in this parameter are grouped together.

functional-area-name
>   Specify the name of the functional area.

The possible **Functional Area Legend Description** values are:

*DFT   The name or special value specified for the functional area name is used as the legend description.

*BLANK
>   The legend description for the functional area is left blank.

legend-description
>   Specify the legend description for the functional area. Enclose the description in apostrophes.

The possible **Graphic Display Line Type** values are:

7 (Solid)
>   The solid line is used for the lines representing the functional area on graphic terminals.

line-type-number
>   Specify the number of the line type to use for lines representing the functional area on graphic terminals. There are 8 types of lines from which you can choose:
>   1. Dotted
>   2. Short-dashed
>   3. Dash-dot
>   4. Double-dot
>   5. Long-dashed
>   6. Dash-dot-dot
>   7. Solid
>   8. Invisible

The possible **Nongraphic Work Station Symbol used for the Functional Area** values are:

*   The asterisk symbol is used for graphic representation of the functional area on nongraphic terminals.

character
>   Specify a character to use for graphic representation of the functional area on nongraphic terminals.

Job type entry (JOBTYPE)

Specifies the list of characteristics to be used for changing job type information on the graph. This parameter is valid only when **DATATYPE(*JOBTYPE)** is specified. When **DATATYPE(*JOBTYPE)** is specified, at least 1, but not more than 16 job type entries must be specified.

*SAME
> The characteristics for the job types do not change.

> The possible **Job Type** values are:

*ALL   All job types are grouped together.

*ALLINTER
> All interactive job types include:
> - DDM jobs
> - Pass-through jobs
> - iSeries Access server jobs, except those that process batch activities only
> - Interactive jobs
> - System/36 environment jobs
> - Multiple requester terminal jobs

*ALLBATCH
> All batch job types include:
> - Batch jobs
> - iSeries Access server jobs, those that process batch activities only
> - Evoke jobs
> - Writer jobs
> - Reader jobs
> - Prestart jobs
> - Autostart jobs
> - Print driver jobs

*ALLSYSTEM
> All system jobs includes:
> - System jobs
> - Subsystem monitor jobs

*ASJ   Autostart jobs

*BCH   Batch jobs

*CA4   iSeries Access server jobs

*DDM
> Distributed Data Management (DDM) jobs

*EVK   Jobs started by a procedure start request

*INT   Interactive jobs

*MRT   Multiple requester terminal jobs

*PCS   iSeries Access server jobs

*PDJ   Print Driver jobs

*PJ   Prestart jobs

*PTH   Pass-through jobs

*RDR Reader jobs

*S36 System/36 environment jobs

*SBS Subsystem monitor jobs

*SYS System jobs

*WTR Writer jobs

*OTHER
> All job types that have not been specified on this parameter are grouped together.

The possible **Job Type Legend Description** values are:

*DFT The value specified for the job type is used as the legend description.

*BLANK
> The legend description for the job type is left blank.

legend-description
> Specify the legend description for the job type. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for the Job Type** values are:

7 (Solid)
> The solid line is used for lines representing the job type on graphic terminals.

line-type-number
> Specify the number of the line type to use for lines representing the job type on graphic terminals. There are 8 types of lines from which you can choose:
> 1. Dotted
> 2. Short-dashed
> 3. Dash-dot
> 4. Double-dot
> 5. Long-dashed
> 6. Dash-dot-dot
> 7. Solid
> 8. Invisible

The possible **Nongraphic Work Station Symbol used for the Job Type** values are:

* The asterisk (*) is used for graphic representation of the job type on nongraphic terminals.

character
> Specify a character to use for graphic representation of the job type on nongraphic terminals.

Job priority entry (PRIORITY)

Specifies the characteristics to be used for changing job priority information on the graph. This parameter is valid only when **DATATYPE(*PRIORITY)** is specified. When **DATATYPE(*PRIORITY)** is specified, at least 1, but not more than 16 job priority entries must be specified.

*SAME

> The characteristics for the job priorities do not change.

> The possible **Job Priority Boundaries** values are:

*ALL   All job priorities are grouped together.

*OTHER

> All job priorities that do not fall within the job priority boundaries specified on this parameter are grouped together.

lower-priority-boundary

> Specify the lower job priority boundary. Valid values range from 0 through 99.

upper-priority-boundary

> Specify the upper job priority boundary. You can specify a value ranging from 0 through 99. The upper boundary value must be greater than or equal to the lower boundary value.

> The possible **Job Priority Legend Description** values are:

*DFT   The value specified for the boundaries is used as the legend description.

*BLANK

> The legend description for the job priority is left blank.

legend-description

> Specify the legend description for the job priority. Enclose the description in apostrophes.

> The possible **Graphic Display Line Type for the Job Priority** values are:

7 (Solid)

> The solid line is used for lines representing the job priority on graphic terminals.

line-type-number

> Specify the number of the line type to use for lines representing the job priority on graphic terminals. There are 8 types of lines from which you can choose:
> 1. Dotted
> 2. Short-dashed
> 3. Dash-dot
> 4. Double-dot
> 5. Long-dashed
> 6. Dash-dot-dot
> 7. Solid
> 8. Invisible

> The possible **Nongraphic Work Station Symbol used for the Job Priority** values are:

*   The asterisk symbol is used for graphic representation of the job priority on nongraphic terminals.

character

> Specify a character to use for graphic representation of the job priority on nongraphic terminals.

Top

IOP data entry (IOP)

Specifies the characteristics to be used for changing input/output processor (IOP) information on the graph. This parameter is valid only when **DATATYPE(*IOP)** is specified. When **DATATYPE(*IOP)** is specified, at least 1, but not more than 2 IOP data entries must be specified.

*SAME
> The characteristics of the IOP information do not change.

> The possible **Amount of Utilization for IOP type** values are:

> ***AVG**   The average utilization of the IOP type is presented on the graph.

> ***MAX**   The maximum utilization of the IOP type is presented on the graph.

The possible **IOP Type Legend Description** values are:

*DFT   The value specified for the amount of utilization is used as the legend description.

*BLANK
> The legend description for the IOP data is left blank.

legend-description
> Specify the legend description for the IOP data. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for the IOP type** values are:

7 (Solid)
> The solid line is used for lines representing the IOP type on graphic terminals.

line-type-number
> Specify the number of the line type to use for lines representing the IOP type on graphic terminals. There are 8 types of lines from which you can choose:
> 1. Dotted
> 2. Short-dashed
> 3. Dash-dot
> 4. Double-dot
> 5. Long-dashed
> 6. Dash-dot-dot
> 7. Solid
> 8. Invisible

The possible **Nongraphic Work Station Symbol used for the IOP type** values are:

*   The asterisk (*) is used for graphic representation of the IOP type on nongraphic terminals.

character
> Specify a character to use for graphic representation of the IOP type on nongraphic terminals.

Disk data entry (DISK)

Specifies the characteristics to be used for changing disk data information on the graph. This parameter is valid only when **DATATYPE(*DISK)** is specified. When **DATATYPE(*DISK)** is specified, at least 1, but not more than 2 disk data entries must be specified. The types of disk data are disk arm utilization and percent of disk occupied.

*SAME

The characteristics for disk data information do not change.

The possible **Amount of Utilization for Disk Data type** values are:

*AVG The average utilization of the disk data type is presented on the graph.

*MAX The maximum utilization of the disk data type is presented on the graph.

The possible **Disk Data Type Legend Description** values are:

*DFT The value specified for the amount of utilization is used as the legend description.

*BLANK

The legend description for the disk data type is left blank.

legend-description

Specify the legend description for the disk data type. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for the Disk Data Type** values are:

7 (Solid)

The solid line is used for lines representing the disk data type on graphic terminals.

line-type-number

Specify the number of the line type to use for lines representing the disk data on graphic terminals. There are 8 types of lines from which you can choose:

1. Dotted
2. Short-dashed
3. Dash-dot
4. Double-dot
5. Long-dashed
6. Dash-dot-dot
7. Solid
8. Invisible

The possible **Nongraphic Work Station Symbol used for the Disk Data type** values are:

* An asterisk (*) is used for graphic representation of the disk data on nongraphic terminals.

character

Specify a character to use for graphic representation of the disk data on nongraphic terminals.

Top

Communications line entry (CMNLINE)

Specifies the characteristics to be used for changing communications line information on the graph. This parameter is valid only when **DATATYPE(*CMNLINE)** is specified. When **DATATYPE(*CMNLINE)** is specified, at least one, but not more than 16 communications line entries must be specified.

*SAME

The characteristics of the communications line information do not change.

The possible **Communications Line Name** values are:

*MAX The maximum utilization of all the communications lines is presented on the graph.

communications-line-name
> Specify the name of the communications line whose utilization is presented on the graph.

The possible **Communications Line Legend Description** values are:

*DFT The name or special value specified for the communications line name is used for the legend description.

*BLANK
> The legend description for the communications line is left blank.

legend description
> Specify the legend description for the communications line. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for the Communications Line** values are:

7 (Solid)
> The solid line is used for lines representing the communications line on graphic terminals.

line-type-number
> Specify the number of the line type to use for lines representing the communications line on graphic terminals. There are 8 types of lines from which you can choose:
> 1. Dotted
> 2. Short-dashed
> 3. Dash-dot
> 4. Double-dot
> 5. Long-dashed
> 6. Dash-dot-dot
> 7. Solid
> 8. Invisible

The possible **Nongraphic Work Station Symbol used the Communications Line** values are:

* The asterisk (*) is used for graphic representation of the communications line on nongraphic terminals.

character
> Specify a character to use for graphic representation of the communications line on nongraphic terminals.

Top

All data entry (ALLDATA)

Specifies the characteristics to be used for changing information on the graph for all jobs. This parameter is valid only when **DATATYPE(*ALL)** is specified.

*SAME
> The characteristics for all of the job data do not change.
>
> The possible **Legend Description for All of the Job Data** values are:
>
> ***DFT** The value *ALL is used for the legend description.

*BLANK

>   The legend description for the data is left blank.

legend-description

>   Specify the legend description for the data. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for all of the Job Data** values are:

7 (Solid)

>   The solid line is used for lines representing all of the job data on graphic terminals.

line-type-number

>   Specify the number of the line type to use for lines representing all of the job data on graphic terminals. There are 8 types of lines from which you can choose:
>
>   1. Dotted
>   2. Short-dashed
>   3. Dash-dot
>   4. Double-dot
>   5. Long-dashed
>   6. Dash-dot-dot
>   7. Solid
>   8. Invisible

The possible **Nongraphic Work Station Symbol used for all of the Job Data** values are:

*

>   The asterisk symbol is used for graphic representation of all of the job data on nongraphic terminals.

character

>   Specify a character to use for graphic representation of all of the job data on nongraphic terminals.

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Examples

```
CHGGPHFMT   GRAPH(FORMAT1)  DATATYPE(*ALL)
            ALLDATA(ABCCOMPANY *DFT 7)
```

This command changes the graph format named FORMAT1 in the QPFRDATA library and groups all the data together. The data legend description is ABCCOMPANY, and it is represented on the graph with a solid line.

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Error messages

*ESCAPE Messages

CPF0011

>   Error detected by prompt override program.

PFR9001

>   DATATYPE(*IOP) must be specified to use IOP variable.

PFR9002

DATATYPE(*DISK) must be specified to use a disk variable.

PFR9003

An IOP variable must be specified for YAXIS.

PFR9004

Disk variable must be specified for YAXIS.

PFR9006

*TIME must be specified for XAXIS.

PFR9007

*TIME must be specified for XAXIS.

PFR9009

Graph format &2 not found in library &1.

PFR9010

No functional area &2 exists.

PFR9014

Graph axis range specified not correct.

PFR9015

Priority boundaries specified not correct.

PFR9016

Value for FCNARA parameter must be specified.

PFR9017

Value for JOBTYPE parameter must be specified.

PFR9018

Value for PRIORITY parameter must be specified.

PFR9019

Value for IOP parameter must be specified.

PFR9020

Value for DISK parameter must be specified.

PFR9021

Both axis variables cannot be the same.

PFR9030

Package &1 contains format &2.

PFR9040

Specify *AUTO for range with *TIME for variable.

PFR9081

Functional area name not valid.

PFR9090

DATATYPE(*CMNLINE) must be specified to use a communications line variable.

PFR9091

Communications line variable must be specified for YAXIS.

PFR9092

Value for CMNLINE parameter must be specified.

PFR9094

Graph format &3 not found in library &2.

PFR9106
>Too many data lines specified for scatter graph.

PFR9116
>*LGLDBIO only valid when *JOBTYPE specified for DATATYPE parameter

PFR9117
>*DDM must be specified for Job type parameter.

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Change Graph Package (CHGGPHPKG)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Change Graph Package (CHGGPHPKG) command changes a graph package that includes one or more graph formats.

Parameters

Keyword	Description	Choices	Notes
GPHPKG	Graph package	*Qualified object name*	Required, Key, Positional 1
	Qualifier 1: Graph package	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**, *CURLIB	
TEXT	Text 'description'	*Character value*, *BLANK, ***SAME**	Optional
GPHFMT	Graph format	Single values: ***SAME**, *SELECT Other values (up to 25 repetitions): *Name*	Optional

Graph package (GPHPKG)

Specifies the graph package to create or change.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph package is located.

*LIBL The library list is used to locate the graph package.

*CURLIB
> The current library for the job is used to locate the graph package. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph package is located.

graph-package
> Specify the name of the graph package. This is a required parameter.

Text 'description' (TEXT)

Specifies the user-defined text that briefly describes the graph format or graph package.

*SAME
> The text does not change.

*BLANK

      The text description for the graph format or graph package is left blank.

description

      Specify text no more than 50 characters enclosed in apostrophes.

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Format (GPHFMT)

Specifies the graph formats to include in the graph package.

*SAME

      The list of graph formats does not change.

*SELECT

      Shows a list of graph formats to select to be included in the graph package. This value is valid only in an interactive environment.

format-name

      Specify the graph format to be included in the graph package. Up to 25 format names can be specified.

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Examples

Example 1: Changing Graph Package to Contain Three Formats

```
CHGGPHPKG   GPHPKG(EXAMPLE)   TEXT('THIS IS AN EXAMPLE')
            GPHFMT(GPH1 GPH9 GPH12)
```

This command changes a graph package called EXAMPLE to contain three formats, GPH1, GPH9, and GPH12. This package is located in the default library, QPFRDATA.

Example 2: Changing Graph Package to Contain Two Formats

```
CHGGPHPKG   GPHPKG(MYLIB/MYPKG)   TEXT('MY PACKAGE')
            GPHFMT(MYGPH1 MYGPH2)
```

This command changes a graph package called MYPKG to contain the formats of MYGPH1 and MYGPH2. MYPKG is located in the MYLIB library.

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Error messages

*ESCAPE Messages

CPF0011

      Error detected by prompt override program.

PFR9012

      Graph package &2 not found in library &1.

PFR9013

      Graph format &2 cannot be added.

PFR9032

      Too many formats selected.

Change Job Type (CHGJOBTYP)

Where allowed to run:
- Interactive job (*INTERACT)
- Interactive program (*IPGM)
- Using QCMDEXEC, QCAEXEC, or QCAPCMD API (*EXEC)

Threadsafe: No

The Change Job Type (CHGJOBTYP) command allows you to change the job type for jobs that appear on the reports you produce using the Print Transaction Report (PRTTNSRPT) command. With this command you can change the characteristics of a job (for example, from batch to interactive), correct a missing job type, or assign a job type.

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Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2

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Member (MBR)

Specifies the performance data member used. This name should correspond to the member name specified on the MBR parameter of the End Performance Trace (ENDPFRTRC) command.

This is a required parameter.

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Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA
 The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name
 Specify the name of the library where the performance database files are located.

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Examples

Example 1: Start a New Session

```
CHGJOBTYP  MBR(TEST)  LIB(QPFRDATA)
```

This command will show a list of all the jobs in member TEST (within QAPMDMPT file, in QPFRDATA library), from which the job type can be changed, for example from batch (B) to interactive (I).

Error messages

*ESCAPE Messages

PFR3280
>   Performance data files for this report do not exist.

Copy Functional Area (CPYFCNARA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Copy Functional Area (CPYFCNARA) command allows the user to copy a functional area to a new functional area. Functional areas are used for performance tools reports and graphics. A functional area is a pre-defined list of job names and user names that are included in a report or graph.

Parameters

Keyword	Description	Choices	Notes
FROMFCNARA	From functional area	*Character value*	Required, Positional 1
FROMLIB	From library	*Name*, **QPFRDATA**	Optional, Positional 2
TOFCNARA	To functional area	*Character value*, ***FROMFCNARA**	Optional, Positional 3
TOLIB	To library	*Name*, ***FROMLIB**	Optional, Positional 4
REPLACE	Replace	***NO**, *YES	Optional

From functional area (FROMFCNARA)

Specifies the name of the functional area from which to copy. Enclose the name in apostrophes if it contains any spaces between characters.

This is a required parameter.

From library (FROMLIB)

Specifies the location of the functional area to be copied.

The possible library values are:

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is the location of the functional area.

library-name
> Specify the name of the library where the functional area is located.

To functional area (TOFCNARA)

Specifies the name of the functional area to which the copy is sent.

The possible library values are:

FROMFCNARA
> The name specified on the FROMFCNARA parameter is used.

functional-area-name
> Specify the name of the functional area to which the copy is sent. Enclose the name in apostrophes if it contains any spaces between characters.

<div align="right">Top</div>

To library (TOLIB)

Specifies the library to which the copy of the functional area is sent.

The possible library values are:

*FROMLIB
> The functional area is copied to the library specified on the FROMLIB parameter.

library-name
> Specify the name of the library to which functional area is copied.

<div align="right">Top</div>

Replace (REPLACE)

Specifies whether to replace the functional area in the **To functional area** prompt (TOFCNARA parameter) if the functional area already exists.

*NO   The existing functional area is not replaced with the new functional area.

*YES   The existing functional area is replaced with the new functional area.

<div align="right">Top</div>

Examples

Example 1: Copying in the Same Library

```
CPYFCNARA   FROMFCNARA(PERSONNEL)  TOFCNARA(MIKE)
```

This command copies the functional area PERSONNEL to the functional area MIKE. Both functional areas are in the QPFRDATA library.

Example 2: Copying to a Different Library

```
CPYFCNARA   FROMFCNARA('Performance Tools')
            TOFCNARA(MIKE)  TOLIB(USRLIB)
```

This command copies the functional area 'Performance Tools' to the functional area MIKE in library USRLIB.

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Error messages

PFR9062

Value for TOFCNARA parameter must be specified.

PFR9065

Cannot copy functional area &2.

PFR9066

Cannot copy to functional area &2.

Copy Graph Format (CPYGPHFMT)

Where allowed to run: All environments (*ALL)			Parameters
Threadsafe: No			Examples
			Error messages

The Copy Graph Format (CPYGPHFMT) command copies an existing graph format into a graph format specified by the user.

Parameters

Keyword	Description	Choices	Notes
FROMFMT	From format	*Qualified object name*	Required, Positional 1
	Qualifier 1: From format	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**, *CURLIB	
TOFMT	To format	*Qualified object name*	Optional, Positional 2
	Qualifier 1: To format	*Name*, ***FROMFMT**	
	Qualifier 2: Library	*Name*, ***FROMLIB**, *CURLIB	
REPLACE	Replace	***NO**, *YES	Optional

From format (FROMFMT)

Specifies the graph format from which the copy is to be created.

This is a required parameter.

QPFRDATA
> The IBM-supplied performance library, QPFRDATA, is where the copy of the graph format is located.

*CURLIB
> The current library for the job is used to locate the graph format. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph format is located.

format-name
> Specify the name of the graph format.

To format (TOFMT)

Specifies the graph format location where the copy is to be created.

*FROMLIB

> The graph format is located in the library specified on the FROMFMT parameter.

*CURLIB

> The current library for the job is where the copy of the graph format will be located. If no library is specified as the current library for the job, QGPL is used.

library-name

> Specify the name of the library where the copy of the graph format will be located.

*FROMFMT

> The graph format name specified on the FROMFMT parameter is used.

format-name

> Specify the name of the copy of the graph format.

<div align="right">Top</div>

Replace (REPLACE)

Specifies whether to replace the graph format in the **To format** prompt (TOFMT parameter) if the graph format already exists.

*NO   The existing graph format is not replaced with the new graph format.

*YES   The existing graph format is replaced with the new graph format.

<div align="right">Top</div>

Examples

Example 1: Sending a Copy to the Default Library

```
CPYGPHFMT   FROMFMT(MYFMT)   TOFMT(YOURFMT)
```

This command makes a copy of MYFMT and sends it to YOURFMT in the QPFRDATA library.

Example 2: Sending a Copy to a Specified Library

```
CPYGPHFMT   FROMFMT(MYLIB/FMT1)   TOFMT(YOURLIB/FMT2)
```

This command makes a copy of FMT1 in the MYLIB library and sends it to FMT2 in the YOURLIB library.

<div align="right">Top</div>

Error messages

*ESCAPE Messages

PFR9043

> &1 does not exist in library &2.

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Copy Graph Package (CPYGPHPKG)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Copy Graph Package (CPYGPHPKG) command copies an existing graph package into a graph package specified by the user.

Parameters

Keyword	Description	Choices	Notes
FROMPKG	From package	*Qualified object name*	Required, Positional 1
	Qualifier 1: From package	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**, *CURLIB	
TOPKG	To package	*Qualified object name*	Optional, Positional 2
	Qualifier 1: To package	*Name*, ***FROMPKG**	
	Qualifier 2: Library	*Name*, ***FROMLIB**, *CURLIB	
REPLACE	Replace	***NO**, *YES	Optional

From package (FROMPKG)

Specifies the graph package from which the copy is to be created.

This is a required parameter.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph package is located.

*CURLIB
> The current library for the job is used to locate the graph package. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph package is located.

package-name
> Specify the name of the graph package.

To package (TOPKG)

Specifies the location of the graph package into which the copy is to be made.

*FROMLIB
> The graph package is copied into the library specified on the FROMPKG parameter.

*CURLIB
> The current library for the job is where the copy of the graph package will be located. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph package will be located.

*FROMPKG
> The graph package name specified on the FROMPKG parameter is used.

package-name
> Specify the name of the graph package.

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Replace (REPLACE)

Specifies whether to replace the graph package in the **To package** prompt (TOPKG parameter), if the graph package already exists.

*NO The existing graph package is not replaced with the new graph package.

*YES The existing graph package is replaced with the new graph package.

<div align="right">Top</div>

Examples

Example 1: Sending a Copy to the Default Library

```
CPYGPHPKG   FROMPKG(MYPKG)   TOPKG(YOURPKG)
```

This command makes a copy of MYPKG and sends it to YOURPKG in the QPFRDATA library.

Example 2: Sending a Copy to a Specified Library

```
CPYGPHPKG   FROMPKG(MYLIB/PKG1)   TOPKG(YOURLIB/PKG2)
```

This command makes a copy of PKG1 in the MYLIB library and sends it to PKG2 in the YOURLIB library.

<div align="right">Top</div>

Error messages

*ESCAPE Messages

PFR9043
> &1 does not exist in library &2.

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Copy Performance Data (CPYPFRDTA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Copy Performance Data (CPYPFRDTA) command creates a copy of a performance data member.

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Parameters

Keyword	Description	Choices	Notes
FROMMBR	From member	*Name*, ***SELECT**	Optional, Positional 1
FROMLIB	From library	*Name*, **QPFRDATA**	Optional, Positional 2
TOMBR	To member	*Name*, ***FROMMBR**	Optional
TOLIB	To library	*Name*, ***FROMLIB**	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

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From member (FROMMBR)

Specifies the performance data member to be copied.

*SELECT
> Lists all members available in the specified library so the user can select performance data members to copy.

> **Note:** This value is valid only when the job that copies the performance data is submitted interactively.

member-name
> Specify the performance data member to be copied.

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From library (FROMLIB)

Specifies the library where the performance data members are located.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the performance data members are located.

library-name
> Specify the name of the library where the performance data members are located.

To member (TOMBR)

Specifies the name of the performance data member to which the performance data is copied.

*FROMMBR
> The new performance data member has the same name as the one located in the **From member** prompt (FROMMBR parameter).

member-name
> Specify the name of the performance data member to which the performance data member is copied.

To library (TOLIB)

Specifies the library in which the new copy of the performance data member is kept.

*FROMLIB
> The new performance data member is kept in the same library as the member from which it is copied.

library-name
> Specify the name of the library in which the new performance data member is kept.

Job description (JOBD)

Specifies the job description used to submit the batch job that copies the performance data.

QPFRJOBD
> The IBM-supplied performance tools job description is used.

> > ***LIBL** All libraries in the job's library list are searched until the first match is found.

> > ***CURLIB**
> > > The current library for the job is used to locate the job description. If no library is specified as the current library for the job, QGPL is used.

> > *library-name*
> > > Specify the name of the library where the job description is located.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; instead, processing continues interactively while the user waits. The user's work station cannot be used during this time. This is something to consider for especially long jobs.

Examples

Example 1: Showing List of Performance Data Members

CPYPFRDTA

This command shows a display for selecting from all of the performance data members in the QPFRDATA library. From this list, the user can select performance data members to copy.

Example 2: Copying Data

CPYPFRDTA   FROMMBR(MEMBER1)   TOLIB(NEWLIB)

This command copies performance member MEMBER1 in library QPFRDATA to library NEWLIB. The new copy in library NEWLIB keeps the name MEMBER1.

Error messages

*ESCAPE Messages

PFR6302

       Cannot copy performance data member &2.

Create Functional Area (CRTFCNARA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Create Functional Area (CRTFCNARA) command allows you to create functional areas on your system. Functional areas are used by performance tools for reports and graphics. A functional area is a pre-defined list of job names and/or user names that are to be included in a report or graph.

Parameters

Keyword	Description	Choices	Notes
FCNARA	Functional area	*Character value*	Required, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
TEXT	Text 'description'	*Character value*, ***BLANK**	Optional
JOB	Job name	Single values: ***NONE** Other values (up to 250 repetitions): *Qualified object name*	Optional
	Qualifier 1: Job name	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*	

Functional area (FCNARA)

Specifies the name of the functional area to be created or changed. Enclose the name in apostrophes if it contains any spaces between characters.

This is a required parameter.

Library (LIB)

Specifies the library where the functional area is located.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the functional area is located.

library-name
> Specify the name of the library where the functional area is located.

Text 'description' (TEXT)

Specifies text that briefly describes the functional area.

*BLANK
    No text is specified.

description
    Specify no more than 30 characters of text, enclosed in apostrophes.

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Job name (JOB)

Specifies a list of jobs to include in a functional area. A job identifier is either the special value *NONE or a qualified name with up to two elements, for example:

```
*NONE
job-name
user-name/job-name
```

*N may be used in place of an element that follows the values being specified. For example, USER1/*N specifies the user name USER1, regardless of the job name. Without specifying *N, USER1 would have been interpreted as the job name, not the user name.

*NONE
    An empty functional area is created.

job-name
    Specify the name of the job to include in the functional area. This can be either a specific or generic name.

user-name
    Specify the name of the user to include in the functional area. This can be either a specific or generic name.

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Examples

Example 1: Creating a Functional Area in the Default Library

```
CRTFCNARA   FCNARA(PERSONNEL) JOB(MIKE/*N  ROSS/*N  QPFR*)
```

This command creates the functional area PERSONNEL with three entries:

- The user MIKE
- The user ROSS
- Any job beginning with QPFR

The functional area is created in the QPFRDATA library.

Example 2: Creating a Functional Area in a Specified Library

```
CRTFCNARA   FCNARA('Performance Tools')  LIB(RPFT)
            JOB(TODD/*N  MARTY/*N  DEB/QPFRMON)
```

This command creates the functional area 'Performance Tools' with three entries:

- The user TODD
- The user MARTY

- Any QPFRMON job submitted by DEB

The functional area is created in the RPFT library.

Error messages

*ESCAPE Messages

PFR9063
Cannot create functional area &2.

Create Graph Format (CRTGPHFMT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Create Graph Format (CRTGPHFMT) command creates a graph format used to display performance and historical graphs which are created from performance data members.

Parameters

Keyword	Description	Choices	Notes
GPHFMT	Graph format	*Qualified object name*	Required, Positional 1
	Qualifier 1: Graph format	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**	
TEXT	Text 'description'	*Character value*, ***BLANK**	Optional, Positional 2
TITLE	Title	*Character value*, ***BLANK**, *MBRTEXT	Optional, Positional 3
SUBTITLE	Subtitle	*Character value*, ***BLANK**, *MBRTEXT	Optional
GPHTYPE	Graph type	***SURFACE**, *LINE, *CBAR, *FBAR, *SCATTER	Optional
DATATYPE	Data type	*FCNARA, *JOBTYPE, *PRIORITY, *IOP, *DISK, *CMNLINE, ***ALL**	Optional
AREAFILL	Area fill	*YES, ***NO**	Optional
REFLINE	Reference line	1-99999, ***NONE**	Optional
XAXIS	X-axis	*Element list*	Optional
	Element 1: Variable	***TIME**, *CPU, *TNS, *NBRTNS, *RSP, *SYNCIO, *NBRSYNC, *ASYNCIO, *NBRASYNC, *TOTDSKIO, *NBRDSKIO	
	Element 2: Title	*Character value*, ***DFT**, *BLANK	
	Element 3: Range	Single values: ***AUTO** Other values: *Element list*	
	Element 1: First	*Decimal number*	
	Element 2: Last	*Decimal number*	
YAXIS	Y-axis	*Element list*	Optional
	Element 1: Variable	***CPU**, *TNS, *NBRTNS, *RSP, *SYNCIO, *NBRSYNC, *ASYNCIO, *NBRASYNC, *TOTDSKIO, *NBRDSKIO, *CMNIOP, *DSKIOP, *LWSIOP, *MFCIOP, *MFDIOP, *DSKARM, *PCTDSKOCC, *CMNLINE, *LGLDBIO	
	Element 2: Title	*Character value*, ***DFT**, *BLANK	
	Element 3: Range	Single values: ***AUTO** Other values: *Element list*	
	Element 1: First	*Decimal number*	
	Element 2: Last	*Decimal number*	

Keyword	Description	Choices	Notes
FCNARA	Functional area entry	Values (up to 16 repetitions): *Element list*	Optional
	Element 1: Functional area	*Character value*, *OTHER	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	
JOBTYPE	Job type entry	Values (up to 16 repetitions): *Element list*	Optional
	Element 1: Job type	*ALL, *ALLINTER, *ALLBATCH, *ALLSYSTEM, *ASJ, *BCH, *CA4, *DDM, *EVK, *INT, *MRT, *PCS, *PDJ, *PJ, *PTH, *RDR, *S36, *SBS, *SYS, *WTR, *OTHER	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	
PRIORITY	Job priority entry	Values (up to 16 repetitions): *Element list*	Optional
	Element 1: Lower priority boundary	0-99, *OTHER, *ALL	
	Element 2: Upper priority boundary	0-99	
	Element 3: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 4: Line type	1-8, **7**	
	Element 5: Non-graphic display symbol	*Character value*, *****	
IOP	IOP data entry	Values (up to 2 repetitions): *Element list*	Optional
	Element 1: Type of utilization	*AVG, *MAX	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	
DISK	Disk data entry	Values (up to 2 repetitions): *Element list*	Optional
	Element 1: Type of utilization	*AVG, *MAX	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	
CMNLINE	Communications line entry	Values (up to 16 repetitions): *Element list*	Optional
	Element 1: Communications line	*Name*, *MAX	
	Element 2: Legend 'description'	*Character value*, ***DFT**, *BLANK	
	Element 3: Line type	1-8, **7**	
	Element 4: Non-graphic display symbol	*Character value*, *****	

Keyword	Description	Choices	Notes
ALLDATA	All data entry	*Element list*	Optional
	Element 1: Legend 'description'	*Character value*, ***DFT**, **BLANK*	
	Element 2: Line type	1-8, **7**	
	Element 3: Non-graphic display symbol	*Character value*, *****	

Graph format (GPHFMT)

Specifies the graph format to be created.

This is a required parameter.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph format will be located.

library-name
> Specify the name of the library where the graph format will be located.

format-name
> Specify the name of the graph format to be created.

Text 'description' (TEXT)

Specifies the user-defined text that briefly describes the graph format or graph package.

*BLANK
> The text description for the graph format or graph package is left blank.

description
> Specify no more than 50 characters of text, enclosed in apostrophes.

Title (TITLE)

Specifies the title for the graph.

*BLANK
> The title for the graph is left blank.

*MBRTEXT
> The text of the database member used in creating the graph with this format is used as the title.

graph-title
> Specify a title of no more than 50 characters in length for the graph produced using this format. Enclose the user-defined title in apostrophes.

Subtitle (SUBTITLE)

Specifies the subtitle for the graph.

*BLANK
> The subtitle for the graph is left blank.

*MBRTEXT
> The text of the database member used in creating the graph with this format is used as the subtitle.

graph-subtitle
> Specify a subtitle of no more than 50 characters in length for the graph produced using this format. Enclose the user defined subtitle in apostrophes.

Graph type (GPHTYPE)

Specifies the type of graph to produce.

*SURFACE
> The graph is a surface graph.

*LINE The graph is a line graph.

*CBAR
> The graph is a composite bar graph.

*FBAR
> The graph is a floating bar graph.

*SCATTER
> The graph is a scatter diagram.

Data type (DATATYPE)

Specifies the type of data to include on the graph.

*ALL This value puts all of the jobs into one group for graphing.

*FCNARA
> This value puts jobs into each of the functional areas that are to be graphed. Functional areas must be unique over the data that is graphed. That is, if a job exists in more than one of the functional areas selected for the graph, an error message is issued indicating that the job exists in more than one functional area. Also, you cannot use functional areas to graph historical data.

*JOBTYPE
> This value includes individual job types, such as interactive, and conglomerate types, such as *ALLINTER (all interactive), *ALLBATCH (all batch), and *ALLSYSTEM (all system). All interactive refers to a job with a job type of I and includes interactive, iSeries Access, System/36, MRT, and display station pass-through jobs.

*PRIORITY
> This value puts jobs into priority ranges. For example, the range 10-20 includes all jobs that have priorities between 10 and 20, inclusive.

*IOP This value allows you to graph maximum and average utilization lines for the particular type of input/output processor.

If you specify DATATYPE(*IOP), one of the following combinations must be specified:
- YAXIS(*CMNIOP) and XAXIS(*TIME)
- YAXIS(*DSKIOP) and XAXIS(*TIME)
- YAXIS(*LWSIOP) and XAXIS(*TIME)
- YAXIS(*MFCIOP) and XAXIS(*TIME)
- YAXIS(*MFDIOP) and XAXIS(*TIME)

*DISK

This value allows you to graph maximum and average utilization lines for the disk arms. It also allows maximum and average lines for the percentage of disk occupied.

If you specify DATATYPE(*DISK), then one of the following combinations must be specified:
- YAXIS(*DSKARM) and XAXIS(*TIME)
- YAXIS(*PCTDSKOCC) and XAXIS(*TIME)

*CMNLINE

This value allows you to graph individual communications line use or the maximum use of all communications lines. This value is valid only if YAXIS(*CMNLINE) and XAXIS(*TIME) are specified.

Area fill (AREAFILL)

Specifies whether areas on the graph are filled in.

*YES   The areas on the graph are filled in.

*NO   The areas on the graph are not filled in.

Reference line (REFLINE)

Specifies where to place a reference line on the graph. The reference line is placed on the Y-axis. The line is parallel to the X-axis.

*NONE

No reference line is placed on the graph.

reference-line-number

Specify the number on the Y-axis on which the reference line is placed.

X-axis (XAXIS)

Specifies the list of characteristics that are used for creating the X-axis on the graph.

The possible **X-axis Variable** values are:

*TIME

Time is mapped along the X-axis.

*CPU   Utilization of the processing unit is mapped along the X-axis.

*TNS   The number of transactions per hour is mapped along the X-axis.

*NBRTNS

> The total number of transactions is mapped along the X-axis.

*RSP   Response time is mapped along the X-axis.

*SYNCIO

> Synchronous disk input/output (I/O) per second is mapped along the X-axis.

*NBRSYNC

> The total number of synchronous disk I/O operations is mapped along the X-axis.

*ASYNCIO

> Asynchronous disk I/O per second is mapped along the X-axis.

*NBRASYNC

> The total number of asynchronous disk I/O operations is mapped along the X-axis.

*TOTDSKIO

> Total disk I/O per second is mapped along the X-axis.

*NBRDSKIO

> The total number of disk I/O operations is mapped along the X-axis.

The possible **X-axis Title** values are:

*DFT   The X-axis variable is used for the X-axis title.

*BLANK

> The title for the X-axis is left blank.

X-axis-title

> Specify a title of no more than 30 characters for the X-axis. Enclose the title in apostrophes.

The possible **Starting and Ending Range for the X-axis** values are:

*AUTO

> The X-axis range is automatically calculated. This value must be specified if *TIME is specified as the X-axis variable.

starting-number

> Specify the starting number for the range on the X-axis. If you specify a starting number, you must also specify an ending number.

ending-number

> Specify the ending number for the range on the X-axis. If you specify an ending number, you must also specify a starting number.

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Y-axis (YAXIS)

Specifies the list of characteristics that are used for creating the Y-axis on the graph.

The possible **Y-axis Variable** values are:

*CPU   Utilization of the processing unit is mapped along the Y-axis.

*TNS   The number of transactions per hour is mapped along the Y-axis.

*NBRTNS

> The total number of transactions is mapped along the Y-axis.

*RSP   Response time is mapped along the Y-axis.

*SYNCIO

> Synchronous disk input/output (I/O) per second is mapped along the Y-axis.

*NBRSYNC

> The total number of synchronous disk I/O operations is mapped along the Y-axis.

*ASYNCIO

> Asynchronous disk I/O per second is mapped along the Y-axis.

*NBRASYNC

> The total number of asynchronous disk I/O operations is mapped along the Y-axis.

*TOTDSKIO

> Total disk I/O per second is mapped along the Y-axis.

*NBRDSKIO

> The total number of disk I/O operations is mapped along the Y-axis.

*CMNIOP

> Utilization of the communications input/output processor (IOP) is mapped along the Y-axis. If **YAXIS(*CMNIOP)** is specified, **XAXIS(*TIME)** must be specified.

*DSKIOP

> Utilization of the disk IOP is mapped along the Y-axis. If **YAXIS(*DSKIOP)** is specified, **XAXIS(*TIME)** must be specified.

*LWSIOP

> Utilization of the local work station IOP is mapped along the Y-axis. If **YAXIS(*LWSIOP)** is specified, **XAXIS(*TIME)** must be specified.

*MFCIOP

> Utilization of the multifunction IOP for communications is mapped along the Y-axis. If **YAXIS(*MFCIOP)** is specified, **XAXIS(*TIME)** must be specified.

*MFDIOP

> Utilization of the multifunction IOP for disks is mapped along the Y-axis. If **YAXIS(*MFDIOP)** is specified, **XAXIS(*TIME)** must be specified.

*DSKARM

> Utilization of the disk arm is mapped along the Y-axis. If **YAXIS(*DSKARM)** is specified, **XAXIS(*TIME)** must be specified.

*PCTDSKOCC

> The percentage of information occupying the disk is mapped along the Y-axis. If **YAXIS(*PCTDSKOCC)** is specified, **XAXIS(*TIME)** must be specified.

*CMNLINE

> Utilization of communications lines is mapped along the Y-axis. If **YAXIS(*CMNLINE)** is specified, **XAXIS(*TIME)** must be specified.

*LGLDBIO

> The total number of logical database I/O operations is mapped along the Y-axis.

The possible **Y-axis Title** values are:

*DFT   The Y-axis variable is used for the Y-axis title.

*BLANK

> The title for the Y-axis is left blank.

Y-axis-title

> Specify a title of no more than 30 characters in length for the Y-axis. Enclose the title in apostrophes.

The possible **Starting and Ending Range for the Y-axis** values are:

*AUTO
> The Y-axis range is automatically calculated.

starting-number
> Specify the starting number for the range on the Y-axis. If you specify a starting number, you must also specify an ending number.

ending-number
> Specify the ending number for the range on the Y-axis. If you specify an ending number, you must also specify a starting number.

Functional area entry (FCNARA)

Specifies the list of characteristics to be used for each functional area on the graph. This parameter is valid only when **DATATYPE(*FCNARA)** is specified. When **DATATYPE(*FCNARA)** is specified, at least 1, but not more than 16 functional area entries must be specified.

The possible **Functional Area Name** values are:

*OTHER
> All jobs that do not belong in one of the functional areas specified in this parameter are grouped together.

functional-area-name
> Specify the name of the functional area.

The possible **Functional Area Legend Description** values are:

*DFT The name or special value specified for the functional area name is used as the legend description.

*BLANK
> The legend description for the functional area is left blank.

legend-description
> Specify the legend description for the functional area. Enclose the description in apostrophes.

The possible **Graphic Display Line Type** values are:

7 (Solid)
> The solid line is used for the lines representing the functional area on graphic terminals.

line-type-number
> Specify the number of the line type to use for lines representing the functional area on graphic terminals. There are 8 types of lines from which you can choose:
> 1. Dotted
> 2. Short-dashed
> 3. Dash-dot
> 4. Double-dot
> 5. Long-dashed
> 6. Dash-dot-dot
> 7. Solid
> 8. Invisible

The possible **Nongraphic Work Station Symbol used for the Functional Area** values are:

*   The asterisk symbol is used for graphic representation of the functional area on nongraphic
terminals.

character
Specify a character to use for graphic representation of the functional area on nongraphic
terminals.

Job type entry (JOBTYPE)

Specifies the list of characteristics to be used for creating job type information on the graph. This
parameter is valid only when **DATATYPE(*JOBTYPE)** is specified. When **DATATYPE(*JOBTYPE)** is
specified, at least 1, but not more than 16 job type entries must be specified.

The possible **Job Type** values are:

*ALL   All job types are grouped together.

*ALLINTER
All interactive job types include:
- DDM jobs
- Pass-through jobs
- iSeries Access server jobs, except those that process batch activities only
- Interactive jobs
- System/36 environment jobs
- Multiple requester terminal jobs

*ALLBATCH
All batch job types include:
- Batch jobs
- iSeries Access server jobs, those that process batch activities only
- Evoke jobs
- Writer jobs
- Reader jobs
- Prestart jobs
- Autostart jobs
- Print driver jobs

*ALLSYSTEM
All system jobs includes:
- System jobs
- Subsystem monitor jobs

*ASJ   Autostart jobs

*BCH   Batch jobs

*CA4   iSeries Access server jobs

*DDM
Distributed Data Management (DDM) jobs

*EVK   Jobs started by a procedure start request

*INT   Interactive jobs

*MRT Multiple requester terminal jobs

*PCS iSeries Access server jobs

*PDJ Print Driver jobs

*PJ   Prestart jobs

*PTH Pass-through jobs

*RDR Reader jobs

*S36   System/36 environment jobs

*SBS   Subsystem monitor jobs

*SYS   System jobs

*WTR Writer jobs

*OTHER
>All job types that have not been specified on this parameter are grouped together.

The possible **Job Type Legend Description** values are:

*DFT   The value specified for the job type is used as the legend description.

*BLANK
>The legend description for the job type is left blank.

legend-description
>Specify the legend description for the job type. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for the Job Type** values are:

7 (Solid)
>The solid line is used for lines representing the job type on graphic terminals.

line-type-number
>Specify the number of the line type to use for lines representing the job type on graphic terminals. There are 8 types of lines from which you can choose:
>1. Dotted
>2. Short-dashed
>3. Dash-dot
>4. Double-dot
>5. Long-dashed
>6. Dash-dot-dot
>7. Solid
>8. Invisible

The possible **Nongraphic Work Station Symbol used for the Job Type** values are:

*   The asterisk (*) is used for graphic representation of the job type on nongraphic terminals.

character
>Specify a character to use for graphic representation of the job type on nongraphic terminals.

Job priority entry (PRIORITY)

Specifies the characteristics to be used for creating job priority information on the graph. This parameter is valid only when **DATATYPE(*PRIORITY)** is specified. When **DATATYPE(*PRIORITY)** is specified, at least 1, but not more than 16 job priority entries must be specified. **Job Priority Boundaries**

*ALL   All job priorities are grouped together.

*OTHER

        All job priorities that do not fall within the job priority boundaries specified on this parameter are grouped together.

lower-priority-boundary

        Specify the lower job priority boundary. Valid values range from 0 through 99.

upper-priority-boundary

        Specify the upper job priority boundary. You can specify a value ranging from 0 through 99. The upper boundary value must be greater than or equal to the lower boundary value.

The possible **Job Priority Legend Description** values are:

*DFT   The boundaries or special value specified for the job priority boundaries is used as the legend description.

*BLANK

        The legend description for the job priority is left blank.

legend-description

        Specify the legend description for the job priority. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for the Job Priority** values are:

7 (Solid)

        The solid line is used for lines representing the job priority on graphic terminals.

line-type-number

        Specify the number of the line type to use for lines representing the job priority on graphic terminals. There are 8 types of lines from which you can choose:

        1. Dotted
        2. Short-dashed
        3. Dash-dot
        4. Double-dot
        5. Long-dashed
        6. Dash-dot-dot
        7. Solid
        8. Invisible

The possible **Nongraphic Work Station Symbol used for the Job Priority** values are:

*   The asterisk symbol is used for graphic representation of the job priority on nongraphic terminals.

character

        Specify a character to use for graphic representation of the job priority on nongraphic terminals.

IOP data entry (IOP)

Specifies the characteristics to be used for creating input/output processor (IOP) information on the graph. This parameter is valid only when **DATATYPE(*IOP)** is specified. When **DATATYPE(*IOP)** is specified, at least 1, but not more than 2 IOP data entries must be specified.

The possible **Amount of Utilization for IOP type** values are:

*AVG   The average utilization of the IOP type is presented on the graph.

*MAX   The maximum utilization of the IOP type is presented on the graph.

The possible **Legend Description for the IOP type** values are:

*DFT   The value specified for the amount of utilization is used as the legend description.

*BLANK
> The legend description for the IOP data is left blank.

legend-description
> Specify the legend description for the IOP data. Enclose the user defined description in apostrophes.

The possible **Graphic Display Line Type for the IOP type** values are:

7 (Solid)
> The solid line is used for lines representing the IOP type on graphic terminals.

line-type-number
> Specify the number of the line type to use for lines representing the IOP type on graphic terminals. There are 8 types of lines from which you can choose:
> 1. Dotted
> 2. Short-dashed
> 3. Dash-dot
> 4. Double-dot
> 5. Long-dashed
> 6. Dash-dot-dot
> 7. Solid
> 8. Invisible

The possible **Nongraphic Work Station Symbol used for the IOP type** values are:

*   The asterisk (*) is used for graphic representation of the IOP type on nongraphic terminals.

character
> Specify a character to use for graphic representation of the IOP type on nongraphic terminals.

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Disk data entry (DISK)

Specifies the characteristics to be used for creating disk data information on the graph. This parameter is valid only when **DATATYPE(*DISK)** is specified. When **DATATYPE(*DISK)** is specified, at least 1, but not more than 2 disk data entries must be specified. The types of disk data are disk arm utilization and percent of disk occupied.

The possible **Amount of Utilization for Disk Data type** values are:

*AVG   The average utilization of the disk data type is presented on the graph.

*MAX   The maximum utilization of the disk data type is presented on the graph.

The possible **Disk Data Type Legend Description** values are:

*DFT   The value specified for the amount of utilization is used as the legend description.

*BLANK
>   The legend description for the disk data type is left blank.

legend description
>   Specify the legend description for the disk data type. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for the Disk Data Type** values are:

7 (Solid)
>   The solid line is used for lines representing the disk data type on graphic terminals.

line-type-number
>   Specify the number of the line type to use for lines representing the disk data type on graphic terminals. There are 8 types of lines from which you can choose:
>   1. Dotted
>   2. Short-dashed
>   3. Dash-dot
>   4. Double-dot
>   5. Long-dashed
>   6. Dash-dot-dot
>   7. Solid
>   8. Invisible

The possible **Nongraphic Work Station Symbol used for the Disk Data type** values are:

*   An asterisk (*) is used for graphic representation of the disk data on nongraphic terminals.

character
>   Specify a character to use for graphic representation of the disk data on nongraphic terminals.

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Communications line entry (CMNLINE)

Specifies the characteristics to be used for creating communications line information on the graph. This parameter is valid only when **DATATYPE(*CMNLINE)** is specified. When **DATATYPE(*CMNLINE)** is specified, at least one, but not more than 16 communications line entries must be specified.

The possible **Communications Line Name** values are:

*MAX   The maximum utilization of all the communications lines is presented on the graph.

communications-line-name
>   Specify the name of the communications line whose utilization is presented on the graph.

The possible **Communications Line Legend Description** values are:

*DFT   The name or special value specified for the communications line name is used for the legend description.

*BLANK
>The legend description for the communications line is left blank.

legend description
>Specify the legend description for the communications line. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for the Communications Line** values are:

7 (Solid)
>The solid line is used for lines representing the communications line on graphic terminals.

line-type-number
>Specify the number of the line type to use for lines representing the communications line on graphic terminals. There are 8 types of lines from which you can choose:
>
>1. Dotted
>2. Short-dashed
>3. Dash-dot
>4. Double-dot
>5. Long-dashed
>6. Dash-dot-dot
>7. Solid
>8. Invisible

The possible **Nongraphic Work Station Symbol used the Communications Line** values are:

*
>The asterisk (*) is used for graphic representation of the communications line on nongraphic terminals.

character
>Specify a character to use for graphic representation of the communications line on nongraphic terminals.

All data entry (ALLDATA)

Specifies the characteristics to be used for creating information on the graph for all jobs. This parameter is valid only when **DATATYPE(*ALL)** is specified.

The possible **Legend Description for All of the Job Data** values are:

*DFT   The value *ALL is used for the legend description.

*BLANK
>The legend description for the data is left blank.

legend description
>Specify the legend description for the data. Enclose the description in apostrophes.

The possible **Graphic Display Line Type for all of the Job Data** values are:

7 (Solid)
>The solid line is used for lines representing all of the job data on graphic terminals.

line-type-number
>Specify the number of the line type to use for lines representing all of the job data on graphic terminals. There are 8 types of lines from which you can choose:

1. Dotted
2. Short-dashed
3. Dash-dot
4. Double-dot
5. Long-dashed
6. Dash-dot-dot
7. Solid
8. Invisible

The possible **Nongraphic Work Station Symbol used for all of the Job Data** values are:

*
The asterisk symbol is used for graphic representation of all of the job data on nongraphic terminals.

character
Specify a character to use for graphic representation of all of the job data on nongraphic terminals.

Examples

```
CRTGPHFMT  GPHFMT(FORMAT1)  TITLE(*MBRTEXT)  DATATYPE(*FCNARA)
           FCNARA((ACCOUNTING 'ACCOUNTING') (SALES 'SALES' 7 #)
                  (OFFICE 'OFFICE' 7 @))
```

This command creates a graph format named FORMAT1 in the QPFRDATA library. The member that is presented on the graph using this format supplies the title for the graph. The graph is a surface graph with no area fill nor a reference line. The jobs presented on the graph are grouped according to three functional areas:

1. ACCOUNTING
2. SALES
3. OFFICE

The functional area of accounting is represented on the graph with a solid line with the label, ACCOUNTING. If the format is displayed on a non-graphics work station, the asterisk (*) symbol is used to graphically represent the functional area of accounting. The functional areas, sales and office, are formatted in the same manner as accounting, except SALES is graphically represented with the # symbol on a non-graphics work station, and OFFICE is graphically represented with the at @ symbol on a non-graphics work station.

Error messages

*ESCAPE Messages

CPF0011
Error detected by prompt override program.

PFR9001
DATATYPE(*IOP) must be specified to use IOP variable.

PFR9002
DATATYPE(*DISK) must be specified to use a disk variable.

PFR9003

An IOP variable must be specified for YAXIS.

PFR9004

Disk variable must be specified for YAXIS.

PFR9006

*TIME must be specified for XAXIS.

PFR9007

*TIME must be specified for XAXIS.

PFR9008

Graph format &2 already exists in library &1.

PFR9010

No functional area &2 exists.

PFR9014

Graph axis range specified not correct.

PFR9015

Priority boundaries specified not correct.

PFR9016

Value for FCNARA parameter must be specified.

PFR9017

Value for JOBTYPE parameter must be specified.

PFR9018

Value for PRIORITY parameter must be specified.

PFR9019

Value for IOP parameter must be specified.

PFR9020

Value for DISK parameter must be specified.

PFR9021

Both axis variables cannot be the same.

PFR9040

Specify *AUTO for range with *TIME for variable.

PFR9081

Functional area name not valid.

PFR9090

DATATYPE(*CMNLINE) must be specified to use a communications line variable.

PFR9091

Communications line variable must be specified for YAXIS.

PFR9092

Value for CMNLINE parameter must be specified.

PFR9093

Graph format &3 already exists in library &2.

PFR9104

Record length for GDF file &2 not correct.

PFR9106

Too many data lines specified for scatter graph.

PFR9116

*LGLDBIO only valid when *JOBTYPE specified for DATATYPE parameter

PFR9117

*DDM must be specified for Job type parameter.

PFR9804

Library &2 not found.

Create Graph Package (CRTGPHPKG)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Create Graph Package (CRTGPHPKG) command creates a graph package containing one or more graph formats.

Parameters

Keyword	Description	Choices	Notes
GPHPKG	Graph package	*Qualified object name*	Required, Positional 1
	Qualifier 1: Graph package	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**, *CURLIB	
TEXT	Text 'description'	*Character value*, ***BLANK**	Optional
GPHFMT	Graph format	Single values: ***SELECT** Other values (up to 25 repetitions): *Name*	Optional

Graph package (GPHPKG)

Specifies the graph package to create or change.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph package is located.

*LIBL The library list is used to locate the graph package.

*CURLIB
> The current library for the job is used to locate the graph package. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph package is located.

graph-package
> Specify the name of the graph package. This is a required parameter.

Text 'description' (TEXT)

Specifies the user-defined text that briefly describes the graph format or graph package.

*BLANK
> The text description for the graph format or graph package is left blank.

description
> Specify no more than 50 characters of text, enclosed in apostrophes.

Format (GPHFMT)

Specifies the graph formats to include in the graph package.

*SELECT
> Shows a list of graph formats to select to be included in the graph package. This value is valid only in an interactive environment.

format-name
> Specify the graph format to be included in the graph package. Up to 25 format names can be specified.

Examples

Example 1: Creating a Package that Contains Three Formats

```
CRTGPHPKG   GPHPKG(EXAMPLE)   TEXT('THIS IS AN EXAMPLE')
            GPHFMT(GPH1 GPH9 GPH12)
```

This command creates a graph package called EXAMPLE, which contains three formats, GPH1, GPH9, and GPH12. This package is saved in the default library, QPFRDATA.

Example 2: Creating a Package that Contains Two Formats

```
CRTGPHPKG   GPHPKG(MYLIB/MYPKG)   TEXT('MY PACKAGE')
            GPHFMT(MYGPH1 MYGPH2)
```

This command creates a graph package called MYPKG which contains the formats of MYGPH1 and MYGPH2. MYPKG is saved in library MYLIB.

Error messages

*ESCAPE Messages

PFR9011
> Graph package &2 already exists in library &1.

PFR9013
> Graph format &2 cannot be added.

PFR9032
> Too many formats selected.

Create Historical Data (CRTHSTDTA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Create Historical Data (CRTHSTDTA) command creates and adds historical data for a member to the historical data files. Historical data is an ongoing summary of the system reflecting the members that have been summarized using this command.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
LIB	Library	*Name*, **QPFRDATA**, *CURLIB	Optional, Positional 2
REPLACE	Replace	***NO**, *YES	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the member to be used to create the historical data. Specify the name of the member.

This is a required parameter.

Library (LIB)

Specifies the library where the member is located.

The possible library values are:

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the member is located.

*CURLIB
> The current library for the job is used to locate the member. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the member is located.

Replace (REPLACE)

Specifies whether to replace the historical data for the member if it already exists.

*NO   The historical data is not replaced.

*YES   The historical data is replaced.

Job description (JOBD)

Specifies the job description used to submit jobs for batch processing.

*LIBL   All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the job description is located.

QPFRJOBD
> The IBM-supplied performance tools job description is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; instead, processing continues interactively while the user waits. The user's work station cannot be used during this time. This is something to consider for especially long jobs.

Examples

Example 1: Creating Files in Default Library

```
CRTHSTDTA   MBR(MONDAY)
```

This command creates files that contain historical data with the member named MONDAY.

Example 2: Creating Files in Specified Library

```
CRTHSTDTA   MBR(TUESPM)  LIB(MYLIB)
```

This command creates files that contain historical data with a member named TUESPM located in library MYLIB.

Error messages

*ESCAPE Messages

PFR9039

Historical data cannot be created for member &2.

PFR9056

Cannot copy graph format or package.

PFR9061

Cannot create historical data.

PFR9070

Cannot create historical data.

PFR9803

Cannot create historical data.

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Delete Functional Area (DLTFCNARA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Delete Functional Area (DLTFCNARA) command allows you to delete functional areas from your system. Functional areas are used by performance tools for reports and graphics. A functional area is a pre-defined list of job names and/or user names that are to be included in a report or graph.

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Parameters

Keyword	Description	Choices	Notes
FCNARA	Functional area	*Character value*	Required, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2

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Functional area (FCNARA)

Specifies the name of the functional area to be deleted. Enclose the name in apostrophes if it contains any spaces between characters.

This is a required parameter.

Top

Library (LIB)

Specifies the library where the functional area is located.

QPFRDATA
>   The IBM-supplied performance data library, QPFRDATA, is where the functional area is located.

library-name
>   Specify the name of the library where the functional area is located.

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Examples

Example 1: Deleting the Functional Area from the Default Library

```
DLTFCNARA   FCNARA(PERSONNEL)
```

This command deletes the functional area named PERSONNEL from library QPFRDATA.

Example 2: Deleting the Functional Area from a Specified Library

```
DLTFCNARA   FCNARA('Performance Tools')  LIB(RPFT)
```

This command deletes the functional area named 'Performance Tools' from library RPFT.

Top

Error messages

*ESCAPE Messages

PFR9067
>   Cannot delete functional area &2.

Top

Delete Graph Format (DLTGPHFMT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Delete Graph Format (DLTGPHFMT) command deletes a graph format. This command also deletes a graph format from any packages that contain it.

Parameters

Keyword	Description	Choices	Notes
GPHFMT	Graph format	*Qualified object name*	Required, Positional 1
	Qualifier 1: Graph format	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**, *CURLIB	

Graph format (GPHFMT)

Specifies the graph format to delete.

This is a required parameter.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph format is located.

*CURLIB
> The current library for the job is used to locate the graph format. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph format is located.

format-name
> Specify the name of the graph format to delete.

Examples

Example 1: Deleting a Graph Format in a Specified Library

```
DLTGPHFMT   GPHFMT(MYLIB/MYFMT)
```

This command deletes the graph format named MYFMT located in the MYLIB library.

Example 2: Deleting a Graph Format in the Default Library

```
DLTGPHFMT   GPHFMT(TESTFMT)
```

This command deletes the graph format named TESTFMT located in the default library QPFRDATA.

Error messages

*ESCAPE Messages

PFR9043
&1 does not exist in library &2.

Delete Graph Package (DLTGPHPKG)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Delete Graph Package (DLTGPHPKG) command deletes a graph package.

Parameters

Keyword	Description	Choices	Notes
GPHPKG	Graph package	*Qualified object name*	Required, Positional 1
	Qualifier 1: Graph package	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**, *CURLIB	

Graph package (GPHPKG)

Specifies the graph package to delete.

This is a required parameter.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph package is located.

***CURLIB**
> The current library for the job is used to locate the graph package. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph package is located.

package-name
> Specify the name of the graph package to delete.

Examples

Example 1: Deleting a Package in a Specified Library

```
DLTGPHPKG   GPHPKG(MYLIB/MYPKG)
```

This command deletes the graph package MYPKG from library MYLIB.

Example 2: Deleting a Package in the Default Library

```
DLTGPHPKG   GPHPKG(TESTPKG)
```

This command deletes graph package TESTPKG from default library QPFRDATA.

Error messages

*ESCAPE Messages

PFR9043
&1 does not exist in library &2.

Delete Historical Data (DLTHSTDTA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Delete Historical Data (DLTHSTDTA) command deletes historical data for selected members from the historical database files.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	Single values: ***SELECT** Other values (up to 50 repetitions): *Name*	Optional, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the member whose historical data is to be deleted.

*SELECT
> Lists all members available in the specified library so that you can select members that have historical data to be deleted. This value is valid only in an interactive environment.

member-name
> Specify the member whose historical data is to be deleted from the database files. Up to 50 members can be specified.

Library (LIB)

Specifies the library where the files are located.

The possible library values are:

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the files are located.

library-name
> Specify the name of the library where the files are located.

Job description (JOBD)

Specifies the job description used to submit jobs for batch processing.

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the job description is located.

QPFRJOBD
> The IBM-supplied performance tools job description is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; instead, processing continues interactively while the user waits. The user's work station cannot be used during this time. This is something to consider for especially long jobs.

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Examples

None

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Error messages

*ESCAPE Messages

PFR9033
> Too many items selected to be deleted.

PFR9038
> Cannot delete historical data from member &2.

PFR9053
> Historical data does not exist for member &2.

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Delete Performance Data (DLTPFRDTA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Delete Performance Data (DLTPFRDTA) command deletes performance data members from the performance database files.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	Single values: ***SELECT** Other values (up to 50 repetitions): *Name*	Optional, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the member to be deleted from the database files.

*SELECT
>   Lists all members available in the specified library so you can select members to delete. This value is valid only in an interactive environment.

member-name
>   Specify the members to be deleted from the database files. Up to 50 members can be specified.

Library (LIB)

Specifies the library where the performance data members are located.

QPFRDATA
>   The performance data members are located in the IBM-supplied performance library, QPFRDATA.

library-name
>   Specify the name of the library where the performance data members are located.

Job description (JOBD)

Specifies the job description used to submit jobs for batch processing.

QPFRJOBD
> The IBM-supplied performance tools job description is used.

> ***LIBL**   All libraries in the job's library list are searched until the first match is found.

> ***CURLIB**
>> The current library for the job is used to locate the job description. If no library is specified as the current library for the job, QGPL is used.

> *library-name*
>> Specify the name of the library where the job description is located.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; instead, processing continues interactively while the user waits. The user's work station cannot be used during this time. This is something to consider for especially long jobs.

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Examples

```
DLTPFRDTA   MBR(TEST1)
```

This command deletes performance data member TEST1 from the performance database files found in library QPFRDATA. QPFRJOBD is used for the job description of the job.

<div align="right">Top</div>

Error messages

None

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Display Access Group (DSPACCGRP)

The Display Access Group (DSPACCGRP) command shows, for each selected job, the process access group (PAG) size, the names and I/O counts for open files, and the program data storage used. It also optionally writes this information to a database file for further analysis by the Analyze Access Group (ANZACCGRP) command.

Jobs can be selected for the report using several selection values, including job type, job name, user name, and job number. The job name and user name may be generic; only the first characters of the corresponding information for a job need match the specified value for selection of the job. Only jobs that match all specified selection values are selected.

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Parameters

Keyword	Description	Choices	Notes
JOB	Job name	Single values: **_*_**, *SEC, *INT Other values: *Qualified job name*	Optional, Positional 1
	Qualifier 1: Job name	*Generic name, name*, ***ALL**	
	Qualifier 2: User	*Generic name, name*, ***ALL**	
	Qualifier 3: Number	000000-999999, ***ALL**	
TITLE	Report title	*Character value*, ***BLANK**	Optional
OUTPUT	Output type	**_*_**, *PRINT, *FILE, *BOTH	Optional
MBR	Output file member	*Name*, **QAPAGDTA**	Optional
LIB	Output file library	*Name*, **QPFRDATA**	Optional
CLEAR	Clear existing data	***YES**, *NO	Optional

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Job name (JOB)

Specifies the jobs to select. The parameter value specified can be a special single value or a three-part job identifier. If no job qualifier is given, all of the jobs currently in the system are searched for the name of the job. If duplicates of the specified name are found, a qualified job name must be specified.

A job identifier is a special value or a qualified name with up to three elements. For example:
- *
- *SEC
- *INT
- *ALL
- job-name
- user-name/job-name
- job-number/user-name/job-name

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The special single values are:

*   Only the current job is selected.

*SEC   The secondary interactive job is selected (system request may be used to switch between two different jobs; of these, *SEC is the job opposite the current job).

*INT   All interactive jobs are selected.

If the value is other than one of the above special values, it is interpreted as a three-part job identifier (job-number/user-name/job-name). All three parts need not be specified.

job-number
    Specify the number of the job to select. This can be either *ALL (select all active jobs that meet the other selection values), or the 6-digit number that uniquely identifies the job in the system (all 6 digits must be entered; use leading zeros if necessary).

user-name
    Specify the user name of the job to select. This may be *ALL, a specific user name, or a generic user name (a name ending in *). Because several jobs may be running with the same user name, this value may not uniquely identify a specific job.

job-name
    Specify the name of the job to select. This may be *ALL, a specific job name, or a generic job name (a name ending in *). Because several jobs may be running with the same job name, this value may not uniquely identify a specific job.

<div align="right">Top</div>

Report title (TITLE)

Specifies a short title that is printed in the heading at the top of each page of the report.

*BLANK
    No title is used.

report-title
    Specify a title of up to 30 characters enclosed in apostrophes.

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Output type (OUTPUT)

Specifies the type of output being produced. If * or *PRINT is specified on this parameter, the following parameters are ignored:

- **Output file member** prompt (MBR parameter).
- **Output file library** prompt (LIB parameter).
- **Clear existing data** prompt (CLEAR parameter).

*   If parameter values are specified that result in several jobs being selected, such as *ALL or a generic job name on the **Job name** prompt (JOB parameter), this option is equivalent to specifying *PRINT. Otherwise, the job's process access group information is shown at the work station.

*PRINT
    The output is written to the printer file QPPTPAG.

*FILE   The output is saved in the database file QAPTPAGD for later analysis with the Analyze Access Group (ANZACCGRP) command. This is useful when many jobs are selected.

*BOTH
> The output is saved in the database file (*FILE option). It is also either shown or printed (* option).

Output file member (MBR)

Specifies the member in file QAPTPAGD in which to save the process access group data. If the member does not exist, it is added to the file. If the member exists, the new data replaces or extends the old contents, depending on the value of the **Clear existing data** prompt (CLEAR parameter).

QAPAGDTA
> The standard member name, QAPAGDTA, is used.

member-name
> Specify the name of an alternate member in which to save the data. This allows several sets of process access group data to be kept.

Output file library (LIB)

Specifies the library where the object is saved. If the library does not contain a file named QAPTPAGD, one is created.

QPFRDATA
> The process access group data is stored in the IBM-supplied performance data library, QPFRDATA.

library-name
> Specify the name of an alternate library in which to record the process access group data. This is necessary if access to the default library is not allowed.

Clear existing data (CLEAR)

Specifies whether existing data in the specified member is overwritten, or new data is added to the existing data.

*YES   Any existing data is erased before the new data is written (the new data overwrites the old).

*NO   Any existing data is kept, and the new data is added to it. This may be used to accumulate process access group data on multiple sets of jobs.

Examples

Example 1: Displaying Access Group Information
```
DSPACCGRP   JOB(GL*)
```

This command selects all active jobs with names starting with GL. Because GL* is not one of the special single values, it is interpreted as a three-part job identifier. Because only one part is given, it is taken to

be the job name, and the job number and user name default to *ALL. Because no OUTPUT value is specified, output is displayed if there is only one GL job. A report is spooled if there is more than one GL job.

Example 2: Writing Access Group Information to a Database File

```
DSPACCGRP   JOB(*ALL)  OUTPUT(*FILE)  MBR(SAMPLE1)
```

This command writes the process access group information for all active jobs to member SAMPLE1 of the database file QPFRDATA/QAPTPAGD for later analysis by the ANZACCGRP command.

Example 3: Displaying All Access Group Information for a Job

```
DSPACCGRP   JOB(001234/*ALL/*ALL)
```

This command displays the process access group information for job number 001234. Since the job number is guaranteed to uniquely identify the job, a report cannot be spooled (no more than one job can be selected).

Example 4: Displaying Access Group Information for a Job

```
DSPACCGRP   JOB(WILLIAMS/AP*)
```

This command selects all jobs with a user name of WILLIAMS and a job name beginning with AP.

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Error messages

*ESCAPE Messages

CPF9801
> Object &2 in library &3 not found.

CPF9802
> Not authorized to object &2 in &3.

PFR5411
> Job not found.

PFR5412
> No secondary interactive job is active.

PFR9802
> Unexpected message monitored.

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Display Historical Graph (DSPHSTGPH)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Display Historical Graph (DSPHSTGPH) command produces a graph from the historical data created by the Create Historical Data (CRTHSTDTA) command. The DSPHSTGPH command is intended to give you a historical perspective of your system in a graphic representation.

The CRTHSTDTA command summarizes the performance data collected by Collection Services. The graph format must have been defined by the Create Graph Format (CRTGPHFMT) command. The graph can be directed to a graphics terminal, non-graphics terminal, printer, plotter, and a graphics data format (GDF) file that can be used by other systems. Historical data members can be selectively included in the graph.

It is important that the Create Historical Data (CRTHSTDTA) command has been run for each of the members that you want to include in the graph. If CRTHSTDTA has not been run for a member, it is not included in the graph unless you specify *YES on the **Create historical data** prompt (CRTHSTDTA parameter) of this command.

Parameters

Keyword	Description	Choices	Notes
GRAPH	Graph format or package	*Qualified object name*	Required, Positional 1
	Qualifier 1: Graph format or package	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**, *CURLIB	
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
TITLE	Title	*Character value*, ***SAME**, *MBRTEXT, *BLANK	Optional
SUBTITLE	Subtitle	*Character value*, ***SAME**, *MBRTEXT, *BLANK	Optional
OUTPUT	Output	*****, *PRINT, *PLOT, *OUTFILE	Optional
OUTFILE	Output file	*Qualified object name*	Optional
	Qualifier 1: Output file	*Name*	
	Qualifier 2: Output file library	*Name*, ***LIBL**, *CURLIB	
OUTMBR	Output file member	*Element list*	Optional
	Element 1: Member name	*Name*, ***FIRST**	
	Element 2: Replace or add records	***REPLACE**, *ADD	
PLTSPD	Plotter speed	1-100, **100**	Optional
PLTPEN	Plotter pen width	1-10, **3**	Optional
PLTADR	Plotter address	1-31, **1**	Optional
PRTDEV	Printer device or type	*Name*, **4214**, 4234, 522X, *IPDS, *NONGRAPHIC	Optional

Keyword	Description	Choices	Notes
OUTQ	Output queue	Single values: ***PRTDEV** Other values: *Qualified object name*	Optional
	Qualifier 1: Output queue	*Name*	
	Qualifier 2: Library	*Name*, ***LIBL**	
PAGELEN	Page length	***PRTDEV**, 51, 66	Optional
TYPE	Type	***GPHFMT**, *GPHPKG	Optional
PERIOD	Time period for report	*Element list*	Optional
	Element 1: Starting date	*Date*, ***FIRST**, *SELECT	
	Element 2: Ending date	*Date*, ***LAST**	
CRTHSTDTA	Create historical data	***NO**, *YES	Optional
XAXIS	X-axis	*Element list*	Optional
	Element 1: Range	Single values: ***SAME**, *AUTO Other values: *Element list*	
	Element 1: First	0-99999	
	Element 2: Last	0-99999	
YAXIS	Y-axis	*Element list*	Optional
	Element 1: Range	Single values: ***SAME**, *AUTO Other values: *Element list*	
	Element 1: First	0-99999	
	Element 2: Last	0-99999	
AREAFILL	Area fill	***SAME**, *YES, *NO	Optional
JOB	Job name	*Name*, **DSPHSTGPH**	Optional
JOBD	Job description	Single values: ***NONE** Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, QPFRJOBD	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Graph format or package (GRAPH)

Specifies the graph format or graph package used to create the graph.

This is a required parameter.

The possible library values are:

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph format or graph package is located.

*CURLIB
> The current library for the job is used to locate the graph format or graph package. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph format or graph package is located.

Since the following are not elements, they are mutually exclusive. Therefore, specify the name of the graph format or specify the name of the graph package. You cannot specify them at the same time.

format-name
   Specify the name of the graph format.

package-name
   Specify the name of the graph package.

Library (LIB)

Specifies the library in which the historical data created by the Create Historical Data (CRTHSTDTA) command is located.

The possible library values are:

QPFRDATA
   The IBM-supplied performance data library, QPFRDATA, is where the historical data is located.

library-name
   Specify the library where the historical data is located.

Title (TITLE)

Specifies a title to display at the top of the graph or each graph of a package.

*SAME
   The title defined in the graph format is used.

*BLANK
   A blank title is used.

*MBRTEXT
   The text of the selected member that was last created by the performance monitor is used.

graph-title
   Specify a title of up to 50 characters enclosed in apostrophes.

Subtitle (SUBTITLE)

Specifies a subtitle to display at the top of the graph or each graph of a package.

*SAME
   The subtitle defined in the graph format is used.

*BLANK
   A blank subtitle is used.

*MBRTEXT
   The text of the selected member that was last created by the performance monitor is used.

subtitle
   Specify a subtitle of up to 50 characters enclosed in apostrophes.

Output (OUTPUT)

Specifies whether the graph is to be displayed, printed, plotted, or saved in a graphics data format (GDF) file.

* The graph is to be displayed on the output screen. This special value is not valid if **JOBD(*NONE)** is not specified.

Your display station can be either a graphics or nongraphics display station. A graphics display station shows the graph with colors, shading, and so forth. A nongraphics display station shows the graph using characters you choose to represent colors, shading, and so forth.

Once your graph is shown, you can define one overlay. An overlay is a graph that is placed on top of the current graph.

*PRINT
The graph is printed to the printer file, QPPGGPH while the spooled output file is named the same as the graph format.

Note:

The appearance of graphs printed or displayed by graphical devices can be different from how they appear when printed or displayed by nongraphical devices, especially when *AUTO is specified for the Y (vertical) axis.

*PLOT
The graph is plotted on an attached plotter. This value is not valid if JOBD(*NONE) is not specified. The 6180, 6182, 7371, and 7372 plotters are supported.

*OUTFILE
The graph is saved to the graphics data format (GDF) file specified in the **Output file** prompt (OUTFILE parameter). This option is not valid if a package is being displayed.

You can use this file to display the graph on any system supporting the graphical data display manager function or the IBM AS/400 Business Graphics Utility licensed program.

Note:

Graph packages cannot be sent to a GDF file.

Output file (OUTFILE)

Specifies the library and file in which the graph data format is to be saved. This parameter is only valid when **OUTPUT(*OUTFILE)** is specified. The graph is saved in a graphics data format (GDF) file.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
Search the current job library to locate the file in which to save the graph. If no current job library entry exists in the library list, QGPL is used.

library-name
Specify the name of the library where the graph is to be saved.

file-name
Specify the name of the file into which the graph is to be saved.

Output file member (OUTMBR)

Specifies the format member in which the graph is to be saved. This parameter is valid only when **OUTPUT(*OUTFILE)** is specified.

*FIRST
>The first member in the file receives the output. If **OUTMBR(*FIRST)** is specified and the member does not exist, the system creates a member with the name of the file specified in the **Output file** prompt (OUTFILE parameter).

member-name
>Specify the name of the member into which the graph is to be saved. If **OUTMBR(member-name)** is specified and the member does not exist, the system creates it. If the member already exists, you have the option to add new records to the end of the existing member or clear the member and then add the new records.

The possible optional values are:

*REPLACE
>If a member exists, the system clears it and adds the new records.

*ADD If a member exists, the system adds the new records to the end of the existing records.

Plotter speed (PLTSPD)

Specifies the speed at which the plotter creates the graph. A larger value represents a faster plotting rate. The smaller the value the better the plotting quality of the graph. This parameter is valid only when **OUTPUT(*PLOT)** is specified.

100   A plotter speed of 100 is used.

plotter-speed
>Specify the speed of the plotter. The plotter speed ranges from 1 through 100 (velocity).

Plotter pen width (PLTPEN)

Specifies the pen width in which to shade the graph. The smaller the value, the closer together the lines will be for shading. If you choose a small value, the graph takes longer to plot. If the value is too large, the shading will have gaps in it. This parameter is valid only when **OUTPUT(*PLOT)** is specified.

3   A pen width of .3 millimeters is used.

pen-width
>Specify the width of the pen. The pen widths range from .1 millimeter through 1 millimeter. Valid values range from 1 through 10.

Plotter address (PLTADR)

Specifies the plotter address for the terminal on which the graph is to be created.

1   Use the plotter designated by address 1.

plotter-address
>   Specify the address of the plotter. Valid values range from 1 through 31.

Printer device or type (PRTDEV)

Specifies the name of the printer or the type of printer on which the graph is to be printed. If a printer name is used, for example, PRT01, PRT02, and so on, the output is spooled to the output queue of the printer. If a printer type is specified, for example, 4214, the output is spooled to the output queue specified on the **Output queue** prompt (OUTQ parameter). This parameter is valid only when **OUTPUT(*PRINT)** is specified.

4214   The 4214 printer is used.

4234   The 4234 printer is used.

522X   One of the 522 series printer are used. They are the 5224 and 5225 printers.

*IPDS One of the Intelligent Printer Data Stream (IPDS) printers are used. They are the 3812 and 4224 printers.

*NONGRAPHIC
>   The output is not spooled in a graphics format for printing on printers that do not support graphics.

printer-name
>   Specify the system name of the printer to which the output is sent.

Output queue (OUTQ)

Specifies the name and library of the output queue to which the printer file is to be sent.

*PRTDEV
>   The output queue associated with the printer is used. If a printer type has been specified, the output is sent to the job's output queue.

output-queue-name
>   Specify the name of the output queue.

The possible library values are:

*LIBL   All libraries in the job's library list are searched until the first match is found.

library-name
>   Specify the name of the library where the output queue is located.

Page length (PAGELEN)

Specifies the page length for graphs. The PAGELEN parameter is valid only when OUTPUT(*PRINT) is specified.

*PRTDEV
>   The page length for the printer or printer type specified on the PRTDEV parameter is used.

51   Specifies 51 lines per page (8.5 inches).

66   Specifies 66 lines per page (11 inches).

Type (TYPE)

Specifies whether the graph is a graph format or a graph package.

*GPHFMT
          The graph is a graph format.

*GPHPKG
          The graph is a graph package.

Time period for report (PERIOD)

Specifies the members which are to be included in the graph which will specify the time period range of the graph. The members can be selected using the *SELECT value or by specifying a starting and ending date range.

Note: Members which have not had their historical data created are not included on the graph unless **CRTHSTDTA(*YES)** is specified.

*N may be used in place of an element that precedes the value being specified in order to maintain positioning. For example:

PERIOD(*N 091289)

This example specifies the ending date and uses the default starting date, which is specified by *N.

Specify one of the following values to signify the starting date. Historical information collected before this date is not included in the graph.

The possible **Starting Date** values are:

*FIRST
          Historical information is included in the graph beginning on the date of the oldest historical
          information in the library.

*SELECT
          Shows a list of performance members and whether or not they have historical data. From this list
          you can select which members are included in the graph. This value is valid only in the
          interactive environment. If used, the remaining values on the **Time period for report** prompt
          (PERIOD parameter) are ignored (end-date).

start-date
          Specify the date after which data records are included. The date must be entered in the format
          specified by the system values, QDATFMT, and, if separators are used, QDATSEP. For example,
          the system might have a date format of **'mm/dd/yy'**. The month (mm), day (dd), and year (yy)
          are all required (1- or 2-digit values). The slashes (/) are optional if all 6 digits are specified. If
          the slashes are omitted, or if the value is entered from the prompt screen, then apostrophes are
          not required.

Specify one of the following values to signify the ending date. Historical information collected after this date is not included in the graph.

The possible **Ending Date** values are:

*LAST
> Historical information is included in the graph ending on the date of the latest historical information in the library.

end-date
> Specify the date after which records are no longer included. This value is specified in the same format as **start-date**.

Create historical data (CRTHSTDTA)

Specifies whether historical data is to be created for any performance data member that has not had historical data created.

*NO Historical data is not created. All performance members that exist during the period of time selected, and do not have historical data representing them, are not included on the graph.

*YES Historical data is created.

> **Note:** Creating historical data takes more time than most display jobs.

X-axis (XAXIS)

Specifies the range used on the X-axis.

*SAME
> The range specified in the graph format is used.

*AUTO
> The system determines a range based on the data being used.

The possible **Starting Number** value is:

starting-number
> Specify the starting number for the range on the X-axis. This user-defined variable is not valid if you have specified *TIME for the X-axis. If you specify a starting number, you must also specify an ending number.

The possible **Ending Number** value is:

ending-number
> Specify the ending number for the range on the X-axis. This user-defined variable is not valid if you have specified *TIME for the X-axis. If you specify an ending number, you must also specify a starting number.

Y-axis (YAXIS)

Specifies the range used on the Y-axis.

*SAME
> The range specified in the graph format is used.

*AUTO
> The system determines a range based on the data being used.

The possible **Starting Number** value is:

starting-number
> Specify the starting number for the range on the Y-axis. If you specify a starting number, you must also specify an ending number.

The possible **Ending Number** value is:

ending-number
> Specify the ending number for the range on the Y-axis. If you specify an ending number, you must also specify a starting number.

Area fill (AREAFILL)

Specifies whether the graph is to be displayed with surfaces and bars filled in with a shading pattern.

This parameter allows you to display detailed graphs quickly. If you specify **AREAFILL(*NO)** on this command when you have specified **AREAFILL(*YES)** on the CRTGPHFMT command, the graph is displayed more quickly. This is caused by the fact that it takes longer to fill in areas with shading patterns than it does to draw lines. Also, the more dense the shading pattern, the more time it takes. These issues are important if time is short and graphic quality is not momentarily important.

*SAME
> The graph is shaded according to the graph format definition.

*YES   The graph will be filled in with a shading pattern.

*NO   The graph will not be filled in with a shading pattern.

Job name (JOB)

Specifies the job name to be used if submitting a job for batch processing.

If *NONE is specified on the **Job description** prompt (JOBD parameter), this parameter is ignored and job processing is performed interactively.

The possible **job-name** values are:

DSPHSTGPH
> The command name is used for the job name.

job-name
> Specify the name to be used for batch jobs.

Job description (JOBD)

Specifies the job description used to submit jobs for batch processing.

*NONE
A batch job is not submitted; instead, processing continues interactively while the user waits. The user's work station cannot be used during this time. This is something to consider for especially long jobs.

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
The current library for the job is used to locate the job description. If no library is specified as the current library for the job, QGPL is used.

library-name
Specify the name of the library where the job description is located.

QPFRJOBD
The IBM-supplied performance tools job description is used.

job-description-name
Specify the name of an alternate job description.

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Examples

Example 1: Displaying a Data File

```
DSPHSTGPH    GRAPH(GRAPHLIB/CPU)
```

This command shows the historical data file in library QPFRDATA on the user's screen. It is shown using the graph format CPU in library GRAPHLIB. All of the historical information in library QPFRDATA is included in the graph.

Example 2: Saving a Graph

```
DSPHSTGPH    GRAPH(GRAPHLIB/CPU)  OUTPUT(*OUTFILE)
             OUTFILE(USERLIB/USERFILE)  OUTMBR(TEST)
             JOBD(*LIBL/QPFRJOBD)
```

This command submits a job to save the graph in a GDF file. The graph is saved in the file USERLIB/USERFILE/TEST.

Example 3: Printing a Graph

```
DSPHSTGPH    GRAPH(GRAPHLIB/CPU)  OUTPUT(*PRINT)
             PRTDEV(PRT03)  JOBD(*LIBL/QPFRJOBD)
```

This command submits a job to print the graph on the system printer named PRT03.

Example 4: Printing All Graphs in a Package

```
DSPHSTGPH    GRAPH(GRAPHLIB/PACKAGE1)  OUTPUT(*PRINT)
             PRTDEV(PRT03)  TYPE(*GPHPKG)  JOBD(*LIBL/QPFRJOBD)
```

This command submits a job to print all of the graphs defined in PACKAGE1 in GRAPHLIB. The print job is sent to the system printer named PRT03. It uses the historical data members in QPFRDATA for its information.

Example 5: Displaying a Graph

```
DSPHSTGPH    GRAPH(GRAPHLIB/CPU)  OUTPUT(*)
             PERIOD(112799 100900)
```

This command displays a graph of historical information from 27 NOV 1999 to 9 OCT 2000.

Example 6: Selecting Members to be in a Graph
```
DSPHSTGPH   GRAPH(GRAPHLIB/CPU)  MBRLIB(MONDAY)
            OUTPUT(*)  PERIOD(*SELECT *N)
```

This command shows the historical members selection menu for the members in library MONDAY. The user then selects the members to be shown in the graph.

Error messages

*ESCAPE Messages

PFR5501
> Performance data file(s) are not upward compatible.

PFR5502
> Performance data file(s) are not downward compatible.

PFR9068
> Value for OUTFILE parameter must be specified.

PFR9069
> *NONE value must be specified for JOBD parameter.

PFR9071
> X-axis variable for both graphs must be the same.

PFR9072
> Cannot use member &3 in historical graph.

PFR9073
> Cannot use member &2 in historical graph.

PFR9074
> Too many members selected.

PFR9075
> Plotter not found.

PFR9076
> Plotter type not supported.

PFR9077
> Graph format has too many legend entries for overlay.

PFR9078
> Cannot display graph because of missing data.

PFR9079
> Cannot write graph to output file.

PFR9080
> Specify *AUTO for range with *TIME for X-axis.

PFR9082
> Printer &1 not found.

PFR9083
> Graph format selected for historical graph not valid.

PFR9088
>Cannot display graph because of missing data.

PFR9096
>Historical Data File QAPGHSTD not found in Library &1.

PFR9097
>Cannot copy graph format &1 onto itself.

PFR9098
>Cannot copy graph package &1 onto itself.

PFR9099
>Cannot copy functional area &1 onto itself.

PFR9101
>Graph has too many data points to display.

PFR9107
>Graph format &1 is not valid.

PFR9114
>No historical data to graph.

Display Performance Data (DSPPFRDTA)

Where allowed to run:
- Interactive job (*INTERACT)
- Interactive program (*IPGM)
- Using QCMDEXEC, QCAEXEC, or QCAPCMD API (*EXEC)

Threadsafe: No

The Display Performance Data (DSPPFRDTA) command uses a series of displays to show the performance data collected by Collection Services from the Operations Navigator interface.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*, ***SELECT**	Optional, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2

Member (MBR)

Specifies the member that contains the performance data collected by Collection Services from the Operations Navigator interface.

*SELECT
　　All members available in the specified library are listed on the Select Performance Members display.

member-name
　　Specify the name of the member containing the performance data.

Library (LIB)

Specifies the library where the performance database files are located.

QPFRDATA
　　The IBM-supplied performance data library, QPFRDATA, is used to locate the database files.

library-name
　　Specify the name of the library where the database files are located.

Examples

Example 1: Displaying List of Members

DSPPFRDTA

This command uses the Select Performance Member display to list the members available in the default library QPFRDATA so the user can select a member to display performance data.

Example 2: Displaying Performance Data

DSPPFRDTA   MBR(JUNE1)

This command displays the performance data stored in member JUNE1 located in library QPFRDATA.

Error messages

*ESCAPE Messages

PFR1010
> Cannot process request because of missing data.

PFR5501
> Performance data file(s) are not upward compatible.

PFR5502
> Performance data file(s) are not downward compatible.

PFR7001
> Library &1 does not contain performance data.

PFR7003
> Cannot show performance data.

PFR7005
> Cannot show performance data.

PFR7006
> Cannot show performance data.

PFR7022
> No performance data to display

PFR9031
> Cannot use member &3 in performance graph.

PFR9072
> Cannot use member &3 in historical graph.

PFR9114
> No historical data to graph.

Display Performance Graph (DSPPFRGPH)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Display Performance Graph (DSPPFRGPH) command produces a graph from the performance data collected by Collection Services.

The graph format must have been defined on the Create Graph Format (CRTGPHFMT) command. The graph can be sent as output to a graphics terminal, nongraphics terminal, printer, plotter, and a graphics data format (GDF) file that can be used by other systems. Jobs can be selectively included or omitted from the graph.

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Parameters

Keyword	Description	Choices	Notes
GRAPH	Graph format or package	*Qualified object name*	Required, Positional 1
	Qualifier 1: Graph format or package	*Name*	
	Qualifier 2: Library	*Name*, **QPFRDATA**, *CURLIB	
MBR	Member	*Name*	Required, Positional 2
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 3
TITLE	Title	*Character value*, ***SAME**, *MBRTEXT, *BLANK	Optional, Positional 4
SUBTITLE	Subtitle	*Character value*, ***SAME**, *MBRTEXT, *BLANK	Optional
OUTPUT	Output	*****, *PRINT, *PLOT, *OUTFILE	Optional
OUTFILE	Output file	*Qualified object name*	Optional
	Qualifier 1: Output file	*Name*	
	Qualifier 2: Output file library	*Name*, ***LIBL**, *CURLIB	
OUTMBR	Output file member	*Element list*	Optional
	Element 1: Member name	*Name*, ***FIRST**	
	Element 2: Replace or add records	***REPLACE**, *ADD	
PLTSPD	Plotter speed	1-100, **100**	Optional
PLTPEN	Plotter pen width	1-10, **3**	Optional
PLTADR	Plotter address	1-31, **1**	Optional
PRTDEV	Printer device or type	*Name*, **4214**, 4234, 522X, *IPDS, *NONGRAPHIC	Optional
OUTQ	Output queue	Single values: ***PRTDEV** Other values: *Qualified object name*	Optional
	Qualifier 1: Output queue	*Name*	
	Qualifier 2: Library	*Name*, ***LIBL**	
PAGELEN	Page length	***PRTDEV**, 51, 66	Optional
TYPE	Type	***GPHFMT**, *GPHPKG	Optional

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Keyword	Description	Choices	Notes
XAXIS	X-axis	*Element list*	Optional
	Element 1: Range	Single values: ***SAME**, *AUTO Other values: *Element list*	
	Element 1: First	0-99999	
	Element 2: Last	0-99999	
YAXIS	Y-axis	*Element list*	Optional
	Element 1: Range	Single values: ***SAME**, *AUTO Other values: *Element list*	
	Element 1: First	0-99999	
	Element 2: Last	0-99999	
AREAFILL	Area fill	***SAME**, *YES, *NO	Optional
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
SLTJOB	Select jobs	Single values: ***ALL** Other values (up to 50 repetitions): *Qualified job name*	Optional
	Qualifier 1: Select jobs	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*	
	Qualifier 3: Number	000000-999999	
OMTJOB	Omit jobs	Single values: ***NONE** Other values (up to 50 repetitions): *Qualified job name*	Optional
	Qualifier 1: Omit jobs	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*	
	Qualifier 3: Number	000000-999999	
SLTUSER	Select users	Single values: ***ALL** Other values (up to 50 repetitions): *Generic name, name*	Optional
OMTUSER	Omit users	Single values: ***NONE** Other values (up to 50 repetitions): *Generic name, name*	Optional
SLTPOOLS	Select pools	Single values: ***ALL** Other values (up to 64 repetitions): 1-64	Optional
OMTPOOLS	Omit pools	Single values: ***NONE** Other values (up to 64 repetitions): 1-64	Optional
SLTSBS	Select subsystems	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTSBS	Omit subsystems	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTLINE	Select communications lines	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTLINE	Omit communications lines	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTCTL	Select control units	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTCTL	Omit control units	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTFCNARA	Select functional areas	Single values: ***ALL** Other values (up to 50 repetitions): *Character value*	Optional

Keyword	Description	Choices	Notes
OMTFCNARA	Omit functional areas	Single values: ***NONE** Other values (up to 50 repetitions): *Character value*	Optional
JOB	Job name	*Name*, **DSPPFRGPH**, *MBR	Optional
JOBD	Job description	Single values: ***NONE** Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, QPFRJOBD	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Graph format or package (GRAPH)

Specifies the graph format or graph package used to create the graph.

This is a required parameter.

The possible library values are:

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph format or graph package is located.

*CURLIB
> The current library for the job is used to locate the graph format or graph package. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the graph format or graph package is located.

Since the following are not elements, they are mutually exclusive. Therefore, specify the name of the graph format or specify the name of the graph package. You cannot specify them at the same time.

format-name
> Specify the name of the graph format.

package-name
> Specify the name of the graph package.

Member (MBR)

Specifies the performance data to be used in your performance graph. Specify the name of the member.

This is a required parameter.

Library (LIB)

Specifies the library in which the performance data member to be used in the graph is located.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the performance data member is located.

library-name
> Specify the library where the performance data member is located.

Title (TITLE)

Specifies a title to display at the top of the graph or each graph of a package.

*SAME
> The graph title defined in the graph format is used.

*BLANK
> A blank title is used.

*MBRTEXT
> The text of the selected member is used.

graph-title
> Specify a title of up to 50 characters enclosed in apostrophes.

Subtitle (SUBTITLE)

Specifies a subtitle to display at the top of the graph or each graph of a package.

*SAME
> The text of the graph subtitle defined in the graph format is used.

*BLANK
> A blank subtitle is used.

*MBRTEXT
> The text of the selected member is used.

graph-subtitle
> Specify a subtitle of up to 50 characters enclosed in apostrophes.

Output (OUTPUT)

Specifies whether the graph is to be displayed, printed, plotted, or saved in a graphics data format (GDF) file.

*
> The graph is to be displayed on the output screen. This special value is not valid if **JOBD(*NONE)** is not specified.
>
> Your display station can be either a graphics or nongraphics display station. A graphics display station shows the graph with colors, shading, and so forth. A nongraphics display station shows the graph using characters you choose to represent colors, shading, and so forth.
>
> Once your graph is shown, you can define one overlay. An overlay is a graph that is placed on top of the current graph.

*PRINT
> The graph is printed to the printer file, QPPGGPH while the spooled output file is named the same as the graph format.
>
> **Note:**

The appearance of graphs printed or displayed by graphical devices can be different from how they appear when printed or displayed by nongraphical devices, especially when *AUTO is specified for the Y (vertical) axis.

*PLOT

The graph is plotted on an attached plotter. This value is not valid if JOBD(*NONE) is not specified. The 6180, 6182, 7371, and 7372 plotters are supported.

*OUTFILE

The graph is saved to the graphics data format (GDF) file specified in the **Output file** prompt (OUTFILE parameter). This option is not valid if a package is being displayed.

You can use this file to display the graph on any system supporting the graphical data display manager function or the IBM AS/400 Business Graphics Utility licensed program.

Note:

Graph packages cannot be sent to a GDF file.

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Output file (OUTFILE)

Specifies the library and file in which the graph data format is to be saved. This parameter is only valid when **OUTPUT(*OUTFILE)** is specified. The graph is saved in a graphics data format (GDF) file.

The possible library values are:

QPFRDATA

The IBM-supplied performance data library, QPFRDATA, is where the graph is saved.

*LIBL   Search the library list to locate the file in which to save the graph.

*CURLIB

Search the current job library to locate the file in which to save the graph. If no current job library entry exists in the library list, QGPL is used.

library-name

Specify the name of the library where the graph is to be saved.

file-name

Specify the name of the file into which the graph is to be saved.

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Output file member (OUTMBR)

Specifies the format member in which the graph is to be saved. This parameter is valid only when **OUTPUT(*OUTFILE)** is specified.

*FIRST

The first member in the file receives the output. If **OUTMBR(*FIRST)** is specified and the member does not exist, the system creates a member with the name of the file specified in the **Output file** prompt (OUTFILE parameter).

member-name

Specify the name of the member into which the graph is to be saved. If **OUTMBR(member-**

name) is specified and the member does not exist, the system creates it. If the member already exists, you have the option to add new records to the end of the existing member or clear the member and then add the new records.

The possible optional values are:

*REPLACE
>   If a member exists, the system clears it and adds the new records.

*ADD If a member exists, the system adds the new records to the end of the existing records.

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Plotter speed (PLTSPD)

Specifies the speed at which the plotter creates the graph. A larger value represents a faster plotting rate. The smaller the value the better the plotting quality of the graph. This parameter is valid only when **OUTPUT(*PLOT)** is specified.

100   A plotter speed of 100 is used.

plotter-speed
>   Specify the speed of the plotter. The plotter speed ranges from 1 through 100 (velocity).

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Plotter pen width (PLTPEN)

Specifies the pen width in which to shade the graph. The smaller the value, the closer together the lines will be for shading. If you choose a small value, the graph takes longer to plot. If the value is too large, the shading will have gaps in it. This parameter is valid only when **OUTPUT(*PLOT)** is specified.

3   A pen width of .3 millimeters is used.

pen-width
>   Specify the width of the pen. The pen widths range from .1 millimeter through 1 millimeter. Valid values range from 1 through 10.

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Plotter address (PLTADR)

Specifies the plotter address for the terminal on which the graph is to be created.

1   Use the plotter designated by address 1.

plotter-address
>   Specify the address of the plotter. Valid values range from 1 through 31.

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Printer device or type (PRTDEV)

Specifies the name of the printer or the type of printer on which the graph is to be printed. If a printer name is used, for example, PRT01, PRT02, and so on, the output is spooled to the output queue of the printer. If a printer type is specified, for example, 4214, the output is spooled to the output queue specified on the **Output queue** prompt (OUTQ parameter). This parameter is valid only when **OUTPUT(*PRINT)** is specified.

4214 The 4214 printer is used.

4234 The 4234 printer is used.

522X One of the 522 series printer are used. They are the 5224 and 5225 printers.

*IPDS One of the Intelligent Printer Data Stream (IPDS) printers are used. They are the 3812 and 4224 printers.

*NONGRAPHIC

The output is not spooled in a graphics format for printing on printers that do not support graphics.

printer-name

Specify the system name of the printer to which the output is sent.

Output queue (OUTQ)

Specifies the name and library of the output queue to which the printer file is to be sent.

*PRTDEV

The output queue associated with the printer is used. If a printer type has been specified, the output is sent to the job's output queue.

output-queue-name

Specify the name of the output queue.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

library-name

Specify the name of the library where the output queue is located.

Page length (PAGELEN)

Specifies the page length for graphs. The PAGELEN parameter is valid only when OUTPUT(*PRINT) is specified.

*PRTDEV

The page length for the printer or printer type specified on the PRTDEV parameter is used.

51 Specifies 51 lines per page (8.5 inches).

66 Specifies 66 lines per page (11 inches).

Type (TYPE)

Specifies whether the graph is a graph format or a graph package.

*GPHFMT

The graph is a graph format.

*GPHPKG

The graph is a graph package.

X-axis (XAXIS)

Specifies the range used on the X-axis.

*SAME
> The range specified in the graph format is used.

*AUTO
> The system determines a range based on the data being used.

The possible **Starting Number** value is:

starting-number
> Specify the starting number for the range on the X-axis. This user-defined variable is not valid if you have specified *TIME for the X-axis. If you specify a starting number, you must also specify an ending number.

The possible **Ending Number** value is:

ending-number
> Specify the ending number for the range on the X-axis. This user-defined variable is not valid if you have specified *TIME for the X-axis. If you specify an ending number, you must also specify a starting number.

Y-axis (YAXIS)

Specifies the range used on the Y-axis.

*SAME
> The range specified in the graph format is used.

*AUTO
> The system determines a range based on the data being used.

The possible **Starting Number** value is:

starting-number
> Specify the starting number for the range on the Y-axis. If you specify a starting number, you must also specify an ending number.

The possible **Ending Number** value is:

ending-number
> Specify the ending number for the range on the Y-axis. If you specify an ending number, you must also specify a starting number.

Area fill (AREAFILL)

Specifies whether the graph is to be displayed with surfaces and bars filled in with a shading pattern.

This parameter allows you to display detailed graphs quickly. If you specify **AREAFILL(*NO)** on this command when you have specified **AREAFILL(*YES)** on the CRTGPHFMT command, the graph is displayed more quickly. This is caused by the fact that it takes longer to fill in areas with shading patterns than it does to draw lines. Also, the more dense the shading pattern, the more time it takes. These issues are important if time is short and graphic quality is not momentarily important.

*SAME

The graph is shaded according to the graph format definition.

*YES   The graph will be filled in with a shading pattern.

*NO   The graph will not be filled in with a shading pattern.

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Time period for report (PERIOD)

Specifies the period of time for which to collect performance information for the performance graph. The starting and ending times and dates consists of four elements:

```
PERIOD((start-time  start-date) (end-time  end-date))
```

*N can be used in place of an element that precedes the value being specified in order to maintain positioning. For example, PERIOD(*N(*N 091289)) specifies the ending date and the default values for start-time, start-date, and end-time.

One of the following values is used to specify the starting time. Information collected before the starting time and starting date is not included on the graph.

The possible **Starting Time** values are:

*FIRST

Records starting at the beginning of the day are collected.

start-time

Specify the time after which records are collected.

The time can be specified with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds. All three must be exactly 2 digits (use leading zeros if necessary).

- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

The time is in 24-hour format; for example, use 13:00 for 1 p.m.

One of the following values is used to specify the starting date. Information collected before the starting time on the date specified on this parameter is not included on the graph.

The possible **Starting Date** values are:

*FIRST

Records starting on the first day of the collection period are included on the graph.

start-date

Specify the date after which records are collected. The date must be entered in the format specified by the system values QDATFMT and, if separators are used, QDATSEP. For instance, the system might have a date format of *'mm/dd/yy'*. The month (mm), day (dd), and year (yy) are

all required 1- or 2-digit values. The slashes (/) are optional if all 6 digits are specified. If the slashes are omitted, or if the value is entered from the prompt display, the apostrophes are not required.

One of the following values is used to specify the ending time. Information collected after the ending time and ending date is not included on the graph.

The possible **Ending Time** values are:

*LAST
Records through the end of the day (23:59:59) are included on the graph.

end-time
Specify the time after which records are not collected. See *start-time* in this parameter for details on how the time must be specified.

One of the following values is used to specify the ending date. Information collected after the ending time and ending date is not included on the graph.

The possible **Ending Date** values are:

*LAST
Records through the last day of the collection period are included on the graph.

end-date
Specify the date after which records are no longer collected. See *start-date* in this parameter for details on how the date must be specified.

Select jobs (SLTJOB)

Specifies a list of up to 50 jobs to select. Only specified jobs are included on the graph.

A job identifier is either the special value *ALL or a qualified name with up to three elements, for example:

```
*ALL
job-name
user-name/job-name
job-number/user-name/job-name
```

*N can be used in place of an element that follows the values being specified in order to maintain positioning. For example, 123456/*N/*N specifies only the job number 123456, regardless of the job and user names. Without the *N's, 123456 would have been interpreted as the job name, and not the job number.

Note: The **Select jobs** prompt (SLTJOB parameter) and the **Omit jobs** prompt (OMTJOB parameter) are mutually exclusive.

*ALL   All jobs in the collected data are included, unless excluded by some other selection criteria.

job-name
Specify the name of the jobs to select. Because jobs may have identical job names, this value may not identify a specific job. This can be either a specific or generic name.

user-name
Specify the user name of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job. This can be either a specific or generic name.

job-number
>>Specify the 6-digit number of a job to select. All 6 digits must be specified (use leading zeros if necessary).

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Omit jobs (OMTJOB)

Specifies a list of up to 50 jobs to omit. All jobs specified are excluded from the graph.

A job identifier is either the special value *NONE or a qualified name with up to three elements. *N can be used in place of an element to maintain the position in the parameter value sequence.

Note: The **Select jobs** prompt (SLTJOB parameter) and **Omit jobs** prompt (OMTJOB parameter) are mutually exclusive.

*NONE
>>Jobs are not excluded based on job identifier.

job-name
>>Specify the name of the jobs to omit. Because jobs may have identical job names, this value may not identify a specific job. This can be either a specific or generic name.

user-name
>>Specify the user name of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job. This can be either a specific or generic name.

job-number
>>Specify the 6-digit number of a job to omit. All 6 digits must be specified (use leading zeros if necessary).

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Select users (SLTUSER)

Specifies a list of up to 50 user names to select. Only jobs with one of the specified user names are included on the graph.

Note: The **Select users** prompt (SLTUSER parameter) and **Omit users** prompt (OMTUSER parameter) are mutually exclusive.

*ALL   Jobs with all user names are included, unless excluded by other selection criteria.

user-name
>>Specify the user name of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job. This can be either a specific or generic name. **SLTUSER(user)** is equivalent to **SLTJOB(*N/user/*N)**.

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Omit users (OMTUSER)

Specifies a list of up to 50 user names to omit. Jobs with any of the names specified are excluded from the graph.

Note: The **Select users** prompt (SLTUSER parameter) and **Omit users** prompt (OMTUSER parameter) are mutually exclusive.

*NONE
No jobs are excluded based on user name.

user-name
Specify the user name of jobs to omit. Because jobs may have identical user names, this value may not identify a specific job. This can be either a specific or generic name. **OMTUSER(user)** is equivalent to **OMTJOB(*N/user/*N)**.

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Select pools (SLTPOOLS)

Specifies a list of up to 64 pools to select. Only jobs running in one of the specified pools are included on the graph.

Note: The **Select pools** prompt (SLTPOOLS parameter) and **Omit pools** prompt (OMTPOOLS parameter) are mutually exclusive.

*ALL Jobs running in all pools are included, unless excluded by other selection criteria.

storage-pool-identifier
Specify the number of a pool to select. Valid values range from 1 to 64.

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Omit pools (OMTPOOLS)

Specifies a list of up to 64 pools to omit. Jobs running in the specified pools are excluded from the graph.

Note: The **Select pools** prompt (SLTPOOLS parameter) and **Omit pools** prompt (OMTPOOLS parameter) are mutually exclusive.

*NONE
No jobs are excluded based on their pool.

storage-pool-identifier
Specify the number of a pool to omit. Valid values range from 1 to 64.

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Select subsystems (SLTSBS)

Specifies a list of up to 50 subsystems to select. Only jobs running in one of the specified subsystems are included on the graph.

Note: The **Select subsystems** prompt (SLTSBS parameter) and **Omit subsystems** prompt (OMTSBS parameter) are mutually exclusive.

*ALL Jobs in all subsystems are included, unless excluded by other selection criteria.

subsystem-name
Specify the name of a subsystem to select.

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Omit subsystems (OMTSBS)

Specifies a list of up to 50 subsystems to omit. Jobs running in the specified subsystems are excluded from the graph.

Note: The **Select subsystems** prompt (SLTSBS parameter) and **Omit subsystems** prompt (OMTSBS parameter) are mutually exclusive.

*NONE
>   No jobs are excluded based on subsystem.

subsystem-name
>   Specify the name of a subsystem to omit.

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Select communications lines (SLTLINE)

Specifies a list of up to 50 communications lines to select. Only jobs using a remote device connected through one of the specified communications lines are included on the graph.

Note: The **Select communications lines** prompt (SLTLINE parameter) and **Omit communications lines** prompt (OMTLINE parameter) are mutually exclusive.

*ALL   All jobs are included, unless excluded by other selection criteria.

communications-line-name
>   Specify the name of a communications line to select. This excludes jobs using remote devices connected through other communications lines (or no communications line), even if the controllers to which those devices are attached are specified on the SLTCTL parameter.

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Omit communications lines (OMTLINE)

Specifies a list of up to 50 communications lines to omit. Jobs using a remote device connected through any of the specified lines are excluded from the graph.

Note: The **Select communications lines** prompt (SLTLINE parameter) and **Omit communications lines** prompt (OMTLINE parameter) are mutually exclusive.

*NONE
>   Jobs are not excluded based on communications line.

communications-line-name
>   Specify the name of a communications line to omit.

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Select control units (SLTCTL)

Specifies a list of up to 50 communications controllers to select. Only jobs using a device connected to one of the specified communications controllers are included on the graph.

Note: The **Select control units** prompt (SLTCTL parameter) and **Omit control units** prompt (OMTCTL parameter) are mutually exclusive.

*ALL   All jobs are included, unless excluded by other selection criteria.

controller-name
> Specify the name of a communications controller to select.

Omit control units (OMTCTL)

Specifies a list of up to 50 communications controllers to omit. Jobs using a device connected to any of the specified communications controllers are excluded from the graph.

Note: The **Select control units** prompt (SLTCTL parameter) and **Omit control units** prompt (OMTCTL parameter) are mutually exclusive.

*NONE
> Jobs are not excluded based on communications controller.

controller-name
> Specify the name of a communications controller to omit.

Select functional areas (SLTFCNARA)

Specifies a list of up to 50 functional areas to select. Only jobs identified in one of the functional areas are included on the graph.

A functional area is a list of jobs and/or user names previously defined by the user. Information on defining functional areas is in the Performance Tools for iSeries book.

Note: The **Select functional areas** prompt (SLTFCNARA parameter) and **Omit functional areas** prompt (OMTFCNARA parameter) are mutually exclusive.

*ALL   All jobs are included, unless excluded by other selection criteria.

functional-area-name
> Specify the name of a functional area to select.

Omit functional areas (OMTFCNARA)

Specifies a list of up to 50 functional areas to omit. Jobs and users identified in any of the functional areas are excluded from the graph.

A functional area is a list of job and user names previously defined by the user. Information on defining functional areas is found in the Performance Tools for iSeries book.

Note: The **Select functional areas** prompt (SLTFCNARA parameter) and **Omit functional areas** prompt (OMTFCNARA parameter) are mutually exclusive.

*NONE
> No jobs are excluded based on functional area.

functional-area-name
> Specify the name of a functional area to omit.

Job name (JOB)

Specifies the job name to be used if submitting a job for batch processing.

If *NONE is specified for the **Job description** prompt (JOBD parameter), this parameter is ignored and job processing is performed interactively.

The possible **job-name** values are:

DSPPFRGPH
> The command name is used for the job name.

*MBR The name of the performance data member specified on the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for batch jobs.

Job description (JOBD)

Specifies the job description used to submit jobs for batch processing.

*NONE
> A batch job is not submitted; instead, processing continues interactively while the user waits. The user's work station cannot be used during this time. This is something to consider for especially long jobs.

> ***LIBL**   All libraries in the job's library list are searched until the first match is found.

> ***CURLIB**
>> The current library for the job is used to locate the job description. If no library is specified as the current library for the job, QGPL is used.

> *library-name*
>> Specify the name of the library where the job description is located.

QPFRJOBD
> The IBM-supplied performance tools job description is used.

job-description-name
> Specify the name of an alternate job description.

Examples

Example 1: Displaying Performance Data Files

```
DSPPFRGPH   GRAPH(GRAPHLIB/CPU)   MBR(QPFRDATA/JUN1)
            TITLE(*MBRTEXT)
```

This command displays the performance data files in library QPFRDATA member JUN1. It is displayed as specified by graph format CPU in library GRAPHLIB. The report title is taken from the text of the member.

Example 2: Saving a Graph

```
DSPPFRGPH   GRAPH(GRAPHLIB/CPU)  MBR(JUN1)  OUTPUT(*OUTFILE)
            OUTFILE(USERLIB/USERFILE)  OUTMBR(TEST)
            JOBD(*LIBL/QPFRJOBD)
```

This command submits a job to save the graph of performance data from file member JUN1, which is in library QPFRDATA, in a GDF file. The graph is saved in file USERLIB/USERFILE/TEST (file member TEST in file USRFILE, which is in library USRLIB).

Example 3: Printing a Graph

```
DSPPFRGPH   GRAPH(GRAPHLIB/CPU)  MBR(JUN1)  OUTPUT(*PRINT)
            PRTDEV(PRT03)  JOBD(*LIBL/QPFRJOBD)
```

This command submits a job to print the graph of performance data from file member JUN1, which is in library QPFRDATA, on the system printer named PRT03.

Example 4: Printing All Graphs

```
DSPPFRGPH   GRAPH(GRAPHLIB/PACKAGE1)  MBR(JUN1)  OUTPUT(*PRINT)
            PRTDEV(PRT03)  JOBD(*LIBL/QPFRJOBD)  TYPE(*GPHPKG)
```

This command submits a job to print all of the graphs defined in PACKAGE1 in GRAPHLIB. The print job is sent to system printer PRT03. It's data source is in performance data member JUN1 in library QPFRDATA.

Example 5: Displaying a Graph

```
DSPPFRGPH   GRAPH(GRAPHLIB/CPU)  MBR(JUN1)  OUTPUT(*)
            PERIOD((2330)(0130))
```

This command displays a graph of the data collected from 11:30 PM on the first day of collection through 1:30 AM on the last day of collection. However, if data collection started and ended on the same day, an error message is printed, because the specified ending date and time precedes the specified starting date and time.

Example 6: Displaying a Graph for Selected Users

```
DSPPFRGPH   GRAPH(GRAPHLIB/CPU)  MBR(JUN1)  OUTPUT(*)
            PERIOD((2330)(0130))  SLTUSER(D46*)
```

This command displays a graph of the performance data collected for all the jobs whose user ID starts with D46 from 11:30 PM on the first day of collection through 1:30 AM on the last day of collection. However, if data collection started and ended on the same day, an error message is printed, because the specified ending date and time precedes the specified starting date and time.

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Error messages

*ESCAPE Messages

PFR5501

Performance data file(s) are not upward compatible.

PFR5502

Performance data file(s) are not downward compatible.

PFR9031

Cannot use member &3 in performance graph.

PFR9046

Jobs defined in more than one functional area.

PFR9049

Graph format &1 in library &3 does not exist.

PFR9068

Value for OUTFILE parameter must be specified.

PFR9069

*NONE value must be specified for JOBD parameter.

PFR9071

X-axis variable for both graphs must be the same.

PFR9075

Plotter not found.

PFR9076

Plotter type not supported.

PFR9077

Graph format has too many legend entries for overlay.

PFR9078

Cannot display graph because of missing data.

PFR9079

Cannot write graph to output file.

PFR9080

Specify *AUTO for range with *TIME for X-axis.

PFR9082

Printer &1 not found.

PFR9083

Graph format selected for historical graph not valid.

PFR9096

Historical Data File QAPGHSTD not found in Library &1.

PFR9097

Cannot copy graph format &1 onto itself.

PFR9098

Cannot copy graph package &1 onto itself.

PFR9099

Cannot copy functional area &1 onto itself.

PFR9101

Graph has too many data points to display.

PFR9107

Graph format &1 is not valid.

PFR9113

Cannot display graph because of missing data.

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End Job Trace (ENDJOBTRC)

The End Job Trace (ENDJOBTRC) command turns off the job tracing function of the OS/400 system that was started by the Start Job Trace (STRJOBTRC) command, saves all collected trace records in a database file, and optionally produces reports that are used to analyze the data for information about performance. The Print Job Trace (PRTJOBTRC) command may also be used to produce reports from the same source data.

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Parameters

Keyword	Description	Choices	Notes
MBR	Output file member	*Name*, **QAJOBTRC**	Optional, Positional 1
LIB	Output file library	*Name*, **QPFRDATA**	Optional, Positional 2
RPTTYPE	Report type	***NONE**, *DETAIL, *SUMMARY, *BOTH	Optional, Positional 3
TITLE	Report title	*Character value*, ***BLANK**	Optional, Positional 4
STRSEQ	Starting sequence number	1-999999, ***FIRST**	Optional
ENDSEQ	Ending sequence number	*Decimal number*, ***LAST**	Optional
ENDTNS	Transaction ending program	*Name*, **QT3REQIO**, *BATCH	Optional
STRTNS	Transaction starting program	*Name*, **QWSGET**	Optional
JOB	Job name	*Name*, **ENDJOBTRC**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

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Output file member (MBR)

Specifies the member in file QAPTTRCJ in which to save the trace data. If the member does not exist, it is added to the file. If the member exists, the new data replaces the old contents.

QAJOBTRC
> The standard member name, QAJOBTRC, is used.

member-name
> Specify the name of an alternate member in which to save the data. This allows several sets of job trace data to be kept.

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Output file library (LIB)

Specifies the library where the trace data is saved. If the library does not contain a file named QAPTTRCJ, one is created.

QPFRDATA
> The trace data is saved in the IBM-supplied performance data library, QPFRDATA.

library-name
> Specify the name of an alternate library where the trace data is saved. This is necessary if access to the default library is not allowed.

Report type (RPTTYPE)

Specifies the type of reports being produced.

*NONE
> No reports are produced; however, the Print Job Trace (PRTJOBTRC) command may be used later to report on the saved data. None of the remaining parameters are applicable if this value is selected.

*DETAIL
> A report is produced that shows the individual job trace records in detail. The output is directed to the printer file QPPTTRCD. Each page heading includes the text 'Job Trace Information'.

*SUMMARY
> Two reports are produced summarizing the job trace data by work station transaction. One report shows primarily physical disk activity; its printer file is QPPTTRC1, and its page heading includes the text 'Trace Analysis Summary'. The other report concentrates on higher level activities such as database I/O and inter-program transfers of control; its printer file is QPPTTRC2, and its page heading includes the text 'Trace Analysis I/O Summary'.

*BOTH
> Both the detail report and the two summary reports are produced (three reports total).

Report title (TITLE)

Specifies a title that is printed on the page heading of each report.

*BLANK
> No title is specified.

'report-title'
> Specify title of up to 50 characters enclosed in apostrophes. This may be used, for example, to distinguish between reports on different sets of trace data or different sections of the same data.

Starting sequence number (STRSEQ)

Specifies the sequence number of the first job trace record that is included in any reports. No records preceding this one are listed in the detail report or counted in either summary report.

*FIRST
> Trace records starting from the first trace record (sequence number 1) are included.

sequence-number
> Specify the sequence of the first trace record that is included. An appropriate value is determined by previewing reports that are produced from the job trace data. This can be used to bracket a particular set of transactions on which to report.

Ending sequence number (ENDSEQ)

Specifies the sequence number of the last job trace record that is included in any reports. No records following this one are listed in the detail report or counted in either summary report.

*LAST
> Trace records through the last trace record are included.

sequence-number
> Specify the sequence number of the last trace record that is included. An appropriate value can be chosen through a preview process so as to bracket a particular set of transactions.

Transaction ending program (ENDTNS)

Specifies the program that signifies the end of a transaction. A program must also be specified on the **Transaction starting program** prompt (STRTNS parameter).

QT3REQIO
> The work station I/O program, QT3REQIO, is used. This value is used to break the trace data into display station transactions.

program-name
> Specify the name of the program that ends a transaction. This allows reporting on non-display station transactions, such as communications lines.

Transaction starting program (STRTNS)

Specifies the program that signifies the start of a transaction. A program must also be specified on the **Transaction ending program** prompt (ENDTNS parameter).

QWSGET
> The work station input program, QWSGET, is used. This value is used to break the trace data into display station transactions.

program-name
> Specify the name of the program that starts a transaction.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

ENDJOBTRC
> The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for any and all batch jobs.

Batch job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

Examples

Example 1: Stopping Job Tracing
```
ENDJOBTRC
```

This command stops tracing and saves the created trace records in QPFRDATA/QAPTTRCJ, member QAJOBTRC. No reports are produced.

Example 2: Producing a Report of Job Records
```
ENDJOBTRC   LIB(MYLIB)  RPTTYPE(*DETAIL)
```

This command stops job tracing, saves the created trace records in member QAJOBTRC of MYLIB/QAPTTRCJ, and produces a detail report. The use of a private library allows several users to trace jobs at the same time.

Error messages

None

Print Activity Report (PRTACTRPT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print Activity Report (PRTACTRPT) command generates reports based on the data collected by the Work With System Activity (WRKSYSACT) command.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*, **QAITMON**	Optional, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
TITLE	Title	*Character value*, ***BLANK**	Optional, Positional 3
RPTTYPE	Report type	***SUMMARY**, *DETAIL, *ALL	Optional
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
SEQ	Sequence	*JOBTASK, *USER, *PTY, ***CPU**, *TOTALIO, *SYNCIO, *ASYNCIO, *FAULT, *SDBREAD, *SDBWRITE, *SNDBREAD, *SNDBWRITE, *ADBREAD, *ADBWRITE, *ANDBREAD, *ANDBWRITE	Optional
NBRJOBS	Number of jobs	1-32767, **10**, *ALL	Optional
JOB	Job name	*Name*, **PRTACTRPT**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the member where the performance data was saved by the Work with System Activity (WRKSYSACT) command.

QAITMON

> The standard member name, QAITMON, is used.

member-name
>   Specify the name of the member that contains the performance data.

Library (LIB)

Specifies the library where the performance data file, QAITMON, is stored.

QPFRDATA
>   The performance data is stored in the IBM-supplied performance data library, QPFRDATA.

library-name
>   Specify the name of the library where the data file is stored.

Title (TITLE)

Specifies the title for the activity report that is generated.

*BLANK
>   No title is placed on the activity report.

'report-title'
>   Specify a title for the activity report. Specify up to 50 characters enclosed in apostrophes.

Report type (RPTTYPE)

Specifies the type of activity report to be generated.

*SUMMARY
>   Lists the top ten entries, as measured over the entire time frame specified by the PERIOD parameter, according to processing unit utilization and number of I/O operations performed.

*DETAIL
>   For each interval specified by the PERIOD parameter, the number of entries specified by the NBRJOBS parameter are listed in the order specified by the SEQ parameter.

*ALL   Generates the summary activity report and the detailed activity report.

Time period for report (PERIOD)

Specifies the time period for the report. The following values can be coded in this parameter, which contains two lists of two elements each. Data collected before the specified starting time and date and after the specified ending time and date is not shown. If no values are specified, the following values are assumed:

PERIOD((*FIRST*FIRST) (*LAST*LAST))

The possible **starting time** values are:

*FIRST

       The collected data that is available for the first interval on the specified starting date is included in the report.

start-time

       Specify the time at which or after which the data must have been collected to be included in the report. The time is specified as 4 or 6 digits (hhmm or hhmmss), where **hh** is the hour, **mm** is the minute, and **ss** is the second.

       The time can be specified with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

The possible **starting date** values are:

*FIRST

       The collected data that is available on or after the specified starting time on the first day of the performance data collection is included in the report.

start-date

       Specify the starting date on which or after which the data must have been collected to be included in the report. The date must be entered in the same format as specified for the job.

The possible **ending time** values are:

*LAST

       The collected data that is available through the last interval on the specified ending date is included in the report.

end-time

       Specify the time before which the data must have been collected to be included in the report. The time is specified as 4 or 6 digits (hhmm or hhmmss), where hh is the hour, mm is the minute, and ss is the second.

       The time can be specified with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

The possible **ending date** values are:

*LAST

       The collected data that is available up to the specified ending time on the last day of the performance data collection is included in the report.

end-date

       Specify the ending date on which or before which the data must have been collected to be included in the report. The date must be entered in the same format as specified for the job.

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Sequence (SEQ)

Specifies the field by which the jobs and tasks are ranked and then listed on the detailed activity report. This parameter is valid only when *DETAIL or *ALL is specified for the RPTTYPE parameter.

*CPU   List the entries in descending order according to processing unit utilization.

*JOBTASK
> List the entries alphabetically according to the job or task name.

*USER
> List the entries alphabetically according to the user profile.

*PTY   Lists the entries in descending order according to priority.

*TOTALIO
> Lists the entries in descending order according to the total number of synchronous and asynchronous I/O operations performed.

*SYNCIO
> List the entries in descending order according to the total number of synchronous I/O operations performed.

*ASYNCIO
> List the entries in descending order according to the total number of asynchronous I/O operations initiated.

*FAULT
> List the entries in descending order according to the number of Process Access Group faults which occurred.

*SDBREAD
> List the entries in descending order according to the number of synchronous database read operations performed.

*SDBWRITE
> List the entries in descending order according to the number of synchronous database write operations performed.

*SNDBREAD
> List the entries in descending order according to the number of synchronous non database read operations performed.

*SNDBWRITE
> List the entries in descending order according to the number of synchronous non database write operations performed.

*ADBREAD
> List the entries in descending order according to the number of asynchronous database read operations initiated.

*ADBWRITE
> List the entries in descending order according to the number of asynchronous database write operations initiated.

*ANDBREAD
> List the entries in descending order according to the number of asynchronous non database read operations initiated.

*ANDBWRITE
> List the entries in descending order according to the number of asynchronous non database write operations initiated.

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Number of jobs (NBRJOBS)

Specifies the number of entries to be listed for each interval in the detailed activity report. This parameter is valid only when *DETAIL or *ALL is specified for the RPTTYPE parameter.

10   List ten entries for each interval.

number-of-jobs
        Specify the number of entries to be listed for each interval.

*ALL   List all the entries contained in the collected data.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTACTRPT
        The command name is used for the job name.

*MBR   The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
        Specify the name to be used for any and all batch jobs.

Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
        The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
        Specify the name of an alternate job description.

*NONE
        A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL   All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

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Examples

Example 1: Generating a Summary Report

```
PRTACTRPT
```

This command submits a batch job that generates a summary activity report using the performance data found in the default member QAITMON located in the default library QPFRDATA. The report covers the entire measurement period, and the title of the report is left blank.

Example 2: Generating a Summary and Detailed Activity Report

```
PRTACTRPT   MBR(JUNE01)  TITLE('Activity Report for June 1st')
            RPTTYPE(*ALL)  SEQ(*CPU)
```

This command submits a batch job that generates both a summary and a detailed activity report. The performance data comes from member JUNE01 located in the default library QPFRDATA. The report covers the entire measurement period, and the title of the report is 'Activity Report for June 1st'. The detailed activity report lists ten entries in descending order according to CPU utilization for each interval.

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Error messages

*ESCAPE Messages

PFR7010
> No data in member to print.

PFR7017
> Cannot print activity report.

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Print Component Report (PRTCPTRPT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print Component Report (PRTCPTRPT) command produces a report that expands on the information given in the System Report. Detailed information regarding the system performance of each component is reported. This detailed report is produced from the performance data collected by Collection Services from the Operations Navigator interface and shows the data by job, user, pool, disk, IOP, local work station, exception, data base journaling, and TCP/IP. The report is written to the printer file QPPTCPTR. Jobs can be selectively included in the report or excluded from the report, based on a variety of job details and interval times.

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Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
TITLE	Report title	*Character value*, ***MBR**	Optional, Positional 3
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**, *SELECT	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
TYPE	Type of information	Single values: ***ALL** Other values (up to 11 repetitions): *INTERVAL, *WORKLOAD, *POOL, *DISK, *IOP, *LCLWS, *RMTWS, *EXCEPTION, *DBJRN, *TCPIP, *HTTP	Optional
DETAIL	Report detail	***JOB**, *THREAD	Optional
SLTJOB	Select jobs	Single values: ***ALL** Other values (up to 50 repetitions): *Element list*	Optional
	Element 1: Job name	*Qualified job name*	
	Qualifier 1: Job name	*Generic name, name*	
	Qualifier 2: User	*Name*	
	Qualifier 3: Number	000000-999999	
	Element 2:	*Element list*	
	Element 1: Thread	*Character value*, ***ALL**	

Keyword	Description	Choices	Notes
OMTJOB	Omit jobs	Single values: ***NONE** Other values (up to 50 repetitions): *Element list*	Optional
	Element 1: Job name	*Qualified job name*	
	Qualifier 1: Job name	*Generic name, name*	
	Qualifier 2: User	*Name*	
	Qualifier 3: Number	000000-999999	
	Element 2:	*Element list*	
	Element 1: Thread	*Character value*, ***ALL**	
SLTUSRID	Select users	Single values: ***ALL** Other values (up to 50 repetitions): *Generic name, name*	Optional
OMTUSRID	Omit users	Single values: ***NONE** Other values (up to 50 repetitions): *Generic name, name*	Optional
SLTJOBTYPE	Select job type	Single values: ***ALL** Other values (up to 15 repetitions): A, B, C, D, E, I, L, M, P, R, S, T, W, X, 3	Optional
OMTJOBTYPE	Omit job type	Single values: ***NONE** Other values (up to 15 repetitions): A, B, C, D, E, I, L, M, P, R, S, T, W, X, 3	Optional
SLTRUNPTY	Select job run priority	Single values: ***ALL** Other values: *Element list*	Optional
	Element 1: Highest priority	0-99	
	Element 2: Lowest priority	0-99	
OMTRUNPTY	Omit job run priority	Single values: ***NONE** Other values: *Element list*	Optional
	Element 1: Highest priority	0-99	
	Element 2: Lowest priority	0-99	
SLTPOOLS	Select pools	Single values: ***ALL** Other values (up to 64 repetitions): 1-64	Optional
OMTPOOLS	Omit pools	Single values: ***NONE** Other values (up to 64 repetitions): 1-64	Optional
SLTSBS	Select subsystems	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTSBS	Omit subsystems	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTLINE	Select communications lines	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTLINE	Omit communications lines	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTCTL	Select control units	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTCTL	Omit control units	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTFCNARA	Select functional areas	Single values: ***ALL** Other values (up to 50 repetitions): *Character value*	Optional
OMTFCNARA	Omit functional areas	Single values: ***NONE** Other values (up to 50 repetitions): *Character value*	Optional
JOB	Job name	*Name*, **PRTCPTRPT**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the performance data member used. This name should correspond to the member name specified on the TOMBR parameter of the Create Performance Data (CRTPFRDTA) command.

This is a required parameter.

Report title (TITLE)

Specifies the title for the report that is created.

*MBR   The text of the database member, which contains the performance data, is the report title.

'report-title'
Specify the title you want on your report with up to 50 characters of text, enclosed in apostrophes.

Time period for report (PERIOD)

Specifies the period of time on which to report. The parameter consists of four elements: a starting time and date, and an ending time and date. Data collected prior to the starting time on the starting date and after the ending time on the ending date is not included in the report.

The symbol *N can be used to designate the default value for any of the four elements.

The possible **starting time** values are:

*FIRST
Data records starting from the beginning of the first day (00:00:00) of the collection period are included.

*SELECT
An interval selection screen is displayed from which you can select one or more intervals for inclusion. This value is valid only in the interactive environment. If this value is used, the remaining values of this parameter (starting time and date and ending time and date) are ignored.

start-time
Specify the time of the first data record to include in the report, using the format, **hhmm** or **hhmmss**, where **hh** is the hours, **mm** is the minutes, and **ss** is the seconds.

The time is specified in 24-hour format with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

All time and date entries must be 2-digits in length, meaning zeros must be included.

The possible **starting date** values are:

*FIRST

Data records starting from the first day of the collection period are included in the report.

start-date

Specify the date of the first data record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

The possible **ending time** values are:

*LAST

Data records through the end of the day (23:59:59) are included in the report.

end-time

Specify the time of the last data record to include in the report. Use the same format used for the starting time.

The possible **ending date** values are:

*LAST

Data records through the last day of the collection period are included in the report.

end-date

Specify the date of the last record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA

The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name

Specify the name of the library where the performance database files are located.

Type of information (TYPE)

Specifies the sections of the report that you want to print.

*ALL   All sections of the report are printed.

*INTERVAL

Specifies that you want to print the Component Interval Activity section.

*WORKLOAD

Specifies that you want to print the Job Workload Activity section.

*POOL

Specifies that you want to print the Storage Pool Activity section.

*DISK

Specifies that you want to print the Disk Activity section.

*IOP   Specifies that you want to print the IOP Utilization section.

*LCLWS

Specifies that you want to print the Local Work Stations section.

*RMTWS

Specifies that you want to print the Remote Work Stations section. You can print this section only if you converted the performance data that was collected by the STRPFRMON command in a previous release. Collection Services does not collect this data.

*EXCEPTION

Specifies that you want to print the Exception Occurrence Summary and Interval Counts section.

*DBJRN

Specifies that you want to print the Database Journaling Summary section.

*TCPIP

Specifies that you want to print the TCP/IP Activity section. This section is new since V5R1. It will not be available if you convert data from a previous release.

*HTTP

Specifies that you want to print the HTTP Server Activity section. This section includes statistics for HTTP Server (powered by Apache).

Report detail (DETAIL)

Specifies whether you want the report to provide detailed job information at the job level or the thread level.

*JOB   Specifies that you want detailed information at the job level.

*THREAD

Specifies that you want detailed information at the thread level.

Select jobs (SLTJOB)

Specifies a list of up to 50 jobs to be included in the report. Only specified jobs are included in the report.

Individual jobs are identified by a "job identifier." A job identifier is either the special value *ALL or a qualified name that consists of up to three elements: a job number, a user name, and a job name. Job identifiers are written in the form, job-number/user-name/job-name, but all three elements do not have to be specified. The symbol *N can be used as a placeholder for up to two of the elements of the job identifier.

Note: This parameter and the **Omit jobs** prompt (OMTJOB parameter) are mutually exclusive.

You can enter multiple values for this parameter.

Element 1: Job name

*ALL   All jobs in the collected data are included, unless excluded by another selection value.

job-name

Specify the names of the jobs to select. Because jobs may have identical job names, this value may not identify a specific job. A generic name can be specified for this value.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

job-number

> Specify the 6-digit number of a job to select. All six digits must be specified, including zeros.

user-name

> Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job.

Element 2: Thread

*ALL   All threads are included, unless excluded by some other selection criterion.

thread-identifier

> Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

Omit jobs (OMTJOB)

Specifies a list of up to 50 jobs to be omitted from the report.

Individual jobs are identified by a "job identifier." A job identifier is either the special value *NONE or a qualified name that consists of up to three elements: a job number, a user name, and a job name. Job identifiers are written in the form, job-number/user-name/job-name, but all three elements do not have to be specified. The symbol *N can be used as a placeholder for up to two of the elements of the job identifier.

Note: This parameter and the **Select jobs** prompt (SLTJOB parameter) are mutually exclusive.

You can enter multiple values for this parameter.

Element 1: Job name

*NONE

> Jobs are not excluded based on job identifier.

job-name

> Specify the names of the jobs to omit. Because jobs may have identical job names, this value may not identify a specific job. A generic name can be specified for this value.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

job-number

> Specify the 6-digit number of a job to omit. All six digits must be specified, including zeros.

user-name

> Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job.

Element 2: Thread

*ALL   All threads are included, unless excluded by some other selection criterion.

thread-identifier
> Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

Select users (SLTUSRID)

Specifies a list of up to 50 user names to be included in the report. Only jobs with one of the specified user names are included in the report.

Note: This parameter and the **Omit users** prompt (OMTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs with user names are included, unless excluded by another selection value.

user-name
> Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. SLTUSRID(user) is equivalent to SLTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Omit users (OMTUSRID)

Specifies a list of up to 50 user names to be omitted from the report.

Note: This parameter and the **Select users** prompt (SLTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> No jobs are excluded based on the user name.

user-name
> Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. OMTUSRID(user) is equivalent to OMTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Select job type (SLTJOBTYPE)

Specifies a list of up to 15 job types to be included in the report.

Note: This parameter and the **Omit job type** prompt (OMTJOBTYPE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs of all types are included, unless excluded by another selection value.

A   Automatic start jobs

B   Batch jobs

C   iSeries Access jobs

D   DDM server jobs

E   Evoke jobs

I   Interactive jobs

L   Licensed Internal Code jobs

M   Subsystem monitor jobs

P   Pass-through jobs

R   Spool reader jobs

S   System jobs

T   Multiple Requester Terminal (MRT) jobs

W   Spool writer jobs

X   Start system job

3   System/36 jobs

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Omit job type (OMTJOBTYPE)

Specifies a list of up to 15 job types to be omitted from the report.

Note: This parameter and the **Select job type** prompt (SLTJOBTYPE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
           No job types are excluded, unless excluded by another selection value.

A   Automatic start jobs

B   Batch jobs

C   iSeries Access jobs

D   DDM server jobs

E   Evoke jobs

I   Interactive jobs

L   Licensed Internal Code jobs

M   Subsystem monitor jobs

P	Pass-through jobs
R	Spool reader jobs
S	System jobs
T	Multiple Requester Terminal (MRT) jobs
W	Spool writer jobs
X	Start system job
3	System/36 jobs

Select job run priority (SLTRUNPTY)

Specifies a range of run priorities to select. Only jobs that ran with a priority in the specified range will be included in the report.

Note: This parameter and the **Omit job run priority** (OMTRUNPTY parameter) are mutually exclusive.

Single Value

*ALL   All jobs are included, unless excluded by another selection value.

Element 1: Highest Job Run Priority

highest-priority
> Specifies the highest run priority to select. Priorities can be 0 through 99, where 0 is the highest job priority and 99 is the lowest job priority.

Element 2: Lowest Job Run Priority

lowest-priority
> Specifies the lowest run priority to select. Priorities can be 0 through 99, where 0 is the highest job priority and 99 is the lowest job priority.

Omit job run priority (OMTRUNPTY)

Specifies a range of run priorities to omit. Only jobs that ran with a priority in the specified range will be excluded from the report.

Note: This parameter and the **Select job run priority** (SLTRUNPTY) parameter are mutually exclusive.

Single Value

*NONE
> No jobs are excluded based on their priority.

Element 1: Highest Job Run Priority

highest-priority
> Specifies the highest run priority to omit. Priorities can be 0 through 99, where 0 is the highest job priority and 99 is the lowest job priority.

Element 2: Lowest Job Run Priority

lowest-priority
> Specifies the lowest run priority to omit. Priorities can be 0 through 99, where 0 is the highest job priority and 99 is the lowest job priority.

Select pools (SLTPOOLS)

Specifies a list of up to 64 pools to be included in the report.

Note: This parameter and the **Omit pools** prompt (OMTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs that ran in all pools are included, unless excluded by another selection value.

storage-pool-identifier
> Specify the number of a pool to select. Valid values range from 1 through 64.

Omit pools (OMTPOOLS)

Specifies a list of up to 64 pools to omit. Jobs that ran in any of the specified pools are excluded from the report.

Note: This parameter and the **Select pools** prompt (SLTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded based on their pool.

storage-pool-identifier
> Specify the number of a pool to omit. Valid values range from 1 through 64.

Select subsystems (SLTSBS)

Specifies a list of up 50 subsystems to select. Only jobs that ran in one of the specified subsystems are included in the report.

Note: This parameter and the **Omit subsystems** prompt (OMTSBS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs in all subsystems are included, unless excluded by another selection value.

subsystem-name
> Specify the name of a subsystem to select.

Omit subsystems (OMTSBS)

Specifies a list of up to 50 subsystems to omit. Jobs that ran in any of the specified subsystems are excluded from the report.

Note: This parameter and the **Select subsystems** prompt (SLTSBS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
        Jobs are not excluded based on their subsystem.

subsystem-name
        Specify the name of a subsystem to omit.

Select communications lines (SLTLINE)

Specifies a list of up to 50 communications lines to select. Only jobs that use a remote device connected through one of the specified communications lines are included in the report.

Note: This parameter and the **Omit communications lines** prompt (OMTLINE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

communication-line-name
        Specify the name of a communications line to select. This excludes jobs using remote devices connected through other communications lines, even if the controllers to which those devices are attached are specified on the **Select control units** prompt (SLTCTL parameter).

Omit communications lines (OMTLINE)

Specifies a list of up to 50 communications lines to omit. Jobs that use a remote device connected through any of the specified communications lines are excluded from the report.

Note: This parameter and the **Select communications lines** prompt (SLTLINE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
        Jobs are not excluded from the report based on communications line.

communication-line-name
        Specify the name of a communications line to omit.

Select control units (SLTCTL)

Specifies a list of up to 50 communications controllers to select. Only jobs that use a device connected to one of the specified controllers are included in the report.

Note: This parameter and the **Omit control units** prompt (OMTCTL parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included, unless excluded by another selection value.

controller-name
> Specify the name of a communications controller to select.

Omit control units (OMTCTL)

Specifies a list of up to 50 communications controllers to omit. Jobs that use a device connected to any of the specified controllers are excluded from in the report.

Note: This parameter and the **Select control units** prompt (SLTCTL parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded based on communications controllers.

controller-name
> Specify the name of a communications controller to omit.

Select functional areas (SLTFCNARA)

Specifies a list of up to 50 functional areas to select. Only jobs and users identified in one of the functional areas are included in the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Omit functional areas** prompt (OMTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

functional-area-name
> Specify the name of a functional area to select.

Omit functional areas (OMTFCNARA)

Specifies a list of up to 50 functional areas to omit. Jobs and users identified in any of the functional areas are excluded from the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Select functional areas** prompt (SLTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded from the report based on functional area.

functional-area-name
> Specify the name of a functional area to omit.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTCPTRPT
> The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for any and all batch jobs.

Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

Examples

Example 1: Printing a Component Report

```
PRTCPTRPT   MBR(APRIL18)
```

This command prints a complete component report for the performance data member APRIL18 in library QPFRDATA. The report title is the same as the text in the member.

Example 2: Printing a Report With a Title

```
PRTCPTRPT   MBR(NOV1)  PERIOD(*SELECT)
            TITLE('Intervals with Highest Response Times')
```

This command prints a component report for the data member NOV1 in library QPFRDATA. The user is presented with the interval-selection display, which allows sorting of the intervals according to various criteria and selection of only certain intervals to be included in the report. The title of the report is *Intervals with Highest Response Times*.

Error messages

*ESCAPE Messages

PFR1010
> Cannot process request because of missing data.

PFR3002
> Cannot print report because of missing data.

PFR3004
> Incorrect measurement interval specified.

PFR3006
> Measurement interval specified is not valid.

PFR3111
> Functional area &1 does not exist.

PFR5501
> Performance data file(s) are not upward compatible.

PFR5502
> Performance data file(s) are not downward compatible.

PFR9048
> Cannot display graph because of missing data.

Print Job Interval Report (PRTJOBRPT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print Job Report (PRTJOBRPT) command produces a job-oriented report from the performance data collected by Collection Services from the Operations Navigator interface. The report, which is written to the printer file QPPTITVJ, shows job information by interval. Jobs may be included or excluded from the report based on a variety of job details and interval times.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
TITLE	Report title	*Character value*, ***MBRTXT**, *BLANK	Optional, Positional 3
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**, *SELECT	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
DETAIL	Report detail	***JOB**, *THREAD	Optional
SLTJOB	Select jobs	Single values: ***ALL** Other values (up to 50 repetitions): *Element list*	Optional
	Element 1: Job name	*Qualified job name*	
	Qualifier 1: Job name	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*	
	Qualifier 3: Number	000000-999999	
	Element 2:	*Element list*	
	Element 1: Thread	*Character value*, ***ALL**	
OMTJOB	Omit jobs	Single values: ***NONE** Other values (up to 50 repetitions): *Element list*	Optional
	Element 1: Job name	*Qualified job name*	
	Qualifier 1: Job name	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*	
	Qualifier 3: Number	000000-999999	
	Element 2:	*Element list*	
	Element 1: Thread	*Character value*, ***ALL**	
SLTUSRID	Select users	Single values: ***ALL** Other values (up to 50 repetitions): *Generic name, name*	Optional

Keyword	Description	Choices	Notes
OMTUSRID	Omit users	Single values: ***NONE** Other values (up to 50 repetitions): *Generic name, name*	Optional
SLTPOOLS	Select pools	Single values: ***ALL** Other values (up to 64 repetitions): 1-64	Optional
OMTPOOLS	Omit pools	Single values: ***NONE** Other values (up to 64 repetitions): 1-64	Optional
SLTSBS	Select subsystems	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTSBS	Omit subsystems	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTLINE	Select communications lines	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTLINE	Omit communications lines	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTCTL	Select control units	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTCTL	Omit control units	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTFCNARA	Select functional areas	Single values: ***ALL** Other values (up to 50 repetitions): *Character value*	Optional
OMTFCNARA	Omit functional areas	Single values: ***NONE** Other values (up to 50 repetitions): *Character value*	Optional
OMTSYSTSK	Omit system tasks	***YES**, *NO	Optional
JOB	Job name	*Name*, **PRTJOBRPT**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the performance data member used. This name should correspond to the member name specified on the TOMBR parameter of the Create Performance Data (CRTPFRDTA) command.

This is a required parameter.

Report title (TITLE)

Specifies the title for the report that is created.

*MBRTXT
>   The text of the database member, which contains the performance data, is the report title.

*BLANK
>   No title is specified.

'report-title'
>   Specify a title of up to 50 characters, enclosed in apostrophes.

Time period for report (PERIOD)

Specifies the period of time on which to report. The parameter consists of four elements: a starting time and date, and an ending time and date. Data collected prior to the starting time on the starting date and after the ending time on the ending date is not included in the report.

The symbol *N can be used to designate the default value for any of the four elements.

The possible **starting time** values are:

*FIRST
> Data records starting from the beginning of the first day (00:00:00) of the collection period are included.

*SELECT
> An interval selection screen is displayed from which you can select one or more intervals for inclusion. This value is valid only in the interactive environment. If this value is used, the remaining values of this parameter (starting time and date and ending time and date) are ignored.

start-time
> Specify the time of the first data record to include in the report, using the format, **hhmm** or **hhmmss**, where **hh** is the hours, **mm** is the minutes, and **ss** is the seconds.
>
> The time is specified in 24-hour format with or without a time separator:
>
> - Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
> - With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.
>
> All time and date entries must be 2-digits in length, meaning zeros must be included.

The possible **starting date** values are:

*FIRST
> Data records starting from the first day of the collection period are included in the report.

start-date
> Specify the date of the first data record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

The possible **ending time** values are:

*LAST
> Data records through the end of the day (23:59:59) are included in the report.

end-time
> Specify the time of the last data record to include in the report. Use the same format used for the starting time.

The possible **ending date** values are:

*LAST
> Data records through the last day of the collection period are included in the report.

end-date
> Specify the date of the last record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

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Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA
> The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name
> Specify the name of the library where the performance database files are located.

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Report detail (DETAIL)

Specifies whether you want the report to provide detailed job information at the job level or the thread level.

*JOB   Specifies that you want detailed information at the job level.

*THREAD
> Specifies that you want detailed information at the thread level.

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Select jobs (SLTJOB)

Specifies a list of up to 50 jobs to be included in the report. Only specified jobs are included in the report.

Individual jobs are identified by a "job identifier." A job identifier is either the special value *ALL or a qualified name that consists of up to three elements: a job number, a user name, and a job name. Job identifiers are written in the form, job-number/user-name/job-name, but all three elements do not have to be specified. The symbol *N can be used as a placeholder for up to two of the elements of the job identifier.

Note: This parameter and the **Omit jobs** prompt (OMTJOB parameter) are mutually exclusive.

You can enter multiple values for this parameter.

Element 1: Job name

*ALL   All jobs in the collected data are included, unless excluded by another selection value.

job-name
> Specify the names of the jobs to select. Because jobs may have identical job names, this value may not identify a specific job. A generic name can be specified for this value.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

job-number
> Specify the 6-digit number of a job to select. All six digits must be specified, including zeros.

user-name
> Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job.

Element 2: Thread

*ALL   All threads are included, unless excluded by some other selection criterion.

thread-identifier
> Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

Omit jobs (OMTJOB)

Specifies a list of up to 50 jobs to be omitted from the report.

Individual jobs are identified by a "job identifier." A job identifier is either the special value *NONE or a qualified name that consists of up to three elements: a job number, a user name, and a job name. Job identifiers are written in the form, job-number/user-name/job-name, but all three elements do not have to be specified. The symbol *N can be used as a placeholder for up to two of the elements of the job identifier.

Note: This parameter and the **Select jobs** prompt (SLTJOB parameter) are mutually exclusive.

You can enter multiple values for this parameter.

Element 1: Job name

*NONE
> Jobs are not excluded based on job identifier.

job-name
> Specify the names of the jobs to omit. Because jobs may have identical job names, this value may not identify a specific job. A generic name can be specified for this value.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

job-number
> Specify the 6-digit number of a job to omit. All six digits must be specified, including zeros.

user-name
> Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job.

Element 2: Thread

*ALL   All threads are included, unless excluded by some other selection criterion.

thread-identifier
> Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

Select users (SLTUSRID)

Specifies a list of up to 50 user names to be included in the report. Only jobs with one of the specified user names are included in the report.

Note: This parameter and the **Omit users** prompt (OMTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs with user names are included, unless excluded by another selection value.

user-name

Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. SLTUSRID(user) is equivalent to SLTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Omit users (OMTUSRID)

Specifies a list of up to 50 user names to be omitted from the report.

Note: This parameter and the **Select users** prompt (SLTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE

No jobs are excluded based on the user name.

user-name

Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. OMTUSRID(user) is equivalent to OMTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Select pools (SLTPOOLS)

Specifies a list of up to 64 pools to be included in the report.

Note: This parameter and the **Omit pools** prompt (OMTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs that ran in all pools are included, unless excluded by another selection value.

storage-pool-identifier
> Specify the number of a pool to select. Valid values range from 1 through 64.

Omit pools (OMTPOOLS)

Specifies a list of up to 64 pools to omit. Jobs that ran in any of the specified pools are excluded from the report.

Note: This parameter and the **Select pools** prompt (SLTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded based on their pool.

storage-pool-identifier
> Specify the number of a pool to omit. Valid values range from 1 through 64.

Select subsystems (SLTSBS)

Specifies a list of up 50 subsystems to select. Only jobs that ran in one of the specified subsystems are included in the report.

Note: This parameter and the **Omit subsystems** prompt (OMTSBS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs in all subsystems are included, unless excluded by another selection value.

subsystem-name
> Specify the name of a subsystem to select.

Omit subsystems (OMTSBS)

Specifies a list of up to 50 subsystems to omit. Jobs that ran in any of the specified subsystems are excluded from the report.

Note: This parameter and the **Select subsystems** prompt (SLTSBS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded based on their subsystem.

subsystem-name
> Specify the name of a subsystem to omit.

Select communications lines (SLTLINE)

Specifies a list of up to 50 communications lines to select. Only jobs that use a remote device connected through one of the specified communications lines are included in the report.

Note: This parameter and the **Omit communications lines** prompt (OMTLINE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

communication-line-name
> Specify the name of a communications line to select. This excludes jobs using remote devices connected through other communications lines, even if the controllers to which those devices are attached are specified on the **Select control units** prompt (SLTCTL parameter).

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Omit communications lines (OMTLINE)

Specifies a list of up to 50 communications lines to omit. Jobs that use a remote device connected through any of the specified communications lines are excluded from the report.

Note: This parameter and the **Select communications lines** prompt (SLTLINE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded from the report based on communications line.

communication-line-name
> Specify the name of a communications line to omit.

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Select control units (SLTCTL)

Specifies a list of up to 50 communications controllers to select. Only jobs that use a device connected to one of the specified controllers are included in the report.

Note: This parameter and the **Omit control units** prompt (OMTCTL parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included, unless excluded by another selection value.

controller-name
> Specify the name of a communications controller to select.

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Omit control units (OMTCTL)

Specifies a list of up to 50 communications controllers to omit. Jobs that use a device connected to any of the specified controllers are excluded from in the report.

Note: This parameter and the **Select control units** prompt (SLTCTL parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
>Jobs are not excluded based on communications controllers.

controller-name
>Specify the name of a communications controller to omit.

Select functional areas (SLTFCNARA)

Specifies a list of up to 50 functional areas to select. Only jobs and users identified in one of the functional areas are included in the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Omit functional areas** prompt (OMTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

functional-area-name
>Specify the name of a functional area to select.

Omit functional areas (OMTFCNARA)

Specifies a list of up to 50 functional areas to omit. Jobs and users identified in any of the functional areas are excluded from the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Select functional areas** prompt (SLTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
>Jobs are not excluded from the report based on functional area.

functional-area-name
>Specify the name of a functional area to omit.

Omit system tasks (OMTSYSTSK)

Specifies whether or not you want to omit printing the system tasks.

*YES   Print only the user jobs and omit the system tasks.

*NO   Print the user jobs and the system tasks.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTJOBRPT
> The command name is used for the job name.

*MBR   The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for any and all batch jobs.

Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL   All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

Examples

Example 1: Submitting a Batch Job

PRTJOBRPT   MBR(DTA071588A)

This command submits a batch job to print a report on all jobs in all intervals in the member DTA071588A of the performance data files in library QPFRDATA. The report title is taken from the text of that member.

Example 2: Selecting Intervals to Include in Report

PRTJOBRPT   MBR(DTA071588A)   PERIOD(*SELECT)

This command submits a job to print a report from the same data, but first shows a screen where a user interactively selects which intervals to include.

Example 3: Reporting on a Specific Time Period

PRTJOBRPT   MBR(DTA071588A)   PERIOD((2330)(0130))

This command submits a job to print a report on the data collected from 11:30 PM on the first day of collection through 1:30 AM on the last day of collection. However, if data collection started and ended on the same day, an error message is printed instead, because the specified ending date and time is before the specified starting date and time.

Example 4: Printing a Report Interactively

PRTJOBRPT   MBR(DTA071588A)   SLTUSRID(D46*)   JOBD(*NONE)

This command interactively prints a report for all jobs with a user ID starting with D46.

Example 5: Printing a Report Interactively

PRTJOBRPT   MBR(DTA071588A)   SLTJOB(D46*/*N)   JOBD(*NONE)

This command performs the same function as the previous example.

Error messages

*ESCAPE Messages

PFR1010
>   Cannot process request because of missing data.

PFR3002
>   Cannot print report because of missing data.

PFR3004
>   Incorrect measurement interval specified.

PFR3006
>   Measurement interval specified is not valid.

PFR3101
>   The SLTJOB and OMTJOB parameters are mutually exclusive.

PFR3102

SLTUSRID and OMTUSRID parameters cannot both be specified.

PFR3103

SLTPOOLS and OMTPOOLS parameters cannot both be specified.

PFR3104

SLTSBS and OMTSBS parameters cannot both be specified.

PFR3105

SLTLINE and OMTLINE parameters cannot both be specified.

PFR3106

SLTCTL and OMTCTL parameters cannot both be specified.

PFR3107

SLTFCNARA and OMTFCNARA parameters cannot both be specified.

PFR3108

SLTLOC and OMTLOC parameters cannot both be specified.

PFR3111

Functional area &1 does not exist.

PFR5501

Performance data file(s) are not upward compatible.

PFR5502

Performance data file(s) are not downward compatible.

PFR9005

YAXIS(*TIME) must be specified.

PFR9042

SLTUSER and OMTUSER parameters cannot both be specified.

PFR9048

Cannot display graph because of missing data.

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Print Job Trace (PRTJOBTRC)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print Job Trace (PRTJOBTRC) command produces performance-oriented reports that are used to analyze job trace data collected earlier with the Start Job Trace (STRJOBTRC) and End Job Trace (ENDJOBTRC) commands.

Parameters

Keyword	Description	Choices	Notes
MBR	Data base file member	*Name*, **QAJOBTRC**	Optional, Positional 1
LIB	Data base file library	*Name*, **QPFRDATA**	Optional, Positional 2
RPTTYPE	Report type	***BOTH**, *DETAIL, *SUMMARY	Optional, Positional 3
TITLE	Report title	*Character value*, ***BLANK**	Optional, Positional 4
STRSEQ	Starting sequence number	1-999999, ***FIRST**	Optional
ENDSEQ	Ending sequence number	*Decimal number*, ***LAST**	Optional
ENDTNS	Transaction ending program	*Name*, **QT3REQIO**, *BATCH	Optional
STRTNS	Transaction starting program	*Name*, **QWSGET**	Optional
MODEL	System model code	*Character value*, ***CUR**	Optional
JOB	Job name	*Name*, **PRTJOBTRC**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Data base file member (MBR)

Specifies the member in file QAPTTRCJ in which the trace data is saved by the End Job Trace (ENDJOBTRC) command.

QAJOBTRC
> The standard member name, QAJOBTRC, is used.

member-name
> Specify the name of the member in which the data is saved.

Data base file library (LIB)

Specifies the library in which the job trace data is saved by the End Job Trace (ENDJOBTRC) command.

QPFRDATA

> The trace data is saved in the IBM-supplied performance data library, QPFRDATA.

library-name

> Specify the name of the library in which the trace data is saved.

Report type (RPTTYPE)

Specifies the type of report(s) to produce.

Note: If summary reports are selected (by specifying *BOTH or *SUMMARY for this parameter), the summary reports contain information only when transaction ending program and transaction starting program pairs are found in the collected data.

*BOTH

> Both the detail and summary reports are produced (three reports total).

*DETAIL

> A report is produced detailing the individual job trace records. The output is directed to the printer file QPPTTRCD. Each page heading includes the text 'Job Trace Information'.

*SUMMARY

> Two reports are produced summarizing the job trace data by transaction. One report shows primarily physical disk activity; its printer file is QPPTTRC1, and its page heading includes the text 'Trace Analysis Summary'. The other report concentrates on higher level activities such as database I/O and inter-program transfers of control; its printer file is QPPTTRC2, and its page heading includes the text 'Trace Analysis I/O Summary'.

Report title (TITLE)

Specifies a title that is printed on the page heading of each report.

*BLANK

> No title is specified.

'report-title'

> Specify title of up to 50 characters enclosed in apostrophes. This may be used, for example, to distinguish between reports on different sets of trace data or different sections of the same data.

Starting sequence number (STRSEQ)

Specifies the sequence number of the first job trace record that is included in any reports. No records preceding this one are listed in the detail report or counted in either summary report.

*FIRST

> Trace records starting from the first job trace record (sequence number 1) are included.

sequence-number

> Specify the sequence of the first trace record that is included. An appropriate value can be

determined by previewing reports produced from all the job trace data. This can be used to bracket a particular set of transactions on which to report.

Ending sequence number (ENDSEQ)

Specifies the sequence number of the last job trace record that is included in any reports. No records following this one are listed in the detail report or counted in either summary report.

*LAST
Trace records through the last trace record are included.

sequence-number
Specify the sequence number of the last trace record that is included. An appropriate value can be chosen through a preview process so as to bracket a particular set of transactions.

Transaction ending program (ENDTNS)

Specifies the program that signifies the end of a transaction. A program must also be specified on the **Transaction starting program** prompt (STRTNS parameter).

QT3REQIO
The work station I/O program, QT3REQIO, is used. This value is used to break the trace data into work station transactions.

program-name
Specify the name of the program that ends a transaction. This allows reporting on non-work station transactions, such as communications lines.

Transaction starting program (STRTNS)

Specifies the program that signifies the start of a transaction. A program must also be specified on the **Transaction ending program** prompt (ENDTNS parameter).

QWSGET
The work station input program, QWSGET, is used. This value is used to break the trace data into work station transactions.

program-name
Specify the name of the program that starts a transaction.

System model code (MODEL)

Specifies the processing unit model code of the server on which the job trace data is generated. The model is used to adjust the summary reports to compensate for the additional processing unit time required to collect the trace data. If the wrong model is chosen, the adjusted values in the summary reports are incorrect.

*CUR The model code of the processing unit on which the current job is running is used.

model-code
> Specify the model code of the processing unit on which the trace data is collected.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job-name** values are:

PRTJOBTRC
> The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for any and all batch jobs.

Batch job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

Examples

```
PRTJOBTRC   LIB(MYLIB)  RPTTYPE(*DETAIL)
```

This command produces a detail report using data saved in member QAJOBTRC of file QAPTTRCJ in library MYLIB.

Error messages

None

Print Lock Report (PRTLCKRPT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print Lock Report (PRTLCKRPT) command produces a report that shows lock and seize conflicts that occur during system operation. The report is produced from the resource management trace data collected by the Start Performance Trace (STRPFRTRC) command and formatted by the Print Transaction Report (PRTTNSRPT) command. This information can be used to determine if jobs are delayed during processing because of unsatisfied lock requests or internal machine seizes (these conditions are also known as waits).

Parameters

Keyword	Description	Choices	Notes
MBR	Data base file member	*Name*	Required, Positional 1
LIB	Data base file library	*Name*, **QPFRDATA**	Optional, Positional 2
TITLE	Report title	*Character value*, ***MBRTXT**, *BLANK	Optional, Positional 3
RPTTYPE	Report type	***SUM**, *TOD, *RQS, *HLD, *OBJ, *ALL	Optional
FIRST	First run for current data	***YES**, *NO	Optional
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
MINWAIT	Minimum wait time	0-30000, **500**	Optional
JOB	Job name	*Name*, **PRTLCKRPT**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Data base file member (MBR)

Specifies the member in file QAPMDMPT in which the resource management trace data is collected by the Start Performance Trace (STRPFRTRC) command.

This is a required parameter.

Data base file library (LIB)

Specifies the library where the data is saved.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is used.

library-name
> Specify the name of the library where the data is collected.

Report title (TITLE)

Specifies the title for the report that is created.

*MBRTXT
> The text of the database member, which contains the performance data, is the report title.

*BLANK
> No title is specified.

'report-title'
> Specify a title of up to 50 characters, enclosed in apostrophes.

Report type (RPTTYPE)

Specifies the type of reports that are produced.

*SUM The report includes only a summary of the seize/lock data.

*TOD The report includes detail sorted by time of day, followed by a summary.

*HLD The report includes detail sorted by name of the holding job and time of day, followed by a summary.

*RQS The report includes detail sorted by name of the requesting job and time of day, followed by a summary.

*OBJ The report includes detail sorted by name of the object and time of day, followed by a summary.

*ALL Four reports are produced. The reports include *TOD, *HLD, *RQS, and *OBJ, followed by a summary.

First run for current data (FIRST)

Specifies whether the Print Lock Report (PRTLCKRPT) command was run since the last set of resource management trace data was collected.

*YES This is the first time the Print Lock Report (PRTLCKRPT) command was run for the data. The data is reformatted and written to member QAPTLCKD of file QAPTLCKD. The report is created from this preprocessed data.

*NO The Print Lock Report (PRTLCKRPT) command is run for this set of data. The preprocessing pass is not done.

Time period for report (PERIOD)

Specifies the period of time on which to report.

Starting Time

Records created before this time are not included in either the detail or summary listing.

*FIRST
> The report includes records starting from the first record.

start-time
> Specify the time of the first data record to include in the report. The time is specified as 4 or 6 digits (hhmm or hhmmss), where **hh** is the hour, **mm** is the minute, and **ss** is the second.
>
> The time can be specified with or without a time separator:
> - Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
> - With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

Ending Time

Records created after this time are not included in either the detail or summary listing.

*LAST
> The report includes records through the last record.

end-time
> Specify the time of the last record to include in the report. Use the same time format as used for the starting time.

Minimum wait time (MINWAIT)

Specifies the minimum wait time for a seize/lock record that is included in the report. Records with shorter wait times are not included in either the detail or summary listing.

500
> The default value of 500 milliseconds (half a second) is used. Records with shorter wait times are of little interest when determining the source of performance problems.

number-of-milliseconds
> Specify the minimum wait time, ranging from 0 through 30,000 milliseconds (from no minimum up to 30 seconds).

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTLCKRPT
> The command name is used for the job name.

*MBR   The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for any and all batch jobs.

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Batch job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL   All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

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Examples

Example 1: Producing a Summary Report

```
PRTLCKRPT   MBR(RESTRC)
```

This command produces a summary report from the performance data saved in member RESTRC of QPFRDATA/QAPMDMPT from a prior run of the Start Performance Trace (STRPFRTRC) and Print Transaction Report (PRTTNSRPT) commands.

Example 2: Including a Detail Listing Sorted By Time

```
PRTLCKRPT   MBR(RESTRC)   RPTTYPE(*TOD)
```

This command produces the same report as the previous example, except that it includes a detail listing sorted by the time in which the lock/seize conflicts occurred.

Error messages

*ESCAPE Messages

PFR5511
> Cannot access resource management trace data.

PFR5512
> Cannot access processed seize or lock conflict data.

Print PEX Report (PRTPEXRPT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print Performance Explorer Report (PRTPEXRPT) command prints a formatted listing of the data that was collected by the performance explorer and saved across a set of physical files in a particular library.

Restriction

1. This command is shipped with PUBLIC *EXCLUDE authority.

2. You must have read and execute authority to the specified library.

3. To use this command you must have *SERVICE special authority, or be authorized to the Service Trace function of Operating System/400 through iSeries Navigator's Application Administration support. The Change Function Usage Information (QSYCHFUI) API, with a function ID of QIBM_SERVICE_TRACE, can also be used to change the list of users that are allowed to perform trace operations.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
LIB	Library	*Name*, **QPEXDATA**	Optional, Positional 2
TYPE	Type	***STATS**, *TRACE, *PROFILE, *BASIC	Optional, Positional 3
OUTPUT	Output	***PRINT**, *OUTFILE	Optional, Positional 4
OUTFILE	File to receive output	*Qualified object name*	Optional, Positional 5
	Qualifier 1: File to receive output	*Name*	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	
OUTMBR	Output member options	*Element list*	Optional, Positional 6
	Element 1: Member to receive output	*Name*, ***FIRST**	
	Element 2: Replace or add records	***REPLACE**, *ADD	
TRACEOPT	Trace options	*Element list*	Optional, Positional 7
	Element 1: Sort by	***TIMESTAMP**, *TASK	
	Element 2: Omit completion records	***NO**, *YES	
	Element 3: Omit Category	Single values: ***NONE** Other values (up to 10 repetitions): *PGM, *LICPGM, *ASM, *BASE, *DISK, *DSKSVR, *FAULT, *JOB, *LOCK, *SAR, *MIBRKT, *LICBRKT, *DASD, *DASDSRVR, *PAGEFLT, *RMPR, *RMSL	

Keyword	Description	Choices	Notes
TRCTYPE	Select trace type	Single values: ***ALL** Other values (up to 11 repetitions): *CALLRTN, *BASIC, *DSKIO1, *DSKIO2, *DSKSVR, *DSKSTG, *VRTADR, *PGMACT, *FILEOPEN, *PRFDTA, *TASKSWT	Optional, Positional 8
PERIOD	Time period for report	*Element list*	Optional, Positional 9
	Element 1: Start time and date	*Element list*	
	Element 1: Starting time	*Time*, ***AVAIL**	
	Element 2: Starting date	*Date*, *CURRENT, ***BEGIN**	
	Element 2: End time and date	*Element list*	
	Element 1: Ending time	*Time*, ***AVAIL**	
	Element 2: Ending date	*Date*, *CURRENT, ***END**	
SLTJOB	Select jobs	Single values: ***ALL** Other values (up to 10 repetitions): *Qualified job name*	Optional, Positional 10
	Qualifier 1: Select jobs	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*, ***ALL**	
	Qualifier 3: Number	000001-999999, ***ALL**	
OMTJOB	Omit jobs	Single values: ***NONE** Other values (up to 10 repetitions): *Qualified job name*	Optional, Positional 11
	Qualifier 1: Omit jobs	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*, ***ALL**	
	Qualifier 3: Number	000001-999999, ***ALL**	
STATSOPT	Stats options	*Element list*	Optional, Positional 12
	Element 1: Sort by	*Integer*, *PGMNAME, *INVCNT, ***CPU**, *DBSYNCIO, *DBASYNCIO, *NDBSYNCIO, *NDBASYNCIO, *MICALLS, *MIINST, *CUMLCPU, *CUMLDBSYNCIO, *CUMLDBASYNCIO, *CUMLNDBSYNCIO, *CUMLNDBASYNCIO	
	Element 2: Summarize by	*BLANK, *MODULE, ***PROGRAM**	
PROFILEOPT	Profile options	*Element list*	Optional, Positional 13
	Element 1: Sort by	***SAMPLECOUNT**, *ADDRESS	
	Element 2: Summarize by	*BLANK, *STATEMENT, *PROCEDURE, *MODULE, ***PROGRAM**	
	Element 3: Filter percentage	0-99, **0**	
ORDER	Order	*ASCENDING, ***DESCENDING**	Optional, Positional 14
NBRTHD	Number of threads	1-64, **1**, *CALC	Optional, Positional 15

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Member (MBR)

Specifies where the data is located for the report. This is the value that was specified for the SSNID or DTAMBR parameter when the data was saved using the End Performance Explorer (ENDPEX) command. Each database file used by performance explorer when it saved the collected performance data should have a member with the name specified.

member-name
> Specify the member name.

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Library (LIB)

Specifies the library where the data will be found.

QPEXDATA

> The collected data exists in database files in library QPEXDATA.

library

> Specify the library name which contains the database files that hold the collected performance data.

Type (TYPE)

Specifies the type of report to produce. The type of report requested must match the type of data that was collected. If there is a mismatch, an error message is issued. The type of performance data collected is determined by the performance explorer definition that was specified on the Start Performance Explorer (STRPEX) command. Refer to the Add Performance Explorer Definition (ADDPEXDFN) command for more information.

Note: An exception to the matching of types occurs when you collect data with a definition of TYPE(*TRACE) INTERVAL(nn) BASEVT(*PMCO). When you collect this trace data, you are allowed to specify a report type of *PROFILE. This type of report is known as a *TRACE collection and a *PROFILE report.

*STATS

> A statistics report is produced.
>
> **Note:** This parameter is valid only for data collected by *STATS mode definitions.

*TRACE

> A trace report is produced.
>
> **Note:** This parameter is valid only for data collected by *TRACE mode or *PROFILE PRFTYPE(*JOB) definitions.

*PROFILE

> A profile report is produced.
>
> **Note:** This parameter is valid only for data collected by *PROFILE mode definitions or *TRACE TRCTYPE(*PROFILE) definitions.

*BASIC

> A basic report is produced that includes the definition, run, and task information sections.
>
> **Note:** This parameter is valid for data collected by any definition.

Output (OUTPUT)

Specifies whether the output from the command is printed with the job's spooled output or directed to a database file.

Note: This parameter is valid only if TYPE(*TRACE) is specified.

*PRINT
> The output is printed with the job's spooled output.

*OUTFILE
> The output is directed to the database file specified in the OUTFILE parameter.

File to receive output (OUTFILE)

Specifies the name of the database file to which the output of the command is directed. If this file does not exist, this command creates a database file in the specified library. The public authority is the same as the create authority specified for the library in which the file is created.

Notes:

1. The file specified here cannot be a DDM file
2. The model file QAVPETRCI resides in library QPFR.

The possible library values are:

*LIBL The library list is used to locate the output file. If the output file is not found, one is created in the current library. If no current library exists, the output file is created in the QGPL library.

*CURLIB
> The current library for the job is used to locate the specified output file. If no library is specified as the current library for the job, the library QGPL is used.

library-name
> Specify the name of the library where the output file is located.

database-file-name
> Specify the name of the output file that receives the output of the command.

Output member options (OUTMBR)

Specifies the name of the database file member to which the output is directed.

Element 1: Member to Receive Output

*FIRST
> The first member in the file receives the output. If OUTMBR(*FIRST) is specified and the member does not exist, the system creates a member with the name of the file specified on the OUTFILE parameter. If the member already exists, the user has the option to add new records to the end of the existing member or clear the member and then add the new records.

member-name
> Specify the file member that receives the output. If OUTMBR(member-name) is specified and the member does not exist, the system creates it. If the member already exists, you have the option to add new records to the end of the existing member or clear the member and then add the new records.

Element 2: Operation to Perform on Member

*REPLACE
> The system clears the existing member and adds the new records.

*ADD The system adds the new records to the end of the existing records.

Trace options (TRACEOPT)

Specifies how to organize a trace (*TRACE) report. Records are ordered based on the value specified for the ORDER parameter.

Element 1: Sort by

This value represents how the data is ordered.

*TIMESTAMP
>The records are listed in time stamp order.

*TASK
>The records are listed in time stamp order within each job/task.

Element 2: Omit completion records

This provides a mechanism to reduce large amounts of data to enable more efficient review of the data.

*NO   All records associated with this performance data collection session are included in the report.

*YES   All completion records are excluded from the report. This is helpful if there is a large amount of data to review.

Element 3: Omit category

Specify one or more categories to be omitted from the generated report.

The possible single value is:

*NONE
>No categories are omitted.

The possible omitted category values are

*PGM Exclude the category for the program call flow events.

*LICPGM
>Exclude the category for the Licensed Internal Code call flow events.

*ASM Exclude the category for the auxiliary storage management events.

*BASE
>Exclude the category for the base events, which includes tasking events.

*DISK
>Exclude the category for the direct access storage device events.

*DSKSVR
>Exclude the category for the disk server events.

*FAULT
>Exclude the category for the page fault events.

*JOB   Exclude the category for the job or process management events.

*LOCK
>Exclude the category for the seize lock events.

*SAR Exclude the category for the segment address register events.

*MIBRKT

Exclude the category for the machine interface program bracketing events.

*LICBRKT

Exclude the category for the Licensed Internal Code bracketing events.

*DASD

Exclude the category for the direct access storage device events.

*DASDSRVR

Exclude the category for the DASD server events.

*PAGEFLT

Exclude the category for the page fault events.

*RMPR

Exclude the category for the resource management process management events.

*RMSZ

Exclude the category for the resource management seize lock events.

Select trace type (TRCTYPE)

Specifies which trace events to include in the output. The options possible are the same options found on the Add Performance Explorer Definition (ADDPEXDFN) command.

The possible single value is:

*ALL   Include all trace events in the output.

The possible trace type values are:

*CALLRTN

Specifies that call return events are included in the output. Call return events occur when a program is entered and exited as well as when certain machine instructions are started and completed.

*BASIC

Specifies that events relative to general performance analysis are included in the output.

*DSKIO1

Specifies that events associated with disk input/output operations are included in the output.

*DSKIO2

Specifies that events associated with the disk input/output operations plus higher level requests to do input/output operations are included in the output.

*DSKSVR

Specifies that events associated with disk server operations are included in the output.

*DSKSTG

Specifies that events associated with disk storage consumption are included in the output.

*VRTADR

Specifies that events associated with virtual address assignment are included in the output.

*PGMACT

Specifies that events associated with program activations and deactivations are included in the output.

*FILEOPEN
> Specifies that events associated with file opens are included in the output.

*PFRDTA
> Specifies that events associated with CPU instruction profiling are included in the output.
>
> **Note:** The *PFRDTA value provides you with a detailed list of files. To receive a list in a summary format, as an alternative, you can specify PRTPEXRPT TYPE(*PROFILE).

*TASKSWT
> Specifies that events associated with tasking are included in the output.

Time period for report (PERIOD)

Specifies the period of time on which to report. The parameter consists of two lists of two elements each. Data collected prior to the starting time on the starting date and after the ending time on the ending date is not included in the report.

The possible **starting time** values are:

*AVAIL
> The recorded data that is available for the specified starting date is shown.

start-time
> Specify the starting time on the specified starting date that indicates the recorded data to be shown. The time is specified in 24-hour format with or without a time separator:
> - Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
> - With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.
>
> All time and date entries must be 2-digits in length, meaning zeros must be included.

The possible **starting date** values are:

*CURRENT
> The recorded data for the current day and between the specified starting and ending times (if specified) is shown.

*BEGIN
> The recorded data from the beginning of the log is shown.

start-date
> Specify the date printed. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

The possible **ending time** values are:

*AVAIL
> The recorded data that is available for the specified ending date is shown.

end-time
> Specify the ending time for the specified ending date that determines the recorded date that is printed.

The possible **ending date** values are:

*CURRENT
>   The current day is the last day for which recorded data is shown.

*END   The last day on which data was logged is shown. If PERIOD(*END) is specified, a time value other than *AVAIL for end time is ignored.

end-date
>   Specify the ending date for which recorded data is to be printed. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

Select jobs (SLTJOB)

Specifies which jobs to include from the report. This allows the user to narrow the scope of the performance explorer report by selecting specific jobs.

The SLTJOB and OMTJOB parameters are mutually exclusive.

*ALL: All jobs in the performance explorer database are included.

The possible **Job Identifier** values are:

job-name:
>   Specify the name of the job to be included in the performance explorer report.

generic*-job-name:
>   Specify the generic name of the job to be included in the performance explorer report.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

The possible **Job User Name Qualifier** values are:

*ALL: All jobs that match the specified job name are included.

user-name:
>   Specify the name of the user of the job to be included.

generic*-user-name:
>   Specify the generic user name of the jobs to be included.

The possible **Job Number Qualifier** values are:

*ALL: All jobs that match the specified job name and user name are included.

job-number:
>   Specify the job number to further qualify the job name and user name.

Omit jobs (OMTJOB)

Specifies which jobs are omitted from the report. This allows the user to narrow the scope of the performance explorer report by omitting specific jobs.

The SLTJOB and OMTJOB parameters are mutually exclusive. You must use the default for one of these parameters.

*NONE:
> No jobs in the performance explorer database are omitted.

The possible **Job Identifier** values are:

job-name:
> Specify the name of the job to be omitted in the performance explorer report.

generic*-job-name:
> Specify the generic name of the job to be omitted in the performance explorer report.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

The possible **Job User Name Qualifier** values are:

*ALL: All jobs that match the specified job name will be omitted.

user-name:
> Specify the name of the user of the job to be omitted.

generic*-user-name:
> Specify the generic user name of the jobs to be omitted.

The possible **Job Number Qualifier** values are:

*ALL: All jobs that match the specified job name and user name will be omitted.

job-number:
> Specify the job number to further qualify the job name and user name.

Stats options (STATSOPT)

Specifies how to organize a statistics (*STATS) report. Records are ordered based on the value specified for the ORDER parameter.

Note: This parameter is ignored if, on the ADDPEXDFN command, you specified TYPE(*STATS) and DTAORG(*HIER). The parameter is ignored to retain the parent-child relationship that was collected for this definition.

Element 1: Sort by

Specifies how the records are arranged in the report.

def.*CPU
> Arrange the output by amount of CPU time.

*PGMNAME
> Arrange the output by program name.

*INVCNT
> Arrange the output by number of times program or procedure is called.

*DBSYNCIO
> Arrange the output by amount of physical database synchronous I/O.

*DBASYNCIO
> Arrange the output by amount of physical database asynchronous I/O.

*NDBSYNCIO
> Arrange the output by amount of physical non-database synchronous I/O.

*NDBASYNCIO
> Arrange the output by amount of physical non-database asynchronous I/O.

*MICALLS
> Arrange the output by number of MI calls.

*MIINST
> Arrange the output by MI instruction name.

*CUMLCPU
> Arrange the output by cumulative CPU value.

*CUMLDBSYNCIO
> Arrange the output by cumulative amount of physical database synchronous I/O.

*CUMLDNASYNCIO
> Arrange the output by cumulative amount of physical database asynchronous I/O.

*CUMLNDBSYNCIO
> Arrange the output by cumulative amount of physical non-database synchronous I/O.

*CUMLNDBASYNCIO
> Arrange the output by cumulative amount of physical non-database asynchronous I/O.

Element 2: Summarize by

*PROGRAM
> The data is summarized at the program level.

*BLANK
> The data is not summarized.

*MODULE
> The data is summarized at the module level.

Profile options (PROFILEOPT)

Specifies how to organize a profile (*PROFILE) report. Records are ordered based on the value specified for the ORDER parameter.

Element 1: Sort by

Specifies how the records are arranged in the report

*SAMPLECOUNT
> Arrange the output relative to the sample count.

*ADDRESS
> Arrange the output relative to the sampled address.

Element 2: Summarize By

*PROGRAM

> Summarize the data at the program level.

*STATEMENT

> Summarize the data at the statement level.

*PROCEDURE

> Summarize the data at the procedure level.

*MODULE

> Summarize the data at the module level.

*BLANK

> No summary records are provided.

Element 3: Filter percentage

This provides a filter to eliminate the insignificant records. For example, an entry of 10 would omit all the records that contain less than 10% of the samples taken during the collection.

0   No records are omitted from the report.

filter-percentage

> Specify a number in the range of 0 to 100.

Order (ORDER)

Specifies how the data should be ordered in the report.

*DESCENDING

> The data records are ordered in descending order. If records are sorted by a numeric field, records are ordered from largest to smallest. If records are sorted by a name field, records are in reverse alphabetical order, for example, from Z to A.

*ASCENDING

> The data records are in ascending order. If records are sorted by a numeric field, records will be ordered from smallest to largest. If records are sorted by a name field, records are in alphabetical order, for example, from A to Z).

Number of threads (NBRTHD)

Specifies the number of concurrent threads that the PRTPEXRPT command uses to print the data. Specifying a number greater than 1 allows the PRTPEXRPT command to take advantage of available CPU cycles, especially on a multi-processor system. While this may speed up the command processing, it may also degrade the performance of other jobs on the system. You can minimize this impact by changing the priority of the job that runs the PRTPEXRPT command to a higher number. You should also verify that the disk subsystem can handle the additional threads. Typically, the PRTPEXRPT command requires one disk arm for each active thread.

Note: If you specify OUTPUT (*PRINT), the number of spooled files is equal to NBRTHD (one spooled file per thread).

*CALC:

> The system calculates a reasonable number of threads to do the command processing which does

not use excessive system resources. Usually this is one or two threads for each available processor. If this command is run in an interactive job, *CALC uses only one thread.

number-of-threads:
Specify the number of threads for the PRTPEXRPT command to use to process the collected data.

Examples

Example 1: Printing a Statistics Report

```
PRTPEXRPT   MBR(SAMPLE)   LIBRARY(SAMPLELIB)
            TYPE(*STATS)   STATSOPT(*INVCNT *MODULE)
```

This command prints a report based on data members named SAMPLE in library SAMPLELIB. The data is arranged in descending order based on invocation counts and is summarized at the module level.

Example 2: Printing a Profile Report

```
PRTPEXRPT   MBR(SAMPLE2)   TYPE(*PROFILE)
            PROFILEOPT(*SAMPLECOUNT *PROGRAM)
            ORDER(*DESCENDING)
```

This command prints a report based on data members named SAMPLE2 in the default library, QPEXDATA. The data is arranged in descending order based on the sample count and is summarized at the program level.

Error messages

None

Print Pool Report (PRTPOLRPT)

The Print Pool Report (PRTPOLRPT) command produces a pool-oriented report from the performance data collected by Collection Services from the Operations Navigator interface. The report is written to the printer file QPPTITVP. The two sections that comprise the report are subsystem activity and workload activity of storage pools. The information is presented according to interval order. Jobs may be selectively included in the report or excluded from the report, based on a variety of job details and interval times.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
TITLE	Report title	*Character value*, ***MBRTXT**, *BLANK	Optional, Positional 3
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**, *SELECT	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
SLTJOB	Select jobs	Single values: ***ALL** Other values (up to 50 repetitions): *Qualified job name*	Optional
	Qualifier 1: Select jobs	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*	
	Qualifier 3: Number	000000-999999	
OMTJOB	Omit jobs	Single values: ***NONE** Other values (up to 50 repetitions): *Qualified job name*	Optional
	Qualifier 1: Omit jobs	*Generic name, name*	
	Qualifier 2: User	*Generic name, name*	
	Qualifier 3: Number	000000-999999	
SLTUSRID	Select users	Single values: ***ALL** Other values (up to 50 repetitions): *Generic name, name*	Optional
OMTUSRID	Omit users	Single values: ***NONE** Other values (up to 50 repetitions): *Generic name, name*	Optional
SLTPOOLS	Select pools	Single values: ***ALL** Other values (up to 64 repetitions): 1-64	Optional
OMTPOOLS	Omit pools	Single values: ***NONE** Other values (up to 64 repetitions): 1-64	Optional

Keyword	Description	Choices	Notes
SLTSBS	Select subsystems	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTSBS	Omit subsystems	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTLINE	Select communications lines	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTLINE	Omit communications lines	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTCTL	Select control units	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTCTL	Omit control units	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTFCNARA	Select functional areas	Single values: ***ALL** Other values (up to 50 repetitions): *Character value*	Optional
OMTFCNARA	Omit functional areas	Single values: ***NONE** Other values (up to 50 repetitions): *Character value*	Optional
JOB	Job name	*Name*, **PRTPOLRPT**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the performance data member used. This name should correspond to the member name specified on the TOMBR parameter of the Create Performance Data (CRTPFRDTA) command.

This is a required parameter.

Report title (TITLE)

Specifies the title for the report that is created.

*MBRTXT
> The text of the database member, which contains the performance data, is the report title.

*BLANK
> No title is specified.

'report-title'
> Specify a title of up to 50 characters, enclosed in apostrophes.

Time period for report (PERIOD)

Specifies the period of time on which to report. The parameter consists of four elements: a starting time and date, and an ending time and date. Data collected prior to the starting time on the starting date and after the ending time on the ending date is not included in the report.

The symbol *N can be used to designate the default value for any of the four elements.

The possible **starting time** values are:

*FIRST
>   Data records starting from the beginning of the first day (00:00:00) of the collection period are included.

*SELECT
>   An interval selection screen is displayed from which you can select one or more intervals for inclusion. This value is valid only in the interactive environment. If this value is used, the remaining values of this parameter (starting time and date and ending time and date) are ignored.

start-time
>   Specify the time of the first data record to include in the report, using the format, **hhmm** or **hhmmss**, where **hh** is the hours, **mm** is the minutes, and **ss** is the seconds.
>
>   The time is specified in 24-hour format with or without a time separator:
>
>   - Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
>   - With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.
>
>   All time and date entries must be 2-digits in length, meaning zeros must be included.

The possible **starting date** values are:

*FIRST
>   Data records starting from the first day of the collection period are included in the report.

start-date
>   Specify the date of the first data record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

The possible **ending time** values are:

*LAST
>   Data records through the end of the day (23:59:59) are included in the report.

end-time
>   Specify the time of the last data record to include in the report. Use the same format used for the starting time.

The possible **ending date** values are:

*LAST
>   Data records through the last day of the collection period are included in the report.

end-date
> Specify the date of the last record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA
> The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name
> Specify the name of the library where the performance database files are located.

Select jobs (SLTJOB)

Specifies a list of up to 50 jobs to be included in the report. Only specified jobs are included in the report.

Individual jobs are identified by a "job identifier." A job identifier is either the special value *ALL or a qualified name that consists of up to three elements: a job number, a user name, and a job name. Job identifiers are written in the form, job-number/user-name/job-name, but all three elements do not have to be specified. The symbol *N can be used as a placeholder for up to two of the elements of the job identifier.

Note: This parameter and the **Omit jobs** prompt (OMTJOB parameter) are mutually exclusive.

You can enter multiple values for this parameter.

Element 1: Job name

*ALL   All jobs in the collected data are included, unless excluded by another selection value.

job-name
> Specify the names of the jobs to select. Because jobs may have identical job names, this value may not identify a specific job. A generic name can be specified for this value.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

job-number
> Specify the 6-digit number of a job to select. All six digits must be specified, including zeros.

user-name
> Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job.

Element 2: Thread

*ALL   All threads are included, unless excluded by some other selection criterion.

thread-identifier
> Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

Omit jobs (OMTJOB)

Specifies a list of up to 50 jobs to be omitted from the report.

Individual jobs are identified by a "job identifier." A job identifier is either the special value *NONE or a qualified name that consists of up to three elements: a job number, a user name, and a job name. Job identifiers are written in the form, job-number/user-name/job-name, but all three elements do not have to be specified. The symbol *N can be used as a placeholder for up to two of the elements of the job identifier.

Note: This parameter and the **Select jobs** prompt (SLTJOB parameter) are mutually exclusive.

You can enter multiple values for this parameter.

Element 1: Job name

*NONE
> Jobs are not excluded based on job identifier.

job-name
> Specify the names of the jobs to omit. Because jobs may have identical job names, this value may not identify a specific job. A generic name can be specified for this value.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

job-number
> Specify the 6-digit number of a job to omit. All six digits must be specified, including zeros.

user-name
> Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job.

Element 2: Thread

*ALL All threads are included, unless excluded by some other selection criterion.

thread-identifier
> Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

Select users (SLTUSRID)

Specifies a list of up to 50 user names to be included in the report. Only jobs with one of the specified user names are included in the report.

Note: This parameter and the **Omit users** prompt (OMTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs with user names are included, unless excluded by another selection value.

user-name
> Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. SLTUSRID(user) is equivalent to SLTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Omit users (OMTUSRID)

Specifies a list of up to 50 user names to be omitted from the report.

Note: This parameter and the **Select users** prompt (SLTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> No jobs are excluded based on the user name.

user-name
> Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. OMTUSRID(user) is equivalent to OMTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Select pools (SLTPOOLS)

Specifies a list of up to 64 pools to be included in the report.

Note: This parameter and the **Omit pools** prompt (OMTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs that ran in all pools are included, unless excluded by another selection value.

storage-pool-identifier
> Specify the number of a pool to select. Valid values range from 1 through 64.

Omit pools (OMTPOOLS)

Specifies a list of up to 64 pools to omit. Jobs that ran in any of the specified pools are excluded from the report.

Note: This parameter and the **Select pools** prompt (SLTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded based on their pool.

storage-pool-identifier
> Specify the number of a pool to omit. Valid values range from 1 through 64.

Select subsystems (SLTSBS)

Specifies a list of up 50 subsystems to select. Only jobs that ran in one of the specified subsystems are included in the report.

Note: This parameter and the **Omit subsystems** prompt (OMTSBS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs in all subsystems are included, unless excluded by another selection value.

subsystem-name
> Specify the name of a subsystem to select.

Omit subsystems (OMTSBS)

Specifies a list of up to 50 subsystems to omit. Jobs that ran in any of the specified subsystems are excluded from the report.

Note: This parameter and the **Select subsystems** prompt (SLTSBS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded based on their subsystem.

subsystem-name
> Specify the name of a subsystem to omit.

Select communications lines (SLTLINE)

Specifies a list of up to 50 communications lines to select. Only jobs that use a remote device connected through one of the specified communications lines are included in the report.

Note: This parameter and the **Omit communications lines** prompt (OMTLINE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

communication-line-name
Specify the name of a communications line to select. This excludes jobs using remote devices connected through other communications lines, even if the controllers to which those devices are attached are specified on the **Select control units** prompt (SLTCTL parameter).

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Omit communications lines (OMTLINE)

Specifies a list of up to 50 communications lines to omit. Jobs that use a remote device connected through any of the specified communications lines are excluded from the report.

Note: This parameter and the **Select communications lines** prompt (SLTLINE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
Jobs are not excluded from the report based on communications line.

communication-line-name
Specify the name of a communications line to omit.

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Select control units (SLTCTL)

Specifies a list of up to 50 communications controllers to select. Only jobs that use a device connected to one of the specified controllers are included in the report.

Note: This parameter and the **Omit control units** prompt (OMTCTL parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included, unless excluded by another selection value.

controller-name
Specify the name of a communications controller to select.

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Omit control units (OMTCTL)

Specifies a list of up to 50 communications controllers to omit. Jobs that use a device connected to any of the specified controllers are excluded from in the report.

Note: This parameter and the **Select control units** prompt (SLTCTL parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded based on communications controllers.

controller-name
> Specify the name of a communications controller to omit.

Select functional areas (SLTFCNARA)

Specifies a list of up to 50 functional areas to select. Only jobs and users identified in one of the functional areas are included in the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Omit functional areas** prompt (OMTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

functional-area-name
> Specify the name of a functional area to select.

Omit functional areas (OMTFCNARA)

Specifies a list of up to 50 functional areas to omit. Jobs and users identified in any of the functional areas are excluded from the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Select functional areas** prompt (SLTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded from the report based on functional area.

functional-area-name
> Specify the name of a functional area to omit.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTPOLRPT
> The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for any and all batch jobs.

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Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

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Examples

Example 1: Printing a Report
```
PRTPOLRPT    MBR(DTA071588A)
```

This command submits a batch job to print a report on all jobs in all intervals in the member DTA071588A of the performance data files in library QPFRDATA. The report title is taken from the text of that member.

Example 2: Selecting Intervals to Include in Report
```
PRTPOLRPT    MBR(DTA071588A)  PERIOD(*SELECT)
```

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This command submits a job to print a report from the same data, but first shows a display from which the user interactively selects the intervals to include.

Example 3: Specifying Data Collection Time Period
```
PRTPOLRPT   MBR(DTA071588A)  PERIOD((2330)(0130))
```

This command submits a job to print a report on the data collected from 11:30 PM on the first day of collection through 1:30 AM on the last day of collection. However, if data collection started and ended on the same day, an error message is printed, because the specified ending date and time is before the specified starting date and time.

Example 4: Specifying a User ID
```
PRTPOLRPT   MBR(DTA071588A)  SLTUSRID(D46*)  JOBD(*NONE)
```

This command interactively prints a report for all jobs with a user ID starting with D46.

Example 5: Specifying a User ID
```
PRTPOLRPT   MBR(DTA071588A)  SLTJOB(D46*/*N)  JOBD(*NONE)
```

This command performs the same function as the previous example.

Error messages

*ESCAPE Messages

PFR1010
> Cannot process request because of missing data.

PFR3002
> Cannot print report because of missing data.

PFR3004
> Incorrect measurement interval specified.

PFR3006
> Measurement interval specified is not valid.

PFR3101
> The SLTJOB and OMTJOB parameters are mutually exclusive.

PFR3102
> SLTUSRID and OMTUSRID parameters cannot both be specified.

PFR3103
> SLTPOOLS and OMTPOOLS parameters cannot both be specified.

PFR3104
> SLTSBS and OMTSBS parameters cannot both be specified.

PFR3105
> SLTLINE and OMTLINE parameters cannot both be specified.

PFR3106
> SLTCTL and OMTCTL parameters cannot both be specified.

PFR3107
> SLTFCNARA and OMTFCNARA parameters cannot both be specified.

PFR3108

        SLTLOC and OMTLOC parameters cannot both be specified.

PFR3111

        Functional area &1 does not exist.

PFR5501

        Performance data file(s) are not upward compatible.

PFR5502

        Performance data file(s) are not downward compatible.

PFR9005

        YAXIS(*TIME) must be specified.

PFR9042

        SLTUSER and OMTUSER parameters cannot both be specified.

PFR9048

        Cannot display graph because of missing data.

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Print Resource Report (PRTRSCRPT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print Resource Report (PRTRSCRPT) command produces a device resource usage report from the performance data collected by Collection Services from the Operations Navigator interface. The report, which is written to the printer file QPPTITVR, shows device resource information organized by time interval. Resources may be selected for inclusion in the report or exclusion from the report, based on interval times.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
TITLE	Report title	*Character value*, ***MBRTXT**, *BLANK	Optional, Positional 3
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**, *SELECT	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
TYPE	Type of information	Single values: ***ALL** Other values (up to 5 repetitions): *DISK, *CMN, *IOP, *LCLWS, *RMTWS	Optional
JOB	Job name	*Name*, **PRTRSCRPT**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the performance data member used. This name should correspond to the member name specified on the TOMBR parameter of the Create Performance Data (CRTPFRDTA) command.

This is a required parameter.

Report title (TITLE)

Specifies the title for the report that is created.

*MBRTXT

The text of the database member, which contains the performance data, is the report title.

*BLANK

No title is specified.

'report-title'

Specify a title of up to 50 characters, enclosed in apostrophes.

Time period for report (PERIOD)

Specifies the period of time on which to report. The parameter consists of four elements: a starting time and date, and an ending time and date. Data collected prior to the starting time on the starting date and after the ending time on the ending date is not included in the report.

The symbol *N can be used to designate the default value for any of the four elements.

The possible **starting time** values are:

*FIRST

Data records starting from the beginning of the first day (00:00:00) of the collection period are included.

*SELECT

An interval selection screen is displayed from which you can select one or more intervals for inclusion. This value is valid only in the interactive environment. If this value is used, the remaining values of this parameter (starting time and date and ending time and date) are ignored.

start-time

Specify the time of the first data record to include in the report, using the format, **hhmm** or **hhmmss**, where **hh** is the hours, **mm** is the minutes, and **ss** is the seconds.

The time is specified in 24-hour format with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

All time and date entries must be 2-digits in length, meaning zeros must be included.

The possible **starting date** values are:

*FIRST

Data records starting from the first day of the collection period are included in the report.

start-date

Specify the date of the first data record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

The possible **ending time** values are:

*LAST
Data records through the end of the day (23:59:59) are included in the report.

end-time
Specify the time of the last data record to include in the report. Use the same format used for the starting time.

The possible **ending date** values are:

*LAST
Data records through the last day of the collection period are included in the report.

end-date
Specify the date of the last record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

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Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA
The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name
Specify the name of the library where the performance database files are located.

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Type of information (TYPE)

Specifies the sections of the report that you want to print.

*ALL   All sections of the report are printed.

*DISK
Specifies that you want to print the Disk Activity section.

*CMN   Specifies that you want to print the Communications section.

*IOP   Specifies that you want to print the IOP Utilization section.

*LCLWS
Specifies that you want to print the Local Work Stations section.

*RMTWS
Specifies that you want to print the Remote Work Stations section.

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Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTRSCRPT
> The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is
> used.

job-name
> Specify the name to be used for any and all batch jobs.

Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's
> workstation is not available for other use during this time, which could be significant for long
> jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry
> exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

Examples

Example 1: Printing a Report

```
PRTRSCRPT    MBR(DTA071588A)
```

This command submits a batch job to print a report on all resources in all intervals in the member
DTA071588A of performance data files in library QPFRDATA. The report title is taken from the text of
that member.

Example 2: Selecting Intervals to Include in Report

```
PRTRSCRPT    MBR(DTA071588A)   PERIOD(*SELECT)
```

This command submits a job to print a report from the same data, but first shows a screen from which the user interactively select which intervals to include.

Example 3: Specifying Data Collection Time Period

```
PRTRSCRPT   MBR(DTA071588A)  PERIOD((2330)(0130))
```

This command submits a job to print a report on the data collected from 11:30 PM on the first day of collection through 1:30 AM on the last day of collection.

Error messages

*ESCAPE Messages

PFR1010
> Cannot process request because of missing data.

PFR3002
> Cannot print report because of missing data.

PFR3004
> Incorrect measurement interval specified.

PFR3006
> Measurement interval specified is not valid.

PFR3101
> The SLTJOB and OMTJOB parameters are mutually exclusive.

PFR3102
> SLTUSRID and OMTUSRID parameters cannot both be specified.

PFR3103
> SLTPOOLS and OMTPOOLS parameters cannot both be specified.

PFR3104
> SLTSBS and OMTSBS parameters cannot both be specified.

PFR3105
> SLTLINE and OMTLINE parameters cannot both be specified.

PFR3106
> SLTCTL and OMTCTL parameters cannot both be specified.

PFR3107
> SLTFCNARA and OMTFCNARA parameters cannot both be specified.

PFR3108
> SLTLOC and OMTLOC parameters cannot both be specified.

PFR3111
> Functional area &1 does not exist.

PFR5501
> Performance data file(s) are not upward compatible.

PFR5502
> Performance data file(s) are not downward compatible.

PFR9005
> YAXIS(*TIME) must be specified.

PFR9042
     SLTUSER and OMTUSER parameters cannot both be specified.

PFR9048
     Cannot display graph because of missing data.

Print System Report (PRTSYSRPT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print System Report (PRTSYSRPT) command generates and prints a system operation overview report from the performance data collected by Collection Services from the Operations Navigator interface. The report is written to the printer file QPPTSYSR. The system workload, resource utilization, resource utilization expansion, storage pool utilization, disk utilization, communications summary, and TCP/IP summary are presented in the report.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
TITLE	Report title	*Character value*, ***MBR**	Optional, Positional 3
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**, *SELECT	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
TYPE	Type of information	Single values: ***ALL** Other values (up to 8 repetitions): *WORKLOAD, *RSC, *RSCEXPN, *POOL, *DISK, *CMN, *TCPIP, *HTTP	Optional
SLTJOB	Select jobs	Single values: ***ALL** Other values (up to 50 repetitions): *Qualified job name*	Optional
	Qualifier 1: Select jobs	*Generic name, name*	
	Qualifier 2: User	*Name*	
	Qualifier 3: Number	000000-999999	
OMTJOB	Omit jobs	Single values: ***NONE** Other values (up to 50 repetitions): *Qualified job name*	Optional
	Qualifier 1: Omit jobs	*Generic name, name*	
	Qualifier 2: User	*Name*	
	Qualifier 3: Number	000000-999999	
SLTUSRID	Select users	Single values: ***ALL** Other values (up to 50 repetitions): *Generic name, name*	Optional
OMTUSRID	Omit users	Single values: ***NONE** Other values (up to 50 repetitions): *Generic name, name*	Optional
SLTPOOLS	Select pools	Single values: ***ALL** Other values (up to 64 repetitions): 1-64	Optional

Keyword	Description	Choices	Notes
OMTPOOLS	Omit pools	Single values: ***NONE** Other values (up to 64 repetitions): 1-64	Optional
SLTSBS	Select subsystems	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTSBS	Omit subsystems	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTLINE	Select communications lines	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTLINE	Omit communications lines	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTCTL	Select control units	Single values: ***ALL** Other values (up to 50 repetitions): *Name*	Optional
OMTCTL	Omit control units	Single values: ***NONE** Other values (up to 50 repetitions): *Name*	Optional
SLTFCNARA	Select functional areas	Single values: ***ALL** Other values (up to 50 repetitions): *Character value*	Optional
OMTFCNARA	Omit functional areas	Single values: ***NONE** Other values (up to 50 repetitions): *Character value*	Optional
JOB	Job name	*Name*, **PRTSYSRPT**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the performance data member used. This name should correspond to the member name specified on the TOMBR parameter of the Create Performance Data (CRTPFRDTA) command.

This is a required parameter.

Report title (TITLE)

Specifies the title for the report that is created.

*MBR   The text of the database member, which contains the performance data, is the report title.

'report-title'
>   Specify the title you want on your report with up to 50 characters of text, enclosed in apostrophes.

Time period for report (PERIOD)

Specifies the period of time on which to report. The parameter consists of four elements: a starting time and date, and an ending time and date. Data collected prior to the starting time on the starting date and after the ending time on the ending date is not included in the report.

The symbol *N can be used to designate the default value for any of the four elements.

The possible **starting time** values are:

*FIRST
> Data records starting from the beginning of the first day (00:00:00) of the collection period are included.

*SELECT
> An interval selection screen is displayed from which you can select one or more intervals for inclusion. This value is valid only in the interactive environment. If this value is used, the remaining values of this parameter (starting time and date and ending time and date) are ignored.

start-time
> Specify the time of the first data record to include in the report, using the format, **hhmm** or **hhmmss**, where **hh** is the hours, **mm** is the minutes, and **ss** is the seconds.
>
> The time is specified in 24-hour format with or without a time separator:
> * Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
> * With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.
>
> All time and date entries must be 2-digits in length, meaning zeros must be included.

The possible **starting date** values are:

*FIRST
> Data records starting from the first day of the collection period are included in the report.

start-date
> Specify the date of the first data record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

The possible **ending time** values are:

*LAST
> Data records through the end of the day (23:59:59) are included in the report.

end-time
> Specify the time of the last data record to include in the report. Use the same format used for the starting time.

The possible **ending date** values are:

*LAST
> Data records through the last day of the collection period are included in the report.

end-date
> Specify the date of the last record to include in the report. The date must be entered in the format specified by the system value QDATFMT, and if separators are used, as specified by the system value QDATSEP.

Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA
> The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name
> Specify the name of the library where the performance database files are located.

Type of information (TYPE)

Specifies the sections of the report that you want to print.

The possible single value is:

*ALL   All sections of the report are printed.

*WORKLOAD
> Specify that you want to print the Workload section.

*RSC   Specify that you want to print the Resource Utilization section.

*RSCEXPN
> Specify that you want to print the Resource Utilization Expansion section.

*POOL
> Specify that you want to print the Storage Pool Utilization section.

*DISK
> Specify that you want to print the Disk Utilization section.

*CMN   Specify that you want to print the Communication Summary section. This section shows data about IOP, protocol, line utilization, active devices, transactions, response times and bytes received/transmitted.

*TCPIP
> Specify that you want to print the TCP/IP Summary section. This section includes additional data for TCP/IP protocols, such as packets received/transmitted, MTU sizes, etc.

*HTTP
> Specify that you want to print the HTTP Server Summary section. This section includes statistics for HTTP Server (powered by Apache).

Select jobs (SLTJOB)

Specifies a list of up to 50 jobs to be included in the report. Only specified jobs are included in the report.

Individual jobs are identified by a "job identifier." A job identifier is either the special value *ALL or a qualified name that consists of up to three elements: a job number, a user name, and a job name. Job identifiers are written in the form, job-number/user-name/job-name, but all three elements do not have to be specified. The symbol *N can be used as a placeholder for up to two of the elements of the job identifier.

Note: This parameter and the **Omit jobs** prompt (OMTJOB parameter) are mutually exclusive.

You can enter multiple values for this parameter.

Element 1: Job name

*ALL   All jobs in the collected data are included, unless excluded by another selection value.

job-name
        Specify the names of the jobs to select. Because jobs may have identical job names, this value may not identify a specific job. A generic name can be specified for this value.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

job-number
        Specify the 6-digit number of a job to select. All six digits must be specified, including zeros.

user-name
        Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job.

Element 2: Thread

*ALL   All threads are included, unless excluded by some other selection criterion.

thread-identifier
        Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

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Omit jobs (OMTJOB)

Specifies a list of up to 50 jobs to be omitted from the report.

Individual jobs are identified by a "job identifier." A job identifier is either the special value *NONE or a qualified name that consists of up to three elements: a job number, a user name, and a job name. Job identifiers are written in the form, job-number/user-name/job-name, but all three elements do not have to be specified. The symbol *N can be used as a placeholder for up to two of the elements of the job identifier.

Note: This parameter and the **Select jobs** prompt (SLTJOB parameter) are mutually exclusive.

You can enter multiple values for this parameter.

Element 1: Job name

*NONE
        Jobs are not excluded based on job identifier.

job-name
>Specify the names of the jobs to omit. Because jobs may have identical job names, this value may not identify a specific job. A generic name can be specified for this value.

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

job-number
>Specify the 6-digit number of a job to omit. All six digits must be specified, including zeros.

user-name
>Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job.

Element 2: Thread

*ALL   All threads are included, unless excluded by some other selection criterion.

thread-identifier
>Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

Select users (SLTUSRID)

Specifies a list of up to 50 user names to be included in the report. Only jobs with one of the specified user names are included in the report.

Note: This parameter and the **Omit users** prompt (OMTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs with user names are included, unless excluded by another selection value.

user-name
>Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. SLTUSRID(user) is equivalent to SLTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Omit users (OMTUSRID)

Specifies a list of up to 50 user names to be omitted from the report.

Note: This parameter and the **Select users** prompt (SLTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
>> No jobs are excluded based on the user name.

user-name
>> Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. OMTUSRID(user) is equivalent to OMTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Select pools (SLTPOOLS)

Specifies a list of up to 64 pools to be included in the report.

Note: This parameter and the **Omit pools** prompt (OMTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs that ran in all pools are included, unless excluded by another selection value.

storage-pool-identifier
>> Specify the number of a pool to select. Valid values range from 1 through 64.

Omit pools (OMTPOOLS)

Specifies a list of up to 64 pools to omit. Jobs that ran in any of the specified pools are excluded from the report.

Note: This parameter and the **Select pools** prompt (SLTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
>> Jobs are not excluded based on their pool.

storage-pool-identifier
>> Specify the number of a pool to omit. Valid values range from 1 through 64.

Select subsystems (SLTSBS)

Specifies a list of up 50 subsystems to select. Only jobs that ran in one of the specified subsystems are included in the report.

Note: This parameter and the **Omit subsystems** prompt (OMTSBS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs in all subsystems are included, unless excluded by another selection value.

subsystem-name
>   Specify the name of a subsystem to select.

Omit subsystems (OMTSBS)

Specifies a list of up to 50 subsystems to omit. Jobs that ran in any of the specified subsystems are excluded from the report.

Note: This parameter and the **Select subsystems** prompt (SLTSBS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
>   Jobs are not excluded based on their subsystem.

subsystem-name
>   Specify the name of a subsystem to omit.

Select communications lines (SLTLINE)

Specifies a list of up to 50 communications lines to select. Only jobs that use a remote device connected through one of the specified communications lines are included in the report.

Note: This parameter and the **Omit communications lines** prompt (OMTLINE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

communication-line-name
>   Specify the name of a communications line to select. This excludes jobs using remote devices connected through other communications lines, even if the controllers to which those devices are attached are specified on the **Select control units** prompt (SLTCTL parameter).

Omit communications lines (OMTLINE)

Specifies a list of up to 50 communications lines to omit. Jobs that use a remote device connected through any of the specified communications lines are excluded from the report.

Note: This parameter and the **Select communications lines** prompt (SLTLINE parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
>   Jobs are not excluded from the report based on communications line.

communication-line-name
>   Specify the name of a communications line to omit.

Select control units (SLTCTL)

Specifies a list of up to 50 communications controllers to select. Only jobs that use a device connected to one of the specified controllers are included in the report.

Note: This parameter and the **Omit control units** prompt (OMTCTL parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included, unless excluded by another selection value.

controller-name
      Specify the name of a communications controller to select.

Omit control units (OMTCTL)

Specifies a list of up to 50 communications controllers to omit. Jobs that use a device connected to any of the specified controllers are excluded from in the report.

Note: This parameter and the **Select control units** prompt (SLTCTL parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
      Jobs are not excluded based on communications controllers.

controller-name
      Specify the name of a communications controller to omit.

Select functional areas (SLTFCNARA)

Specifies a list of up to 50 functional areas to select. Only jobs and users identified in one of the functional areas are included in the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Omit functional areas** prompt (OMTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

functional-area-name
      Specify the name of a functional area to select.

Omit functional areas (OMTFCNARA)

Specifies a list of up to 50 functional areas to omit. Jobs and users identified in any of the functional areas are excluded from the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Select functional areas** prompt (SLTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
        Jobs are not excluded from the report based on functional area.

functional-area-name
        Specify the name of a functional area to omit.

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Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTSYSRPT
        The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
        Specify the name to be used for any and all batch jobs.

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Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
        The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
        Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

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Examples

Example 1: Printing a Report

```
PRTSYSRPT   MBR(APRIL18)
```

or

```
PRTSYSRPT   MBR(APRIL18)  SECTION(*ALL)
```

These commands print a complete system report for the performance data member APRIL18 in library QPFRDATA. The report title is the same as the text in the member.

Example 2: Selecting Intervals to Include in Report

```
PRTSYSRPT   MBR(NOV1)  PERIOD(*SELECT)
            TITLE('Intervals with Highest Response Times')
```

This command prints a system report for the data member NOV1 in library QPFRDATA. The user is presented with the interval-selection screen, which allows sorting of the intervals according to various criteria and the selection of certain intervals to be included in the report. The title of the report is *Intervals with Highest Response Times*.

Example 3: Selecting Sections to Include in Report

```
PRTSYSRPT   MBR(NOV1)  SECTION(*DSKUTL)
```

This command prints only the Disk Utilization section of the system report for the data member NOV1.

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Error messages

None

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Print Transaction Report (PRTTNSRPT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Print Transaction Report (PRTTNSRPT) command creates and prints performance reports that show detailed information about the transactions that occurred during the time that the performance data was collected. These reports require that trace data be collected by using the Start Performance Trace (STRPFRTRC) command. Jobs may be selectively included or excluded from the reports, based on a variety of job details and interval times.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
TITLE	Report title	*Character value*, ***BLANK**	Optional, Positional 3
RPTTYPE	Report type	Values (up to 5 repetitions): ***SUMMARY**, *TNSACT, *TRSIT, *FILE, *TRCDTA	Optional, Positional 4
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
OPTION	Report option	Values (up to 7 repetitions): ***SS**, *SI, *OZ, *EV, *HV, *DI, *DQ, X'40'	Optional
DETAIL	Report detail	***JOB**, *THREAD	Optional
SLTJOB	Select jobs	Single values: ***ALL** Other values (up to 50 repetitions): *Element list*	Optional
	Element 1: Job name	*Character value*	
	Element 2:	*Element list*	
	Element 1: Thread	*Character value*, ***ALL**	
OMTJOB	Omit jobs	Single values: ***NONE** Other values (up to 50 repetitions): *Element list*	Optional
	Element 1: Job name	*Character value*	
	Element 2:	*Element list*	
	Element 1: Thread	*Character value*, ***ALL**	
SLTUSRID	Select users	Single values: ***ALL** Other values (up to 50 repetitions): *Generic name, name*	Optional
OMTUSRID	Omit users	Single values: ***NONE** Other values (up to 50 repetitions): *Generic name, name*	Optional

Keyword	Description	Choices	Notes
SLTPOOLS	Select pools	Single values: ***ALL** Other values (up to 64 repetitions): 1-64, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 1, 2, 3, 4, 5, 6, 7, 8, 9	Optional
OMTPOOLS	Omit pools	Single values: ***NONE** Other values (up to 64 repetitions): 1-64, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 1, 2, 3, 4, 5, 6, 7, 8, 9	Optional
SLTFCNARA	Select functional areas	Single values: ***ALL** Other values (up to 50 repetitions): *Character value*	Optional
OMTFCNARA	Omit functional areas	Single values: ***NONE** Other values (up to 50 repetitions): *Character value*	Optional
JOB	Job name	*Name*, **PRTTNSRPT**, **MBR*	Optional
JOBD	Job description	Single values: **NONE* Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, **CURLIB*	

Member (MBR)

Specifies the performance data member used. This name should correspond to the member name specified on the MBR parameter of the End Performance Trace (ENDPFRTRC) command.

This is a required parameter.

Report title (TITLE)

Specifies the title for the transaction report that is created.

*BLANK
> No title is placed on the transaction report.

'report-title'
> Specify the title you want on your transaction report. Specify up to 50 characters enclosed in apostrophes.

Report type (RPTTYPE)

Specifies the type of transaction analysis report that is printed. A list of report types can be requested, so that both summary level and transaction detail reports can be requested at the same time. The transaction detail and transition detail reports are quite detailed, and should only be combined with a selection of specific jobs, users, and/or time intervals.

*SUMMARY
>A summary level report is printed.

*TNSACT
>The transaction detail report is printed.

*TRSIT
>The transition detail report is printed.

*FILE Transaction summary, job summary, and job trace database file members are created. The summaries exist in the files QTRTSUM, QTRJSUM, and QTRJOBT in the library specified for the **Library** prompt (LIB parameter). The member names are specified on the **Member** prompt (MBR parameter). The data in an existing member is replaced as a result of running this command. This value is used to build field level database files that are processed by user-defined programs and the Print Job Trace Report (PRTTRCRPT) command.

*TRCDTA
>A database file version of the trace data file QAPMDMPT is created. The database file is named QTRDMPT and is a field-level database file which can be processed by user-defined programs.

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Time period for report (PERIOD)

Specifies the times when transactions are reported.

Starting Time

*FIRST
>Transactions are reported beginning with the first one recorded.

start-time
>Specify the time of the first transaction to include in the report. The time is specified as 4 or 6 digits (hhmm or hhmmss), where **hh** is the hour, **mm** is the minute, and **ss** is the second.
>
>The time can be specified with or without a time separator:
>* Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
>* With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

Ending Time

*LAST
>Transactions are reported ending with the last one recorded.

end-time
>Specify the time of the last transaction to include in the report. The time is specified as 4 or 6 digits (hhmm or hhmmss), where hh is the hour, mm is the minute, and ss is the second.
>
>The time can be specified with or without a time separator:
>* Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
>* With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA
> The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name
> Specify the name of the library where the performance database files are located.

Report option (OPTION)

Specifies additional options that you apply to the transaction report.

*SS An additional set of system summary reports are included. These reports are included if *SUMMARY is specified on the **Report type** prompt (RPTTYPE parameter).

*SI All jobs of type interactive are selected.

*OZ All jobs that have zero transactions are omitted from the *SUMMARY report.

*EV Event wait is considered as a transaction boundary. This is useful in the analysis of communications jobs.

*HV System Licensed Internal Code (SLIC) tasks are listed on the *SUMMARY report.

*DI The trace records for the display I/O transaction boundary are counted as transactions, instead of wait-to-active state transitions.

*DQ The trace records for the data queue transaction boundary are counted as transactions, instead of wait-to-active state transitions.

Report detail (DETAIL)

Specifies whether you want the report to provide detailed job information at the job level or the thread level.

*JOB Specifies that you want detailed information at the job level.

*THREAD
> Specifies that you want detailed information at the thread level.

Select jobs (SLTJOB)

Specifies which jobs are included in the report. This allows the user to narrow the scope of the report to certain jobs through job selection.

The **Select jobs** prompt (SLTJOB parameter) and **Omit jobs** prompt (OMTJOB parameter) are mutually exclusive, so the default must be used for at least one of them.

You can enter multiple values for this parameter.

Element 1: Job name

<u>*ALL</u>   All jobs are included in the report.

job-name
> Specify the jobs that are included in the report. A generic job name may be specified in the form, NAME*.
>
> **Note:** The job name is not a fully qualified job name. It is the ten-character job name portion of the qualified name. The job number is allowed on this parameter. You cannot mix the use of job name and job number, one or the other must be used on a given request.

Element 2: Thread

<u>*ALL</u>   All threads are included, unless excluded by some other selection criterion.

thread-identifier
> Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

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Omit jobs (OMTJOB)

Specifies which jobs are omitted from the report. This allows the user to narrow the scope of the report to certain jobs through job omission.

The **Select jobs** prompt (SLTJOB parameter) and **Omit jobs** prompt (OMTJOB parameter) are mutually exclusive, so the default must be used for at least one of them.

You can enter multiple values for this parameter.

Element 1: Job name

<u>*NONE</u>
> No jobs are excluded from the report.

job-name
> Specify the jobs that are excluded from the report. A generic job name may be specified in the form, NAME*.
>
> **Note:** The job name is not a fully qualified job name. It is the ten-character job name portion of the qualified name. The job number is allowed on this parameter. You cannot mix the use of the job name and job number, one or the other must be used on a given request.

Element 2: Thread

<u>*ALL</u>   All threads are included, unless excluded by some other selection criterion.

thread-identifier
> Specify the thread identifier to select. Because some jobs can have identical thread identifiers, this value may not identify a specific job.

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Select users (SLTUSRID)

Specifies a list of up to 50 user names to be included in the report. Only jobs with one of the specified user names are included in the report.

Note: This parameter and the **Omit users** prompt (OMTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs with user names are included, unless excluded by another selection value.

user-name
>   Specify the user names of the jobs to select. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. SLTUSRID(user) is equivalent to SLTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Omit users (OMTUSRID)

Specifies a list of up to 50 user names to be omitted from the report.

Note: This parameter and the **Select users** prompt (SLTUSRID parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
>   No jobs are excluded based on the user name.

user-name
>   Specify the user names of the jobs to omit. Because jobs may have identical user names, this value may not identify a specific job. A generic name may be specified for this value. OMTUSRID(user) is equivalent to OMTJOB(*N/user/*N).

Note: A generic name is a character string that contains one or more characters followed by an asterisk(*), for example, ABC*. The asterisk substitutes for any valid characters. A generic name specifies all objects with names that begin with the generic prefix for which the user has authority. If an asterisk is not included with the generic name, the system assumes it to be the complete object name.

Select pools (SLTPOOLS)

Specifies a list of up to 64 pools to be included in the report.

Note: This parameter and the **Omit pools** prompt (OMTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   Jobs that ran in all pools are included, unless excluded by another selection value.

storage-pool-identifier
>   Specify the number of a pool to select. Valid values range from 1 through 64.

Omit pools (OMTPOOLS)

Specifies a list of up to 64 pools to omit. Jobs that ran in any of the specified pools are excluded from the report.

Note: This parameter and the **Select pools** prompt (SLTPOOLS parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded based on their pool.

storage-pool-identifier
> Specify the number of a pool to omit. Valid values range from 1 through 64.

Select functional areas (SLTFCNARA)

Specifies a list of up to 50 functional areas to select. Only jobs and users identified in one of the functional areas are included in the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Omit functional areas** prompt (OMTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*ALL   All jobs are included in the report, unless excluded by another selection value.

functional-area-name
> Specify the name of a functional area to select.

Omit functional areas (OMTFCNARA)

Specifies a list of up to 50 functional areas to omit. Jobs and users identified in any of the functional areas are excluded from the report.

A functional area is a list of job names and/or user names previously defined by the user. More information on functional areas is in the Performance Tools for iSeries book.

Note: This parameter and the **Select functional areas** prompt (SLTFCNARA parameter) are mutually exclusive.

You can enter multiple values for this parameter.

*NONE
> Jobs are not excluded from the report based on functional area.

functional-area-name
> Specify the name of a functional area to omit.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTTNSRPT
> The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
> Specify the name to be used for any and all batch jobs.

Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
> The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
> Specify the name of an alternate job description.

*NONE
> A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
> The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
> Specify the library in which the job description is located.

Examples

Example 1: Printing a Summary Transaction Report

```
PRTTNSRPT   MBR(TUESAM)
```

This command produces a summary transaction report. The data input to the report is all the data that exists in member TUESAM in library QPFRDATA. The request is sent to batch. The report output is directed to the output queue specified in the job description, QPFRJOBD.

Example 2: Printing a Transaction Detail Report

```
PRTTNSRPT   MBR(TUESAM)  RPTTYPE(*TNSACT)  SLTJOB(WS01)
```

This command produces a transaction detail report for the selected job, WS01. The request is sent to batch. The report output is directed to the output queue specified in the job description, QPFRJOBD.

Error messages

None

Print Job Trace Report (PRTTRCRPT)

The Print Job Trace Report (PRTTRCRPT) command generates a report showing resources utilized, exceptions, and state transitions for batch jobs traced through time.

The report is based on the trace data collected by the Start Performance Trace (STRPFRTRC) command. This report runs against the specified member that was created when the Print Transaction Report (PRTTNSRPT) command was run with the *FILE option. The member resides in the QTRJOBT file of the QPFRDATA library.

Parameters

Keyword	Description	Choices	Notes
MBR	Member	*Name*	Required, Positional 1
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 2
TITLE	Title	*Character value*, ***MBR**	Optional, Positional 3
PERIOD	Time period for report	*Element list*	Optional
	Element 1:	*Element list*	
	Element 1: Starting time	*Time*, ***FIRST**	
	Element 2: Starting date	*Date*, ***FIRST**	
	Element 2:	*Element list*	
	Element 1: Ending time	*Time*, ***LAST**	
	Element 2: Ending date	*Date*, ***LAST**	
JOB	Job name	*Name*, **PRTTRCRPT**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Member (MBR)

Specifies the performance data member used. This name should correspond to the member name specified when the Print Transaction Report (PRTTNSRPT) command was run with *FILE option.

This is a required parameter.

Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA
> The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name
> Specify the name of the library where the performance database files are located.

Report title (TITLE)

Specifies the title for the report that is created.

*MBR The text of the database member, which contains the performance data, is the report title.

'report-title'
> Specify the title you want on your report with up to 50 characters of text, enclosed in apostrophes.

Time period for report (PERIOD)

Specifies the period of time on which to report. The parameter consists of two lists of two elements each.

The symbol *N can be used to maintain the position in the parameter value sequence in place of an element that precedes the values that are specified. For example, PERIOD(*N (*N 091290)) specifies the ending date and uses the defaults for the other values.

One of the following values is used to specify the **starting time**. Data collected prior to this time is not included in the report.

*FIRST
> Data records starting from the beginning of the day (00:00: 00) are included.

start-time
> Specify the time of the first data record to include in the report, using the format, **hhmm** or **hhmmss**, where **hh** is the hours, **mm** is the minutes, and **ss** is the seconds.
>
> The time can be specified with or without a time separator:
> - Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
> - With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.
>
> The time is in 24-hour format (13:00 is one p.m.); all time and date entries must be 2-digits in length, meaning zeros must be included.

One of the following values is used to specify the **starting date**. Data collected prior to the starting time on this date is not included in the report.

*FIRST
> Data records starting from the first day of the collection period are included in the report.

start-date
>Specify the date of the first data record to include in the report. The date must be entered in the same format as specified for the job.

One of the following values is used to specify the **ending time**. Data collected after this time on the ending date is not included in the report.

*LAST
>Data records through the end of the day (23:59:59) are included in the report.

end-time
>Specify the time of the last data record to include in the report. Use the same format used for the starting time.

One of the following values is used to specify the **ending date**.

*LAST
>Data records through the last day of the collection period are included in the report.

end-date
>Specify the date of the last record to include in the report. The date must be entered in the same format as specified for the job.

Job name (JOB)

Specifies the job name to be used if submitting the job for batch processing.

Any value for this parameter is ignored if *NONE is specified for the **Job description** prompt (JOBD parameter).

Note: If *NONE is specified for the **Job description** prompt (JOBD parameter), job processing is performed interactively.

The possible **job name** values are:

PRTTRCRPT
>The command name is used for the job name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) is used.

job-name
>Specify the name to be used for any and all batch jobs.

Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
>The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
>Specify the name of an alternate job description.

*NONE

A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB

The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name

Specify the library in which the job description is located.

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Examples

Example 1: Printing a Job Trace Summary Report

```
PRTTRCRPT   MBR(JUNE01)
```

This command submits a batch job that generates a Job Trace Summary report using the performance data found in the member JUNE01 of file QTRJOBT located in the default library QPFRDATA. The report covers the entire collection period, and the title of the report is set to the name of the database file member.

Example 2: Specifying a Report Time Period

```
PRTTRCRPT   MBR(NOV15)
            PERIOD(('0800:00' '11/15/99')
                ('2359:59' '11/15/99'))
            TITLE('Job Trace Reports for November 15')
```

This command submits a batch job that generates a Job Trace Summary report. The performance data comes from member NOV15 of file QTRJOBT of the default library QPFRDATA. The report covers the time period 8:00 in the morning to midnight of one day.

Note: The format for the date and time is determined by the system values QDATFMT and, because separators are used in this example, QDATSEP.

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Error messages

*ESCAPE Messages

PFR5515

Cannot access trace data.

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Start Job Trace (STRJOBTRC)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Start Job Trace (STRJOBTRC) command starts the job tracing function to collect performance statistics for the specified job. It issues the following command:

```
TRCJOB MAXSTG(maxstg) TRCFULL(*STOPTRC)
```

The MAXSTG value used is either the STRJOBTRC default or a specified value. The STRJOBTRC command issues a Service Job (SRVJOB) command if a job other than the current job is specified.

Once job tracing is started, a trace record is generated for every external (program) call and return, exception, message, and work station wait in the job. At least two, and usually more, trace records are generated for every I/O statement (open, close, read, write) in a high-level language program.

After the target programs have been run, the End Job Trace (ENDJOBTRC) command is used to turn tracing off, record the collected information in a database file, and optionally produce reports used to analyze the data. The Print Job Trace (PRTJOBTRC) command may also be used to print the same report at any time thereafter. Alternatively, specifying *CNL on the **Trace option setting** prompt (SET parameter) of the Trace Job (TRCJOB) command may be used to cancel the job trace (turn it off without recording any collected data).

Tracing has a significant effect on the performance of the current job. It also affects the performance of the system in general, but to a lesser extent.

Parameters

Keyword	Description	Choices	Notes
MAXSTG	Maximum storage	1-16000, **1024**	Optional, Positional 1
JOB	Job name	Single values: * Other values: *Qualified job name*	Optional
	Qualifier 1: Job name	*Name*	
	Qualifier 2: User	*Name*	
	Qualifier 3: Number	000000-999999	

Maximum storage (MAXSTG)

Specifies the maximum amount of storage to allocate to the internal buffer in which every trace record generated is stored. If enough trace records are collected to fill the buffer, tracing is automatically turned off.

1024 A 1024K (1 megabyte) trace buffer is used. This size can handle about 14,000 trace records, which is sufficient in most cases.

maximum-K-bytes
> Specify the size of the trace buffer in kilobytes. Each kilobyte can hold almost 14 trace records.

Job name (JOB)

Specifies the job to be traced. A job identifier is either the special value, *, or the job-identifier name and library with up to three elements, such as job-number/user-name/ job-name.

* The current job is traced.

job-name
> Specify the name of the job to be traced.

user-name
> Specify the user name of the job to be traced.

job-number
> Specify the 6-digit number of the job to be traced. All 6 digits must be specified, including zeros.

Examples

```
STRJOBTRC   MAXSTG(512)
```

This command starts collecting trace data for the current job. It uses a 512 kilobyte (KB) trace buffer, which is large enough to hold about 7000 trace records.

Error messages

None

Start Performance Graphics (STRPFRG)

Where allowed to run:

- Interactive job (*INTERACT)
- Interactive program (*IPGM)
- Using QCMDEXEC, QCAEXEC, or QCAPCMD API (*EXEC)

Threadsafe: No

The Start Performance Graphics (STRPFRG) command calls up the performance graphics menu giving you access to all available performance graphics. This command is only valid in an interactive environment.

Parameters

Keyword	Description	Choices	Notes
FMTLIB	Graph formats library	*Name*, **QPFRDATA**	Optional, Positional 1
PFRLIB	Performance data library	*Name*, **QPFRDATA**	Optional, Positional 2
JOB	Job name	*Name*, ***CMD**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Graph formats library (FMTLIB)

Specifies the library in which the graph formats and graph packages are kept. The graph formats and graph packages are used to create performance and historical data graphs.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the graph formats and graph packages are located.

library-name
> Specify the name of the library where the graph formats and graph packages are located.

Performance data library (PFRLIB)

Specifies the library in which the database files are kept. The database files contain the performance and historical information used on the graphs.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the database files are located.

library-name
> Specify the name of the library where the database files are located.

Job name (JOB)

Specifies the job name to be used for any display graph options selected that result in the submission of jobs for batch processing.

If *NONE is specified on the **Job description** prompt (JOBD parameter), this parameter is ignored and job processing is performed interactively.

The possible **job-name** values are:

***CMD** The command name that corresponds to the menu option selected is used to name the job. All jobs created by the same option will have the same name.

***MBR** The name of the performance data member specified on the **Member** prompt (MBR parameter) of the corresponding command is used.

job-name
> Specify the name to be used for display graph batch jobs.

Job description (JOBD)

Specifies the job description used to submit jobs for batch processing.

***LIBL** All libraries in the job's library list are searched until the first match is found.

***CURLIB**
> The current library for the job is used to locate the job description. If no library is specified as the current library for the job, QGPL is used.

library-name
> Specify the name of the library where the job description is located.

QPFRJOBD
> The IBM-supplied performance tools job description is used.

job-description-name
> Specify the name of an alternate job description.

***NONE**
> A batch job is not submitted; instead, processing continues interactively while the user waits. The user's work station cannot be used during this time. This is something to consider for especially long jobs.

Examples

STRPFRG

This command displays the menu interface for Performance Tools graphics. Library QPFRDATA is used for storing and retrieving graph formats, graph packages, and performance data for this session. Any requests that are submitted to run in batch use job description QPFRJOBD found in the library list.

Error messages

*ESCAPE Messages

PFR7023
>   Interval data cannot be displayed for IDLC lines.

PFR9026
>   &1 cannot be changed or deleted.

PFR9027
>   Option chosen for graph format &1 not valid.

PFR9028
>   Option chosen for graph package &1 not valid.

PFR9032
>   Too many formats selected.

PFR9033
>   Too many items selected to be deleted.

PFR9039
>   Historical data cannot be created for member &2.

PFR9040
>   Specify *AUTO for range with *TIME for variable.

PFR9044
>   Graph format selected for historical graph not valid.

PFR9045
>   *OUTFILE not valid for graph package.

PFR9095
>   &2 cannot be changed or deleted.

Start Performance Tools (STRPFRT)

Where allowed to run:
- Interactive job (*INTERACT)
- Interactive program (*IPGM)
- Using QCMDEXEC, QCAEXEC, or QCAPCMD API (*EXEC)

Threadsafe: No

The Start Performance Tools (STRPFRT) command calls the performance tools menu interface. This displays the performance tools main menu (PERFORM), which provides access to all of the performance tools.

Parameters

Keyword	Description	Choices	Notes
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 1
JOB	Job name	*Name*, ***CMD**, *MBR	Optional
JOBD	Job description	Single values: *NONE Other values: *Qualified object name*	Optional
	Qualifier 1: Job description	*Name*, **QPFRJOBD**	
	Qualifier 2: Library	*Name*, ***LIBL**, *CURLIB	

Library (LIB)

Specifies the library where the performance data is located.

QPFRDATA
>   The performance data files are located in the IBM-supplied performance data library, QPFRDATA.

library-name
>   Specify the name of the library where the performance database files are located.

Job name (JOB)

Specifies the job name to be used for submitting report and utility jobs for batch processing.

Note: If *NONE is specified on the **Job description** prompt (JOBD parameter), this parameter is ignored, and job processing is performed interactively.

The possible **job-name** values are:

*CMD The command name that corresponds to the menu option selected is used to name the job. All jobs created by the same option will have the same name.

*MBR The name selected for the performance data member in the **Member** prompt (MBR parameter) of the corresponding command is used. If the command does not have a MBR parameter and *MBR is specified for this parameter, the command name is used.

job-name
    Specify the name to be used for batch jobs.

Job description (JOBD)

Specifies the job description used to submit the job for batch processing.

The possible job description values are:

QPFRJOBD
    The IBM-supplied job description, QPFRJOBD, is used.

job-description-name
    Specify the name of an alternate job description.

*NONE
    A batch job is not submitted; processing continues interactively while the user waits. The user's workstation is not available for other use during this time, which could be significant for long jobs.

The possible library values are:

*LIBL All libraries in the job's library list are searched until the first match is found.

*CURLIB
    The current library for the job is used to locate the job description. If no current library entry exists in the library list, QGPL is used.

library-name
    Specify the library in which the job description is located.

Examples

STRPFRT

This command calls the menu interface to Performance Tools. The library, QPFRDATA, is used in storing and getting the performance data for this session. Requests that are submitted to run in batch use the job description QPFRJOBD in the library list.

Error messages

None

Work with Functional Areas (WRKFCNARA)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Work with Functional Areas (WRKFCNARA) command allows the user to create, change, copy, and delete functional areas at the menu level. Functional areas are used by performance tools for reports and graphics. A functional area is a predefined list of job names and/or user names that are to be included in a report or graph.

Parameters

Keyword	Description	Choices	Notes
LIB	Library	*Name*, **QPFRDATA**	Optional, Positional 1

Library (LIB)

Specifies the library where the functional areas are located.

The possible library values are:

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is where the functional areas are located.

library-name
> Specify the name of the library where the functional areas are located.

Examples

WRKFCNARA

This command allows you to create, change, and delete functional areas at the menu level. The library, QPFRDATA, is used for storing and retrieving functional areas for this session.

Error messages

None

Work with System Activity (WRKSYSACT)

Where allowed to run: All environments (*ALL)
Threadsafe: No

The Work With System Activity (WRKSYSACT) command allows you to interactively work with the jobs and tasks currently running in the system. Besides having the capacity to view this data on the display station, the user may also direct the data to be stored in a database file for future use.

Restriction: You must have *JOBCTL special authority to use this command.

Parameters

Keyword	Description	Choices	Notes
OUTPUT	Output	*, *FILE, *BOTH	Optional, Positional 1
INTERVAL	Interval length	1-900, **5**	Optional
SEQ	Sequence	***CPU**, *DBCPU, *IO, *STGALC, *STGDLC, *STGNET	Optional
INFTYPE	Type of information	***ALL**, *JOBS, *TASKS	Optional
NBRITV	Number of intervals	*Integer*, **60**	Optional
MBR	Member	*Name*, **QAITMON**	Optional
LIB	Library	*Name*, **QPFRDATA**	Optional

Output (OUTPUT)

Specifies whether the output from the command is shown on the display station that entered the command, written to a physical database file, or both.

*   The output is shown on the display station.

*FILE   The output is written to the database file QAITMON using the member specified for the MBR parameter and the library specified for the LIB parameter.

*BOTH

The output is shown on the display station and written to the database file. The statistics are put in the QAITMON file each time the display is refreshed. This does not include the data presented on the initial display of the Work with System Activity display.

Interval length (INTERVAL)

Specifies the number of seconds between the times when the data is refreshed in automatic refresh mode and/or written to the database file. Valid values range from 1 through 900 seconds.

5   The data is refreshed every 5 seconds.

interval-length
> Specify the number of seconds (1-900) between refreshes.

Sequence (SEQ)

Specifies the sequence of the jobs and tasks being displayed or written to the database file.

*CPU Jobs and tasks are ordered by the amount of processing time they have used during the interval. Those using the greatest amounts of processing time are presented first.

*DBCPU
> Jobs and tasks are ordered by the amount of processing time that they have used to perform database processing. Those using the greatest amounts of database CPU are presented first.

*IO Jobs and tasks are ordered by the number of I/O operations performed during the interval. Those performing the most I/O operations are presented first.

*STGALC
> Tasks or threads are ordered by the amount of allocated storage. Allocated storage is the amount of storage (in pages) assigned to perform this task or thread. Those tasks or threads that are allocating the highest amount of storage are presented first.

*STGDLC
> Tasks or threads are ordered by the amount of deallocated storage. Deallocated storage is the amount of storage (in pages) that has been released from performing this task or thread. Those tasks or threads that are deallocating the highest amount of storage are presented first.

*STGNET
> Tasks or threads are ordered by the amount of net storage. Net storage is the difference between the allocated storage and the deallocated storage. Those tasks or threads that are deallocating the greatest difference between the allocated storage and the deallocated storage are presented first.

Type of information (INFTYPE)

Specifies the type of information that is shown or written to the database file.

*ALL Both jobs and tasks are shown or written to the database file.

*JOBS Only jobs are shown or written to the database file.

*TASKS
> Only tasks are shown or written to the database file.

Number of intervals (NBRITV)

Specifies the number of times the data is collected and written to the database file. This parameter is valid only when *FILE is specified for the OUTPUT parameter.

60 The data is collected and written to the database file 60 times.

number-of-intervals
> Specify the number of times to collect the performance data and write to the database file.

Member (MBR)

Specifies the database file member where the output for the collected data is stored. If the member does not exist, it is automatically created and added to the database file. This parameter is valid only when *FILE or *BOTH is specified for the OUTPUT parameter.

QAITMON
> The standard member name, QAITMON, is used.

member-name
> Specify the name of the member in which to store the collected data.

Library (LIB)

Specifies the library where the database file QAITMON is located. The file QAITMON is automatically created if it does not exist in the specified library. This parameter is valid only when *FILE or *BOTH is specified for the OUTPUT parameter.

QPFRDATA
> The IBM-supplied performance data library, QPFRDATA, is used to locate the database file.

library-name
> Specify the name of the library where the database file is located.

Examples

Example 1: Working with Jobs and Tasks

```
WRKSYSACT
```

This command displays the Work with System Activity panel, showing both jobs and tasks in descending order of processing time used.

Example 2: Working with Jobs Only

```
WRKSYSACT   OUTPUT(*BOTH)   INFTYPE(*JOBS)   MBR(JOBACT)
```

This command displays the Work with System Activity panel, showing jobs only and writes this information to member JOBACT of database file QAITMON located in default library QPFRDATA.

Error messages

*ESCAPE Messages

PFR7018
> Work with System Activity already active by user &4.

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