

Doc updates for OA35822

+--- Documentation to be updated -----+

| z/OS 1.10:  
| SA22-7619-18 -- MVS Programming: Workload Managment  
| Services

| z/OS 1.11:  
| SA22-7619-19 -- MVS Programming: Workload Managment  
| Services

| z/OS 1.12:  
| SA22-7619-20 -- MVS Programming: Workload Managment  
| Services

+--- Location in Publication -----+

| In all listed manuals add a new chapter with the following  
| content.

| New Chapter: IWMEQRY - Querying Enclave Attributes

| FUNCTION:

| This service offers three functions:

- | 1. query the classification attributes of an enclave,
- | 2. query WLM performance management information of an  
| enclave,
- | 3. both of the above.

| The output of this service is mapped by macro IWMECDX.

| The Query macro is provided in list, execute, and  
| standard form. The list form accepts no variable  
| parameters and is used only to reserve space for the  
| parameter list. The standard form is provided for use  
| with routines which do not require reentrant code. The  
| execute form is provided for use with the list format  
| for reentrant routines.

| ENVIRONMENT:

| Dispatchable unit mode: Task or SRB mode.

| Minimum authorization: Supervisor state or program key  
| mask (PKM) allowing keys 0-7.

| AMODE: 31-bit addressing mode.

| Cross Memory Mode: Any PASN, any HASN, any SASN.

| ASC mode: Primary or Access Register.

| If in Access Register ASC mode,  
| specify SYSSTATE ASCENV=AR before

invoking this macro.

Interrupt status: Enabled for I/O and external interrupts.

Locks: No locks held.

Control parameters: Control parameters must be in the primary address space.

#### PROGRAMMING REQUIREMENTS:

This macro may only be used on z/OS V1.R10 (HBB7750) or higher with APAR OA35822 applied. The macro IWMYCON must be included to use this macro. The macro IWMPB must be in the library concatenation, since it is included by IWMYCON. Note that the high order halfword of register 0, and the reason code variable when specified, may be non-zero and represents diagnostic data which is NOT part of the external interface. The high order halfword should thus be excluded from comparison with the reason code values described above. The constant, IWMRNSCODE\_MASK\_CONST defined in IWMYCON, may be used for this purpose.

#### RESTRICTIONS:

1. This macro may not be used prior to the completion of WLM address space initialization.
2. The caller must provide storage for an answer area mapped by macro IWMECDX. This answer area may reside in the caller's primary address space, or in a dataspace accessible via the current unit of work's dispatchable unit access list (DUal).

#### INPUT REGISTER INFORMATION:

Before issuing the IWMEQRY macro, the caller does not have to place any information into any register unless using it in register notation for a particular parameter, or using it as a base register.

#### OUTPUT REGISTER INFORMATION:

When control returns to the caller, the GPRs contain:

##### REGISTER CONTENTS

0	Reason code if GR15 return code is non-zero
1	Used as work register by the system
2-13	Unchanged
14	Used as work register by the system

15           Return code

When control returns to the caller, the ARs contain:

REGISTER   CONTENTS

0-1           Used as work registers by the system

2-13          Unchanged

14-15         Used as work registers by the system

Some callers depend on register contents remaining the same before and after issuing a service. If the system changes the contents of registers on which the caller depends, the caller must save them before issuing the service, and restore them after the system returns control.

PERFORMANCE IMPLICATIONS:

None.

SYNTAX:

```
Ýname"       IWMEQRY       ETOKEN=etoken
                          ,ANSAREA=ansarea
                          ,ANSLEN=anslen
                          ,QUERYLEN=querylen
                          Ý,FUNCTION=CLASSINFO |
                          ,FUNCTION=PERFINFO |
                          ,FUNCTION=ALL"
                          Ý,RETCODE=retcode"
                          Ý,RSNCODE=rsncode"
                          Ý,PLISTVER=0 |
                          ,PLISTVER=IMPLIED_VERSION |
                          ,PLISTVER=MAX"
                          Ý,MF=S |
                          ,MF=(L,list addr Ý,0D | ,attr") |
                          ,MF=(E, list addr Ý,COMPLETE")"
```

PARAMETERS:

name

An optional symbol, starting in column 1, that is the name on the IWMEQRY macro invocation. The name must conform to the rules for an ordinary assembler language symbol.

,ANSAREA=ansarea

A required output parameter, which specifies an area to contain the data being returned. The answer area is defined by the IWMECDX macro.

To code: Specify the RS-type address, or address in register (2)-(12), of a character field.

,ANSLEN=anslen

A required input parameter, variable which contains the length of the area provided to contain the data being returned by IWMEQRY.

To code: Specify the RS-type address, or address in register (2)-(12), of a fullword field, or specify a literal decimal value.

,ETOKEN=etoken

A required input parameter, which contains the enclave token representing the enclave of interest.

To code: Specify the RS-type address, or address in register (2)-(12), of an 8-character field.

,FUNCTION=CLASSINFO

,FUNCTION=PERFINFO

,FUNCTION=ALL

A required parameter, which indicates that the query function is executed.

,FUNCTION=CLASSINFO

Use FUNCTION=CLASSINFO to query the classification attributes of an enclave. This is the same information that is returned by the IWMECQRY service.

,FUNCTION=PERFINFO

Use FUNCTION=PERFINFO to query the WLM performance management information of an enclave. This data is based on the classification attributes and the active WLM policy.

,FUNCTION=ALL

Use FUNCTION=ALL to query both, the classification attributes and the WLM performance management information of an enclave.

,MF=S

,MF=(L,list addr)

,MF=(L,list addr,attr)

,MF=(L,list addr,0D)

,MF=(E,list addr)

,MF=(E,list addr,COMPLETE)

An optional input parameter that specifies the macro form.

Use MF=S to specify the standard form of the macro, which builds an inline parameter list and generates the macro invocation to transfer control to the service. MF=S is the default.

Use MF=L to specify the list form of the macro. Use the list form together with the execute form of the macro for applications that require reentrant code. The list form defines an area of storage that the

execute form uses to store the parameters. Only the PLISTVER parameter may be coded with the list form

Use MF=E to specify the execute form of the macro. Use the execute form together with the list form of the macro for applications that require reentrant code. The execute form of the macro stores the parameters into the storage area defined by the list form, and generates the macro invocation to transfer control to the service.

,list addr

The name of a storage area to contain the parameters. For MF=L and MF=E, this can be an RS-type address or an address in register (1)-(12).

,attr

An optional 1- to 60-character input string that you use to force boundary alignment of the parameter list. Use a value of 0F to force the parameter list to a word boundary, or 0D to force the parameter list to a doubleword boundary. If you do not code attr, the system provides a value of 0D.

,COMPLETE

Specifies that the system is to check for required parameters and supply defaults for omitted optional parameters. This is the default.

,PLISTVER=IMPLIED\_VERSION

,PLISTVER=MAX

,PLISTVER=0

An optional input parameter that specifies the version of the macro. PLISTVER determines which parameter list the system generates. PLISTVER is an optional input parameter on all forms of the macro, including the list form. When using PLISTVER, specify it on all macro forms used for a request and with the same value on all of the macro forms. The values are:

- IMPLIED\_VERSION, which is the lowest version that allows all parameters specified on the request to be processed. If you omit the PLISTVER parameter, IMPLIED\_VERSION is the default.

- MAX, if you want the parameter list to be the largest size currently possible. This size might grow from release to release and affect the amount of storage that your program needs.

If you can tolerate the size change, IBM recommends that you always specify PLISTVER=MAX on the list form of the macro. Specifying MAX ensures that the list-form parameter list is always long enough to hold all the parameters you might specify on the

execute form; in this way, MAX ensures that the parameter list does not overwrite nearby storage.

- 0, if you use the currently available parameters.

To code: Specify one of the following:

- IMPLIED\_VERSION
- MAX
- A decimal value of 0

,QUERYLEN=querylen

A required output parameter, variable which contains the number of bytes needed to contain the output data being returned by IWMEQRY.

The length of the area needed to contain the data depends on the function being used. If the ANSLEN is less than the QUERYLEN, then no data is returned in the output area specified by ANSAREA, and a return code of 4 is issued.

To code: Specify the RS-type address, or address in register (2)-(12), of a fullword field.

,RETCODE=retcode

An optional output parameter into which the return code is to be copied from GPR 15. If you specify 15, GPR15, REG15, or R15 (with or without parentheses), the value will be left in GPR 15.

To code: Specify the RS-type address of a fullword field, or register (2)-(12), or (15), (GPR15), (REG15), or (R15).

,RSNCODE=rsncode

An optional output parameter into which the reason code is to be copied from GPR 0. If you specify 0, 00, GPR0, GPR00, REG0, REG00, or R0 (within or without parentheses), the value will be left in GPR 0.

To code: Specify the RS-type address of a fullword field, or register (0) or (2)-(12), (00), (GPR0), (GPR00), REG0, (REG00), or (R0).

ABEND CODES:

None.

REASON CODES:

A unique reason code will be returned whenever the return code is non-zero. Reason codes, as appropriate, are defined under their corresponding return code. Reason code and return code constants are defined within IWMYCON. Note that the high order halfword of register 0, and the reason code variable when specified, may be non-zero and represents diagnostic data which is NOT part of the external interface. The high order halfword should thus be excluded from comparison with the reason code values

described above. The constant, IWMRSNCODE\_MASK\_CONST defined in IWMYCON, may be used for this purpose.

RETURN CODES:

0 Name: IwmRetCodeOk  
Meaning: Successful completion.  
Action: None required.

4 Name: IwmRetCodeWarning  
Meaning: Successful completion, unusual conditions noted.

HEX REASON MEANING/ACTION  
CODE

xxxx040A Name:  
IwmRsnCodeOutputAreaTooSmall  
Meaning: The output area  
supplied is too small to  
receive all the available  
information.  
Action: Reinvoke the service  
with an output area of  
sufficient size to receive  
all information.

xxxx043C Name: IwmRsnCodeIsReset  
Meaning: Classification  
information returned may not  
reflect how the independent  
enclave is being managed.  
The independent enclave was  
reset to another service  
class or is reset quiesced.  
Information returned.  
Action: None required.

8 Name: IwmRetCodeInvocError  
Meaning: Invalid invocation environment  
or parameters.

HEX REASON MEANING/ACTION  
CODE

xxxx0803 Name: IwmRsnCodeDisabled  
Meaning: Caller is disabled.  
Action: Avoid requesting  
this function while disabled.

xxxx0804 Name: IwmRsnCodeLocked  
Meaning: Caller is locked.  
Action: Avoid  
requesting this  
function while locked.

xxxx080B Name: IwmRsnCodeBadPl

	<p>Meaning: Error  accessing parameter  list.  Action: Check for  possible storage  overlay.</p>
xxxx0824	<p>Name: IwmRsnCodeAmode24  Meaning: Caller  invoked service but was  in 24 bit addressing  mode.  Action: Request this  function only when you  are in 31-bit addressing mode.</p>
xxxx0828	<p>Name: IwmRsnCodeBadVersion  Meaning: Caller  invoked service with an  invalid value for  PLISTVER.  Action: Check for  possible storage  overlay of the  parameter list.</p>
xxxx0829	<p>Name: IwmRsnCodeBadOptions  Meaning: Parameter list omits  required parameters or supplies  mutually exclusive parameters  or provides data associated with  options not selected.  Action: Check for possible  invalid input data in the  parameter list.</p>
xxxx0830	<p>Name: IwmRsnCodeBadAlet  Meaning: Caller has an invalid  ALET. The ALET is used to  address the output area  specified in parameter ANSAREA.  Action: Check for possible  storage overlay of the parameter  list.</p>
xxxx083A	<p>Name: IwmRsnCodeBadEnclave  Meaning: Enclave token is  invalid.  Action: Check the specification  of the ETOKEN parameter.</p>
xxxx089E	<p>Name: IwmRsnCodeServiceAModeMis-  match.  Meaning: Caller is in an  addressing mode incompatible with  the invoked service.  service.</p>



