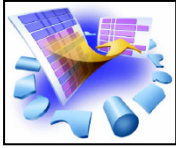


A Totally OSEM Solution For z/OS

Improving The Management Of Your
z/OS Environment

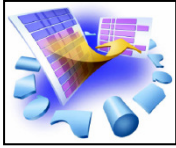
November 18, 2008





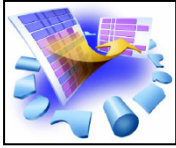
Business Challenges

- Is your budget choking on escalating ISV licensing costs ?
- How are you managing your JCL standards for your workloads ? What are your plans if you have to handle a merger or consolidation ?
- Are you having difficulty keeping up to date with z/OS ?
- Are you controlling HSM, or is it controlling you ?



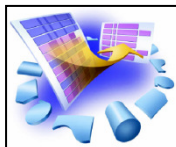
What Is OSEM ?

- A suite of z/OS tools to enhance the management of the environment
- Replaces system modifications with rule-based controls
- JCL standards enforcement
- Job routing within and/or between MAS environments
 - Functional replacement for the SHARE JES2 mods
- DFSMSHsm reporting and optimization functions



Controlling ISV Costs

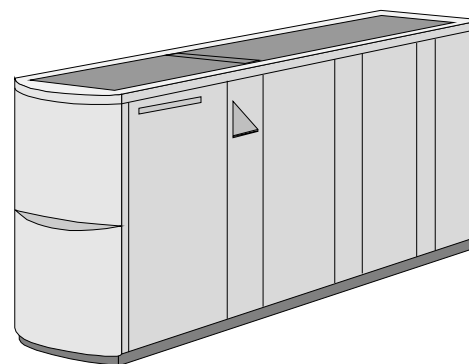
- Costs continually rising as MIP capacity increases
- Many sites licensing products across the entire enterprise
 - Do you need to have the software run everywhere ?
 - Can you achieve savings through limiting the footprint to a single box or exploit sub-capacity licensing ?
- OSEM Resource Routing function dynamically controls where jobs can be run
- Additional controls to limit concurrent jobs by user or program name
 - Stops individual users from hogging the system



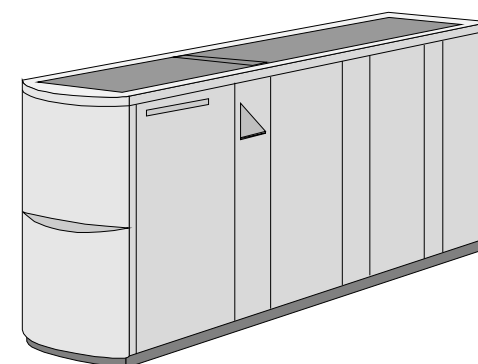
The Objective

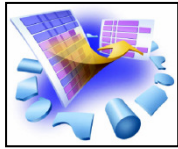
Limit a costly ISV statistical analysis tool to TC01. Data mining DB2 subsystem will also be located there.

TC01



TC02





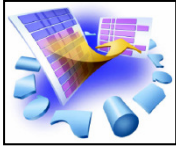
Defining the Routing Rules

```
OS/EM ----- JOB ROUTING GROUPS - JES2 ----- VERSION 6.1
COMMAND ===>                                SCROLL ===> CSR
```

Line Cmds: (S)elect for update, (D)elete group, (C)opy, (M)ove, (O)ver

Routing Sel	Group No	Group Active	Resource Name	Resource Description
s	3	Y	STAT_TOOL	Analysis Jobs (Run on TC01)_____
_	4	Y	DB2DW	DW DB2 Jobs (Run on TC01)_____
_	12	-	_____	_____
_	13	-	_____	_____
_	14	-	_____	_____
_	15	-	_____	_____
_	17	-	_____	_____
_	18	-	_____	_____

F1=Help F2=Split F3=Exit F7=Up F8=Down F9=Swap F12=Cancel



Defining the Routing Rules

```
OS/EM ----- SELECTOR ENTRY - 3 ----- VERSION 6.1
COMMAND ===>                                SCROLL ===> CSR
```

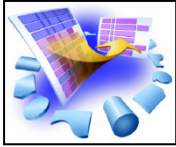
Line Cmds: (D)elete line, (I)nsert blank line

```

Selector
Sel   Type           Selector Name/Mask List
_    PGMNAME__      STAT-_____
***** Bottom of data *****
```

Enter a valid resource type. Valid types are: ACCOUNT, DDNAME, DSNAME, EXEC Parm, JOBCLASS, JOBNAME, JOBTIME, PGMNAME, RACFGROUP, SERVCLS, UNITNAME, USERID, SCHENV, MEMBER, SRCNAME, SRCPRGM and SRCTYPE.

F1=Help F2=Split F3=Exit F7=Up F8=Down F9=Swap F12=Cancel

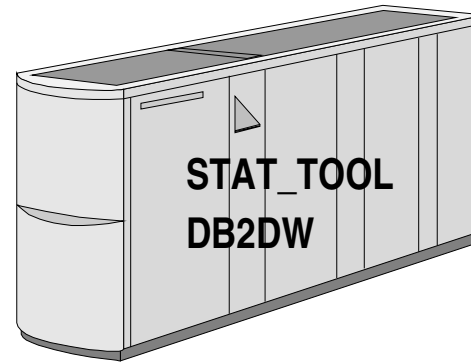


Defining The Resources

```
//STATJOB JOB .....
//          EXEC PGM=STAT01
.
.
.
```



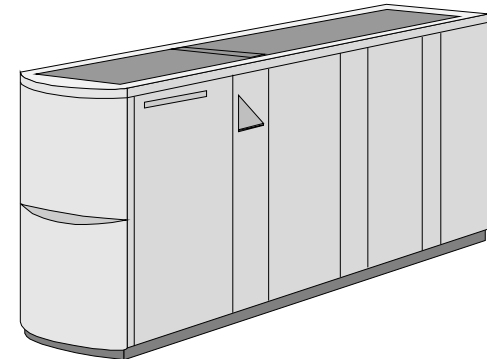
TC01

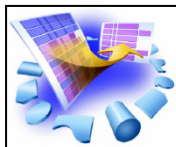


\$QA
\$QD
\$DRE

```
19.20.30 JOB01740 ---- SUNDAY, 02 NOV 2008 ----
19.20.30 JOB01740 $HASP951 OS/EM VER 6.1 - JOBRouting ACTIVE FOR JES2 ON TC02
19.20.30 JOB01740 IRR010I USERID ROB IS ASSIGNED TO THIS JOB.
19.20.31 JOB01740 $HASP971 OS/EM VER 6.1 - JCL CONVERTED BY JES2 ON TC02
19.20.31 JOB01740 $HASP950 STATJOB(JOB01740) * -- JOBRouting 003 ROUTING = STAT_TOOL --
19.20.31 JOB01740 $HASP950 STATJOB(JOB01740) * -- JOBRouting SET SYSAFF = ANY
```

TC02





Limiting Jobs By User

OS/EM ----- JOB LIMITING CONTROLS ----- Version 6.1
 COMMAND ==> SCROLL ==> CSR

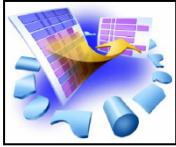
Limiting Controls Active: YES (Yes/No)
 RACF Resource Name: _____
 RACF logging: _____ (Normal/None)

Limiting Scheme is: (Yes/No/1-9) Days Class Name ID Scope
 Liberal: YES , Conservative: NO or Weight: _ _ _ _

(S)elect lists, (D)elete lists

Limit	Max jobs	Max jobs	Active Lists	
S Number	Active	w/other work	init	idle
s 1	Y	3	3	INC
_ 2	N	---	---	
_ 3	N	---	---	
_ 4	N	---	---	
_ 5	N	---	---	
_ 6	N	---	---	
_ 7	N	---	---	
_ 8	N	---	---	
_ 9	N	---	---	

F1=Help F2=Split F3=Exit F7=Up F8=Down F9=Swap F12=Cancel



Limiting Jobs By User

```

OS/EM ----- SELECTOR ENTRY - 1 ----- Version 6.1
COMMAND ==>                                     SCROLL ==> CSR

Enter Selector Types, either Include or Exclude
  JOBCLASS ==> INC          JOBNAME ==>          USERID ==>

Enter SCOPE Type, LOCAL, MAS, or ID
  SCOPE ==> ID

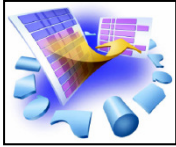
Line Cmds: (D)elete line, (I)nsert line

  Selector
    Type      Selector Names/Mask List
  _ JOBCLASS  A:D_____
  _ SYSID     TC01_____
***** Bottom of data *****

Selector Types: JOBCLASS, JOBNAME, SYSID, SCOPECLS, USERID or Day of Week.

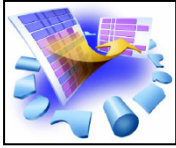
F1=Help   F2=Split   F3=Exit   F7=Up     F8=Down   F9=Swap   F12=Cancel

```



Managing Workloads

- How are you enforcing JCL standards to control your environment ?
 - Not ? How effective is your honor system ?
- What happens when there's a merger or consolidation ?
- OSEM provides extensive JCL standards enforcement functions
 - Can utilize RACF profiles to control privileges
 - Don't be a victim of an audit – the usage stats are there
 - Central tracking of “who uses what”



JCL Parameter Controls

- “Punitive” enforcement of parameter use
 - JCL error if invalid or user not authorized

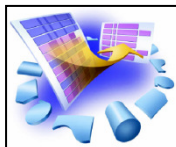
Job Class

Job Accounting Codes

SMS parms

Time

etc



Example – Validating Job Acct Code

```
OS/EM ----- JCL CONTROLS: ACCT1 ----- Version 6.1
Command ==>                                         Scroll ==> CSR
```

```
ACCT1 checking is active      ==> YES              (Yes/No)

ACCT1 values listed below
  or defined to security      ==> CHECK            (Allow/Disallow/Check)
ACCT1 undefined to security   ==> DISALLOW        (Allow/Disallow)
Other ACCT1 values            ==> _____      (Allow/Disallow/Check)
ACCT1 format                  ==> NUMERIC         (CHAR/Numeric)
```

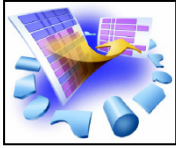
```
Optional Security
Class ==> FACILITY   Resource ==> JOBACCT1
```

```
(CMD = (I)nsert (D)elete (S)elect)
```

```
CMD  ACCT1 / Description
```

```
***** Bottom of data *****
```

```
F1=Help   F2=Split  F3=Exit   F7=Up    F8=Down  F9=Swap  F12=Cancel
```



JCL Parameter Controls

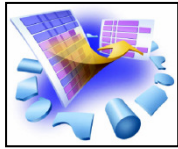
- “Proactive” JCL standards enforcement
 - Parameters set based on job characteristics, regardless of what is specified

Job Class & Priority
Service Class
XEQ Node
Region Size
Time

Also:

Execution Time Extensions
SYSOUT Extensions

- Avoids JCL changes



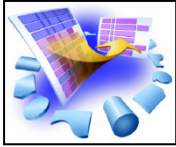
Example – Setting Service Class

```
OS/EM ----- SRVCLASS CHANGE GROUPS - JES2 ----- VERSION 6.1  
COMMAND ===>                                     SCROLL ===> CSR
```

Line Cmds: (S)elect for update, (D)elete group, (C)opy, (M)ove, (O)ver

Sel	Group No	Active	Change Srvclass	Change Description
S	2	Y	PRODBAT	Production Batch_____
-	5	-	_____	_____
-	6	-	_____	_____
-	7	-	_____	_____
-	8	-	_____	_____
-	12	-	_____	_____
-	13	-	_____	_____
-	14	-	_____	_____
-	15	-	_____	_____
-	17	-	_____	_____
-	18	-	_____	_____
-	19	-	_____	_____
-	20	-	_____	_____
-	21	-	_____	_____
-	22	-	_____	_____

F1=Help F2=Split F3=Exit F7=Up F8=Down F9=Swap F12=Cancel



Example – Setting Service Class

```
OS/EM ----- SELECTOR ENTRY - 2 ----- VERSION 6.1
COMMAND ===>                                SCROLL ===> CSR
```

Line Cmds: (D)eleate line, (I)nsert blank line

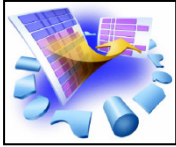
```

Selector
Sel   Type          Selector Name/Mask List
_    RACFGROUP      PRODUSER TWS
***** Bottom of data *****

```

Selector Types: ACCOUNT, DDNAME, DSNAME, EXECPARM, JOBCLASS, JOBNAME, JOBTIME, PGMNAME, RACFGROUP, SERVCLS, UNITNAME, USERID, SCHENV, MEMBER, SRCNAME, SRCPRGM and SRCTYPE.

F1=Help F2=Split F3=Exit F7=Up F8=Down F9=Swap F12=Cancel



Maintaining z/OS Currency

- Are system modifications and user exits slowing your migrations ?
 - Can strand you on an unsupported release
 - Could be in violation of regulatory requirements
 - Dwindling assembler expertise makes migration more precarious

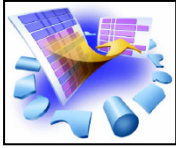
- OSEM provides functions that eliminate most standard z/OS & JES2 exits
 - No code development & maintenance

“...for the first time in about 25 years both zOS (MVS) and JES2 were successfully upgraded at the same time (thanks to OSEM).”

OSEM Customer

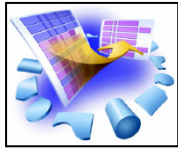
“In ten minutes we eliminated around 10,000 lines of user exit code.”

OSEM Customer



DFSMSHsm Management

- You know how much CPU that HSM uses, but how much of that is “busy work” ?
- How much idle time are you experiencing waiting for recalls ?
- OSEM has detail & summary reports to identify problem areas
 - Migration & recall activities
 - Dataset thrashing
 - Errors
- OSEM HSM Optimizer overrides HSM functions to improve operation & reduce overhead
 - Rules use actual space usage rather than allocated space



Example – HSM Migration Summary

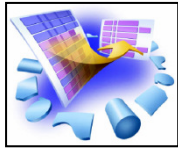
1HSM OPTIMIZER 6.1
REPORT: 02 FORMAT: 02

MIGRATION DELAY SUMMARY (PRIMARY - ML1)
04/01/08 - 06/30/08

PTF=UK00723 - PAGE 3
REPORT TIME: 17:05 DATE: 6/14/08

0	DATASET	NUMBER OF REQUESTS	PERCENT OF TOTAL REQUESTS	TOTAL WAIT TIME	PERCENT OF TOTAL WAIT TIME	AVERAGE WAIT TIME	TOTAL BYTES READ	TOTAL BYTES WRITTEN	AVERAGE PERCENT COMPRESSION	TOTAL CPU TIME
0	25.0K	132,081	68	12:51:47	21	0:00:00	383M	351M	8	1:40:38.17
	50.0K	9,494	5	1:15:03	2	0:00:00	334M	142M	57	0:07:20.15
	75.0K	5,560	3	0:37:51	1	0:00:00	328M	160M	51	0:04:29.88
	100K	3,305	2	0:21:03	1	0:00:00	279M	106M	62	0:02:35.72
	250K	8,709	4	1:01:19	2	0:00:00	1.32G	570M	58	0:06:57.76
	500K	5,857	3	0:41:31	1	0:00:00	1.99G	792M	61	0:05:02.27
	750K	2,745	1	0:22:32	1	0:00:00	1.61G	583M	65	0:02:38.20
	1024K	2,001	1	0:17:04	0	0:00:01	1.68G	664M	61	0:02:04.26
	1.50M	2,681	1	0:24:34	1	0:00:01	3.21G	1.32G	59	0:03:06.21
	2.00M	1,629	1	0:18:06	0	0:00:01	2.78G	1.09G	61	0:02:09.86
	3.00M	2,505	1	0:30:05	1	0:00:01	6.00G	2.40G	60	0:03:48.90
	4.00M	1,717	1	0:22:54	1	0:00:01	5.79G	2.17G	63	0:03:01.71
	5.00M	1,292	1	0:18:33	0	0:00:01	5.66G	2.03G	64	0:02:40.45
	7.50M	2,622	1	0:43:32	1	0:00:01	15.5G	5.53G	64	0:06:21.21
	10.0M	1,034	1	0:20:45	1	0:00:01	8.86G	3.48G	61	0:03:27.29
	20.0M	2,412	1	1:13:58	2	0:00:02	34.3G	13.2G	61	0:11:52.17
	30.0M	1,213	1	0:45:52	1	0:00:02	29.0G	13.0G	55	0:10:04.10
	40.0M	1,422	1	1:16:13	2	0:00:03	49.9G	23.6G	53	0:17:59.59
	50.0M	429	0	0:30:17	1	0:00:04	18.6G	7.17G	62	0:06:37.95
	75.0M	1,080	1	1:24:14	2	0:00:05	66.2G	25.5G	61	0:23:03.00
	100M	771	0	1:23:49	2	0:00:07	64.9G	23.9G	63	0:19:40.73
	OVER	4,368	2	35:21:35	57	0:00:29	2.25T	950G	59	11:30:43.19
0	TOTAL	194,927		62:22:37			2.56T	1.05T		15:36:22.77

All this processing to save 224 MB of primary DASD



Example – HSM Recall Summary

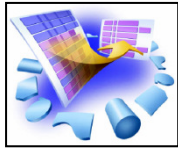
1HSM OPTIMIZER 6.1
REPORT: 11 FORMAT: 04

RECALL DELAY SUMMARY (ML1 - PRIMARY)
04/01/08 - 06/30/08

PTF=UK00723 - PAGE 9
REPORT TIME: 17:05 DATE: 6/14/08

0	DATASET SIZE	NUMBER OF REQUESTS	PERCENT OF TOTAL REQUESTS	TOTAL WAIT TIME	PERCENT OF TOTAL WAIT TIME	AVERAGE WAIT TIME	TOTAL BYTES READ	TOTAL BYTES WRITTEN	AVERAGE PERCENT COMPRESSION	TOTAL CPU TIME
0	25.0K	11,371	51	7:53:27	37	0:00:02	32.4M	35.5M	9	0:34:12.69
	50.0K	816	4	0:38:29	3	0:00:03	12.4M	29.1M	57	0:02:10.82
	75.0K	652	3	0:22:33	2	0:00:02	21.2M	38.0M	44	0:02:22.37
	100K	450	2	0:20:44	2	0:00:03	15.2M	38.3M	60	0:01:21.12
	250K	1,609	7	1:01:38	5	0:00:02	99.0M	248M	60	0:04:44.52
	500K	1,091	5	0:39:10	3	0:00:02	135M	384M	65	0:03:06.35
	750K	727	3	0:24:57	2	0:00:02	136M	441M	69	0:02:31.56
	1024K	451	2	0:18:34	1	0:00:02	148M	385M	61	0:01:30.31
	1.50M	493	2	0:17:13	1	0:00:02	209M	613M	66	0:01:45.06
	2.00M	523	2	0:21:21	2	0:00:02	327M	916M	64	0:01:56.14
	3.00M	869	4	0:36:34	3	0:00:03	763M	2.11G	65	0:03:27.88
	4.00M	528	2	0:21:47	2	0:00:02	641M	1.78G	65	0:02:14.00
	5.00M	462	2	0:18:53	1	0:00:02	647M	2.02G	69	0:01:59.73
	7.50M	552	2	0:30:02	2	0:00:03	1.10G	3.27G	66	0:02:40.18
	10.0M	164	1	0:08:45	1	0:00:03	551M	1.36G	60	0:00:50.17
	20.0M	406	2	0:27:25	2	0:00:04	2.17G	5.87G	63	0:03:06.45
	30.0M	151	1	0:21:31	2	0:00:09	1.54G	3.59G	57	0:01:41.87
	40.0M	99	0	0:12:12	1	0:00:07	1.35G	3.36G	60	0:01:30.46
	50.0M	57	0	0:05:20	0	0:00:06	1.18G	2.53G	53	0:00:48.35
	75.0M	169	1	0:26:59	2	0:00:10	4.52G	10.6G	58	0:03:47.85
	100M	115	1	0:17:00	1	0:00:09	3.54G	9.78G	64	0:03:16.34
	OVER	576	3	5:20:52	25	0:00:33	103G	164G	37	1:13:54.61
0	TOTAL	22,331		21:25:26			122G	213G		2:34:58.83

8.5 hours wait time for recalls



Example – Override Migration

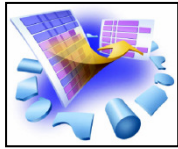
```
OS/EM ----- HOLD OPTIONS ----- Version 6.1
Command ==>                               Scroll ==> CSR
```

```
Controls Active for MIGRATION           ==> YES (YES to enable, NO to disable)
```

```
(CMD = (S)elect for update, (G)roup display)
```

CMD	En- able	Num- days	Max size	AND /OR	DSN Groups	Description
'	_	50	_____	___		_____
'	_	60	_____	___		_____
'	_	70	_____	___		_____
'	_	80	_____	___		_____
'	_	90	_____	___		_____
'	Y	9999	50	___		KEEP <= 50K DATASETS ON PRIMARY

5 minutes work, 145 CPU minutes & 8.5 hours of wait time saved



Example – HSM Activity Summary

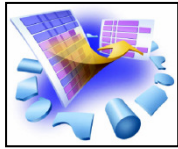
1HSM OPTIMIZER 6.1
REPORT: 20 FORMAT: 09

ACTIVITY SUMMARY
04/01/08 – 06/30/08

PTF=UK00723 – PAGE 688
REPORT TIME: 17:05 DATE: 6/14/08

		----- LAST 24 DATA HOURS -----				----- REPORT PERIOD -----			
		--- 06/12/08 23:47		-- 06/13/08 23:47 ---		--- 04/01/08 00:00		-- 06/30/08 23:59 ---	
		TOTAL	ERROR	ERROR	ELAPSED	TOTAL	ERROR	ERROR	ELAPSED
		COUNT	COUNT	PERCENT	TIME	COUNT	COUNT	PERCENT	TIME
0	MIGRATE								
	PRIMARY - ML1	32,459	6,225	19	7:04:54	240,706	45,779	19	63:20:37
	PRIMARY - ML2	23,994	14,397	60	13:08:20	350,512	198,321	57	158:43:47
	ML1 - ML2	15,525	0	0	10:33:24	123,745	2	0	79:15:47
	TOTAL	71,978	20,622	29	30:46:38	714,963	244,102	34	301:20:11
0	RECALL								
	ML1 - PRIMARY	3,218	11	0	2:12:57	22,712	381	2	21:26:43
	ML2 - PRIMARY	1,565	96	6	12:46:58	27,189	1,937	7	233:50:05
	TOTAL	4,783	107	2	14:59:56	49,901	2,318	5	255:16:48
0	BACKUP								
	DAILY	1	0	0	0:00:00	12	0	0	0:00:02
	SPILL	0	0	0	0:00:00	0	0	0	0:00:00
	TOTAL	1	0	0	0:00:00	12	0	0	0:00:02
0	DELETE								
	PRIMARY	0	0	0	0:00:00	0	0	0	0:00:00
	MIGRATED	22,972	964	4	2:19:54	244,171	13,805	6	40:06:53
	TOTAL	22,972	964	4	2:19:54	244,171	13,805	6	40:06:53
0	RECYCLE								
	MIGRATE VOLUME	49,781	0	0	33:17:11	466,802	5	0	333:59:57
	BACKUP VOLUME	0	0	0	0:00:00	0	0	0	0:00:00
	TOTAL	49,781	0	0	33:17:11	466,802	5	0	333:59:57
0	RECOVER	0	0	0	0:00:00	0	0	0	0:00:00
0	DUMP	0	0	0	0:00:00	0	0	0	0:00:00
0	RESTORE	0	0	0	0:00:00	0	0	0	0:00:00

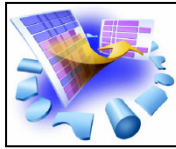
Customer was unaware of this huge error count. Detail reports will identify the nature of the errors



Example – Primary Dataset Activity

1HSM OPTIMIZER 6.1		PRIMARY DATASET ACTIVITY REPORT										PTF=UK00723 - PAGE 73				
REPORT: 17 FORMAT: 06		04/01/08 - 06/30/08										REPORT TIME: 17:05 DATE: 6/14/08				
0		- MIGRATION --			--- RECALL ---			--- BACKUP ---			-- RECOVERY --					
		MOVEMENTS	PAST	PAST	PREV	PAST	PAST	PREV	PAST	PAST	PREV	PAST	PAST	PREV		
		MGMTMENT	PER	7	30	30	7	30	30	7	30	30	7	30	30	
DATASET NAME	SIZE CLASS	DAY	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	
OPROD.XXXXXXXXXXXXXXXXXXXXXXXXXX	7.09K MCPROD	1.367	0	20	0	0	21	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXX	0.71K MCUSER	1.367	0	20	0	0	21	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXXXXXXXXXX	0.80K MCPROD	1.333	0	20	0	0	20	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXX	1.32M MCPROD	1.300	0	19	0	0	20	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXX	18.4M MCPROD	1.300	0	19	0	0	20	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXXXXXXXXXXXXXX	305M MCDBOI	1.267	0	26	0	0	19	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXXXXXXXXXX	0.96K MCPROD	1.267	0	19	0	0	19	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXXXXXXXXXXXXXX.G2367V00	181M MCPROD	1.233	0	18	0	0	19	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXXXXXXXXXX	300M MCPROD	1.233	0	18	0	0	19	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXXXXXXXXXX	6.12K MCDBOI	1.233	0	18	0	0	19	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXXXXXXXXXX	0.73K MCDBOI	1.133	0	17	0	0	17	0	0	0	0	0	0	0	0	
PROD.XXXXXXXXXXXXXXXXXXXXXX.G0001V00	0.67K MCDBOA	1.033	0	16	0	0	15	0	0	0	0	0	0	0	0	

Dataset thrashing



<http://www-01.ibm.com/software/awdtools/osem/>



The screenshot shows the IBM website interface for the Operating System Environment Manager for z/OS. At the top, there is a navigation bar with the IBM logo, a search bar, and a language selector set to 'United States'. Below this is a main navigation menu with links for Home, Solutions, Services, Products, Support & downloads, and My IBM. A welcome message and links for IBM Sign in and Register are also present.

The main content area features a breadcrumb trail: Software > Applications - Desktop & Enterprise >. The title of the page is 'Operating System Environment Manager for z/OS'. On the left, there is a sidebar with a table of contents: Operating System Environment Manager for z/OS, Features and benefits, System requirements, Library, and How to buy. Below this is a 'Related links' section with links for Warranty info and Product Accessibility Information.

The main content area has an 'Overview' section with the following text: 'IBM® Operating System Environment Manager for z/OS® offers data centers improved systems manageability. Driven by an easy-to-use ISPF interface, this solution makes it easier for you to manage your data center resources and control how they are used.' This is followed by a bulleted list of features and benefits:

- Offers a methodology and interface for managing your data center environment and ensuring 24/7 availability as though these were administrative tasks and not a technical programming issue
- Includes more than 200 robust features for dynamic controls in the areas of systems performance, batch resource routing controls, reduction of ISV costs and elimination of assembler exits
- Helps you maximize the return on investment in IBM z/OS technologies by improving system throughput and service levels, reducing hardware and software costs and reducing human resources costs
- Provides a dynamic operating environment that is easy for both technical and operations staff to use
- Provides a range of features for improving system throughput by optimizing how system resources are used

At the bottom of the overview section, there is a link: → View features and benefits

On the right side of the page, there are two columns of information. The first column, 'Learn more', includes links for Features & benefits, System requirements, Product library, and White paper. The second column, 'Use and maintain', includes links for Product documentation and Developer resources. The third column, 'We're here to help', features a photo of a woman and the text 'Easy ways to get the answers you need.' Below this are three call-to-action buttons: 'Call me now', 'Request a quote', and 'E-mail IBM'. At the bottom of this column, it says 'or call us at 877-426-3774 Priority code: 104CBW63'.