

## Highlights

- Manage your IMS System components, parameters, dependent regions and issue IMS Type 1 and Type 2 commands
- Control your IMS Sysplex environment including the CSL Resource Manager (RM), IMS Coupling Facility (CF), and IMS Shared Queues structures
- Customize your own dashboard to monitor the overall health of your IMS systems
- Records command input and output messages from all sources together with MTO messages in the same history database for audit and troubleshooting purposes
- Program Number: 5655-P01

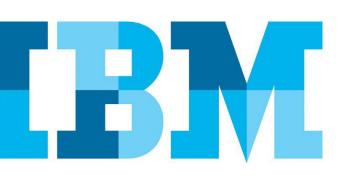
# **IMS Sysplex Manager**

Effectively manage IMS System environments

As IT operations become more complex, companies are looking to IBM to provide tooling to manage their system environments effectively. IT service management solutions simplify data center operations by monitoring and analyzing key data elements in the system and providing actionable intelligence to enhance performance and resource utilization.

The *IMS Sysplex Manager* product supports IMS systems whether they are complex sysplex environments or simply running as a standalone IMS system.

The *IMS Sysplex Manager* is a single point of control for IMS system operations. The product monitors key system analytics and displays it using a customizable user interface. The *IMS Sysplex Manager* automates the handling of specific error situations reducing complexity for system programmers.



## **Manage IMS Systems Effectively**

The IMS Sysplex Manager is a key component of the IMS System Management Solution as shown in Figure 1.

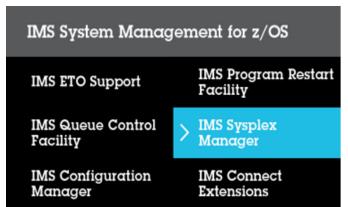


Figure 1: IMS System Management Solution Components

While the *IMS Sysplex Manager* product supports complex IMS Sysplex environments, it also provides support for standalone IMS systems.

## Keeping an Inventory of IMS Components

The *IMS Sysplex Manager* keeps an inventory of all of the key IMS system components as shown in Figure 2.

GJEP600 COMMAND ===>			IMSplex/SMplex Component List					Realtime snapshot Row 1 to 19 of 19 SCROLL ===> PAGE	
IMSplex SM server. :		1		Date: Time:		08/08 50:23	Mor	e: >	
i t	o disp o prod	play z/ duce ar	atistics f 'OS informa SVC dump 'C dumps fo	tion for for the s	the selec elected c	ted compo omponent		the ple	
Cmd ID IMS2 	IMS DBRC DSAS IRLM		n z/OSname ECTST22 ECTST22 ECTST22 ECTST22 ECTST22 ECTST22 ECTST22 ECTST22	Jobname IMS2 DBREASAJ DLIEASAJ IRLME2N CQSEJ2 OM2 RM2		DLIname DLIEASAJ		Status READY READY READY READY READY READY READY	
SCI2SC IMSA	SCI IMS DBRC DSAS IRLM	1.2.0 9.1.0 9.1.0 9.1.0 2.1.0	ECTST22 ECTST21 ECTST21 ECTST21 ECTST21 ECTST21	SCI2 IMSA DBREASBJ DLIEASBJ IRLME2N		DLIEASBJ		READY READY READY READY READY	
IMS1	DBRC DSAS	$9.1.0 \\ 9.1.0 \\ 9.1.0$	ECTST21 ECTST21 ECTST21	IMS1 DBREASAJ DLIEASAJ	DBREASAJ	DLIEASAJ	IRLME2N	READY READY READY	
CQS1 OM1OM RM1RM SCI1SC		1.4.0 1.2.0 1.2.0 1.2.0	ECTST21 ECTST21 ECTST21 ECTST21	CQSEJ1 OM1 RM1 SCI1				READY READY READY READY	

Figure 2: IMS Sysplex Manager IMS Component List

From this component list, the status, version and specific diagnostic data can be viewed for the IMS Control Region, the DLI/SAS region, the DBRC, IRLM, CQS, and CSL address spaces. The IMS Sysplex Manager also maintains information on the Coupling Facility structures including VSO. This is a single point of control to view the overall health of IMS system operations.

# Knowing your current IMS System Parameters

The *IMS Sysplex Manager* keeps track of all of the IMS system parameters that are defined and active as shown in Figure 3. It will also show when values are unequal across multiple IMS systems. Since IMS system parameters are defined in multiple places and can be re-initialized at various points in time using IMS commands, it is understand the current parameter settings.

## Issue IMS Type 1 and Type 2 Commands

The *IMS Sysplex Manager* product is capable of issuing both Type 1 and Type 2 IMS commands and both types of commands can be routed to multiple IMS systems. The command input and output from all sources together with MTO messages sysplex-wide are recorded in the same history database for audit and troubleshooting purposes.

GJEP200 COMMAND			Realtime snapshot Dw 1 to 30 of 262 SCROLL ===> PAGE
SM serv	lex: PLEX1 Ver: UIS Vte: *	Date: 08/23/06 Time: 11:55:16	
	Keyword Parameter	Description	Value
IMS1	ALOT	User auto logoff time, minutes	1440
IMS2	ALOT	User auto logoff time, minutes	1440
	AUIP	AOI pool upper limit, bytes	2147483647
	AUIP	AOI pool upper limit, bytes	2147483647
	AOIS	Cmd auth exit security option, A/C/N/R/S	Ν
	AOIS	Cmd auth exit security option, A/C/N/R/S	N
	A0I1	Type 1 AOI cmd auth option, A/C/N/R/S	
	A011	Type 1 AOI cmd auth option, A/C/N/R/S	
	APPC	Activate APPC/IMS LU 6.2 support, Y/N	N
	APPC	Activate APPC/IMS LU 6.2 support, Y/N	N
	APPCSE	APPC RACF security option, Check/Full/None	F
	APPCSE	APPC RACF security option, Check/Full/None	5
	APPLID1 APPLID1	VTAM Applid for IMS subsys VTAM Applid for IMS subsys	
	APPLID2	VTAM Applid for XRF alternate subsys	
	APPLID2	VTAM Applid for XRF alternate subsys	
	APPLID3	VTAM Applid for RSR tracking subsys	APPL7
	APPLID3	YTAM Applid for RSR tracking subsys	APPL7
	ARC	OLDS automatic archiving interval	01
	ARC	OLDS automatic archiving interval	01
IMS1	ARMRST	MVS ARM to restart IMS after failure, Y/N	N
IMS2	ARMRST	MVS ARM to restart IMS after failure, Y/N	N

Figure 3: IMS Sysplex Manager IMS System Parameter Settings

# Manage your IMS Dependent Regions

The IMS dependent regions are critical components for application scheduling and prioritization. The *IMS Sysplex Manager* monitors the dependent regions and tracks availability, transaction classes, and which regions are holding the most database locks and creating the most contention.

# **Control your IMS Sysplex**

While the *IMS Sysplex Manager* can manage standalone IMS Systems, it has a great deal of functionality to monitor and control IMS sysplex environments, too.

## Verify IMS resources across the IMS Sysplex

The *IMS Sysplex Manager* product takes an overall view of the IMS sysplex environment. It understands the key resources that make up the IMS environment including transactions, programs, databases, LTERMs, and terminals. It ensures these resources are consistent throughout the IMS sysplex and it allows the user to alter resource status from a single point of control.

#### Manage CSL Resource Manager (RM) Content

In the Common Service Layer (CSL) environment, the IMS Resource Manager (RM) keeps track of the global state of key IMS resources. The *IMS Sysplex Manager* provides real-time monitoring of the RM resources by type and by name and allows users to delete selected resources by the owner or by the type of resource. Effectively, this eliminates the need to scratch and reallocate the RM structure for resource alteration needs.

## **Enhance IMS Datasharing and SQ's**

The ability to run operations 24x7 has driven many IMS customers to utilize IMS Datasharing and IMS Shared Queues in their sysplex environment. While there are many advantages to running IMS in this manner, there are also many operational complexities to manage, too.

#### Detect and resolve IRLM "Long-Lock" issues

In an IMS Datasharing environment, applications can hold IRLM database locks for so long that they cause contention issues for specific database resources. This is often referred to as the IRLM "Long-Lock" problem. The IMS Sysplex Manager can automatically detect when this situation is occurring and can identify the application or "top blocker" that is causing the problem as shown in Figure 4.

GJEP: COMMI	311 AND ===>				Locks Being Held			<ul> <li>Realtime snapshot</li> <li>Row 1 to 3 of 3</li> <li>SCROLL ===&gt; PAGE</li> </ul>	
IMSp	lex :	PLEX1			Date.	. : 0	4/10/08		
SM S	erver. :	UIS1			Time.	. : 1	1:38:14		
		100							
IMSi	r 'c' to	1 proce	ss IMS c	ommands	000000001	071C50	0		
IMSi Ente	d. : IMS r 'c' to	1 proce		ommands		071C50			
IMSi Ente	d. : IMS r ˈcˈ tơ ˈrˈ tơ Holder/	1 proce displ	ess IMS co ay regio	ommands n activi1		Job	Lock	CurExecStatus	
IMSi Ente	d. : IMS r 'c' to 'r' to Holder/ Waiter	1 proce displ	ess IMS co ay region RegionID	ommands n activi1 JobName		Job type	Lock	CurExecStatus ACTIVE	
IMSi Ente Cmd	d. : IMS r c' to r' to Holder/ Waiter HOLDER	1 proce displ IMSid IMS1	ess IMS co ay region RegionID	ommands n activi1 JobName BMP3	stepName BMP	Job type	Lock state		

Figure 4: IMS Sysplex Manager "Long-Lock" Detection

#### IMS Shared Queues Transaction Affinity Routing

In an IMS Shared Queues environment, transaction affinity routing gives users more control over transaction execution. Transactions can be configured to run on specific IMS systems which can lower the costs associated with database contention and false scheduling failures. Transaction affinity routing is is set up using user-supplied definitions. The *IMS Sysplex Manager* product keeps track of transaction routing statistics.

#### IMS Shared Queues Buffer Overflow Protection

The *IMS Sysplex Manager* provides buffer overflow protection by failing insert calls after user-specified thresholds have been reached. It also generates messages that identify users that exceed their buffer allotments to prevent buffer overflows before they become a critical issue in an IMS Shared Queues environment.

#### Customize your own Dashboard Monitor

The *IMS Sysplex Manager* allows user to create their own customizable Dashboard to monitor the IMS system activity. Through this Dashboard, the user can manage the overall health of the IMS system in a single glance. The user can set up "alerts" when user-defined "thresholds" are reached and these alert conditions are logged for future analysis. A sample Dashboard is shown in Figure 5.

<u>M</u> enu <u>V</u> iew <u>O</u> ptions	<u>H</u> elp			2 100	
GJEPDBD	v	iew Dashboard		Realtime s	napshot
COMMAND ===>				Page: <u>*</u> (	1 of 1)
IMSplex. : PLEX1 Dash		· IMSSM dashboard	Date:	04/10/08 Time: 11	. 41.56
MSGO 2 in use		Agar local M re	nuest-	EMHO 2 in use	.41.30
_ MSGQ % in use P-Entry. :	11	Reg commande	28	P-Entru	1
P-Element:	11	Notifu rdu	12	P-Element:	1
D-Entru	0	Notify not rdu:	12	0-Entru	0
P-Element: O-Entry. : O-Element:	0	Dereg pormal	e e	P-Element: O-Entry. : O-Element: CQS system resour Sys.chkp: Str.chkp: Mgg queue depths( TPONSOFT.	0
_ Msg queue depths (S	мп) -	Dereg abnormal:	0	COS eletem recour	C08
	0	Commande	<u> </u>	Sue chkp	0
COLDQ: TRAN RDY Q.:	0	Queries	e	Str. chkp:	2
TRAN SPD Q.:	e e	All commande	â	Men queue denthe	local-
TRAN SER Q.:	e e	ZORY requests :	1 518	TRANSACT:	OCOL
LTRM RDY 0.:	20	ZUKT TEQUESTS	1,010	LTERM:	40
APPC RDY Q.:				MSNAME .:	
RMTE RDY Q.:		Pog cliente	0	LU6.2:	Θ
OTMA RDY Q.:		Cmd timeouts .:	0	OTMA:	Θ.
PRGMRDYQ-FP:	0	Undel.output .:		Aggr. local RM re	
_ DB processing stats					
_ bb processing stats	0	Local Reas:		Query:	16
Lol deadlocks.: Glbl deadlock.:	0	Remote Reas:		Doloto	0
SCI IXCMSGO statist		Notify Rmte req:			
Successful: 1		Local Ready:		Register: Deregister: Initiate	0
Bfr shortage .:		Remote Ready:		Initiate:	0
Othr Rsrc shtq:		Local Quiesce .:		Terminate:	
_ Coupling facility s		Remote Quiesce.:	0	Process:	
EMC high cnt : 1		Lcl Dereg norm.:		Response:	
Max EMCs: 36		Lol Dereg abn .:		QRY struct:	
Max connects.:		Rmte Dereg norm:		Regtd.clients:	
IMS connects.:	2	Rmte Dereg abn.:		Rsrce create.:	682
Max acc. time: NOL		Notify abend:		Rsrce update.:	11
Excentions		Member init:		Rsrce delete.:	0
Bfr ovrflw:	A			norce detetet.	0
Qbuff util:	75				
IRLM locks:	0				
PI locks .:	0				
TI TOCKS	0				

Figure 5: IMS Sysplex Manager Sample Customizable Dashboard

#### **For more information**

To learn more about the IBM IMS Tools products, please contact your IBM representative or IBM Business Partner, or visit:

#### ibm.com/software/data/db2imstools/products/ims-tools.html

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