



CICS for OS/390 and Enterprise management

New in CICS* Transaction Server for OS/390 V1.3

The CICSplex* System Manager is now an exclusive element of CICS* Transaction Server for OS/390*. It is fully integrated with CICS TS 1.3 and has been enhanced to complement the new CICS functions:

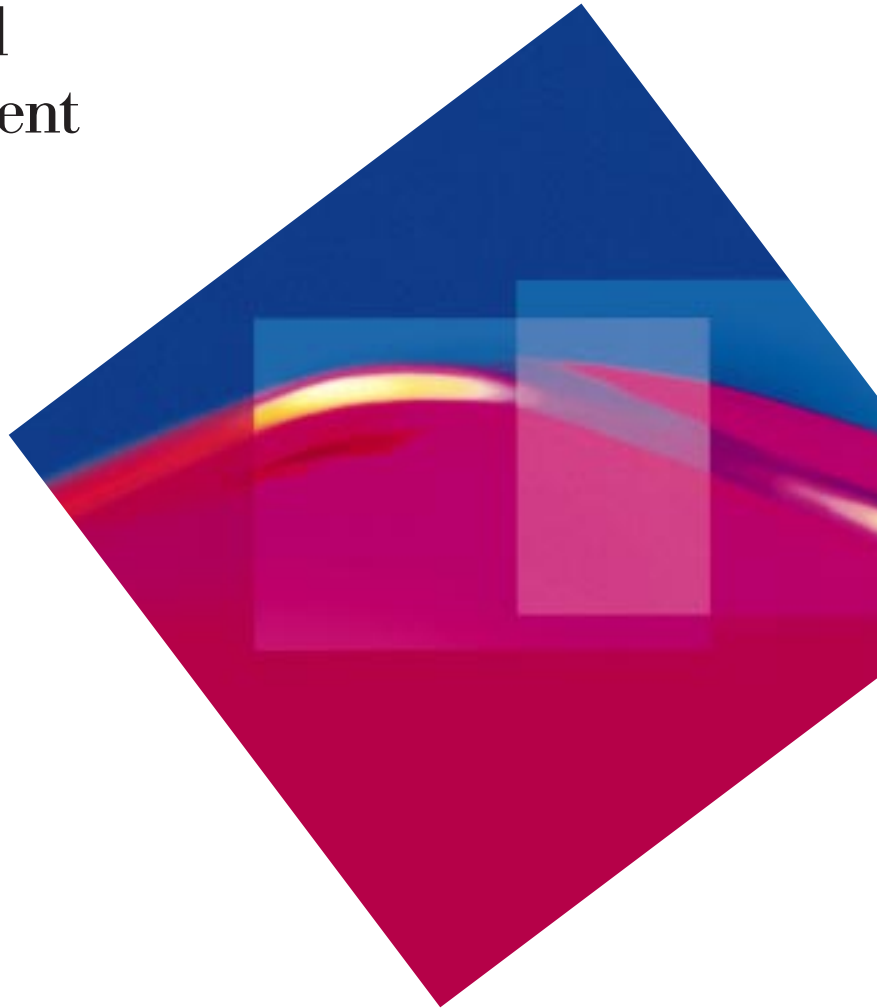
- CICS business transaction services
- CICS Web interface enhancements
- CORBA client support
- Workload management for new dynamic routing capabilities.

All the CICSplex SM functions are available, including:

- Business application services (BAS) for defining and installing CICS resources across multiple CICS occurrences on S/390* systems
- Runtime analysis for detecting potential CICS problems and taking automatic corrective action
- Flagging messages and alerts for triggering automatic actions
- Managing CICS/VSE* Version 2.3 and CICS Transaction Server for OS/2* Warp Version 4.1, as well as managing CICS systems in different MVS* images and regions.

CICS TS 1.3 also has new features for easier management of CICS enterprise systems:

- RDO for CICS temporary storage gives improved usability and high availability
- The new CICS autoinstall for MVS consoles reduces the system management costs of maintaining individual console resource definitions.



CICSplex SM

CICSplex SM, an integral part of CICS Transaction Server, is the IBM S/390* management product for CICS networks.

Its role is to simplify management of complex collections of CICS systems, which can be distributed across the world, or concentrated into a Parallel Sysplex.*

The success of transaction processing means that CICS systems are becoming ever more complex, increasing the system management task. This was true even before advances like Parallel Sysplex and distributed CICS, which make larger applications affordable.

The result is:

- A rapidly growing number of regions
- Increasingly complex systems
- Complex interactions between regions.

CICSplex SM simplifies the task of managing a CICSplex – a collection of CICS systems on MVS/ESA*, VSE and OS/2. Operators and systems programmers can work with the whole CICSplex (or with part of it), without needing to be aware of its complexity.

Integration

CICSplex SM integrates all the major CICS management functions into one interface:

- Operations
- Definition
- Monitoring
- Automation
- Workload management.

It cooperates with Tivoli products to meet the need to integrate management and automation of CICS with MVS and the network. CICSplex SM will notify NetView* of any exceptions detected. This lets NetView take coordinated action on exceptions involving combinations of resources in CICS, MVS, and the network. MVS automation products like NetView and AOC CICS can act on CICS resources through the CICSplex SM API.

Thanks to a monitoring interface to NetView resource object data manager (RODM), CICS resource status can be shown on the NetView graphical monitor facility or Tivoli desktop.

Making things simple

Fundamental to CICSplex SM is its ability to reduce complexity by presenting a collection of CICS systems as a simple and integrated whole.

Internally, it does this by maintaining a dynamically updated resource map to ensure you have an accurate, comprehensive and dependable view of all regions, their resources and properties. This map lets you work on the CICSplex as a single system image.

The manager runs on every MVS image in your CICS environment, and you can connect to any one of them to control the whole CICS network. Even if your configuration is so large or complex that you decide to divide it into several CICSplexes, you can manage them all from this single point of control.

Operations productivity

CICSplex SM improves productivity by letting an authorized operator query and change CICS resources from a single point of control. It automatically distributes commands to all relevant CICS regions, so a single command can act on many resources.

A bigger gain in productivity comes from eliminating the need to 'watch' the CICSplex. Not only can CICSplex SM monitor selected resources at regular intervals, but it can also detect problems as they start to arise. This is done by real time analysis (RTA), which combines status monitoring with threshold analysis and automation.

The goal of RTA is to reduce operator actions to those where judgment and expertise is needed.

Where you can define a standard response for a problem, CICSplex SM can take corrective action automatically, in the system (or systems) where the problem arose. If the automated action has to be coordinated with resources

outside CICS, you would tell RTA to send a message or alert to an automation product such as NetView.

These actions can be hidden from the operator if desired. This reduces the flow of notifications to those that fall outside defined automation, where human action is needed.

Definition

With business application services (BAS) you can now define CICS resources across an entire CICSplex, from a single point of definition.

This is more productive than defining CICS resources in the traditional way through the CSD. Definitions can be replicated over geographically distributed networks (where a shared CSD is impossible), and making definitions in terms of applications brings further benefits in its wake:

- Application can be added to further regions simply by adding them to the group that defines where the application will run.
- CICS resources will be defined with consistency across the whole CICSplex. This includes CICS for OS/2 definitions.
- Local and remote resources can be managed together, and CICSplex SM takes care to generate the appropriate version in each region.
- Because the application is known to CICSplex SM, commands can be directed to a scope that matches the application, not just to an arbitrary group of regions. This simplifies operations and monitoring.
- Use of application scopes reduces the risk of error – for example, a command to disable a transaction in an application will only go to those regions where a transaction of that name is defined as belonging to the application. Even if there is a transaction from another application that happens to have the same name, it will not be touched, even if it exists in one of the regions used by the application.

CICSplex/SM provides

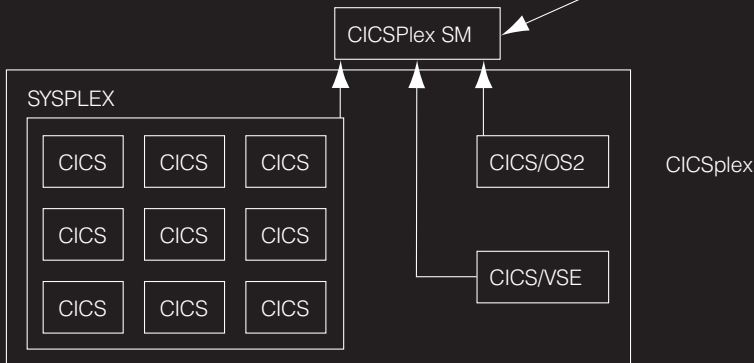
- Single Point of Control
- Single Point of Definition
- System Availability Information
- PLEXwide Monitoring in Real Time
 - CPSM Events
 - Netview Events
 - MVS Console Event
- Workload Management
- CICS Resource Definition and Installation
- Application Definition and Administration



C/PSM Operator

Views and operations can be on

- Single CICS System
- Group of CICS Systems
- Entire Plex
- Application Scope



CICSplex/SM overview

CICSplex SM also provides the flexibility to group regions according to business needs, regardless of where they are physically located. For example, you could define a group containing your CICS for OS/2 systems, some of which might also be in another group (with CICS/ESA* regions) covering stock control.

Automation

CICSplex SM has three ways of reacting automatically to various system conditions:

- Automatic workload management – because of its single system image, CICSplex SM can analyze the load and health of all regions where an application can be run. Each piece of work that arrives is then sent to whichever region is most appropriate at that moment. The target region is chosen to maximize both throughput and reliability. This involves three main considerations: region health;

load on the target region; and the cost of routing work there (lowest for a local region, highest for a region outside the local sysplex). The result is that work can be spread smoothly and efficiently, avoiding performance bottlenecks. So optimizing processor capacity is easy. And having a system that can quickly adjust to varying or unforeseen workloads means a rapid response to changing business needs, and confident guarantees of high availability to your end users.

- Automatic problem resolution – CICSplex SM automatically identifies problems; both standard ones (such as a stalled region), and ones that show up when a customer-defined threshold is passed. An action can be linked to any such event, to fix the underlying problem:
 - Local automation: CICSplex SM issues commands to resolve the problem directly. For example, if a link fails,

CICSplex SM can automatically issue commands to reacquire it from both ends.

- Coordinated automation: where the problem involves resources outside CICS, the appropriate action may be to send a message or alert to an external automation product like NetView. In the example above, if the reacquire were to fail; NetView could coordinate actions with the network.

- If automation fails, then it's time to notify a human operator.

- System health checking – CICSplex SM tracks the health of the CICSplex. Workload management automatically avoids unhealthy regions, and those where the transaction has been observed to fail in the past.

User benefits

End users will not normally notice if a region fails, as workload management automatically spreads work across the remaining healthy regions.

Although region failures can impact system performance, automatic problem resolution and notification minimizes the time it takes to get the failing region productive again.

And users will suffer fewer transaction failures, as work is routed to the regions where they are least probable.

In summary, CICSplex SM provides a fault tolerant system.



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The IBM home page can be found on the Internet at www.ibm.com and some more information on CICS can be found at www.software.ibm.com/cics

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Information for decision makers

Hardware requirements

CICSplex SM runs on any IBM processor that supports OS/390, or MVS/ESA V4.1 or later.

Availability

Exclusively as part of CICS Transaction Server 1.3, or as a separately orderable product (5695-081) in an easier release, CICSplex SM 1.3.

Regions managed

CICSplex SM can manage these CICS systems:

- CICS for MVS/ESA V3.3 and later
- CICS Transaction Server for OS/390 V1.1 and later
- CICS for OS/2 V2.0.1 and CICS Transaction Server for OS/2 Warp Version 4
- CICS for VSE/ESA V2.2 and later

It can also manage CICS/MVS V2.1.2, a release that is no longer supported by IBM.

Other helpful information

- Try www.software.ibm.com/cicsplex/ for the latest news of CICSplex SM on the Internet.
- For more information on CICS Transaction Server, look at CICS Transaction Server for OS/390 Planning for Installation GC34-5401
- For more information on CICSplex System Manager for MVS/ESA, look at CICSplex SM Concepts and Planning, GC33-0786
- For further help, contact your IBM Representative or dealer.

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