

CICS family of products



CICS Transaction Server for VSE/ESA Version 1 Release 1

The foundation for business growth



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It's a tough time to be in business. You've had more than enough warnings about competition from new market entrants, and the effects of deregulation and globalization. Or high-pitched forecasts of technology advances in and the shift to electronic commerce, increasing competition and demanding further investment.

So it's reassuring to know your business already has valuable assets and an arsenal of technology to defend your market position. And that, as some of your most important assets are the data and applications in your CICS* systems, CICS itself is evolving smoothly to

provide the support you'll need for future challenges.

Many businesses are looking to IT not only for their operational systems, but for enhancing customer services. This is where CICS is so valuable. Sitting between the front-end applications that deal with the customers – a Web page for example – and operational applications, CICS gives flexible access to new services and to existing systems. It bridges the gap between accessible front-end data capture applications (in a Web browser on a PC, for example) and tried-and-tested back-end technology.

So CICS Transaction Server for VSE/ESA* perfectly positions you to move into the world of electronic commerce – at a pace that suits you. It coexists with CICS/VSE* Version 2 Release 3 if you need to run older macro interface applications, while building on the features – like reliability, availability, stability and security – that CICS customers expect, but are even more important in a world of 24 hour electronic trading. CICS is an enduring platform that will enable you to grow your applications and workload, and develop new applications to take your business wherever you choose.

develop today's resources to





evolve tomorrow's business

Highlights

CICS Transaction Server VSE/ESA Version 1 Release 1 is an important new version of CICS. It's built around a new code base – the proven restructured code from CICS for MVS/ESA* Version 4 – which is designed to help you meet your business demands and support an increasing workload on your systems.

CICS Transaction Server for VSE/ESA provides increases in quality, reliability, integrity, serviceability, performance, function, and provides a foundation for the future. Key benefits include:

- Protection of existing investment in CICS
- Application and workload growth
- Increased reliability and availability
- New application programming capabilities
- System management enhancements

- Improved security services
- Enhanced intersystem communication
- New e-business capabilities.

To assist in a smooth migration to CICS Transaction Server for VSE/ESA, we're providing CICS/VSE Version 2 Release 3 as part of the new product package. It will operate alongside the new version on the same system image (the coexistence environment). In addition, tools such as the Application Migration Aid, the DFHMSCAN utility and the Security Migration Aid are also included.

CICS/VSE V2.3 is the last release to run on a non-ESA capable processor, to support the macro level API, to support direct CICS control block access, to support internal security and to support BTAM. It prepares the way for you to migrate to the new version of CICS.

With the coexistence environment, you have more flexibility in the timing of your transition to the new version. For example, old macro level applications will continue to run on CICS/VSE V2.3, and Multi-Region Operation (MRO) connectivity between the two versions will enable end users to access applications on either.

Available with VSE/ESA Version 2 Release 4, CICS Transaction Server for VSE/ESA Version 1 Release 1 comprises in a single product, at a single price, and with single terms and conditions, the following:

- CICS Transaction Server for VSE/ESA
- CICS/VSE Version 2 Release 3
- Report Controller
- CICS Transaction Gateway Version 3
- CICS Universal Clients Version 3
- REXX for CICS
- CICS/DDM.

Growth and investment protection

Managing your workload growth

CICS Transaction Server for VSE/ESA is designed to handle an increasing workload, whether from additional end users, more applications, or both. Extensive virtual storage constraint relief is provided to free large amounts of virtual storage for application use, as most of the CICS nucleus and control blocks are moved above the 16 MB line. In addition, the number of dynamic storage areas (DSAs) has been increased from one to eight; four above and four below the 16 MB line. And the size of these is now determined and varied dynamically by CICS.

Other improvements contribute to greater throughput, too. The introduction of Shared Data Tables Support, which replaces the data tables facility, significantly enhances VSAM file operations. And there is improved support for MRO and intersystem communication (ISC), including enhancements to Dynamic Transaction routing between a CICS terminal-owning region (TOR) and multiple CICS application-owning regions (AORs).

All of these changes add up to improved capacity and throughput, and a more easily balanced system workload. Specifically:

- System limits are far more tolerant
- There is more room below the 16 MB line for CICS application programs and data
- Shared Data Tables improves performance and throughput for VSAM shared files and read-only operations

grow your CICS environment to





match your business demands

- MRO and ISC enhancements provide greater flexibility in balancing and expanding the CICS workload across multiple CICS regions
- More terminals can be connected to a TOR
- A TOR-AOR link can have more sessions connected.

Building on your applications

You'll find it easier to maintain a stable application and operating environment. You can migrate applications without disrupting end users, and your investment in existing programs is protected. For example, CICS applications will continue to work with DL/I and DB2* databases.

CICS Transaction Server for VSE/ESA maintains upward compatibility, at both the object and source level, for applications that use the command-level API. It also provides MRO and ISC connectivity to earlier releases of CICS/VSE, and of course it continues to provide connectivity to the other members of the CICS family, including the CICS Clients and Gateways.

Affinity with OS/390* is increased. As CICS Transaction Server for VSE/ESA is based upon CICS for MVS/ESA, there is a much higher degree of compatibility between CICS on VSE/ESA and CICS on OS/390. This means that CICS applications can easily be ported between the two environments, and more new CICS applications will become available to the VSE community.

Availability and stability

Increased reliability

In restructuring CICS, we've taken the opportunity to include many improvements. Our principal objective has been to provide a robust environment and a foundation for growth and future enhancements, so that you can provide an improved and more stable high-availability transaction processing service to all your end users.

The new code base was built using modern software engineering techniques. CICS now has a new architecture to improve quality, reliability, serviceability, and to take advantage of the extended addressing capabilities of VSE/ESA for full 31-bit support.

CICS now consists of a number of domains, functionally isolated parts of CICS that communicate with the rest of the system, and with external applications, by means of strictly-defined, standard internal interfaces. This improves reliability, makes problem determination easier, and limits the effects of program failures. In addition, improved storage management algorithms reduce the likelihood of CICS detecting low storage, and more CICS events are now subject to deadlock detection.

build on a safe foundation to provide





dependable business systems

Greater system resilience

In addition to the reliability, quality, integrity and serviceability improvements inherent in the new restructured code base, other enhancements mean you'll see fewer CICS system failures, less planned downtime, quicker system restart, better usability for the end-user following system restart, easier problem diagnosis, and improved intersystem performance and resilience.

The following factors all contribute to increased availability, providing a better and more dependable system for meeting business needs:

- Protection of CICS storage areas, exploiting the ESA/390* subsystem storage protection facility
- Faster CICS restart, using VTAM single-node persistent session support
- Dynamic detection and correction of stressed partner regions, using the intersystem session queue management support
- Resource Definition Online (RDO) enhanced to support files
- Automatic recovery from failures detected during dynamic transaction backout (DTB)
- Assured VSAM file integrity in the event of a DTB failure
- Avoidance of CICS restarts to change DSA sizes
- Automatic journal archiving
- Greater control over what information is traced or dumped, and how it is presented
- More control over logging of journal records used by forward recovery utilities.

New capabilities

Expanded capability with the command-level API

One of the most significant changes in CICS Transaction Server for VSE/ESA is the provision of a more robust environment for the strategic command-level API, achieved by discontinuing the macro-level interface. The extended command-level API offers better security, the opportunity to use powerful testing and debugging facilities, reduced risk of overwriting CICS storage, and application portability via the CICS family API.

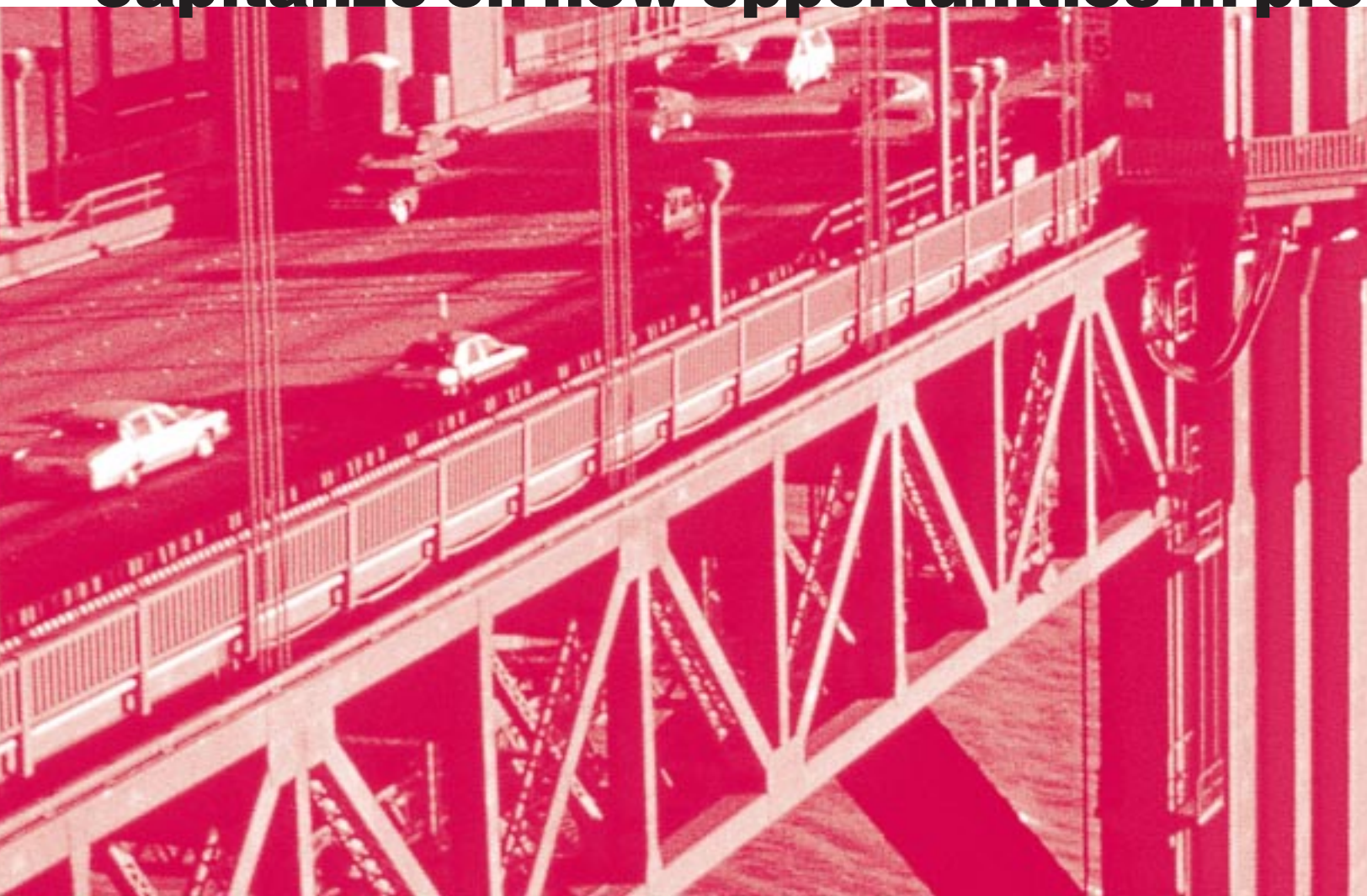
And, perhaps most importantly, the extra function provided by the command-level API will enable new and extended

applications to be developed to meet the increasing demands of business now and in the future.

Taking advantage of some of the many significant enhancements, you can:

- Share data between CICS regions using Shared Data Tables support
- Invoke a CICS application from a VSE batch program, via the External CICS Interface (EXCI)
- Write CICS programs to access back-end CICS applications, using the Front-End Programming Interface (FEPI)
- Implement distributed transaction processing using the Common Programming Interface for Communications (CPI-C) support
- Take advantage of new Global User Exits
- Access CICS applications directly from the Web via CICS Web Support
- Use the 3270 bridge to access applications from other than a 3270 terminal
- Extend the functions of CICS in new ways with a new exit programming interface (XPI)

capitalize on new opportunities in pro



programming and systems management

- Exploit new and enhanced system programmer interface (SPI) commands.

Another new programming capability is the provision of REXX support. This provides a development and execution environment for CICS programs written in the REXX language.

Improved system management

Improvements and additional functions make it significantly easier to manage the CICS environment. System programmers and administrators will have increased control and more flexibility, resulting in greater productivity, better usability and reduced workload. Now, you can:

- Use RDO for VSAM files, remote files, local shared resource (LSR) pools, and shared data tables
- Exploit the CICS autoinstall facility to install programs, mapsets, partitionsets

and LU 6.2 parallel sessions without prior definition of each resource

- Archive journals automatically, eliminating operator intervention
- Correlate resource usage and transaction monitoring information via monitoring and statistics enhancements
- Keep track of initiated transactions and abended transactions in an application-owning region (AOR) with a dynamic transaction routing program
- Resolve in-doubt resources with the DFH\$IWUP utility program
- Dynamically discard resource definitions without needing a cold start to effect the changes
- Install without the need for sysgen.

External Security Manager

Another significant change is that CICS Transaction Server for VSE/ESA now uses an External Security Manager (ESM) to manage all security aspects, CICS/VSE V2.3 being the last release to support CICS internal security. An ESM offers you more control and flexibility, and the ability to centralise security for your VSE/ESA system.

A basic security manager (BSM) is provided as part of VSE/ESA Version 2.4 onwards which provides basic sign-on and transaction attach security for CICS Transaction Server. If you have more comprehensive security requirements you will need to use a vendor-supplied ESM that supports the RACROUTE interface, such as CA-Top Secret for VSE.

Network computing

Modern client interfaces

Your existing mission-critical applications are probably your most valuable asset. But while they have evolved to give you precisely the function that you need, they may not yet have taken advantage of modern client interfaces available today. With CICS you have a choice – you can re-face CICS applications with access from a desktop GUI environment, or from the World Wide Web.

CICS interfaces to the desktop

With the CICS Universal Clients V3, supplied as part of the CICS Transaction Server product package, you can access CICS applications from graphical user interfaces running on all popular desktop workstation environments. And this can be achieved without having to change your CICS application via support of the CICS External Call Interface (ECI) and the CICS External Presentation Interface (EPI).

CICS interfaces to the Web

You are keenly aware of the potential of the World Wide Web, and you want to extend the reach of your applications to take advantage of it. With CICS Transaction Server there are two ways in which you can access CICS applications from the Web using CICS technology.

One way is via the CICS Transaction Gateway V3, which is included as part of the CICS Transaction Server for VSE/ESA product package. This provides CICS Connectors within the Application Framework for e-business and runs on

extend your application reach





with networking and e-business

several platforms, including OS/2*, Windows NT**, AIX*, and Solaris. And support has also been announced for Linux for S/390.

The CICS Transaction Gateway runs on an intermediate system in conjunction with a Web server to enable access to CICS applications from either a desktop workstation with a Web browser, or a network computer. It uses HTTP and Java based technologies to link the world of Web browsers on the Internet or an intranet to the power, flexibility, integrity and robustness of CICS enterprise computing.

CICS Web Support is the other way you can connect CICS systems to the Web. CICS Web Support gives a modern CICS transaction the same visual richness on a Web browser, without the need for an

intermediate Web server. It enables HTTP requests to be sent direct from a Web browser or network computer to a CICS application, which processes the request and responds directly to the browser. This means that you can handle transactions from the Web just as easily as you can from your own users' workstations. In conjunction with the new 3270 bridge function, this can be achieved without changing your CICS application.

Enhanced intersystem communications

CICS Transaction Server for VSE/ESA communications support, combined with the CICS ISC support common to all members of the CICS family, provides the capability to meet your client/server, distributed and co-operative processing needs now and in the foreseeable future.

The main enhancements implemented in CICS Transaction Server for VSE/ESA are:

- Dynamic transaction routing improvements so that programs can make more intelligent routing decisions and detect intertransaction affinities as they are created
- Intersystem session queue management to detect and control abnormal situations
- APPC persistent verification which minimises the number of times passwords need to be sent to remote systems
- APPC session security through an external security manager.

Additional information can be found at: www.ibm.com/software/cics



e-business



For more information...

See your IBM Representative.

Additional information can be found at:
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