

*A powerful communication infrastructure
for electronic commerce*



Communications Server for OS/390 Release 3

Highlights

Launches applications quickly and economically to address new business opportunities and needs

Deploys IMS applications easily with the Open Transaction Manager Facility

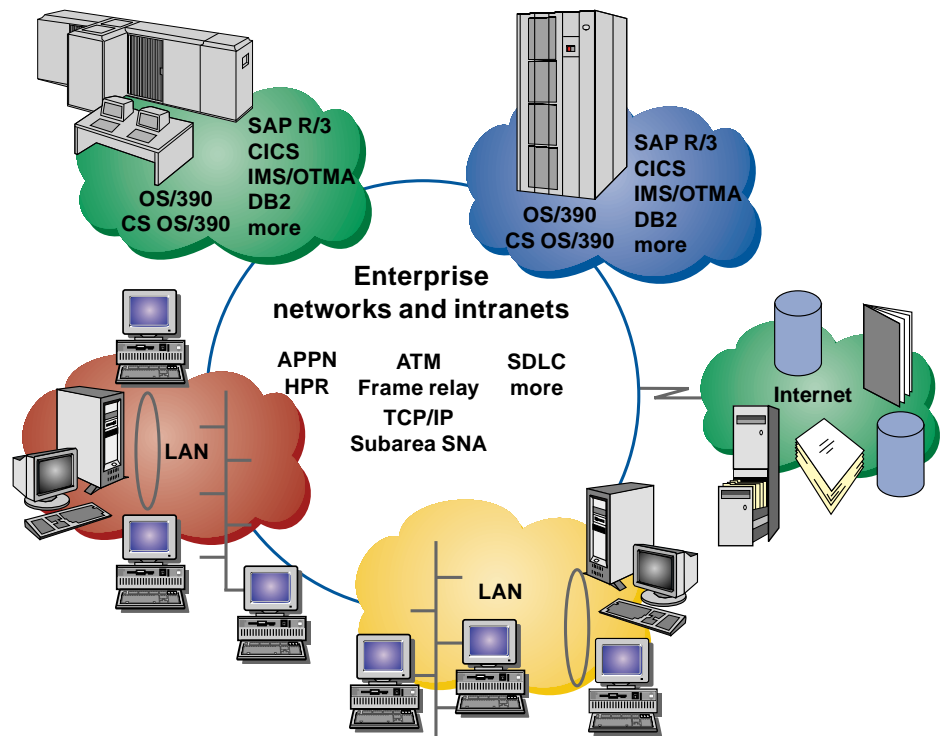
Exploits electronic commerce and deploys client/server applications with a set of communication programming interfaces enriched by high-performance native sockets

Enhances network performance with high-performance data transfer for APPC applications and multipath channel connections

Offers higher availability for vital applications with multinode persistent sessions and generic resource support of TSO/E across parallel sysplex and virtual IP addressing

Improves availability and performance with RIP, Version 2

Extends benefits, simplifies migration, and improves network availability through High-Performance Routing



Communications Server for OS/390 is a powerful communication infrastructure, connecting diverse application and network environments for the enterprise.

Serves as your communication infrastructure for electronic commerce

IBM Communications Server for OS/390, Release 3, (CS for OS/390) is a powerful communications infrastructure for connecting diverse application and networking environments. With its leading-edge, open networking support and SNA services, CS for OS/390 serves important business-to-business and business-to-consumer communication across local area networks (LANs), enterprise wide area networks (WANs), intranets, and the Internet.

Built on the classic power of MVS/ESA and S/390, CS for OS/390 is the best solution available, providing industrial-strength support to mission-critical applications in environments requiring cross-network communication and electronic commerce.

Deploys applications quickly and economically

CS for OS/390 supports all major network types and application interfaces. Your users can choose from applications written to advanced program-to-program communication (APPC), Common Programming Interface for Communications (CPI-C), and Sockets, including ported UNIX applications through MVS/OpenEdition. With CS for OS/390, you can use existing network protocols for new applications.

CS for OS/390 Information Management System (IMS) Sockets Interface is enhanced to support the Open Transaction Manager Access Facility (OTMA)*. This capability makes it easier to deploy IMS/OTMA applications across TCP/IP networks.

Uses the richest set of communication programming interfaces in the industry

CS for OS/390 provides a rich set of communication programming interfaces. Choose an APPC, or an OpenEdition Distributed Computing Environment (DCE) remote procedure call (RPC), or a Berkeley Software Distribution (BSD) Sockets Interface to best serve your network needs for electronic commerce and client/server applications. CS for OS/390 supports all possible choices.

CS for OS/390 now includes high-performance native sockets (HPNS) which reduces central processing unit (CPU) utilization for TCP/IP users. HPNS, previously available as a feature upgrade, exploits MVS functions to improve cross-memory communication, reduce context switches, decrease data movements, and improve reliability and recovery. This leads to less CPU utilization for the sockets layer, transport medium, and TCP/IP stack protocols. All new applications written to any one of the existing socket application program interfaces (APIs) can benefit.

Provides native ATM capability on S/390

As the major hub for business transactions and information exchange, network access to S/390 resources by employees, suppliers, and customers should not be constrained by the connection protocol nor brand or type of equipment in use. CS for OS/390, including the new VTAM, Version 4 Release 4, along with Open System Adapter-2 (OSA-2), provides a native asynchronous transfer mode (ATM) communication capability for S/390. This expands an already wide range of connectivity and equipment options available to the S/390 user.

CS for OS/390 native ATM communication capability enables S/390 servers to better support high-speed and high-capacity traffic requirements. This capability includes both best-effort virtual circuit and reserved-bandwidth virtual circuit. This allows users to optimize link capacity and more effectively manage bandwidth.

Capitalizes on high-speed networking

To better capitalize on high-speed networking, CS for OS/390 introduces high-performance data transfer (HPDT) services and new performance interfaces to optimize performance for VTAM APPC applications, especially those that transfer large data objects.

HPDT services are available to applications written to the VTAM APPC COMMAND (APPCCMD) interface where a session connects two intrahost applications or where a session traverses high-speed network attachments. These attachments include OSA-2 connected to native ATM networks, APPN node-to-node channel connections, cross-system coupling facility in sysplex, 2216 Multiaccess Connector, Model 400, and 3746 N Ways Multiprotocol Controller, Model 900 or 950.

HPDT interface allows applications requiring efficient bulk data transfer to gain performance improvements and eliminates entirely the data copy as data is transferred between the APPCCMD and VTAM. A new communication storage manager allows VTAM and your applications to exchange ownership of commonly addressable storage so there is no need to copy data at the APPCCMD API.

VTAM contains a multipath channel (MPC) enhanced to include HPDT MPC (also referred to as MPC+) connections. This provides a more efficient data transfer because HPDT services enable data packing without data movement and improved scheduling of channel programs. Both data packing without data movement and improved scheduling of channel programs reduce CPU cycles used for communication by as much as two-thirds. Improvements will vary, depending on factors such as system configuration, size, and type of data objects.

Offers higher availability for vital applications

With VTAM multiple node persistent sessions (MNPS), CS for OS/390 has the capability to preserve sessions across application outages in configurations where hosts are connected through the S/390 coupling facility. Because session information is preserved, the workload and extra network traffic to reestablish connections is avoided. Coupled with High-Performance Routing (HPR), MNPS allows you to build networks and applications that are fault tolerant.

CS for OS/390 VTAM generic resource support is extended to support Time Sharing Option Extensions (TSO/E), which improves network availability for TSO/E environments. Availability of TSO resources is increased by allowing multiple TSO instances to be accessed, using the generic name. Should a particular TSO fail, a session request, using the generic name, can select an alternative TSO as the session partner.

CS for OS/390 now supports Routing Information Protocol (RIP), Version 2*. RIP, Version 2 allows users to more efficiently route around network failures. It improves performance and routing control by providing multicasting, variable subnetting, immediate next hop and packet authentication.

Additionally, Virtual IP Addressing (VIPA) is now included as a part of the CS for OS/390 delivery. This was previously available as a program temporary fix (PTF) upgrade. VIPA, with the dynamic route update server Route D, can be used to implement fault-tolerant TCP connections by defining an Internet Protocol (IP) interface and address that isn't associated with any physical network interface. It defines primary and alternative interfaces for the same subnet and switches dynamically to the alternative if the primary interface fails.

Extends benefits, simplifies migration, and improves network availability

HPR benefits are extended to support configurations where HPR session endpoints cross APPN networks and subnetworks, providing HPR value to a larger user population. Migration to HPR from environments using APPN over subarea connections (VRTGs) is simplified now that HPR is supported across these connections.

HPR improves APPN network availability by eliminating single points of failure and effects of network outages. Also, improved network management information and Network Control Program (NCP) performance and storage savings improve network availability.

Improves usability, serviceability, and performance*

Telnet is enhanced to notify users of syntax or command errors by redisplaying USSMSG 10 screen with appropriate error message.

Dynamic update of the BeginVTAM/EndVTAM section of the TCP/IP profile is now supported in TCP/IP, Version 3.2.

The hardware checksum instruction set on S/390 is exploited by TCP/IP for improved performance.

Supports S/390 application needs today and tomorrow

CS for OS/390 allows your business to move forward, taking advantage of leading-edge networking solutions while protecting your investments in existing S/390 applications running on VTAM or TCP/IP.

CS for OS/390, Release 3, comprises the following program products for MVS/ESA:

- VTAM, Version 4.4 (includes integrated AnyNet function)
- TCP/IP, Version 3.2

CS for OS/390 carries identical coexistence and interoperability to these products. Application interfaces are upward compatible so applications that run on earlier releases of VTAM or TCP/IP can continue unchanged.

For more information

If you'd like more information about VTAM, Version 4 Release 4, including specific hardware and software requirements, contact your local IBM marketing representative. Or, visit the IBM Networking Home Page at

<http://www.networking.ibm.com/netsoft.html>

IBM Communications Server for OS/390, Release 3, at a glance

Features

- APPN connectivity
 - HPR connectivity
 - TCP/IP connectivity
 - VIPA connectivity
 - Application interfaces for APPC, CPI-C, BSD Sockets, and MVS/OpenEdition
 - AnyNet to connect any application to any network
 - Key TCP/IP applications like FTP, Telnet, Print, and Simple Mail Transfer Protocol (SMTP)
 - CICS and IMS/OTMA Sockets support for TCP/IP users
 - World-class network management agents and interfaces
 - RIP V2 support for TCP/IP users
 - Native ATM Support (coupled with OSA-2 adapter)
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Benefits

- Widest range of application choices—IBM subsystems, user-written applications, and off-the-shelf applications
 - Easy integration of new applications with existing applications and networking infrastructure
 - Easy integration of UNIX-based applications through support for MVS/OpenEdition
 - Includes FTP, APPC-FTP, TelNet, 3270, APPC-3270, and SMTP
 - Widest range of open connectivity of any single server in the industry—SNA (APPN, HPR), TCP/IP, and Internet
 - Supports multivendor networking (APPN, HPR, and TCP/IP)
 - Supports connection to networks with integrated high-availability features to ensure full-time server access by all clients
 - Support for easy management of network resources with APPN, HPR, and TCP/IP dynamics
 - Support for major physical connectivity requirements such as ATM, token ring, and frame relay
 - Continued support for SNA, APPN, and HPR value-add, such as predictable response times, guaranteed data delivery, and class of service
 - Open standards-based network management
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* These functions are available as program temporary fixes (PTFs).



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