



# IBM OS/390 Version 2 Release 9: Transform Your Core Business

## Overview

Before your customer can do any transactions on the Internet — make a plane reservation, pay a bill, or trade a stock — your company must connect critical business systems directly to customers, employees, partners via intranets, extranets, and over the Web. IBM has created the e-business cycle model to help companies dramatically improve key business processes using Internet technologies. OS/390® continues to support this model with Release 9.

### Rewrite the Rules of Competition

In previous releases, OS/390 UNIX® System Services file systems could only be shared across a Parallel Sysplex® cluster in read-only mode. To have write access to data, system users had to reside on the same system as their data. With Release 9, this constraint will be removed, giving:

- Greater user mobility
- Flexibility with file system balancing
- Opportunity to consolidate data
- Simplified operating system cloning and deployment

### Build an e-business Application that Can Withstand the Rigors of Doing Business on the Net

Release 9 offers additional enhancements to the WebSphere™ Application Server. Integrated into OS/390, Version 1.2 adheres to new industry standards for Java™ Server pages and servlets. WebSphere exploits OS/390's Workload Manager function to ensure the work you want executing first gets prioritized first.

### Run an Available, Safe Environment that Is Powered to Grow

OS/390 Release 9 supports the new cryptographic capabilities of the S/390 Parallel Enterprise Servers™ Generation 5 and 6. Additional support for digital certificates can let many more users of a Web application access the application

securely with RACF® but with far less administrative overhead.

Finally, OS/390 Release 9 provides many functions to make managing your system easier. Web-based wizards are available to ease configuring the S/390® Parallel Sysplex environment and to calculate structure sizes for products that exploit the Coupling Facility. Your Information Technology staff can spend less time managing your system and more time leveraging your largest assets, your data and knowledge, to competitive advantage.

**Reference:** Software Announcement 297-355, dated September 26, 1997.

## Key Prerequisites

For a complete description of OS/390 Version 2 Release 9 hardware and software prerequisites, refer to the *OS/390 Planning for Installation* (GC28-1726) publication at URL:

<http://www.ibm.com/s390/os390/installation/>

### Planned Availability Date

March 31, 2000

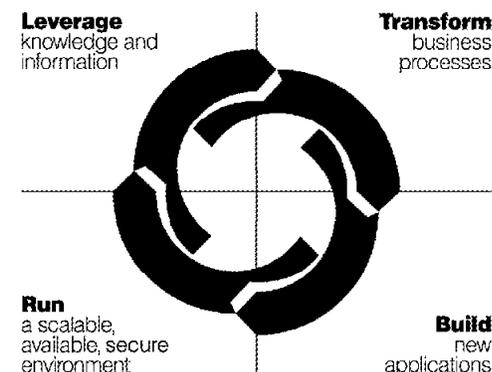
## At a Glance

Key functions in Release 9:

- UNIX System Services file system support of HFS — allows read/write sharing from all systems in the sysplex for 7x24 availability
- Improved workload management through multisystem enclave support
- Cryptographic enhancements for better flexibility and scalability
- Text Search support for XML documents and Unicode data
- XES enhancements to the Parallel Sysplex environment
- Windows networking compatible file and print serving through native Server Message Block (SMB) protocol support
- Enhancements to Language Environment® for better availability and error detection

## The e-business cycle

To serve your customers better . . .



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## Description

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Release 10 of OS/390 continues to be on schedule for availability in September 2000. Rather than preview a few details about Release 10 now, IBM will publish a statement regarding future content of the S/390 platform at a later date. This larger, broader, and far reaching technology outlook will define the details of future releases of OS/390.

The S/390 platform can give your company the ability to:

- Access and seamlessly integrate all the information, data and experience of your business, suppliers, partners and customers
- Respond more quickly and effectively to requirements
- Help simplify and improve your business through Ease of Use

New and enhanced OS/390 Release 9 functions help achieve these goals.

### ***OS/390 Integrates Information, Data, and Experience***

Today, companies large and small are using the Web to:

- Communicate with their partners
- Connect with their back-end data systems
- Transact commerce

e-business is not about reinventing your business model. It is about streamlining your current business processing to improve operating efficiencies, which in turn strengthens the value you provide to your customers — value that cannot be generated by any other means, and value that gives you a serious advantage over your competition.

**PCI Cryptographic Coprocessor Support:** OS/390 Release 9 supports the new PCI Cryptographic Coprocessor feature that is being announced for the S/390 Parallel Enterprise Generation 5 and Generation 6 servers. Refer to Hardware Announcement 100-050, dated February 29, 2000, for more information. These new pluggable cryptographic coprocessor cards provide additional capabilities, and more flexible and scalable cryptographic function. The PCI Cryptographic Coprocessor adds these capabilities:

- RSA key generation for public and private key pair generation
- 2048-bit RSA signature generation
- Retained key support

RSA cryptographic operations have become critical to e-business and public-key infrastructure applications. The new RSA functions supported by the PCI Cryptographic Coprocessor allow more operations to be performed within secure hardware boundaries rather than in software algorithms.

With this release, the ICSF component of OS/390 can transparently route requests for cryptographic services — to a CMOS Cryptographic Coprocessor or to a PCI Cryptographic Coprocessor — based on current workload activity and the functional capability of the coprocessor.

As your e-business grows, these cryptographic capabilities are ready to handle your need for increased levels of security.

**RACF Restricted User IDs:** The RACF component of the SecureWay® Security Server for OS/390 provides user authentication and access controls for OS/390. In establishing security definitions, an installation can

specify through several RACF mechanisms that all users or all groups can access a given resource by default. In an installation where all users are known and each has a unique user ID, this can simplify security administration. But in an Internet e-business environment where many thousands of users might be assigned to a single user ID, this can lead to administration errors.

In the e-business application environment, it is necessary to find ways for many thousands of users to access OS/390 resources without needing each user defined to RACF. RACF can accept a digital certificate and assign a RACF user ID dynamically to the certificate based on information in the certificate. This can simplify administration greatly. Many thousands of users can share a single RACF user ID, while still providing user accountability through information captured from the users' certificates. In OS/390 Release 9, further protection options will avoid potential administrative mistakes. RACF supports the specification of a user ID as a "restricted" user ID. When the user ID is specified as a restricted user ID, then access to all resources will only be granted if the user ID or related group ID is specifically listed in the resource profile as having access rights.

Restricted access user ID attribute means:

- Global access checking is bypassed.
- UACC can not be used to allow access.
- ID(\*) on a resource access list will not allow access.

Although restricted user IDs have a particular relevance to new modes of access control associated with digital certificate technology, restricted user ID functionality has general applicability and has been identified by customers in the past as a desirable extension to RACF's flexible administration functions.

**Additional e-business Enhancements:** Additional enhancements to help your enterprise become a stronger e-business are available. Some highlights are:

- WebSphere Application Server integration
- New Text Search capabilities

Refer to the corresponding **OS/390 Integrates Information, Data, and Experience** section in the **Additional Details** section for more details.

### ***OS/390 Helps You Respond More Quickly and Effectively to Demands***

In today's environment, to be successful means that your enterprise must not only compete, it must thrive on unpredictable requirements such as greater transaction throughput and security, and the ability to run diverse workloads. OS/390 provides several additional enhancements to help your IT organization manage these demands with 7x24 availability.

**Shared Hierarchical File Systems (HFS):** Shared HFS support for the Parallel Sysplex environment adds support to the UNIX System Services file system for simultaneous read/write (R/W) access of the same HFS from instances of UNIX System Services running on different OS/390 images in the Parallel Sysplex cluster. Currently, only read/only concurrent access is allowed. Parallel Sysplex support to the HFS benefits Web-server applications and others who access the hierarchical file system. This new support can make your data and information, which resides in the HFS, available to your customers at any time, no matter where the applications are running in the Parallel Sysplex environment. This capability is available in the Release 9 time frame. For information about its availability, refer to URL:

<http://www.s390.ibm.com/unix/>

**Workload Manager (WLM) Multisystem Enclaves:** An enclave is an anchor for a transaction that can be spread across multiple dispatchable units in multiple address spaces. Even though the work is being processed on more than one address space, as part of an enclave, it can be reported on and managed as a single unit.

With the introduction of multisystem enclaves in OS/390 Release 9, enclaves can now run in address spaces on multiple systems within a Parallel Sysplex cluster. Work begun on one system, for instance, can be split into parallel tasks that can then be exported to other systems for parallel processing. Multisystem enclaves provide the capability to manage and report on work requests that are executed in a parallel environment on multiple OS/390 images as single entities. Enclaves can be managed across the Parallel Sysplex cluster with this new function. Workload Manager is able to change the control of the system as the units of work changes so you can ensure the work receives appropriate resources no matter where it is running. Consistent goal-oriented management is the result. This function requires CFLEVEL=9 coupling facility control code (CFCC) support.

With Resource Measurement Facility (RMF™), you can improve reporting of large work requests while taking advantage of Parallel Sysplex resources. You can now report a single completed transaction per parallel unit of work. OS/390 Version 2 Release 7 RMF offers this support on Releases 7 and above through an APAR (OW41317).

**Additional Deployment Enhancements:** Additional enhancements in Release 9 will improve your work with deployment of applications. Some highlights are:

- Parallel Sysplex Management improvements
- File and Print Serving enhancements
- Security enhancements
- Systems management improvements

Refer to the corresponding **OS/390 Helps You Respond More Quickly and Effectively to Requirements** section in the **Additional Details** section for more details.

### ***OS/390 Ease of Use: Simplifying and Improving Your Business***

OS/390 helps improve the productivity of your IT staff. User-centered design makes it easier for your application and system programmers to perform tasks. In Release 8, OS/390 delivered enhancements that resulted from direct involvement with customers, as the center of larger cross-discipline product development teams. These teams provided solutions to improve the ordering, planning, installing and configuring of OS/390.

In Release 9, improvements to the installation and migration tasks are available through wizards. Innovative OS/390 wizards can help simplify and guide you through key OS/390 tasks. Details will be reflected in our overall future efforts to improve the ease by which customers can install and manage OS/390.

All of the following wizards, as well as others, are available on the OS/390 wizards home page at the following URL:

<http://www.ibm.com/s390/os390/bkserv/wizards>

Nothing beats the commercial processing power of a Parallel Sysplex cluster. But such power brings with it a certain amount of complexity. S/390 Parallel Sysplex continues to reduce complexity and enhance systems manageability. We have delivered two Web-based tools, in addition to an enhancement for Release 1.3 of System

Automation for OS/390, to simplify your Parallel Sysplex implementation.

- **S/390 Parallel Sysplex Configuration Assistant**

A Web-based wizard that allows you to create a Parallel Sysplex configuration interactively is now available. Using this S/390 Parallel Sysplex Configuration Assistant, your system programmers provide input to the tool, and then follow steps to build the Parallel Sysplex configuration for your resource sharing environments. The wizard helps build:

- Tailored instructions
- Jobs
- Parmlib members

- **S/390 Coupling Facility Structure Sizer**

This application provides an easy method for calculating Coupling Facility (CF) structure sizes. A single Web interface returns structure sizes for IBM products that exploit the CF (both resource sharing and database data sharing). The Coupling Facility Structure Sizer can calculate these structure sizes with minimum input data.

To size a structure, click on one of the product links in the navigation bar on the left to access that product page. From that product page, select one or more structures to size by clicking the product's checkbox.

Additional information, along with the tools themselves, is available on the OS/390 wizards home page listed above, and also on the Parallel Sysplex home page at:

<http://www.ibm.com/s390/psol>

- **The OS/390 UNIX Configuration Roadmap**

This roadmap will help OS/390 customers setting up OS/390 UNIX System Services for the first time. Use it to set up OS/390 UNIX kernel services in full-function mode (which is required if you want to use OS/390 UNIX System Services or TCP/IP).

For assistance with the first step in the Roadmap, you will link to a Web-based wizard. This OS/390 UNIX Configuration Assistant will help you set system processing limits based on your software environment. The Assistant will walk you through a series of questions, and tailor a BPXPRMxx parmlib member for you. Over time, we will be adding new wizards to support more tasks in the OS/390 UNIX Configuration Roadmap, such as file system setup and initial security setup.

- **OS/390 Planning Assistant for e-business**

This wizard helps you plan your e-business environment by providing a list of recommended products and features based on your objectives and current configuration. You will also be provided with links to:

- Product information
- Downloads
- Technical information

This wizard is intended for technical managers responsible for e-business planning.

**Additional Enhancements:** OS/390 provides several additional enhancements to help make your IT staff more productive, thus reducing support requirements. Some highlights are:

- BCP enhancements
- Language Environment enhancements
- OS/390 UNIX System Services improvements

Refer to the corresponding **OS/390 Ease of Use: Simplifying and Improving Your Business** section in the **Additional Details** section for more details.

**Additional Information for Version 2 Release 9:** For a complete list of Release 9 items and enhancements, refer to the *OS/390 Introduction and Release Guide* (GC28-1725). You can view it online right now by visiting the following URLs:

- For the BookManager® format, go to:  
<http://www.s390.ibm.com/bookmgr-cgi/bookmgr.cmd/BOOKS/E0Z1A140/CONTENTS>
- For the Adobe Acrobat PDF file format, go to:  
<http://www.s390.ibm.com/ftp/books/os390/pdf/e0z1a140.pdf>

### **Year 2000**

This product is Year 2000 ready. When used in accordance with its associated documentation, it is capable of correctly processing, providing, and/or receiving date data within and between the twentieth and twenty-first centuries, provided that all products (for example, hardware, software, and firmware) used with the product properly exchange accurate date data with it.

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## **Product Positioning**

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OS/390 Release 9 provides the functionality, performance, and RAS needed to support critical business applications like e-business and Customer Relationship Management, and to respond to sudden unanticipated user demands for additional system resources. Release 9 offers additional value in improved system ease-of-use, greater product integration, and enablement of new application workloads in order to meet tomorrow's e-business needs.

These new functions and logical extensions to both S/390 hardware and OS/390 software provide the best balanced solution for the future of your business.

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## **Statement of Direction**

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### **Withdrawn Function**

Release 9 is the last release in which the following functions will be available as part of OS/390:

- LAN Server
- VisualLift® RTE
- VisualLift ADE
- High Speed UDP
- Softcopy Print

Refer to the corresponding **Statement of Direction — Withdrawn Function** section in the **Additional Information on OS/390 Version 2 Release 9** section for more details.

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## **Hardware and Software Support Services**

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### **SmoothStart™ /Installation Services**

SmoothStart Services, on-site implementation and training startup service designed to help accelerate a customer's productive use of their IBM solutions, are provided by IBM Global Services or the customer's IBM Business Partner at an additional cost. For more information on SmoothStart Services, refer to Services Announcement 697-004, dated March 25, 1997, or you may contact your IBM representative and ask for SmoothStart Services for OS/390.

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## **Reference Information**

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For earlier OS/390 Version 2 information, refer to:

- Software Announcement 299-234, dated August 24, 1999 (the OS/390 Version 2 Release 8 Availability)
- Software Announcement 299-042, dated February 22, 1999 (the OS/390 Version 2 Release 7 Availability)
- Software Announcement 298-278, dated August 18, 1998 (the OS/390 Version 2 Release 6 Availability)
- Software Announcement 298-049, dated February 24, 1998 (the OS/390 Version 2 Release 5 Availability)
- Software Announcement 297-355, dated September 9, 1997 (the OS/390 Version 2 Release 4 Availability)
- Software Announcement 297-194, dated June 9, 1997 (the initial OS/390 Version 2 announcement)

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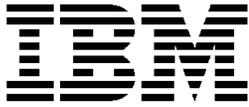
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## IBM US Announcement Supplemental Information

February 29, 2000

### Additional Detail

#### **OS/390® Integrates Information, Data, and Experience**

As you move your business onto the Web, your customers need the easiest way to find what they want, when they want it. You also want your business transactions to occur in a secure environment. The following functions can help you do both:

**WebSphere™ Application Server:** WebSphere Application Server continues to help businesses start simple, but grow fast and to build on what they have to become an e-business. In Release 8 the following function was downloadable from the Web. It is now integrated into the base of OS/390.

The WebSphere Application Server complies with some of the latest industry standards for Java™ server pages and servlets. Applications developed with tools, such as WebSphere Studio and VisualAge® for Java, can be deployed on any WebSphere compliant platform, including OS/390. Deploying these applications on OS/390 provides qualities of service that can't be matched on other platforms.

In addition, the WebSphere Application Server exploits Workload Manager (WLM). With WLM, an enterprise can define performance goals for transactions in its service policy and have OS/390 and its subsystems adapt to meet these goals. Thus, credit checking transactions can take priority over Web-browsing requests, if defined that way in the service policy.

Now your enterprise can make better use of the valuable information you have stored in DB2® databases with WebSphere's support of Connection Manager. Connection Manager can help applications access DB2 data via the Java Database Connectivity standard protocol. Finally, in-line with what you have come to expect from OS/390 competency the WebSphere Application Server has made many improvements to its reliability, availability, and serviceability characteristics.

It is IBM's intent that future enhancements to the WebSphere Application Server on S/390®, including enhancements for Enterprise Java Beans, will be provided in a separate product rather than as elements of OS/390.

**OS/390 Text Search Enhancements:** IBM Text Search Engine is an advanced search engine that does in-depth document analysis during indexing. It provides rich text searching capabilities whether you are using a Web browser or in-house database. The following features, new to the Text Search Engine, represent completion of our plans to incorporate an efficient, optimized, yet simple common set of search services in OS/390.

National language support for the Text Search Engine is enhanced for double-byte character set (DBCS) languages including Simplified and Traditional Chinese. Support

exists for dictionaries for in these languages as well. This new function not only allows searching for patterns within documents, but also word and phrase searching.

Document processing capabilities are also enhanced:

- The Text Search Engine will recognize structures in documents, such as abstract, subject, and author. You can restrict a search to just these specified structures.
- The new XML document model is recognized by the Text Search Engine. This is an important step towards enabling better support of e-business with the Text Search Engine.
- The Text Search Engine processes documents provided in Unicode UTF-8 or UCS-2 format. Documents in Unicode format allow real multilingual support, since it overcomes code page dependencies. For example, a document written in English can have Greek citations.

#### **OS/390 Helps You Respond More Quickly and Effectively to Requirements**

Recoverability and protection of your critical business assets is imperative. OS/390 supports interoperability of data and applications across multiple systems. It also gives you the functional support you need for leading-edge application areas such as Customer Relationship Management (CRM). Release 9 enhancements can extend your existing application base by leveraging your current data and business logic.

**Enhanced Contention Analysis (ECA):** ECA is designed to improve multisystem availability and serviceability for both the basic and Parallel Sysplex® environments. It accomplishes this through employing a command that will provide diagnostic information in the event that a multisystem "hang" condition occurs. Without this support (only available with GRS ring or STAR) an operator or other decision maker faced with a multisystem "hang" condition has little or no information to identify the cause of the problem and thus lacks information on how to alleviate the problem.

By utilizing ECA, an installation can pinpoint the offending task, address space, or system. With the ECA-provided information, an installation can choose to terminate the offending blocker (for example, CANCEL the job or partition the system), recycle the least important job or system to break a deadlock or do nothing if the workload is proceeding. ECA is available now. Customers on OS/390 Release 3, or later, can get this function now by ordering APAR OW38979. For more information on ECA, click on the Availability menu item on our Parallel Sysplex Web site:

<http://www.ibm.com/s390/psol>

**Seamless File Access and Printing from Windows™ to OS/390:** System administrators know that giving PC users access to OS/390 files and OS/390 attached printers is,

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at best, a challenge. Usually it requires installing and managing special software on each user's PC. In Release 9, OS/390 addresses this problem by providing networking compatibility on the OS/390 Server. Server Message Block (SMB), also known as Common Internet File System (CIFS), is the protocol used to communicate file and printing requests between workstation clients and file or print servers. Release 9 provides Windows file and print serving and OS/2® file serving via the SMB protocol without requiring the installation of additional software on the clients to give them host access. Users are able to remotely access files in the OS/390 Hierarchical File System (HFS) and submit, query, or cancel print jobs submitted to OS/390.

The SMB support enables a basic workgroup distributed file sharing infrastructure for OS/390 HFS files and Windows and OS/2 systems to facilitate the development and deployment of applications for OS/390. It is intended as a vehicle for supporting shared access to data that has a natural affinity to OS/390 application environments. It is not intended to replace PC server functionality for managing a LAN for security or local file access. The SMB server also provides print serving support, allowing the SMB protocol to be used to send print requests to the OS/390 Infoprint® Server. This removes the need for additional print client code or unique printer setup steps on the user workstation.

The SMB server support is integrated as optional support within the Distributed File Service (DFS) element which previously only provided DCE DFS client and server support. The SMB support does not require DCE, but the same server can optionally support DFS clients, SMB clients, or both.

**Note:** SMB support has also been made available on OS/390 Release 7 and Release 8, as described in the Washington System Center Flash "Distributed File Service SMB File/Print Support for OS/390 Release 8" (number W99055), located at the URL:

<http://www.ibm.com/support/techdocs/>

**System SSL Exportability:** U.S. Government restrictions on the export of System SSL Triple DES encryption have been eased. Until late in 1999, the U.S. Government prevented the export of the Triple DES (TDES) encryption strength option of System SSL outside of the U.S. and Canada. Now, the total ban on System SSL TDES export has been removed and System SSL has been placed in the same category as other TDES export controls. Customers (who would otherwise qualify for export approval of TDES) can use this important high-strength encryption option in those server applications that utilize System SSL. The important, emerging LDAP directory facility on OS/390 is one such application.

**System SSL Support of Service Request Block (SRB) Mode Callers:** For high-performance server applications on OS/390, SRB mode execution is occasionally employed for fast dispatching and priority execution. The nature of SRB mode is such that not all OS/390 function calls are available. It is a very lean form of application execution thread. But to enable high-performing paths within e-business applications that need access to secure TCP/IP SSL communication functions, a new callable interface to the SSL client has been made available to SRB Mode application threads.

**OS/390 Hardware Configuration Definition (HCD) — LDAP Exploitation:** Lightweight Directory Access Protocol (LDAP) is now available as an interface for managing your I/O configuration data. Presently, configuration of S/390-attached hardware can be done via hardware

configuration dialogs that are unique to OS/390. With Release 9, HCD provides access and update capabilities to logical I/O configuration data via the industry standard Internet protocol LDAP. Via the LDAP data model, OS/390 HCD also provides a consistent representation of your I/O configuration data.

**More Functions in the Hardware Configuration Manager (HCM) GUI:** The HCM graphical user interface is enhanced to offer more functions that allow an HCM user to easily manage their I/O configuration. HCM users can perform tasks currently done with the GUI of ESCON® Manager or I/O Ops of System Automation for OS/390.

**Resource Measurement Facility (RMF™) — Dynamic Central Processor Upgrade:** Processor reporting will support the concurrent model upgrade function now available with G5 and G6 processor models. Concurrent Central Processor upgrade is the capability to increase the capacity of the processor non-disruptively. The RMF CPU report and the RMF System Information report will properly reflect total CPU capacity following a Capacity Upgrade on Demand.

**RMF Shared Integrated Coupling Facility (CF) Support:** The RMF Postprocessor Partition Data report is enhanced to provide separate utilization data for Central Processors (CPs) and for integrating coupling facilities (ICFs) when they share physical processors. The change defines a unique code for the processor type so that regular CPs can be reported separately from integrated coupling facility CPs in the Postprocessor Partition Data report.

**RMF Parallel Access Volume (PAV) and Cache Support:** The new Enterprise Storage Server (ESS) provides a feature that allows concurrent I/O to the same logical volume from an S/390 system. These logical volumes, called PAVs, are defined as a set of devices consisting of one base device plus a variable number of alias devices.

The Workload Manager can instruct the system to dynamically add alias devices in order to reduce I/O queue times caused by increasing I/O requests to one volume. This is based on goals and importance for the workloads affected by such delays.

The maximum number of alias devices for a PAV is shown on the Device Activity reports. Device performance statistics are provided for the entire PAV. Additionally, the Cache reports provide cache statistics that describe the exploitation and efficiency of the ESS's cache storage.

### **OS/390 Ease of Use: Simplifying and Improving Your Business**

Many enhancements available in Release 9 work toward improving your Parallel Sysplex environment. Simplification of management, structures, and recovery make it possible for you to run a more efficient Parallel Sysplex configuration.

Some of the following OS/390 enhancements will also aid your applications programmers and your systems programmers in troubleshooting when they face a problem. In addition, these new capabilities will help your IT staff avoid problems that can affect productivity.

## ***XES Parallel Sysplex Enhancements***

- **XES Structure Full Monitoring:** XES Structure Full Monitoring provides a consistent framework and externals for monitoring CF structure utilization for all structures. XES will issue an operator message to inform the installation that the percentage utilization of structure resources has exceeded a threshold. The installation can take actions to determine why a structure is becoming full or to avoid the structure becoming full.

- **XES Event Suppression**

This enhancement may provide improved performance and throughput in certain Parallel Sysplex environments. XES Event Suppression allows coupling facility structure exploiters to optionally suppress certain XES events associated with connecting to, disconnecting from, and rebuilding coupling facility structures. In environments which have large numbers of connectors to a structure and/or frequent connections/disconnections (such as many IMS™ Batch environments), the overhead caused by the presentation of these XES events can be quite significant. Reduced performance and throughput often result causing delays in connect, disconnect, and cleanup of coupling facility resources. With this new support in OS/390 Release 9 (APAR OW38840 on OS/390 Release 6, and later), and with exploitation by structure exploiters (for example, by IMS APARs PQ26416 and PQ26491), this overhead and delay can be avoided.

- **XES Coupling Facility List Structure Architecture Extensions**

This infrastructure enhancement improves the data sharing capabilities of CF list structures. It allows new and improved coupling by sysplex-aware products and subsystems. The support includes:

- New ways of identifying and naming data in a list structure (program-specified list entry IDs)
- New methods of organizing and manipulating the data contained in a list structure (secondary keys, additional key comparison functions)
- New CF request types for operating on the data in a list structure (Move\_EntryList and Delete\_List commands), and powerful new techniques for monitoring data in a list structure (list and key-range monitoring and thresholding, sublist monitoring enhancements).

These XES CF List Structure Architecture Extensions require CFLEVEL=9 CF control code (CFCC) support.

- **Better Management of CF Structure Resources**

Management of allocation of CF structure resources among the several CFs which may be available in a Parallel Sysplex configuration is now improved. CF structure exploiters can specify a hard, minimum CFLEVEL requirement for the CF in which their structure must be allocated. This allows exploiters to guarantee that their structure will always get allocated in a CF at a level which provides the features and functions they require.

- **512 Structures in CF Resource Manager (CFRM) Policy**

Constraint relief for CF structure definition in large Parallel Sysplex configurations is now available. Current support in the CFRM couple dataset format utility and administrative data utility limits the number of CF structures per CFRM policy to at most 255. This

limit poses a constraint in some very large parallel sysplex configurations, and will become more of a constraint over time as exploitation of the CF continues to increase. With this support in OS/390 Release 9 (APAR OW19974 on OS/390 Release 3, and later), CFRM couple datasets may be formatted, and CFRM policies defined, with up to 512 CF structures.

- **Integrated CF Recovery Enhancements**

Several recovery improvements are combined in this enhancement, some of which are particularly relevant to configurations which include one or more ICFs, or other non-standalone CF images. Recovery from failures involving loss of connectivity to CFs by one or more systems in the Parallel Sysplex cluster can be greatly simplified, and operate with reduced or eliminated operator intervention. CF structure availability improvements and operational simplifications are also achieved through support which automatically cleans up CF structures that are allocated in CFs which are inaccessible to the structure exploiters who are trying to connect to them.

Previously, manual intervention was often required to perform such cleanup. Improved reliability and operational simplification are also provided through support to internally retry certain “transient” failures that today can cause CF structure exploiters to be unable to connect to their structure and, in some cases, require manual recovery actions to be taken.

The installation may also take greater control over the placement of CF structures among the CFs in the configuration through the use of a new CFRM policy option, ENFORCEORDER. This option allows the installation to indicate that a structure’s defined preference list ordering of CFs for structure allocation purposes is to be strictly enforced, rather than potentially being reordered to try to “optimize” structure placement. This support is available in OS/390 Release 9 (APAR OW33615 on OS/390 Release 3, and later).

- **Optional SMS Management of PDSEs and HFS Data Sets:**

This support provides more consistency in the way that PDSs, PDSEs, and HFS data sets are managed. This greatly reduces the complexity of activities such as maintenance, cloning a system, or migration. Refer to *OS/390 Planning for Installation* (GC28-1728) for a list of the PTFs required for DFSMSdftp™, DFSMSdss™, DFSMSshm™, TSO/E, ISPF, and BCP.

**64-bit Integer Support for printf() and scanf():** The **printf()** and **scanf()** families of functions now add support for formatting 64-bit integers (the C/C++ long data type). This simplifies the porting of C and C++ UNIX®-based applications to OS/390, where you can exploit all the strengths of the S/390 platform, and have direct access to your legacy programs and data.

**OS/390 UNIX System Services DBX Debugger:** The OS/390 UNIX System Services debugger now includes support for 64-bit integers (long long). Your programmers can debug C and C++ programs that use the long data type. The ability to debug programs that process 64-bit arithmetic offers you more application flexibility, and greater porting capability to the OS/390 platform.

**C/C++:** The C/C++ compiler supports a number of new compiler options and pragmas which allow for lower application resource usage, improved application performance, easier debugging (especially during optimization), and better serviceability.

**Re-IPL Reduction for Set TCP/IP Maintenance:** OS/390 UNIX System Services improves TCP/IP maintenance by providing a controlled way for a Physical File System to terminate and restart. This enhancement significantly reduces the number of TCP/IP APARs that require a re-IPL of the system. This reduces downtime associated with maintenance.

**UNIX98 sigqueue() Support:** The UNIX98 sigqueue function is now available on OS/390. You can process errors more easily to properly clean up your sessions.

**UNIX98 Shell and Utilities Fuser:** Porting capabilities are enhanced through the UNIX98 Shell and Utilities fuser utility on OS/390. A system administrator can determine the current users of a file or a filesystem. Knowing that information makes it easier to manage the system.

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## Additional Information

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### Statement of Direction

#### Withdrawn Function

- **OS/390 LAN Server**

The OS/390 LAN Server will not be available in the OS/390 release planned for availability in September 2000 because the prerequisite OS/2 software is no longer available. Service for all releases of OS/390 LAN Server will be discontinued on March 31, 2001.

#### Migration Aids

1. *File Server Consolidation on S/390* (SG24-5330) describes alternative solutions and provides migration guidance.
2. The OS/2 Front End Processor configurations from previous releases of OS/390 LAN Server will be supported on the release planned for September 2000, for customers who want to migrate to that release prior to migrating off of OS/390 LAN Server.

- **High Speed UDP**

The technology developed for the High Speed UDP facility and documented in the High Speed Access Services User's Guide, will NOT be integrated into the Communications Server for OS/390 (CS OS/390) Release 10 TCP/IP Services. Beginning with CS OS/390 Release 10, High Speed UDP is no longer a configurable option. Applications previously using High Speed UDP should be configured to use the base TCP/IP Release 10 stack.

- **OS/390 Softcopy Print element**

The OS/390 Softcopy Print element will not be available in the OS/390 release planned for availability in September 2000. The purpose of the Softcopy Print element is to print BookManager® books (or topics) on AFP™ printers.

#### Migration Aids

1. Sections of BookManager books (served by BookServer) can be printed from the OS/390 Internet Library using the print function of your browser. PDF files of the OS/390 books are also available for printing purposes.
2. Customers who wish to use the Softcopy Print function on the OS/390 release planned for September 2000 can still obtain all of the

individual required pieces of the Softcopy Print element by obtaining the products that the pieces are part of (if you don't already have those products). For a list of those products, see *Printing Softcopy BOOKs* (S544-5354), or refer to the Softcopy Web page at URL:

<http://www.ibm.com/s390/softcopy/>

### Architectural Level Set

IBM introduced a statement of direction concerning architectural enhancements in the OS/390 Version 2 Release 7 Availability and Release 8 announcement. (Refer to Software Announcement 299-042, dated February 22, 1999.) IBM wants to emphasize that statement of direction.

In Release 10, planned to be available in September 2000, OS/390 intends to exploit ESA/390™ architectural enhancements which were implemented on selected S/390 servers.

The architectural enhancements provide performance and functional enhancements and reliability improvements. To exploit these enhancements, simulations or dual paths within OS/390 were needed to enable OS/390 to run on servers without the enhancements. The benefits of this architectural level set include:

- Elimination of redundant code
- Potentially greater exploitation of the enhancements by designers and programmers to deliver new function to customers more quickly

OS/390 Release 10 (September 2000) will run only on servers that implement the architectural enhancements, and will not run on servers that have not implemented them. The following IBM servers have these enhancements.

- All models of the S/390 Parallel Enterprise Servers except for Release 1 models
- All models of the S/390 Multiprise®
- All PC Server S/390 servers and RS/6000® with S/390 Server-on-Board models
- All S/390 Integrated Servers

The following IBM servers do not have these enhancements and will not be able to run Release 10.

- ES/9000® Processor Unit 9021, 9121, or 9221
- ES/3090™ models
- ES/4381™ models
- S/390 Parallel Transaction Server 9672 E or P models
- S/390 Parallel Enterprise Server™ 9672 Release 1 models

IBM is reminding our customers of this statement at this time to provide additional planning time for the September 2000 release. Release 9 is not affected by this architectural level set.

The architectural enhancements that will be required by Release 10 can be found at the URL:

<http://www.ibm.com/s390/os390/plug.html>

### High Level Assembler (HLASM) Toolkit

The HLASM Toolkit optional feature provides a powerful and flexible set of six tools to improve application development, debugging, and recovery on OS/390 systems.

Further information, including a slide-show and a trial version of the Program Understanding Tool, is available at the HLASM Web site at the URL:

<http://www.ibm.com/software/ad/hlasm/>

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## Products and Features Related to OS/390

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### *S/390 Service Update Facility (SUF)*

**S/390 SUF Version 2 Release 1.2**, at the latest service level, was made available November 1999.

SUF is an Internet-based S/390 software service tool that makes ordering and receiving OS/390, VM, and VSE software service quick and easy. SUF allows systems programmers to order both corrective and preventive service via the Internet.

OS/390 and VM service, both corrective and preventive, can be delivered via the Internet or via standard physical media delivery. Where available, Advanced Digital Delivery (satellite) delivery is also an option.

Currently, VSE corrective service may also be delivered via the Internet or physical media delivery. VSE preventive service (for example, system refresh) can be delivered only via physical media delivery.

A common GUI interface is provided via the SUF "Customer Application Server." This server supports multiple systems programmers supporting multiple S/390 servers. OS/390, VM, and VSE servers can be attached to a single SUF server simultaneously.

Enhancements delivered in our most recent code refreshes include:

- Additional Serviceability through enhanced tracing for improved First Failure Data Capture.
- Improved planning and documentation available from SUF Web site. Refer to the *Installation and Setup Cookbook*.

For details regarding prerequisites, entitlement, and how to obtain SUF, refer to the S/390 SUF Web site at the following URL:

<http://www.ibm.com/s390/suf/>

SUF is also an available option when ordering an e-business SystemPac package. For more information on SystemPac, refer to the Web site at URL:

<http://www.can.ibm.com/custompac>

### *Installation Enhancements*

The following improvements have been added in Release 9:

- **Optional SMS management of PDSEs and HFS data sets:** This support provides more consistency in the way that PDSSs, PDSEs, and HFS data sets are managed. This greatly reduces the complexity of activities such as maintenance, cloning a system, or migration. Refer to *OS/390 Planning for Installation (GC28-1728)* for a list of the PTFs required for DFSMSdftp, DFSMSdss, DFSMSshsm, TSO/E, ISPF, and BCP.
- **Shared HFS support within a Parallel Sysplex cluster:** The capability enables transparent access of data in an HFS file system across systems in a Parallel Sysplex cluster. For more information refer to the worldwide customer announcement portion of this announcement entitled: *Helps you Respond more Quickly and Effectively to Requirements*.

- **C/C++ support of the TARGET compiler option for increased flexibility in your application environment:** Among the many compiler enhancements for Release 9, the **TARGET** option can be used to identify the OS/390 release for the program object module to be generated. You can compile and link an application on a higher level of OS/390, and run the application on a lower level of OS/390.

- **JES3 configuration enhancements:** JES3 provides the ability to define aliases for NJE node names to make consolidation of multiple systems easier. JES3 makes it easier to define devices by allowing a range of devices to be defined in a single DEVICE statement and by providing a way to identify devices that are attached to all systems. JES3 allows the DEVICE, SETNAME, and DYNALDSN statements to be changed without requiring an IPL to take effect, and JES3 supports changes and deletions of JES3 defined devices using the Hardware Configuration Dialog (HCD).

OS/390 elements also continue to simplify installation by reducing the number of FMIDs by consolidating features and merging language FMIDs into base FMIDs. A number of other areas of installation have been improved by enhancements to ServerPac, SystemPac, the addition of wizard interfaces, improved ordering support, and structured migration information.

**ServerPac:** ServerPac is enhanced to support the OS/390 capability to optionally SMS-manage PDSEs and HFS data sets. This makes both installation and migration easier. You can choose to make PDSE and HFS data sets non-SMS-managed by assigning them to physical volumes, or you can continue to manage them by assigning them to a storage class. Refer to *ServerPac: Using the Installation Dialog* for additional details and restrictions for this support.

ServerPac installation is simplified by new support to:

- Optionally create DDDEFs with unit and volume information in the Full System Replacement installation path.
- Allow most target and distribution libraries and operational data sets to be SMS-managed simply by assigning these data sets to an SMS storage class.
- Improve the installation jobs for the RACF® component of the SecureWay™ Security Server for OS/390 element.

For a description of function added to SystemPac for OS/390 Release 9, see the *Fee-Based Software Services Offerings* section of this announcement.

**Ordering:** Ordering has been simplified by the reduction of optional features by providing that function within the OS/390 base. Many encryption related features have been integrated into the OS/390 base.

Also, ServerPac ordering is made easier by the Internet-based S/390 ServerPac Ordering Assistant. You can find the S/390 ServerPac Ordering Assistant at the following URL:

<http://www.ibm.com/s390/os390/order>

**Structuring of Migration Information:** We defined a structure for OS/390 migration information to make it more consistent, clear, and concise. The new structure makes it easy to realize:

- What has changed for a release
- Who is affected by these changes
- What tasks you need to perform

- What changes to interfaces have been made

These changes will also make it easier for you to find the information that you are looking for and improve the completeness of the migration information.

The new structure of the migration information is found in the following books. More books will use this format in future releases.

- *OS/390 SecureWay Communication Server IP Planning and Migration* (SC31-8512-04)
- *OS/390 Security Server (RACF) Planning: Installation and Migration* (GC28-1920-06)
- *OS/390 UNIX System Services Planning* (SC28-1890-08)
- *OS/390 Infoprint Server Migration* (G544-5697-00)
- *OS/390 JES2 Migration* (GC28-1797-06)

### **Euro Sign Support**

OS/390 Version 2 Release 9 includes support for the EuroSign.

### **SecureWay Branding**

SecureWay software provides integrated directory, connectivity, and security between users and applications for e-business in a networked world. Every e-business application requires the ability to:

- Locate resources such as people, information, and applications in the network
- Connect customers, partners, and employees to those resources across multiple systems
- Address the concern of how to secure communications, data, and transactions

SecureWay integrates these infrastructure requirements to provide the secure network platform needed for e-business. SecureWay software is supported on multiple platforms including OS/390.

With Release 8, the eNetwork™ Communications Server for OS/390 was renamed the SecureWay Communications Server for OS/390 and the OS/390 Security Server was renamed to the SecureWay Security Server for OS/390. Both have been branded SecureWay.

### **UNIX 98 Branding**

OS/390 has already delivered certain key functions meeting immediate customer needs that are associated with UNIX 98 branding. Additional UNIX 98 functions which deliver customer and application vendor value are planned for roll out over multiple future OS/390 releases.

### **Documentation Information**

#### **What's New for OS/390 Version 2 Release 9**

##### **Streamlining Book Shipments**

Over the last several years, a number of viewing and printing enhancements have been made to our softcopy information. Also, better tools help you manage your softcopy repositories and rely less on IBM-printed hardcopy books. In OS/390 Release 9, you will continue to receive all OS/390 books on CD-ROMs in both BookManager and PDF formats. The OS/390 Online Library Collection and the OS/390 V2R9 PDF Library Collection both ship automatically with each OS/390 order. With Release 9, we've fine-tuned the list of books

that you automatically receive in hardcopy. Automatically, you will receive:

- The *OS/390 Installation Planning Kit*, a white and blue box containing:
  - **Introduction and Release Guide**
  - **Planning for Installation**
  - **Information Roadmap**
  - **Hot Topics Newsletter**
- A key set of 36 additional hardcopy books. This set includes a number of installation manuals, as well as some of the most-used books such as *MVS™ System Messages*. To see a list of these books, refer to the **Ordering Information** section of this announcement or go to the IBM Softcopy Web page at URL:

<http://www.ibm.com/s390/softcopy>

If you want to purchase additional hardcopy books with your order, an optional feature number (8007) allows you to order about 50 more. This set of books includes:

- OS/390 books with messages and codes that are not already included in the set of hardcopy books that you automatically receive with your order.
- Almost all the rest of the books that used to ship automatically with OS/390 Releases 6 through 8, and that are now NOT part of the basic set.

To see a list of these books, refer to the **Ordering Information** section of this announcement or go to the IBM Softcopy Web page at URL:

<http://www.ibm.com/s390/softcopy>

In Release 9, you still have the option to purchase subscriptions to the S/390 Redbooks Collection and the OS/390 Security Server (RACF) Information Package (both on CD-ROM) with your OS/390 product order.

Release 9 has a streamlined hardcopy distribution plan. For those of you who want all the OS/390 message and codes books in hardcopy, it is now much simpler. Instead of having them scattered in the previous huge feature code for the base element books (which might have required you to buy more hardcopy books than you really wanted) and throughout the small feature codes we used to have for each optional feature, they are now all in two places (in the hardcopy you automatically receive and in the optional feature number).

And don't forget to continue to check out the OS/390 Web site:

<http://www.ibm.com/s390/os390>

Click on the Library for the latest online books (both BookManager and PDF), wizards, and other OS/390 information.

**The Growing Wizardry of OS/390:** If you'd like help with some of those complex tasks that you do infrequently, then check out our Internet-based wizards. We use the term "wizard" to refer to them generically, but they actually have the word Assistant in the title, and it is often preceded by a word like Planning or Configuration. For example, there is the OS/390 Installation Planning Assistant, and the S/390 Parallel Sysplex Configuration Assistant.

The wizards provide a simplified approach to completing a set of OS/390 tasks, such as planning, installation, and configuration. They also provide customized information based on your individual requirements and answers. The wizard asks you for information, and then takes you to the

next step. The wizards may also simplify your planning and configuration needs by exploiting recommended values, and by providing customized checklists that reduce the number of steps and number of information sources you need to refer to. There is help in the wizards if you need some background information. And, if you want to read more in-depth background material, there are often links to books that provide additional, related information.

Our current wizards are Internet-based, and do not directly perform any tasks on your OS/390 system itself. Instead they generate things like tailored instructions, or jobs, policies, or parmlib members that you can upload to OS/390 and use.

The list of wizards that will be available in the OS/390 Release 9 time frame are:

1. **OS/390 Installation Planning Assistant** — builds customized installation plans for customers who are migrating from one release of OS/390 to another.
2. **S/390 ServerPac Ordering Assistant** — assists with OS/390 ordering by building an order request for selected products in the ServerPac catalog and submitting it to IBM for processing.
3. **S/390 Parallel Sysplex Configuration Assistant** — builds tailored instructions, jobs, and parmlib members for configuring a sysplex. It is intended for customers who are setting up a parallel sysplex for the first time. The **S/390 Coupling Facility Sizer** will also help you size your Parallel Sysplex structures.
4. **OS/390 Planning Assistant for e-business** — recommends a set of products and features for S/390 e-business based on the user's objectives and current configuration. It is intended for technical managers responsible for e-business planning.
5. **OS/390 UNIX Configuration Roadmap** — lists the actions required to set up OS/390 UNIX System Services. For assistance with Step 1, basic UNIX setup, we have provided a wizard. Over time, we will add new wizards to support more tasks in the roadmap, such as file system setup and initial security services.

To try out these wizards, go to URL:

<http://www.ibm.com/s390/os390/bkserv/wizards>

As we develop new wizards, or enhance these existing ones, you can always find the latest information and copies by checking out this wizards Web page. We are looking to continue to expand our efforts into areas that will help customers deal more easily with a wider range of more complex system tasks or infrequently performed, but time consuming, system tasks.

### Announcement References

For earlier OS/390 Version 2 information, refer to:

- Software Announcement 299-234, dated August 24, 1999 (OS/390 Version 2 Release 8 Availability)
- Software Announcement 299-042, dated February 22, 1999 (OS/390 Version 2 Release 7 Availability)
- Software Announcement 298-279, dated August 18, 1998 (OS/390 Version 2 Release 6 Availability)
- Software Announcement 298-049, dated February 24, 1998 (OS/390 Version 2 Release 5 Availability)

- Software Announcement 297-355, dated September 9, 1997 (OS/390 Version 2 Release 4 Availability)
- Software Announcement 297-194, dated June 9, 1997 (initial OS/390 Version 2 announcement)

Other announcements referenced in this document include:

- Hardware Announcement 199-115, dated May 3, 1999 (S/390 Parallel Enterprise Server — Generation 6)
- Hardware Announcement 199-048, dated February 22, 1999 (Introducing Gigabit Ethernet for the S/390 Parallel Enterprise Server — Generation 5 Plus FICON™ Enhancements)
- Software Announcement 299-041, dated February 22, 1999 (S/390 Open Systems Adapter Support Facility for OS/390 Version 2 Release 1)
- Software Announcement 299-039, dated February 22, 1999 (DFSMS/MVS® Version 1 Release 5)
- Hardware Announcement 199-036, dated January 25, 1999 (S/390 G5: Plan-Ahead for 1999 and Additional Upgrades to Model R06)
- Software Announcement 298-269, dated July 28, 1998 (Runtime Analyzer)
- Software Announcement 298-271, dated July 28, 1998 (High Level Assembler (HLASM))
- Hardware Announcement 198-115, dated May 7, 1998 (Generation 5 Servers)
- Software Announcement 298-151, dated May 5, 1998 (Domino™ Go Webserver for OS/390)
- Services Announcement 697-004, dated March 25, 1997 (SmoothStart™ Services)
- Hardware Announcement 195-147, dated May 23, 1995 (concerns CD-ROM and OS/390)
- Hardware Announcement 194-281, dated September 13, 1994 (concerns Coupling Facility)
- Hardware Announcement 194-082, dated April 6, 1994 (concerns Coupling Facility)
- Software Announcement 289-581, dated October 24, 1989 (concerns security APARs)

### Product Content

OS/390 Version 2 Release 9 elements are listed below. OS/390 elements that are also available as stand-alone products are listed with the release level used in OS/390.

#### System Services

- MVS/ESA™ SP™.1
- Base Control Program (BCP)<sup>1</sup>
- JES2<sup>1</sup>
- ESCON Director support<sup>1</sup>
- MICR/OCR support<sup>1</sup>
- Bulk Data Transfer (BDT) base<sup>1,2</sup>
- DFSMSdfp Version 1 Release 5
- EREP/MVS Version 3 Release 5
- High Level Assembler Version 1 Release 3
- ICKDSF Release 16
- ISPF<sup>1</sup>
- TSO/E<sup>1</sup>
- 3270 PC File Transfer Program Version 1.1.1
- FFST™/ESA Version 1 Release 2<sup>1</sup>
- TIOC<sup>1</sup>

#### Systems Management and Security

- HCD<sup>1</sup>
- SMP/E<sup>1</sup>
- Tivoli® Management Framework for OS/390 (Tivoli Management Framework level 3.6)
- Tivoli Management Agent

#### Cryptographic Services

- Cryptographic Services
  - ICSF<sup>1</sup>
  - Open Cryptographic Services Facility<sup>1</sup>
  - System SSL<sup>1</sup>
- **Application Enablement Services**
  - C/C++ IBM Open Class™ Library<sup>3</sup>
  - Language Environment®<sup>1</sup>
  - SOMobjects™ for MVS Runtime Library<sup>1</sup>
  - VisualLift® RTE<sup>1</sup>
  - DCE AS<sup>1</sup>
  - Encina Toolkit Executive<sup>1</sup>
- **Distributed Computing Services**
  - Network File System Feature<sup>1</sup>
  - DCE Base Services (OSF DCE level 1.1)<sup>1</sup>
  - Distributed File Service (DFS support at OSF DCE level 1.2.2)<sup>1</sup>
- **Communications Server**
  - SecureWay Communications Server for OS/390<sup>1,4</sup>
    - SNA/APPN® Services (Includes VTAM®)<sup>1</sup>
    - Multiprotocol/HPR Services (Includes AnyNet®)<sup>1</sup>
    - TCP/IP Services (Includes TCP/IP for MVS)<sup>1</sup>
- **e-business Services**
  - WebSphere Application Server for OS/390 V1.2
  - IBM HTTP Server for OS/390
  - Text Search (formerly NetQuestion)
- **LAN Services**
  - LANRes<sup>1</sup>
  - LAN Server<sup>1</sup>
  - OSA Support Facility for OS/390 Version 2 Release 1
- **OS/390 UNIX System Services**
  - OS/390 UNIX System Services Application Services<sup>1</sup>
    - OS/390 UNIX System Services Shell and Utilities<sup>1</sup>
    - OS/390 UNIX System Services Debugger<sup>1</sup>
- **Softcopy Publications Support**
  - BookManager READ R3<sup>1</sup>
  - OS/390 Softcopy Print<sup>1</sup>
  - BookManager BookServer Version 2.2<sup>1</sup>
  - GDDM® Version 3 Release 2 (including PCLK and OS/2 Link)

You have the ability to replace an OS/390 base function with a commercially available product which provides a similar function. Contact an IBM representative for qualification and pricing information. All OS/390 integrated testing results and performance claims are voided with such replacement.

OS/390 delivers optional features that have a high affinity to the base OS/390 system.

- **System Services**
  - JES3<sup>1</sup>
  - Bulk Data Transfer (BDT) File-to-File<sup>1</sup>
  - Bulk Data Transfer (BDT) SNA NJE<sup>1</sup>
- **Systems Management**

**Note:** The DFSMS™ features are packaged in combinations.

  - DFSMSdss Version 1 Release 5
  - DFSMSdss Version 1 Release 5 and DFSMSShm Version 1 Release 5
  - DFSMSrmm™ Version 1 Release 5
  - DFSMSdss Version 1 Release 5 and DFSMSrmm Version 1 Release 5
  - DFSMSdss Version 1 Release 5 and DFSMSShm Version 1 Release 5 & DFSMSrmm Version 1 Release 5
  - RMF<sup>1</sup>
  - SDSF<sup>1</sup>
  - HCM<sup>1</sup>
- **Cryptographic Services**
  - Open Cryptographic Services Facility Security Level 3 (TDES, RC2/RC4/RC5)<sup>1,4</sup>
  - System SSL Security Level 2 (DES)<sup>1,4,5</sup>
  - System SSL Security Level 3 (TDES)<sup>1,4,5</sup>
- **SecureWay Security Server**
  - DCE Security Server at OSF DCE level 1.2.2<sup>1,4</sup>
  - Open Cryptographic Enhanced Plug-ins<sup>1</sup>
  - RACF<sup>1,4</sup>
  - Firewall Technologies<sup>1</sup>
  - LDAP Server-(RC2/RC4) with 40-bit crypto<sup>1,4,6</sup>
- **Application Enablement Services**
  - C/C++ with Debug Tool<sup>1,3</sup>
  - C/C++ without Debug Tool<sup>1,3</sup>
  - DFSORT™ Release 14
  - GDDM-PGF Version 2 Release 1.3
  - GDDM REXX Version 3 Release 2
  - HLASM Toolkit Version 1 Release 3
  - SOMobjects for MVS Application Development Environment (ADE)<sup>1</sup>
  - VisualLift ADE Version 1.1.2<sup>1</sup>
  - Infoprint Server for OS/390<sup>1</sup>
    - IP PrintWay™,<sup>1</sup> and NetSpool™,<sup>1</sup>
    - OS/390 Print Interface<sup>1</sup>
- **Communications Server**
  - SecureWay Communications Server Security Level 1 (RC2/RC4, CDMF)<sup>1,4,7</sup>
  - SecureWay Communications Server Security Level 2 (DES, SnMPV3)<sup>1,4,7</sup>
  - SecureWay Communications Server Security Level 3 (SnMPV3, TDES)<sup>1,4,7</sup>
  - SecureWay Communications Server Network Print Facility<sup>1</sup>
- **e-business Services**
  - IBM HTTP Server NA Secure (TDES, RC2/RC4)<sup>1,4,8</sup>
  - IBM HTTP Server Export Secure (DES, RC2/RC4)<sup>1,4,8</sup>
  - IBM HTTP Server France Secure (RC2/RC4)<sup>4,8</sup>
- **Softcopy Publications Support**
  - BookManager BUILD Release 3<sup>1</sup>

- 1 Functional enhancements for items have already or will be made available only through OS/390 and not through additional releases or versions of these products or features.
- 2 One or both of the BDT optional features (file-to-file or SNA NJE) must be ordered and installed in order to use the BDT function shipped with the base.
- 3 Retroactive to OS/390 Version 1 Release 3, the C/C++ IBM Open Class Library component of the C/C++ Optional Feature is licensed with the OS/390 base operating system and can be used without enabling the C/C++ Optional Feature.
- 4 Items have export considerations.
- 5 The System SSL Security Level 2 and System SSL Security Level 3 features are mutually exclusive. Only one needs to be ordered to obtain a security function over what is provided in the OS/390 base.
- 6 The LDAP Server component of SecureWay Security Server Optional Feature is licensed with the OS/390 base operating system and can be used without enabling the SecureWay Security Server Optional Feature.
- 7 The SecureWay Communications Server Security Level 1,2,3 features are mutually exclusive. Only one needs to be ordered to obtain additional security function over what is provided in the OS/390 base.
- 8 The IBM HTTP Server features are mutually exclusive. Only one needs to be ordered to obtain additional security function over what is provided in the OS/390 base.

### **Enabling OS/390 Optional Priced Features**

OS/390 optional priced features use an OS/390 product registration service, together with product policy statements, to determine whether or not the OS/390 priced feature has been ordered and should run.

OS/390 optional priced features that are ordered concurrently with OS/390 will be shipped by IBM together with policy statements in PARMLIB which enable the ordered priced features. OS/390 priced features which have not been ordered will also be shipped with OS/390, but with policy statements which disable the unordered features. If the customer subsequently enables any of the optional priced features, those features also become subject to the payment terms of the customer's existing OS/390 license as described in *OS/390 Program Licensed Specifications* (GC28-1728). Customers must notify IBM when they enable an optional feature that was shipped disabled from IBM. A detailed description of the enablement support for OS/390 features is available in *OS/390 Planning for Installation* (GC28-1726). This publication is available at the OS/390 Installation URL:

<http://www.ibm.com/s390/os390/installation/>

The OS/390 priced features which support this enablement capability in OS/390 Version 2 Release 9 are:

- BookManager BUILD
- BDT File to File
- BDT SNA NJE
- C/C++ (with Debug Tool)<sup>9</sup>
- C/C++ (without Debug Tool)<sup>9</sup>
- DFSMSdss
- DFSMSdss & DFSMSHsm
- DFSMSrmm
- DFSMSdss & DFSMSrmm
- DFSMSdss & DFSMSHsm & DFSMSrmm
- DFSORT
- GDDM PGF
- GDDM REXX
- HCM
- High Level Assembler Toolkit
- JES3
- Infoprint Server for OS/390
- RMF
- SDSF
- SecureWay Security Server for OS/390<sup>10</sup>

- SOMobjects ADE

- 9 The C/C++ IBM Open Class Library component of the C/C++ Optional Feature is licensed with the OS/390 base operating system and can be used without enabling the C/C++ Optional Feature.
- 10 The LDAP Server component of the SecureWay Security Server for OS/390 Optional Feature is licensed with the OS/390 base operating system and can be used without enabling the SecureWay Security Server for OS/390 Optional Feature.

### **Program Services**

Central service for suspected defects in OS/390 code is provided by the IBM Support Center within the customer's geography. Central service, including the IBM Support Center, for DSLO licenses is provided through the customer location designated for the basic license. On-site (local) support, although available, is provided as part of IBM's portfolio of fee-based services.

### **Service Policy**

It is IBM's current intention to provide service support for each release of OS/390 for three years following its general availability date. If a release is not in the list to be withdrawn, it will continue to be supported until further announce. The current practice of providing at least twelve months written notice prior to the withdrawal of a service for a version or release will continue for OS/390.

Recognizing the special circumstances for year 2000 preparations, OS/390 Version 1 Release 1 and Release 2 were considered current for almost five years. However, it was announced in September of 1999 that OS/390 Version 1 Release 1 and Release 2 will effectively end currency on January 31, 2001. (For more information, refer to Software Withdrawal Announcement 999-275, dated September 21, 1999.) OS/390 Version 1 Release 3 and Version 2 Release 4 have also been extended beyond three years of service currency. These OS/390 releases will be considered as current until at least March 31, 2001 or later with IBM providing maintenance during this period pending a formal service withdrawal announcement.

PTF distributions, including Recommended Service Upgrades (RSUs), will continue to be available monthly as part of the OS/390 service support. RSU integration testing for a release will be performed for five quarters after the General Availability date for that release.

All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice and represent goals and objectives only.

### **OS/390 Enhanced HOLDDATA Availability with Year 2000 Information**

OS/390 Enhanced HOLDDATA, previously announced in OS/390 Version 2 Release 4, has replaced the HOLDDATA that is delivered on ESOs, CBPDO, and Corrective Service Orders. Refer to Software Announcement 297-355, dated September 9, 1997, to review the HOLDDATA announcement in Release 4. In addition, OS/390 Enhanced HOLDDATA includes information to ease identification of missing Year 2000 service.

OS/390 Enhanced HOLDDATA improves the content, timeliness, and consistency of HOLDDATA. These improvements make it easier to identify and analyze missing critical service on any level of an OS/390 or MVS system. ++HOLDS are created for HIPER (High Impact and Pervasive) and Year 2000 APARs in addition to PE (PTF in Error) APARs. Additional information is provided

that includes the fixing PTF number, when available, any HIPER reason flags and a **YR2000** flag for any Year 2000 APARs.

OS/390 Enhanced HOLDDATA is cumulative and complete. This allows Enhanced HOLDDATA to be a single source of HOLDDATA to serve multiple systems. There is no need to collect and compile ERROR HOLDDATA from multiple sources. The content covers the entire OS/390 and MVS platform of IBM's SMP/E-managed products with one consistent source of HOLDDATA.

**Note:** Coverage of the entire platform with a single HOLDDATA source does not negatively affect processing HOLDDATA since SMP/E ignores data for products that are not listed in the SMP/E environment.

Timeliness of OS/390 Enhanced HOLDDATA is improved by providing daily updates available via the Internet at URL:

<http://service.boulder.ibm.com/390holddata.html>

The updated files are also available via ServiceLink and through the S/390 Service Update Facility.

The files available on the Internet and ServiceLink are the same files that are delivered on orders built that day. HOLDDATA can be kept current by downloading and receiving the most recent file. Subsequent updates of the Web data can be downloaded and received on top of existing HOLDDATA without concern about regression of HOLDDATA, provided the time span of the latest Enhanced HOLDDATA overlaps any previously RECEIVED HOLDDATA. Automation of data retrieval is possible through the use of Batch FTP and job scheduling.

OS/390 Enhanced HOLDDATA is currently provided on all ESOs, CBPDO, Corrective service orders, orders placed via the S/390 Service Update Facility, directly through the S/390 Service Update Facility, and via ServiceLink.

### ***Fee-Based Software Services Offerings***

**Note:** OS/390 Version 2 Release 9 is also available through the SystemPac fee-based offering.

**Enhancements for OS/390 Version 2 Release 9 SystemPac Orders:** SystemPac offers the capability of building a system with integrated subsystems in both copy format and full volume dump/restore format. The full volume dump/restore format provides the capability of an OS/390 installation without using the dialog. Installation is done via pack restore using DFDSS or FDR (if the vendor product is selected in the order). IBM products and selected Independent Software Vendor (ISV) products can be included with the SystemPac. After the delivery of the SystemPac, Selective Follow-On Service tapes (Hipers and PTFs resolving PEs) can be shipped at specified intervals and frequencies based upon your selection at ordering time. In addition, SystemPac also comes with the option of having SecureWay Communications Server for OS/390 and WebSphere Application Server enabled. These features, coupled with the enablement of UNIX System Services in full function mode, allow you the ease of tailoring the default set up provided to match your standard for Internet access upon restored and IPL'ed. For details, please refer to URL:

<http://www.ibm.com/ca/custompac>

Customers ordering the Release 9 SystemPac are now able to take advantage of the following new enhancements:

- SystemPac is further enhanced with the option of delivery in 3590 media format. This feature will allow you to install the SystemPac deliverable and its Selective Follow-On service tapes using the 3590 media.
- SystemPac dump-by-data-set is further enhanced to support non-SMS-managed PDSE and HFS data-sets. When the required OS/390 driving system PTFs are installed, you can specify that each PDSE and HFS data set is to be created as either SMS-managed or unmanaged in the CustomPac dialog. Additionally, you can choose to make most other data set SMS-managed or unmanaged and specify the SMS Storage Classes to be used for SMS-managed data sets.
- For Full System Replacement installation path of the dump-by-data-set format, SystemPac is enhanced to optionally create DDDEFs with unit and volume information. A sample RACF database with set up of RACF definitions for the customization of the various enabled products, (such as SecureWay Communication Server, WebSphere application server, and Network File Server) is also shipped as part of the package in SystemPac.
- SystemPac Full Volume Dump format is further enhanced to support the choice of PDSE and HFS data-sets to be installed on SMS-managed volumes or unmanaged volumes. The choice is provided as a prompt upfront during Local Order Entry when you customize your input to IBM. If the installation is to be on SMS-Managed volumes, you will be prompted further to supply the SMS managed volume name and the storage class. A sample RACF database with set up of RACF definitions for the customization of the various enabled products, (such as SecureWay Communication Server, WebSphere application server and Network File Server) is also shipped as part of the package in SystemPac.
- Increase in number of ISV products available for ordering in SystemPac (both an increase in the number of products and the vendor representation). For a list of available ISVs offered with SystemPac, refer to URL:

<http://www.ibm.com/ca/custompac>

- SystemPac is built according to a copy of your IODF. You can send in your IODF to selected worldwide production centers via the Internet. To get access to the Internet application, perform the following:
  - Go to URL:  
<http://www.ibm.com/ca/custompac>
  - Select your location or country
  - Access the application "IODF/Dataset Shipment"

For more information on SystemPac, contact IBM at 800-IBM-4YOU (426-4968). To get details about the CustomPac related family of offerings, you can also access the URL:

<http://www.ibm.com/ca/custompac>

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## **Education Support**

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Keep up-to-date on new OS/390 releases with the **OS/390 Update Information Service**. This distributed learning (DL) training gives you the technical details on each new OS/390 release level to help you decide when to migrate.

The OS/390 Update Information Service is available in two delivery formats: CD-ROM and via the Internet. Customers who subscribe to this service receive training shortly after each new OS/390 release is made available. This DL training lets you ask questions via e-mail to an IBM expert. Answers to frequently asked questions are summarized in a FAQ data base.

Subscribing to the OS/390 Update Information Service gives you:

- Automatic updates on the key technical details of each new OS/390 release
- A consolidated information repository on all OS/390 releases
- E-mail access to an IBM expert who can answer your training questions
- Immediate answers to common questions via a FAQ
- A simple, effective way to keep current without the hassles and expenses of travelling to an instructor-led class

### Why Distributed Learning (DL) Training?

DL gives you the convenience of training at your desktop at your own pace. DL education is also a cost-effective alternative to traditional classroom training: no travel costs or productivity loss due to time away from the office. Plus, you have a handy reference for technical questions that need an immediate answer.

### How to Order

The OS/390 Update Information Service on OS/390 Release 9 will be available shortly after OS/390 Release 9 becomes available. For a demo of this exciting new way to stay current on OS/390, visit:

<http://www.ibm.com/services/learning/demo/s390updt.html>

In the United States and Canada call 800-IBM-TEACH (426-8322) to order a CD-ROM subscription.

To order a Web subscription, visit:

<http://www.ibm.com/services/learning/lsw eb>

and enter the Web user ID Order Number in the search window at the top of the page. Following are the order numbers for subscriptions.

Number of CD-ROMs or Web User IDS	CD-ROM Order Number
5	EW01A
10	EW01B
15	EW01C

## Technical Information

**Hardware Requirements:** Any processor that supports Enterprise Systems Architecture (ESA) enables you to run basic OS/390. Some examples are listed below.

- All models of the S/390 Parallel Enterprise Servers or S/390 Parallel Transaction Servers (IBM 9672)
- All models of the S/390 Multiprise 3000
- All models of the ES/9000 Processor Unit 9021, the 9121, or the 9221

- An ES/3090-9000T processor (Models 15T, 17T, 18T, 25T, 28T) that supports IBM Enterprise Systems Architecture/370™ (ESA/370) and can have optional ESA/390 facilities
- An ES/3090 Model E, S, J, or JH processor at the appropriate engineering change (EC) level that supports the IBM Enterprise Systems Architecture/370
- An ES/4381 Model Group 90E, 91E or 92E processor that supports the IBM Enterprise Systems Architecture/370
- Enhanced LPAR mode operation is supported on all PR/SM™-capable IBM processors in hardware configurations of two or more CPs with the exception of the ES/9000 Processor Unit 9221 Model 200
- PC Server System/390® or RS/6000 with System/390 Server-on-Board

Additional hardware may be required for certain, specific functions.

- CF — A CF is the common system focal point, in a Parallel Sysplex environment, for data sharing across multiple S/390 systems. It is a function that is implemented in S/390 hardware and Coupling Facility Control Code (CFCC). A CF is established in a S/390 PR/SM logical partition dedicated to running CFCC. A CF partition can exist on a stand-alone dedicated system such as a 9674 C0x or 9672 G5 R06 model or can run in a partition of a S/390 9672 General Purpose Server or ES/9000 9021 711-based system. For additional information on the 9672 G6 Servers, refer to Hardware Announcement 199-115, dated May 3, 1999.
- CF Channels: In a Parallel Sysplex environment, these channels are required to connect between a CF and production OS/390 or MVS/ESA logical partitions running in multiple S/390 systems. Today there are five types of CF Channels or coupling links available depending on the machine type and model:
  - Inter System Coupling (ISC) links
  - HiPerLinks
  - Integrated Cluster Bus (ICB) links
  - Internal Channel (IC) links
  - Integrated Coupling Migration Facility (ICMF) Links

The choice of links is dependent on configuration, distance, and performance requirements. Coupling links, of at least one variety, are available on the S/390 Parallel Enterprise Server, the ES/9000 9021 711-based and the ES/9000 9121 511-based systems. For the latest information on the 9672 S/390 G6 Servers, refer to Hardware Announcement 199-115, dated May 3, 1999.

- Sysplex Timer®: A Sysplex Timer is required to synchronize the time-of-day (TOD) clocks in all the CPCs attached to the coupling facility (except for a single CPC Parallel System).
- ICSF: The Triple DES function requires at least a 9672 G5 Server.

If you have a S/390 Parallel Enterprise — Generation 4 Server and you plan to use the Triple DES support in ICSF, you will need the appropriate LIC code, the Triple DES feature, and a new enablement diskette that supports Triple DES. For the Generation 4 Server, you will need driver 98 and LIC codes EC F10640 or EC F10667. For Generation 5 and 6 Servers, the Triple DES support is included in the product.

**Note:** Triple DES is exportable to all customers except governments. It may not be exported to governments except pursuant to an appropriate export license.

An S/390 G5 Server or higher is required if a customer wishes to use Double-Key MAC.

For related S/390 G6 information, refer to Hardware Announcement 199-115, dated May 3, 1999.

**Software Requirements:** The OS/390 base is an IPL-able system. There are no hard requirements in order to IPL. Specific functions may require additional products not included in OS/390 base, or in the optional features of OS/390. Refer to information provided below, as well as *OS/390 Planning for Installation* (GC28-1726) for a listing of specific PTF numbers.

**Minimum Levels of Related Products:** In order to determine the minimum levels of IBM stand-alone products that run with OS/390 Version 2 Release 9, refer to *OS/390 Planning for Installation* (GC28-1726). This publication is also available at the URL:

<http://www.ibm.com/s390/os390/installation/>

**Print Services Facility™:** If you decide to use the Print Services Facility (PSF) with OS/390 Version 2 Release 9, the minimum required level is PSF for OS/390 Version 3 (5655-B17).

**Java for OS/390:** With OS/390 Version 2 Release 9, you should be running Java for OS/390 at the 1.1.8 level. Included in it is support for IEEE 754 native instruction execution, exploitation of native operating system services for security enhancements, and continued performance enhancements. For complete information, visit the Java for OS/390 Web site at:

<http://www.ibm.com/s390/os390/java/>

### **Compatibility**

**OS/390 Coexistence:** Coexistence considerations apply to multisystem configurations in which there is resource sharing; this includes non-Parallel Sysplex and Parallel Sysplex multisystem configurations. As was true with previous releases, OS/390 continues to give you optimum compatibility and flexibility as you migrate systems in a multisystem configuration, by allowing up to four consecutive OS/390 releases to coexist. This allows these systems to be upgraded to a new level of OS/390 one system at a time (provided that the OS/390 release you are migrating to is within three releases of the lowest OS/390 release running in your multisystem configuration, for a total of up to four consecutive releases). For example, you can upgrade to OS/390 Release 9 and share resources with any OS/390 Release 6, 7, or 8 system you had been running. Since OS/390 allows the JES element to be separately staged, OS/390 also supports the coexistence of certain lower-level OS/390 JES releases with the JES release provided with OS/390 Release 9.

For information on the general OS/390 coexistence policy, as well as the specific OS/390 and JES releases that can coexist in a multisystem configuration, refer to *OS/390 Planning for Installation*. This publication is also available at the URL:

<http://www.ibm.com/s390/os390/installation/>

Customers running OS/390 in a multisystem configuration need to ensure they are appropriately positioned for supported software migrations. Since each OS/390 release is normally orderable for only a six-month window, it is very important that OS/390 users be positioned for a supported migration path in the Year 2000 and beyond. A paper, *Planning Guide for Multisystem Customers: OS/390 Coexistence and Planning Considerations Through the Year 2000*, is available on the Internet to help customers make informed decisions about their software levels with complete understanding of the IBM supported coexistence and migration scenarios. The URL is:

<http://www.ibm.com/s390/stories/year2000/coexist.html>

This planning guide contains information that is vitally important for every OS/390 customer.

**Note:** Specific functions may only be available on the up-level systems, or it may be necessary to up-level all systems to enable some functions.

### **OS/390 General Migration Considerations**

Because the components of OS/390 are integrated into a single package with compatible service levels, customers must install and migrate to an OS/390 release in its entirety before entering into production on that release. For the JES2 or JES3 component, the migration can be staged to remain compatible with other systems.

Customers using the CBPDO delivery option, will only have to install those elements and features of OS/390 which are at a higher level than their existing system. For example, an OS/390 Release 7 customer with DFSMS/MVS 1.5 installed, must install the new OS/390-level of the Base Control Program (BCP), but does not have to reinstall DFSMS/MVS.

Customers need to perform the *usual* release-to-release migration activities for any element that they install. The publication, *OS/390 Planning for Installation*, can help you plan for migration actions that might be required. This publication provides a set of migration tables that take into account the OS/390 release you are migrating from and the release you are planning to migrate to. This publication is also available at the URL:

<http://www.ibm.com/s390/os390/installation/>

### **JES Migration Considerations**

JES2 pre-Release 4 mode (not "\$ACTIVATED") will be supported by the JES2 element available with OS/390 Release 4 through Release 9. However, the JES2 element of OS/390 after Release 9 will not support running in pre-Release 4 mode. To avoid a cold start, customers wishing to migrate directly to any release of JES2 after Release 9 must migrate to JES2 Release 4 mode (available in OS/390 Release 4 JES2 through OS/390 Release 9 JES2) before installing any JES2 element of OS/390 beyond Release 9. For further migration information about JES2 pre-Release 4 mode, refer to the *OS/390 JES2 Migration Notebook*.

For information about JES2 and JES3 migration considerations, including information on the releases of

JES2 or JES3 that are supported with OS/390 and compatibility PTFs that may be required, refer to *OS/390 Planning for Installation*. This publication is also available at the URL:

<http://www.ibm.com/s390/os390/installation/>

**Performance Considerations:** Additional information on OS/390 performance will be available at general availability. You should consult your marketing representative at or after general availability.

**User Group Requirements:** Over 510 requirements have been either fully or partially satisfied by the first eight releases of OS/390. This announcement of OS/390, Version 2 Release 9, satisfies or partially satisfies another 19 requirements from IBM customers and one or more of the worldwide user group communities, which include Australasian SHARE/GUIDE (ASG), COMMON, COMMON Europe, GUIDE International, G.U.I.D.E. Europe, Japan GUIDE/SHARE (JGS), Guide Latin American (LAG), SHARE EUROPE, and SHARE Inc. Requirements satisfied include:

- **OS/390**

- REQ00063445 — ServerPac should provide option for UNIT/VOL
- REQ00071348 — ServerPac: RACF jobs
- REQ00073464 — Change UPDDDEF in FSR to include UNIT and VOLSER
- REQ00068629 — ServerPac Ordering Checklist

- **JES3**

- REQ00042891 — Support for MVS Dynamic I/O reconfiguration
- REQ00056385 — Allow JES3 to recognize multiple node names in a complex
- REQ00056643 — Dynamic device configuration support for JES3

- **SDSF**

- REQ0009733\_3 — SDSF log panel should not show WTOR'S from all sysplexed systems
- REQ0062335\_1 — System Symbolic Support in ISFPARMS
- REQ0067321 — SDSF in a Parallel Sysplex not showing all jobs in sysplex
- REQ0067434 — Allow system symbols in SDSF server parameters
- REQ0067434\_1 — Allow system symbols in SDSF server parameters
- REQ0067752 — DSF PR panel shows just printers defined within a FSSPROC
- REQ0068839 — Provide ability to enter MVS commands in mixed case
- REQ0069873 — SDSF not able to show sysouts (JESYSMSG) in real time in sysplex
- REQ0069873\_1 — SDSF not able to show sysouts (JESYSMSG) in real time in sysplex
- REQ0069873\_2 — SDSF not able to show sysouts (JESYSMSG) in real time in sysplex
- REQ0070039 — SDSF limits reply to WTOR only to local system
- REQ0071038 — Function capable of filtering WTOR'S on syslog in sysplex

- REQ0072124 — SDSF log panel should not show WTOR'S from all sysplexed systems
- REQ0072572 — SDSF should not fold system commands
- REQ0073254 — SDSF server modify command member parameter default

### **Planning Information**

**Direct Customer Support:** Installation and technical support is provided by the S/390 Support Family of offerings. For more information on available services, call 800-IBM-4YOU (426-4968).

**Packaging:** When ordering OS/390 Unpriced Optional (**encryption controlled**) features, IBM recommends that you order the highest level of encryption available for your geography.

To obtain encryption support (security) for WebSphere Application Server for OS/390, you **must** specify one of the following security features:

- IBM HTTP Server North America Secure
- IBM HTTP Server France Secure
- IBM HTTP Server Export Secure

Refer to the **Ordering Information** sections in the previous and current OS/390 announcements for specific details on feature numbers.

As the cryptographic export regulations are changing, for the most current export regulations, visit the URL:

<http://w3.ibm.com/chq/ero/ero.nsf>

### **System Integrity**

IBM will accept APARs where the installation of OS/390 introduces an exposure to system integrity. Refer to Software Announcement P81-174, dated October 21, 1981.

### **Security, Auditability, and Control**

Data security and auditability in the OS/390 environment are enhanced by the functions available in the RACF part of the optional SecureWay Security Server for OS/390 feature.

**B1/C2 Security:** The most recent MVS system formally evaluated by IBM and the US government using the B1 Trusted Computer Systems Evaluation Criteria (TCSEC) comprised MVS/ESA 3.1.3, RACF 1.9, and selected other MVS components in a non-networking configuration. Since then MVS and the evaluated components have undergone many changes. MVS has grown to include Parallel Sysplex technology and UNIX functionality and has further evolved into OS/390 with the incorporation of many new components. Over the years the nature of networking has changed and the importance of networking has grown, with increased usage of TCP/IP communications and connection of OS/390 systems to the Internet and extranets to conduct e-business. Although IBM has not undertaken further formal security evaluations of OS/390, we maintain our strong focus on security during the design, development, and testing of OS/390. While we continue to consider the B1-related requirements when making enhancements to the key components from the earlier-evaluated package, for the newer components of OS/390 we have focused mainly on those security aspects that we consider more important to our commercial customer set: the functions of user authentication, access control, auditing, and object reuse

required by the C2 level of the TCSEC. Also, IBM continues its security commitment with its Security APAR process, described below. :5.Security APARs

IBM accepts Security APARs for OS/390. Security APARs are for reporting problems in existing security mechanisms where the problem descriptions do not meet the precise definition of system integrity, but do constitute an exposure to the security of the system as a whole or to an IBM product which runs on the system. Originally announced in Software Announcement 289-581, dated October 24, 1989. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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## Customer Financing

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IBM Global Financing offers attractive financing to credit-qualified commercial and government customers and Business Partners in more than 40 countries around the world. IBM Global Financing is provided by the IBM Credit Corporation in the United States. Offerings, rates, terms, and availability may vary by country. Contact your local IBM Global Financing organization. Country organizations are listed on the Web at:

<http://www.financing.ibm.com>

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## Ordering Information

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### *Current Licensees*

#### Notes

- The last date for ordering OS/390 Version 2 Release 8 is March 16, 2000.

To allow for adequate order processing time, we recommend that all OS/390 Version 2 Release 8 orders be submitted no later than March 7, 2000, so that they can meet the process deadline of March 16, 2000.

- The first date for ordering OS/390 Version 2 Release 9 is March 17, 2000.

The following information only provides new and changed ordering information for OS/390 Version 2 Release 9. For ordering information previously announced for OS/390 Version 2 Releases 4, 5, 6, 7, and 8, refer to:

- |                         |          |       |
|-------------------------|----------|-------|
| • Software Announcement | 297-355, | dated |
| September 9, 1997       |          |       |
| • Software Announcement | 298-049, | dated |
| February 24, 1998       |          |       |
| • Software Announcement | 298-278, | dated |
| August 18, 1998         |          |       |
| • Software Announcement | 299-042, | dated |
| February 22, 1999       |          |       |
| • Software Announcement | 299-234, | dated |
| August 24, 1999         |          |       |

For OS/390 Version 2 Release 9 price proposals, the CFSW configurator stand-alone path for 5647-A01 will be updated to support Release 9 on February 29, 2000.

Most OS/390 media is only shipped via OS/390 Customized Offerings (ServerPac, SystemPac, and CBPDO). CFSW configuration and order entry capability for ServerPac, SystemPac, and CBPDO for OS/390 Version 2 Release 9 will be available beginning

March 17, 2000, and continue until the release planned to be available in September 2000 becomes orderable.

Production of OS/390 Version 2 Release 9 orders will begin on the general availability date, March 31, 2000. Shipment dates for orders will be based on order sequence, Customized Offering selected, production capability, and customer-requested arrival date. Due to the amount of customization of ServerPac orders, shipments will begin approximately two weeks after general availability. Due to the amount of additional customization of SystemPac orders, shipments will begin approximately four weeks after order and data input verification. For CBPDO orders, shipments will begin one week after general availability. Delivery commitments are not made until confirmed by the AAS.

**Note:** For all OS/390 orders, the current customer install base of the OS/390 Customized Offering 5751-CSx (not the install base of 5645-001 or 5647-A01) must be retained to determine the OS/390 version/release level most recently ordered.

### *Program Reorder Form*

Current Licensees of OS/390 Version 2 (5647-A01) will be sent a memo and Program Reorder Form (PRF). The mailing of these PRF forms is scheduled to be completed by April 7, 2000.

The PRF is used to obtain deliverables, refreshed from previous releases within Version 2, that are not shipped via OS/390 Customized Offerings (ServerPac, SystemPac, CBPDO). These deliverables include hardcopy publications, tapes, diskettes, CD-ROMs.

The PRF can be activated by one of the following methods:

- Ordering OS/390 Version 2 Release 9 via one of the OS/390 Customized Offerings will automatically initiate the PRF without the need to return the form.
- Returning the PRF to Software Delivery Fulfillment, who will process it within 10 work days of receipt. The customer may wish to do this if they want earlier delivery of these materials prior to the OS/390 Customized Offering delivery.
- Calling Software Delivery Fulfillment at 800-879-2755.

The PRF method REMOVES the need to cancel/reorder (MES) multiple feature numbers for current licensees to obtain materials refreshed from previous releases within Version 2 that are not delivered with the OS/390 Customized Offerings.

Current licensees who wish to order a feature that is NEW to OS/390 between their Version 2 Releases 4, 5, 6, 7, 8, and Version 2 Release 9 need to order these features (via ADD MES action).

- In addition to the new OS/390 Release 9 feature numbers (refer to the **Optional Machine-Readable Material** section), OS/390 Release 4, 5, 6, 7 and 8 customers will need to consider the following additional feature numbers offered between their release of OS/390 and OS/390 Release 9:

OS/390 Function Description	9/6250 Tape	3480 Cart	4-MM DAT	Notes	
SecureWay Communications Server Security Level 1 (RC2/RC4, CDMF support)	5786	5787	5788	1, 2	<ul style="list-style-type: none"> <li>• Utilities (including telecommunications companies and Internet service providers)</li> <li>• Banks and financial institutions</li> <li>• Transportation</li> <li>• Broadcast or entertainment</li> <li>• Educational organizations</li> <li>• Civil health and medical organizations</li> <li>• Retail or wholesale firms</li> <li>• Manufacturing or industrial entities not engaged in the manufacture or distribution of items or services related to munitions.</li> </ul> <p>4. The IBM HTTP Server features are mutually exclusive. Only one needs to be ordered for you to obtain additional security function over what is provided in the OS/390 base.</p> <p>5. System SSL Security Level 3 was formerly known as System SSL Crypto.</p> <p>6. Infoprint Server is formerly known as OS/390 Print Server, which includes IP PrintWay™, Netspool, and OS/390 Print Interface.</p> <p>7. For Firewall Technologies support, customers need to order Security Server with one of the above SecureWay Communications Server Security feature numbers.</p>
SecureWay Communications Server Security Level 2 (DES, SnMPV3 support)	5789	5790	5791	1, 2	
SecureWay Communications Server Security Level 3 (DES, Triple DES, SnMPV3 support)	5792	5793	5794	1, 2, 3	
IBM HTTP Server NA Secure (R2/R4, DES, Triple DES support)	5507	5508	5509	3, 4	
IBM HTTP Server Export Secure (R2/R4, DES support)	5510	5511	5512	4	
IBM HTTP Server France Secure (RC2/RC4)	5513	5514	5515	4	
Open Crypto Services Facility Security Level 3 (RC2/RC4/RC5, DES, Triple DES support)	5795	5796	5797	3	
System SSL Security Level 2 (DES support)	5043	5044	5045		
System SSL Security Level 3 (DES, Triple DES support)	5731	5753	5506	3, 5	
Infoprint Server	5040	5041	5042	6	
Infoprint Server Japan	5111	5112	5337	6	
Infoprint Server Spanish	5525	5526	5398	6	

### New Licensees

- The last date for ordering OS/390 Version 2 Release 8 is March 16, 2000.

To allow for adequate order processing time, we recommend that all OS/390 Version 2 Release 8 orders be submitted no later than March 7, 2000, so that they can meet the process deadline of March 16, 2000.

- The first date for ordering OS/390 Version 2 Release 9 is March 17, 2000.

For OS/390 Version 2 Release 9 price proposals, the CFSW configurator stand-alone path for 5647-A01 will be updated to support Release 9 on February 29, 2000.

Most OS/390 media is only shipped via OS/390 Customized Offerings (ServerPac, SystemPac, and CBPDO). CFSW configuration and order entry capability for ServerPac, SystemPac, and CBPDO for OS/390 Version 2 Release 9 will be available beginning March 17, 2000, and continue until the release planned to be available in September 2000 becomes orderable.

### Notes

1. Includes feature number content formerly known as eNetwork Communications Server Security Levels 1, 2, 3 in Release 7 and prior to Release 7 known as TCP/IP Kerberos, IP Security.
2. The SecureWay Communications Server Security Level 1, 2, 3 features are mutually exclusive. Only one needs to be ordered for you to obtain additional security function over what is provided in the OS/390 base.
3. Triple DES encryption can now be shipped outside the U.S. and Canada to all customers except governments. For government customers, a special export license is required which must be obtained and provided to your IBM representative **prior** to order submission.

The definition of a government customer does **not** include:

Production of OS/390 Version 2 Release 9 orders will begin on the general availability date, March 31, 2000. Shipment dates for orders will be based on order sequence, Customized Offering selected, production capability, and customer-requested arrival date. Due to the amount of customization of ServerPac orders, shipments will begin approximately two weeks after general availability. Due to the amount of additional customization of SystemPac orders, shipments will begin approximately four weeks after order and data input verification. For CBPDO orders, shipments will begin one week after general availability. In all cases, no delivery commitments are to be made to the customer until confirmed arrival dates are in AAS.

**Note:** For all OS/390 orders, the current customer install base of the OS/390 Customized Offering 5751-CSx (not the install base of 5645-001 or 5647-A01) must be retained to determine the OS/390 version/release level most recently ordered. Availability date will be assigned a schedule date of one week.

Shipment will begin on March 31, 2000.

- Orders that ship before March 31, 2000, will receive OS/390 Version 2 Release 8.
- Orders that ship after March 31, 2000, will receive OS/390 Version 2 Release 9.

New users of OS/390 should specify:

Machine Type	Model
5647	A01

**Basic License:** To order a basic license, specify the program number and feature number 9001 for asset registration. Refer to:

- Software Announcement 299-234, dated August 24, 1999
- Software Announcement 299-042, dated February 22, 1999
- Software Announcement 298-278, dated August 18, 1998
- Software Announcement 298-049, dated February 24, 1998
- Software Announcement 297-355, dated September 9, 1997

When OS/390 Version 2 Release 9 is available, OS/390 Version 2 Release 8 will no longer be available.

**Single-Version Charging:** To elect single-version charging, the customer must notify and identify to IBM the prior program and replacement program and the designated machine the programs are operating on.

**Basic Machine-Readable Material:** There are no changes from previously announced information regarding basic machine-readable material. For more information, refer to:

- Software Announcement 299-042, dated February 22, 1999
- Software Announcement 298-278, dated August 18, 1998
- Software Announcement 298-049, dated February 24, 1998
- Software Announcement 297-355, dated September 9, 1997
- Software Announcement 297-194, dated June 8, 1997 (the initial OS/390 Version 2 announcement)

New licensees should also consult the following announcements for recent changes to pricing information:

- Software Announcement 299-052, dated February 22, 1999 (PSLC Level D Price Introduction for S/390 Software Products)
- Software Announcement 998-273, dated September 29, 1998 (Software Withdrawal and Changes: Measured Usage License Charges for S/390 Software Products)
- Software Withdrawal Announcement 998-294, dated September 29, 1998 (One-Time Charge [OTC/GOTC] Option for S/390)
- Software Withdrawal Announcement 998-295, dated September 29, 1998 (Selected IBM Basic and DSLO Licensing Options for S/390, MVS, and OS/390)

- Software Announcement 298-355, dated September 29, 1998 (PSLC Level C Price for S/390 Software Reduces the Cost of Growing Workloads)
- Software Announcement 298-357, dated September 29, 1998 (New Usage Pricing for S/390 Software Products)

**Optional Machine-Readable Material:** To order, select the feature number for the desired distribution medium:

**Distribution Medium for OS/390 Version 2 Release 9 Optional Features:** Media feature number information remains unchanged from the previous announcements of OS/390 Version 2 Releases 4, 5, 6, 7, and 8 except for the following additions and withdrawals from marketing:

**Feature Numbers Added:** There are no new feature numbers for Release 9.

**Triple DES Feature Information:** Triple DES encryption can now be shipped outside the U.S. and Canada to all customers except governments. For government customers, a special export license is required which must be obtained and proved to your IBM representative **PRIOR** to order submission.

The definition of a government customer does **not** include:

- Utilities (including telecommunications companies and Internet service providers)
- Banks and financial institutions
- Transportation
- Broadcast or entertainment
- Educational organizations
- Civil health and medical organizations
- Retail or wholesale firms
- Manufacturing or industrial entities not engaged in the manufacture or distribution of items or services related to munitions

This is pertinent to the following elements:

- IBM HTTP Server NA Secure
- Open Cryptographic Services Facility Security Level 3
- SecureWay Communications Server Security Level 3
- System SSL Security Level 3

**Effective End of Day March 16, 2000, Feature Numbers Withdrawn from Release 9 Marketing**

OS/390 Function	Feature Number
OS/390 UNIX System Services Kit	5046
OS/390 V2 Hardcopy Licensed Publications	8006
OS/390 V2 HLASM Toolkit Publications	8008
OS/390 V2 C/C++ Publications	8009
OS/390 V2 DFSMSrmm Publications	8010
OS/390 V2 DFSMSshm Publications	8011
OS/390 V2 JES3 Publications	8012

OS/390 Function	Feature Number	Title	Order Number
OS/390 V2 RMF Publications	8013	OS/390 C/C++ Comp Run Migration	SC09-2359
OS/390 V2 Security Server Publications	8014	DFSMS/MVS V1R5 Acc M. Serv. ICF	SC26-4906
OS/390 V2 DFSORT Publications	8021	DFSMS/MVS V1R5 Planning and Customization	SC26-4919
OS/390 V2 SDSF Publications	8023	OS/390 ISPF Planning and Customization	SC28-1298
OS/390 V2 DFMSMds Publications	8024	OS/390 DCE Planning	SC28-1582
OS/390 V2 Infoprint Server Publications	8028	OS/390 SMP/E Messages	SC28-1738
OS/390 V2 HCM Publications	8029	OS/390 MVS I&T Reference	SC28-1752
		OS/390 JES2 I&T Reference	SC28-1792
		OS/390 JES3 I&T Reference	SC28-1803
		OS/390 UNIX System Services Planning	SC28-1890
		OS/390 Language Environment Migration	SC28-1944
		OS/390 SecureWay Communications Server IP Migration	SC31-8512
		OS/390 Communications Server Messages IP V1	SC31-8517
		OS/390 Communications Server SNA Migration	SC31-8622
		OS/390 Communications Server SNA Messages	SC31-8569
		OS/390 Communications Server Messages IP V2	SC31-8570
		OS/390 Communications Server Codes	SC31-8571
		OS/390 Communications Server Messages IP V3	SC31-8674

**Effective End of Day March 16, 2000, Feature Numbers Remaining With Description Changes for Release 6 Ordering (special accommodation for coexistence)**

OS/390 Function	9/6250 Tape	3480 Cartridge	4-MM DAT
<b>Feature Numbers</b>			
R6 DCE User Privacy CDMF	5018	5019	5724
R6 DCE User Privacy DES/CDMF	5831	5832	5704
R6 LE Data Decryption	5821	5822	5703
R6 OCSF France	5718	5719	5720
R6 OCSF Security Level 1	5516	5517	5717
R6 OCSF Security Level 2	5798	5701	5702
R6 Pre-Configured CD-ROM Feature Number 5819			

**Note:** The above features are NOT required for Release 9 ordering as the function is now in the base.

### NLS Features

There are no new media feature numbers for NLS. Refer to the previous announcement of OS/390 Version 2.

### Unlicensed Documentation

A memo, program directories, and one copy of the following publications are supplied automatically with the basic machine-readable material:

#### Basic/Unlicensed Hardcopy Publications

Title	Order Number
OS/390 MVS Conversion Notebook	GC28-1747
OS/390 MVS JCL Reference	GC28-1757
OS/390 MVS Planning: Workload Management	GC28-1761
OS/390 MVS System Codes	GC28-1780
OS/390 MVS System Commands	GC28-1781
OS/390 MVS System Messages V1	GC28-1784
OS/390 MVS System Messages V2	GC28-1785
OS/390 MVS System Messages V3	GC28-1786
OS/390 MVS System Messages V4	GC28-1787
OS/390 MVS System Messages V5	GC28-1788
OS/390 JES2 Commands	GC28-1790
OS/390 JES2 Messages	GC28-1796
OS/390 JES2 Migration Notebook	GC28-1797
OS/390 JES3 Commands	GC28-1798
OS/390 JES3 Conversion Notebook	GC28-1799
OS/390 JES3 Messages	GC28-1804
OS/390 Security Server Planning and Migration	GC28-1920

#### Notes

- OS/390 Licensed Program Specifications (GC28-1728) is available in PDF format only on the OS/390 PDF Library Collection on CD-ROM (SK2T-6718).
- OS/390 Installation Planning Kit (GK2T-6710) will be available at general availability and is included in the OS/390 Release 9 new licensee package. Individual publications in the kit will be available to order shortly after the announcement date. The kit consists of the following hardcopy publications:
  - Installation Planning Kit Memo (GA22-7304)
  - OS/390 Hot Topics Newsletter (GA22-7431)
  - OS/390 Introduction and Release Guide (GC28-1725)
  - OS/390 Planning for Installation (GC28-1726)
  - OS/390 Information Roadmap (GC28-1727)

#### Optional Unlicensed Hardcopy Publications

Specifying the appropriate feature number will supply the following optional unlicensed material. These products will be available from IBM at general availability for a fee.

Library Title	Feature Number
OS/390 Hardcopy Unlicensed Publications	8007

#### List of Hardcopy Unlicensed Publications

Title	Order Number
HLASM Toolkit Installation Guide	GC26-8711
ISPF Messages and Codes	GC28-1326
OS/390 MVS Product Management	GC28-1730
OS/390 LANRES Installation Guide	GC28-1736
MVS Dump Output Messages	GC28-1749

Title	Order Number
OS/390 HCD Planning	GC28-1750
OS/390 MVS Router/Des Codes	GC28-1778
OS/390 HCD Messages	GC28-1849
RMF Messages and Codes	GC28-1948
TSO/E Messages	GC28-1978
OS/390 Infoprint Server	G544-5696
Introduction	
ICSF Messages	SC23-3977
OS/390 Distributed File Service	SC24-5882
SMB Administration Guide and Reference	
DFSMS Install Exits	SC26-4908
DFSMS Macro Instructions	SC26-4913
for Data Sets	
DFSMS/MVS V1R4 Program Management	SC26-4916
DFSMS/MVS V1R5 Storage	SC26-4920
Administration Reference	
DFSMSsdfp Advanced Services	SC26-4921
DFSMSsdfp Using Data Sets	SC26-4922
DFSMS/MVS V1R5 Utilities	SC26-4926
DFSMSrmm Guide and Reference	SC26-4931
DFSMSrmm Implementation and Customization	SC26-4932
HLASM Programming Guide	SC26-4941
DFSORT Messages and Codes	SC26-7050
OS/390 NFS Customization and Operations	SC26-7253
OS/390 ISPF User's Guide	SC28-1239
OS/390 DCE Configuration	SC28-1583
DCE Messages and Codes	SC28-1591
OS/390 Distributed File Service Configuration	SC28-1722
Distributed File Service Messages and Codes	SC28-1724
BDT Messages and Codes	SC28-1745
OS/390 SMP/E Commands	SC28-1805
OS/390 SMP/E Reference	SC28-1806
OS/390 HCD User's Guide	SC28-1848
OSA/SF User's Guide	SC28-1855
UNIX System Services Messages and Codes	SC28-1908
Security Server Messages and Codes	SC28-1918
Language Environment Programming Guide	SC28-1939
OS/390 Language Environment Customization	SC28-1941
Language Environment Debug Messages	SC28-1942
OS/390 RMF User's Guide	SC28-1949
OS/390 SecureWay Communications Server IP Config.	SC31-8513
OS/390 Communications Server SNA Network Implem.	SC31-8563
OS/390 Communications Server SNA Res Def	SC31-8565
OS/390 Communications Server SNA Operations	SC31-8567
GDDM Messages	SC33-0869
GDDM V3R2 Customization	SC33-0871
DFSORT R14 Installation Planning	SC33-4034
VisualLift User's Guide	SC33-6691
BookManager Read/MVS Installation and Customization	SC38-2035
OS/390 Printing Softcopy Books	S544-5354

## Notes

1. Specifying this feature number will supply additional hardcopy books (about 50) for the applicable OS/390 elements or optional features.

This feature number contains:

- OS/390 books with messages and codes that are not already included in the set of hardcopy books that you automatically receive with your order and,
- Almost all the rest of the books that used to ship automatically with OS/390 Releases 6 through 8, and that are now NOT part of the basic set.

A complete list of the titles (and whether each book is basic, softcopy-only, or optionally available in hardcopy as well as softcopy) can be found in *OS/390 Information Roadmap* (GC28-1727).

2. If the set of OS/390 publications above are chosen, a one-time charge (OTC) is incurred.
3. The price for the documentation feature number is approximately the sum of the costs of the individual books in the feature number. If all of the books are ordered individually, the total cost might be slightly different. You can order the Optional Unlicensed Hardcopy publication feature numbers for this release only while the release itself is orderable.

Additional copies of unlicensed publications will be available for a fee after availability. These copies may be ordered from your IBM representative, or by direct order.

## Displayable Softcopy Publications

OS/390 publications are offered in displayable softcopy form, in both BookManager and PDF format. The displayable publications are part of the basic machine-readable material and are shipped on CD-ROM. Terms and conditions for use of the machine-readable files are shipped with the files.

Displayable publications on the OS/390 Collection (SK2T-6700) and the OS/390 Version 2 Licensed Product Library (LK2T-2499) can be used with BookManager READ or BookServer in any of the supported environments or with the IBM Library Readers for DOS, OS/2, and Windows. The Library Readers are included at no charge on the CD-ROMs.

Beginning in March 2000, the beta version of a **new** IBM Softcopy Reader and Bookshelf Organizer® for Java is available on various IBM Online Library CD-ROMs. The beta test code is included in a zip file, along with instructions for installing the code and information about where to get help. The latest level of the beta code is also provided for downloading as a self-extracting zip file from URL:

<http://booksrv2.raleigh.ibm.com/homepage/new.html>

The Softcopy Print element in OS/390 provides the ability for you to print topics from BookManager books on AFP printers. The Infoprint Server for OS/390 allows you to print high quality copies of the PDF format books.

Displayable publications on the OS/390 V2R9.0 PDF Library Collection (SK2T-6718) can be used with one of the Adobe Acrobat readers to view and print high-quality hardcopy books that look very similar to the printed books ordered from IBM. The readers are available at the URL:

<http://www.adobe.com>

This collection contains PDF files for unlicensed Version 2 Release 9 books for the OS/390 base and optional features. The OS/390 V2 Licensed Product Library (LK2T-2499) contains PDF files as well as

BookManager files for the current OS/390 Version 2 licensed books.

**Basic Softcopy Publications on CD-ROM**

Title	Order Number
OS/390 V2 Licensed Product Library	LK2T-2499
OS/390 Collection	SK2T-6700
OS/390 V2R9.0 PDF Library Collection	SK2T-6718

**Note:** Beginning with the Release 9 update, automatic shipments of updated copies of the OS/390 Collection and the OS/390 V2 Licensed Product Library are sent only to Release 6 and later customers who have the OS/390 base feature number in their profiles. Automatic shipments of updated CD-ROM collections will be discontinued for additional releases in the future. All customers will still be able to purchase the refreshed packages. The OS/390 V2R9.0 PDF Library Collection and its refresh are only auto-shipped to OS/390 Version 2 Release 9 licensees.

**Optional Softcopy Publications On Tape**

OS/390 Release 9 is the last release that IBM will be delivering softcopy books on tape (6250 tape, 3480 tape cartridge, 3480 compressed tape cartridge, 4-mm DAT). The OS/390 product books will continue to be delivered in both BookManager and PDF softcopy formats on CD-ROM. All of the OS/390 non-licensed books are also available on the Internet by clicking on "Library" at URL:

<http://www.ibm.com/s390/os390/>

For those customers who want to upload BookManager softcopy and create softcopy repositories, the SoftCopy Librarian is our strategic tool for uploading and managing BookManager files on an OS/390 (or MVS) host or server, as well as on LANs and workstations. SoftCopy Librarian, a free program that is provided on CD-ROM collections, outperforms the previous Softcopy Receiver Tool (SCRT) for uploading books and also provides you with management functions for your bookshelves and book files. The latest version of the SoftCopy Librarian can be downloaded from the following site:

<ftp://ftp.software.ibm.com/ps/products/ibmreader/tools/ebrsclw.exe>

SoftCopy Librarian runs on Windows 95, or later, and Windows NT™ 4.0, or later, workstations. A prototype of the OS/2 version of the SoftCopy Librarian is available for downloading from:

<ftp://ftp.software.ibm.com/ps/products/ibmreader/tools/beta/>

**Softcopy Optional Unlicensed Publications**

Subscriptions to the following CD-ROMs may be ordered for a fee on April 14, 2000, by specifying the feature numbers listed:

Title	Order Number	Feature Number
S/390 Redbooks Collection <sup>11</sup>	SK2T-2177	8005
OS/390 Security Server (RACF) Information Package <sup>12</sup>	SK2T-2180	8004

<sup>11</sup> The Redbooks collection is now only updated twice a year, concurrent with OS/390 releases.

<sup>12</sup> Available to users of the SecureWay Security Server (RACF) optional feature.

**Note:** When the S/390 Redbooks Collection and the OS/390 Security Server (RACF) Information Package are ordered as features of OS/390, the special subscription price includes automatic shipment of all updates made while the product version is in service.

The *S/390 Redbooks Collection* contains over **300** technical bulletins, in BookManager and PDF format, that are related to the S/390 platform. The bulletins are *redbooks* produced by the International Technical Support Center (ITSO) and *orange and yellow books* produced by the Washington Systems Center and Networking Systems Center.

The *OS/390 Security Server (RACF) Information Package* includes over **610** unlicensed online books, in BookManager format, from a wide variety of S/390 operating system and software product libraries that reference RACF and Security Server. It also includes ITSO redbooks (technical bulletins related to RACF system security), flyers, education course listings, sample code, PDF (Portable Document Format) files for multiple releases of Security Server and RACF manuals, and more.

**Licensed Documentation**

**Optional Licensed Publications**

There are no optional licensed hardcopy publications available with this release. Licensed publications are provided in softcopy as part of the basic package on the OS/390 Version 2 Licensed Product Library CD-ROM (SK2T-6700).

Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

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**Terms and Conditions**

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There is no new news in the **Terms and Conditions** section since the original announcement of OS/390 Version 2.

**Support Line:** Yes

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**Charges**

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Current charges are unaffected by this announcement.

**Trademarks**

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***Year 2000 Readiness Disclosure***

*Statements made in this announcement regarding Year 2000 are "Year 2000 Readiness Disclosures" under the Year 2000 Information and Readiness Disclosure Act of 1998, a U.S. statute enacted on October 19, 1998.*