

OS/390



OS/390 Automated UNIX System Option for VM, VSE and OS/390 General Information

OS/390



OS/390 Automated UNIX System Option for VM, VSE and OS/390 General Information

Note!

Before using this information and the product it supports, be sure to read the general information under "Notices" on page v.

First Edition, September 1998

This edition applies to Version 1 Release 1 of OS/390 Automated UNIX System Option for VM, VSE and OS/390 (5655-A97), and to all subsequent releases and modifications until otherwise indicated in new editions.

Order publications through your IBM representative or the IBM branch office serving your locality. Publications are not stocked at the address given below.

IBM welcomes your comments. A form for readers' comments may be provided at the back of this publication, or you may address your comments to the following address:

International Business Machines Corporation
Department 55JA, Mail Station P384
522 South Road
Poughkeepsie, NY 12601-5400
United States of America

FAX (United States and Canada): 1+914+432-9405

FAX (Other Countries):

Your international Access Code +1+914+432-9405

IBMLink (United States customers only): IBMUSM10(MHVRCFS)

IBM Mail Exchange: USIB6TC9 at IBMMAIL

Internet e-mail: mhvrcfs@us.ibm.com

World Wide Web: <http://www.s390.ibm.com/os390/>

If you would like a reply, be sure to include your name, address, telephone number, or FAX number.

Make sure to include the following in your comment or note:

- Title and order number of this book
- Page number or topic related to your comment

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© **Copyright International Business Machines Corporation 1998. All rights reserved.**

Note to U.S. Government Users — Documentation related to restricted rights — Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with IBM Corp.

Contents

Notices	v
Trademarks	vi
About This Book	vii
Who Should Use This Book	vii
How This Book Is Organized	vii
Auto UNIX System Information	vii
Hardcopy Information	vii
Softcopy Information	viii
Internet Information	viii
Related Online Information	viii
Introducing OS/390 Automated UNIX System Option for VM, VSE and OS/390	1
The Need for Auto UNIX System	1
The Benefits of Auto UNIX System	1
Lotus Domino for S/390	2
Additional Application Support	2
The Auto UNIX System Optional Features	3
Auto UNIX System C/C++	3
Auto UNIX System DB2	3
Auto UNIX System MQSeries	4
Servicing Auto UNIX System	4
Ordering Auto UNIX System	5
Using OS/390 Automated UNIX System Option for VM, VSE and OS/390	7
Auto UNIX System	7
Auto UNIX System Administrator Tasks	8
Auto UNIX System Control Center	9
Control Center Automatic System Restart	10
Planning for OS/390 Automated UNIX System Option for VM, VSE and OS/390	11
Hardware Requirements	11
S/390 Processor	11
DASD Devices and Volumes	11
Tape Device	12
Network Connections	12
Host Software Requirements	13
Communication Considerations	13
Control Center Requirements	14
HMC and SA-SE	14
OS/2 Workstation	14
Installation Considerations	14
Logical Partition	15
VM/ESA Guest System	15

Notices

References in this publication to IBM products, programs or services do not imply that IBM intends to make these available in all countries in which IBM operates.

Any reference to an IBM product, program or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, programs, or services except those expressly designated by IBM, are the user's responsibility.

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
500 Columbus Avenue
Thornwood, New York 10594
USA

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
Mail Station P300
522 South Road
Poughkeepsie, NY 12601-5400
USA
Attention: Information Request

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

Any pointers in this publication to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement. IBM accepts no responsibility for the content or use of non-IBM Web sites specifically mentioned in this pub or accessed through an IBM Web site that is mentioned in this publication.

Trademarks

The following terms are trademarks of IBM Corporation in the United States or other countries or both:

- CICS
- DATABASE 2
- DB2
- DFSMS
- IBM
- IMS
- MQSeries
- MVS/ESA
- OpenEdition
- OS/2
- OS/390
- RACF
- S/390
- VM/ESA
- VSE/ESA
- VTAM

Lotus and Domino Go Webserver are trademarks of the Lotus Development Corporation.

UNIX is a registered trademark in the United States and other countries licensed exclusively through X/Open Company Limited.

Java and Sun are trademarks of Sun Microsystems, Incorporated.

About This Book

This book describes OS/390 Automated UNIX System Option for VM, VSE and OS/390 (Auto UNIX System), and includes what it does, the benefits it offers, and the things you should consider when planning for its installation and operation.

Who Should Use This Book

This book is intended for system planners and anyone responsible for product evaluation. It provides an overview you can use to determine how to plan for Auto UNIX System and how it will work in your data processing enterprise.

Before reading this book, you should be familiar with UNIX concepts, and basic network concepts and terminology.

How This Book Is Organized

This book is organized as follows:

- **Chapter 1**, "Introducing OS/390 Automated UNIX System Option for VM, VSE and OS/390", provides an introduction to Auto UNIX System, describes its basic functions and benefits, and explains how you can order Auto UNIX System.
- **Chapter 2**, "Using OS/390 Automated UNIX System Option for VM, VSE and OS/390", describes the Auto UNIX System, and explains how you administer Auto UNIX System.
- **Chapter 3**, "Planning for OS/390 Automated UNIX System Option for VM, VSE and OS/390", describes things you should consider when planning for Auto UNIX System, including hardware and software requirements, Control Center requirements, and installation considerations.

Auto UNIX System Information

The following sections show the information available for Auto UNIX System.

Hardcopy Information

The following table shows the hardcopy information shipped with your order for the base Auto UNIX System.

Title	Order Number
OS/390 Automated UNIX System Option for VM, VSE and OS/390 General Information	GA22-7362
OS/390 Automated UNIX System Option for VM, VSE and OS/390 Installation and Setup	GA22-7363
OS/390 Automated UNIX System Option for VM, VSE and OS/390 Licensed Program Specification	GA22-7364
OS/390 V2R6 Application Enabling Technology: Administration and Programming	GC28-1993
OS/390 UNIX System Services Planning	SC28-1890
OS/390 UNIX System Services Command Reference	SC28-1892

Softcopy Information

The following softcopy information is automatically shipped with your order for Auto UNIX System:

- **OS/390 CD-ROM Collection** (SK2T-6700)
- **OS/390 CD-ROM PDF Collection** (SK2T-6718)

Internet Information

The following are the types of Auto UNIX System and OS/390 information available on the Internet, and the Web sites where you can find them:

- **Readable online** -
www.s390.ibm.com/autounix/
www.s390.ibm.com/os390/ (click on Library)
- **PDF printable** -
www.s390.ibm.com/os390/bkserv/ (click on PDF version)

Related Online Information

Auto UNIX System provides online help to support the tasks of installation and setup, and for eNetwork Communications Server for OS/390 (TCP/IP) configuration.

Introducing OS/390 Automated UNIX System Option for VM, VSE and OS/390

OS/390 Automated UNIX System Option for VM, VSE and OS/390 (Auto UNIX System) Release 1 is a pre-configured and pre-built OS/390 Version 2 Release 6 (V2R6) system, that provides all the system programming required to support an OS/390 UNIX System Services (OS/390 UNIX) based application environment. Auto UNIX System works as an automated OS/390 UNIX application server, and enables its customers to implement OS/390 UNIX applications without requiring OS/390 system or programming skills. This is particularly valuable for VM/ESA and VSE/ESA customers who do not have OS/390 skills; and to OS/390 customers looking for a departmental or remote distributed S/390 UNIX solution where no OS/390 skills exist. Auto UNIX System runs in a stand-alone processor, or in coexistence with VM/ESA and/or VSE/ESA on the same machine, as a VM/ESA guest system or in an LPAR.

The Need for Auto UNIX System

The new business opportunities provided by web technologies and the growing mission-critical nature of UNIX applications provide the basic need for the Auto UNIX System solution. Many organizations have chosen to buy or develop their own home-grown UNIX applications. Although the rapid implementation of these applications is beneficial, issues of reliability and availability can be a concern.

In production, UNIX applications and hardware do not scale easily, or provide robust failure recovery. Often as UNIX applications go into production, problems with hardware or software are solved by having backup hardware or software available. This solution greatly increases the cost of operating the system. And with the 24x7 availability requirement of many organizations, a cost-effective solution is needed.

The Benefits of Auto UNIX System

Most Information Systems (IS) organizations are well aware of the strengths of the S/390 platform. Applying the same level of control, testing, application integration and maintenance practices of the S/390 platform to the UNIX applications in their environment would be an ideal solution to the problems presented when running UNIX applications.

Auto UNIX System provides its customers with a stable, manageable environment for their UNIX applications. Auto UNIX System allows several UNIX applications to run concurrently (e.g. Lotus Domino and WebSphere Application Server) while VM/ESA and/or VSE/ESA workloads run in coexistence on the same processor. Auto UNIX System provides installation support for UNIX applications, and also provides functions that allow its users to maintain their chosen set of OS/390 UNIX applications.

Auto UNIX System enables the installation and administration of OS/390 UNIX applications through an OS/390 UNIX shell interface. Therefore, Auto UNIX System users can access the OS/390 UNIX-based environment without any knowledge of OS/390 system administration or programming.

Auto UNIX System provides integration with existing OS/390, VM/ESA and VSE/ESA applications and data to promote efficient use of all systems and applications. Auto UNIX System uses communications facilities such as TCP/IP, APPC (SNA) and MQSeries to enable this application integration.

The Auto UNIX System solution is cost-effective, avoids risks to the existing production environment, and is scalable for future growth.

Lotus Domino for S/390

Auto UNIX System is pre-built and configured to install the Lotus Domino server quickly and easily. Lotus Domino for S/390 combines the power of Lotus Notes as an application platform with the strengths of S/390 as a server. Lotus Notes is a client/server environment that allows users to communicate securely over a local area network (LAN) or communications link. Lotus Notes combines an application development environment, a document database, and a sophisticated messaging and calendaring system.

Lotus Notes enables you to create OS/390 UNIX applications for improving the quality of everyday business practices in such areas as product development, customer service, sales and account management. Lotus Domino for S/390 allows you to take advantage of this environment, while providing the reliability and availability of S/390.

Additional Application Support

Auto UNIX System also supports the industry trends of network computing and e-business. WebSphere Application Server for OS/390 (formerly known as Lotus Domino Go Webserver) is shipped integrated with Auto UNIX System. WebSphere Application Server for OS/390 provides a quick and easy way to use the Web for publishing and promotional purposes. In addition to HTTP services, WebSphere Application Server for OS/390 consists of IBM's Java servlet-based Web application server that helps you deploy and manage Web-based applications.

The Auto UNIX System also comes with Java for OS/390 (including Sun JDK1.1.4 APIs) integrated. Java is the state-of-the-art, object-oriented programming language that is becoming ubiquitous in the computer industry. The open standard for Java gives businesses cross-platform support throughout their enterprise including the Web, and a more cost effective way to manage information. The ability to write an application on any platform and execute it on any platform has created significant demand for this language. Auto UNIX System provides the latest Java functionality.

Auto UNIX System also comes equipped with IBM Network Station Manager. IBM Network Station Manager gives your organization the capability for Intranet support, and can be used in conjunction with Web serving, or simply as a cost effective network terminal.

The Auto UNIX System Optional Features

You can order the following optional features when you place your order for Auto UNIX System:

- Auto UNIX System C/C++
- Auto UNIX System DB2
- Auto UNIX System MQSeries

Auto UNIX System C/C++ code is shipped disabled, as part of the Auto UNIX System. If you order Auto UNIX System C/C++ you can enable it with the **prodreg** system administration command. No separate installation is necessary.

The Auto UNIX System DB2 and Auto UNIX System MQSeries features are shipped with the Auto UNIX System install tapes when you place an order for these Auto UNIX System features. Both features come as pre-defined and pre-configured subsystems. Auto UNIX System DB2 and Auto UNIX System MQSeries features can be installed during Auto UNIX System installation, or later.

Auto UNIX System C/C++

Auto UNIX System C/C++ is a state-of-the-art, OS/390-based programming language that application developers can use to create, modify, test, and debug mission-critical C or C++ UNIX-based applications.

Auto UNIX System C/C++ consists of:

- An OS/390 Version 2 Release 6 C compiler
- An OS/390 Version 2 Release 6 C++ compiler
- A starter set of class libraries
- An OS/390 interactive debug tool
- Some C/C++ application development utilities

Auto UNIX System DB2

The Auto UNIX System DB2 (Version 5) feature provides for DB2 administration and operation from the OS/390 shell. The Auto UNIX System **db2** command allows you to access DB2 functions.

A few examples of the tasks you could accomplish using the Auto UNIX System DB2 feature are:

- Starting, stopping and recycling DB2.
- Issuing DB2 commands from the OS/390 shell and receiving the subsequent responses.
- Invoking DB2 utilities from the OS/390 shell, with OS/390 UNIX files for SYSIN input and SYSPRINT output.

- Collecting unsolicited messages issued by the DB2 subsystem and storing them in a file.
- Controlling the DASD space available for user DB2 databases.
- Issuing SQL statements to DB2.
- Building an SQL application to be invoked from the OS/390 shell, a shell script, a REXX EXEC or a makefile.

Auto UNIX System MQSeries

Auto UNIX System MQSeries feature supports connectivity to VSE/ESA systems. You can use the OS/390 shell to access MQSeries commands using the Auto UNIX System **mq** command, and access MQSeries utilities using the Auto UNIX System **mqu** command. Sample programs are provided with the Auto UNIX System MQSeries feature to show you how to use MQSeries to access data on VSE/ESA from OS/390 OS/390 UNIX.

Servicing Auto UNIX System

A new approach to support for Auto UNIX System will be provided by the IBM Front End Support Team (FEST). This team has been created to provide defect support to Auto UNIX System customers without requiring OS/390 system programming skills. As long as you have not altered the pre-built Auto UNIX System, as determined by IBM Support, you are entitled to this level of support. User volumes and data may be modified; however, the integrity of the Auto UNIX System volumes must be maintained. Auto UNIX System customers who may have OS/390 system programming skills may elect to modify the system; however, doing so would render them ineligible for FEST support.

Access to the FEST is obtained through your normal IBM S/390 voice or electronic support contacts. Normal, over-the-phone S/390 support assistance is provided by the IBM Support team. In addition, the FEST will assist you with problem determination and problem source identification (PD/PSI), and problem work-arounds when appropriate. In some cases when PD/PSI requires OS/390 system programming skills, the FEST can remotely access the customer's Auto UNIX System to perform PD/PSI on the customer's behalf. Without remote access to the system, complete and timely diagnostics and service cannot be guaranteed.

S/390 service criteria applies to Auto UNIX System service. This level of service includes:

- **24x7 availability**
- **S/390 callback criteria:**
 - Severity 1 within 2 business hours
 - Severity 2 within 4 business hours
 - Severity 3 and 4 by the next business day
- **Corrective service delivered by:**
 - Corrective Service tapes (PTFs)
 - S/390 Software Support Internet page (PTF download facility)

Auto UNIX System provides corrective service for all severity 1 and 2 problems through the normal IBM PTF process. Severity 3 and 4 problem calls will be taken and problem records will be opened. However; resolution to severity 3 and 4 problems may not be provided until a future release or refresh level of Auto UNIX System is made available.

The Auto UNIX System contains SMP/E, and all the control information and libraries needed to maintain the current service level for all SMP/E managed components. Auto UNIX System commands are provided as an interface to SMP/E for service and install. Therefore, the Auto UNIX System administrator is not required to have any knowledge of SMP/E.

In addition, Auto UNIX System also makes a new release or system refresh available at least every six months. This involves a standalone restore of the system residence pack, and a logical restore of other base system code and SMP/E data/libraries. You can perform this restore without affecting any installation-unique or user defined data. At times it may be necessary for customers to install system refreshes to resolve a problem. This allows for more complex problem resolution while eliminating the need for OS/390 system programming skills. System refreshes can be easily installed using the Auto UNIX System Control Center.

For more information about Auto UNIX System service and FEST support, refer to *OS/390 Automated UNIX System Option for VM, VSE and OS/390 Installation and Setup*.

Ordering Auto UNIX System

Auto UNIX System is available as a stand-alone, built-to-order product, orderable under the Packaged Offering Selection menu of the Configurator Software (CFSW) ordering system. The Auto UNIX System program number is **5655-A97**.

The following rules apply when you place an order for Auto UNIX System and the Auto UNIX System features:

- If you order Auto UNIX System, you must have a license for OS/390 Version 2.
- If you order Auto UNIX System C/C++ enabled, you must have a license for OS/390 Version 2 C/C++ with Debug Tool.
- If you order the Auto UNIX System DB2 feature, you must have a license for DB2 for OS/390 Version 5.
- If you order the Auto UNIX System MQSeries feature, you must have a license for MQSeries for MVS/ESA Version 1.

Using OS/390 Automated UNIX System Option for VM, VSE and OS/390

This chapter describes Auto UNIX System, and how you can use Auto UNIX System to administer your system.

Auto UNIX System

Auto UNIX System consists of a pre-programmed OS/390 Version 2 Release 6 system, that allows you to access the OS/390 UNIX application environment. With the Auto UNIX System solution, you:

- Do not have direct access to traditional OS/390 applications (e.g. TSO, CICS, IMS or batch processing).
- Can not modify the system structure.
- Are not necessarily licensed for all underlying products and features in the system.

What you do have with Auto UNIX System, is a solution that enables you to implement the OS/390 UNIX-based environment without OS/390 skills. You can perform system administration tasks from the UNIX shell interface of the Auto UNIX System and Control Center. All of the required system setup tasks have already been performed. This includes customization of the base operating system components, such as DFSMS, APPC, JES, and SMF. The definition of a hierarchical file system (HFS) for OS/390 UNIX System Services, and a default customization of the OS/390 UNIX shell is also done for you. In addition, an extensive security structure is set up using the RACF component of the OS/390 Security Server.

Because Auto UNIX System is pre-built for you, you only need to develop skills in those applications you choose to implement. The following figure shows a graphical representation of Auto UNIX System. The shaded areas represent those applications and application enablers in which you would need to develop skills if desired.

Auto UNIX System

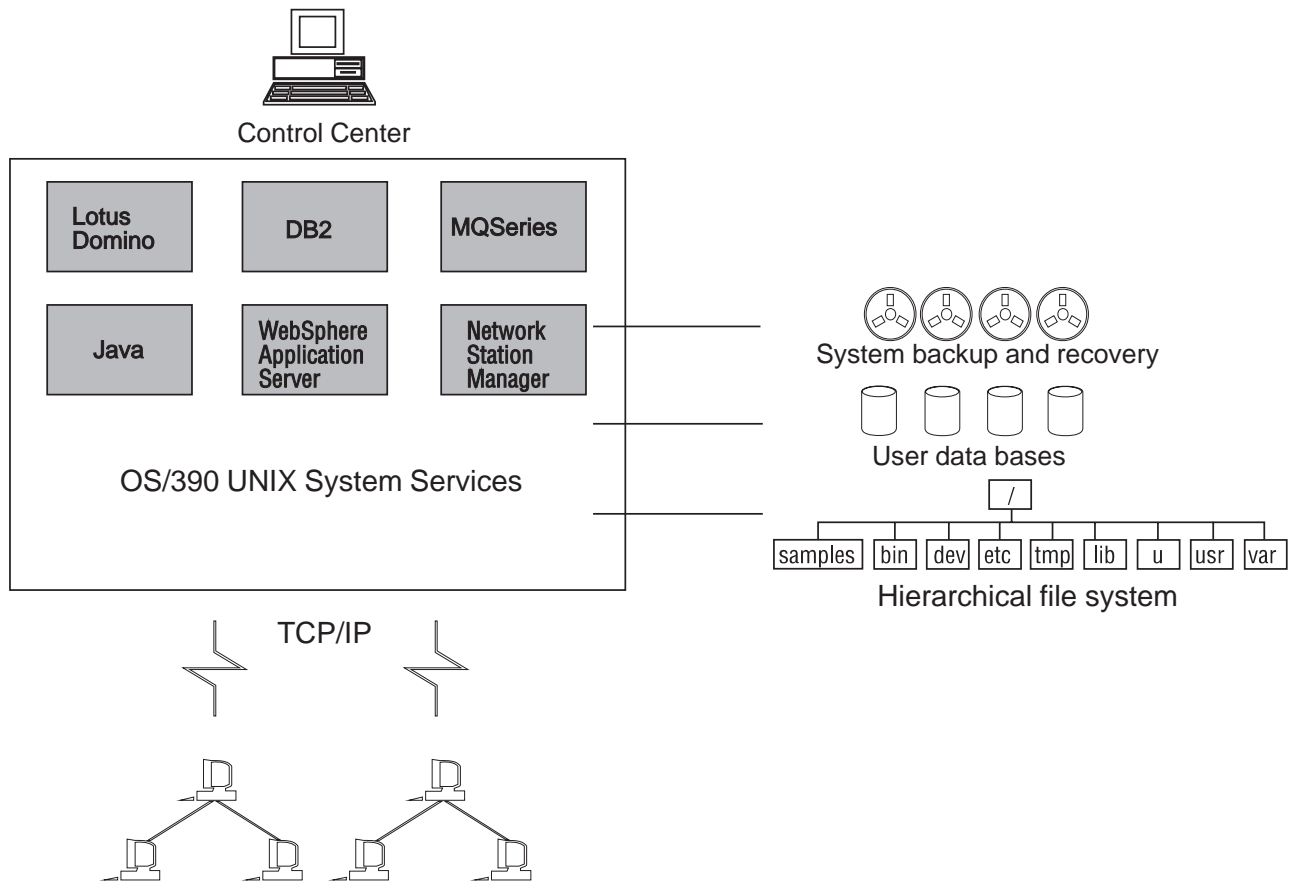


Figure 1. Auto UNIX System

Auto UNIX System Administrator Tasks

The Auto UNIX System administrator is expected to have general S/390 experience (e.g. VM/ESA or VSE/ESA administration) and experience performing UNIX system administration tasks. The Auto UNIX System administrator can use Auto UNIX System to accomplish tasks that encompass:

- **UNIX user administration** - adding, deleting, and maintaining user IDs.
- **Network administration** - configuring the network.
- **Data administration** - maintaining the file system.
- **System administration** - maintaining the DB2 databases.

Specifically, the Auto UNIX System administrator can use Auto UNIX System to:

- Configure a TCP/IP network.
- Create and manage user IDs.
- Manage DASD volumes for user data.
- Manage HFSs and databases on user volumes.
- Administer DB2 and MQSeries.
- Start and stop the system.
- Install and manage UNIX applications.
- Back up and restore system and user data.
- Perform diagnostics.
- Apply service to the system.

All of these tasks can be accomplished from the OS/390 UNIX shell interface without the need to access Time Sharing Option (TSO) or have specific OS/390 skills.

Auto UNIX System Control Center

A number of system-related tasks the Auto UNIX System administrator needs to perform can be accomplished from the Auto UNIX System Control Center. The Auto UNIX System Control Center is an easy-to-use interface that can run on either:

- The hardware management console (HMC)
- A standalone support element (SA-SE)
- An OS/2 workstation (when running Auto UNIX System under VM/ESA)

The Control Center is a graphical user interface (GUI) that allows the Auto UNIX System administrator to:

- Install Auto UNIX System
- Start the system
- Apply service
- Restart TCP/IP
- Display the event log
- Create a standalone dump
- Recover the system

The Auto UNIX System Control Center allows the Auto UNIX System administrator to perform these system administration tasks without requiring direct access to the OS/390 console, or OS/390 skills.

Control Center Automatic System Restart

The Control Center monitors the system through the console messages it produces. The Control Center also performs regular checking of the status of the system and subsystems. The Control Center is enabled to automatically restart the system when it detects a hardware failure or disabled wait state.

Options for the automatic restart function are available from the Control Center menu. Automatic restart can also be switched off if desired, for example, to perform problem determination or system maintenance.

Planning for OS/390 Automated UNIX System Option for VM, VSE and OS/390

This chapter describes the Auto UNIX System hardware, software, and Control Center requirements, and what you should consider when planning for Auto UNIX System installation.

Hardware Requirements

Hardware for the Auto UNIX System must be ESA-capable. The Auto UNIX System requires the following hardware features:

- S/390 processor
- DASD devices and volumes
- Tape device
- Network connections

You must define all the elements of the I/O configuration to the hardware and to VM/ESA (if you use VM/ESA). Auto UNIX System requires fixed addresses for two system packs and the Auto UNIX System console. The Control Center will assist you in adding additional definitions for DASD, channel-to-channel (CTC) and local area network (LAN) connections.

S/390 Processor

S/390 processor must be ESA-capable, and requires a minimum of 128 megabytes (MB) of storage for Auto UNIX System. Auto UNIX System installation is not supported on P/390, R/390, or Integrated Server processors because the Control Center functions are not supported on those machines.

IBM hardware platforms suitable for Auto UNIX System include, but are not restricted to:

- S/390 Multiprise 2000
- S/390 Parallel Enterprise Server Generation 3,4,5 and 9672-Rx2/Rx3

DASD Devices and Volumes

Auto UNIX System supports the following DASD device types:

- 3390
- 3380
- 9345

You specify the DASD device type of the two system volumes when you place your order for Auto UNIX System. These system volumes must both be the same DASD device types, and require a minimum of 1.5 gigabytes (GB) of storage each (e.g. 3390-2 or larger, 3380-K, or 9345 B22).

The total DASD requirement is approximately 16.5 GB of storage, excluding optional feature requirements. This number can only be realized by VM customer who can optimize the size of their minidisks. For customers using real DASD, the total amount of required storage may be larger depending on the actual device types.

Tape Device

Tapes are used for Auto UNIX System installation, service and recovery (backup/restore). Auto UNIX System is shipped on either 3480 or 4mm DAT tapes. You can order the tape that is appropriate for the hardware at your installation.

Network Connections

When you install Auto UNIX System, you must define at least one TCP/IP dedicated LAN attachment port, configured for the TCP/IP Passthru mode. This attachment could be with either an OSA-2 adapter card or a 3172 control unit.

You also have the option of defining channel-to-channel (CTC) connections. You can specify one or more of these connections, depending on your setup.

Auto UNIX System also comes pre-configured for a Systems Network Architecture (SNA) connection. You can use a SNA connection via CTC to VM/ESA or VSE/ESA.

When installing Auto UNIX System, it is recommended you define the unit addresses for all of the communication devices you plan to use, even if you do not plan to use them immediately.

Host Software Requirements

There are no additional software requirements for Auto UNIX System that runs on the host processor. All software required to implement Auto UNIX System functions is included in your Auto UNIX System. This includes the products that allow you to install, run, maintain and service OS/390 UNIX System Services applications.

Communication Considerations

You can communicate with other systems from Auto UNIX System. This communication includes the movement of data between your VM/ESA and VSE/ESA systems and Auto UNIX System. This communication also enables OS/390 UNIX System Services applications to access required data from both VM/ESA and VSE/ESA.

To enable communication, the system you wish to communicate with must use one of the following communication protocols:

- Virtual Telecommunications Access Method (VTAM)
- Transmission Control Protocol/Internet Protocol (TCP/IP)

Note: If you want to use MQSeries for communication, you must order the Auto UNIX System MQSeries feature.

Auto UNIX System is pre-configured to easily establish communication with VM/ESA or VSE/ESA using VTAM APPC. Auto UNIX System also has a pre-configured MQSeries setup to easily communicate with VSE/MQSeries. Auto UNIX System provides APPC communication samples and MQSeries programming samples to demonstrate how you can establish communications.

TCP/IP is the most often used communication vehicle for UNIX applications, making a working TCP/IP configuration critical for UNIX application availability. Often, maintaining the TCP/IP configuration involves editing multiple files with little or no guidance for available options and their meanings.

Auto UNIX System provides sample TCP/IP socket programs to demonstrate communication between Auto UNIX System and VM/ESA or VSE/ESA. Auto UNIX System also provides an intuitive, web-based, graphical user interface for TCP/IP. This interface hides the complexity of configuring TCP/IP, and helps avoid definition errors by value checking and cross checking.

For more information about setting up connectivity, refer to *OS/390 Automated UNIX System Option for VM, VSE and OS/390 Installation and Setup*.

Control Center Requirements

The Auto UNIX System installation program runs on the Control Center, so you must set up the Control Center before you install Auto UNIX System.

The following sections show the requirements for running the Control Center on:

- The hardware management console (HMC)
- A standalone support element (SA-SE)
- An OS/2 workstation

HMC and SA-SE

Auto UNIX System can only be controlled by a Control Center running on an HMC or SA-SE, when Auto UNIX System is running in an LPAR or standalone environment. An HMC or SA-SE is not supported for running the Control Center as a VM/ESA guest system.

A service level of **A0C** is required to run the Control Center on an HMC or SA-SE. Before using the Control Center on an HMC or SA-SE, you must perform some configuration and customization.

OS/2 Workstation

The Control Center requires a Personal Computer with OS/2 Warp Release 4 or higher connected to the VM/ESA where Auto UNIX System is the guest system, and PCOM/3270 Version 4.1 or higher. To set up the Control Center on an OS/2 workstation, you need to set up a connection to the operating system, and configure a 3270 terminal emulation.

For specific instructions about setting up the Control Center, refer to *OS/390 Automated UNIX System Option for VM, VSE and OS/390 Installation and Setup*.

Installation Considerations

Auto UNIX System is installed from a set of tapes, and can be adapted to existing hardware at your location. Auto UNIX System provides for the adapting of an I/O configuration with different device types and addresses.

You can install Auto UNIX System as:

- A logical partition (LPAR) of an S/390 processor
- A VM/ESA Guest System
- A standalone system on an S/390 processor

After you have decided in which environment you want Auto UNIX System to run, you install Auto UNIX System from the Auto UNIX System Control Center using the installation dialog. The installation of the Auto UNIX System base system takes only a few hours, depending upon the hardware you are using.

Logical Partition

You can install Auto UNIX System on a logical partition (LPAR) of an S/390 processor, or as a standalone system on an S/390 processor. When running Auto UNIX System on an LPAR, the LPAR must have a minimum size of 128 MB.

The Auto UNIX System comes with an initial hardware configuration defined. That configuration is described in the input/output definition file (IODF). Auto UNIX System uses three pre-defined unit addresses (two system packs and the Auto UNIX System console) that you can not change. When installing Auto UNIX System on an LPAR, you must update your input/output configuration definition statements (IOCDS) to reflect these pre-defined unit addresses and the other addresses you plan to use. You can use the input/output configuration program (IOCP) to do this.

For information about IOCP, and how to update the IOCDS, refer to *9672/9674 Hardware Management Console Application for S/390*.

VM/ESA Guest System

You can install Auto UNIX System as a VM/ESA guest system. Auto UNIX System can also be installed as multiple VM/ESA guest systems. Each guest system image is controlled by its own dedicated instance of the Control Center. It is possible to control multiple VM/ESA guest systems from multiple Control Centers. However, only a single instance of the Control Center can run on one OS/2 system.

The Control Center requires 2 host sessions for each VM/ESA guest system to be controlled. The first session is used as the VM/ESA guest system console from which the Auto UNIX System start can be performed. The second session is used for the local terminal for accessing the OS/390 console.

For more information about the Auto UNIX System installation options, refer to *OS/390 Automated UNIX System Option for VM, VSE and OS/390 Installation and Setup*.

Communicating Your Comments to IBM

OS/390
OS/390 Automated UNIX System
Option for VM, VSE and OS/390
General Information
Publication No. GA22-7362-00

If you especially like or dislike anything about this book, please use one of the methods listed below to send your comments to IBM. Whichever method you choose, make sure you send your name, address, and telephone number if you would like a reply.

Feel free to comment on specific errors or omissions, accuracy, organization, subject matter, or completeness of this book. However, the comments you send should pertain to only the information in this manual and the way in which the information is presented. To request additional publications, or to ask questions or make comments about the functions of IBM products or systems, you should talk to your IBM representative or to your IBM authorized remarketer.

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

If you are mailing a readers' comment form (RCF) from a country other than the United States, you can give the RCF to the local IBM branch office or IBM representative for postage-paid mailing.

- If you prefer to send comments by mail, use the RCF at the back of this book.
- If you prefer to send comments by FAX, use this number:
1-(914)-432-9405
- If you prefer to send comments electronically, use this network ID:
mhvrcfs@us.ibm.com

Make sure to include the following in your note:

- Title and publication number of this book
- Page number or topic to which your comment applies.

Readers' Comments — We'd Like to Hear from You

OS/390

OS/390 Automated UNIX System

Option for VM, VSE and OS/390

General Information

Publication No. GA22-7362-00

Overall, how satisfied are you with the information in this book?

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Overall satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How satisfied are you that the information in this book is:

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Accurate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to find	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easy to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Well organized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable to your tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tell us how we can improve this book:

Thank you for your responses. May we contact you? Yes No

When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you.

Name

Address

Company or Organization

Phone No.

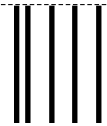


Cut or Fold
Along Line

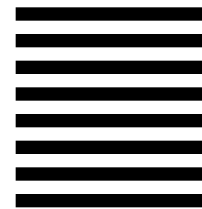
Fold and Tape

Please do not staple

Fold and Tape



NO POSTAGE
NECESSARY
IF MAILED IN THE
UNITED STATES



BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 40 ARMONK, NEW YORK

POSTAGE WILL BE PAID BY ADDRESSEE

IBM Corporation
Department 55JA, Mail Station P384
522 South Road
Poughkeepsie, NY 12601-5400



Fold and Tape

Please do not staple

Fold and Tape

Cut or Fold
Along Line



Program Number: 5655-A97

Printed in USA.

GA22-7362-00

