IBM

Program Directory for

IBM WebSphere Host On-Demand

Version 5

at maintenance level V5.0.4 for OS/390

Version 5 Release 0, Modification Level 4

Program Number 5648-D70

FMID HHOF500

for Use with
OS/390 V2R5 or higher

Document Date: May 2001

GI10-3175-00

Note!

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

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Notices

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APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

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1.0 Introduction

This program directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of IBM WebSphere Host On-Demand V5 for OS/390. This publication refers to IBM WebSphere Host On-Demand V5 for OS/390 as Host On-Demand. You should read all of this program directory before installing the program and then keep it for future reference.

The program directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic and optional program materials and documentation for Host On-Demand.

- 3.0, "Program Support" on page 7 describes the IBM support available for Host On-Demand.

- 4.0, "Program and Service Level Information" on page 9 lists the APARs (program level) and PTFs (service level) incorporated into Host On-Demand.

- 5.0, "Installation Requirements and Considerations" on page 13 identifies the resources and considerations for installing and using Host On-Demand.

- 6.0, "Installation Instructions" on page 21 provides detailed installation instructions for Host On-Demand. It also describes the procedures for activating the functions of Host On-Demand, or refers to appropriate publications.

- Appendix A, "Host On-Demand Install Logic" on page 37 provides the install logic for Host On-Demand.

Before installing Host On-Demand, read 3.2, "Preventive Service Planning" on page 7. This section tells you how to find any updates to the information and procedures in this program directory.

Do not use this program directory if you are installing Host On-Demand with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the program directory as required.

If you are installing Host On-Demand using the MVS Custom-Built Product Delivery Offering (CBPDO, 5751-CS3), a softcopy program directory is provided on the CBPDO tape which is identical to the printed copy shipped with your order. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for Host On-Demand are included on the CBPDO tape.

This program directory is now being maintained as a 'living document' that contains up-to-date program and service level information. Please always reference the latest level of the Program Directory at the following web site:

http://www.ibm.com/software/webservers/hostondemand/library/

1.1 Host On-Demand Description

IBM WebSphere Host On-Demand V5 for OS/390 gives you one-click access to your enterprise's data using the power of Java. One click opens the door to the intranet's key asset, the enterprise data needed for daily business operation.

With OS/390 as a powerful scalable server for Host On-Demand, large networks of workstations with Java-enabled browsers can be economically supported.

There is service that is available to bring Host On-Demand up to the current maintenance level. If this is a **new installation** of Host On-Demand, you will have received a Host On-Demand V5 base tape along with two (2) tapes that contain the V5.0.3 maintenance PTFs.   There is service that supersedes the V5.0.3 level available in May, 2001. If this is not a new installation and/or you want to bring Host On-Demand up to the latest service level, V5.0.4, please order the latest service updates (PTFs) that will bring your Host On-Demand product up to the latest maintenance level via your normal service process. Please see section 4.0, "Program and Service Level Information" on page 9, for more information on the latest service level.

1.2 Host On-Demand FMIDs

Host On-Demand consists of the following FMID:

HHOF500

2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program number for Host On-Demand is 5648-D70.

Basic Machine-Readable Materials are materials that are supplied the product. Optional Machine-Readable Materials are orderable under separate feature codes, and are not required for the product to function.

The program announcement material describes the features supported by Host On-Demand. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is 9-track magnetic tape (written at 6250 BPI), 3480 cartridge, or 4mm cartridge. The tape or cartridge contains all the programs and data needed for installation. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 21 for more information about how to install the program.

Figure 1 describes the tape or cartridge. Figure 2 on page 4 describes the file content of the program tape or cartridge.

Notes:

1. The data set attributes in these tables should be used in the JCL of jobs accessing the tape, but since the data sets on the tape are in IEBCOPY unloaded format, their actual attributes may be different.

2. If you are installing Host On-Demand using the MVS Custom-Built Product Delivery Offering (CBPDO) (5751-CS3), some of the information in these figures may not be valid. Consult the CBPDO documentation for actual values.

3. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1. Basic Material: Program Tape				
Medium	**Feature Number**	**Physical Volume**	**External Label Identification**	**VOLSER**
6250 Tape	CU75CNA	1	IBM WebSphere Host On-Demand V5 (5648-D70)	HOF500
3480 cart	CU77QNA	1	IBM WebSphere Host On-Demand V5 (5648-D70)	HOF500
4mm cart	CU7ZXNA	1	IBM WebSphere Host On-Demand V5 (5648-D70)	HOF500

	F i l e	Name	Dist Library	O R G	R E C F M	L R E C L	BLK SIZE
VOLSER							
HOF500	1	SMPMCS	n/a	SEQ	FB	80	6400
	2	IBM.HHOF500.F1	n/a	SEQ	FB	80	8800
	3	IBM.HHOF500.F2	n/a	SEQ	VB	6160	6164
	4	IBM.HHOF500.F3	n/a	SEQ	VB	32620	32624

Figure 2. Program Tape: File Content

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Host On-Demand.

2.3 Program Publications

The following sections identify the basic and optional publications for Host On-Demand.

2.3.1 Basic Program Publications

Figure 3 identifies the basic unlicensed program publications for Host On-Demand. One copy of each of these publications is included when you order the basic materials for Host On-Demand. For additional copies, contact your IBM representative.

Publication Title	Form Number
n/a	

Figure 3. Basic Material: Unlicensed Publications

Figure 4 on page 5 identifies the basic licensed program publications for Host On-Demand. The main Host On-Demand publication is *Getting Started* which details installation (non OS/390), configuration, and administration. The publications are included in soft copy form (HTML) with the product and are viewable from your browser once the product has been successfully installed using the URL format listed below:

- *Getting Started*:
    - **http://<server name>/<webserver alias>/<language>/doc/install/install.html**
- README:
    - **http://<server name>/<webserver alias>/<language>/doc/readme/readme.html**

where **<server name>** refers to your OS/390 server's TCP/IP host name, **<webserver alias>** refers to your web server's Pass Rule alias (look in your **/etc/httpd.conf** file in the Pass Rule section - default is **hod**), and **<language>** refers to your installed language prefix (ie., **en** for English, **de** for German, etc.). A table of all the supported languages, publication availability and their associated prefix is found after the table of basic publications. An example of a URL to point to the English language Host On-Demand *Getting Started* is:

http://mvs048/hod/en/doc/install/install.html

The publications are also available from the Host On-Demand product Web page at the following URL:

http://www.ibm.com/software/webservers/hostondemand/library

Figure 4. Basic Material: Licensed Publications		
Publication Title	**Form Number**	**Feature Number**
IBM WebSphere Host On-Demand Getting Started	n/a	n/a
README	n/a	n/a

Figure 5 identifies the supported languages and the associated language prefix that you use in the URLs above to access the publications. If a 'Y' is indicated, the document is provided in that language. If an 'N' is indicated, an English language manual will be displayed instead of a translated version.

Figure 5 (Page 1 of 2). Host On-Demand Supported Language Publication Availablility with Prefix			
Language	**Language Prefix**	**README**	**Getting Started**
Chinese	zh	Y	Y
Czech	cs	Y	Y
Danish	da	N	Y
Dutch	nl	N	Y
English	en	Y	Y
German	de	Y	Y
Finnish	fi	N	Y
French	fr	Y	Y
Hungarian	hu	Y	Y
Italian	it	Y	Y
Japanese	ja	Y	Y
Korean	ko	Y	Y

Language	Language Prefix	README	Getting Started
Norwegian	no	Y	Y
Polish	pl	Y	Y
Portugese	pt_PT	Y	Y
Portugese-Brazilian	pt	Y	Y
Russian	ru	Y	Y
Slovenian	sl	Y	Y
Spanish	es	Y	Y
Swedish	sv	N	Y
Turkish	tr	N	Y
Taiwanese	zh_TW	Y	Y

Figure 5 (Page 2 of 2). Host On-Demand Supported Language Publication Availablility with Prefix

2.3.2 Optional Program Publications

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Host On-Demand.

2.5 Publications Useful During Installation

The publications listed in Figure 6 may be useful during the installation of Host On-Demand. To order copies, contact your IBM representative.

Publication Title	Form Number
OS/390 UNIX System Services Assembler Callable Services	SC28-1899-07
OS/390 UNIX System Services User's Guide	SC28-1891-07
OS/390 UNIX System Services Command Reference	SC28-1892-08
OS/390 UNIX System Services Planning	SC28-1890-08
OS/390 UNIX System Services Messages & Codes	SC28-1908-07
SMP/E R8.1 Messages and Codes	SC28-1108-13
SMP/E R8.1 Reference	SC28-1107-14
SMP/E R8.1 User's Guide	SC28-1302-15

Figure 6. Publications Useful During Installation

3.0 Program Support

This section describes the IBM support available for Host On-Demand.

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before installing Host On-Demand, you should also review the current support, product information, and Hints and Tips on the following Web sites:

- Support site: **http://www.ibm.com/software/webservers/hostondemand/support/**

- Product information site: **http://www.ibm.com/software/webservers/hostondemand/**

- Program Directory softcopy: **http://www.ibm.com/software/webservers/hostondemand/library**

- Hints and Tips site: **http://www.ibm.com/support/**

3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 7 identifies the component IDs (COMPID) for Host On-Demand.

Figure 7. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
HHOF500	5648D7000	Host On-Demand V5	500

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of Host On-Demand. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated.

If this is a **new installation** of Host On-Demand (FMID HHOF500) you received a Host On-Demand V5.0 base tape to install via SMP/E. You also received two (2) Host On-Demand PTF (UW77693 & UW77707) tapes that when applied via SMP/E will bring Host On-Demand to the V5.0.3 maintenance level. There is new maintenance that supersedes the V5.0.3 level that can be ordered through your normal service procedure. If you do decide to install the maintenance tapes that were sent with your base V5.0 order and order the V5.0.4 maintenance at a later date, the V5.0.3 PTF tapes supplied with the base product are formatted as are standard PTF tapes (ie., NL, LRECL=80, BLKSIZE=7200). The PTF is found in F1(file one) on the tape. RECEIVE the PTFs and then APPLY the PTFs following the instructions below. Sample RECEIVE and APPLY JCL is found after the listing of the PTFs below.

If this **is not a new installation** of Host On-Demand V5.0, it is recommended that you order through your normal service process the V5.0.4 PTFs (UW79709 & UW79728). Please apply the PTFs to your base V5.0 Host On-Demand product to bring your Host On-Demand V5 product to the V5.0.4 level.

4.1 Program Level Information

APAR fixes against previous releases of this product have been incorporated into the following FMIDs and are detailed below. Always apply the latest PTF available for your product.

- FMID HHOF500

4.1.1 MVS Service Level V5.0.1 Information (Available October, 2000)

A PTF to bring Host On-Demand to the V5.0.1 maintenance level was available in October, 2000 and has been **superseded** by the V5.0.1b PTF. The APARs included in Service Level V5.0.1 are listed below:

    IC27781 PRINT SCREEN USING NETSCAPE AND LANDSCAPE MODE CAUSES
    IC27812 5250 AID KEYS DON'T FUNCTION UNLESS CURSOR IS REPOSITIONED
    IC27914 ENTER key does not work within a field.
    IC27825 PF Keys not working correctly in a 5250 session.
    IC28344 Fix APL character set problem
    OW46538 Field exit does not properly work on RTL field.
    IC27267 Create Presentation Space, etc, not honored
    IC28521 SERVICE MANAGER STOPS, HANGS, OR FAILS DUE OUT OF
    IC28542 JAVA.LANG.CLAASCASTEXCEPTION RUNNING APPLETS EMBEDDED IN BROWSE
    IC28560 HODADMIN GROUPS DO NOT SHOW USERS
    IC28470 New Function: Hod4 Cached Client Migration, External Commands for Host Print, & HTML
    Parameters for the Deployment Wizard

IC28577 Deployment Wizard modifications, Cursor Positioning, VT Scroll Bar Fixes, PCOMM
auto-reconnect, Cached Client Bookmarking, ENPTUI window, and CP1390/1399 fixes
IC28471 field+ key does not always clear field
IC28578 COMM659 on 5250 display when starting CICS/400 application
IC28580 WHEN PRINTING AND PRINT DOES NOT RECEIVE BIND

4.1.2 MVS Service Level V5.0.1b Information (Available November, 2000)

A PTF to bring Host On-Demand to the V5.0.1b maintenance level was available in November, 2000 and
has been **superseded** by the V5.0.2 PTF. The APARs fixed for Service Level V5.0.1b are listed below:

IC29155 Errors using HODAdminCached client
IC28850 Add Query List support
IC28812 5250 error trying to enter data into a single char input field
OW47178 UNABLE TO SERIALIZE MACROSCREEN OBJECT AS DESCRIBED IN API
IC28848 CUSTOMER HAS A BLANK SCREEN WHEN SELECT MAPS WITH RADIO
IC29045 UNABLE TO OPEN XLS FILE IF DBCS IN J-FIELD
OW47356 HOD V5 all the configured sessions do not display
IC29094 Upgrading cached client from HOD 4 to HOD 5 fails to save color
IC28903 CONTROL MAPPED TO ENTER KEY SOMETIMES DOES NOT WORK
OW47456 ECLOIA$InternalOIANotify missing from cached client
OW47124 INVALID SYNTAX IN JCL JOB HOMDDDEF, STEP DEFPATH
IC28606 HOD5 CSD1 does not include Create Partion fix

4.1.3 MVS Service Level V5.0.2 Information (Available February, 2001)

A PTF to bring Host On-Demand to the V5.0.2 maintenance level was available in February, 2001 and has
been **superseded** by the V5.0.3 PTFs. The APARs fixed for Service Level V5.0.2 are listed below:

IC29305 KEYREMAP CONTROL=ENTER FUNCTION NOT SAVED
OW47778 VT session hangs going to 3270 host
OW47620 ConfigServerURL in the config.properties file is lowercased
OW47917 Exception when trying to create bookmarked icon
OW47894 TN3270 basic printer session shows COMM655 until host data sent
IC295415 Error with pop-up box border in HOD 5250 session, SC enabled

4.1.4 MVS Service Level V5.0.3 Information (Available March, 2001)

A PTF to bring Host On-Demand to the V5.0.3 maintenance level was available in March, 2001 and has
been **superseded** by the V5.0.4 PTFs. PTFs UW77693 and UW77707 were available in March, 2001.
The APARs fixed for Service Level V5.0.3 are listed below:

OW47437 HODAdminCached does not work
IC29084 Defective instructions for HOD 5 install on AIX

4.1.5 MVS Service Level V5.0.4 Information (Available May, 2001)

PTFs are now available for Host On-Demand to bring the maintenance level to V5.0.4.   PTF UW79709 and UW79728 are now available in May, 2001. The APARs fixed for Service Level V5.0.4 are listed below:

IC30180   Underdots and 3D Borders--added new feature to display unprotected fields using either underdots or 3D border. Wildcard in the Workstation ID field --added new feature to allow for a wildcard to be used in the workstation ID field.
IC29733   The Terminal Bean needs timely updates
OW48370   User Filter problem
IC29848   Invalid command syntax from unformatted SSCP-LU screen
IC29917   TSO Notify messages are not displayed after running SAS on TSO
IC29928   Wrong display of Old Sheqel sign in HOD, using Hebrew OldCode
OW48070   Remove requested from v4 to v5 cached upgrade
JR15699   Reordering on Hebrew session for Java2
IC29974   Mod5 3270 session hangs when exiting SAS on TSO
IC29971   HOD 5.03 Incorrect DBCS query reply 91
IC29190   Error message when removing the HOD v3 CC with HOD v5
OW48134   Upgrading from HOD 4.03 - 5.01 causes cached client removal error
IC30005   ECL0126 File Transfer Error with CICS
IC29920   Session loses associated printer
IC30040   Session and HOD applet will not close with "cesf logoff."
IC30067   HODv4 session not working with HODv5 multisession icon
IC30063   Toolkit missing font jar files
IC30105   Extra SB blank is added after "copy & past"
IC30128   Cursor is shifted left in error place.
OW49130   ERROR DESCRIPTION:
OW48716   NewUser.html fails

4.2 Service Level Information

PTFs containing APAR fixes against this release of Host On-Demand are available. For a **new installation** you will have received two (2) PTF tapes to bring Host On-Demand up to the V5.0.3 level. There is service, (V5.0.4, PTFs UW79709 and UW79728), that supersedes this maintenance level. If this is not a new installation or you wish to order the latest service updates, please order the PTFs via your normal service process. For further information and a list of included PTFs, examine the ++VER statement in the product's SMPMCS. See Appendix A, "Host On-Demand Install Logic" on page 37 for more information on how to do this.

4.2.1 Sample PTF RECEIVE and APPLY JCL

The following sample JCL to RECEIVE the PTFs from your PTF tape. Change parameters as necessary or use your own JCL.

```
//SMPPTFIN DD DISP=OLD,DCB=(RECFM=FB,LRECL=80,BLKSIZE=7200),
//          DSN=PTF,VOL=SER=PTFTPE,LABEL=(1,NL),UNIT=TAPE
//SMPCNTL  DD *
      SET BDY (GLOBAL).          /* Set to Global Zone        */
      RECEIVE SOURCEID(xxxxxx)   /* Receive sysmods and       */
              SYSMODS            /* holddata; assign a        */
              HOLDDATA.          /* sourceid.                 */
```

The following is sample JCL to APPLY the PTFS. Change parameters as necessary or use your own JCL.

```
//SMPCNTL  DD *
      SET BODY(tzone).           /* Set to Target Zone        */
      APPLY SOURCEID(xxxxxx)     /* Specify id used in RECEIVE */
      GROUP.                     /* APPLY the Corrective Service */
                                 /* and all applicable reqs.  */
```

4.2.2 PTF Installation Directions and Notes.

Run the **hod50ptf.sh** shell script found in the /usr/lpp/HOD directory when installed via SMP/E.   If you did not install in the default HOD directory, you will find the install shell script in your user defined directory.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Host On-Demand. The following terminology is used:

- *Driving system*: the system used to install the program.

- *Target system*: the system on which the program is installed.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.

- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install Host On-Demand.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

Figure 8. Driving System Software Requirements	
Program Number	**Product Name and Minimum VRM/Service Level**
5647-A01	OS/390 SMP/E Version 2 Release 5 or higher with PTF UR51068

The OMVS address space must be active in order to complete the installation process.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Host On-Demand.

Host On-Demand installs in the MVS (Z038) SREL.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Mandatory Requisites: A mandatory requisite is defined as a product that is required without exception; this product either **will not install** or **will not function** unless this requisite is met. This includes products that are specified as REQs or PREs.

Figure 10 on page 12 identifies the mandatory requisites for Host On-Demand.

Figure 9. Mandatory Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5697-D43	Domino Go Webserver for OS/390 V5R0M0
5647-A01	WebSphere Application Server for OS/390 V1.2
5647-A01	OS/390, Version 2 Release 5 or higher(**see note below)
And any **one** of the following optional OS/390 V2R6 elements if SSL support is desired:	
OS/390 Communications Server: IP Security SSL DES (56-bit Export) - FMID JTCP35L	
OS/390 Communications Server: IP Security SSL DES (168-bit US) - FMID JTCP35K	

Note: **If you are running with OS/390 V2R10, there is a LDAP APAR that has been generated. The open APAR number (for R10 only) is OW45791. The APAR is needed to properly display LPAD sessions. Please contact IBM Support to obtain the proper service.

5.2.2.2 Functional Requisites: A functional requisite is defined as a product that is **not** required for the successful installation of this product or for the basic function of the product, but **is** needed at run time for a specific function of this product to work. This includes products that are specified as IF REQs.

Figure 10. Functional Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5655-A46	Java V1R1M8 or Java V1.3 for OS/390 (**see note below)	Java
	OS/390 Communications Server TCP/IP Services (must be running)	TCP/IP
	OS/390 UNIX Systems Service (must be running)	
Any **one** of the following:		
n/a	Netscape Navigator 4.6 or 4.7.x (Windows 95, 98, 2000, NT, UNIX)	Browser Function
n/a	Netscape Navigator 4.61 (OS/2)	Browser Function
n/a	Microsoft Internet Explorer 4.01 with SP1, 5.0, 5.1 (Windows 95, 98, 2000, NT). JVM level must be 3165 or higher.	Browser Function

Note: **Host On-Demand V5.0.4 now supports running with Java V1.3 for OS/390 (releases V2R8 and above only). Java V1.1.8 is supported on all Host On-Demand supported OS/390 releases. **If you are running with OS/390 V2R10, there is a Java PTF that is needed, Generic APAR OW45575(PTF6). This includes PTF UW72472 (for component level R11F) or PTF UW72477 (for component level R11G). This is **required** for running on R10, but is recommended for other releases. Please contact IBM Support to obtain the proper service or go to the IBM Java website to download the latest service: **http://www.ibm.com/java/jdk/index.html**

The preceding listed browsers can be used to download the clients from a remote server for Host On-Demand or to run Host On-Demand on a locally installed client.

5.2.2.3 Toleration/Coexistence Requisites: A toleration/coexistence requisite is defined as a product which must be present on a sharing system. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD at different time intervals.

Host On-Demand has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites: A negative requisite identifies products which must *not* be installed on the same system as this product.

Host On-Demand has no negative requisites.

5.2.3 DASD Storage Requirements

Host On-Demand libraries can reside on 3390 DASD.

Figure 11 on page 16 lists the total space required for each type of library.

Figure 11. Total DASD Space Required by Host On-Demand	
Library Type	**Total Space Required**
Target	1 MB
Distribution	250 MB
HFS	1000 MB

Notes:

1. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.

2. Abbreviations used for the data set type are:

   U   Unique data set, allocated by this product and used only by this product. In order to determine the correct storage needed for this data set, this table provides all required information; no other tables (or program directories) need to be referenced for the data set size.

   S   Shared data set, allocated by this product and used by this product and others. In order to determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

   E   Existing shared data set, used by this product and others. This data set is NOT allocated by this product. In order to determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information on the names and sizes of the required data sets, please refer to 6.1.7, "Allocate SMP/E Target and Distribution Libraries and Paths (HOMALLOC)" on page 23.

Figure 12. Storage Requirements for SMP/E Work Data Sets						
Library DDNAME	**TYPE**	**ORG**	**RECFM**	**LRECL**	**No. of 3390 Trks**	**No. of DIR Blks**
SMPWRK1	S	PO	FB	80	16	216
SMPWRK2	S	PDS	FB	80	16	216
SMPWRK3	S	PDS	FB	80	16*	216
SMPWRK4	S	PDS	FB	80	6	216
SMPWRK6	S	PDS	FB	80	16*	216
SYSUT1	U	SEQ	--	--	34	0
SYSUT2	U	SEQ	--	--	34	0
SYSUT3	U	SEQ	--	--	34	0
SYSUT4	U	SEQ	--	--	34	0

The following table provides an estimate of the storage needed in the SMP/E data sets for Host On-Demand. The estimates must be added to those of any other programs and service being installed to determine the total additional storage requirements.

If the table indicates that the SMPLTS data set must be a PDSE, but your existing SMPLTS is a PDS, you will need to allocate a new PDSE and copy your existing SMPLTS into it, and then change the SMPLTS DDDEF entry to indicate the new PDSE data set.

Note: The sizes of the SMPWRK3 and SMPWRK6 datasets have been increased to account for added service on the product. Please change your SMP/E sample jobs (RECEIVE, APPLY, and ACCEPT) accordingly.

Figure 13. Storage Requirements for SMP/E Data Sets						
Library DDNAME	**TYPE**	**ORG**	**RECFM**	**LRECL**	**No. of 3390 Trks**	**No. of DIR Blks**
SMPLTS	S	PDS	U	0	0	0
SMPMTS	S	PDS	FB	80	0	0
SMPPTS	S	PDS	FB	80	0	0
SMPSCDS	S	PDS	FB	80	0	0
SMPSTS	S	PDS	FB	80	0	0

The following figures describe the target and distribution libraries and HFS paths required to install Host On-Demand. The storage requirements of Host On-Demand must be added to the storage required by other programs having data in the same library or path.

Note: The data in these tables should be used when determining which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
LINKLIB	LMOD	TGTVOL	S	PO	U	0	6	1
SHOMINST	Sample, EXEC	TGTVOL	U	PDS	FB	80	3	5

Figure 14. Storage Requirements for Host On-Demand Target Libraries

DDNAME	Path Name
SHOM0001	/usr/lpp/HOD/IBM

Figure 15. Host On-Demand HFS Paths

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
AHOMHFS1	U	PDS	VB	32600	6761	1
AHOMINST	U	PDS	FB	80	3	5
AHOMMOD1	U	PDS	U	0	7	1

Figure 16. Storage Requirements for Host On-Demand Distribution Libraries

5.3 FMIDs Deleted

Installing Host On-Demand may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS. See Appendix A, "Host On-Demand Install Logic" on page 37 for more information on how to do this.

If you do not wish to delete these FMIDs at this time, you must install Host On-Demand into separate SMP/E target and distribution zones.

Note: These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

5.4 Special Considerations

The distribution libraries are assumed to be contained in a single HFS data set whose mount point is */usr/lpp/HOD*. Host On-Demand can be installed into an existing HFS, but if you wish to create your own HFS, the sample job HOMHFS can be used to allocate the HFS. It is recommended that you create your own HFS for Host On-Demand for serviceability. The HOMISMKD JCL sample is used to create the directory structure for your HFS. HOMISMKD also creates a directory structure under the */usr/lpp/HOD* filesystem, which is assumed to already be allocated and mounted on the target system.

After you finish with the SMP/E portion of your installation including running HOMAPPLY and HOMACCPT, you will have to run the shell script **hod50mvs.sh** to complete the installation. Refer to **6.2, "Activating Host On-Demand" on page 28** for more details.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of Host On-Demand.

Please note the following:

- If you want to install Host On-Demand into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.

- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.

- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing Host On-Demand

6.1.1 SMP/E Considerations for Installing Host On-Demand

This release of Host On-Demand is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 17. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

SUB-ENTRY	Value	Comment
DSSPACE	(1000,500,350)	
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

Figure 17. SMP/E Options Subentry Values

6.1.3 SMP/E CALLLIBS Processing

Host On-Demand uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When Host On-Demand is installed, ensure that DDDEFs exist for the following libraries:

- CEE.SCEELKED

Note: The DDDEFs above are used only to resolve the link-edit for Host On-Demand using CALLLIBS. These data sets are not updated during the installation of Host On-Demand.

6.1.4 Unload the Sample JCL from the Product Tape

The following sample installation jobs are provided on the distribution tape to help you install Host On-Demand:

Figure 18. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
HOMRECVE	RECEIVE	Sample RECEIVE job	IBM.HHOF500.F1
HOMALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HHOF500.F1
HOMDDCLN	DELETE	Sample job for deleting Version 2 DDDEFs (only for V2 migrations)	IBM.HHOF500.F1
HOMDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HHOF500.F1
HOMCOPY	COPY	Sample job to copy V2 to the current version (only for V2 migrations)	IBM.HHOF500.F1
HOMHFS	HFS	Sample job to define Host On-Demand HFS data set (Optional)	IBM.HHOF500.F1
HOMISMKD	MKDIR	Sample job to invoke the supplied HOMMKDIR EXEC to allocate HFS paths	IBM.HHOF500.F1
HOMAPPLY	APPLY	Sample APPLY job	IBM.HHOF500.F1
HOMACCPT	ACCEPT	Sample ACCEPT job	IBM.HHOF500.F1
HOMSERVR	START	Sample job for starting Host On-Demand	IBM.HHOF500.F1

You may copy the jobs from the tape by submitting the job below. Add a job card and modify the parameters in boldface to uppercase values to meet your site's requirements before submitting.

```
//STEP1    EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//IN       DD DSN=IBM.HHOF500.F1,UNIT=tunit,VOL=SER=HOF500,
//         LABEL=(2,SL),DISP=(OLD,KEEP)
//OUT      DD DSN=jcl-library-name,
//         DISP=(NEW,CATLG,DELETE),
//         VOL=SER=dasdvol,UNIT=dunit,
//         DCB=*.STEP1.IN,SPACE=(TRK,(3,1,2))
```

```
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
   COPY INDD=IN,OUTDD=OUT
   SELECT MEMBER=(HOMACCPT,HOMALLOC,HOMAPPLY,HOMCOPY,HOMDDCLN,    x
     HOMDDDEF,HOMHFS,HOMISMKD,HOMMKDIR,HOMRECVE,HOMSERVR)
/*
```

where **tunit** is the unit value matching the product tape or cartridge, **jcl-library-name** is the name of the data set where the sample jobs will reside, **dasdvol** is the volume serial of the DASD device where the data set will reside, and **dunit** is the DASD unit type of the volume.

You can also access the sample installation jobs by performing an SMP/E RECEIVE for FMID HHOF500, and then copying the jobs from data set **hlq.IBM.HHOF500.F1** to a work data set for editing and submission.

6.1.5 Perform SMP/E RECEIVE (HOMRECVE)

Edit and submit sample job HOMRECVE to perform the SMP/E RECEIVE for Host On-Demand. Consult the instructions in the sample job for more information.

NOTE: if you obtained Host On-Demand as part of a CBPDO, you can use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the Host On-Demand FMIDs as well as any service, HOLDDATA, or preventive service planning (PSP) information included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.6 RECEIVE the Cumulative Service Tape (if provided)

NOTE: This step is bypassed if receiving the product from a CBPDO.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.7 Allocate SMP/E Target and Distribution Libraries and Paths (HOMALLOC)

Edit and submit sample job HOMALLOC to allocate the SMP/E target and distribution libraries for Host On-Demand. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.8 Delete Version 2 DDDEFs - Version 2 migration only (HOMDDCLN)

Edit and submit sample job HOMDDCLN if you are migrating from Version 2 to the current version of Host On-Demand. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.9 Create DDDEF Entries (HOMDDDEF)

Edit and submit sample job HOMDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Host On-Demand. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

This step may receive warning message GIM56501W and rc=4. This message is issued when DDDEF entries are added because they did not exist prior to running the job.

This step may also receive the following messages:

```
GIM35601E ** DATASET SUBENTRY WAS NOT ADDED BECAUSE
           IT ALREADY EXISTS.
GIM25601I - THE SPECIFIED ENTRY WAS NOT UPDATED
           BECAUSE OF AN ERROR DURING UCLIN PROCESSING.
```

with a rc=12 and job failure if the **SCEELKED** or **LINKLIB** DDDEF entries already exist. You can either delete the **ADD** for **SCEELKED** or **LINKLIB** or change the **ADD** to a **REP** and rerun the job. This job must be rerun if the job fails with the messages above and rc=12.

6.1.10 Copy Version 2 HFS - V2 migrations only (HOMCOPY)

This job is only needed if you are migrating from Version 2. This job takes a copy of a previous version of the Host On-Demand HFS, dumps and restores it to a much larger HFS to be used for the current installation. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.11 Allocate Host On-Demand HFS Data Set (HOMHFS) - Optional

IBM WebSphere Host On-Demand V5 for OS/390 can be installed into any HFS. However, if you wish to create your own HFS for Host On-Demand, edit and submit sample job HOMHFS to allocate the HFS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.12 Allocate HFS Mount Points and Paths (HOMISMKD)

In this step you will create the HFS paths and the mount point for Host On-Demand. The instructions to create the mount point for Host On-Demand is detailed below as well as directions for running the HOMISMKD job which will create the paths.

The distribution libraries are assumed to be contained in a single HFS data set whose mount point is */usr/lpp/HOD*. Host On-Demand can be installed into an existing HFS or a new one created using the HOMHFS sample job. Use the commands below and the HOMISMKD job as needed to create the paths and mount points for Host On-Demand   If you created a new HFS, you will need to complete all three (3) steps below.   If you are installing into an existing HFS, you will only have to do step #3 (omit steps 1 and 2).

Note: The TSO MKDIR commands must be invoked using a RACF userid with root authority in the OS/390 UNIX System. Path as well as mount point specification in the OS/390 UNIX System is case sensitive.

Follow these steps to create the mount point and directories:

 1. From TSO issue the following TSO MKDIR command to create the /usr/lpp/HOD mount point.

    ```
    TSO MKDIR '-PATHPREFIX-/usr/lpp/HOD' MODE (7,5,5)
    ```

    Note: Change the occurrences of the string -pathprefix- to the appropriate high level directory name. For users installing in the root, this would be null. For others, the high level directory may be something like /service/ or a more meaningful name. Please note the replacement string is case sensitive.

 2. Issue the following MOUNT command to mount the HFS on the /usr/lpp/HOD mount point. The HFS was previously allocated by the HOMHFS job.

    Note: The mount command should be on one line.

    Note: Change the **hfsprfx** qualifier to the name of the qualifer used in the HOMHFS installation job.

    ```
    TSO MOUNT FILESYSTEM('hfsprfx.hom.hfs')
    MOUNTPOINT('-PATHPREFIX-/usr/lpp/HOD') TYPE(HFS)
    ```

    Note: Change the occurrences of the string -pathprefix- to the appropriate high level directory name. For users installing in the root, this would be null. For others, the high level directory may be

something like /service/ or a more meaningful name. Please note the replacement string is case sensitive.

3. Edit and submit sample job HOMISMKD to allocate the HFS paths for Host On-Demand. Consult the instructions in the sample job for more information.

    This job calls HOMMKDIR which creates the directory structure for Host On-Demand. HOMMKDIR is a REXX script which is called by HOMISMKD. HOMMKDIR should not be invoked by itself.

If you plan to create a new HFS for this product, you should consider updating the BPXPRMxx PARMLIB member to mount the new HFS at IPL time. This may be helpful if an IPL occurs before the installation is complete.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.13 Perform SMP/E APPLY (HOMAPPLY)

Edit and submit sample job HOMAPPLY to perform an SMP/E APPLY CHECK for Host On-Demand. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Once you have taken any actions indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Note: The GROUPEXTEND operand indicates that SMP/E apply all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.14 Perform SMP/E ACCEPT (HOMACCPT)

Edit and submit sample job HOMACCPT to perform an SMP/E ACCEPT CHECK for Host On-Demand. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

Once you have taken any actions indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E apply all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will linkedit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.15 Sample Job for starting Host On-Demand (HOMSERVR)

Edit the sample HOMSERVR job as a JCL example for starting Host On-Demand You will need to place this sample in a authorized PROCLIB and modify as necessary for your installation.

Expected Return Codes and Messages:

This step should complete with Return Code = 0.

6.1.16 Completing the Installation of Host On-Demand

To complete the install of Host On-Demand, the **hod50mvs.sh** shell script is provided in the /usr/lpp/HOD directory. This shell script will migrate V2.0, V3.0 or V4.X configuration data and install the current version of the software. Review the instructions in the shell script prior to running this script.

Here is a more detailed description of what this shell script does:

1. If you are migrating from Version 2.0, Version 3.0, or Version 4.X to the current version of Host On-Demand, this script will do the following based on what version you are migrating from. Uncomment the shell script statements that are appropriate to the version you are migrating from.

   - Delete these two directories:
     - /usr/lpp/HOD/ondemand/lib
     - /usr/lpp/HOD/ondemand/HOD

- The directory which has the Version 2.0, Version 3.0 or Version 4.X configuration data is not deleted and that configuration data will be migrated to the current version of the software. The directory which is not deleted is:

  - /usr/lpp/HOD/ondemand/private

2. Install Host On-Demand

   This shell script will install the hod50mvs.tar.Z file. If no earlier version was installed the current version of Host On-Demand will be installed in the following directory:

   - /usr/lpp/HOD/hostondemand

3. This shell script will also create the necessary installation directories for the Native Authentication Service. Two directories will be created in the default /usr/lpp/HOD directory which will execute the HODRAPD module that was installed and link-edited by SMP/E during the Host On-Demand V5.0 SMP/E installation.

Note: Please note that the subdirectory named "ondemand" in earlier versions of this product has been renamed to "hostondemand" in the current version.

6.2 Activating Host On-Demand

6.2.1 Update Web Server Pass Rules and Resource Mapping Directives

To activate the functions of Host On-Demand, add the Pass Rules listed below to the Pass section of the Web Server configuration file you are using. The configuration file name for the Domino Go Webserver is **/etc/httpd.conf.**

These Pass Rules must be in the order listed and must be placed prior to the **Pass /*** Pass Rule. The rules assume an alias of **/hod/**. Consult the Web Server documentation for details.

The Pass Rules are:

```
Pass /hod/*.html /usr/lpp/HOD/hostondemand/HOD/*.html.ascii
Pass /hod/*.HTML /usr/lpp/HOD/hostondemand/HOD/*.HTML.ascii
Pass /hod/* /usr/lpp/HOD/hostondemand/HOD/*
```

Note: Please note that the subdirectory named "ondemand" in earlier versions of this product has been renamed to "hostondemand" in the current version.

The following resource mapping directives should also be included among the other rules in the AddType section of the Web Server configuration file:

```
AddType  .cab  application/octet-stream  binary 1.0
AddType  .jar  multipart/x-zip           binary 1.0
```

6.2.2 Start Host On-Demand

The HOMSERVR sample job is supplied to start Host On-Demand. This job starts the ServiceManager.sh shell script, which starts the Host On-Demand Service Manager. The ServiceManager.sh shell script is found in the **/usr/lpp/HOD/hostondemand/lib** directory and must be modified for correct execution of Host On-Demand. Note the comments in ServiceManager.sh regarding the CLASSPATH variables. You will need to uncomment one of the CLASSPATH statements that corresponds to your level of Java. Java V1.1.8 is supported for all Host On-Demand supported releases of OS/390(V5 and above). Java V1.3 is now supported for Host On-Demand V5.0.4 for OS/390 releases R8 and above.

Note: You may want to rename the HOMSERVR sample job to a started PROC name of less than 8 characters (ie., HOMSRV). This will help when displaying subprocesses and stopping HOD. You will be able to cancel HOD and all subprocesses at once if your started PROC name is less than 8 characters.

Prior to starting Host On-Demand, copy the HOMSERVR sample job from your install library SHOMINST to an authorized PROCLIB. If you are installing in a directory other than the default directory (**/usr/lpp/HOD**) you must change the PARM parameter to point to the location where you have ServiceManager.sh installed.

The HOMSERVR procedure must be started from a RACF userid with root authority in OS/390 UNIX System Services (USS), formerly OS/390 OpenEdition. Here are the basic instructions to enable Host On-Demand to be assigned to the appropriate userid. These are not detailed instructions.

- Create a userid for the HOMSERVR procedure, (for example you might create a HOMSERVR userid)
    - Choose a default group that is defined to OS/390 UNIX (has an OS/390 UNIX segment with a GID (Groupid) defined; for example you might have a group called OMVSGRP which has all OS/390 UNIX users).
    - Add an OS/390 UNIX segment giving the userid root authority by assigning it a UID of 0.
- Create a started class entry (or update ICHRIN03) for the HOMSERVR procedure
    - Make the entry name procname.* (for example, HOMSERVR.*)
    - Assign "=Member" to the user thereby making userid and the procname the same (for example HOMSERVR.*).
    - Assign the procname to the USSgroup that is the default group for the user (for example OMVSGRP).

To start Host On-Demand, start the sample job HOMSERVR.

To stop Host On-Demand, cancel sample job HOMSERVR.

Note: With a procname of 8 characters, you will need to provide the job's address space value to cancel the main proc. You will also need the address space value to cancel the subprocesses. If your procname is > 8 characters (ie., HOMSRV), you will only need to issue the 'cancel HOMSRV' command to cancel both the main process as well as the subprocesses.

6.2.3 Configuring Host On-Demand

You must now load the Host On-Demand administration utility to configure user and group accounts, emulator sessions, the Redirector and Database On-Demand, as necessary

1. Load HTTP://*<server_name>*/hod/HODMain.html into your browser window where *<server name>* refers to your OS/390's TCP/IP host name.

2. Select **README - Please!** to see information that was not included in this document, the **Getting Started** guide or the Helps.

3. Select **Administration Client** to begin configuring the server.

Information about the administration utility and how to perform the above administration tasks is provided in the **Configuring Host On-Demand** section in **Getting Started**.

6.2.4 Starting the Optional Native (Platform) Authentication Service (HODRAPD)

Note: The following can be done only after the **hod50mvs.sh** has been successfully completed.   The **hod50mvs.sh** shell script sets up **hodrapd** directories in your /usr/lpp/HOD/hostondemand/private directory for accessing the HODRAPD module that was installed during the SMP/E CALLLIBS processing. When the Native (Platform) Authentication Service is started from USS (UNIX System Services), the HODRAPD module is executed.

6.2.4.1 Setup for Starting the Native Authentication Service: The installation is designed to install the server load module into SYS1.LINKLIB. The module is automatically link-edited during the the JCLIN CALLLIBS processing during the APPLY. If you choose to install and execute the server from an alternative dataset, that dataset must be accessed by the system LNKLST or LPALIB concatenation. The dataset containing the server load module must also be APF-authorized.

The authentication server is invoked as a USS (UNIX) command. The server must run under the ownership of an ID that has an OMVS segment defined that includes superuser authority.

The following example illustrates the RACF command used to create a user profile with superuser authority:

```
AU userid  DFLTGRP(oegroup) name(AUTHSERV) OMVS(UID(0) HOME('/'))
```

Additionally, if your site is running in a BPX.DAEMON environment, then RACF NOPADCHK processing must be enabled for the dataset containing the HOMRAPD load module. The following example gives the appropriate RACF commands:

```
RALTER PROGRAM * ADDMEM  ('your.rapd.dataset'/volser/NOPADCHK)
SETROPTS WHEN(PROGRAM) REFRESH
```

6.2.4.2 Starting the Native (Platform) Authentication Service in USS: To start the
Native Authentication Service (HODRAPD) using USS (Unix System Services), go to the /usr/lpp/HOD
directory on the system where HODRAPD is installed and at the command prompt, enter:

`hodrapd.sh`

Options such as logging, time-out values, and maximum number of requests the server will allow can be
specified when you start the Native Authentication Service. To change the options, edit (oedit)
hodrapd.sh in the /usr/lpp/HOD default directory. You **must** keep the (-x) option, but you can append the
following options to the (-x) where the options are:

l (ie., -xl)   Enable logging.
t (ie., -xt)   Set socket timeout value, in seconds. The default is 20.
c (ie., -xc)   Set the maximum number of requests the server will allow.

For example, to start the native authentication service and set the socket timeout to 100 seconds, edit the
line where the hodrapd module is called (line 82) and change the call (i.e., hodrapd -x) to:

`hodrapd -xt100`

To start the platform authentication service with a maximum number of requests, edit the line where the
hodraps module is called (i.e., hodrapd -x) to:

`hodrapd -xc100`

You will see a message displayed to USS that the Native Authentication Service is starting. When the
Service has completely started, you will see a message display to your OS/390 console as follows:

```
BPXF024I (USER2) 08/11/00 09:32:27 hodrapd: PAS0001 Starting IBM
Platform Authentication Service.
```

You can also check the status of the Native Authentication Service by issuing the following from your USS
prompt:

`netstat -a`

This command will display the status of the Service. The Native Authentication Service uses the
well_known_port=2569. The netstat -a command will display the following based on your USERID for the
Native Authentication Service:

```
MVS TCP/IP onetstat CS V2R8    TCPIP Name: TCPIP          09:37:37
User Id  Conn     Local Socket      Foreign Socket        State
-------  ----     ------------      --------------        -----
USER25   000002E5 0.0.0.0..2569        0.0.0.0..0         Listen
```

where USER2 is the USERID where the Native Authentication has been started from and USER25 is the
Native Authenticated process that has started.

The **hodrapd.sh** shell script appends to your LIBPATH and NLSPATH. You may want to take the
statements found in the shell script and add them to your /etc/profile on USS. You will need to re-execute
your /etc/profile to activate the changes. You do this by entering *. profile* from your /etc directory. The
LIBPATH and NLSPATH statements are provided below (using default paths):

```
export  NLSPATH=$NLSPATH:/usr/lpp/HOD/hostondemand/lib/msgs/%N
export  LIBPATH=$LIBPATH:/usr/lpp/HOD/hostondemand/lib/
```

6.2.5 OS/390 LDAP Directory Configuration

If you have an existing OS/390 Security Server LDAP Server and are running on OS/390 V2R5 and
above, verify the following before configuring it for Host On-Demand:

- Verify that the LDAP Server is configured as described in the **OS/390 Security Server LDAP Server
  Administration and Usage Guide**(SC24-55861).

- Verify that a suffix has been added and associated with an object class.

  You can use this suffix as the parent distinguised name (DN) for Host On-Demand or you can use a
  lower-level object.

  Note: The original schema files shipped with OS/390 LDAP Server create about 100 DB2 tables.
  The original schema definitions create about 600 tables. Before attempting to use these schema files,
  be sure that DB2 is configured to allow over 600 DB2 tables to be created and used.

  LDAP32K is the tablespace for most of the over 600 created tables. The SPUFI command for
  creating this tablespace should look similar to:

```
create large tablespace eeeeeee in dddddddd
   numparts 1 bufferpool BP32K
   using stogroup sysdeflt priqty 720 secqty 720;
```

  where *sysdeflt* is the installation-dependent, systems default stogroup that you obtain from your local
  DB2 administrator.

To configure an existing LDAP directory for Host On-Demand, familiarize yourself with the LDAP directory
and the default schema shipped with it. Decide how Host On-Demand will fit into your network and
organizational structure, and design the LDAP directory information tree. For example,

- To build a directory information tree for an entire organization, use the organization object class for the
  suffix:

```
dn: o=MyOrganization
objectclass: organization
o: MyOrganization
```

- To build a directory information tree for one division of an organization, use the organizationalUnit
  object class for the suffix:

```
dn: ou=MyDivision, o=MyOrganization
objectclass: organizationalUnit
ou: MyDivision
```

To add to the directory information tree in the LDAP directory, use the ldapadd command.

The original schema files shipped with the OS/390 LDAP Server need to be updated to support the new Host On-Demand schema. Host On-Demand will provide delta schema files to bring the original schema up to the required level.

To add the Host On-Demand schema to the existing LDAP Directory:

1. From a USS command prompt change to the /etc directory that the LDAP Server is using.

2. Copy the following schema files from the /usr/lpp/HOD/hostondemand/HOD/ldap directory to the /etc directory as follows:

```
cp /usr/lpp/HOD/hostondemand/HOD/ldap/V2.1.IBM.390.at   /etc/
cp /usr/lpp/HOD/hostondemand/HOD/ldap/V2.1.IBM.390.oc   /etc/
cp /usr/lpp/HOD/hostondemand/HOD/ldap/V2.1.IBM.oc       /etc/
```

   a. Edit the LDAP directory attribute file, **slapd.at.conf**, and append the following line:

```
include /etc/V2.1.IBM.390.at
```

   Save your changes to **sladp.at.conf**.

   b. Edit the LDAP directory object class file, **slapd.oc.conf**, and append the following lines:

```
include /etc/V2.1.IBM.390.oc
include /etc/V2.1.IBM.oc
```

   Save your changes to **slapd.oc.conf**.

3. Restart the LDAP Server.

The following configuration changes are offered as possible performance enhancements:

- Add the following lines to **slapd.conf**:

```
index principalPtr eq
index dc eq
index o eq
index name eq
index objectClass eq
index uid eq
```

- Sizelimit is the number of entries LDAP will return on a search request; change the sizelimit to 5000.

6.2.6 Hints and Tips

1. For the best performance of Host On-Demand, we recommend that you install the latest version of Java for OS/390. For information on how to download Java, go to this web site: **http://www.ibm.com/java/jdk/index.html**

2. If you are installing Host On-Demand in a directory other than the default directory (/usr/lpp/HOD), you need to change paths in these shell scripts:

   - hod50mvs.sh (full path is /usr/lpp/HOD/hod50mvs.sh)

   - ServiceManager.sh (full path is /usr/lpp/HOD/hostondemand/lib/ServiceManager.sh)

- hodrapd.sh (full path is /usr/lpp/HOD/hodrapd.sh)

Refer to the shell script comments for instructions.

3. For product-support information, go to the Host On-Demand Support Site at
   http://www.ibm.com/software/webservers/hostondemand/support.html

4. The program tape has both the **Getting Started** guide and the **README** which can be viewed via
   your browser once the product has been installed or from the Host On-Demand Web site. Please
   see Section 2.3 on how to access the publications via your browser.

5. Make sure that the CLASSPATH, LIBPATH, PATH, and JAVA_HOME statements are all set correctly
   in your USS profile. For the CLASSPATH, LIBPATH, and PATH statements, you will need updates for
   your installed Java libraries as detailed below. Since Host On-Demand V5.0.4 supports both Java
   1.1.8 (for all supported Host On-Demand OS/390 releases) and Java V1.3 (for OS/390 releases R8
   and above only), you will need to point to your installed level of Java. You should also make sure that
   the CLASSPATH, LIBPATH, and PATH statements also include the proper WebSphere product
   statements (ie., usually /usr/lpp/internet/bin) Usually, the USS profile is found in your /etc directory in
   USS.

   - The CLASSPATH environment variable should point to your installed OS/390 Java library directory
     base class. The CLASSPATH statement would include the first statement below for Java V1.1.8
     support.   For Java V1.3 support, you will not have to include any Java related CLASSPATH
     information.

     ```
     CLASSPATH=/usr/lpp/java/J1.1/lib/classes.zip
     ```

   - The LIBPATH environment variable should also point to the correct Java libs. The LIBPATH
     statement would include one of the following paths as below. The first is for Java V1.1.8 support,
     the second is for Java V1.3 support.

     ```
     LIBPATH=/usr/lpp/java/J1.1/lib
     LIBPATH=/usr/lpp/java/IBM/J1.3/lib
     ```

   - The PATH environment variable should also point to the correct Java binaries.   The PATH
     statement would include one of the following paths as below. The first is for Java V1.1.8 support,
     the second is for Java V1.3 support.

     ```
     PATH=/usr/lpp/java/J1.1/bin
     PATH=/usr/lpp/java/IBM/J1.3/bin
     ```

   - The JAVA_HOME statement should also be set to the correct Java libraries. The first statement is
     for Java V1.1.8, the second is for Java V1.3 support.

     ```
     JAVA_HOME="/usr/lpp/java/J1.1"
     JAVA_HOME="/usr/lpp/java/IBM/J1.3"
     ```

6. You will have to change your JAVA_HOME statement in your **httpd.envvars** file (also found in your
   /etc directory) to point to your correct Java directories. Use one of the statements as found below.
   Use the first statement for Java V1.1.8 and the second for Java V1.3 support.

   ```
   JAVA_HOME=/usr/lpp/java/J1.1
   JAVA_HOME=/usr/lpp/java/IBM/J1.3
   ```

7. You cannot run two Host On-Demand servers on the same stack because the Service Manager listens on a specific IP port. Two service managers running at the same time will try to grab the same port; the result is that one of the two will fail.

8. If you decide the job name for the HOD server from HOMSERVR to something fewer than eight characters, beware that the job names for the tasks listening on ports 8989 and 8999 will get a digit appended to them. This is important if you decide to make port reservations in your TCPIP.PROFILE using the explicit job names.

9. Since the configuration files are all stored in the /private directory, you should ensure that the directory path is correct. If you installed Version 3 in the default directories, it would be */usr/lpp/HOD/ondemand/private*.   The installation script *hod50mvs.sh* will migrate your Version 3 /private directory. Double check to make sure the migration was successful and you see your Version 3 /ondemand/private files in /hostondemand/private.

10. Be aware that whatever method you may use to edit those files could cause problems such as carriage returns or blanks being inserted. Use a flat-text editor.

11. During the installation of Host On-Demand Version 4.0.X for OS/390, the /usr/lpp/HOD/hostondemand/private directory will be updated with files that will be updated in an execution environment, not just by maintenance (PTFs). It is advised that customers may now want to mount a separate (non-service) HFS onto the /usr/lpp/HOD/hostondemand/private directory as it is now updated during the execution of Host On-Demand. Please make sure you do a TSO MKDIR for the new mountpoint and also MOUNT the new HFS to the new mountpoint.

12. If you are running multiple stacks and you want the Host On-Demand server to run on one stack only, you need to create stack affinity by adding the respective environment variable to the ServiceManager.sh shell script:

    ```
    export _BPXK_SETIBMOPT_TRANSPORT=XXXXXXXX
    ```

    where XXXXXXXX is the name of the TCP/IP stack with which you want to establish affinity.

13. To conserve space on your system, once Host On-Demand is successfully installed, you may erase the /usr/lpp/HOD/IBM directory.

14. If you you experience java Service Manager 'out-of-memory' errors, causing various tasks to fail such as:

    *   Saving session information

    *   Loading a large number of users

    *   Attempting to save large blocks of trace data

    Add the following two parameters to start-up command on the Host On-Demand Service Manager shell start-up script (/usr/lpp/HOD/hostondemand/lib/ServiceManager.sh)

    a. -mx32m

        *   The mx32m parameter increases the maximum Java heap size. The heap size is increased from the default value of 3 to 32MB.

    b. -oss256k

- The oss256k parameter increses the maximum Java stack size (per thread). The value is changed from the default of 128 KB to 256 KB.

These parameters will need to be placed in the the start-up command (which ever type of start-up you choose) as follows:

```
java -mx32m -oss256k -classpath .:sm.zip:.....
```

15. You may experience the HOD Admin client not fully downloading and appearing to hang. This problem can occur anytime when:

- Trying to download a .js file (javascript file) AND

- The webserver /etc/httpd.conf file has the following directive statement:

```
AddType  .js      application/x-Javascript        ebcdic 1.0 # java
```

Other applications may require the AddType .js to be coded as ebcdic if the file is written in ebcdic. The HOD .js files are written in ascii and coding the AddType .js as ebcdic presents a problem.

If there is another application that requires an AddType .js to be coded as ebcdic, then the following work around will allow HOD to work properly.

a. In the /etc/httpd.conf, add the following statement:

```
Pass            /hod/*.js      /usr/lpp/HOD/hostondemand/HOD/*.js.ascii
```

b. Rename (**not** make a copy of), the following files to *.js.ascii

```
/usr/lpp/HOD/hostondemand/HOD/Cached.js
/usr/lpp/HOD/hostondemand/HOD/HODPanels.js
/usr/lpp/HOD/hostondemand/HOD/HODPanels_en.js
and any other HODPanels_xx.js language files needed.
```

Note: Remember, any maintenance that is installed after renaming these files will overlay them and the files will need to be renamed again.

If the AddType .js is already in httpd.conf AND ebcdic is not necessary, code it with binary as follows:

```
AddType  .js      application/x-Javascript        binary 1.0 # java
```

Appendix A. Host On-Demand Install Logic

A.1   SMP/E Modification Control Statements

The SMP/E Modification Control Statements (SMPMCS) for Host On-Demand are contained in the SMPMCS file on the installation tape. The SMPMCS for each FMID in the product will be loaded to the SMPPTS data set, with a member name matching the FMID, when the FMID is SMP/E RECEIVEd. You may browse or print these members using TSO/E, ISPF, or IEBGENER (or IEBPTPCH).

A.2   SMP/E JCLIN

The files containing JCLIN are:

FMID HHOF500: 'high-level-qualifier'.HHOF500.F1(HHOF500)

Note: The high-level qualifier is the qualifier specified as the DSPREFIX in the SMP/E OPTIONS.

Reader's Comments

Program Directory for IBM WebSphere Host On-Demand V5 for OS/390

You may use this form to comment about this document, its organization, or subject matter with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

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```
┌─ RATING SCALE ──────────────────────────────────────────────────
    very                        very        not
  satisfied  <===================>  dissatisfied  applicable
     1       2       3       4        5            N
```

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of program directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of program directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of getting the system into production after installation	1	2	3	4	5	N

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