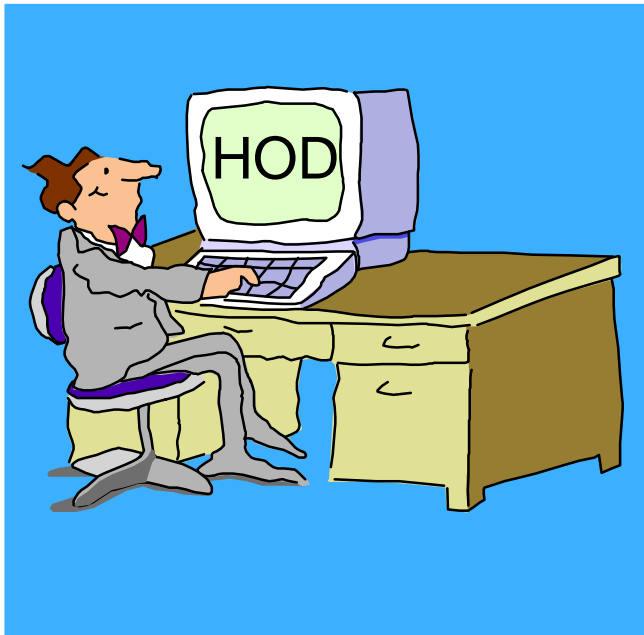# IBM SecureWay Host On-Demand V4 for OS/390

Overview and Implementation Issues

Linda Harrison
lharriso@us.ibm.com

Johnny Chi
chi@us.ibm.com

Robert Morse
rdmorse@us.ibm.com

Agenda

➤ **OS/390 Host On-Demand Installation**

　➤ **Product Packaging**

　➤ **Installation... SMP/E and non-SMP/E**

　➤ **General Installation Hints and Tips and Other Gotchas**

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Abstract

TITLE: OS/390 Host On-Demand, Version 4.0 and 4.0.1

PRESENTERS: Linda Harrison, Johnny Chi and Robert Morse, ATS Enterprise Networking Technical Support

AUDIENCE: OS/390 Host On-Demand Installers and Administrators

ABSTRACT: Host On-Demand's browser-based access is the simplest way ever for users to reach critical host data because the user is not required to load or configure any software. Host On-Demand is a JAVA enabled WEB based terminal emulation software supporting TN3270(E), TN5250, VT100 and VT220 terminals as well as 3827 and 5250 print emulation. For users, Host On-Demand helps eliminate the confusing host and port names as all of the configuration is easily provided by the Administrator. From a web browser, users just click on a hyperlink that launches a session with the host. In addition to the usual web access, any number of sessions can be launched with multiple hosts at the same time. Since Host On-Demand installs on a server, maintenance, distribution, and upgrades are simplified. In the case of OS/390 Host On-Demand, the server that Host On-Demand installs onto is the OS/390 system, where most of today's enterprise mission-critical information still resides.

SecureWay Host On-Demand

S/390

AS/400

DEC/UNIX

3270, 5250, VT

Java Browser
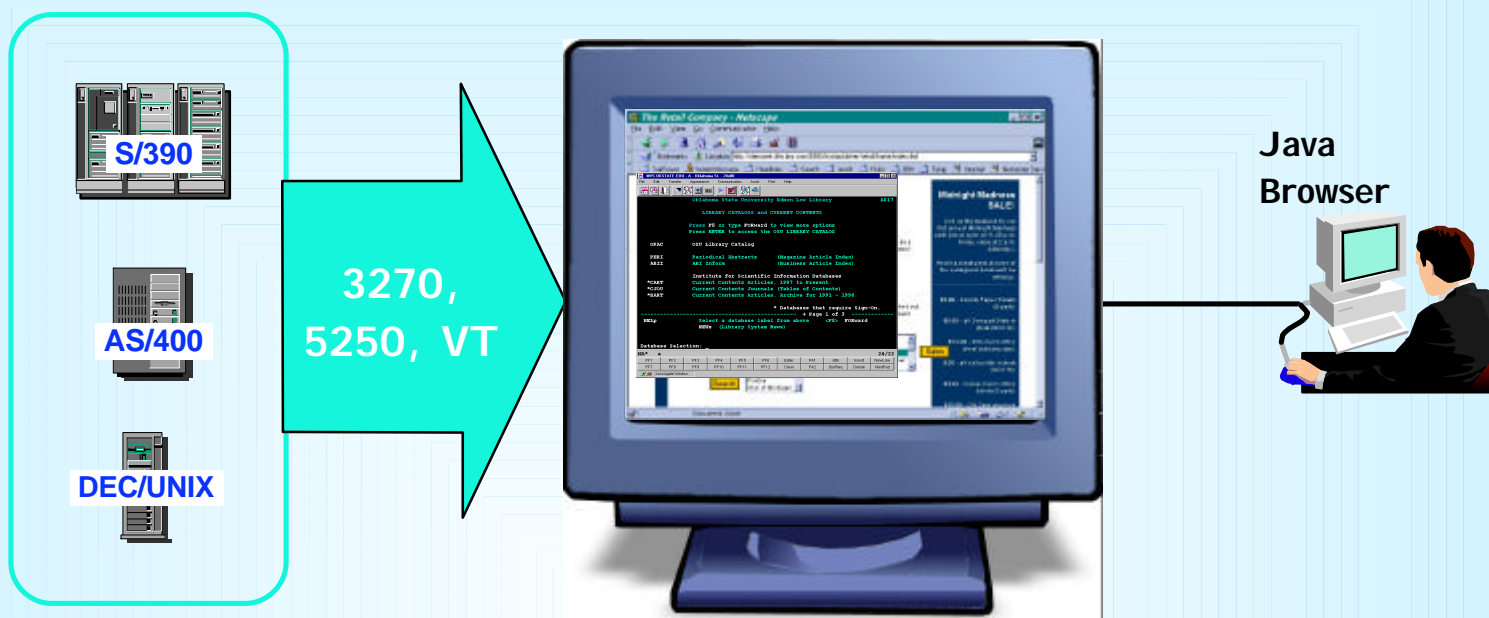
Web-to-Host Terminal Emulation Solution

- **Extends host application reach to new users**
- **Reduces I/T costs through centralized installation and administration**
- **Supports client and server platforms of choice**
- **Requires no middle-tier runtime server**
- **Enables rapid host integration in new e-business applications**

SecureWay Host On-Demand

Host Integration Product Positioning

Personal Communications is IBM's answer for host emulation

➡ Designed for customers with a wide variety of network protocols who need a powerful access product

- Tailored to client's operating system for high performance
- Enhanced desktop interfaces
- Rich set of APIs and reusable component for customized applications
- Registered user pricing model

Host On-Demand is IBM's answer for Web-based host emulation

➡ Especially designed for Intranet or Extranet access

➡ Provides central management solution for client software

- Requires Java enabled browser
- Users connect for extended periods of time
- Fast response times are important to maximize productivity
- Users are comfortable with traditional host green screens
- Full function emulation
- Rich set of APIs and reusable components for customized applications
- Concurrent user pricing model

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™

OS/390 Host On-Demand V4.0.x Installation:

Product Packaging

Product Packaging

➤ **OS/390 Host On-Demand (5648-C54) V4.0 & V4.0.1 Features**

FMID	Description	Medium	Feature Number
HHOE40F (V4.0.1 only)	TDES US/CAN English (168-bit encryption*)	9/6250 tape	6732
		3480 cart	6733
		4mm cart	6738
HHOE40S	DES US/CAN English (128-bit encryption*)	9/6250 tape	5439
		3480 cart	5440
		4mm cart	5441
HHOE40W	Int. English (40-bit encryption)	9/6250 tape	5443
		3480 cart	5444
		4mm cart	5445

* Subject to Export Regulation

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Software Requirements

➤ **Minimum OS/390 Software Requirements**

Program Number	Product Name and Minimum VRM/Service Level	Install Requirement
5647-A01	OS/390 Version 2 Release 6	Yes
5655-A46	Java for OS/390 V1.1.6 with PTF UW60045)	No
5697-D43	Domino Go Webserver for OS/390 V5R0M0	No

➤ **Notes:**

➤ **The OS/390 Communications Server TCP/IP Services and Unix Systems Services, both included with OS/390, are required by all FMID's of IBM SecureWay Host On-Demand V4.0 and V4.0.1 for OS/390 at run time.**

➤ **A PTF representing CSD 1 for Host On-Demand V4.0.1 has been incorporated into the product tape for FMID HHOE40F. A separate PTF tape representing CSD 1 is available for FMID's HHOE40S and HHOE40W.**

Software Requirements (cont.)

Any one of the following optional OS/390 V2 elements is required if SSL support is desired.

➢ **Optional OS/390 IP Security Features required for SSL support**

Encryption Feature	V2R6	V2R7	V2R8	Elements
Base	HTCP350	HTCP370	HTCP380	SSL Authentication
Level 1	JTCP353, JTCP35T	JTCP373	JTCP383	Kerberos Non-DES IP Security CDMF IP Security SSL RC2/RC4
Level 2	JTCP352, JTCP35S, JTCP35L	JTCP372	JTCP382	Kerberos DES IP Security DES/CDMF IP Security SSL 56-bit SNMP CBC 56-bit DES
Level 3	JTCP35K	JTCP37K	JTCP38K	Kerberos DES IP Security Triple DES IP Security SSL Triple DES SNMP CBC 56-bit DES

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Software Requirements (cont.)

➤ **Optional OS/390 IP Security Features SSL support provided**

Encryption Feature	SSLv2 Clients	SSLv3 Clients
Base	Not supported	NULL SHA NULL MD5 NULL NULL
Level 1	RC4 Export RC2 Export	RC4 MD5 Export RC2 MD5 Export NULL SHA NULL MD5 NULL NULL
Level 2	RC4 Export RC2 Export	DES SHA RC4 MD5 Export RC2 MD5 Export NULL SHA NULL MD5 NULL NULL
Level 3	Triple DES US DES US RC4 Export RC4 US RC2 Export RC2 US	Triple DES SHA US DES SHA RC4 MD5 Export RC4 SHA US RC4 MD5 US RC2 MD5 Export NULL SHA NULL MD5 NULL NULL

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OS/390 Host On-Demand V4.0.x:
SMP/E Installation

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SMP/E Installation

- ➤ **Two methods of Host On-Demand installation available**
  - ➤ **SMP/E**
  - ➤ **Non-SMP/E**
- ➤ **SMP/E traditional method of installation/removal of all software and maintenance on OS/390**
  - ➤ **Supports RAS**
  - ➤ **Auditable**
- ➤ **Preferred method of installation of SecureWay Host On-Demand**
  - ➤ **Non-SMP/E installation described separately**

SMP/E Installation

Step	Description	Supplied Jobstream
1	Unload sample JCL from Product Tape and customize to conform to user standards.	See sec 6.1.4 of Program Directory
2	Perform SMP/E RECEIVE from Product Tape	HOMRECVE
3	Allocate SMP/E Target and Distribution libraries.	HOMALLOC
4	Create SMP/E DDDEF entries. Note: If Host On-Demand is being installed on a Target system which is different then the Driver system there is an additional jobstep required in this step. (see sec 6.1.8 of Program Directory)	HOMDDDEF
5	Allocate HFS Note: This jobstream provides for an initial allocation of 460 cylinders of 3390 disk space. Experience indicates that a more appropriate value is approximately 900 cylinders for Host On-Demand V4.0 and approximately 1200 cylinders for V4.0.1 Note: See also step 6 on the next foil.	HOMHFS

SMP/E Installation

Step	Description	Supplied Jobstream
6	Copy Host On-Demand V2.0 or V3.0 HFS contents to V4.0 HFS. Note: This step is **only** applicable if you are migrating from an earlier release of Host On-Demand. It will unload the existing HFS, allocate and new HFS (expanded for V4) and reload the contents of the old HFS. Note: This sample jobstream suffers from the same dasd shortfall as does the HOMHFS jobstream in step 5 and needs to be adjusted accordingly. Note: Run step 5 or step 6 but not both depending on the situation (i.e. initial install vs. migration).	HOMCOPY
7	Logon to Unix System Services. Create HFS mountpoint (/usr/lpp/HOD) and mount Host On-Demand HFS created in either step 5 or 6 above. Note: The permission bits for the mountpoint must be set to (7,5,5).	n/a
8	Perform SMP/E APPLY CHECK followed by APPLY.	HOMAPPLY

SMP/E Installation

Step	Description	Supplied Jobstream
9	Perform SMP/E ACCEPT CHECK followed by ACCEPT. Note: This step is optional at this point and can be performed later if desired.	HOMACCPT
10	Delete Host On-Demand V2.0 DDDEFs (if applicable).	HOMDDCLN
11	Logon to Unix System Services, cd to /usr/lpp/HOD and run the hod40mvs.sh shell script. Note: If migrating from a previous version release of HOD backup any modifications which the user has made in either /usr/lpp/HOD/ondemand/lib or /usr/lpp/HOD/ondemand/HOD and remove this directories (e.g. rm -Fr /usr/lpp/HOD/ondemand/lib). The instructions in the Program Directory indicate that this removal is automatic but this comment is incorrect. Failure to remove these directories may result in HFS space problems during install and cause the hod40mvs.sh script to fail.	n/a

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SMP/E Installation

Step	Description	Supplied Jobstream
11 (cont.)	Note: The comments in the Program directory also indicate that migration of the user definitions contained in the /usr/lpp/HOD/ondemand/private directory is automatic. This is incorrect. The act of changing the default directory structure from /usr/lpp/HOD/ondemand to /usr/lpp/HOD/hostondemand between versions is not properly accounted for in the hod40mvs.sh script. If upgrading from a previous version/release therefore the user will need to manually copy his/her prior definitions following successful completion of the hod40mvs.sh script, e.g. cp /usr/lpp/HOD/ondemand/private/*.* /usr/lpp/HOD/hostondemand/private.	n/a
12	Update Web server "pass" rules and verify/update resource mapping (i.e. "addtype") directives. Note: Reference to updating the "addtype" parameters in httpd.conf was added to the Program Directory for V4.0.1. It is not present in the V4.0 Program Directory.	see sec 6.2.2 in Program Directory

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SMP/E Installation

Step	Description	Supplied Jobstream
13	Start Host On-Demand Note: Please see sec 6.2.3 in the Program Directory. The HOMSERVR started must be started from a RACF userid with root authority in OS/390 Unix System Services. Sec 6.2.3 indicates the necessary commands to provide this authorization. Note: HOMSERVR indirectly executes a shell script (ServiceManager.sh) located in the Host On-Demand HFS. If the mountpoint for the Host On-Demand HFS is not /usr/lpp/HOD (the default) then an update is required to the PARM passed on the HOMSERVR PROC's EXEC statement. Note: Lastly... (You thought we'd never get here didn't you.) The ServiceManager.sh script will generally require updates to either the CLASSPATH, or PATH or both variables depending on the manner in which JAVA has been installed. The script is commented to indicate the required changes.	HOMSERVR

SMP/E Installation

Step	Description	Supplied Jobstream
14	There is no step 14! Host On-Demand should now be up and running and ready for the Administrator.	n/a

OS/390 Host On-Demand V4.0.x:
Non-SMP/E Installation

Non-SMP/E Installation

- ➤ **Alternative approach to SMP/E install**
  - ➤ **Utilizes the readily available Host On-Demand product CD**
  - ➤ **Does** **not** **require a program tape**
  - ➤ **Generally** **un**documented
    - ➤ **Program Directory will be included in softcopy on the Host On-Demand product CD in a future release to address this issue.**
- ➤ **As noted previously... SMP/E preferred method of installation of SecureWay Host On-Demand**

Non-SMP/E Installation

Step	Description
1	Allocate a target Host On-Demand HFS as described previously under SMP/E installation. Note: HFS size should be approximately 900 cylinders for Host On-Demand V4.0 and approximately 1200 cylinders for Host On-Demand V4.0.1.
2	Logon to Unix System Services. Define a mountpoint (e.g. /usr/lpp/HOD), set the permission bits to (7,5,5) and mount the target Host On-Demand HFS.
3	Insert the Host On-Demand CD into the CDROM drive of an available Windows 95, 98 or NT workstation.
4	Exit from the automatic install process if it initializes and view the CD with Windows Explorer. The \tar directory on the CD will contain (among others) the following files: ▸ HOD40MVS.SH ▸ HOD40MVSCD.TAR.Z ▸ HOD40SRV.TAR.Z, and ▸ HOD40WWW.TAR.Z

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Non-SMP/E Installation

Step	Description
5	Now FTP to the target OS/390 Host On-Demand system and put the four previously noted files into the Host On-Demand HFS mounted at /usr/lpp/HOD. Note: Filenames on the CD are in upper case. The FTP put commands must allow for this and the resulting filenames on OS/390 must be in lower case. E.g. ► "put HOD40MVS.SH hod40mvs.sh" Note: HOD40MVS.SH represents the install shell script and must be transferred in ASCII which will allow it to be translated to EBCDIC on receipt by the OS/390 FTP server. The remaining three tar files must be transferred in BINARY mode. Note: When transferring the three tar files all names should be folded to lower case with the exception of the ending "Z" which should be left in upper case. E.g. ► "put HOD40MVSCD.TAR.Z hod40mvscd.tar.Z"
6	Logon to Unix System Services, cd to /usr/lpp/HOD and run the hod40mvs.sh install shell script with the "eval" option as follows: > hod40mvs.sh eval

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Non-SMP/E Installation

Step	Description
7	Following the remaining SMP/E procedures/comments as outlined previously in steps 11-14.

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OS/390 Host On-Demand V4.0.x Other Documentation and Installation "Gotchas"

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Documentation and Installation "Gotchas"

➤ **The V4.0.x Program Directory does not indicate the cumulative maintenance status of V4 vs. V2 or V3. V4.0 represents a rollup of applicable maintenance through V3 CSD3.**

➤ **HOD V4.0.x is not supported on OS/390 V2.5 at this time. Development is attempting to address this concern with further testing.**

➤ **The Program directory for V4.0 does not sufficiently highlight the change in product install directories sufficiently (i.e. from /usr/lpp/HOD/ondemand to /usr/lpp/HOD/hostondemand). This has been addressed in V4.0.1. As a result. if migrating from a previous version/release, a customer may miss a required update to previously existing "pass" statements in his/her httpd.conf file.**

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Documentation and Installation "Gotchas"

➢ Documentation for HOD V4.0.x is provided in softcopy only. A number of customers have raised this as a serious concern. In addition, the location of the softcopy documentation is not well documented, particularly in V4.0. The following URL's can be used once Host On-Demand is installed per the instructions in the Program Directory and is up and running.

> http://hod_server_name/hod/en/doc/readme/readme.html

> http://hod_server_name/hod/en/doc/install/install.html

> http://hod_server_name/hod/en/doc/beans/API_users_guide.html

> http://hod_server_name/hod/end/doc/hostprint/hostprint.html

➢ Note: hod_server_name represents the TCP/IP hostname or IP address of the OS/390 system on which Host On-Demand has been installed.

Documentation and Installation "Gotchas"

➢ **Following installation, the tar files in the /usr/lpp/HOD directory are no longer of use and can be backed up and deleted to free up HFS space if desired.**
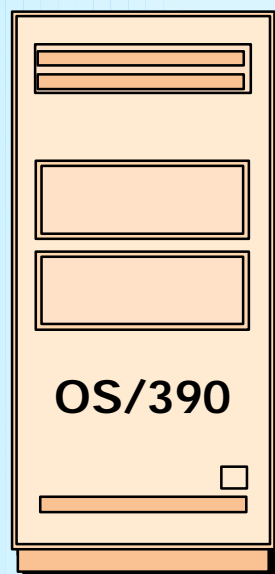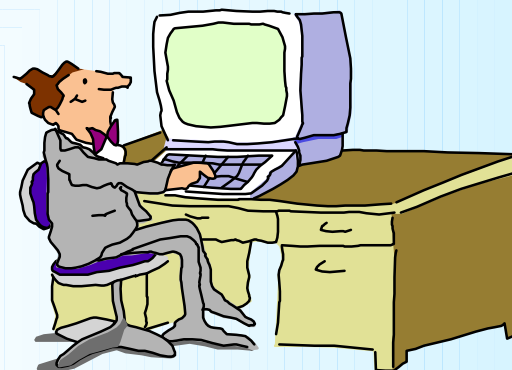
OS/390 Host On-Demand Administration

Host On-Demand Administration

Browser to OS/390 HOD.

Log on as admin.

OS/390

Create groups (or use default HOD group).

Create sessions for groups.

Create users and assign them to groups.

Create specific sessions for individual users as necessary.

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Host On-Demand Administration

➢ **Essentially the same as for all other Host On-Demand server platforms:**

  ➢ **Connect to HOD server**

    e.g. http://hod_server_name/hod/HODMain.html

  ➢ **Select Administration and logon as admin/password**

  ➢ **Once logged on:**

    create groups

    create sessions (e.g. 3270, 5250, VT100, etc.) for groups

    create users and assign them to groups

    create specific sessions for individual users as necessary.

➢ **Every user must be a member of at least one group**

  ➢ **A user may be a member of multiple groups in which case he/she will inherit the sessions associated with all of the groups to which they belong.**

Host On-Demand Administration

➢ **One potential issue exists if users are allowed to define their own sessions or modify inherited sessions:**

➢ **A user who modifies a session inherited from a group level definition now has a local "instance" of that session. This may present a help desk problem since neither the help desk nor the user can differentiate the two sessions should the user subsequently have reason to call in for assistance. A suggestion has been made to HOD development that session icons be color coded in some way to indicate the owning "level", i.e. user, group, etc.**

Bibliography

Bibliography

➤ **Program Directory for IBM SecureWay Host On-Demand Version 4.0 and V4.0.1 for System/390, GI10-3116-03 and -04 respectively**

➤ **The following Redbook is available at http://www.redbooks.ibm.com:**

   ➤ IBM SecureWay Host On–Demand: Enterprise Communications in the Era of Network Computing, SG24–2149–01

➤ **The following three documents are available after installation (where 9.82.1.100 is the IP address of the OS/390 system where HOD is installed):**

   ➤ Host On–Demand 4.0.1 Readme

   http://9.82.1.100/hod/en/doc/readme/readme.html

   ➤ Planning and Installation Guide (also available in pdf as install.pdf)

   http://9.82.1.100/hod/en/doc/install/install.html

   ➤ Host Access Beans for Java

   http://9.82.1.100/hod/en/doc/beans/API_users_guide.html

   ➤ Host Printing Reference

   http://9.82.1.100/hod/en/doc/hostprint/hostprintref.html

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Bibliography

- **Communications Server IP Configuration, SC31-8513**
- **OS/390 Cryptographic Services System Secure Sockets Layer Programming Guide and Reference, SC24-5877-01**

Acknowledgements/Other Sources

Aknowledgements/Other Sources

➢ **Host On-Demand Product Information site:**

  ➢ **http://www.software.ibm.com/network/hostondemand**

➢ **Host On-Demand Support site:**

  ➢ **http://www.software.ibm.com/network/hostondemand/support**

➢ **Other sources for this presentation:**

   Chip Mason – Sales Presentation

   Robert Morse – ENTS Networking Lab, Gaithersburg, MD.