d|i|g|i|t|a|l ™

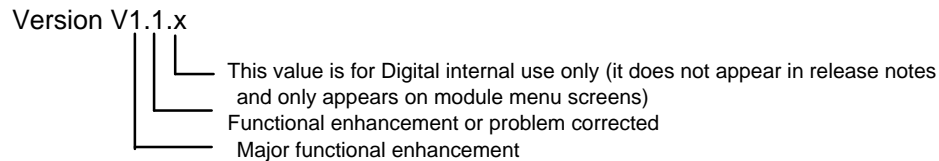**DECswitch 900EF Release Notes**
Firmware Version V1.6
June 1996

These release notes contain firmware and software requirements that apply to the operation of the DECswitch™ 900EF (also referred to in this document as the module).

Additional release notes can be found online. For information about retrieving online release notes, refer to the section titled Accessing Online Information.

As warranted, Digital changes the firmware of this device to make functional enhancements or to correct reported problems. These release notes identify enhancements and changes to the firmware that impact end-user operations. These also contain firmware and software requirements, and list updates in this release as well as known conditions and restrictions that apply to the operation of the DECswitch 900EF product.

The following example describes the firmware version number:

Version V1.1.x

This value is for Digital internal use only (it does not appear in release notes and only appears on module menu screens)
Functional enhancement or problem corrected
Major functional enhancement

Contents

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Requirements

The following sections list requirements for the DECswitch 900EF module.

Firmware

When configuring DECswitch 900EF modules in a DEChub 900 MultiSwitch, ensure that the DEChub 900 MultiSwitch firmware version is **V4.1**, or higher.

Software

If you are using clearVISN MultiChassis Manager to manage the module, you must install MultiChassis Manager software version V5.0, or higher.

If you are using RMON Manager to manage the module RMON functionality, you must install RMON Manager software version V3.3, or higher.

If you are using VLAN Manager to manage the module VLAN functionality, you must install VLAN Manager software version V1.0, or higher.

Hardware

The minimum hardware revision level required to support the features of this release is DECswitch 900EF hardware version V1/1 or DECbridge 900MX hardware version V0/1.

Note: In order to utilize the optional DEChub ONE-MX docking station support, the minimum DECswitch 900EF hardware version is V1/2. DECswitch 900EF modules with a hardware version below V1/2 and DECbridge 900MX modules with a hardware version below V0/1 will power up on a DEChub ONE-MX, but the console port and the ModPMDs on the DEChub ONE-MX will be unusable.

The DECswitch 900EF hardware and firmware revision levels can be displayed by selecting menu item 3 ([3] Show Current Settings) from the DECswitch 900EF Installation menu. (Refer to the *DECswitch 900EF Installation* Manual for additional information.) The revision levels are also displayed in the revision field of the Switch Summary window when you are using clearVISN MultiChassis Manager (version V4.0 or higher), and in the MIB-II sysDescr using a generic SNMP manager.

The revision level for the DEChub 900 MultiSwitch Hub Manager can be displayed by selecting item 3 ([3] Show Current Settings) on the DEChub 900 MultiSwitch Installation menu. (Refer to the *DEChub 900 MultiSwitch Owner's Manual* for more information.)

Docking Station

When configuring a DECswitch 900EF module in standalone mode, the following docking stations are available:

Docking Station	Model Number	Available Power
DEChub ONE	DEHUA	90 Watts
DEChub ONE-MX	DEF1H	90 Watts

10BaseT Ports

The DECswitch 900EF 10BaseT ports are straight-through wired station ports. To connect a straight-through port to a crossover port (for example, a repeater port), use a straight-through cable. To connect a straight-through port to another straight-through port (for example, a station), use a crossover cable. (Refer to the *DECswitch 900EF Installation Manual* for more information.)

FDDI Port

The DECswitch 900EF FDDI PHY ports (A/M and B/S) are available on the front panel by default. They may be individually configured and switched to the DEChub 900 backplane (using clearVISN MultiChassis Manager), or to ModPMDs installed on the DEChub ONE-MX (using clearVISN MultiChassis Manager or the Module-Specific Options console menu selection).

When the module is connected to a DEChub ONE-MX docking station, the FDDI configuration state and station type depend on the number of ModPMDs installed, slot location of ModPMDs, and the configuration of the individual PHY ports, as shown in the following table.

Table 1.   ModPMD and PHY Port Configurations

Number of ModPMDs	ModPMD Slot	PHY Configuration	Configuration State
2	A/M and B/S	Front Panel: A, B Docking Station: None	DAS
2	A/M and B/S	Front Panel: None Docking Station: A, B	DAS
2	A/M and B/S	Front Panel: B Docking Station: A	DAS
2	A/M and B/S	Front Panel: A Docking Station: B	DAS
2	A/M and B/S	Front Panel: M, S Docking Station: None	SAC
2	A/M and B/S	Front Panel: None Docking Station: M, S	SAC
2	A/M and B/S	Front Panel: S Docking Station: M	SAC
2	A/M and B/S	Front Panel: M Docking Station: S	SAC
1	A/M	Front Panel: A, B Docking Station: None	DAS
1	A/M	Front Panel: None Docking Station: A, B	DAS C_WRAP_A
1	A/M	Front Panel: B Docking Station: A	DAS
1	A/M	Front Panel: A Docking Station: B	DAS C_WRAP_A
1	A/M	Front Panel: M, S Docking Station: None	SAC
1	A/M	Front Panel: None Docking Station: M, S	SAC
1	A/M	Front Panel: S Docking Station: M	SAC

Table 1 (Cont.).   ModPMD and PHY Port Configurations

1	A/M	Front Panel: M Docking Station: S	SAC
1	B/S	Front Panel: A, B Docking Station: None	DAS
1	B/S	Front Panel: None Docking Station: A, B	DAS C_Wrap_B
1	B/S	Front Panel: B Docking Station: A	DAS C_Wrap_B
1	B/S	Front Panel: A Docking Station: B	DAS
1	B/S	Front Panel: M, S Docking Station: None	SAC
1	B/S	Front Panel: None Docking Station: M, S	SAC
1	B/S	Front Panel: S Docking Station: M	SAC
1	B/S	Front Panel: M Docking Station: S	SAC
0	----	Front Panel: A, B Docking Station: None	DAS
0	----	Front Panel: None Docking Station: A, B	No FDDI
0	----	Front Panel: B Docking Station: A	DAS C_Wrap_B
0	----	Front Panel: A Docking Station: B	DAS C_Wrap_A
0	----	Front Panel: M, S Docking Station: None	SAC
0	----	Front Panel: None Docking Station: M, S	No FDDI
0	----	Front Panel: S Docking Station: M	SAC
0	----	Front Panel: M Docking Station: S	SAC

DAS = Dual Attach Station   SAC = Single Attach Concentrator

Known Conditions and Restrictions

The following conditions and restrictions apply to the DECswitch 900EF module.

Fixes for This Release

This section contains information on bug fixes that have been fixed in this release.

- A firmware problem, that could cause an Ethernet port in blocking mode to go into forwarding when the FDDI port's path cost was decreased and then get stuck in listening mode when the FDDI port's path cost was increased, has been fixed.

- A firmware problem, that could cause one of the Ethernet ports to stop forwarding or the switch to reset when specific SNAP protocol filter entries were configured, has been fixed.

- A firmware problem, that would not allow a filter table entry's port mask to be changed from any value to zero, has been fixed.

- A firmware problem, that would allow a disabled port to learn, has been fixed.

Downgrading to a Previous Image

If you upgrade to this firmware version and then decide to downgrade to a previous firmware version (v5.1 or earlier) at a later time, you may lose some of your configurations saved in NVRAM. To minimize this risk, we suggest that you use Recovery Manager to backup your switch's configuration information to minimize configuration data loss.

RMON Statistics and History Counters

- The etherStatsCollisions and etherHistoryCollisions counters will only count collisions in which the switch was involved.

- The etherStatsUndersizePkts, etherStatsFragments, etherHistoryUndersizePkts, and etherHistoryFragments counters are not supported.

Connecting the FDDI Optical Bypass Relay (OBR)

If the module is powered on and the FDDI cables are installed, connect the OBR device to the module in the following order:

1. Disconnect the module's FDDI port connectors from Port 1 A/M and Port 1 B/S.

2. Connect the OBR device to the module's OBR connector.

3. Reconnect the module's FDDI port connectors to Port 1 A/M and Port 1 B/S.

Docking Station ModPMD LEDs

The FRU and PHY LEDs on ModPMDs installed in a DEChub ONE-MX reflect the status of the corresponding PHY ports, even when the PHY configuration is such that a front panel port is used instead of the corresponding ModPMD.

Ethernet CRC and Alignment Errors

The module does not distinguish between Ethernet CRC and alignment errors. Both CRC and alignment errors are counted as alignment errors on Ethernet ports. As a result, the CRC Errors (MIB object: dot3StatsFCSErrors) counter on the MultiChassis Manager Bridge Port Information view always shows a zero. The Alignment Errors (MIB object: dot3StatsAlignmentErrors) counter on the same view also counts packets with CRC errors.

FDDI Tree Configurations

FDDI rules require that stations with M ports be called concentrators. Consequently, when a DECswitch 900EF is configured with M and S ports, it must report itself as a concentrator in FDDI NIF and SIF frames, and in the FDDI and SNMP MIBs. Therefore, clearVISN MultiChassis Manager, FDDI monitors, and FDDI ring maps will announce the station type of a treed DECswitch 900EF as a Single Attach Concentrator (SAC), rather than as a Single Attach Station (SAS).

FDDI MIB: fddimibPORTLemCts

The value returned in response to an SNMP get request for the MIB object fddimibPORTLemCts is not meaningful. A value of 0 (zero) is always returned for this object.

FDDI Port: Front Bezel Labels

The FDDI A/M and B/S ports may be labeled as A and B on older units that are being upgraded to this new firmware release.

MIB and RFC Information

The DECswitch 900EF module supports the following Request For Comments (RFC) and Management Information Base (MIB) extensions:

- SNMP management (RFC 1157)

- MIB II (RFC 1213)

- Bridge MIB (RFC 1493)

- FDDI MIB (RFC 1512)

- Ethernet MIB (RFC 1643)

- RMON MIB (RFC 1757)

- Digital ELAN MIB Extensions V3.2, April 1996

- DEChub 900 Common MIB Extensions V1.1, June 1995

Accessing Online Information

This section describes how to access this product's online release notes, public MIBs, the Digital private MIBs, firmware images, and RFCs. You can access this information from the Digital Internet ftp server at:

ftp.digital.com (16.1.0.2)

To Access...	Use...
MIBs, release notes, firmware update files, and Flash Loader	Anonymous ftp
MIBs and release notes	ftpmail
RFCs	Electronic mail

Using Anonymous ftp

You can access any of Digital's DEChub MIBs, firmware update files, release notes, and Flash Loader over the Internet by using ftp.

When you use ftp, you must include the following parameters:

- connect to **ftp.digital.com**

- for a user name, enter **anonymous**

- for a password, enter your Internet mail address; for example:

  name@system.company.com

- change directory to:

  /pub/DEC/hub900/<directory_name>

  (See Table 2 for a list of directory names.)

Table 2. Directory Names Available

Name	Contents[1]
mibs	DEChub MIBs
firmware	DEChub firmware images
firmware/hubloader_pc	Flash Loader Utility
release	DEChub product release notes

[1] Digital suggests reading the README file in each directory to understand the directory contents.

You can also access these directories from the World Wide Web using a browser. The Universal Resource Locator (URL) is as follows:

file://ftp.digital.com/pub/DEC/hub900/

The following example shows how to copy a README file. User input in the example is identified by **bold** courier text:

NOTE: User input is case sensitive; you must type it as shown.

```
% ftp  ftp.digital.com
Connected to ftp.digital.com
220 FTP.DIGITAL.COM FTP Service Process
Name: anonymous
331 ANONYMOUS user ok, send real ident as password.
Password: milano@netman.stateu.edu
230 User ANONYMOUS logged in at Tue 10-May-1995 10:24-EST, job 54.
ftp> cd  /pub/DEC/hub900/<directory_name> (See Table 2 for directory
names.)
331 Default name accepted. Send password to connect to it.
ftp> ascii (See note below.)
220 Type A ok.
ftp> get README
200 Port 19.54 at host nnn.nn.nn.nn accepted.
150 ASCII retrieve of /pub/DEC/hub900/mibs/README started.
226 Transfer completed. 40239 (8) bytes transferred.
40239 bytes received in 23.65 seconds (5.8 Kbytes/s)
ftp> quit
```

NOTE: To transfer binary files, such as firmware updates, replace the ascii command shown in this example with binary or image.

Using ftpmail

Digital offers Internet ftpmail access to private MIB and release note information, in ASCII text form, at ftp.digital.com, with up-to-date documents stored in the following directory:

> **/pub/DEC/hub900/<directory_name>**
>
> (See Table 2 for a list of directory names.)

To use ftpmail, follow these instructions:

1. Send a mail message to **ftpmail@ftp.digital.com**

2. Ignore the subject line.

3. Include the word connect in the first line of the body.

4. Include get commands for each document required, for example:

   > **get /pub/DEC/hub900/<directory_name>/README**
   >
   > (See Table 2 for a list of directory names.)

5. **quit**

Requests are acknowledged, then queued and processed every 30 minutes. Because of the number of requests, it can take a day or two before you receive a reply.

NOTE: For more timely access, consider using anonymous ftp. (Refer to the section titled Using Anonymous ftp.)

Using Electronic Mail

The DDN Network Information Center (NIC) of SRI International provides automated access to NIC documents and information through electronic mail. This is especially useful for users who do not have access to the NIC from a direct Internet link, such as BITNET, CSNET, or UUCP sites.

To use the mail service, follow these instructions:

1. Send a mail message to **SERVICE@NIC.DDN.MIL**.

2. In the SUBJECT field, request the type of service that you want followed by any needed arguments.

Normally the message body is ignored, but if the SUBJECT field is empty, the first line of the message body is taken as the request.

The following example shows the SUBJECT lines you use to obtain DDN NIC documents:

```
HELP
RFC 822
RFC INDEX
RFC 1119.PS
FYI 1
IETF 1IETF-DESCRIPTION.TXT
INTERNET-DRAFTS 1ID-ABSTRACTS.TXT
NETINFO DOMAIN-TEMPLATE.TXT
SEND RFC: RFC-BY-AUTHOR.TXT
SEND IETF/1WG-SUMMARY.TXT
SEND INTERNET-DRAFTS/DRAFT-IETF-NETDATA-NETDATA-00.TXT
HOST DIIS
```

Requests are processed automatically once a day. Large files are broken into separate messages.