d i g i t a l ™

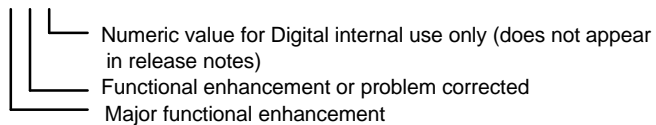# RouteAbout Central EW/IP Release Notes
Version V1.1
April 1996

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 RouteAbout Central EW product.

The following example describes the firmware version number:

Version V1.1.x

Numeric value for Digital internal use only (does not appear in release notes)
Functional enhancement or problem corrected
Major functional enhancement

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Firmware Requirements

Digital Equipment Corporation requires that you use DEChub 900 MultiSwitch firmware version 4.1, or higher, to manage the RouteAbout Central EW if installed in a DEChub 900 MultiSwitch.

Software Requirements

If you are using HUBwatch to manage the RouteAbout Central EW, Digital Equipment Corporation requires that you install HUBwatch software version V4.1, or higher.

Reloading Software from CD-ROM

Your RouteAbout Central EW comes preconfigured with diagnostics and functional software. This software will function right out of the box, and does not need to be loaded. However, in the unlikely event that the integrity of the preinstalled software image becomes compromised, you can download the software images found on your CD-ROM to the RouteAbout Central EW.

The RouteAbout Central EW uses **bootp/TFTP** in order to load software over the network. You must first setup your loadhost to honor bootp requests from your particular RouteAbout. This task is operating system specific. In the case of UNIX systems, this involves adding an entry into the **/etc/bootptab** file. Other operating systems may differ.

If the RouteAbout Central EW router software is operational, you can use following procedure to reload the RouteAbout software or diagnostic image.

Step	Action
1	Copy the RouteAbout software image to your TFTP area.
2	From the RouteAbout Console interface, select the Gateway user configuration process (**talk 6**).
3	Enter the **boot** command to access the TFTP Boot/dump configuration interface. You can now perform one of the following operations: **a.** Define a boot file location using the **add boot** command and reload using the MOS command **reload** b. Reload interactively using the l**oad remote** command

NOTE

 If the upgrade is over a WAN port, you might need to set up static routes on any intermediate routers. When the RouteAbout Central is upgrading, it is not actively routing. If routing table entries time out for the unit being upgraded, the TFTP copy of the upgrade image might fail.

Reloading Software from Diagnostics

If the RouteAbout Central EW software is not operational, you can use the following procedure to reload the RouteAbout software from the diagnostics. Note, reloading from the diagnostics is supported only via the ethernet ports.

Step	Action
1	Copy the software image to the TFTP area.
2	Unplug the power cord (or remove from hub slot).
3	Reconnect power, and depress (and hold) the dump button.
4	Release dump button when Module OK LED has come on.
5	If a console is attached, the diagnostic console is enabled. Enter the **LOAD** command **Diag_V2.12> LOAD** This will cause a bootp load request to be transmitted
6	If there is no console attached, then a bootp load request will automatically be generated.

WARNING

Use extreme caution when reloading the diagnostic image. If power is interrupted during the reload, your RouteAbout Central router may be left in an inoperable state.

LED Configuration During Reload

If it has become necessary to reload the RouteAbout Central EW software, a special LED pattern will be blinked to indicated that the software is currently being written to flash RAM (which could take up to 10 minutes). It is VERY IMPORTANT that you do not interrupt power to the RouteAbout while this is in process.

Once the software image has been loaded over the network, the two Network OK LEDs and ports 3-6 Serial Line OK LEDs (these are the bottom 6 LEDs to the right of the POWER OK LED) will begin to blink in sequence. This pattern will continue until the software has been programmed into flash RAM.

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Documentation Corrections

DEChub 900 MultiSwitch Installation Menu

Depending on the version of software the Hub is running, the menu could appear with 9 or 13 options. The installation and configuration manual shows the menu with [13] options. In some cases, the menu could appear with [9] options as follows:

```
     DEChub 900 MultiSwitch
     ===============================================

            DEChub 900 MultiSwitch INSTALLATION MENU

            [1]     Reset with Factory Defaults
            [2]     Reset with Current Settings
            [3]     Show Current Settings
            [4]     Configure IP . . .
            [5]     Dump Error Log
            [6]     Downline Upgrade
            [7]     Configure Out-of-Band Port . . .
            [8]     Start Event Display Mode
            [9[     Start Redirect Mode
     ===============================================

            Enter selection number: 9 <Return>
```

Operating Specification Corrections

Appendix D of the manual lists incorrect operating specifications for the RouteAbout Central EW. The correct version is as follows:

Parameter	Specification
Environment	
Operating Temperature[1]	5° C to 50° C (41° F to 122 ° F)
Relative Humidity	10% to 95% noncondensing
Altitude	
• Operating	Sea level to 2400 m (8,000 ft)
• Non-operating	Sea level to 4900 m (16,000 ft)
Shock (Class A/B for products weighing under 100 lbs)	10 G / 10 ms half sine pulse in three orthogonal axes
Vibration (Class C)	5 to 200 Hz sine sweep @ 0.25 G limited by 0.02" (0.5mm) displacement DA* 200 to 500 Hz sine sweep @ 0.10 G

[1]For sites above 2400 m (8,000 ft), decrease the operating temperature specification by 1.8 °C for each 1000 m or 3.2 ° F for each 3200 ft.

Known Conditions and Restrictions

RouteAbout Central EW product conditions and restrictions for V1.1 software are described in this section:

System Configuration

Do not reduce max packet size

Do not set the packet size to low values via the config command **set packet-size**. Values less than 1518 can cause the router to crash with a `buffer guard word corrupted` message.

WAN ports

Half duplex mode

Half duplex mode for SDLC does not function correctly. The RouteAbout will drop RTS before the frame has been completely transmitted. If the opposite end of the SDLC connection ignores frames received in this state, the connection will not function.

SDLC relay and modem signals

In some cases, SDLC relay lines can fail to correctly sense the status of modem signals. In this state, the line will be **down** having failed self test, and **test <n>** commands will return failures. To workaround this problem, **disable int <n>** first before entering the **test** command.

Tinygram compression on PPP links

The RouteAbout always does tinygram compression on PPP links, even if tinygram compression is disabled. This may cause **runt** packets if the router on the other end of the PPP link does not pad the packet back to the Ethernet minimum of 64 bytes.

Switched/Dial circuits

Destination setting for dial circuits is required. Always enter a destination on dial circuits, even if they are intended for inbound calls only. If you do not, calls for that circuit will be rejected. Inbound calls will be checked against that destination, but will still be accepted if ANY_INBOUND is set.

Frame Relay

Minimum Information Rate fixed

You cannot configure the minimum information rate (MIR) for a frame relay PVC. The router uses a default value of 1/4 of the committed information rate (CIR).

Excess information rate changes not configurable

You cannot configure the percentage by which excess information rate (EIR) changes in response to congestion on a Frame Relay PVC. The router raises EIR by 1/16 of CIR when there is no congestion, and lowers it by 1/8 of CIR when there is congestion.

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X.25

N2 Setting Restriction

When configuring the N2 parameter for your X.25 interface, set it to one less than the tranmission attempt counter for your X.25 network. The router incorrectly uses this setting as a retry, rather than attempt count.

Inter-Frame Delay Display Incorrect

The Inter-Frame Delay setting for an X.25 interface may display incorrectly. The setting entered by the user is stored correctly, but if displayed with the **list summary** command, the value may not match the configured value. The user-entered setting is used for the actual Inter-Frame Delay on the network.

Received Reset Indication Requires Manual Intervention

If the router receives a reset indication on a X.25 PVC, it fails to restart transmitting packets on the interface. To manually restart the interface, initiate a **test** command on the X.25 net.

Phase IV Adjacencies -- Restriction

Do not configure more than five DECnet Phase IV adjacencies on an X.25 interface. More than five adjacencies will cause the X.25 interface to become blocked.

T1 and T2 Paramters are Truncated

Although you can enter more than two decimal places when configuring X.25 T1 and T2 parameters, the values you entered are truncated to two decimal places.

DEChub 900

IP services on a DEChub 900

RouteAbout products do not support IP services for DEChub 900 management when configured as a bridge only with HOST IP address. To use the router for IP services, assign the IP address to a network interface.

Upgrading Procedures

TFTP Load Timeout

The TFTP load timeout value that is specified in the boot config record is not used. Rather, a sliding window timeout is used, which allows TFTP to adapt to changing network conditions.

File Name Size

The maximum file name size in the boot config record is 63 characters.

Upgrade Restriction

Do not logout from the * prompt while an upgrade is in progress. If you do, the console may not be accessible again until the router is power cycled.

IP

Illegal Address/Mask pairs

The command line interface lets you to create an illegal IP address/mask pair (eg, 192.1.1.1/255.0.0.0). The resulting address will not be advertised by the routing protocols, however. Be sure that your address mask is not less restrictive than the default for the class (Class A - 255.0.0.0, B - 255.255.0.0, C - 255.255.255.0).

IP routing and HST mutually exclusive

If you have configured IP routing, and IP host services (HST), you cannot monitor HST from the GWCON process (**talk 5**). HST is only used in the absence of IP routing, so the HST configuration information is ignored and is monitoring if HST is disabled. You can use the information configured in your IP routing configuration to remotely access the router.

Multiple IP addresses on an Ethernet

If more than one IP address is assigned to an Ethernet interface, the first will always be used as the IP source address in ARP requests, even if the requested target IP address is in the same subnet as another interface address.

MAC filtering on IP tunnels

Do not attempt to use MAC filtering on an IP tunnel port.

DHCP Discovery -- Restriction

The router does not correctly respond to DHCP discovery messages.

SNMP

Community string needs to be defined

The router does not have a default community string for SNMP. Many management tools assume that the default community string of 'public' will be present. If the router is configured through the **quick config** process described in the installation guide, a community string of **public** will be created. The community string may also be set from the **installation menu**, or the DEChub 900 setup port. To manually add a community string, go to **SNMP config** and type the name in the **add community <name>** filed. See the installation guide for more information.

ifSpeed setting inconsistent

The **ifSpeed** setting reported for serial lines is inconsistent. On PPP lines, the line speed is not calculated. This problem will be fixed in a future release of the firmware.

BRS filtering of SNMP responses

You cannot assign a BRS filter to SNMP responses, since the destination UDP port of an SNMP response may vary depending on the port used by the requestor.

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Bridge MIB inconsistencies

There are several problems with the rfc1286 mib.

- dot1dStpDesignatedRoot returns only the MAC address.

- dot1dStpPortDesignatedRoot returns only the MAC address.

- dot1dStpPortDesignatedBridge returns only the MAC address.

- dot1dStpPortDesignatedPort priority and port number bytes are in reverse order.

Bridging

Aging process for MAC addresses

If the bridging MAC address database fills, the bridge will prematurely age MAC addresses in order to make more room in the database. It will first age out any entries that are within 85% of their maximum age. If that does not free enough space, then all entries within 65% of maximum are aged out. This can result in a large number of entries being aged out at the same time, in excess of the space required for new entries.

Static MAC entries

If you statically defined a MAC address to a certain port, the bridge will not learn dynamic information about the address. For instance, if you move the station to a new port, the bridge will still continue to send frames destined to it on the old port.

Interoperability

Bridging over PPP to DECnis

When configuring a DECNIS to interoperate with a RouteAbout (which cannot process FDDI format packets on PPP links) you must add the following lines to the DECNIS extra_set NCL file.

```
set   bridge port <port-to-RouteAbout> Manual Data Link SDU Size 1536

set   ppp   link <link-to-RouteAbout> Minimum SDU Size 1536

set   ppp   link <link-to-RouteAbout> Preferred Maximum Receive SDU Size 1536
```