DECbridge 90
DECbridge 90FL
Part Number AA-PYS0B-TE
January 1995

Product Information and Release Notes - Firmware Version 3.9

This document describes the features of the DECbridge 90 (DEWGB) and the DECbridge 90FL (DEWGF) and changes which have been implemented between firmware Versions 3.1 and 3.9. The DECbridge 90 firmware Version 3.9 applies to all hardware revisions of the DECbridge 90 and the DECbridge 90FL Ethernet bridges. This firmware provides remote network management support of the DECbridge 90's and DECrepeater 90's in the DEChub 90. The network management is done through the DECagent 90 using HUBwatch software. You upgrade the DECbridge 90 firmware using the DECndu utility software. Refer to the operating system specific DECndu installation manual and the associated DECbridge 90 update manual.

Product Information

The DECbridge 90 is a specialized LAN (local area network) device that connects two Ethernet or IEEE 802.3 LANs to form a single extended LAN. One LAN, referred to as the backbone, can consist of an unrestricted number of stations. The other LAN, referred to as the work group, is usually the smaller of the two LANs. The work group LAN is normally restricted to 200 stations.

There are two models of the DECbridge 90. Both models connect to the work group with a ThinWire (10Base2) connection, and have the option to connect to the backbone using either an integral transceiver or a 15-pin AUI connection. The DECbridge 90 includes an integral transceiver for a ThinWire (10Base2) backbone connection. The DECbridge 90FL contains an integral transceiver for a fiber optic (10BaseFL) connection.

The DECbridge 90 firmware contains two components: the Flash component, and the base component. The Flash component (also called FPROM) contains the console command language, remote network management, hub management, and the spanning tree algorithms. This upgrade replaces only the Flash component. Before performing this upgrade, your DECbridge 90 should contain the FPROM 1.5, FPROM 1.6, FPROM 3.0 or above. After the upgrade, it will be FPROM 3.9. This version number is displayed when you connect to the DECbridge 90 management console.

The base (or ROM) component contains the diagnostics, algorithms for loading the Flash ROM, and the software assist to the bridging algorithms. The base component is not changed by the upgrade. Your base component ROM version (for example, 1.14 or 2.1) will remain the same. The base component firmware version is linked to the hardware revision. Older DEWGB units with base component firmware Version 1.14

are referred to as "Version 1" hardware. All DEWGF and newer DEWGB units are "Version 2" hardware and use base component firmware V2.1 or V2.2.

All DECbridge 90FL's and "Version 2" DECbridge 90's support a "flood mode" feature which can be manually enabled or disabled and is automatically enabled when the work group exceeds 200 stations. This allows full connectivity with more than 200 stations by eliminating the automatic traffic isolation between the work group and the backbone LANs. The flood mode features are available only in the Version 2 hardware. This V3.9 firmware upgrade will not add flood mode to a DECbridge 90 that does not have the necessary hardware support.

Release Note Information
CAUTION!

The base component of the DECbridge 90 firmware cannot be upgraded over the network or by replacing program ROMs inside the unit. Do not disassemble the unit or otherwise attempt to upgrade the base firmware! The DECbridge 90 will not operate properly if the base firmware and the hardware revision do not match.

Both Ethernet ports should be operational and properly terminated when the upgrade is performed. Leaving one port disconnected will interfere with the upgrade process.

Firmware Upgrade Failure

If the Version 3.9 firmware upgrade fails after downline loading, the Flash ROM will be left unprogrammed or partially programmed. In this state, the bridge will be partially, but not fully operational and the following may occur:

o   The system OK lamp (marked with split ring icon) will not light.

o   If there are no bridges on the work group side that participate in the spanning tree algorithm, the DECbridge 90 will bridge. However, any spanning tree messages received on the work group port will cause the bridge to stop forwarding packets. It is not recommended that you operate the bridge in this state.

o   If you use the MOP protocol to connect to the bridge console, the prompt is ">>". There is a small set of undocumented diagnostic commands available. Type "?" or press return to list them.

If this occurs, ensure both network ports are properly terminated and that they passed the port self-test (green light on each port). Repeat the upgrade procedure.

Problems Corrected in V3.9 Firmware

The following problems, which exist in previous versions, have been corrected in firmware Version 3.9:

o   The version number in a RBMS reply was in the format V0.31 instead of V3.1.

o   A RBMS inquiry of ROMImplementationType always responded with "DEWGB", regardless of the device type.

o   The SET ALL command sometimes caused the bridge to stop forwarding by placing port 1 in the disabled state.

o   The "DEFINE BRIDGE FLOOD ENABLE" command sometimes created a situation where the bridge could power up with port 1 in the disabled state.

o   In a daisy-chained hub configuration, the "Hub" number portion of the hub/slot /port display of a SHOW ADDRESS command could be erroneous while the slot and port data was correct.

o   For a SHOW ADDRESS command, the hub/slot/port data of an aged out address could be erroneously associated with a recently learned device. This data may remain in error for as much as an hour.

Problems NOT Corrected in V3.9 Firmware

The following problems, which have been thought to be caused by DECbridge 90 Firmware, are NOT corrected by V3.9. These problems are ***NOT*** caused by the firmware and cannot be corrected by firmware changes:

o   DECbridge 90's (DEWGB) with either Version 2.0 or 2.1 ROMs will identify themselves as DECbridge 90FL's when interrogated using the Left Hitchcock protocol. Left Hitchcock is used by the DEChub 900 MAM and HUBwatch software.

o   In DEChub configurations which include DECrepeater 90T's, the SHOW AD-DRESS hub/slot/port data for a device attached to ANY repeater type may be overlaid by the hub/slot/port information of some device attached to a DECrepeater 90T.

These problems will be addressed by changes in future hardware revisions of the DECbridge 90 (DEWGB) and DECrepeater 90T (DETMR) products.

Filenames and Destinations

The following tables list the file names and locations, subsequent to installation of the DECbridge 90 / 90FL V3.9 Firmware kits on either an Ultrix/RISC or OpenVMS system.

Table 1: Update Files for ULTRIX RISC Systems

Filename	Description and Location
WGBMC390	Device kit name and version number. This is the filename that you use to perform the DECbridge 90 and DECbridge 90FL microcode installation and update.
DEWGB390.RELEASE_NOTES	DECbridge 90 and DECbridge 90FL firmware Version 3.9 release notes found in the/usr/kits/WGB390 directory.
DEWGB390.SYS	DECbridge 90 and DECbridge 90FL firmware image file found in the /usr/kits /WGB390 directory.

Table 2: Update File for OpenVMS VAX Systems

Filename	Description and Location
DEWGB039	Device kit name and version number. This is the filename that you use to perform the DECbridge 90 and DECbridge 90FL microcode installation and update.
DEWGB390.SYS	DECbridge 90 and DECbridge 90FL firmware image file found in the MOM$SYSTEM directory.
DEWGB$IVP.COM	Installation verification procedure found in the SYS$TEST directory.
DEWGB_039.RELEASE_NOTES	DECbridge 90 and DECbridge 90FL firmware Version 3.9 release notes found in the SYS$HELP directory.

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