# HP-PB Token Ring Release Notes

## HP 9000 Networking

**Manufacturing Part Number: J2166-90049**
**E1201**

United States

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# HP-PB Token Ring Release Notes for HP-UX 11.0

The following information is for HP-PB Token Ring LAN adapters on HP-UX version 11.00.

## What's in this Version

The following describes the HP-PB Token Ring products for the K-class, T-class, and series 800 servers.

### Fixes

This version of the product contains a fix for a defect where the system panics with HPMC. In addition, it contains fixes for defects listed in the following patches: PHNE_20536, PHNE_18922, PHNE_17355, and PHNE_15000.

# Known Problems and Workarounds

None

# Compatibility Information and Installation Requirements

## Software Requirements

- HP-UX 11.0 operating system

## Hardware Requirements

- K-class, T-class, or series 800 servers
- CD-ROM drive

## Memory and Disk Space Requirements

- 16 MB memory
- 550 KB free disk space

## Install/Upgrade With System Up or Down

- Install the HP-PB Token Ring card with the system down.
- One reboot is required for installation and configuration.

## Installing and Upgrading HP-PB Token Ring

The HP-PB Token Ring card is customer-installable and configurable on K-class, T-class, and series 800 servers.

# Patches and Fixes for this Version (B.11.00.07)

Fix:

- **The HP-PB Token Ring driver panics during reset state.**

  The HP-PB Token Ring driver tries to handle control command completion interrupts during reset state and hence it panics.

  The driver code has been modified to add a check for the reset state in the control command completion path and return without handling any control command completion interrupts during reset state.

Patch PHNE_20536:

- **The HP-PB Token Ring driver may consume all of the available IOVRs in the system.**

  The driver does not combine small requests into a large one, so when it gets a fragmented I/O request with too many small fragments from the higher layer, it will try to map each of the fragments separately. This will consume a large number of IOVRs.

  The driver code has been modified to combine small fragments into a large request so it does not consume too many IOVRs.

- **The HP-PB Token Ring driver may show too many outbound errors/discards.**

  One of the internal driver data structures has insufficient number of entries, causing the driver to drop outbound packets.

  The driver code has been modified to increase the number of entries in this data structure.

- **The HP-PB Token Ring driver fails to rebind IP after cable reconnect.**

  The driver sends LINKUP and then goes through a reset cycle which can take as much as 35 seconds on cable reconnect. Since the application finds that the link is up, it sends bind requests, however, they fail as the driver is still in reset state.

  The driver code has been modified to send LINKUP only after reset completion.

Patch PHNE_18922:

- **The system panics with a Data page fault when the HP-PB Token Ring driver is present in the system.**

  The driver does not validate the memory range of a data structure before writing to it. This leads to memory corruption and the system may panic.

The fix is to perform the range check before accessing the data structure, therefore preventing memory corruption and subsequent panic.

Patch PHNE_17355:

- **The card can go into a hung state and an error message will be logged in the '/var/adm/syslog/syslog.log' file.**

  A bug in the firmware can create a situation such that the firmware sends inbound frames with the size larger than the configured MTU. However, the driver does not provide enough buffers for DMA. The DMA hardware then gives an error which causes the card and driver to go into a fatal error (hung) state.

  The driver will now drop those packets that arrive with the larger size, thus preventing the hung state. Indication of the dropped packets is logged in the NetTL log file.

- **CISCO HSRP addresses cannot be reached**.

  The HP-PB Token Ring driver treats all of the functional addresses as multicast addresses. This causes a concern if any system uses functional addresses as the primary source address.

  The driver now checks for IP multicast functional addresses and converts only those to general multicast functional addresses. Other functional addresses are used without any transformation.

- **The system may panic when it is heavily loaded and memory is low**.

  The HP-PB Token Ring driver reuses a buffer chain even after it has been freed, consequently, the card initially will appear to hang (no outbound is performed). When the user tries to reset the hung interface card with the `lanadmin` command, the system will panic due to a wrong memory access.

  More robust checks have been implemented and proper cleanup is done whenever memory is freed.

- **System panics with Data page fault in the HP-PB Token Ring driver.**

  The HP-PB Token Ring driver writes to a wrong memory address which may lead to a system panic.

  The driver now validates the address range before using the memory address.

- **The HP-PB Token Ring driver shows the wrong value for "Operational Status" MIB object**.

  The HP-PB Token Ring driver does not set the "Operational Status" MIB object to "UP" after the successful initialization of the driver/interface card. This leaves the value of this object always to "DOWN" even if the card is functional.

The driver now marks the “Operational Status” as “UP” when driver initialization is successfully completed.

- **When the HP-PB Token Ring card is used with a Token ring card supporting 4500 MTU size, the network may hang**.

  Since the maximum size for the HP-PB Token Ring card is 4170, it will ignore incoming packets of a size greater than 4170. Some vendor cards support 4500 as the maximum MTU, therefore, the maximum MTU size for the HP-PB Token Ring card must be increased.

  The maximum MTU size for the HP-PB Token Ring card has been increased to the standard 4500, and the default MTU is set to 4170. The user may increase this to 4500 using the `lanadmin` command.

- **SAM gives an error when configuring HP-PB Token Ring card.**

  The cause of this defect was incorrect syntax usage for a shell command in the initialization script `/usr/sbin/hptoken_init`.

  The syntax has been corrected.

Patch PHNE_15000:

- **The IP multicast feature does not work.**

  In the `token2_hw_req()` file, the code to swap the MAC address before setting the destination address to the functional address is not needed, since the driver gets the bits in the right format from the upper layer.