Input/Output Interface Adapters Overview

This chapter describes the HP 9000 and HP Integrity Server input and output interface adapters. Input/output (I/O) interfaces are the crucial links that connect the computer system to its external peripheral devices, and connect two or more computer systems together. Interface adapters are specified by their technology (for example, SCSI, Token Ring, etc.) and by their bus type (PCI-X, PCI, HSC, etc.). Hewlett Packard provides a variety of interface backplane buses in its HP servers, including PCI-X, PCI and HSC.

Mass Storage Adapters-SCSI, Fibre Channel, SAS and RAID

Mass storage adapters connect the computer system to mass storage devices such as disks, tapes, and RAID systems. HP 9000 and HP Integrity servers support SCSI, Fibre Channel, and RAID I/O adapters, but not all servers support all adapter types. See the Storage Adapter QuickSpec to determine which servers support which mass storage adapters, and for details of mass storage adapters.

Networking Adapters-LAN, WAN, ACC

Hewlett Packard offers a number of high speed, high performance LAN and WAN networking solutions for use with HP 9000 and HP Integrity servers.

Multi function Adapters-Mass Storage/LAN Combination Cards

Combination adapters combine two or more I/O functions on a single card.

Multiplexers

Multiplexers combine a number of messages simultaneously over the same communications channel. A de-multiplexer completes the process by separating multiplexed signals from a transmission line. Frequently a multiplexer and de-multiplexer are combined into a single device capable of processing both outgoing and incoming signals.

Bus Types

PCI-X

The PCI-X (Peripheral Component Interconnect) bus has increased bandwidth versus the standard PCI bus. PCI-X systems and devices can operate at clock rates up to 133-MHz or 1-gigabyte per second (1-GB/s). PCI-X is backwards compatible with PCI meaning; 1) PCI I/O adapters can be used in PCI-X slots and 2) PCI-X I/O adapters can be used in PCI slots. The possible PCI-X bus configurations are 32 bit/33-MHz, 32 bit/66-MHz, 64 bit/33-MHz, 64 bit/66-MHz, and 64-bit/133-MHz. The PCI-X bus is available on HP Integrity servers.

PCI

PCI (Peripheral Component Interconnect) is intended for use as an interconnect mechanism between highly integrated peripheral controller components, peripheral add in boards and processor/memory systems. It permits direct connect of high performance controllers, (i.e. SCSI, IDE, LAN, Graphics, etc.) thereby providing high bandwidth data throughput. The PCI adapter is based on the 3×5 Form Factor. The possible PCI bus configurations are 32 bit/33 MHz, 32 bit/66 MHz, 64 bit/33 MHz, and 64 bit/66 MHz. The PCI bus is available on Superdome, HP Server rp8400, HP Server rp7410, HP Server rp5400 Series, and HP Server rp2400 Series.