

digital

High Performance Interconnect Program

Design, integration, and technology solutions featuring HIPPI and Fibre Channel for the most demanding data-rate environments

The most compelling reason for investing in a high-speed storage and network environment is to move more data faster. To accomplish this goal, it makes sense to match the world's fastest processors — DIGITAL 64-bit Alpha platforms — with the world's fastest commercially available interconnects — HIPPI and Fibre Channel. To help you do this, DIGITAL offers the evaluation, design, integration, and implementation solutions of its High Performance Interconnect Program (HPI).



When considering high-performance interconnects, don't limit your scope to the interface-to-interface connection. Consider also the capabilities of the computer and the nature of the network.

Successful high-performance interconnect solutions require good system design and an understanding of the overall computing environment.

That's why DIGITAL has created the High Performance Interconnect (HPI) program: to deliver evaluation, design, integration, and implementation solutions for high-speed interconnects including High Performance Parallel Interface (HIPPI) and Fibre Channel (FC).

High Performance Parallel Interface (HIPPI)

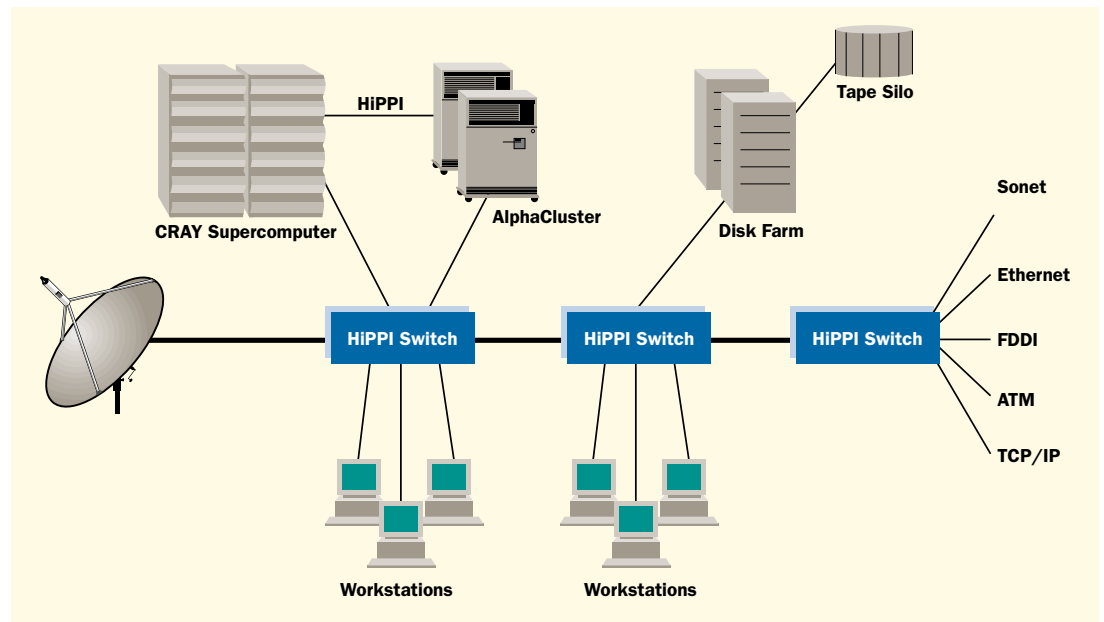
The HIPPI protocol is a well-established industry standard originally designed for high-speed

interconnections between processors. Lately, it has been extended to connect fast I/O

devices as well.

Benefits

- Access large-capacity devices and disk farms more effectively with high-speed interconnects
- 100 MB/s data transfer rates enable you to use your data more effectively for a greater competitive edge
- Exceed your computing and business goals with a matched combination of the world's fastest processors, databases, and interconnects
- Physical layer flow control allows efficient communication between fast and slower computer systems thus protecting your investment in legacy equipment
- Preserve your infrastructure investment as you migrate your existing applications to a 64-bit Alpha high-performance computing environment
- Enjoy easy connectivity to industry-standard devices with a clear migration path well into the 21st century



Highlights

- Easy connection of Alpha systems to existing environments with support of industry accepted HIPPI protocol standards
- Support for TCP/IP, NFS, IPI-3, and sockets
- Support for existing network switch topologies and fabrics
- Support for direct transfers through the Character Driver API
- Serial (fiber optic) connection with 10 KM range or parallel (copper wire) connection with 30 M range
- Self-tuning utilities to maximize transfer rates

Overview

The HIPPI connectivity solution enables you to benefit from the price performance capability of DIGITAL's industry-leading 64-bit Alpha technology while protecting current investments in your high-performance computing infrastructure. By making it possible to connect DIGITAL Alpha systems running UNIX® to the existing networks, tasks can be migrated easily to the most cost-effective processing units.

Environments

HIPPI is the installed network and storage interconnect at most supercomputing sites and provides two major capabilities: It enables the passing of large amounts of data at high transfer rates between processing units on a closed network with a known limited set of addresses. Data includes satellite images, video images, and seismic or weather data.

In addition, HIPPI enables the passing of data of any size to a fully open, address network at data rates higher than Ethernet or FDDI.

High Performance Interconnect Program for HIPPI solutions

Protect and optimize your HIPPI investment with the help of the DIGITAL HPI Program and its evaluation, design, integration, and implementation solutions.

Fibre Channel-Arbitrated Loop (FC-AL)

Fibre Channel (FC) is growing fast. There is no doubt that it's the wave of the future. FC sets high-performance standards with an evolving set of protocols to match the newest high-speed devices as they hit the market.

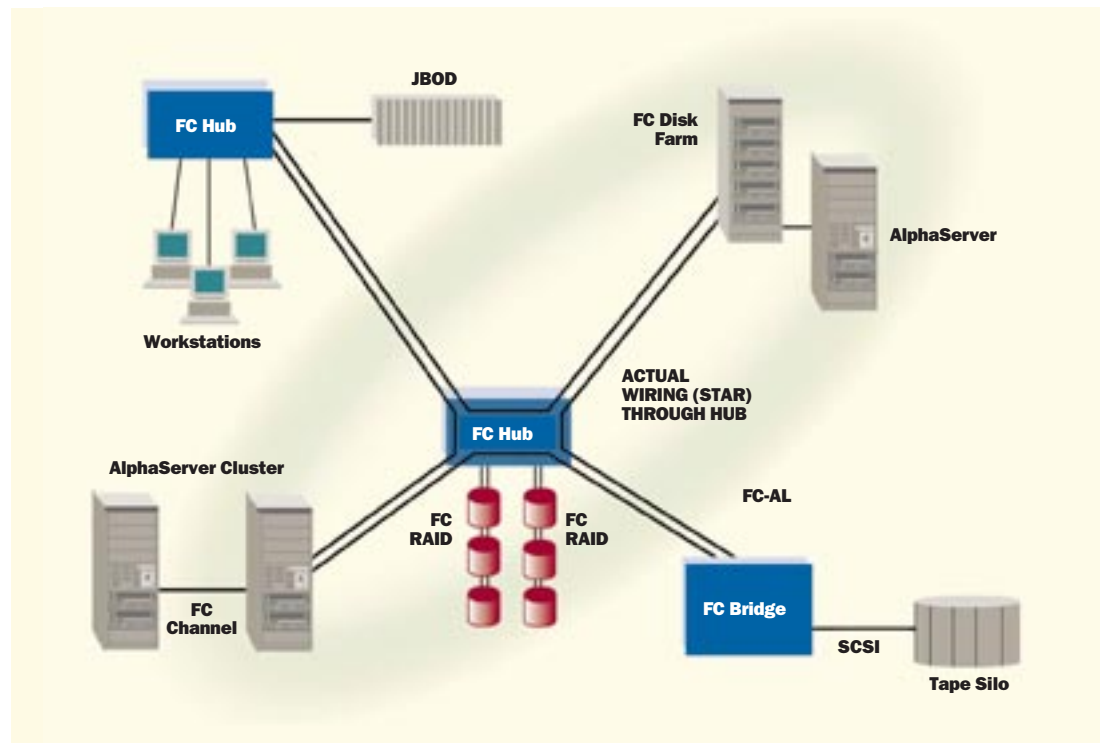
Benefits

- FC-AL is a high-speed storage area network (SAN) standard that allows interoperability with most common operating systems and storage devices
- With FC-AL, the same port used for transaction processing can serve equally well for high data rate applications providing both flexibility and exceptional throughput or bandwidth
- FC-AL's industry-standard connectivity easily scales to meet your most data-intensive needs now and into the future
- FC-AL significantly decreases connector and cable size enabling easier cable management

Highlights

- High device-to-controller ratio for very substantial online capacities with the connection of up to 126* devices to the loop
- High-speed data rate up to 100 MB/s
- 10 km (7 mile) cabling lengths to enable high-availability, disaster-tolerant systems
- Dual-loop capability for high-resiliency environment

* (operating system dependent)



- Fibre Channel devices are "hot pluggable"
- Ability to connect SCSI to FC via a bridge
- Eliminates SCSI cable congestion

Overview

FC network storage capabilities are the next industry-standard step from SCSI. You can run your network and storage over the same wire and directly address distant data.

This technology enables distant clustering and disaster tolerant data centers characterized by high performance and high capacity.

Environments

You can put FC-AL to work in a wide range of applications and environments including:

- Databases and data warehouses
- Backup and recovery systems
- Simulation and modeling
- High-performance Technical Computing
- Video production and broadcast imaging
- Seismic analysis

The High Performance Interconnect Program for FC-AL solutions

You can start today to bring the performance of Fibre Channel online with the help of the DIGITAL HPI Program and its evaluation, design, integration, and implementation solutions.

How the High Performance Interconnect Program works

After assessing your computing environment and developing an understanding of your needs, the HPI program plans the data paths of your applications to ensure the best possible throughput.

Then the interconnect is individually specified, designed, installed, and tested.

The result? Solutions that fit into your network through industry-standard protocols and switches. Solutions that can provide one-hundred-fold bandwidth improvements compared to existing Ethernet and SCSI client/server set-ups.

With the superb scalability and performance of the Alpha processor, industry-standard protocols and connections, and experienced design, integration, and delivery services, DIGITAL has everything you need for high-performance interconnection — and more.

We also have industry-leading enclosure solutions that enable you to maximize your computer room floor space with rack-mount configurations.

Rackmount flexibility

Rackmount systems pack more compute power and storage capacity per square foot of floor space than conventional desk-side or cabinet models. And rackmounting's configuration flexibility can really make a difference in meeting your specific needs.

Using a building-block approach, you can configure the exact system you need to meet your requirements. No more and no less. At the same time, you've got the flexibility to upgrade these configurations as your needs change.

Put it all together

The HPI program combines engineering and business resources with the latest processing power and interconnect technology to help you make the most of your data interchange environment.

For more information on the HPI program office call 800-DIGITAL.

You can learn more about DIGITAL's approach to HIPPI and Fibre Channel by visiting us on the web.

Value-added implementation

DIGITAL supplies more than just the world's best high-performance networked computing systems. We also can provide you with reduced internal delivery costs, shortened time to market, and — most importantly — increased customer satisfaction.

How? With a dedicated integration, delivery, and installation capability unique in the industry— Value-added Implementation Service (VIS).

VIS enables you to focus on your high-performance computing solutions while we take care of the myriad details of integration, delivery, and implementation.

FOCUS ON your high-performance computing solutions

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