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Programmable Data Communications Server

Freeway®



Easy Access to Legacy and Specialty WANs

The Freeway line of data communications servers allows client computers on TCP/IP LANs to connect with legacy and specialty WANs. Supporting a wide variety of protocols, Freeways enable client computers to access real-time data in virtually any networking environment, including financial data services, utilities, transportation, retail, government, and the military. Freeways are fully programmable with a flexible, modular design that can easily be modified to meet changing data communications needs.



Protocols for Any Environment

With years of legacy and specialty protocol experience, Protogate has one of the industry's most extensive protocol libraries. Support of over fifty (50) legacy and specialty protocols are available for use on Freeway servers, including X.25, HDLC, BSC, Async, financial market protocols, and a wide variety of military and radar protocols. A single Freeway can accommodate multiple protocols with a different protocol running on each communications board in the enclosure.

Multiple Processors for Maximum Throughput

Freeways are based on a multi-processor architecture on a passive backplane and highly integrated server software. The WAN serial ports are managed by Protogate's Intelligent Communications Processor boards (ICP2432Bs); each ICP2432B has its own CPU, memory and comes in two (2), four (4) and eight (8) port models. LAN communications are provided by a powerful CPU on a single board computer which assembles WAN data into packets and distributes it to users on the LAN.

Highly Scalable

The Freeway family includes a broad range of models and configurations which can accommodate any size installation from small remote locations to large central offices. Freeway models support from 2 to 128 WAN serial ports of legacy and specialty data in a single enclosure. LAN options include Ethernet, Fast-Ethernet, and support for Dual Ethernet. Redundant hot swappable power supplies are also available on most models.

Features and Benefits

- Allows TCP/IP LAN clients to access legacy and specialty WANs
- Supports over 50 legacy and specialty protocols
- Software toolkits allow rapid development of custom protocols and network applications
- Wide choice of models and configurations provides maximum flexibility for expansion and upgrades
- Highly scalable architecture supports 2 to 128 WAN serial ports per enclosure
- Comprehensive network management via SNMP



PROTOGATE

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Freeway 3100

Ideal for smaller applications and small branch offices, the Freeway 3100 supports up to 8 serial ports of legacy/speciality protocols. One PCI slot on the passive backplane accommodate the Intelligent Communications Processor boards which manage the serial ports. LAN connections are via 10/100 Ethernet. Dual Ethernet is also available. A flash disk or optional hard disk can be used for local storage of boot parameters and custom network applications that run on the Freeway.



Freeway 3200

Designed for mid-size installations, the Freeway 3200 supports up to 24 serial ports of legacy/speciality protocols. The passive backplane contains 4 slots for PCI-based Intelligent Communications Processor boards. LAN support includes 10/100 Ethernet with optional support for Dual Ethernet. A flash disk or optional hard disk is available for storing boot parameters and network applications. To protect against down time in demanding environments, the Freeway 3200 is available with dual independent, hot-swappable power supplies using separate AC feeds.



Freeway 3400

Designed for larger installations, the Freeway 3400 supports up to 64 serial ports of legacy protocols. The passive backplane contains 8 slots for PCI-based Intelligent Communications Processor boards. LAN support includes 10/100 Ethernet with optional support for Dual Ethernet. A flash disk or optional hard disk is available for storing boot parameters and network applications. To protect against down time in demanding environments, the Freeway 3400 is available with dual independent, hot-swappable power supplies using separate AC feeds.



Freeway 3600

Designed for large-scale installations, the Freeway 3600 supports up to 128 serial ports of legacy protocols. The passive backplane contains 16 slots for PCI-based Intelligent Communications Processor boards. LAN support includes 10/100 Ethernet with optional support for Dual Ethernet. A flash disk or optional hard disk is available for storing boot parameters and network applications. To protect against down time in demanding environments, the Freeway 3600 is available with dual independent, hot-swappable power supplies using separate AC feeds.

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Industry's Largest Selection of Protocols (over 50)

General and Commercial

- Asynchronous
- Bitstream[1]
- BSC 2780/3780
- BSC 3270
- DDCMP[1]
- HDLC LAPB
- SDLC
- X.25

Financial Services

- FMP (40 protocols)
- SWIFT II
- IP Multicast
- CHIPS II

Government, Military, and Radar[1]

- ADCCP ABM/NRM
- ATDL/UDL
- AUTODIN
- CD2/FAACD2
- CF
- ICAO
- IDL
- LINK-1
- LRR
- Lateral Tell

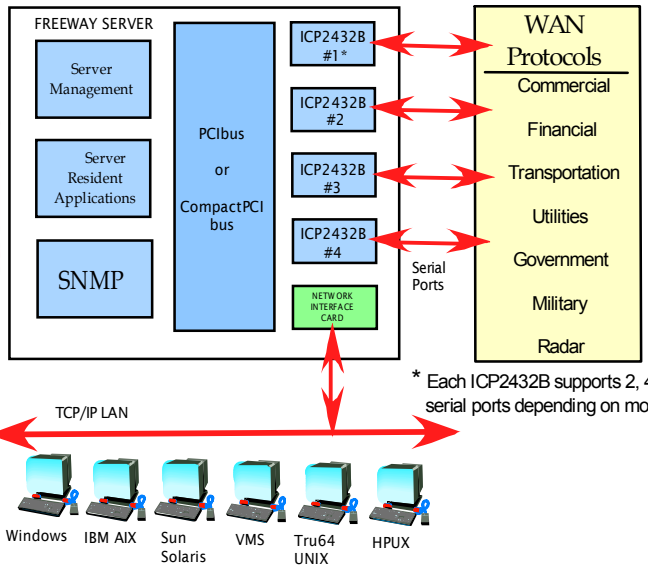


Government, Military, and Radar[1] cont.

- MTDL
- MBDL
- MCC
- X.25
- NOAH
- Nine-Bit-Radars
- Link 14
- GDL
- SR162/172
- STD 1200B
- STD1300
- BISYNC Radar

[1] Call for custom quote







- **Toolkits for Developing Custom Protocols and Applications**
- **Tailored Training on our Products and Software**
- **Maintenance Support for Hardware and Software**
- **7/24 Support Tailored to Your Needs**

Protogate offers two sets of software development tools for creating custom networking solutions. The Protocol Toolkit supports development of custom WAN protocols for use on Freeway communications servers. The Server Resident Application (SRA) Toolkit provides a development environment for writing custom applications that offload processor-intensive communications tasks to the Freeway, including functions such as data compression, byte swapping, character translation, encryption, and protocol conversion. Moving these applications to the Freeway can yield dramatic performance improvements in client computers.

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REASONS TO USE A FREEWAY VERSUS EMBEDDED ICP2432B BOARDS

We recommend using the Freeway communications server, which offers a number of benefits described below:

- The Embedded solution offers a slightly different and slightly less flexible client interface than the Freeway solution. The Embedded solution uses the DLITE interface, as opposed to the Freeway's DLI. DLITE has guaranteed support for fewer operating systems than the Freeway DLI client interface.

- By using the LAN, a Freeway can hold more ICPs than may fit, or be comfortably handled, on a given client system's PCI bus. The Freeway 3600 can hold up to sixteen (16) ICP2432B PCI cards for a total of 128 EIA 232 ports, or a total of 64 EIA 449 / EIA 530 / V.35 ports.

- With the Freeway, the ICPs software/protocols may be automatically downloaded from the Freeway hard disk drive, diskette drive, flash drive, or network, upon power-up or manual reset (whereas downloading the embedded ICPs always requires a client program to be run).

- The user is not limited to a single client system when running protocols with the Freeway. Any client on the network can without redistribution or reconfiguration of hardware resources. Also, multiple client systems may use the same Freeway ICP at the same time, whereas the embedded ICP is limited to use by one system at a time, since it is physically available only to that system's PCI bus.

- The Freeway allows swift recovery of protocol operations by a standby client system when the primary system suddenly becomes unavailable, without reconfiguration of ICPs or swapping of cables.

- The Freeway comes with Protogate's fully supported Freeway ICP driver. Protogate does provide ICP drivers for embedded ICPs in many of the common client operating systems. However, these client drivers can be subject to obsolescence as vendors introduce new versions of their operating systems.

- The Freeway server offers internal capabilities that are not possible with an embedded ICP. These include:

    - The option to offload any special processing of protocol messages, to server-resident applications (SRAs).

    - The facilities of the Freeway's Message Switch feature for freely routing data streams between DLI sessions, UDP and TCP LAN sockets (including multicast), and the ICP WAN ports — saving the user the trouble of programming such support in a client system, and avoiding any extra PCI bus traffic load that this would impose.

- As part of the SRA and Message Switch capabilities, there is the ability to offload all client activity to the Freeway (while still allowing for client monitoring of status and statistics, if desired).

- Connection of the Freeway to the Internet if needed, via the LAN gateway, without depending on any particular client system to be up and available.



VERSUS



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