PROTOGATE

DATA COMMUNICATION SERVERS AND GATEWAYS

SERIAL PROTOCOL EXPERTS

PROTOGATE

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PROTOGATE

Protogate Corporate Profile

- Headquarters in San Diego, California

- Provide service and products to previous Simpact customers

- Design, Manufacture and Support Intelligent Communication Processors, Network Servers and Data Communication Protocols

- Provide Engineering Services, Training and Maintenance Support

- Support 50+ Specialty and Legacy Serial Data Protocols

- Web Page: www.protogate.com Email: sales@protogate.com

- Phone: 858-451-0865   Fax: 877-473-0190

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Protogate Mission
Provide Hardware And Software Solutions That Allow Any Computer To Connect To Specialty And Legacy Wan Networks

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- **Communication Processors and Servers** - Connect Multiprotocol Wide Area Networks to host computers via LAN or PCI/CompactPCI bus

- **Communication Protocol Software** – Provide a broad line of WAN communications protocols supporting Military/Government/Commercial specialty, legacy, and open network protocols

- **Engineering Services** - Provide our customers with consulting, training, and engineering services in data communications

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Protogate Product and Application Overview

Intelligent Communication Processors

Freeway Communication Servers

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Intelligent Communications Processors (ICPs)

ICP2432B

- Connect mission-critical multiprotocol Wide Area Networks to host computers

- Support full line of WAN protocols (exceeds 50+ protocols)

- Fully programmable (2, 4, and 8-port models available)

- Two ICP families support PCI bus and new *CompactPCI* standards (*CompactPCI* available in 1st quarter CY2003).

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Intelligent Communications Processors (continued)

- Installs into industry standard 3.3 or 5.0 volt PCI slots

- ICP2432B is a 33MHz/32 bit "universal" board

- 64 bit PCI bus transactions are negotiated in real time and are transparent to 32 bit devices

- Motorola MCF5407 "Coldfire" CPU

- 32 MB SDRAM

- PCI card form factor, 9 inches in length

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Embedded
Intelligent Communications Processors Link Computers to Wide Area Networks via PCI/CompactPCI bus

Computer or Workstation with Embedded ICP2432B Boards	<u>Wide Area Network</u> Specialty, Legacy & Standard Protocols	REMOTE LOCATIONS Government/Military Networks TADIL's and Radars Financial Data Services Telecom Services Airline Reservation Systems Utility SCADA Systems

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Freeway Communications Servers

Freeway 3200 (2U) 2 to 24 ports

Freeway 3600 (6U) 2 to 128 ports
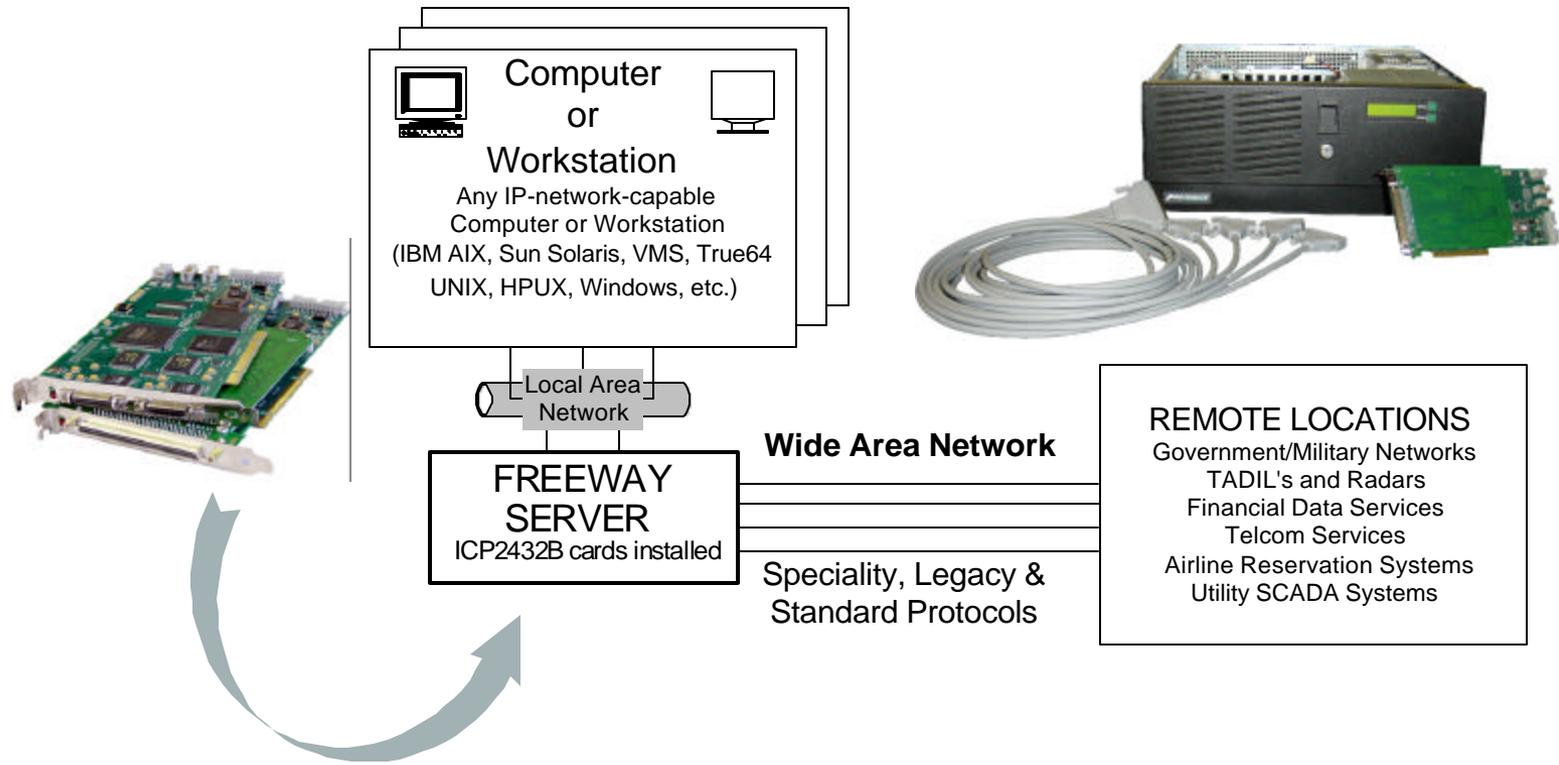
Freeway 3400 (4U) 2 to 64 ports

Freeway 3100 (1U) 2 to 8 ports

- **Act as Protocol Gateways between Wide Area Networks and LAN-based clients**
- **Support full line of WAN protocols with multiprotocol operation**
- **PCI based Servers Scaleable from 2 to 128 ports**
- **Programmable Server Resident Applications**
- **FW3100, FW3200, FW3400, and FW3600 Servers**

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Freeway Communications Servers Link Multiple Computers to Wide Area Networks via LAN Connection

Computer or Workstation

Any IP-network-capable Computer or Workstation (IBM AIX, Sun Solaris, VMS, True64 UNIX, HPUX, Windows, etc.)

Local Area Network

Wide Area Network

FREEWAY SERVER
ICP2432B cards installed

Speciality, Legacy & Standard Protocols

REMOTE LOCATIONS
Government/Military Networks
TADIL's and Radars
Financial Data Services
Telcom Services
Airline Reservation Systems
Utility SCADA Systems

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Advantages Of Freeway vs. Embedded ICPs

- Multiple computers with different operating systems can connect to the same Freeway/ICP

- Number of serial ports are not limited to available host computer bus slots

- No device driver to update when host OS changes

- More solutions available for failover scenarios

- All serial ports can be centrally located (for example: near modems)

- Additional data processing is available on Freeway CPU by using Server Resident Applications
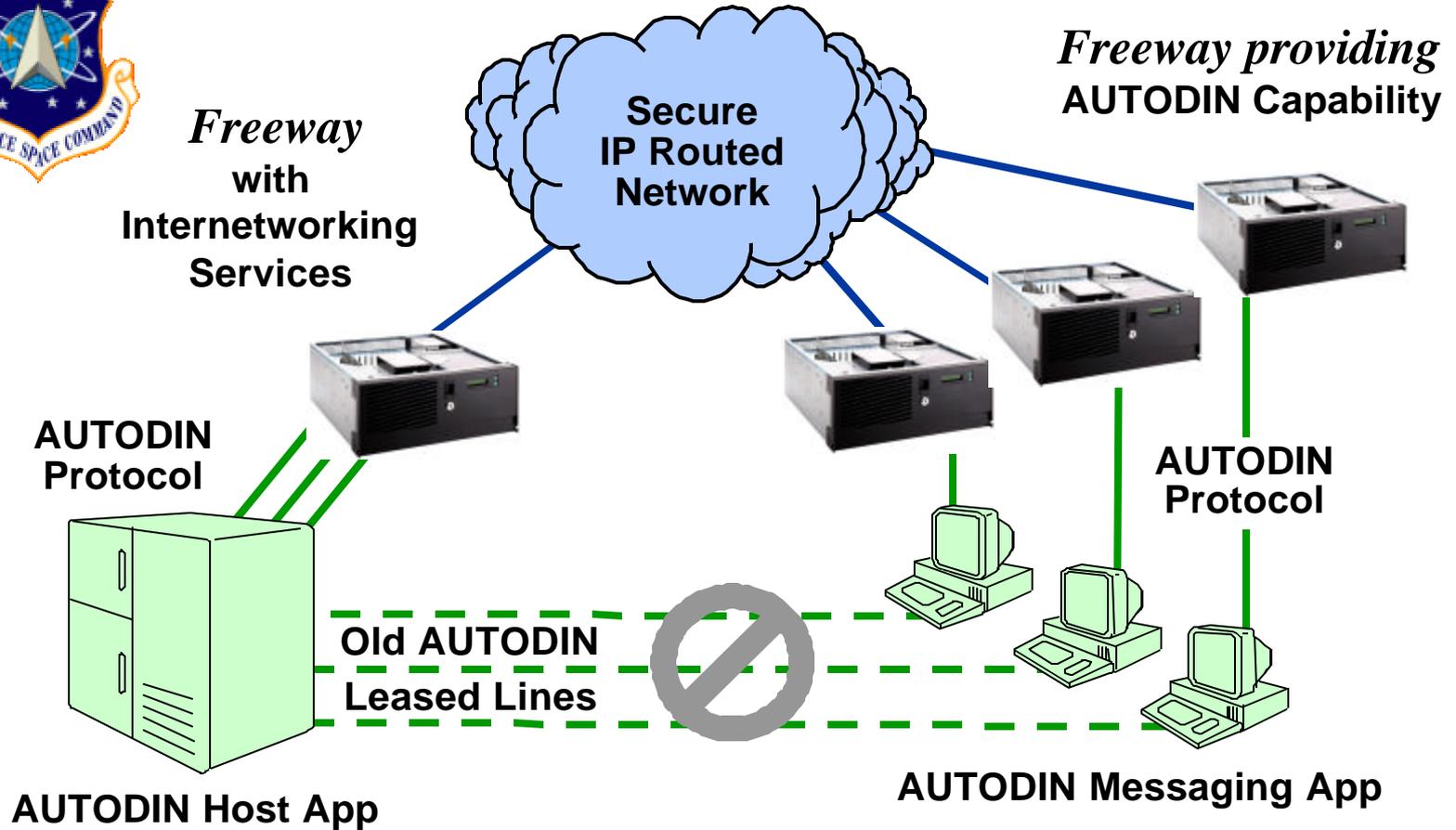
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AUTODIN Expertise

U.S. Air Force Space Command

- **Need**: Migrate ultra-critical AUTODIN messages to new Secure IP Routed Network. Leave AUTODIN terminals and hosts in place.

- **Solution:** Protogate Freeway Systems translate between AUTODIN and IP at terminal and host sites

- Protogate has engineering expertise, plus certified hardware/software to solve AUTODIN problems

   Freeway system provides AUTODIN messaging functions not available under IP – message prioritization, assured delivery, etc.

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Protogate AUTODIN Solution

Secure IP Routed Network

Freeway with Internetworking Services

Freeway providing **AUTODIN Capability**

AUTODIN Protocol

AUTODIN Protocol

Old AUTODIN Leased Lines

AUTODIN Host App

AUTODIN Messaging App

Freeways provide necessary AUTODIN apps under IP – support message prioritization, assured delivery, etc. that were inherent in old AUTODIN network

AUTODIN Off-the-Shelf Solution

• Off-the-shelf Freeway will allow Space Command to use low-cost IP networking via the SIPRnet

• When an AUTODIN terminal sends a message, a Freeway will translate it to IP and route it across the SIPRnet to another Freeway that translates the message back to AUTODIN and passes it to the receiving terminal.

• The translation process is completely transparent to the terminals at each end, which are unaware that their messages are being sent over the SIPRnet rather than across point-to-point leased lines.

• The Freeway protocol translation strategy allows an accelerated transition from AUTODIN to IP while lowering costs and risks by permitting proven legacy equipment to remain in place.

• System previously tested and certified in Cheyenne Mountain

• Additional capabilities can be added for new user requirements

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Protogate Data Communication Protocols *

General & Commercial

TCP/IP	Asynchronous
ADCCP	Bitstream
BSC2780/3780	BSC3270
DDCMP	HDLC LAPB
SDLC	X.25
RRP117	

Financial Data Services

FMP (40 protocols)	IP Multicast
SWIFT II	CHIPS II

Government & Military

ADCCP ABM/NRM	MBDL
TADIL B	MCC
ATDL/UDL	X.25
AUTODIN	NOAH
CD2/FAACD2	Nine-Bit-Radars
CF	Link 14
IDL	GDL
ICAO	SR162/172
Link 1	STD 1200B **
LRR	STD 1300
Lateral Tell	BISYNC Radar
MTDL	

* Protogate supports over 50+ protocols. If you don't see your protocol, we may have it. If not, we can develop it for you.

** **STD 1200B certified** on our Freeways with our new ICP2432B board. STD 1200B certified with embedded ICP2432B (VMS and Windows NT operating systems)

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Sample of Protogate Customers

Financial Data Services

Reuters	Wachovia
Chicago Stock Exchange	Fleet Bank
Bank of America	Union Bank
Interactive Data Corp	
SunGard	

Utility/SCADA Systems

Snowy Mountains Hydro Electric Authority – Australia
Chelan County Public Utility District
ABB

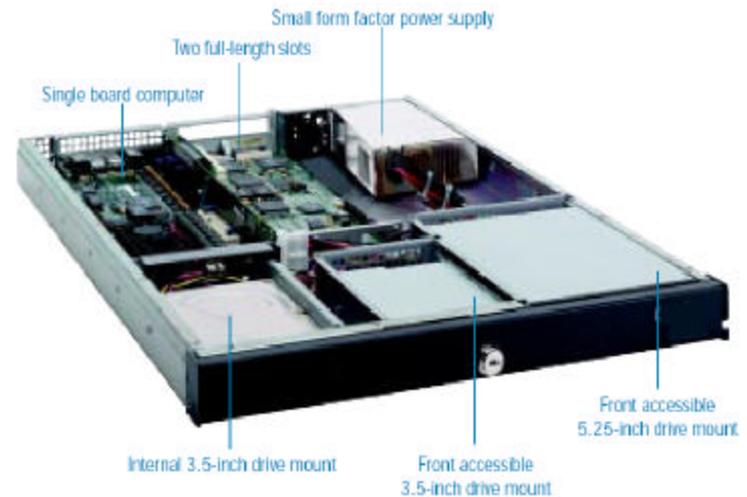## Commercial Customers

Mary Kay, Inc.
EDS Sabre
Lab One

Government & Military

Navy
Army
Air Force
Marines
Coast Guard
NATO
Raytheon
Thales Raytheon
Thales Information Systems
Rockwell
Lockheed Martin
Northrop Grumman
NOAA
Digital Wizards
Harris Corp.
Lawrence Livermore NL
TRW
L3
Sandia National Labs
RAF
Oerlikon Contraves
SUPPORTEDV GmbH - Austria

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Freeway 3000 Series
Server Product Line

- ## Freeway 3100
  - ### 1U x 23-inch
  - ### Scaleable 2 to 8 ports
  - ### Install one ICP2432B card
  - ### Four 10CFM fans
  - ### 300W Power Supply

Small form factor power supply
Two full-length slots
Single board computer
Front accessible 5.25-inch drive mount
Internal 3.5-inch drive mount
Front accessible 3.5-inch drive mount

- ## Freeway 3200
  - ### 2U x 18-inch
  - ### Scaleable 2 to 24 ports
  - ### Install up to three ICP2432B cards
  - ### 400W Power Supplies – Redundant
  - ### Two 50.6 CFM Hot Swap Fans

Power Supply Latches
Screws for SBC Tray (3 total)
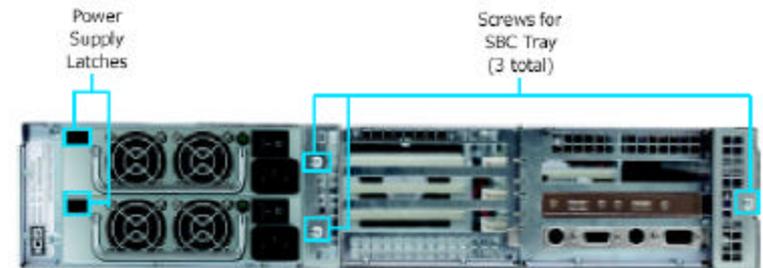
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# Freeway 3000 PCI Series Server Product Line (Cont)

- ## Freeway 3400 (4U) Server scaleable 2 to 64 ports
  - 4U x 18-inch
  - Scaleable 2 to 64 ports
  - Install up to eight ICP2432B cards
  - Up to 400W Power Supplies – Redundant 300W Power Supply Option
  - Two 56CFM Hot Swap Fans

- ## Freeway 3600 (6U) Server scaleable 2 to 128 ports
  - 6U x 18-inch
  - Scaleable 2 to 128 ports
  - Install up to sixteen ICP2432B cards
  - 400W standard power supply or optional 750W modular N+1 power (4 power supply modules)
  - Three 56CFM and one 50.6 CFM Hot Swap Fans

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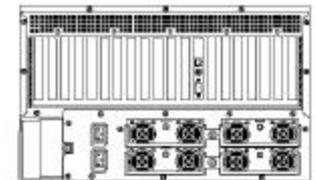
Freeway 3000 Series
Single Board Computer

- Pentium Processor Board
  - Dual 10/100 Base-T Ethernet on-board
  - 700MHz Pentium III Processor
  - Support up to 512MB SDRAM
 - On-board video

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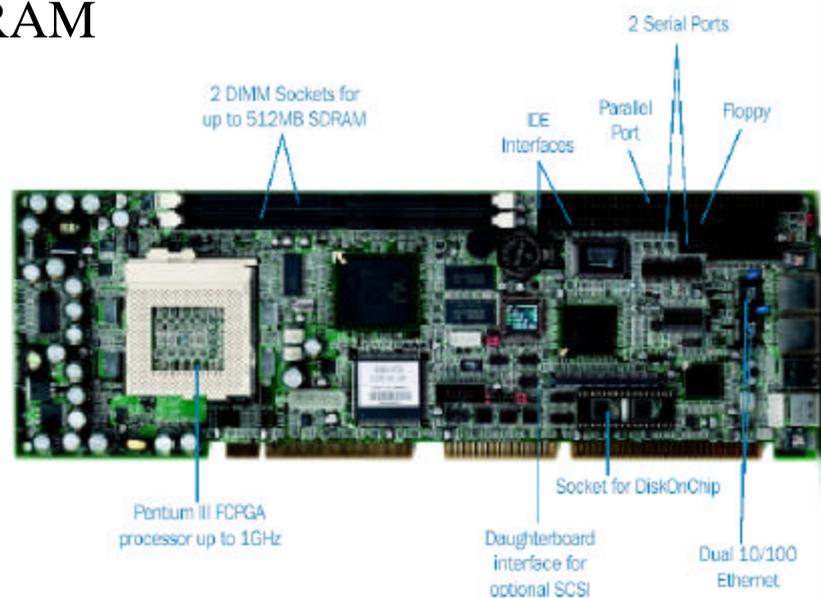
Freeway 3000 Series LCD/Alarm Board Option

- Provides Continuous Monitoring of:
  - Power signals for up to six power supplies
  - Tachometer Readings for up to six cooling fans
  - Voltage levels on 3.3V, 5V and 12V sources
  - Standard with Redundant and N+1 Power Supply Options (Freeway 3200, 3400 and 3600)

- Global System Status and Individual Sensor State Displays

- Buzzer Alarm and Relay Output

- Connector for Optional Remote Monitoring Board

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Freeway 3000 Series Hot-Swap Cooling Fans

- Fans have built-in tachometers

- Hot-swap power connector is mounted to each fan bracket

- Replaceable filters
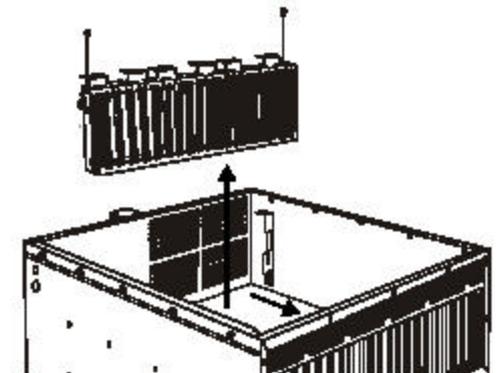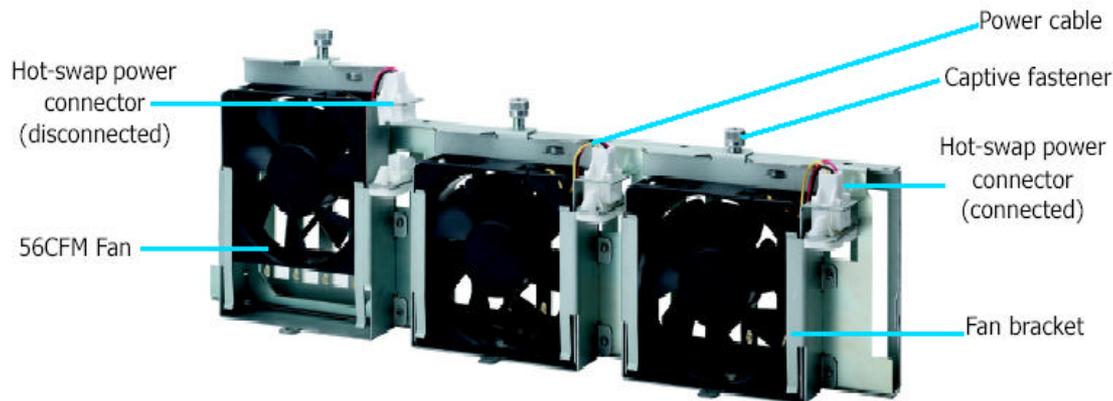
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Upgraded and New Protogate Products

- **Re-spin ICP2432 (ICP2432B)**
  - Replace Motorola 68349 with the Motorola ColdFire 5407 CPU
  - Replace AMCC PCI Interface chip with the PLX9054
  - ***Available NOW!***

- **New *CompactPCI* Intelligent Communications Processor**
  - *CompactPCI* version of the ICP2432B available in 1st Quarter of CY2003 as replacement for the VME product line which has reached end-of-life
  - *CompactPCI* Freeway Servers Product Line will be available in 1st Quarter of CY2003

- **CNS 6000/6200 Replacement**
  - **Replaces Simpact CNS 6000/6200s (see next slide)**

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CNS 6000/6200 Replacement

- Communications Network Server (CNS 6000/6200)
  - Used by Commercial and Government Users

- Protogate's CNS replacement is our Freeway 3000 family of servers running a server resident application (SRA) which supports the CNS Application Programmer's Interface (API)

- Direct CNS replacement available in 1U and 2U models
  - **2 to 8 ports**

- CNS Freeway version can function as a CNS replacement as well as our standard Freeway simultaneously

- Available in 1U, 2U, 4U and 6U models
  - **2 to 128 ports**

CNS 6000/6200 Replacement Block Diagrams

CNS Freeway can function as a CNS server replacement

Wide Area Network Links

CNS
API

```
CNS
Client
```

CNS 6000/6200 with CNS SRA

Direct replacement for Simpact CNS 6000/6200

1U and 2U versions (2 to 8 ports)

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CNS 6000/6200 Replacement

CNS Freeway can function as a CNS server replacement as well as host Protogate's family of protocols for additional capability
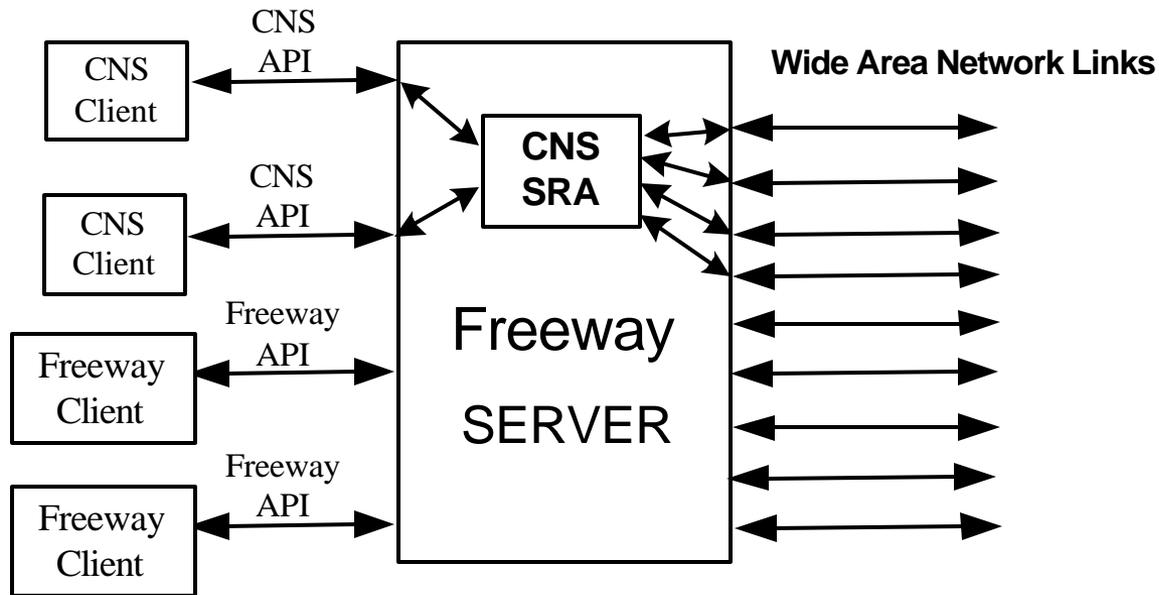
1U, 2U, 4U and 6U Freeway versions

2 to 128 ports

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Protogate's Customer Support Services

- **Technical Assistance Center Open (8:00 to 5:00 PM PST weekdays)**

- **Hardware/Software Installation Support**

- **Warranty Support**
  - **Protogate provides 1-year warranty on new and refurbished hardware**
  - **Standard 90 day software warranty**
  - **25 working days (maximum) repair or replacement of defective hardware. Three day priority exchange of hardware is offered as an option**

- **Extended Hardware Support**

- **Extended Software Support**

- **Optional 7/24 Maintenance Support**

- **Out of Warranty Maintenance Support (Hardware/Software)**

- **Repair of End-of-Life Products**

- **Engineering Services Offered**

- **For Additional Information Call 858-451-0865**

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Protogate Summary

- **Continue to provide service and products to previous Simpact customers**

- **Provide multiprotocol data networking solutions for major integrators and end users**

- **Offer single-vendor turn-key products and services**

- **Provide comprehensive engineering and maintenance support before, during and after project deployment**

- **Keep customers' networks current with ongoing software/ hardware enhancements**

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SBA's Administrator's Award of Excellence To Protogate, Inc.

On May 10, 2002 Protogate was awarded the Administrator's Award of Excellence by the U.S. Small Business Administration. Protogate had been nominated by Northrop Grumman (Aerojet Gencorp) for the annual award of Small Business Subcontractor of the Year. Protogate's top management, Mr. Eric Loos, President/CEO and Mr. Frank Rideg, Vice President of Sales accepted the award at the Award of Distinction presentation ceremony on September 16, 2002 at Northrop Grumman in Azusa, CA. The ceremony was attended by a variety of senior SBA, DCMA, and Air Force personnel, as well as senior Northrop Grumman management personnel.

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