GW9000 Remote Site Management Unit

- Base station management
- Switch billing and management migration to IP
- Telecoms infrastructure management
- Utility control and monitoring
- Traffic systems control and monitoring

Overview

Many large organisations have countrywide networks of monitoring and control sites. These sites are often in very remote or high security locations, without on-site technicians. The equipment typically uses a mixture of Serial, I/O and Ethernet connectivity using DC or AC power. It also has to operate in low or high temperatures in uncontrolled environments with very high communications reliability, rapid diagnostics, and fault reporting and resolution.

The Virtual Access GW9000 Series router enables service providers to offer a rugged managed solution that supports protocol conversion, remote diagnostics tools and a range of Wide Area Network interfaces.

The GW9000 Series router can offer fixed line broadband connectivity with 3G wireless backup, ensuring a truly resilient remote management solution. The router can be deployed in many different environments, for example, to monitor local loop equipment, real-time environment site conditions, HVAC, power levels, site security and site access systems as well as numerous other types of site equipment. Remote management and monitoring enables 'intelligent dispatches' and scheduled maintenance events, rather than arranging expensive diagnostic truck rolls.

Remote Equipment Control

The GW9000 Series router contains a powerful built-in scripting language allowing users to develop custom applications. The scripting capability can provide access to equipment that previously required local access via serial ports.

The GW9000 Series router is capable of supporting custom applications that can tie together discrete inputs, analogue inputs and control outputs to provide fully- or semi-automatic maintenance routines. It also has an integrated terminal server, which can forward data on a serial port to a remote application. The terminal server along with the built-in scripting language means that remote devices can be managed by communicating directly with their console ports.

Security

The GW9000 Series router offers a stateful inspection firewall for multi-layered security with centralised intrusion reporting and management facilities.

IPSec tunnelling offers the necessary data privacy for Internet access applications. A hardware security engine is employed for high performance encryption and authentication. The router also supports RADIUS controlled user access. Therefore, only authorised personnel can access and configure the end devices.

High Availability Services

An embedded link monitor continually checks the status of the primary link. If it detects an error condition, it automatically routes traffic via an alternative interface. As soon as the primary link is reinstated, the monitoring agent switches the router back to the primary link without any user intervention.
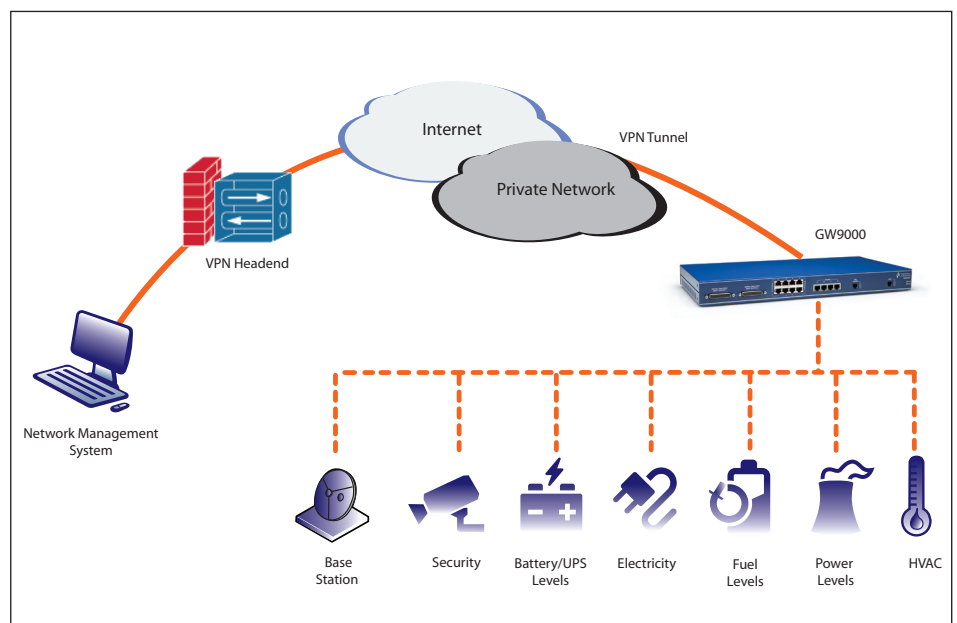
Software Features

Management

- Activator Zero Touch central management
- Configuration through embedded web server
- TFTP client download/upload
- Configuration change log
- V92 Dial modem for out-of-band management
- SNMP agent
- Non-volatile battery-backed RAM log storage
- Configurations recorded in non-volatile and rewritable memory
- Telnet server
- Telnet client
- LEDs indicate operational status
- RADIUS authorisation of management users
- Terminal server
- Custom scripting language

Quality of Service

- QoS support of classification and marking
- Full DiffServ support

Service Features

- Configurable host traffic monitoring applet
- DHCP server/client
- DHCP relay
- DNS proxy
- Cisco Discovery Protocol (CDP) auto-VLAN support
- Local and remote advanced configuration
- BOOTP client
- IP Address Translation
- Packet filtering and firewalling
- Performance monitor

Routing Features

- Support for IP, TCP, UDP, ICMP, ESP, AH
- Static routing
- BGPv4
- OSPFv2
- PPP, PPPoE
- Virtual Router Redundancy Protocol (VRRP)
- PAP/CHAP security
- RIP and RIPv2
- Van Jacobson header compression
- Network time protocol
- Async over TCP/IP
- SNMP MIB II

IPSec

- Hardware security engine for high performance encryption and authentication
- Manual and automatic key management
- HMAC-MD5-96 and HMAC-SHA-1-96
- 3DES (168bit) and DES (56bit) with explicit IV
- AES with 128, 192 and 256 bit key lengths

IKE-related VPN Specifications

- Main mode, aggressive mode and quick mode
- Authentication using RSA signatures, DSS signatures and pre-shared keys interworking

Hardware Features

VLAN Support

- Tag-based 802.1Q VLAN or port-based VLAN on 4 ports

LAN Interfaces

- Four 10/100 base-T Ethernet ports
- Auto detects full- or half-duplex operation
- Auto detects a regular or crossover cable for easy connection to a switch or hub

Async RS232 Serial

- 6 x asynchronous RS-232

RS485 Serial

- 2 x asynchronous RS-485
- RS 485 ports are isolated to 1500V

Synchronous Serial

- Supports sync serial speeds up to 2Mbps
- V.24, V.35, V.36 or X.21 synchronous serial WAN interface using a 44-way D-type female adapter cable

ADSL Interface (Optional)

- RJ11 socket

3G Wireless Interface (Optional)

- 900/2100 MHz
- Power class 3 (+24 dBm)
- HSUPA mode: 5.76Mbps: category 6

  #### HSDPA Modes

  - HSDPA 7.2: categories
  - HSDPA 3.6: categories 5 and 6
  - HSDPA 1.8 categories 1-4, 11 and 12

- Equalisation and Rx diversity at the same time
- UMTS: 384Kbps operation in up and downlink
- Supports UL and DL compressed modes
- Power class 1 (1W) for 1800/1900 band
- EDGE class E2 (+27 dBm in 850/1900 bands +26 dBm in 1800/1900 bands)
- GPRS/EDGE multislot class 12 (4 slots Rx, 4 slots Tx)
- GPRS/EDGE class B Type 1 MT
- GPRS CS1-CS4; EDGE MCS1-MCS9
- SMA female antenna connector

Dial Modem Interface

- V.92 support up to 56kbps
- Caller ID can answer calls from known numbers only

E1/T1 Interface (Optional)

- RJ45 connector 100ohm/120ohm balanced
- ITU G.703 and G.704 compliant
- Supports full and fractional services
- ITU-T G.703, ITU-T G.704

Analogue Inputs

- 4 channels
- Integrated temperature sensor
- 2 battery monitoring inputs (0-72VDC)
- 16-bit resolution
- 0-10V input voltage range
- 0-20mA input current range
- 100dB min common mode rejection at 50Hz
- 65dB min normal mode rejection at 50Hz

Digital Inputs

- 28 channels
- Optional wet or dry inputs
- 2.3mA input current limiter
- Input digital filter 20uS to 32mS
- 11V trip point, maximum input 27V

Digital Outputs

- 4 channels
- Isolated relay output
- NO, NC, common contacts
- 3000V isolation between contact and coil
- Contact capacity 2A, 30V DC

Approvals and Certificates

- EN60950 safety approval
- EN55022 and EN55024 EMC

AC Power

- 100V-240V AC, 20 Watts
- IEC mains connector

DC Power Option

- DC power input
- Dual power feed

Physical and Environmental

- Unit size 440W x 230D x 44.2H mm
- Industrial operating temperature range -20°C to 70°C
- Humidity: 10-95% (no exterior condensation)
- Conformal PCB coating for harsh environments option available
- Includes installation kit for a EIA compliant 19-inch rack

GW9000 Series Models, I/O Card, Async Card and General Information

GW9000 Series Models				
Model Number	Ethernet 10/100 Interface	V.92 Dial Modem	ADSL	Optional Interfaces
GW9010A	4	-	-	3G, E1, X.21
GW9110A	4	-	●	3G, E1, X.21
GW9025A	4	●	-	3G, E1, X.21
GW9125A	4	●	●	3G, E1, X.21

I/O Card*			
	Analogue Inputs	Discrete Inputs	Discrete Outputs
Number	4 analogue inputs, 1 temperature sensor and 2 battery monitoring sensors	28	4
Types	0-10VDC or 0-20mA	Active or passive	N/O, N/C
Pins	1+, 1- or V+, V-	1 per input; common ground across all inputs	N/O, N/C and common
Connector	44 way D-Type	44 way D-type	44 way D-type
Cable Presentation	Breakout cable with wire per connector pin	Breakout cable with wire per connector pin	Breakout cable with wire per connector pin
Card I/O Option selection	Factory installed	Factory installed	Factory installed
Isolation	Fully isolated	Fully isolated	Fully isolated
Resolution	16-bit	N/A	N/A
SNMP	Pol input value which is returned as a text representation of the current or voltage. Trap on low or high threshold	Trap and poll	Poll and set output state
Configuration	Low and high trap threshold input type	Message in the trap or poll. Trap on low to high, high to low, input type	Set output value
*The I/O card options are installed in the factory			

Serial Card*	
Types	6 x Async RS232
Connector	2 x Async RS485

General Information	
Fans	None
EMC	IEC 61000-6-2 (Generic Standards - immunity for industrial environments
Vibration	ETSI 300 019-1-3 sinusidal vibration and shock ETSI 300 019-2-3 random vibration
Safety	EN60950-1:2001
Humidity	5-95% @ 40°C
Environmental Options	-20°C to +70°C; Conformal coating
Size	19"; 1U