



Application Note:

Secure IP Connectivity For Dial-Only ATMs & POS Terminals

The Gateway product line has been expanded with the CO-Modem Termination Card providing the capability to convert dial only ATMs and POS devices to IP.

IP Connectivity Solution

Our Gateway product line now offers a low cost solution to convert dial-up only terminals to TCP/IP over Ethernet, Wireless, or Frame Relay. This low cost solution provides banks, ISOs, and transaction processors the ability to eliminate high cost dial-up circuits.

Today many POS terminals are in locations where an existing corporate IP network is already in place or a broadband connection like DSL or Wireless is available, yet these POS devices are still on expensive dial-up circuits. The ability to eliminate these dial-up circuits can provide a tremendous cost savings.

Converting a dial-up circuit to IP is easy using a JBM Gateway. Simply install the Gateway by plugging the phone line coming out of the POS device into the Gateway and then plug the Gateway into the IP network. It's that simple!

When using a JBM Gateway you can be assured that your conversion will go smooth since JBM Electronics is the industry leader in protocol conversion. Converting the Visa I or II protocol or any other legacy protocol to IP is a straightforward process for JBM.

If security is a concern don't worry. The Gateway product line supports VPN with dynamic keys, 3DES encryption, and extensive Firewall capabilities. Best of all our Gateways are compatible with any standards based VPN host.

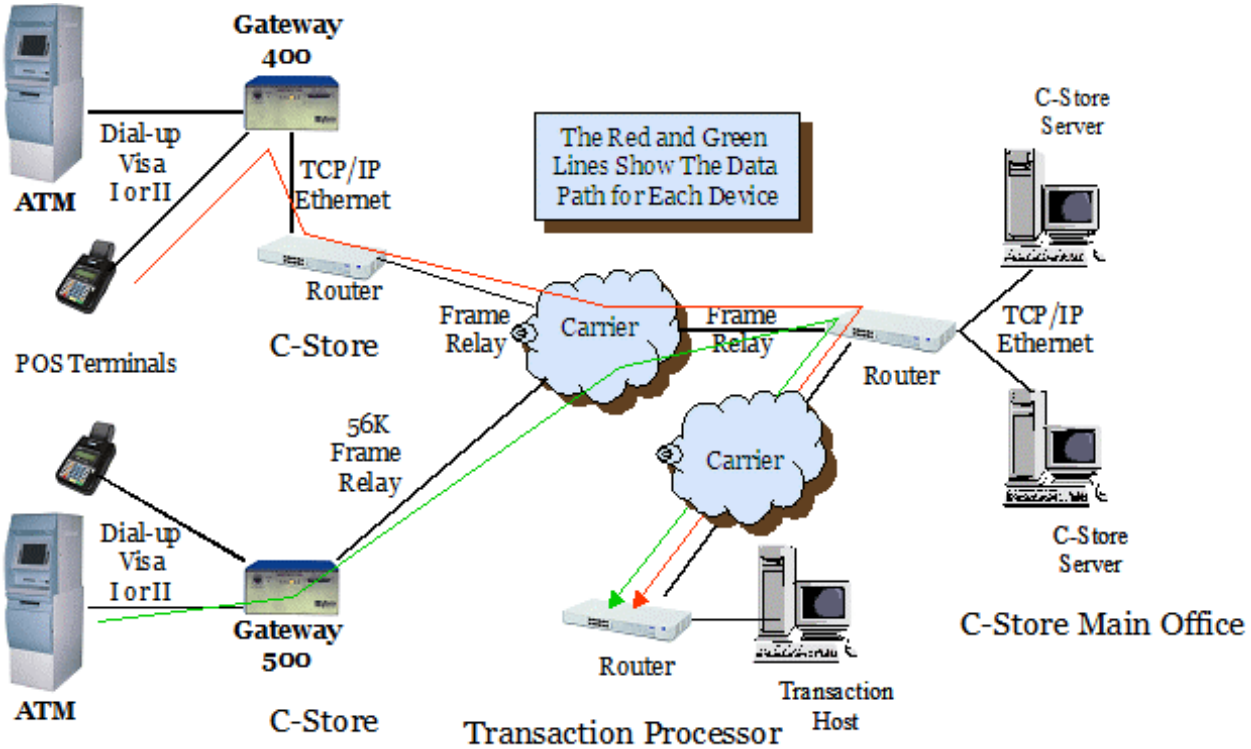
Operation

The CO-Modem Termination card supports devices that only communicate using async dial modems. These terminals are usually ATMs and POS devices with low transaction volumes or in remote locations. The CO-Modem card, when installed in one of JBM Electronics' Gateways, provides a simple connection method.

The terminal's modem is simply plugged into the Gateway CO-Modem port. The port then provides a dial tone to the terminal. When the terminal dials the telephone network, the call will be answered by the Gateway's CO-Modem. The Gateway then routes the call to a pre-assigned IP address based on the number dialed. The Gateway will extract the transaction data and convert it to TCP/IP for transport to the host.

The CO-Modem can be optimized to improve connection times. The modem can be defined with a single connect speed or defined for speed negotiations through AT Commands.

Fallback IP routing can be used if a backup host is available. Also, if a dial backup line is available then the dial backup feature can be implemented. If the primary path (IP Connection) becomes unavailable, the bypass port is automatically enabled to allow the terminal to dial the network directly. Once the primary path becomes available, the Gateway will switch the connection back to normal operation. Below is a sample network drawing of remote dial-up termination.



Routing Dial-UP Devices Over an IP Network To An EFT

Dial Terminal Support

The CO-Modem provides the following functionality:

- Provides dial tone to a terminal’s async modem
- Supports speeds from 110 baud to 56 KB.
- Supports all of the common modem protocols
- Interfaces the async data to the Gateway for conversion to IP
- Uses phone numbers to route to different IP addresses or physical ports
- Bypass ports for dial fallback in the event the Ethernet connection is unavailable

Key Benefits and Features

- Eliminate expensive Dial-Up circuits
- Decrease transaction times
- Secure transaction with VPN and 3DES encryption
- Support multiply POS devices with one Gateway
- Full Router functionality with Static, RIP, OSPF, and BGP routing
- No need to upgrade existing ATM or POS device
- Remote management and statistics
- Compatible with all standard routers and VPN devices
- Seamless and non-intrusive installation
- Access to Wireless networks
- Full protocol conversion
- Fallback routing

Supported Gateway Products

JBM Electronics has specialized in interface and protocol conversion since 1975. Our product lineup provides features and functionality specifically designed for the networking needs of the financial and Point of Sale (POS) industry. The JBM Gateways are low-cost Linux-based routers with many features not found in other networking products. All of the Gateways share a common processor architecture and operating system. The only difference between the units is the form factor, port type and port density.

- The **Gateway 300 Series Routers** provide a PCI form-factor card designed specifically for PC based ATM's or POS devices. The PCI cards are easy to install and only draw power from the ATM, so no software upgrade to the ATM is required. These low cost Linux routers offer a number of features to enhance an ATM's functionality and capability.
- The **Gateway 400 Series Routers** provide many of the same features and functionality of the Gateway 300. In addition, the Gateway 400 series offers a self-contained chassis with a field upgradeable card slot that offers a number of different interfaces. One of the added features of the Gateway 400 is its ability to terminate and convert dial only ATM's and POS devices to TCP/IP.
- The **Gateway 500 Series Routers** offers all of the same features as the Gateway 400 with an increased port count. The Gateway 500 has two card slots that accept many different factory-installed cards. These cards can provide up to five Sync/Async serial ports or eight Async ports on one Gateway for multiple connections. The Gateway 500 is perfect as a branch router for a bank, retail store, convenience store, or a gas station. This product is unlike any other product on the market. The multi-function unit can provide connectivity to the host site, security, protocol conversion to IP, and text insertion for DVR's. The Gateway 500 can reduce cost by consolidating single function boxes and circuits.

Features and Functionality of the Gateway Products

Security Features

The JBM Gateways have a full range of Linux security features including SSL client/server, IPSEC VPN client/server, Manual or Dynamic Keys, 3DES encryption, Network Address Translation (NAT), transparent bridging mode, IP and Port filtering, and intrusion protection with an integrated Stateful Inspection Firewall.

Security – ATMs and POS devices are open for attack by hackers and JBM realizes this, so we have added additional security by incorporating VPN capabilities with Firewall functionality into our products. We provide a Linux based hardware solution, which is a secure way of preventing hackers from retrieving critical transaction data. Our Gateway products support Network Address Translation (NAT), filtering, and 3DES encryption. Our Gateway products are easy to install; and in most cases, no reconfiguration of the ATM or POS device is required.

Key Security Features:

- Stateful Inspection Firewall
- In-line Intrusion Protection
- VPN Client/Server
- 3DES Encryption
- Dynamic Keys
- DHCP Client/Server
- PAT for IPSec
- NAT
- PPP and PPPoE
- Transparent Bridging Capability

Product Specifications

Router Functionality

The Gateway Series offers full IP routing functionality supporting Static, RIP, OSPF, and BGP routing. The Gateway also supports DHCP, DHCP client, PPP, and PPPoE for broadband users.

Compatibility

Compatibility is never an issue with the Gateway since JBM uses all standards based protocols. Interoperability between JBM and other router/VPN vendors is fully supported.

Fallback Routing

One of the key features in the Gateways is its ability to perform fallback routing. Fallback routing enables a user to configure alternate paths to the host or several hosts for disaster recovery.

Dial Backup

The V.92 modem card can be used for dial backup in case the primary link goes down. This feature provides reliability for a customer's most important data. Also, the V.92 Modem can be used as a primary dial out circuit.

Management

The Gateways can be configured through Command Line entered via console port or Telnet. The Telnet connection provides command, control, and monitoring of the Gateways. SNMP is supported with SNMP Traps that provide notification of major events in the Gateways. SSH is also support for security of the management connection. Extensions to the Telnet or SNMP commands are available as a special order.

Wireless Support

Supports customer-supplied 32-Bit CardBus and 16-bit PCMCIA cards for wireless communications such as CDMA, GSM, GPRS, or WiFi. The slot provides flexibility by connecting the appropriate carrier's cell modem for the terminal's location. This allows more locations to be supported and can reduce costs by quickly changing to the cheapest carrier with only a card swap.

CO-Modem Support

All of the modems support both async Legacy protocols and async PPP. The CO-Modem provides a dial tone for dial-only async devices. This dial tone simulator and associated modem allows for a simple, non-disruptive connection of these devices. The Gateway can route the connection based upon the data or phone number (DTMF recognition). The V.92 modem component of the CO-Modem can also be used as a normal async modem.

Frame Relay

The Gateway expansion cards provide the option for a 56K DSU or T1/E1 DSU with full Frame Relay or X.25 support. The software supports up to 100 Logical Channels (DLCIs) with flow control using individual Committed Information Rate (CIR) for each DLCI. Our Frame Relay support is certified to ISO and ITU standards by major network laboratories and is compliant with ANSI T1.617 Annex D, Q.933 or LMI Link Management. The ROLAND Laboratory certifies the X.25 to European NET2 standards.

Protocol Conversion

All of the JBM Gateway products support protocol conversion, and when it comes to protocol conversion, JBM is the industry leader with over 50 different protocols in our software library. Protocol conversion is necessary when converting a host to IP or introducing a new Transaction Switching System. Our Gateway products provide our customers with an efficient and non-disruptive migration to IP. The Gateways support conversion of most financial protocols. In addition, the Gateways support Data and Header manipulation allowing seamless access into many host systems. Below is a list of the most Common Protocols Converted to TCP/IP:

- Bisync 3270
- SNA/SDLC
- Poll Select TC500
- Uniscope
- Bisync 2780/3780
- Visa I & II

For more information, please contact us.