



## **Application Note:**

# **Wireless Connectivity For ATMs & POS Terminals**

*The Gateway products provide tremendous cost savings with Wireless connectivity and increased management capabilities of ATMs and POS devices at remote locations*

## **IP Connectivity Solution**

Financial institutions, retailers, and ISO's continue to look for new ways to decrease their operating costs, and one of the areas they're looking at is wireless. Wireless communications is becoming increasingly widespread throughout the world as a primary means of communication. Technologies like CDPD, CDMA, and GSM/GPRS can provide an excellent means of transporting POS applications. With this brings a widespread choice of carriers and extremely competitive pricing. Because of the competitive pricing, wireless carriers continue to take market share away from their terrestrial counter parts. Also, wireless carriers now provide faster connection speeds compared to that of dial-ups or 56K lease lines.

Today, most ATMs and POS devices use dial-ups or leased lines as their primary means of communications back to an EFT or data center. The cost to operate these circuits accounts for one of the largest portions of any operating budget. This is why IT managers continue to look for new technologies to reduce costs -- and wireless could be the alternative they're looking for.

JBM Electronics has now offered the ability to bridge the gap between a dial-up, serial, or Ethernet ATM or POS device to wireless. The JBM product line offers a PCMCIA interface which enables the user to plug in a PCMCIA wireless card from the carrier of their choice. This flexibility offers our customers a wide range of options in choosing a carrier for their POS network.

Converting to wireless can offer other advantages as well, like decreased transaction times, increased network management capabilities, and faster deployment times with increased mobility.

**Decreased transaction times** – The JBM Gateways provide protocol spoofing and conversion of protocols like Visa, Bisync, Poll-Select, and SNA/SDLC. Protocol spoofing means that the Gateway emulates the host by polling the terminal locally rather than polling over the network. This has three major benefits:

1. Polling doesn't have to take place over the IP backbone which means you're using less bandwidth;
2. Transaction times are drastically decreased because of the local spoofing;
3. The protocol is truly converted to IP making the terminal appear IP-based to the host.

**Increased network management capabilities** – Installing a JBM Gateway at the terminal extends your network management capabilities to the end points. This increases your visibility at the terminal for monitoring the statistics of the terminal and the network. The increased visibility will reduce unnecessary **truck** rolls and overall maintenance costs.

**Faster deployment times with increased mobility** – Using a terrestrial carrier on a new deployment can take weeks or even months for a new line to be installed. With a wireless network, ATMs or POS devices can be deployed anywhere service is available at anytime. This capability drastically reduces deployment times and significantly reduces the costs. A good example would be deploying a new ATM in a shopping mall. The cost to run a phone line to a kiosk in a shopping mall would probably cost in excess of a thousand dollars. With wireless, no phone line is needed, eliminating this cost completely.

## Operation

Installation of the JBM Gateway is a simple process -- just drop it in between the terminal and the wireless network. On the terminal side of the Gateway, you can interface into the terminal with Ethernet for IP-based ATMs, dial-up line for dial-only devices, or with an RS232 serial port for legacy terminals. On the network side of the Gateway, just plug in the PCMCIA wireless card provided by your carrier. The Gateway is then assigned an IP address and provides network address translation (NAT) for IP-based ATMs. If the ATM is a legacy terminal, then the IP address will be converted to the polling address of the ATM. At the host, you reconfigure it to recognize the ATM as an IP-based terminal and assign it the same IP address as the Gateway.

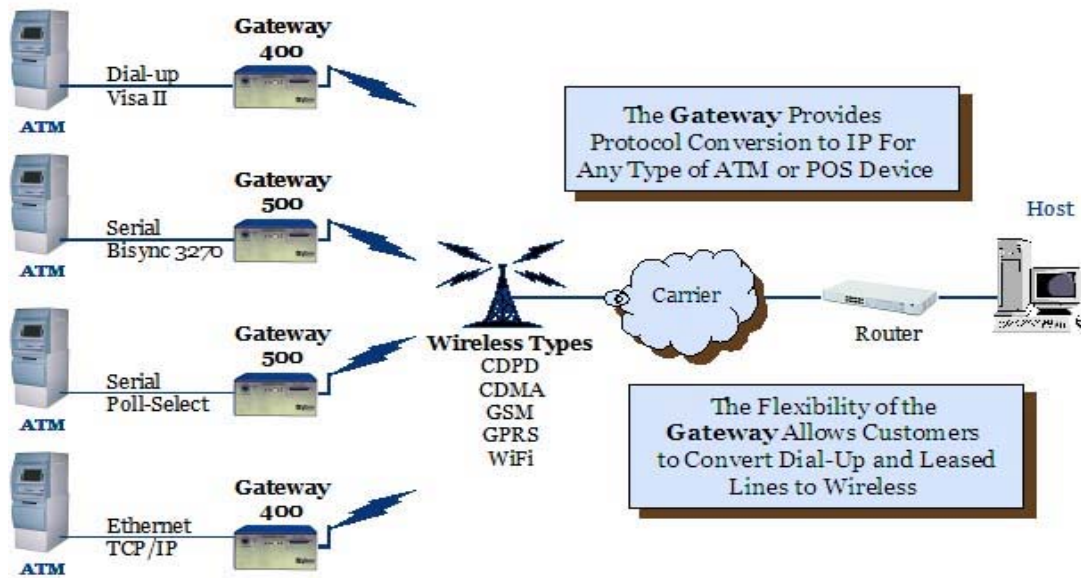
The transaction process is as follows for legacy terminals:

1. The Gateway polls the terminal with the proper polling address as if it were the host;
2. The Gateway will convert the terminal polling address to an IP address and TCP port;
3. When the terminal has a transaction, it will send the data to the Gateway;
4. The Gateway strips off the legacy protocol and encapsulates the native ATM protocol into TCP/IP packet;
5. The Gateway then sends the transaction out as a properly formatted IP packet for the IP-based host to understand over the wireless network.

## Key Benefits and Features of Using a JBM Gateway for Protocol Conversion

- Eliminate expensive leased line & dial-up circuits.
- Decrease transaction times.
- Secure transaction with VPN and 3DES encryption.
- Support multiple POS devices with one Gateway.
- Full router functionality with static, RIP, OSPF, and BGP routing.
- No need to replace or upgrade existing ATM/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 & dial backup routing.
- Reduce bandwidth over backbone.

*Converting to wireless can offer many advantages, like decreased transaction times, increased network management capabilities, and faster deployment times with increased mobility.*



## Converting & Routing Legacy Terminals Over an IP Network

*When using a JBM Gateway you can be assured that your conversion will go smoothly since JBM Electronics is the Industry leader in protocol conversion. Converting any legacy protocol to IP is a straightforward process for JBM.*

### Features and Functionality of the Gateway Products

#### Security Features

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 are easy to install; and in most cases, no reconfiguration of the ATM or POS device is required. The Gateways include:

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

## 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 Gateway's key features is the ability to perform fallback routing. Fallback routing enables a user to configure alternate paths to the host or to several hosts for disaster recovery. The fallback path can be to a different IP server or with a properly equipped Gateway, through a different connection such as a cell or dial modem.

## Dial Backup

The V.92 modem 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 JBM Gateways can be configured through CLI Command entered via console port or Telnet. The Telnet connection provides command, control, and monitoring of the Gateways. SNMP is supported with SNMP Traps providing notification of major events in the Gateways. SSH is also supported for security of the management connection. Extensions to the Telnet or SNMP commands are available as a special order.

## 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 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 LU0, LU1 and LU 2
- Poll Select TC500
- Bisync 2780/3780
- Visa I & II
- Uniscope

For further information, please contact us