



**Application Note:**

## **Low cost Phone Line Concentration For POS Terminals**

*The Gateway product line has been expanded with the Secondary Dial application to provide concentration for remote terminals.*

### **Dual Mode Connectivity Solution**

Our Gateway product line now offers a low cost solution to consolidate the numerous phone lines used in retail POS terminals. The Gateway at the store can convert the data from async to TCP/IP for delivery to IP-based applications. However, some processors have not converted the applications to support TCP. With these processors, the data must still be delivered via async modems.

The new Secondary Dial application replaces the phone lines normally used at every POS into a handful of lines at a central site. This consolidation can save thousands of dollars a month in extra phone lines, providing a tremendous cost savings.

The POS can interface to the JBM Gateway via RS-232, internal modem or Ethernet. The Gateway will automatically convert the data to the proper format for the application and route the data to the correct destination. If the data needs to be sent to an async-only processor, then a central site Gateway will provide the connection.

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.

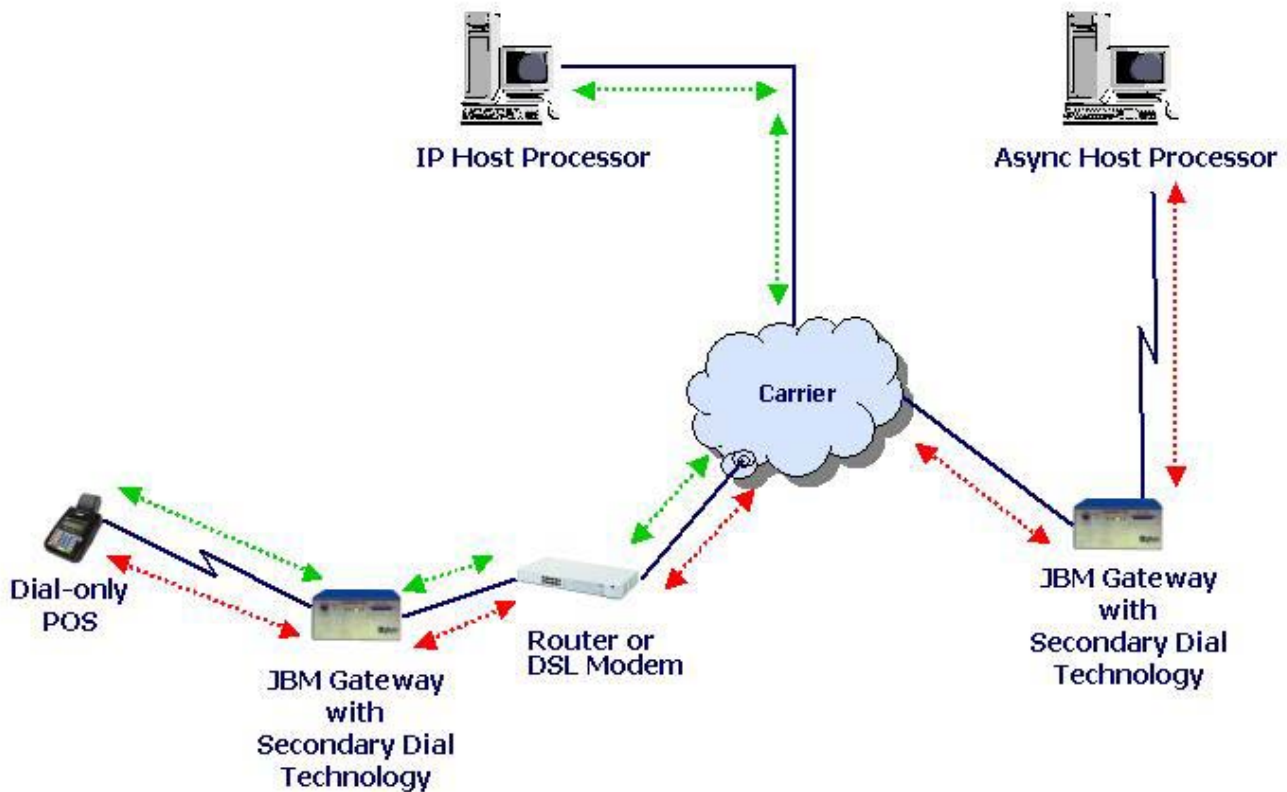
### **Operation**

The Gateway at the ATM or POS terminal will route the data from the terminal based upon the phone number or data. The data will be converted to TCP. Then, based on the path, the TCP data will be delivered to either an IP-based host processor application, or to a central site Gateway. The central site Gateway will dial the remote processor and transfer the data using async modems.

The central site Gateway can use external, customer-supplied modems or a RAS card. With either connection type, the basic operation is the same. The phone number of the remote processor is sent as part of the IP message from the edge Gateways. The central Gateway will convert the data back to async and dial the phone number. When the connection is established, the data is transferred to the remote processor. The response will be routed back to the originating edge Gateway for delivery to the terminal.

The modem connections 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. If a RAS connection is used, then additional tuning options are available.

The following diagram illustrates the operation of our Secondary Dial technology:



Fallback IP routing can be used if the primary central Gateway is not available. This capability allows several smaller Gateways to be geographically dispersed for Disaster Recovery and additional availability.

### Key Benefits and Features

- Eliminate expensive Dial-Up circuits
- Improve network management
- 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 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

## 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.

### 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

### 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.

### Wireless Support

Some of the Gateways provide an integrated cell modem for CDMA or GSM/GPRS wireless communications. The wireless connections provide simple, low-cost communications to the network. All that is required to get connected is a carrier account and the Gateway.

### 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.