



ROAM Payment Gateway
White Paper

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Company

ROAM Data Inc. delivers innovative electronic payment solutions to service merchants, processors, MSPs, and consumers. ROAM is the only Payment Gateway today that combines expertise in POS systems with expertise in Network solutions and Mobile Application Services—to deliver not only Brick & Mortar and E-Commerce transactions, but also M-Commerce transactions from virtually any mobile device on any network.

In early 2009, ROAM Data combined its state-of-the-art Mobile Commerce Gateway with Kincaid Technologies' innovative Payment Gateway, to operate one of the largest centralized private financial networks in the United States. Kincaid has been delivering various payment solutions for merchants, acquirers and ISOS for over 13 years, and had reached transaction volumes of over a billion transactions per year.

ROAM is a technology partner that has the agility to accelerate innovation in many new and exciting ways. The Payment Gateway has provided proven systems to many industries, including: Retail, Direct Selling, Restaurant, Lodging, C-Store (Petro), E-Commerce, Health and Government Agencies. The system processes standard bankcard transactions as well as Electronic Checks, Smart Cards, Gift/Loyalty Cards, RFID Payments, Wireless Payments, Pre-Paid Cards, and specialty services dedicated to particular industries (such as Fleet payments in the retail Petroleum industry). In addition, ROAM's unique patent pending technologies enable us to turn virtually any mobile phone into a secure POS terminal and facilitate transactions to any of the payment processors to which our Level-1 PCI Certified Gateway is connected.

ROAM Payment Gateway is already certified and connected to most of the largest payment processors in the United States (see list below.) ROAM has a patent pending Virtual Terminal solution that enables devices of all sorts including nearly 200 different mobile phones, PC, MACs and standard POS terminals to use this Virtual Terminal solution to conduct payment transactions to the various payment processors. Essentially quickly and efficiently Class B certifying various terminals that otherwise would take a long time to get into the market. Furthermore ROAM's ability to dynamically deliver secure commerce applications of all sorts enables flexible ways to add value to merchants via its platform and Gateway. (See whitepapers for ROAM Technology.)

We operate state-of-the-art dual Data Centers, smart switching technology, and 24x7 Support staff. ROAM's Headquarters and primary Data Center are located in Boston, MA. Its secondary Data Center is located in Colorado Springs, CO. Because it is fully independent, ROAM can provide the most effective solutions and advice for its clients.

Electronic payment acceptance has become increasingly complicated by the myriad of new technologies coming to market. ROAM's mission is to provide seamless payment transactions anywhere anytime—and to become the leader in delivering valuable commerce applications, regardless of environment or form factor (POS, PCs, mobile phones), to its partners and their customers.

Empowering Technical Capabilities

ROAM's Network/Switch System is a high-speed Electronic Funds Transfer (EFT) transaction processing system which is able to convert message and protocol seamlessly ("on the fly") inside our switch, leveling the playing field for your POS network. The ROAM switch provides the ability to interface with a broad range of terminals, hosts, and POS systems, allowing delivery of a wide array of transaction types to an unlimited number of payment processors.

Our Network/Switch System routes input and output transactions using WAN architectures such as leased lines, Frame Relay, private DSL, Internet VPN and Internet SSL. ROAM also supports older technologies, including asynchronous dial, synchronous dial and X.25 sources. Internally, the base of the Network/Switch System merges these communication types into TCP/IP and converts to specific protocols for outbound processors when necessary. This Network/Switch system is constantly being improved and expanded.

ROAM's IT and Development staff combine decades of technical expertise and industry experience to provide you with the best possible solution to your unique situation.

Features & Benefits

The benefits ROAM Payment Gateway provides vary greatly, from interchange management/improvement to the re-routing of high cost transactions to more beneficial payment channels. Perhaps one of our greatest strengths is that we provide our clients with the freedom to customize what is best for their specific needs.

Below is a sampling of a few concentrated areas of value across our wide range of clients:

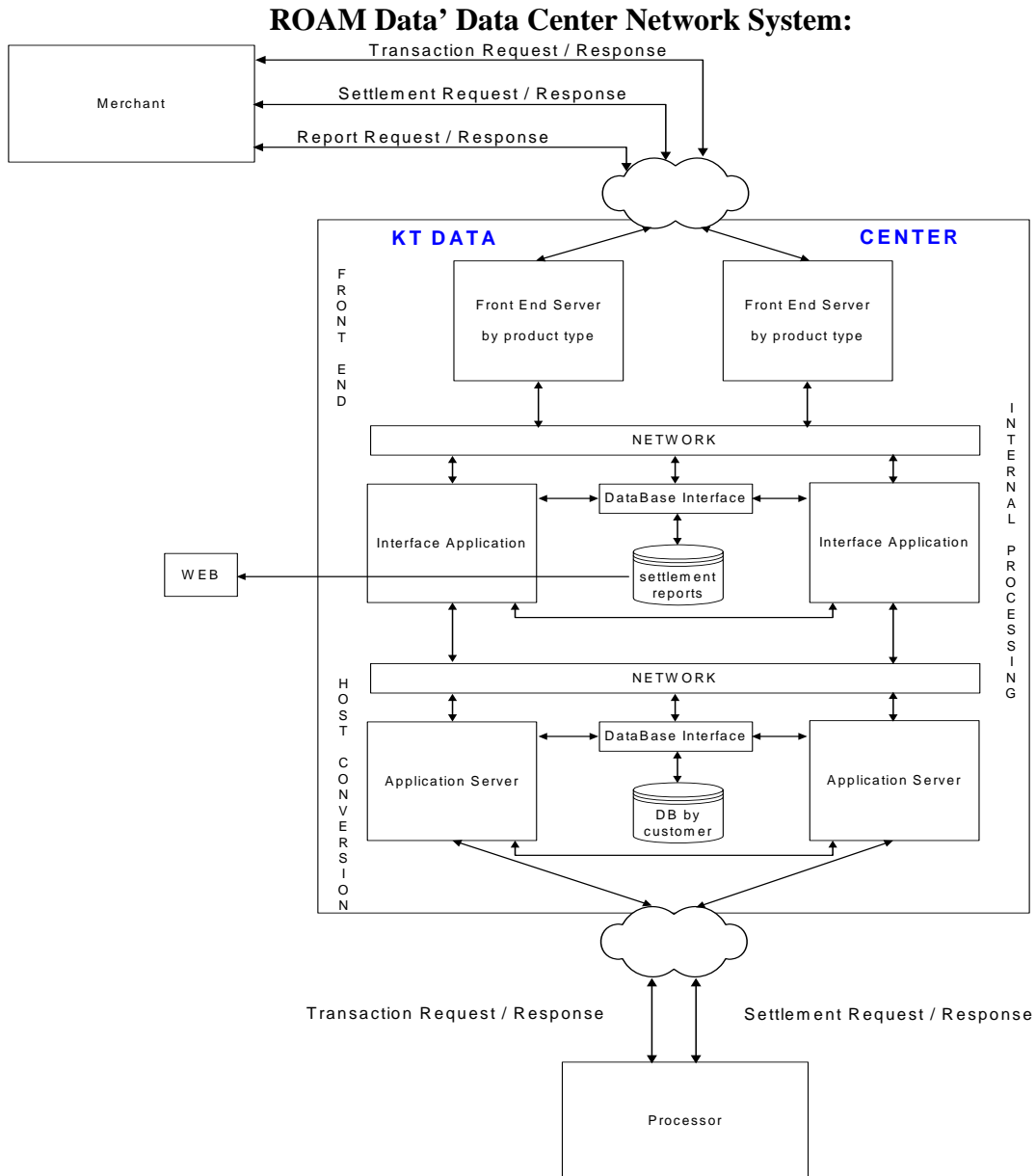
- **Control Your Portfolio** – aggregate your transaction volume to a single switch point that is certified to many end points. This switch relationship is direct with you, and you control the products, services and end points that comprise your business needs.
- **Higher Portfolio Equity** – reduce the industry standard 6% to 10% attrition typically associated with a conversion, either on sale of your merchant base or acquisition of another.
- **Lower Transaction Fees** – by taking advantage of our communications network and front end services, serving up over 1.3 Billion transactions per year
- **Speed to Market** – stay ahead of the curve. It is as simple as "switching on" new services that ROAM is already connected to (or will be in the future) into your POS network.

"ROAM Data ... Your Gateway to Innovation"
www.ROAMData.com

- **Lower IT/Integration Costs** – connecting to ROAM is connecting to a “standard” that can easily route/switch/connect your transactions to wherever your business strategy takes you.
- **Expertise:** ROAM combines years of technology experience with industry experience to provide the best solution to customers.
- **Communication Options:** ROAM supports lease line, Frame Relay, ISDN, VPN, SSL and Dial.
- **Security Key Management:** ROAM utilizes DUKPT, DES and 3DES key management for debit transactions to encrypt PIN information.
- **Transaction Flexibility:** ROAM supports numerous transaction and payment types as needed by its customers.
- **Speed and Efficiency:** ROAM’s is a highly optimized Network System. We utilize networking equipment and servers from industry leaders such as Cisco, Dell, HP, Sun and more.
- **Unique Reporting:** We offer a variety of reporting options to customers. We can provide reporting totals by transaction type, by cashier, by day—and grand totals by store, by group, by region and by enterprise. Reports are available through various mechanisms, including email, FTP and web-based reporting.
- **Internet Processing:** ROAM provides Internet processing options using VPN or SSL technology as well as web-based reporting services.

Major Components

ROAM's Network System architecture includes Front-End Aggregation, Database sources, transaction routing by transaction type or specific company, and Back-End Host conversion modules. The diagram below provides a visual display of this system.



Hardware and Operating Systems

ROAM largely uses Microsoft Windows Server for most of the Data Center Application servers. A few Data Center management systems, such as mail servers and FTP servers also utilize Sun Solaris 8. Primary On-Line Databases run on Microsoft SQL Server with reporting Databases utilizing MySQL. The Data Center hardware is predominately Dell, HP and Sun.

Payment Capability

Customers across the nation have utilized ROAM Payment Server's Network/Switch System, from California to New York, Massachusetts to Texas, and everywhere in between. ROAM's Data Centers supports backup-fail over scenarios, load balancing scenarios, and hybrids of the two.

In the case of settlement, all data contained in Databases across multiple Data Centers will be merged to a central Database (today located in Colorado Springs). ROAM has the ability to perform real-time data mirroring between Data Center Databases as needed. Our On-Line Databases run Microsoft SQL Server and through our cluster environment, can achieve a virtually unlimited number of simultaneous transactions. ROAM's system can be scaled up or down to meet specific needs, allowing maximum flexibility to meet customers' requirements both within a single Data Center and across multiple Data Centers.

In the event of a Data Center failure or failure in communication to or from a customer or processor, ROAM is able to route transactions between Data Centers seamlessly and in real time. This means that as long as a customer can reach any one of ROAM's Data Centers, the transactions get to the processor for authorization or settlement. This solution offers maximum redundancy and flexibility to customers and helps ensure a minimal amount, if any, of processing downtime.

Batch Capture Support

ROAM supports all types of Point-Of-Sale (POS) Batch Management functions, including:

- **Terminal-Based Capture:** The customer POS authorizes transactions throughout the business day and collects responses into a local batch file. This file is then transmitted to ROAM's Network System and is collected in a Database. If there are multiple customer locations, all transactions for the company are combined and sent to the processor(s) for settlement. Confirmation of settlement is then returned to the customer.

- **Host-Based Capture:** Similar to Terminal Capture, the customer POS authorizes transactions throughout the business day, but instead of the POS collecting transactions, the processor collects the transactions. At the end of the business day the POS (or ROAM Network) sends an auto-close message to the processor to signal the completion of the business day and settle the transactions to the customer account.
- **Hybrid-Based Capture:** This system is a combination of the Terminal and Host-based systems and is one of the primary focuses of the ROAM Network. Essentially this system allows a customer, either Terminal or Host-based, to use ROAM as an interim to the processor. This then gives the customer the ability to send transactions to either a Terminal or Host-based processor without changing their POS system. ROAM captures all transactions into a Database and provides the POS with everything it needs to be satisfied for each transaction and/or settlement. At the end of the business day, ROAM completes the transactions to the processor in the necessary structure as defined by the customer and processor.

Batch Processing

ROAM collects customer transactions into a Database based on either real-time authorization or customer batch settlement. This gives the flexibility of settling to multiple processors in order to provide customers with the best transaction processing rates. The most popular forms of settlement splitting relate to direct settlement with American Express, Discover, check processors, gift card processors or private-label processors. A high-level list of supported processors is provided below in the Transaction Processor Support section.

Since ROAM assists the POS during settlement, it is a small task for ROAM to support multiple daily settlements by shift manager, by corporate group or by individual location.

Reporting

Web reports are available from either a corporate or individual merchant perspective. ROAM's web report types are as follows:

- Settlement Summary by Date
- Settlement Detail by Date
- Monthly Sum (Count and Amount)
- Refunds by Date
- Suspected Duplicates by Date

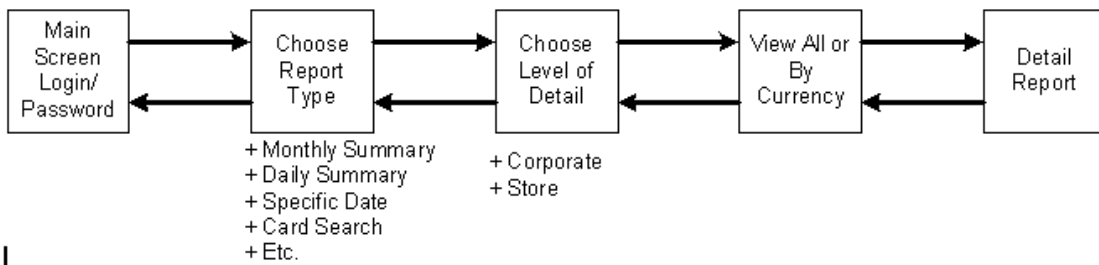
ROAM also provides reports that allow for searches on the following values:

- Account Number
- Expiration Date

- Customer First or Last Name
- Transaction Amount
- Settlement Status (i.e. waiting to be settled, rejected, settled)

For additional fees ROAM can provide custom reports. Reports are available through various mechanisms including email, FTP and web-based reporting.

In addition to reconciliation and management reporting, ROAM also provides customers with the ability to perform adjustments. In the event of an exception, dispute or clerical error for a given transaction, customers can use ROAM's adjustment tool to correct transactions. Security for this tool is defined by the customer, allowing specified users to make changes from an individual location or from corporate headquarters.



Transaction & POS Support

ROAM currently has support for a multitude of format inputs based on ISO 8583 and the Visa Second Generation POS terminal interface. ROAM also has ability to couple other commerce and business transactions into applications along with standard payment transactions. ROAM supports the following standard payment transaction types:

- Credit
 - Visa
 - MasterCard
 - American Express
 - Discover
 - Diners Club
 - Carte Blanche
 - Japanese Carte Blanche (JCB)
- Debit, including ATM transactions
- Electronic Benefits Transfer (EBT)
 - Food Stamps
 - Cash Benefits
- Gift Card / Loyalty Card
- Check
 - Electronic
 - Standard
 - ACH
 - Imaging
 - Truncation
- Fleet Cards
- Pre-Paid
- Proprietary, Private-Label Cards
- Smart Cards (WIC)
- Signature Capture
- E-Commerce

POS Vendor Support

Following is a partial list of the currently supported POS systems. In addition to standard POS systems, ROAM's Virtual Terminal currently supports nearly 200 different mobile phones certified on all major mobile operator networks including Sprint, AT&T, Verizon, T-Mobile and others. ROAM's Virtual Terminal also works on all PCs and MACs. POS terminals supported are listed here.

- NCR ScanMaster
- IBM Ace
- Micros Systems
- Radiant Technologies
- Pacer CATS
- WPS
- Atlantic Systems Inc (ASI)
- SkiData
- ICVerify
- Summit POS
- Revcon Technologies
- Verifone
- Hypercom
- Aloha
- Squirrel
- Customer Proprietary

Transaction Processor Support

ROAM currently supports many end point processors, below is a partial listing:

- Bank of America
- Concord EFS
- EFunds
- Fifth Third
- FDMS – CardNet (North)
- FDMS – Omaha (Bridge)
- FDMS – Nashville (Pending)
- Global Payment Systems (GPS)
- Chase Paymentech (Tampa)
- Metavante (ClientLine)
- United Checks
- Stored Value Systems
- Vital Processing Service
- American Express
- Discover Financial Services
- Electronic Clearing House (ECHO)
- Wright Express Financial Services Corp (WEX)
- Voyager Fleet Systems
- Nova (US Bank)
- Telecheck

*** Note: Depending on the processor ROAM is certified for level 2 and level 3 processing.**

Security – PCI Compliance

With security being at the front of everyone's concern, ROAM is constantly analyzing security procedures and applications. The ROAM Data Payment Gateway is PCI compliant.

Being PCI certified encompasses all aspects of Security, including: physical, encryption, data and communication.

Physical: Biometric authentication is required for access to ROAM's primary Data Center in Boston and security badges are required for access to the secondary Data Center in Colorado Springs. All ROAM machines are located within a cage-type lock box requiring a key to open and a login and password to gain access. ROAM also maintains a change management policy requiring any changes to be fully tested, documented and scheduled before implementation.

Encryption: Customer transaction and PIN data must be secure and ROAM is continually working to improve physical and technical systems and processes. ROAM enforces the use of PIN encryption on any PIN-based transaction. Although it is being phased out, Master/Session is still widely used by many customers. In the very near future however, DUKPT encryption will be mandatory. Some ROAM customers have already gone above and beyond to the next level of encryption and have begun using triple DES. ROAM currently supports and has customers in production using all three of these methods. ROAM is also implementing an interface to the HOST Security Module (HSM) so that it also can be offered to customers.

Data: Customer data, integrity and security are of supreme importance at ROAM. We perform internal testing and certification of all software before it enters the production Data Center(s). Each customer Database has a unique login and password and is only accessed by ROAM Customer Support when necessary or if requested by the customer.

Communication: ROAM does require the use of some form of encryption any time transaction data is transferred across the public Internet (i.e. SSL, 3DES, VPN).

Custom Cards

ROAM currently has the ability to outsource the production of custom, private-label or loyalty cards. An example of this would be the ROAM custom test cards that are used for ROAM testing and certification. Pricing is largely dependant on the appearance and quantity purchased within a single order.

ROAM maintains a custom Database to manage the accounts associated with these cards. ROAM's technical staff will work with each customer to design a card management module that will best meet that customer's specific requirements.

Future Expansion

ROAM is largely a customer driven company, meaning that as new technologies and new customer needs arise, ROAM strives to make them available as quickly as possible. This is evident in the large amount of POS vendors, processors and transaction types that are already available through the ROAM Network System. As mentioned previously, any increase in transaction volumes can be quickly accommodated on a per customer basis as needed.

Contact Information

Thank you for reviewing ROAM Data. For more information or questions we look forward to working with you to discuss your needs and provide you with the right solution for your company.

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