



Unlocking Your ATM "Big Data": Understanding the power of real-time transaction monitoring and analytics

Summary

Financial organizations are heavily investing in self-service and omnichannel initiatives such as branch transformation, more sophisticated ATMs and payments modernization initiatives. New technologies and applications are emerging that allow customers to initiate a broader range of service and cross-channel transactions that were typically handled by costly branch tellers and customer service representatives. Examples include everything from check deposits, bill payments and account balance confirmations, to applying for mortgages, card and loan applications, or personalized offers and promotions.

Expanding services, more sophisticated devices and the growing number of customers choosing self-service channel options are resulting in an explosion of ATM “Big Data”. As the volume of digital transactions continues to increase, so does the challenge for retail banks and credit unions to keep service management risk in check with support and analytics costs.

This whitepaper discusses how real-time transaction monitoring and analytics software helps financial organizations gain access to complete ATM network traffic, to quickly process huge amounts of transaction intelligence, and create data-driven strategies across a broad range of IT and business use cases, including:

- **Customer engagement management** – Improve how customers use your ATM channel
- **Payment systems management** – Manage more self-service devices, troubleshoot and isolate ATM service issues 65-75% faster
- **Cash management** – Improve ATM network profitability and cash flow handling at each individual ATM location

ATM Big Data – A problem or an opportunity?

An ATM network is a rich data environment. It plays host to an “always on” data source – customer transactions.

Each transaction that travels across your ATM network contains information on what the customer is experiencing, how networks and applications are affecting transaction performance, and what the business value of each transaction is from a revenue or service perspective. Meta data reveals details such as the ATM terminal ID, geographic location and transaction status. Application message data contains valuable information such as the transaction type and transaction amount. Network level protocol information enables you to review the response and request times for each “hop” on the transaction’s network path. Switch response codes indicate what type of error may be affecting the completion of a transaction. And the list of valuable, real-time data contained in each individual transaction goes on.

ATM channel managers and operations support teams know transaction data holds great value when it comes to improving customer experience, speeding up problem isolation and analyzing channel profitability based upon card types, self-service device types and value added services. But the cost of retrieving and analyzing this data should not exceed the benefits.



REPORTS



SEARCH



ALERTS



ANALYTICS



DIAGNOSTICS

Operations + Support

- To ensure the highest possible service availability
- For real-time alerts & IT research
- To isolate host connectivity, network & application delays 65-75% faster

Managers + Data Analysts

- To better serve customers & acquire new ones
- For analyzing usage patterns & better ATM placement decisions
- For profitability reporting & implementing data-driven strategies

IMAGE 1: Both ATM channel managers and operations teams benefit from accessing digital banking transaction data in a timely, cost effective way. There are both IT and business use cases that can help improve customer experience, reduce support costs and make your ATM channel more profitable.

Mining ATM “Big Data” is not easy

There are a variety of ways to acquire ATM transaction data, including switch logs, journals, core banking system databases, 3rd party data feeds, your network, and data collection software or hardware agents. Each has advantages and disadvantages, as seen in the chart below.

SOURCE	ADVANTAGES	DISADVANTAGES
Switch logs	Contain transaction and timing data for every transaction the switch processes	Lack visibility into the growing number of transactions the switch doesn't process (value added services, RDC, incomplete transactions). Imposes overhead on switching infrastructure
ATM journals	Contain a record of every transaction ATM attempts	Disparate formats, only available on demand (or once a day), no timing information
Core banking databases	Definitive record of all consumer transactions	Highly summarized data, may lack ATM details, no timing information, failures and incompletes are missing
3rd Party data feeds	Typically well-formatted for easy analysis. Includes financial breakdowns of fee income	Can be expensive. Only delivered periodically (e.g. daily or monthly). Little flexibility in requesting additional information
Your network	Definitive source of every transaction attempted	Lots of data, diverse formats
ATM agents	Can provide access to transaction data when you don't own the network or the switch	Need to distribute, install, and update agent periodically

In a world where digital banking transaction volumes are growing rapidly and becoming more diverse, financial organizations are facing new challenges when it comes to managing customer experience, security, operational support and business analytics. Retail banks and credit unions often face storage wars, capacity issues and forwarding issues as they attempt to mine an overwhelming amount of data. Monitoring and analyzing customer transactions that span multiple networks, third party systems and Cloud-based application infrastructures can also be challenging due to limited visibility.

While many financial organizations may have the tools they need to manage device performance, monitor core infrastructure pieces and track the number of simple payment transactions completed from the ATM, most are finding this silo'd, fragmented data gathering approach is too slow and insufficient when it comes to making data-driven business decisions, quickly isolating root cause of transaction failures, or guaranteeing the timely completion of customer interactions which now include ancillary service transactions, zero revenue transactions or cross-channel initiatives. It often takes too many intensive, manual labor hours for un-centralized information to be gathered and pieced together across multiple tools, data sources and department silos.

Lack of a holistic, real-time view into end-to-end digital banking data makes it tough to control business and IT management risks. This is why forward-thinking financial organizations are now investing in real-time transaction monitoring and analytics software to complement existing ATM management, switch monitoring and deep-dive application solutions

Extracting full value out of ATM transaction data

As ATM data continues to grow in size and scope, the number of use cases surrounding this data is also growing. Operations teams are interested in understanding how they can use transaction data to speed up troubleshooting and research, receive instant, real-time notifications of performance issues, and reduce the time it takes to identify who actually owns the problem. Channel managers are more interested in using transaction data for trending and analytics purposes – ultimately, to identify ways to deliver more value to current customers, attract new customers, or improve profitability through better ATM placement and targeted service offerings. These business and IT management use cases typically fall into three categories:

- **Customer engagement management** – How are customers choosing to interact with your organization, and what are they experiencing? What is the business value of each customer interaction, from a service or revenue perspective?
- **Payment systems management** – How are your expanded self-service device types, ancillary service offerings and card types performing? How can you instantly know about network, application and third party service issues affecting transaction completion?
- **Cash management** – How can you improve profitability and cash flow handling at each individual ATM location?

The screenshot displays the INETCO Insight interface with several key components highlighted by green callouts:

- Summary:** A table of transaction metadata including:

Entity Trans Stat-Acquirer	A2
Entity Trans Stat-Acquirer Host Link	HL02
Entity Trans Stat-Card Base	H5BC Mastercard
Entity Trans Stat-Issuer FIID	FI05
Entity Trans Stat-Issuer LUID	I505
Entity Trans Stat-Term Id Device Status	ATM Declined
- Content:** Transaction details including:

Amount	420.00
Response Code	2
Trans Amount _ Units	USD
Trans Stat-On Us	No
Trans Stat-Type	Other
- Times & Errors:** Performance metrics including:

Duration	89.057 sec
Network Max Delay	0.693 sec
Node Delay	0.188 sec
Error Level	0
- Network Level Protocol:** A diagram showing the sequence of messages between the ATM and the network, including:
 - 0100 - Authorization Request
 - 9110 - Authorization Request Response
 - 0200 - Financial Transaction Request
 - 0210 - Financial Transaction Request Response

SCREEN CAPTURE 1: INETCO Insight® real-time transaction monitoring software captures every transaction, automatically creating a profile of each transaction that maps bottlenecks, slowdowns and network transport errors to the underlying infrastructure. This data can be forwarded to helpdesk platforms, ATM management systems and customer analytics applications such as INETCO Analytics™.

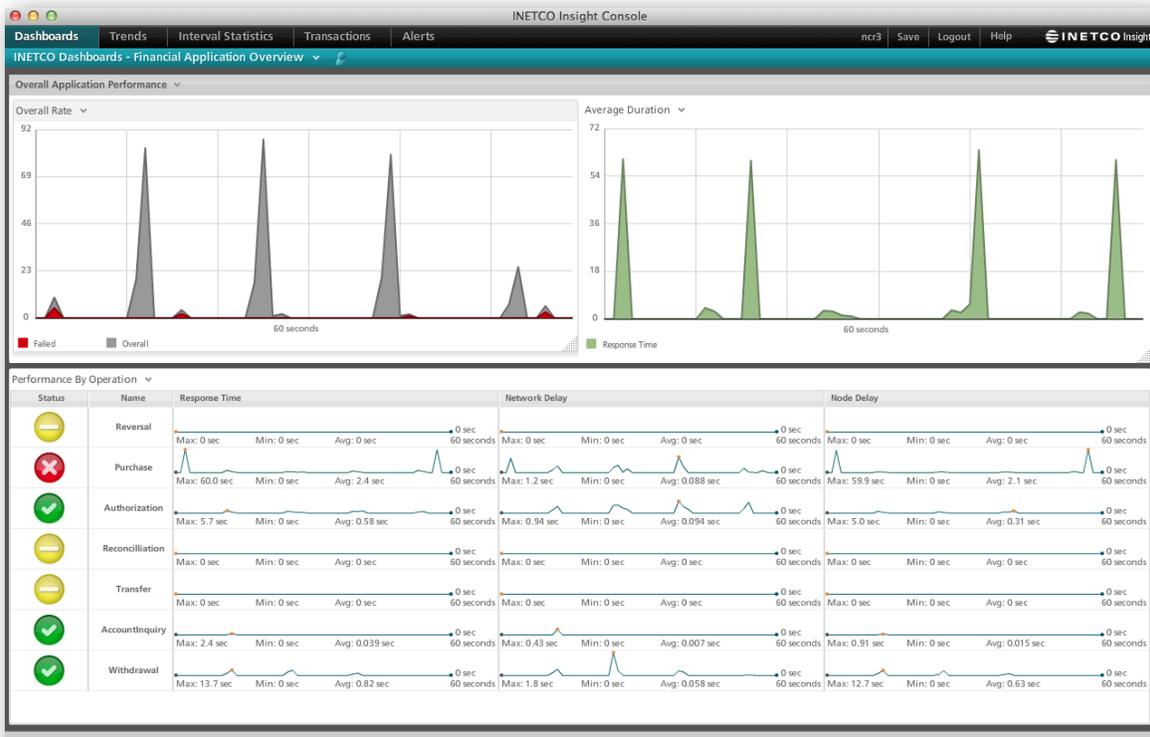
When it comes to extracting full value out of ATM transaction data, real-time transaction monitoring software such as INETCO Insight® offers a timely, cost-effective way to create a centralized deposit of rich transaction intelligence. INETCO Insight was built to handle streaming Big Data, easily monitoring any and all types of customer interactions happening within ATM and multi-channel retail banking networks. Protocol and platform agnostic, this software platform captures and correlates real-time consumer transaction data in a secure, light-weight fashion, enabling financial institutions to overcome past data mining limitations and avoid high cost, manual data collection and correlation tasks.

The INETCO Insight software platform delivers transaction data in a number of ways:

- Displays transaction data within its user interface for deep-dive troubleshooting and faster isolation of network, application and third party or host connectivity issues affecting transaction performance
- Forwards alerts and statistical data into to a helpdesk or ATM management platform of choice for enhancing event notifications and statistics
- Streams transaction data into a vertical analytics platform such as INETCO Analytics™ for gaining on-demand access to customer analytics and visual data reports related to ATM placement, ATM profitability, and cash management

With INETCO Insight's “bottoms up” approach to capturing your ATM network traffic, real-time transaction data can be gathered and correlated with lower implementation costs than ever before:

- Without having to instrument applications and deal with traffic load, flow or debugging issues
- Without having to spend hours sorting through log data
- Without impacting the payment systems and applications running within your banking environment



Forwarding transaction event notifications and statistics into your Helpdesk and ATM Management System

Real-time transaction monitoring software helps retail banks and credit unions gain easy access to complete ATM network traffic, quickly process huge amounts of transaction intelligence, and create real-time, customizable incident management alerts that answer questions such as:

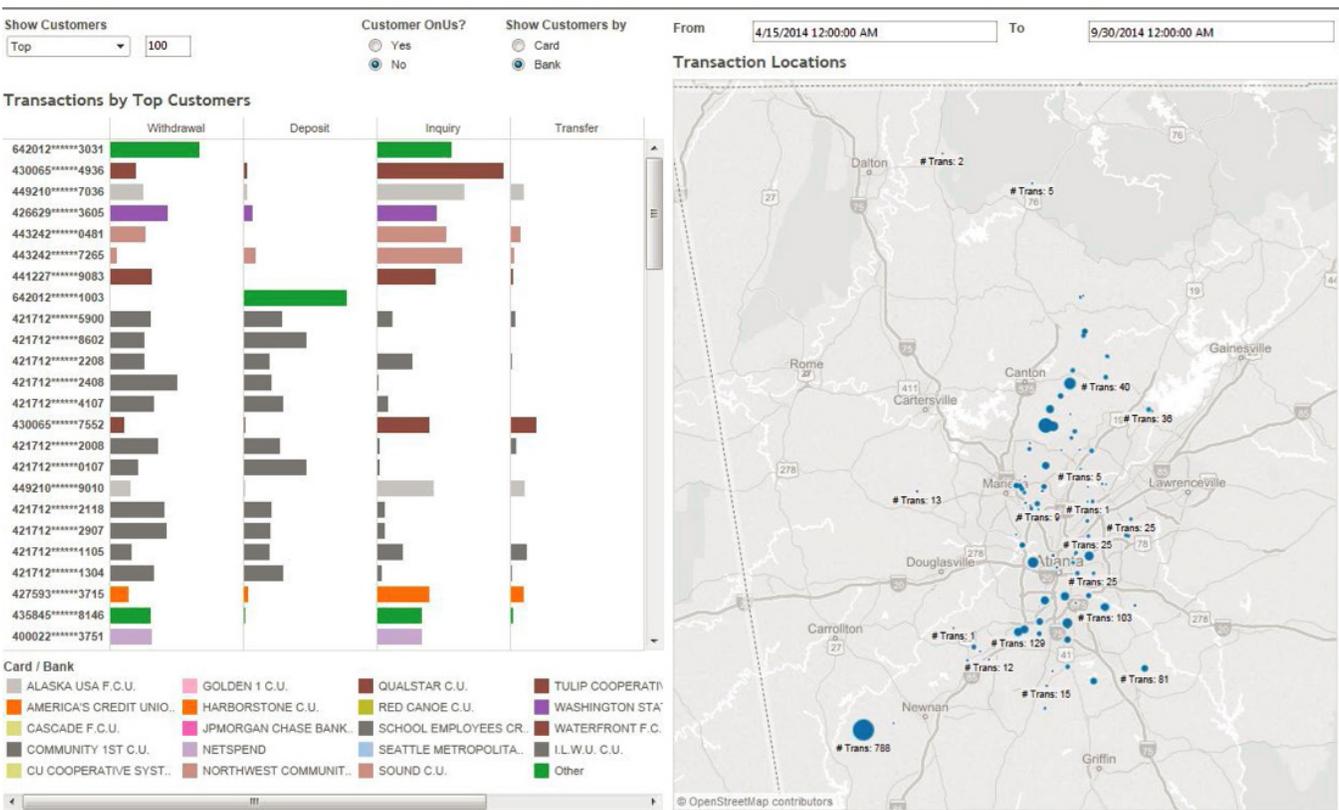
- Why are transactions failing, reversed or unexpectedly declined?
- Are card hosts, networks or applications running slow or not responding?
- When does a transaction not make it to the payments switch? Why?
- Are transaction volumes below or above expected thresholds?
- Are there issues with third party service levels during peak performance?

These instant event notifications can be viewed within INETCO Insight, or forwarded onto a helpdesk or ATM management system of your choice. Transaction interval statistics can also be forwarded to helpdesk and ATM management systems such as:

- **Transaction status** – The total number of approved, declined, failed, reversals, force posts and abandoned transactions by ATM terminal ID, service application, card base or switch host
- **Cash totals by transaction type** - Cash positions for withdrawals, deposits, account transfers, failures, approvals, declines, force posts, reversals on any ATM
- **Key code function** – A breakdown of customer transactions by function such as withdrawals, deposits, inquiries, bill payments, transfers and other value added services
- **Data events** – Includes transaction events such as ATM card capture and PIN failures
- **Card BIN related information** – Information on competitor cards using your ATMs, “on us” versus “off us” transaction comparisons or ancillary service tracking
- **Network information** – A breakdown of slow transactions due to TCP/IP issues such as third party or telecom connection time outs, latency of transient connections or application response time issues
- **ATM device statistics** – Information on transaction errors occurring at the ATM such as cassette usage, bill dispenser or printer issues
- **Response code errors** – Total number of transactions by switch response code error

Using transaction data to analyze ATM business performance and customer engagement

INETCO Insight can also continuously stream structured transaction data into vertical-specific, customer analytics platforms such as INETCO Analytics™. INETCO Analytics enables ATM channel managers to analyze a wealth of customer engagement and ATM business performance data – ready any time they need it. This data can be correlated with other ATM-generated data and complimentary data feeds such as customer density, competitor locations, device information and BIN lists, to harvest deeper insights across the entire ATM network.



SCREEN CAPTURE 2: With INETCO Analytics™, you can access rich records of every customer interaction to understand where, when and how customers interact with your financial institution. Quickly identify top customers and new customer acquisition opportunities.

The INETCO Analytics state of the art data management solution varies greatly from the way traditional customer analytics has been done in the past, moving away from the dependency of stale data analysis gathered from application logs, flat files, banking systems and relational databases. It embraces the concept of Fast Data, or data that can be analyzed as it's ingested while still maintaining extremely high intake rates, providing an instantaneous understanding of what is happening with your customer interactions, and in the rich context of where, when and how. INETCO Analytics will result in a significantly faster time to value and operational efficiencies realized through:

- A focus on customer experience – developing a truly customer-centric view of how each banking channel is being used
- Having both IT and business operations users be self-sufficient in accessing information, which will shrink reporting and decision making times by hours or days
- Deploying cutting edge technologies that allow you to scale smoothly to handle the large volumes of customer interaction data required to execute your digital banking strategy

The best of breed technology stack for INETCO Analytics includes:

- Real-time transaction data streaming
- A highly scalable, cost effective data storage cluster
- A leading edge visualization server
- On-demand, channel specific customer analytics dashboards, predictive algorithms and reports

Information such as transaction types, transaction fees and dollar amounts can be used to help improve ATM placement decisions and provide an accurate breakdown of profitability by fleet level, device segments and individual cash points. This data can also be used to display information such as current available cash positions for each ATM, replenishment transaction dates and amounts, and uncover opportunities for cross-selling and customized marketing campaigns. By having the ability to aggregate real-time transactional data by ATM, service type or card base, financial organizations can also establish proprietary insights into consumer or card trends, and offer these reports to their clients.



Was there ever a better time to harness the power of real-time transactional data?

In the light of new branch transformation and omnichannel initiatives, transaction data offers transformational opportunities for today's financial institutions in a variety of IT and business areas such as customer engagement management, payment systems management and cash management. Yet a lot of this ATM "Big Data" loses its value because analyzing and acting on it in real time is becoming more costly and difficult as services expand, devices become more sophisticated and digital transaction volumes continue to increase.

Real-time transaction monitoring and analytics software makes it easy and affordable for banks and credit unions to access a centralized deposit of rich transaction intelligence found on ATM networks, providing significant opportunity to improve customer experience, reduce support costs and make your ATM channel more profitable. With proven real-time transaction monitoring and analytics solutions such as INETCO Insight® and INETCO Analytics™, ATM channel managers and operations support teams will gain easy, timely access to a centralized deposit of rich transaction information for faster problem isolation, on-demand customer analytics and data-driven business decisions.

For more information or a demonstration of INETCO products, contact sales@inetco.com.

About INETCO®—Every transaction tells a story®

INETCO® Systems Limited provides market leading transaction monitoring and analytics software that helps line of business and IT operations teams improve profitability, reduce operational costs and deliver an amazing customer experience. INETCO's proven solutions are currently deployed in over 50 different countries. Happy INETCO Insight® and INETCO Analytics™ partners and customers include some of the world's largest companies spanning the banking, ATM, retail, telecommunications and payment processing markets. www.inetco.com



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