



How BECU Enhances Member Experience with Real-time ATM Transaction Intelligence

BECU is the largest community credit union in North America, with over \$25 Billion in assets and 60 financial center locations. Guided by the philosophy of “people helping people”, BECU operates as a member-owned, not-for-profit cooperative.

With only two traditional financial centers with actual tellers, BECU relies heavily on its remotely operated, full-service ATMs as the main touchpoints for their base of over 1.2 million members. This reliance is highlighted by the fact that a large percentage of their 250+ ATM fleet averages over 12,000 transactions every month.

As BECU believes in providing their members with the best experience possible, they continuously focus on delivering 24/7 service availability, mitigating risk of fraud, finding ways to lower the cost of banking, and understanding member usage behavior across all self-service touchpoints.

INETCO has helped BECU to:

- Meet the average ATM Net Promotor Score of 78.9% and an ATM satisfaction score of 9.28
- Immediately detect suspicious card activity, member service disruptions and ATM cash-outs
- Improve accuracy of cash forecasting and replenishment
- Analyze ATM fleet performance
- Make better ATM placement and lease renewal decisions — 75-88% faster

The Challenge

Increasingly sophisticated ATMs and a growing number of member self-service options has resulted in BECU experiencing exponential growth in transaction data volumes.

Meeting the ATM service needs and performance expectations of their members

To align with the ever-changing needs and expectations of their members, BECU knew it was critical to think beyond ATM availability. They needed timely access to customer data that could help them gauge member satisfaction and optimize member experience at each individual ATM. Real-time visibility into when, where, and how members interact was key to understanding usage behaviors and making responsive decisions based on fact, not feel.

Protecting against ATM cash-outs

Furthermore, with the recent high-profile ATM cash-out attacks occurring around the world, BECU knew it was time to re-evaluate their early warning fraud detection capabilities, and make sure they were ready to immediately detect suspicious card activity at BECU ATMs. They recognized the need for another layer of defense against increasingly complex multi-vector attacks. This way they could continue providing their members with the best possible protection from fraudsters.

Enabling operational agility and greater efficiency

As part of their objectives, BECU is also committed to building out an infrastructure that enables and enhances their experience, culture and sustainable growth goals. This includes simplifying systems, creating agile processes to improve the member experience and ensuring their infrastructure supports scalability. A key component to meeting this objective and lowering the cost-to-serve has been to move the majority of primary banking solutions to either partner hosted sites or the BECU Cloud.

In the face of these challenges, BECU turned to real-time transaction data specialists, **INETCO**[®], who provided a hosted, Cloud-based transaction monitoring and analytics solution that could meet emerging requirements such as:

- **Gaining end-to-end visibility to make sure that all member and non-member transactions at the ATM are completing as expected**
- **Providing actionable real-time insights to improve the member experience**
- **Centralizing and feeding trusted data to applications of choice, such as a cash management solution**
- **Reducing the time and resources needed to collect, normalize and report on member data**
- **Detecting suspicious activity, ATM cash-outs and multi-vector attacks before major damage is done**

The Solution: INETCO Insight[®] for Payment Performance Monitoring, Payment Fraud Detection and Payment Analytics

BECU first partnered with INETCO to implement INETCO Insight for real-time performance monitoring of their ATM network in 2014. They expanded usage to include on-demand ATM analytics and a cash management data feed in 2015. BECU migrated from their in-house servers and application management to the INETCO Insight Cloud hosted solution in 2020. They also expanded their rules based alerts and machine learning capabilities to detect payment fraud attacks in milliseconds.

Working with INETCO, BECU now runs a Cloud-based, real-time transaction monitoring and analytics stack that includes:

- Lightweight data collection software to capture every ATM transaction in real-time — without performance impact or increased security risk
- Automated decoding and correlation capabilities to transform raw network data into complete transaction profiles for faster isolation of performance and security issues — anywhere on the end-to-end transaction path
- Machine learning models and a rules-based alerts engine to implement performance monitoring and payment fraud alerting, risk scoring and predictive behavioral forecasting
- Secure and scalable data storage to house rich transaction intelligence and other data sources
- On-demand analytics dashboards, an Open RESTful API query interface and data forwarding options to make transaction intelligence easily accessible to any application or organizational team who needs it

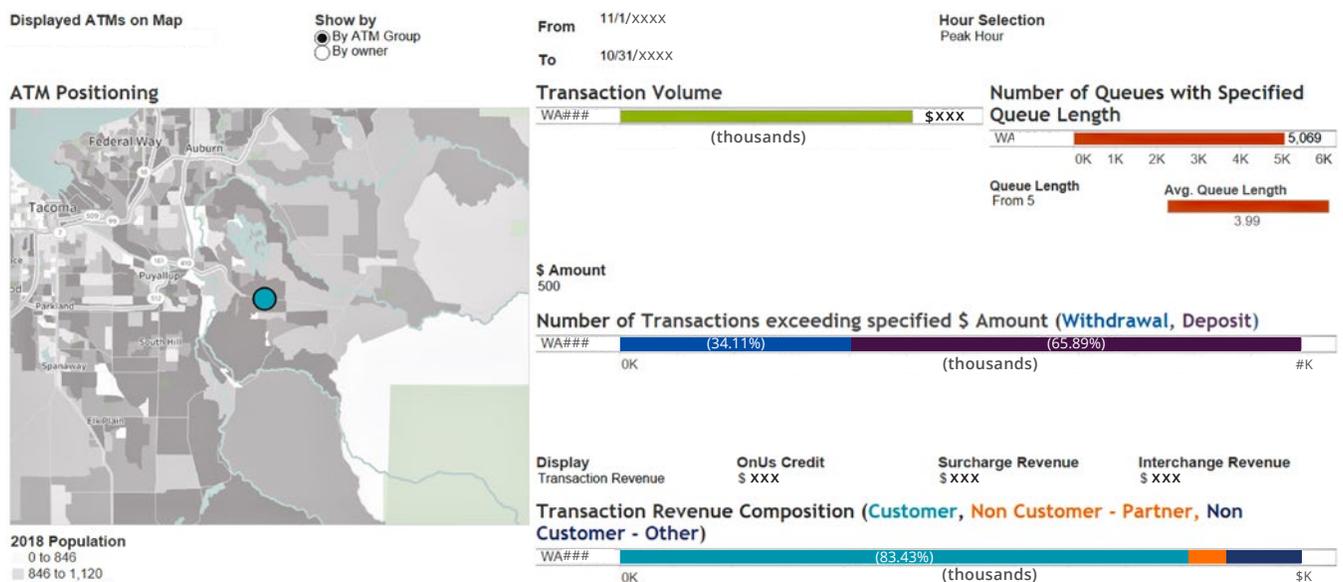
Optimizing transaction intelligence gathering across the entire ATM fleet

The INETCO Insight® real-time transaction monitoring and analytics platform is used by BECU to centralize the capture and decoding of all ATM transactions taking place between any of their ATMs and the [CO-OP Financial Services](#) payments switch. This real-time platform provides BECU's rules-based ATM fraud detection and performance monitoring alerts, cash management data feed, and on-demand ATM channel performance and member usage analytics.

Unique to INETCO Insight is the ability to decode both the network and the application-level payload information for transaction protocols that are specific to banking, such as NDC+. This gives BECU the ability to parse out all the various message fields, metadata, response/request timings and network communications information contained within every ATM transaction. Stored within a scalable Cloudera Hadoop database, BECU's channel management, cash management, fraud management and ATM operations teams now have access to a secure, centralized storage of "ready to analyze" data that contains valuable information such as:

- Withdrawal/deposit amounts
- Response and request timings
- Response codes
- Transaction status
- Terminal IDs

Required subsets of this rich intelligence are being forwarded to various applications of choice, such as the [Tableau®](#) analytics platform and the [CMS Analytics®](#) cash management solution.

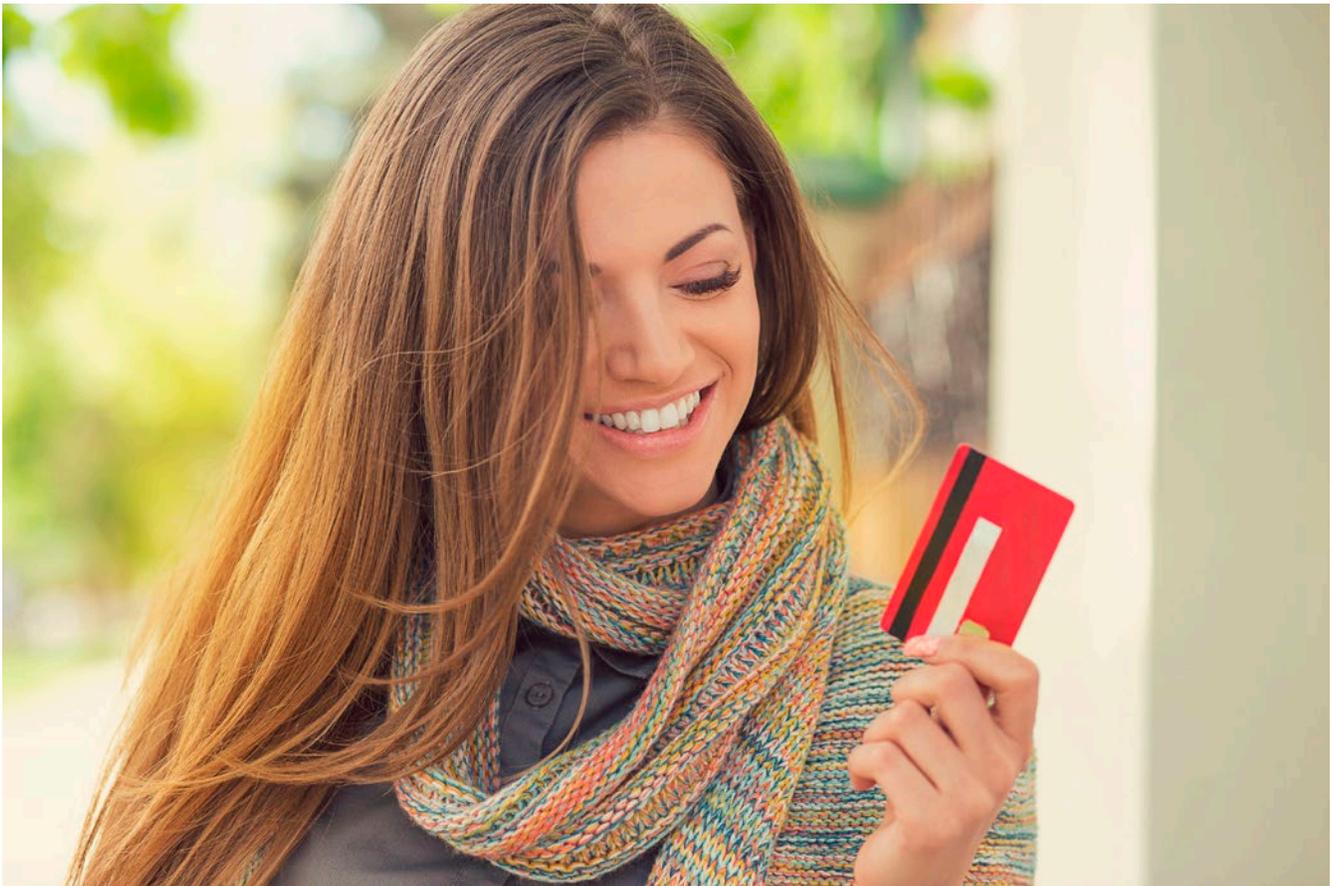


ATM Profile Dashboard Highlighting Peak Hour - This dynamic analytics dashboard provides BECU with an up-to-date breakdown of transaction activity and the overall revenue performance of any ATM within their fleet.

Speeding up detection of faults, ATM cash-outs and suspicious card activity

INETCO Insight also features searchable transaction logs and a real-time alerts engine that makes it easy for the ATM operations team to isolate the root cause of transaction slowdowns, failures and hard to detect faults, such as a lack of deposits or cash withdrawals for over two hours on a high volume ATM. In addition to threshold alerts, BECU's fraud management team can also customize rules and adaptive risk scoring algorithms to take immediate action against ATM cash-outs, multi-vector attacks and suspicious card activity such as:

- **Geographic distance between locations of back-to-back transactions on the same card that are not physically possible or likely**
- **A single withdrawal amount exceeds specified limits at an ATM**
- **Number or amount of withdrawals across the ATM fleet, or on a specific ATM, are abnormally high within a specified time frame**
- **Cards reported stolen are used, or there are too many mag stripe transactions at an ATM**
- **Cumulative withdrawal amounts or withdrawal rates in the ATM channel per card exceed threshold limits**
- **Any activity by individuals on the national security sanctions list**
- **Any activity from negative country lists**

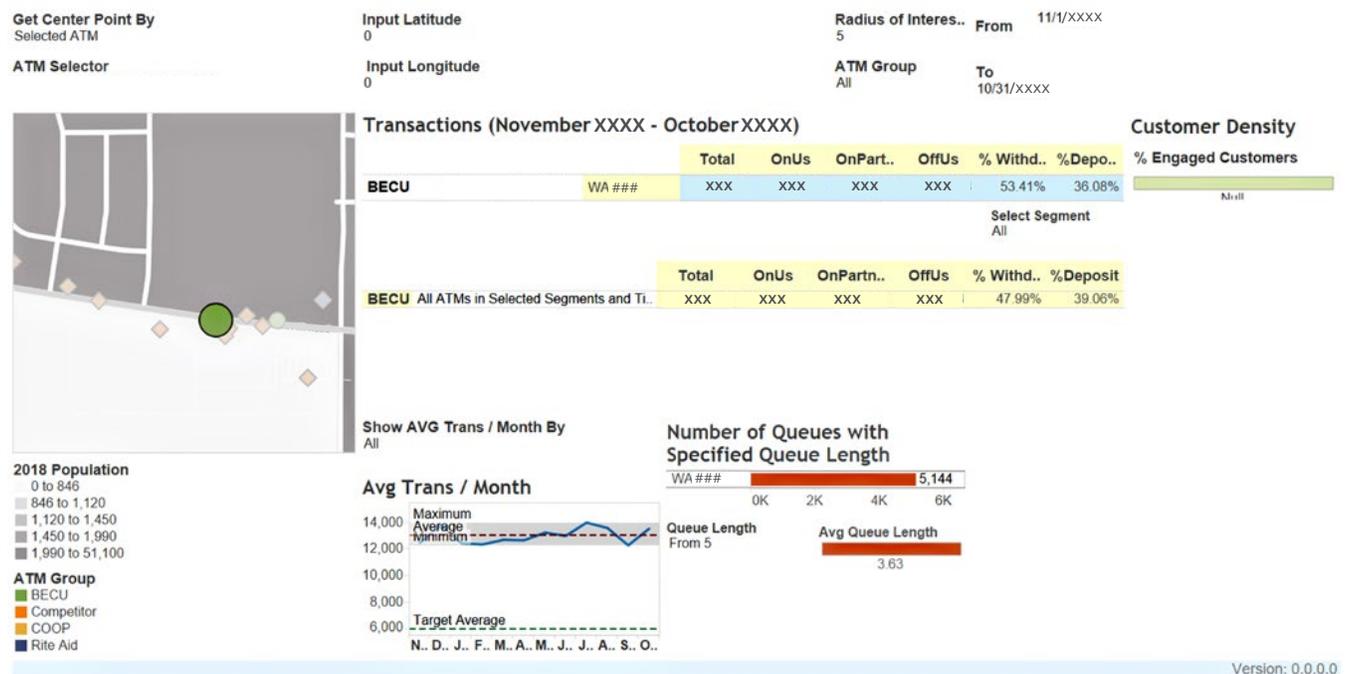


Driving ATM channel profitability, speeding up reporting cycles and delivering the best member experience possible

INETCO Insight for payment analytics is used by BECU's channel management team to analyze ATM transaction data and other complimentary data feeds (ie: BIN list data sets, ATM competitive device location data and demographic density data) in a timely way. Empowered by a user-friendly Tableau interface, INETCO has provided BECU with customized visualization dashboards that are updated on-demand and designed to help answer specific questions, such as:

- What services are members most likely to perform at the ATM?
- When are my members running into performance issues?
- What is the breakdown of transactions on each ATM (i.e. On Us, CO-OP, foreign)?
- Which ATMs have too much, or not enough, cash?
- Where should I place my next ATM? Which leases make sense to renew?

Machine learning and predictive algorithms designed specifically for ATM channel analytics are leveraged by BECU to gain real-time, actionable insights on things such as current ATM member queue lengths, predicted channel revenue, cash forecasting, and transaction risk scoring. This is helping to drive operational efficiency, increase security and meet member needs and expectations through improved responsiveness and proactive decision making.

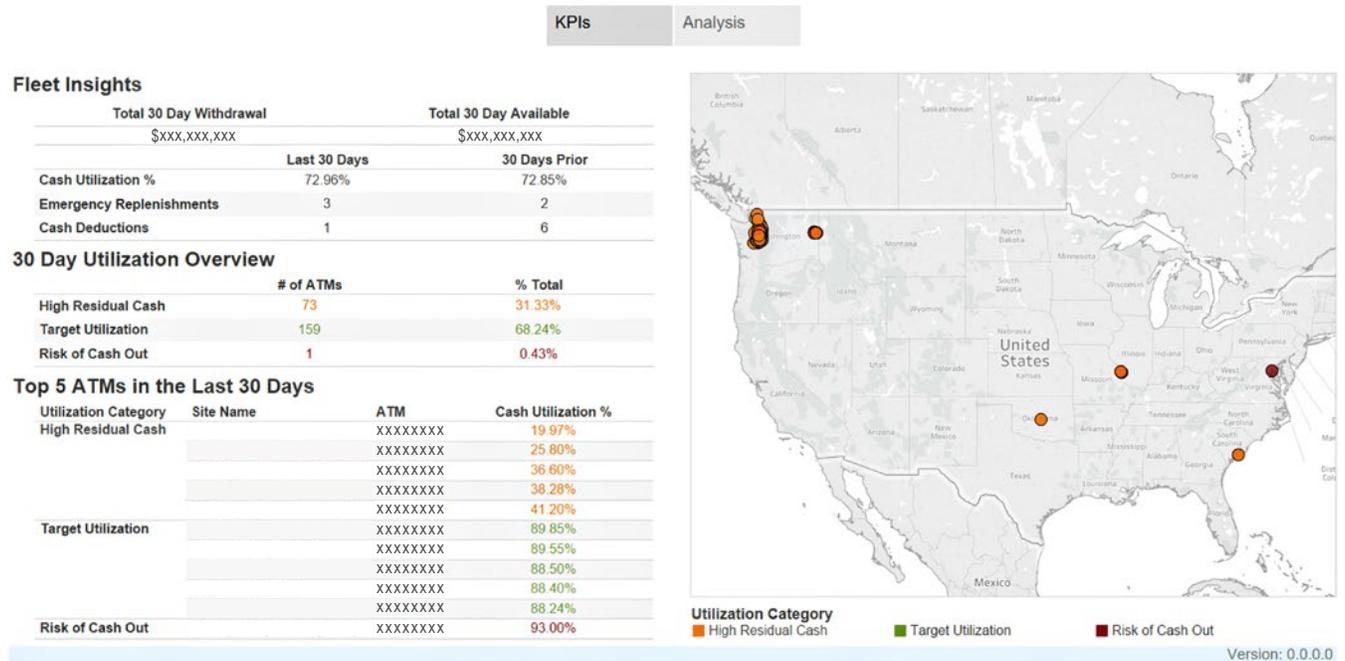


ATM Placement Dashboard - This dynamic analytics dashboard has helped BECU to reduce the decision making process around where to place new ATMs, or move existing ATMs, from 8-10 hours down to 2-4 hours.

Utilizing trusted, actionable transaction intelligence for cash management

As BECU believes in providing their members with the best possible experience, they offer advanced ATM prompts which include various cash denomination withdrawal options. Accurate cash forecasting and replenishment of every ATM is essential to ensuring uninterrupted member service and building ongoing loyalty. Robust transaction data forwarded from INETCO Insight to the CMS Analytics cash management system on a daily basis helps BECU to:

- Improve cash forecasting, down to the bill denomination level at each ATM
- Perform replenishment scheduling with greater accuracy to reduce ATM cash-out scenarios
- Monitor cash flow levels at each ATM and move closer towards the goal of 80% cash utilization



Cash Utilization and KPIs Dashboard - This dynamic analytics dashboard gives BECU a one-stop view into how cash is being utilized at every ATM. They can quickly identify which ATMs have high residual cash, and which are at risk of cash-out situations.

“Understanding the member experience is of paramount importance to BECU. INETCO’s real-time transaction monitoring and analytics solution effectively shrinks our member transaction data gathering and analysis time from weeks down to minutes — which allows us to make decisions based on timely and comprehensive cardholder analytics.”

SHIRLEY TAYLOR, DIGITAL PRODUCT MANAGER, PRODUCT MANAGEMENT AND DEVELOPMENT AT BECU

The Business Impact

INETCO Insight is helping BECU to:

- **Deliver an exceptional member experience through a deepened understanding of ATM usage and improved responsiveness** — Achieved a 78.9% ATM Net Promoter Score and a 9.28 ATM satisfaction score in 2019
- **Reduce cash replenishment costs** — Striving for 80% cash utilization at each ATM
- **Make better ATM placement and lease renewal decisions** — 75-88% faster
- **Detect suspicious card activity, ATM cash-outs and multi-vector attacks** — Before major damage is done
- **Ensure BECU’s infrastructure is efficient and easily scalable** — Implement a Cloud-based solution to reduce cost-to-serve and maximize operational agility

Below is a quick summary of the differences in reporting before and after the implementation of the INETCO Insight transaction monitoring and analytics solution. BECU has been able to increase the speed of data gathering and reduce the resource time involved in reporting processes by 50-88%, depending on the task:

REPORTING & ANALYTICS	TIME PRIOR TO INETCO INSIGHT	ESTIMATED TIME WITH INETCO INSIGHT	TIME SAVINGS
Add or Place ATM Analysis	8 - 10 hours	2 - 4 hours	60-75%
ATM Lease Renewal Analysis	4+ hours per ATM	30 - 60 minutes per ATM	75-88%
Cash Utilization	8 - 9 hours per week	TBD	88%
Internal Ad Hoc ATM Data Requests	1 - 2 hours	Average 15 - 30 minutes	50-88%
Member Inquiry/Requests	30 minutes	15 minutes	50%
Determine ATM Queues at Individual ATMs, Branches or Channel	Manual at each ATM/location 8+ hours & manual analysis summary 12+ hours, dependent on scope	Average 15 minutes per ATM/location	69%

BECU continues to cultivate a data-driven culture that extends to multiple teams including ATM operations, channel, fraud and cash management. The Credit Union has increased member-value through an enhanced understanding of the member experience, and improved profitability through optimized placement of ATM devices, targeted service delivery offerings, and the real-time screening of every transaction from both a performance and fraud perspective — all from one platform.

For more information, contact insight@inetco.com