



Agent based monitoring & management of financial self-service terminals

Advantages over Switch Based Terminal Management & Monitoring

Introduction

Automated Teller Machines (ATM) and other Self Service Terminals have gained widespread global acceptance as a convenient channel to facilitate financial transactions. However, Financial Institutions (FIs) and private ATM deployers face a continuous challenge in minimizing the downtime of their self-service network and providing the best possible service to their customers. Next to the branch offices, self service network comes second in the line of contact with customers. Hence, it is all the more important to maintain the uptime and to ensure availability of the self-service channel. For improved customer engagement, banks need to ensure high ATM availability and a positive user experience. However, the complexity of ATM operations and maintenance is a major challenge to the banks with a growing multi-vendor ATM fleet and its geographical distribution of sites compounds the problem. Moreover, banks face the daunting challenge of dealing with multiple parties, the ATM Original Equipment Manufacturers (OEMs) on one hand and Cash Replenishment Agencies (CRAs) on the other hand across onsite and off site ATMs. Typically banks either use a disparate set of tools or manually engage in the ATM management activities like ATM configuration, remote administration, electronic journal retrieval, reconciliation, cash level reporting, terminal monitoring and reporting, replenishment of supplies and incident management. This approach leads to many inefficiencies resulting in major operational challenges listed below.

- **Inconsistent ATM availability**
- **Revenue loss**
- **Negative customer experience**
- **Performance data vs maintenance activities being out of sync.**

Hence, it becomes essential to have an integrated ATM Management system which allows central management, configuration, monitoring and remote admin of the ATMs. A regular analysis of key performance metrics, triggering maintenance requests and on-time resource replenishment becomes key to the successful fulfillment of the self-service channel objectives. Real time monitoring of the self-service terminal and the capability to pinpoint the exact root cause of failure at a hardware component level would facilitate a quick response to down time. Before we jump into conclusions on how to address this problem, let us take a quick look at the widely used ATM deployment architecture. Over the years, there has been very little innovation on the terminal management side of Switch Host, because the Switch Host vendor's priority and primary revenue stream has been alongside its primary functions. Hence, there is a huge gap between what is required and what is met in terms of terminal management and monitoring capabilities. Let us look at what is the actual requirement and how a specialized Terminal management solution will address the gap.



Primary functions of Switch Host include

- Transaction acquiring, routing, EMV processing and authorization
- Support multiple transaction types and bill payments
- Multi-financial institution processing of card and non-card transactions
- Securing transactions with TDES, MAC and key distribution
- Card Management and Customer Management
- Transaction Charges / Fee management / Reconciliation / Fraud Management

Traditionally, the Switch Host application vendor's focus of development and innovation has always been around its primary functionalities listed above and tuning them towards generating additional revenue through value added transaction types. In addition, the Switch Host has a Terminal management module that drives the transactions on ATM terminals.

Terminal Management functions of Switch Host are limited to

- ATM screen transition work flow based on card bins
- Multi-language display screens and receipt print text content
- Cash position and other supply maintenance
- Problem reports of device malfunction
- TDES key exchange for PIN encryption
- Electronic Journal recovery



Top 6 Reasons why you may need a Specialized Terminal Management Solution

1. Dispute Resolution Process is too long

Consider a customer raising a dispute pertaining to his ATM transaction. The first level support officer may receive this complaint and provide a ticket ID. To resolve this dispute, the data points required by the second line support officer will be the following.

- ATM transaction journal
- Camera images

Does the second line support officer have access to these data points? Typically no. A request to fetch this data will be submitted to the ATM back office team. The back office team would take anywhere between a day or two to fetch these details. The transaction journal record provides vital information about the point of failure. However, the journal record is not always the silver bullet, there could be innumerable reasons behind the transaction failure.

- It could be a simple network timeout issue somewhere between the complex sub-systems of transaction processors leading to non-reversal of transaction
- It could be an ATM cash presenter malfunction which can be spotted if one has access to the cash slot camera images of the transaction
- It could be a transaction performed by a fraudster using a cloned card which can be spotted using the ATM surveillance videos

Imagine, the second line support officer having instant access to the journal record and transaction images, majority of the disputes can be resolved in less than an hour's time. However, does your Switch Host provide instant access to transaction journal record and transaction images? No Switch Host provides real time access to transaction journals and images. Only a specialized terminal management solution will give you instant and real time access to journals and on-demand fetching of transaction images from the ATMs. Imagine, the second line support officer having instant access to the device level failure record of the transaction. The Switch Host typically provides superficial details on device level failures. However, the CEN-XFS technology on which the ATM device architecture is built, gives full access to the device level failure details. CEN-XFS's failure notifications of device malfunction can be harnessed on the terminal by a resident agent on the ATM. A Switch Host does not have any agent architecture. Only a specialized terminal management solution will give you instant and real time access to hardware failure notifications of the CEN-XFS model through its agent-based architecture.

2. Switch Host has no idea what happened on an ATM when it was offline

When an ATM loses connection with the switch host, it goes Offline. And the switch host is kept blind on what happens during the offline period. There could be multiple configuration changes, multiple admin entries and exits, multiple peripheral status changes, etc. These changes could prove to be vital to be reviewed in case of a dispute or for debugging. However, switch host protocol ignores such sequence of changes and only is bothered about the current status of peripherals. On the contrary, an agent based monitoring approach will ensure no such data is lost. The agent resides on the ATM and is recording all events irrespective of ATM being online or offline.

3. Key Performance Indicator (KPI) Monitoring of the self-service channel is absent

Most Switch Host vendors do not provide a KPI performance dashboard of your self service channel. There is no well-defined set of measurement mechanisms of these KPIs. FIs are now interested in performance measurement of their channels. So, there is a need for a specialized terminal management system which allows FIs to define their own KPIs and a customized dashboard of channel performance

4. Performance Improvement Plan is not facilitated with the right tools

Continuous performance monitoring of the KPIs, week after week, will tell you if your ever evolving self service network is working at its optimal best. In order to make this happen, a system which can collect KPI data and produce custom visual dashboards of week-over-week, month-over-month performance metrics and allow detection of performance degrade is not only a necessity but

a must-have mechanism for serious FIs looking to optimize the Return On Investment (ROI) of their self-service channel. Interface to ticketing systems and measurement of SLAs with respect to service and maintenance of the self-service network is of very high importance to ensure optimal performance. A pivot report of component failure patterns will give a sense of exactly where the “time, effort and cost” is spent on the servicing and maintenance activity. This indication can prompt FIs and ATM deployers to attack the top pain points which contribute to maximum downtime.

5. Cash Replenishment and Cash Forecasting Systems are obsolete

FIs are forced to work with non-standard interface access to cash position data. Cash position data is provided by the Switch Host and the same needs to be sent to CRA. Most FIs have a spreadsheet based system to collate this data and have no automated means to notify CRAs about critical replenishments. Many FIs typically require a customized cash forecasting system that give priority to cash replenishment on high transacting terminals. Further, typical systems lack measurement of downtime due to supply shortage. A different kind of Service Level Agreement (SLA) is need for CRAs to enable them to function at their optimum so that the end customer is never left disappointed with cash starved ATMs.

6. Terminal Software is not up to date, posing security threats

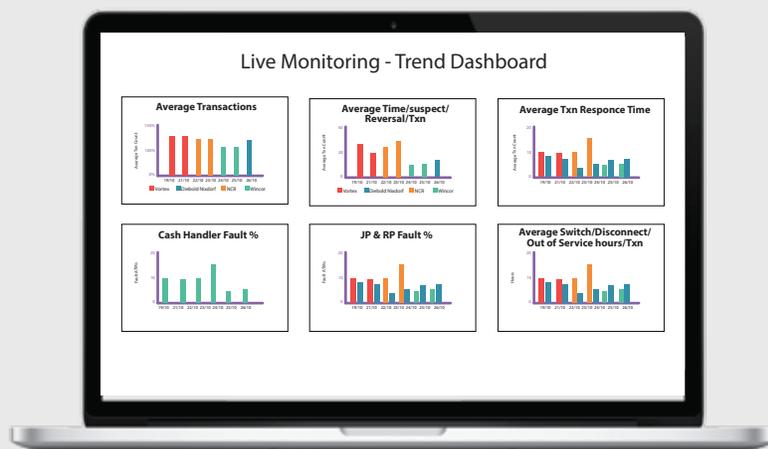
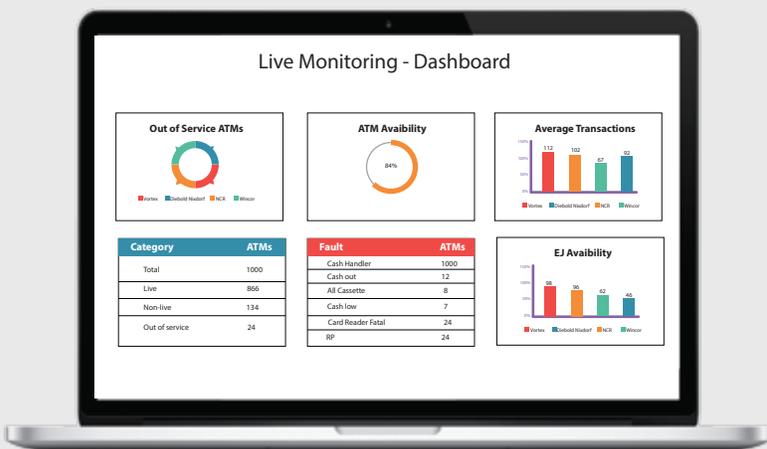
It is not the core functionality of the Switch Host to ensure that the self-service terminals are up to date with respect to software patches. A separate centralized software distribution tool is required to ensure that the complete fleet of self-service terminals are well patched to keep up with the security threat landscape. An agent based architecture is necessary to enable an efficient roll out of patches.



Vortex offers Perfo[®] - a centralized, integrated, multi-vendor enterprise-class self-service terminal management solution that does everything that is required to keep your ATM / Self Service channel performing at its best.



A complete financial self service terminal management solution



Perfo[®] is a central monitoring solution which interacts with intelligent Perfo[®] agents on the terminal to facilitate real time access to terminal failures. Perfo[®] agents facilitate a quicker response time to problem resolution. The Perfo[®] Agent does a multi-faceted monitoring of terminal performance. It monitors hardware faults, software faults, system faults and transaction faults. A local correlation of multiple faults is done by the Perfo[®] Agent and an immediate notification is sent to the Perfo[®] Server.

Across the developed world, financial institutions and ATM deployers are looking to maximize their ROI of their ATM channel, rather than expanding their ATM estates. It is critical to have an efficient and integrated monitoring solution which gives you a big picture view of the key performance indicators and react quickly to KPI breach.

How does Vortex Perfo[®] address the top 6 concerns

1. Dispute Resolution Process is too long

Perfo[®] offers instant and real time access to electronic journal records and surveillance images through a web interface. The same web interface can be given access to branch offices and even to first and second level support officers however with limited and pointed privileges, thus facilitating a quick instant access to the data points which would help in quick redressal of customer disputes. In addition, the same interface will provide insights into system hardware failures, which will help support officers make a wiser decision.

2. Switch Host has no idea what happened on an ATM when it was offline

When an ATM loses connection with the switch host, it goes offline. An agent based monitoring approach will ensure no events are lost during this offline period. The agent resides on the ATM and is recording all events irrespective of whether the ATM is online or offline. After the ATM agent regains connection with the server, the recorded events during the offline period are uploaded to the server. Thus, the server does not miss any event that happens on the ATM. This continuity of information is vital for traceability & dispute resolution.

3. KPI Monitoring of the self-service channel is absent

Vortex having immense experience in research, design, development and deployment of self-service terminals across the globe and Vortex's experience with top FIs and ATM operators gives ourselves a great advantage in understanding the pain points of running a self-service channel at its optimum performance levels. Vortex continues to harness the gained knowledge into the making of Perfo[®], a complete financial self-service terminal management solution. This knowledge has helped us build concise KPI dashboards and performance monitors which our customers have acknowledged and put to good use in improving the self-service channel performance and uptime.

4. Performance Improvement Plan is not facilitated with the right tools

Vortex's immense experience in building technology & software products for the ATM industry over the years of inception and the whole process of industrializing the product performance has given us a lot of learnings which we continue to incorporate into the Perfo[®] product. The performance dashboards and KPI measurements and its progress reports facilitate FIs with the essential toolkit to keep a watch on the self-service channel objectives. Vortex also believes that each FI and each ATM operator has its own pain points to be identified, measured, quantified and addressed over a period of time. To facilitate this process of continuous improvement, Vortex offers customization programs where we make custom dashboards with custom KPIs. Vortex believes in understanding customer needs and providing the right targeted solutions to customer pain points.

5. Cash Replenishment and Cash Forecasting Systems are obsolete

This is really a grey area where each FI and each ATM operator has come up with its own set of disparate tools to manage the show. There is quite a lot of innovation waiting to happen in this area. Do get in touch for ideas and tools.

6. Terminal Software is not up to date, posing security threats

Perfo[®] comes with an inbuilt software distribution module which can push updates to the terminals and provide you with real time status of roll outs and compliance.

Why Vortex?

Vortex Engineering Private Limited is an innovative and leading provider of Automated Teller Machines (ATMs) and associated services for banks. With the mission of helping banks reach out and having pioneered ATMs for deployment even in the most difficult and challenging environments, Vortex offers a suite of services for ATM management. With a strong foundation built on years of R&D, a steady focus on self-service banking products for emerging markets, Vortex is now changing the face of banking with its new rugged and reliable range of ATMs. Vortex ATMs are designed, developed and manufactured in India. Operating out of its manufacturing facilities in Chennai, Vortex's ISO-certified manufacturing facilities enable the company to bring out a range of top-notch products such as Ecoteller[®] Mini, Front Load & Rear Load ATM. Aply complementing this infrastructure are its service centres that deliver support with the most comprehensive tools for predictive maintenance. Vortex ATMs are deployed in several countries in Asia and Africa having 5000+ installations globally.



Connect with us today

Email: marketing@vortexindia.co.in

