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WHY AREN'T YOUR CUSTOMERS HAPPY?

Using Business Performance Analytics across Business Processes to Align Service Assurance with Customer Experience

An Executive Brief
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Lavastorm Analytics

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USING BUSINESS PERFORMANCE ANALYTICS ACROSS BUSINESS PROCESSES TO ALIGN SERVICE ASSURANCE WITH CUSTOMER EXPERIENCE

INTRODUCTION

If the network is assumed and products are commoditized, the only differentiator is customer experience.

In the new connected economy, communication products will be sold based on quality and performance, not connectivity. Using a handset, television, automobile, meter or any sort of device we can imagine—customers expect to be connected. Networks and network operators have crossed a threshold from delivering unique, innovative technology to that of delivering necessary infrastructure. No longer content just to be connected, customers expect higher levels of performance, reliability and quality than ever before. If the network is assumed and products are commoditized, the only differentiator is customer experience relative to product offerings, sales, service delivery, usability, quality, and support. The result is that Communication Service Providers (CSPs) really will have to begin focusing on the customer—not because it seems like a good idea, but because the business absolutely demands it.

Much of that focus, to date, has been on collecting data. Data from the network, the OSS/BSS, the contact center, and the customer are all required to understand what each customer is experiencing. However, that data is often inconsistent, inaccurate and unreliable, so where is the value? How is the data being used? How can the data be used? What metrics matter? Customer experience management is not about collecting data, but using it to understand how a customer is interacting with the provider, what is working, what isn't, and how to fix the problem.

The sheer volume of customers, services, and infrastructure requires that CSPs break up operational processes into manageable parts. Originally, extensive manual processes were divided up to deliver isolated functionality (e.g. billing, CRM, provisioning, network management). Putting those processes back together is required to move CSPs forward in this new competitive marketplace, and that takes more than automation and integration—it requires management. Monitoring of processes and performance provides insight that leads to better customer interaction, better service delivery, and better support.

Lack of technology and automation created functional separation within CSP operations, and the industry has steadily added technology and automation within those functional areas, but that's gone as far as it can. The goal now must be to implement a framework that focuses on managing the integration of business processes and data such that each function is aligned with the customer.

This paper will define a data-driven framework for OSS/BSS service assurance across business functions, from the customer to the core of the network. To deliver on the promise of that framework, a data discovery-based audit analytics solution will be featured that enables CSPs to understand customer activity throughout the complete customer lifecycle—from first contact until the final transaction—and deliver an exceptional customer experience.

BECOMING A BETTER PROVIDER

Service Assurance at the business process layer is the way that CSPs maintain a quality customer experience. Most customers have limited interaction with their CSP once activated, so the critical customer touch point becomes use of the products, connectivity, and applications. Each time a customer uses the service, the experience should be reliable and of high quality. That is the standard that the industry has established for its customers. Network, service, and customer challenges are jeopardizing that standard, and CSPs must respond to continue to deliver the quality experience that customers have come to expect. While ensuring the health and performance of the connections remains a critical function of Service Assurance, there is now so much more for operations personnel to worry about that new business requirements are emerging, including:

- **Correlated and Continuous Monitoring** – CSPs need to develop metrics to trace the performance of individual product offerings and customer configurations, inclusive of multiple network/IT element, service, application, and device data points. The volume and variety of data sources is exploding, and layers of virtualization make data collection and correlation increasingly complex. Operational data needs to be linked more closely with NPS (Net Promoter Score) data and the discovery of operational enhancements that will drive NPS improvement.

- **Applied Automation** – The increase in the number and variety of network elements, product offerings, and customer configurations being managed by CSPs has resulted in the need for intelligent end-to-end automation to reduce the burden on technicians, engineers, and contact center staff as they respond to faults and restore service.

- **Multi-tenant Visibility** – As connectivity is embedded in more and more devices, each enterprise customer requires a view into its virtual network and related services. CSPs are required to analyze mountains of data to gather those bits required to calculate metrics associated with individual enterprises and service level agreements.

- **Scalability** – Where scalability has typically been associated with the number of customers being served, it now must also reflect the number of product

offerings. Hundreds of products offered to millions of customers increases the volume of events by orders of magnitude, and severely complicates efforts to correlate relevant data.

- **Accuracy** – CSPs regularly report that important data sources (e.g. inventory, CRM) are inconsistent and unreliable. The quality of data received from any of a variety of sources is often questionable and CSPs must validate the quality of data acquired from multiple sources to make it useful for service assurance and customer experience management.

- **Cost** – While attention to cost is not a new business requirement, pressure is greater than ever before to understand and control both investment costs and cost of ownership. In addition to the network, costs for systems, support, technical expertise, integration, product development and partner management are skyrocketing.

The ability to correlate status and performance data to a service level is clearly important to CSPs. Implementing a common framework to collect and correlate the data required to create that view is essential to evolving CSP operations and support strategies.

FRAMING THE CUSTOMER EXPERIENCE

Operational transformation for CSPs will not happen overnight. CSPs recognize that existing systems and data represent large investments and complex integrations that are very nearly impossible to replace en masse. Existing systems and data will remain part of CSP operations for the foreseeable future requiring optimization of critical processes using any available source. An analytic platform framework is needed that federates and rationalizes critical data from individual network/IT elements, services, and customers to track and measure the customer lifecycle from end-to-end. Alignment with business rules and metrics is critical for ensuring an optimal customer experience and delivering promised levels of service (e.g. SLAs). For CSP customers, the lifecycle starts with the definition of products and offers and continues throughout the life of the account, as shown in Figure 1.

Figure 1: Customer Lifecycle
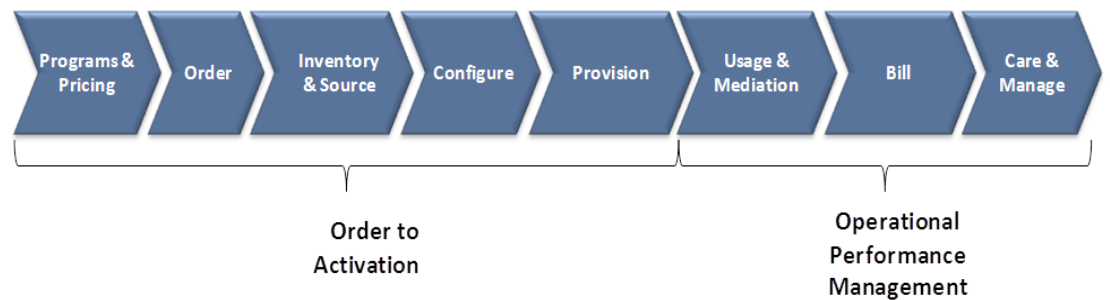
Source: Lavastorm Analytics

As networks converge to all-IP infrastructure, CSPs will be differentiated based on a customer's ability to access new products and services, activate them, and reliably use those services without interruption or error. Fundamentally, the data required to ensure end-to-end service assurance is the same as that required for end-to-end fulfillment. The sources and data are the same—it's the processes that are unique.

It would make sense, then, that CSPs use the same data and interfaces to assure service delivery that are used for fulfillment tasks, rather than implement new systems and inventories. However, that has not been the practice. Fulfillment and assurance solutions are typically procured and installed separately, with separate data bases and interfaces, requiring complex and costly development and integration. By aligning the order-to-activation and operational performance management processes and reusing data and interfaces, CSPs can optimize their use of existing systems and data to improve accuracy, reduce costs, and improve the customer experience. A single, adaptive analytical framework that creates a seamless view of the customer and measures the service quality within the flow of the business process minimizes customer exposure to faults and reduces support costs.

By aligning the Order-to-Activation and Performance Management processes using discovery based analytics, CSPs can optimize their use of existing systems and data to improve accuracy, reduce costs, and improve the customer experience.
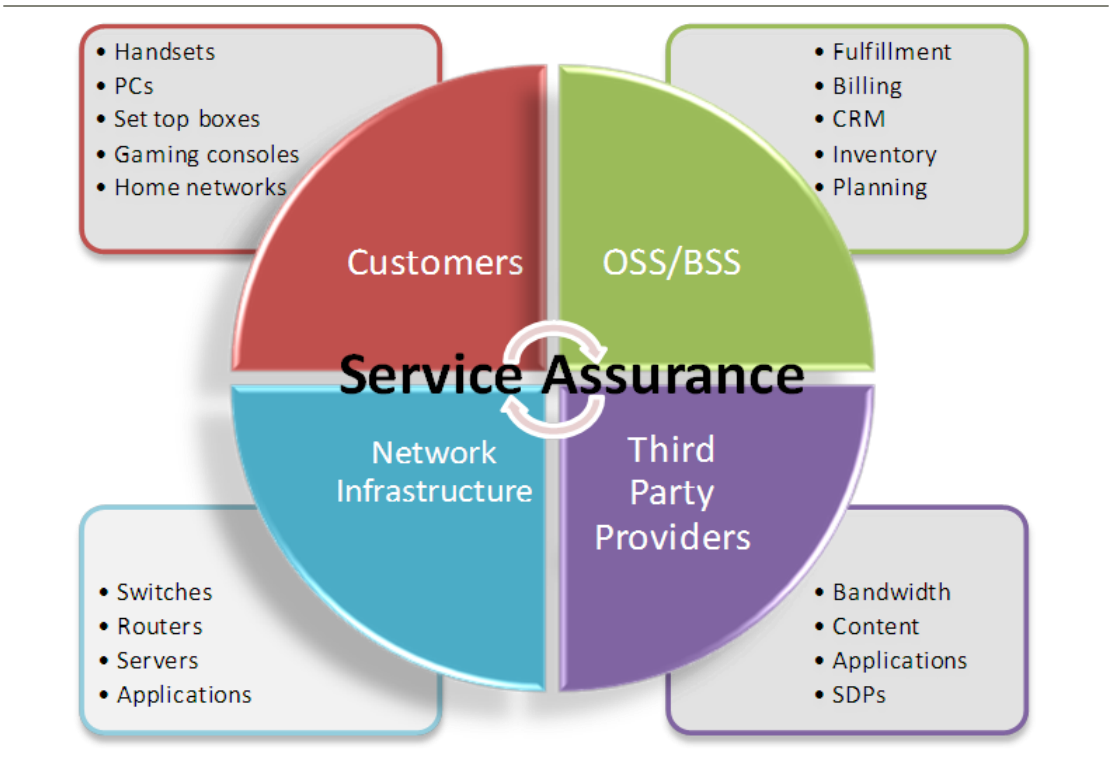
A Data Storm is Brewing

The size and complexity of the network has increased exponentially. In parallel, the volume and variety of services has exploded putting strain on the OSS/BSS. Hundreds of new services are being offered, fuelled by cloud technology, for dozens of devices that are no longer restricted to a common access infrastructure. Servers, databases, and applications have joined optical switches and routers as critical network elements. CSPs also have to manage traffic from third party bandwidth and content providers, as well as the intelligent devices in customers' hands and homes. And yet, regardless of the source of a problem, the service provider will be blamed for any failure. As shown in Figure 2 below, Service Assurance includes the collection and correlation of status and performance data from all directions to determine the quality of service delivered to a customer.

Technology advances over the past several years are enabling CSPs to evolve from traditional suppliers of separate, network-dependent services into retailers delivering converged services running over converged networks. That convergence, while creating transport efficiencies and enabling the launch of a plethora of new products, comes with significant operational challenges. CSPs recognize that responding to customer demands for product innovation requires a data-driven operational strategy that delivers timely, accurate information to users across the business, while maintaining the high standards of quality that customers demand.

Figure 2: Data Sources

- Handsets
- PCs
- Set top boxes
- Gaming consoles
- Home networks

- Fulfillment
- Billing
- CRM
- Inventory
- Planning

Customers

OSS/BSS

Service Assurance

Network Infrastructure

Third Party Providers

- Switches
- Routers
- Servers
- Applications

- Bandwidth
- Content
- Applications
- SDPs

Source: Stratecast

CASE STUDY: TRACKING THE CUSTOMER FROM ORDER-TO-CASH

As the result of numerous mergers and acquisitions, this North American CSP was left facing a mix of legacy and convergent systems that were manually integrated and operated. The number of customer-affecting problems involving order management and service delivery were increasing. Both issues were impacting revenue performance and frustrating customers as the number of delivery errors and delays continued to climb. Specifically, the CSP was challenged to:

- Collect and use heterogeneous data from multiple sources for analysis

- Expand business logic across multiple operating processes to create and enforce rules

- Understand where in the process rules were violated or avoided

- Obtain event-level fault, performance and configuration data for root cause analysis and problem support

As the number of truck rolls grew at a rate greater than the number of customer additions, quality control was needed. The CSP wanted daily analysis of the end-to-end

processes to identify where problems were occurring and where improvements could be made.

The Solution

The CSP followed the Lavastorm Agile Analytics methodology from Lavastorm Analytics, to determine what data was needed, analyze the data, address business rules, and deliver the metrics to responsible parties, as shown in Figure 3.

**Figure 3: Lavastorm Agile Analytics Methodology**
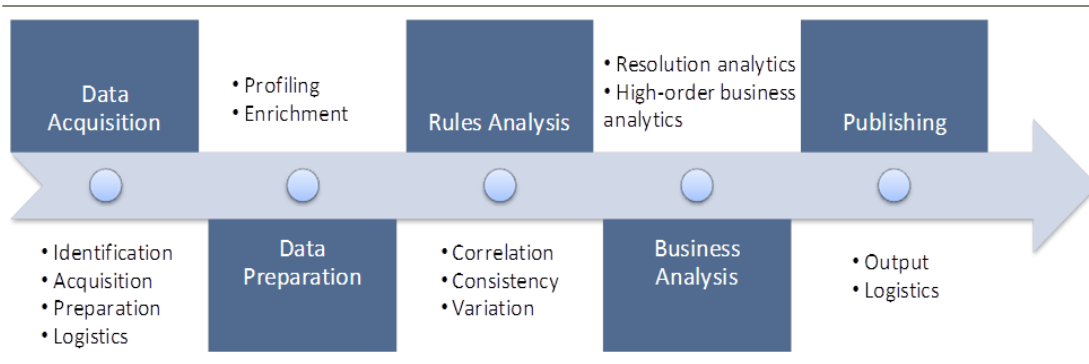
Source: Lavastorm Analytics

The Lavastorm Analytic Platform was implemented to mimic operational processes and workflow, and provide daily analysis of each process, utilizing data from existing systems to monitor quality and uncover problems. Using the methodology and tools from Lavastorm Analytics, the CSP was able to monitor the right metrics at the right intervals and present findings to management. Monitoring the process provides daily dashboards to measure due dates and status of orders, as each is processed, as well as the quality of orders captured by front-line personnel.

Data is being federated and analyzed from more than 15 sources. Business rules were captured from workshops with CSP specialists to build the data and contextual logic rules that analytics needed to pinpoint problem areas. These analytics were converted into automated controls as each stage in the customer lifecycle was studied, providing immediate value in advance of the entire end-to-end solution deployment. In addition to the identification of problem areas, Lavastorm analysis included a detailed view of the problem to facilitate more complete and accurate root cause analysis, which leads to better support and lower costs. The logical structure of the Lavastorm Analytic Platform is shown in Figure 4 below.

Figure 4: Lavastorm Analytic Platform
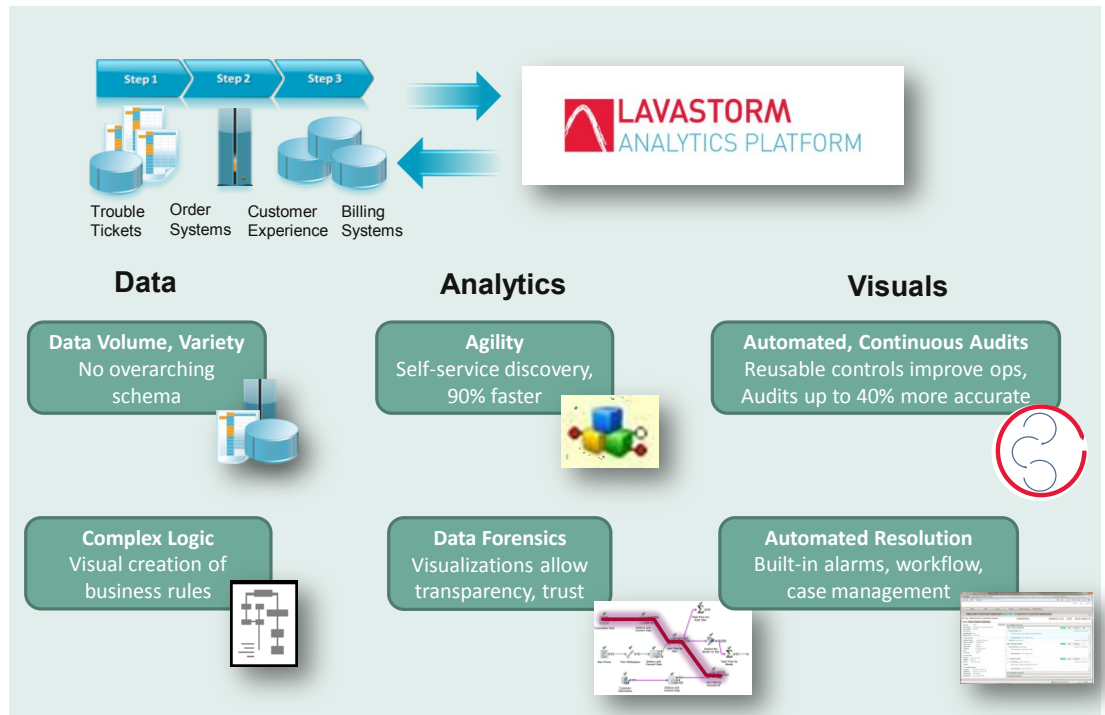
The results were rapid and revealing. Each critical process is being measured end-to-end, and analysis includes specific metrics regarding:

- Where the work comes from – orders, changes, problems

- How much the work costs – resources, time, staffing

- Root cause analysis – daily results to understand impact and missed targets

- SLA management – validation of performance and response

The solution was rapidly implemented and the costs associated with service delivery have dramatically declined, while customer perception has steadily improved.

CSPs are spending a lot of time, effort, and resources to deliver new products to market quickly and cost effectively, but success and profitability will ultimately be determined by how well those products work when customers use them. Globally, customer support costs are skyrocketing. The costs of delivering high-bandwidth data services combined with the costs to support those new services are overwhelming increases in service revenues. Service assurance across converged networks and services is the key to reducing costs and providing a better customer experience. The costs to CSPs of not having tools that deliver an end-to-end view of service assurance increases the time spent on support calls, as well as the frustration of users, causing them to abandon revenue generating services and, ultimately, churn. An approach that uses advanced

analytics to understand existing data and identify shortcomings in existing processes presents CSPs with valuable data in a timely manner and enables rapid response to problems, while ensuring that the customer is satisfied.

CASE STUDY:
FROM CLICK-TO-CUSTOMER – ENSURING ORDER ACCURACY

In today's competitive market for communication services, customers can literally pick and choose from a menu of products including equipment, services, features, and functions. They select handsets, offers, bundles, optional features, and pricing plans from across CSP lines of business. Customers also have a larger say in offer policies including parental controls, mixing prepaid and postpaid services across multiple users in an account, or access to high-bandwidth sites and gaming. All these choices often confuse order management processes and increase the probability of error in the ordering process. As a result, this CSP experienced:

- Valid orders that were incorrect because validation rules from billing were incompatible with ordering

- Customer service representatives were incentivized to favor expediency over accuracy

- Large order volumes that were difficult to analyze for errors using random sampling

- Incomplete and inaccurate manual order checking

The issue became a CEO-level priority; but without a view into the relevant data associated with the ordering and fulfillment processes, no decisive action was possible. As a result, the CSP engaged Lavastorm Analytics to compile actionable data quickly and accurately.

The Solution

Using the Lavastorm Analytics Platform including the Lavastorm Resolution Center, the CSP was able to replace the manual methods and processes that were in use with an automated toolset that tracked every order—not just a sampling—to accurately identify inconsistencies and order errors. Forty-five automated controls were implemented to understand the performance of the ordering process and identify errors. In addition to operational inconsistencies, the tools subsequently unearthed training and process issues that were negatively affecting the ordering process and undermining CSR effectiveness. As shown in Figure 5 below, even as the volume of orders skyrocketed, the number of errors did not.

Figure 5: CSP Order Accuracy

Source: Lavastrom Analytics

By implementing tools that formalize the collection and reporting of accurate metrics, the CSP has minimized the number of order errors, improved customer satisfaction, and reduced costs from unnecessary truck rolls and maintenance calls. The visibility provided by the Lavastorm Analytic Platform solutions enables the CSP to better manage offers and more rapidly introduce promotions and pricing that meet market demands. Better performance by work groups and fewer defects ripple through the organization and further improve responsiveness to customers.

Stratecast
The Last Word

Transformation means that CSPs will compete based on products and quality, not connectivity. Customers care about performance, availability and reliability—quality. When the network was the product, managing network quality satisfied the customer. Now, connectivity is only part of the product; so, in addition to the network, connected products require that CSPs monitor and manage infinitely more touch points to please the customer. From the introduction of a product through ordering, fulfillment, and utilization of that product, buyers expect quality at every point in the customer lifecycle.

Customers will be driven to buy based on device and application choice rather than network loyalty, and driven away by inadequate offerings, inflexible product and pricing plans, inaccurate activation, poor performance and incompetent support. Ensuring an optimum customer experience requires an accurate audit of each operating process that delivers actionable metrics and points to the root cause of detected problems.

Process changes are especially risky for CSPs since many have not focused on process in the past, and are unprepared to engage in the type of overarching analysis and mapping required to define an entirely new process. Existing functions are so embedded in the culture and operations of CSP businesses that it becomes very difficult to step out of the tactical world and suddenly become strategic. But analysis and mapping are critical to customer satisfaction and future success. The availability of analytics tools, like those from Lavastorm, that can quickly assess existing processes, identify deficiencies, and point to a business performance improvement solution, give CSP leadership an accurate understanding of operational effectiveness and where improvement is needed. Discovery-based audit analytics also enable operational improvements to be linked to NPS (Net Promoter Score) by highlighting where operations teams need to focus in order to drive NPS. This closes the loop on not just gaining an understanding of what customer perception is, but where performance improvements are needed and how to make them, which will positively impact NPS.

For CSPs, customer experience management and cost management are not mutually exclusive. Every action that improves the customer experience will ultimately improve the bottom line.

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