



www.pipelinepub.com Volume 4, Issue 3

If You Could Know Everything, What Would You Want to Know About Your Customer Self-Service Applications?

by Rick Schmaltz

The convergence process happening in telecommunications, based on the proven IT infrastructure and the power of IP over broadband or wireless, is promising to flood the market with the new exciting services, and potentially to deliver those long-awaited new revenues. Business models based on GPS, IPTV, micro payments, integrated home, etc., have been so widely publicized and advertised that it is already hard for providers to differentiate on features. In fact, many major operators have promised or are already delivering many of the next generation services, proving that there is little impossible left in this converged high-speed multi-media world of communications. What seems to be much harder is making customers happy with the overall service beyond the features. It has been shown over and over again that customers are constantly re-evaluating new and existing services at the level of order management, service provisioning and fulfillment, and customer service and support before they even get to the actual service. Let's look at some new and existing approaches and technologies that are now required to secure the peak performance and availability of the customer-facing functions of the new services. There are several factors that require operators to approach the problem differently:

Luring customers to use self-service interfaces is becoming critical to business feasibility of the new services. Due to highly distributed revenue sharing models and the number of involved parties, the margins are growing low. Operators cannot afford expensive contact centers to service customers who generate small revenues but in large numbers. This is why self-service is not a matter of convenience or extra savings, but an essential element of new business models;

Customer experience is becoming increasingly based on automated interfaces that don't involve humans as touch points with a customer. When a customer interacts with a self-service portal there is little information available on the quality of the customer's experience. The same is true for contract-based interactions with partners (content providers, etc.). With all the automated customer self-service and partner gateways, it's becoming absolutely essential to monitor in real time the actual customer experience, and to detect problems before customers start leaving or partner SLAs are violated. Both result in losses and extra costs.

New converged services are executed as software transactions spanning across standards-based IT components like application or Web servers, message busses, and databases. Specifically, service provisioning and activation is looking more like automated business processes that only touch the network in few specific points of their execution, and do this through standards-based enablers. Since every activation or provisioning transaction is potentially revenue-generating, it's important to assure the highest success rate of these transactions, as well as the performance of the overall process from the customer's perspective.

Let's take a closer look at customer self-service. A survey commissioned by *Network World Magazine* found that a staggering 72.6 percent of performance problems with CSS applications are alerted via end-user calls. To avoid this, operators need to deploy real-time, proactive monitoring of the self-service interface performance and availability, so they can assess quality of service and the customer experience before customers start complaining or leaving. These monitoring solutions should be deployed proactively as opposed to being emergency measures. They should monitor real transactions and customer interaction as opposed to synthetic artificial transactions. And, they should do it in real time when transactions happen, not when the load is quiet. And, such solutions should be able to monitor the end-to-end path of customer transactions, from the Web-based interface, through multiple involved OSS/BSS applications and infrastructure, and to the back-end databases, integration adaptors, and network enablers.

Here are two examples of real-world deployment of pro-active monitoring for customer self-service. The first one is a production deployment at a major US-based operator.

One major wireless provider with over 12 million customers in the United States launched a calling plan that enables its customers make unlimited calls to a number of destinations regardless of what carrier network the numbers belong to. Customers were able to make edits to their numbers through a Web application which handled over 300,000 updates a month.

To ensure optimal application performance, the carrier's IT teams used customer experience management solution to analyze historical customer transaction data and identified that some customers were receiving error messages and not reporting them to customer service. Nearly 3,000 times per day, users were experiencing defects after attempting to save new numbers in their account.

After reviewing the data captured by CEM, the IT team identified the root-cause of the defective transactions - a logic error was causing customers to receive an incorrect error response when updating their selected numbers. In over 50% of these transactions, the application successfully updated the customer account, but still generated an error message to the user - which resulted in customers attempting to update their accounts multiple times.

Based on the success with the program, the carrier expanded their CEM deployment to monitor other mission-critical customer-facing Web applications and business-to-business applications. Overall, the CEM now monitors and records an average of 250,000 transactions per day while introducing zero system overhead.

One example of continuous improvement reporting occurred after a business analyst reviewed CEM data for an application that allowed resellers to add a new line of service to existing customer accounts. This application was processing an average of 40 thousand requests per month – which was lower than the projected transaction volume.

An investigation showed that an error in the application was disabling the “add new line of service” button for some customers because of the way their account was configured. After modifying the application to ensure consistent performance, transaction volume increased 400% to an average of 200,000 per month.

By preventing availability and performance issues from reaching the customer, operators can enjoy the full benefits of moving customer interactions to self-service channels. The financial benefits come from higher revenue through self-service channels, reduced operating costs, and more effective and efficient IT operations. High-quality self-service also drives qualitative benefits including improved customer satisfaction and retention, positive word-of-mouth, and enhancement of the company’s brand image. IT organizations responsible for performance management see improved employee morale and lower turnover when they are equipped with the right tools.

One area where new self-service portals are becoming increasingly critical is automated provisioning and activation of services. The speed of service activation impacts customer satisfaction and can capture revenue at a time when the user is most eager to start downloading content and conducting transactions.

Unlike the network-based provisioning of traditional voice services, which involved primarily OSS processes for provisioning and fulfillment, the activation of converged services takes place predominantly within a software environment – through Web or device portals, inside the SDP and IMS, and through integration to OSS/BSS systems like billing, CRM, etc., and to third-party content and service providers. If any of these areas encounter performance issues or outages, customers will – at best – turn to more expensive interaction channels (i.e. live phone and email) to request service. Alternately, they will either postpone the service order (thus postponing revenue-producing activity), or abandon it altogether and turn to a competitor.

Are there any standards or reference architectures operators could look at to better understand how to leverage the new approaches for service quality assurance, or even use as baseline implementation? Gladly, there is one.

Our second example is coming from TeleManagement Forum (TMF). While not a commercial implementation, TMF’s Catalyst project “Accelerating VoIP and IMS Services” (AVIS) is included in TMF proposal for standard reference architecture for automated provisioning of VoIP services. Let’s look at a very real case of customer self-service that involves a complex case of one-touch service activation and provisioning.

At TeleManagement World conference in December 2006, a group of vendors had

demonstrated a working environment that allowed a self-service-based configuration, ordering, and provisioning of a VoIP service based on IMS infrastructure. The architecture included an ordering portal, a provisioning engine, an IMS-based infrastructure, and billing and accounting interfaces – thus presenting a good case for reference architecture for VoIP system based on commercial, off-the-shelf components from major vendors.

The unique feature of this system, however, was the inclusion of a proactive, real-time, end-to-end application performance monitoring and customer experience management solutions. The entire process of service ordering to provisioning was assured by monitoring the portal and customer experience on it and, once the service was ordered, of the entire provisioning process executed by the provisioning and activation engine –all the way to the IMS network enablers. Any degradation of quality of self-service, or decreased transaction success rate, was immediately detected and could be analyzed. The system not only reported on the QoS violations or performance slow downs, but also provided deep visibility into the involved software layers, allowing quick triaging and potential fixing of the problem.

The bottom line:

Assuring the top customer experience and performance of customer-facing interfaces requires real-time, deep application performance monitoring and customer experience management solutions. Deploying these solutions proactively helps assure the new revenue streams and lowers the risks of deployment of new services.

If you have news you'd like to share with Pipeline, contact us at editor@pipelinepub.com.