

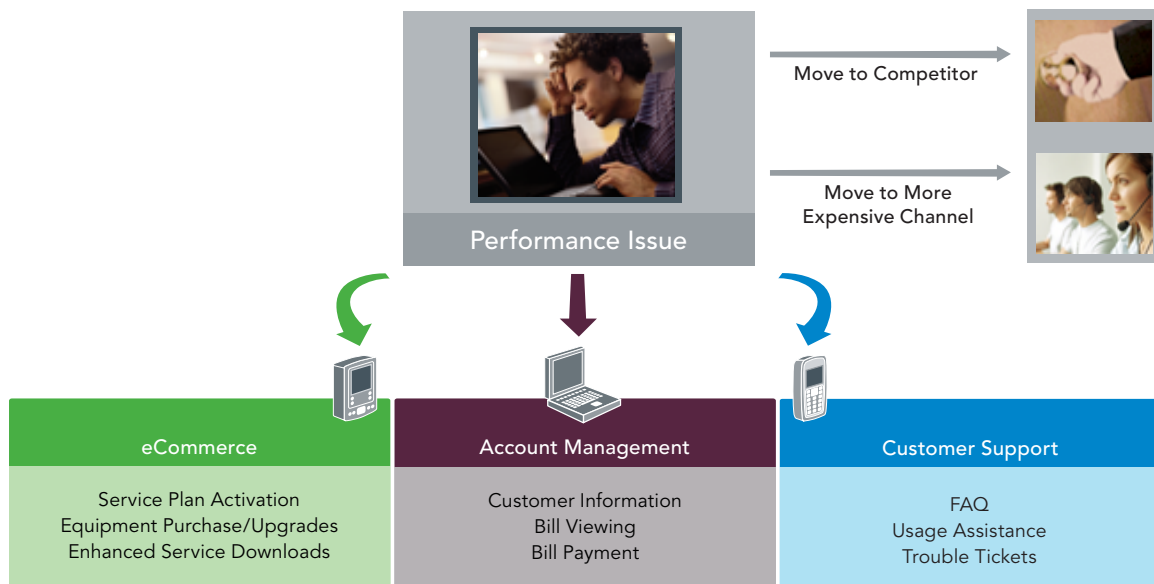
Assuring High Quality of Customer Self-Service with Wily Application Performance Management



Summary

Telecommunications service providers (CSP) have adopted customer self-service (CSS) as a means to reduce operating cost and improve customer experience. Many subscribers now rely on self-service channels for anywhere, anytime interaction with communication service providers for tasks ranging from service activation and equipment purchases, to account management, bill payment, and support. While this broad and growing adoption creates significant savings, it also drives a slew of new challenges to providing high-quality, reliable customer service. Those CSPs who can ensure highly available and responsive self-service stand to benefit from million of dollars in preserved revenue and lower operating costs.

Web and mobile portals, back-end systems, and the interfaces between them must function at unprecedented levels of availability and performance. Systems that were once used only by employees are now exposed to end-customers who are less patient and less forgiving of performance glitches. While a well-functioning system enhances the customer experience, outages or even slow responsiveness quickly leads to revenue loss and increases customer attrition. According to a study by Jupiter Research, over 90% of high-value consumers (those with the highest spend) may defect based on just a single negative customer service experience.



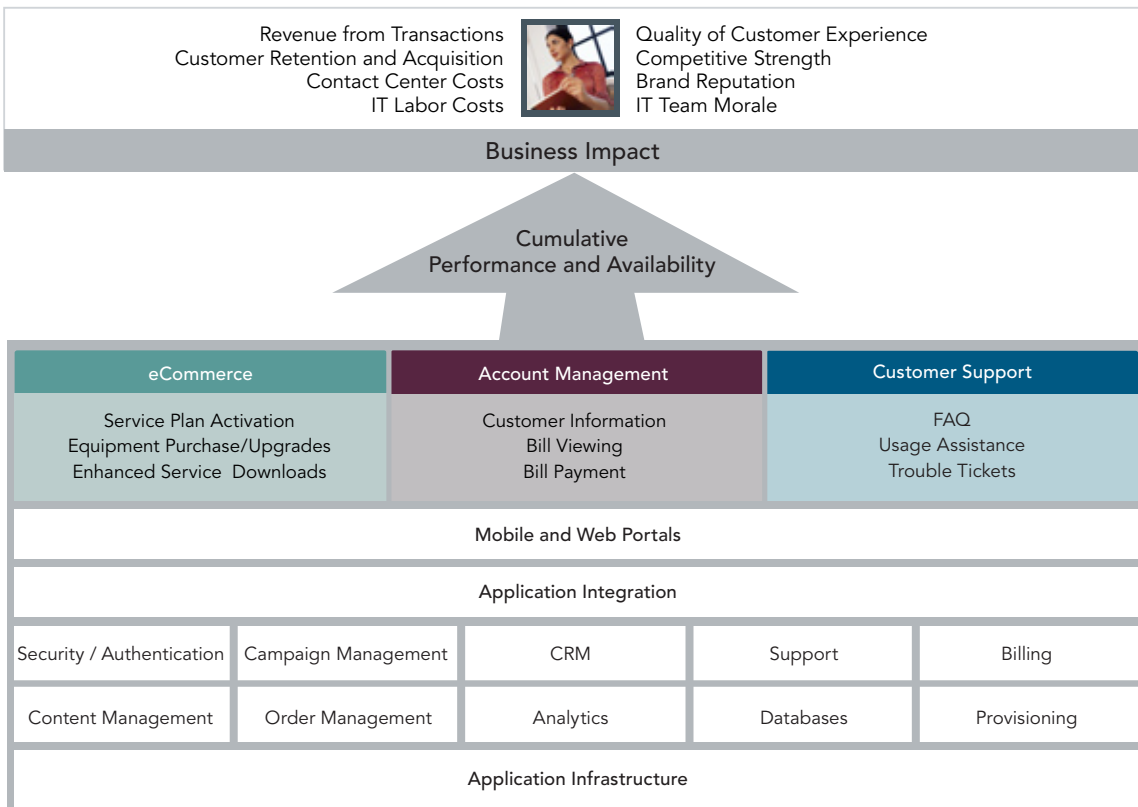
Customers who experience self-service issues are likely to move to live interaction, but some will defect completely.

The challenge of keeping customer-facing applications and BSS/OSS systems at top performance levels is magnified by growing complexity and volume of transactions. Sophisticated self-service transactions involve many IT components in each interaction, compounding small performance deficiencies in individual systems into issues acutely visible to the end-user. In addition, the volume of self-service transactions is swelling thanks to increasing user comfort with automated interaction and the proliferation of communication devices through which self-service is possible.

Unless meticulously managed, inadequate performance of self-service environments can produce results that are the exact opposite of the intended purpose. Customers frustrated with hung transactions and slow page loads generate costly call center inquiries, or switch to competing service providers. They also spread negative word of mouth, inhibiting new customer acquisition. The results are lost revenue, increased costs, and damage to the company's brand and reputation.

Improving Customer Experiences with Proactive Application Performance Management

Despite the difficulties, forward-thinking CSPs are implementing measures to proactively manage performance of CSS systems. To do so effectively, they need performance management technologies that are well-suited to monitor applications in production. In addition, the solution must aggregate real-time performance metrics, and provide alerts at the level of detail that allows IT groups to predict and avoid degradation in customer experiences. Unfortunately, few of the available products provide the visibility and control to pre-empt performance issues. In fact, 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.



Business benefits of customer self-service rely on performance and availability of a complex system architecture.

By preventing availability and performance issues from reaching the customer, CSPs 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. Wily customers have seen that the right application performance management and monitoring tools have a significant impact on the results of their CSS initiatives. The performance improvements they experienced are summarized here.

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Benefit	Improvement with Wily*
Reduction in performance issues that affect customers	75%
Reduction in time to isolate and resolve issue	60%

** Based on data from 10 Wily Telecommunication customers*

Improvements to key performance and availability metrics experienced by Wily customers deploying Wily Introscope® and/or Wily Customer Experience Manager™ products.

Wily Introscope® and Wily Customer Experience Manager™ products are uniquely able to provide a complete, real-time view of system performance and of the actual customer experience. Designed to monitor production systems in real time with the lowest overhead in the industry, Wily's products are ideal for ensuring that customers' self-service experience is positive. Customized, role-specific dashboards, and deep monitoring capabilities enable IT staff to function as a control room for optimizing performance and preempting issues, instead of an emergency room for resolving system outages and other critical situations.

Application Performance Management Must-Haves

To protect their customers from experiencing outages and delays, CSPs need to be able to:

- Proactively monitor the performance of customer-facing applications and their interfaces with back-end systems.
- Constantly monitor performance of systems in production, while adding minimal overhead.
- Understand customers' actual experiences of interacting with the CSS system.
- Monitor applications across multiple tiers as transactions are processed.
- Create early-warning flags about performance threats.
- Present performance data in ways that are actionable for audiences ranging from web application owners to middleware groups to customer care executives.
- When issues do arise, rapidly isolate and permanently resolve them. (This is possible only if every layer of the IT environment is being monitored closely enough to identify root causes of performance issues.)

Assessing the Business Impact of Application Performance Management

Based on the improvements observed at Wily customers, we've created an illustration of potential financial results for a sample CSP. We have based the assumptions on a small telecommunications company that offers self-service to consumers and enterprise customers. Its average monthly revenue per consumer user is \$150. Prior to deploying Wily application performance management tools, its applications performance levels are good, but not world-class. Assumptions about the sample telco are summarized below.

Assumptions for Illustration of Benefits	
<ul style="list-style-type: none"> • Total of 1 million subscribers • 1,000 transactions per hour and 425 revenue — generating transactions per hour • Average transaction value of \$35 • Average monthly revenue per subscriber \$150 	Starting Performance Metrics
	Self-service portal availability 99%
	Self-service portal performance 94%

Assumptions for financial benefits assessment of sample Telco.

The following sections demonstrate how improved availability and performance leads to:

- **Revenue enhancement** from additional on-line purchases and more retained customers
- **Cost savings** from avoided contact center activity and prevented SLA breaches
- **Improvements in IT efficiency** as IT personnel spend less time firefighting outages

The benefits are based exclusively on two impacts of application performance management: improvement to performance and availability of the self-service environment, which includes performance of the customer facing portals, and the interfaces to back-end OSS and BSS systems, and faster and more permanent resolution of outages and performance issues.

Revenue Enhancement

When CSPs are able to improve availability of their CSS portal and supporting applications, they impact revenue in several ways:

1. Additional hours of portal availability enable more revenue-producing transactions, including:
 - Additional new service subscriptions
 - Additional downloads and activations of data or converged services
 - More equipment purchases and upgrades
2. Improved portal performance prevents the above transactions from being timed out by the system or abandoned by the customer. Faster page loads keep the customer engaged and moving towards check-out.
3. Lower customer attrition and the acquisition of additional new subscribers enables the CSP to capture revenue over the entire lifecycle of these retained customers (the table below includes only a single year of revenue for these retained customers in our calculation).

Inputs	Assumptions	Benefits		
		Pessimistic	Expected	Possible
Reduction in availability and performance issues seen by customers		50%	75%	90%
Accelerated resolution of remaining issues		30%	60%	90%
Transaction Revenue				
Revenue-generating transactions / hour	425			
Average value per transaction ¹	\$35			
Annual downtime (99% availability)	95 hours			
Transactions lost due to outages	40,000			
Annual hours of poor portal response (94% performance)	570 hours			
Percent transactions timed out / abandoned due to poor performance	25%			
Transactions lost due to poor performance	60,000			
Value of lost transactions	\$3,555,000			
Transactions saved from reduced outages and performance issues		50,400	75,500	90,700
Transactions saved from faster issue resolution		20,000	15,000	9,000
Value of All Saved Transactions		\$2,490,000	\$3,200,000	\$3,520,000
Revenue from Customer Retention				
Percent of customers defecting due to poor ordering experience	20%			
Annual lost new consumer subscriptions due to outages	905			
Percent of customers who abandon transaction if portal is slow	5%			
Annual lost new subscriptions due to poor performance	1,400			
Average annual revenue per subscriber (consumer)	\$1,800			
Additional customers kept / acquired		1,200	1,800	2,100
Annual revenue from customers retained		\$2,133,000	\$3,200,000	\$3,840,000
Total Revenue Impact		\$4,623,000	\$6,400,000	\$7,360,000

1. Transaction types: Core service activation, equipment purchase and upgrades, data service activation and usage

Sample annual revenue increase from application performance monitoring.

Cost Avoidance

In addition to increasing revenue from a better-performing CSS system, reduced outages, faster response, and accelerated issue resolution save millions of dollars in costs.

1. Reduced outages keep customers on-line, and avoid the interactions from moving to more costly call center and email channels.
2. Ability to proactively manage the quality of customer service against SLA's and quickly eliminate breaches ensures that commitments made to enterprise customers are met, and reduces SLA penalties.

Keeping more customer interactions automated also enables CSPs to rapidly scale customer service around fast-growing areas of their business, like VOIP, IPTV, and other converged multimedia services.

Inputs	Assumptions	Benefits		
		Pessimistic	Expected	Possible
Contact Center Costs Avoided				
Cost of a call center contact	\$10			
Cost of an email contact	\$3			
Customers who call contact center if portal unavailable	30%			
Customers who call contact center if portal is slow	10%			
Percent of customers who email if portal is slow	20%			
Calls per year due to outages and performance issues	85,000			
Cost of calls resulting from outages and performance issues	\$853,200			
Calls prevented through improved availability and performance		43,000	64,000	77,000
Emails per year due to outages and performance issues	114,000			
Cost of emails from outages and performance issues	\$340,000			
Emails prevented through improved availability and performance		57,000	85,000	102,000
Prevented Contact Center Costs		\$597,000	\$896,000	\$1,075,000
Enterprise Customer SLA Costs Avoided				
Number of customer service quality SLA breaches / year	12			
Breaches / year with Wily		1	3	6
Cost per SLA breach	\$100,000			
Cost per breach with Wily		\$60,000	\$40,000	\$10,000
Prevented SLA Penalties		\$840,000	\$1,080,000	\$1,188,000
Total Cost Savings		\$1,437,000	\$1,976,000	\$2,263,000

Sample annual costs savings from application performance monitoring.

Beyond the Numbers

Customers evaluate providers on their complete end-to-end experience. That experience includes not only actual delivery of communication, data, and media services, but also the delivery of high-quality customer service. In addition to hard financial results, a well-functioning self-service capability benefits the CSP in ways that are less quantifiable but at least as significant:

- **Customer Satisfaction** — With so many interactions being handled through self-service channels, the systems become the company's face to the customer, and determine the quality of the customer's experience.
- **Company Reputation** — The CSPs ability to provide high-quality service creates the reputation for a well-executing, high-quality provider, while service glitches and portal outages create exactly the opposite image and drive away prospective subscribers and investors.
- **Morale of Customer-Facing and IT Employees** — Employees who must frequently respond to frustrated customers or who often work in firefighting mode to resolve outages experience lower morale and higher turnover. Leveraging application performance management tools eliminates most of these frustrations, according to Wily customers.

IT Productivity Gains

Wily application performance management tools empower IT organizations with unprecedented visibility and control for the complete application ecosystem. Instead of waiting for issues to arise, IT staff can see detailed, real-time telemetry of application behavior and address threats early. In addition, they are able to immediately isolate issues that do arise. Application owners empowered with data about the problem's root cause can focus on issue resolution, rather than losing precious hours in cross-departmental meetings simply trying to find the responsible party. The efforts and costs currently spent firefighting can result in bottom-line savings, or more likely, be re-applied to strategic IT initiatives that further enhance technology capabilities.

Inputs	Assumptions	Benefits		
		Pessimistic	Expected	Possible
IT Staff Productivity				
Self-service portal outage hours per year at 98% availability	95			
Hours of degraded portal performance per year at 94% performance	569			
IT personnel involved in reacting to and isolating self-service system issues	15			
Person-hours / year reactively isolating performance issues and outages	9,950			
Hours saved from accelerated problem isolation and resolution		3,982	5,972	8,959
Hourly cost per staff member	\$150			
Annual Staff Productivity Savings		\$597,000	\$896,000	\$1,344,000

Sample annual improvement in IT efficiency from application performance monitoring.

Conclusion

While each CSPs situation is different, the link between enhanced performance of subscriber self-service applications and infrastructure is clear. A more available, better-performing self-service environment increases the number of revenue-generating transactions and reduces customer service and SLA costs. Even for smaller CSPs, the financial return on an investment into a robust application performance management solution can run into many millions of dollars, as illustrated by our sample calculation.

Revenue Enhancement	\$6,400,000
Cost Savings	\$1,976,000
IT Productivity Gains	\$896,000
Total Benefits of Enhanced Application Performance	\$9,272,000

Sample total benefits of application performance management.

To drive adoption among users and achieve cost reduction goals, automated transactions must be convenient and seamless. By implementing proactive performance management tools that enable deep real-time monitoring of in-production customer self-service systems, CSPs can assure they meet their objectives and commitments for performance and availability levels. Those goals in turn enable CSS initiatives to advance the telco's business objectives of revenue growth, customer retention, and cost reduction.

About Wily Technology

Wily is the market-leading provider of Enterprise Application Management solutions. Wily's Telecommunications Business Unit provides performance management software for Java based service delivery platforms, subscriber services, business processes and related OSS/BSS infrastructure. By providing end-to-end visibility into customer transactions in real-time, Wily's products enable companies to successfully manage the health and availability of their critical applications and infrastructure. Wily's collaborative management approach allows enterprises to rapidly detect and diagnose application slowdowns and failures, and better assess the impact of application performance on business success.

This means better customer service, more stable revenue streams, and higher IT productivity. Wily Technology is a division of CA's Business Service Optimization (BSO) unit, which offers leading systems for service, asset and change management and provides a comprehensive framework for delivery of world-class IT services. To learn more about CA's Wily Technology Division, visit <http://www.wilytech.com> or call 1 888 GET WILY.

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