

# Tracs

Multi-Service Strategies  
Mandate New Approach  
To Service Assurance



**SaskTel**   
*International*



# Multi-Service Strategies Mandate New Approach To Service Assurance



## Table of Contents

<b>Introduction</b> .....	3
<b>The Intensifying Service Assurance Conundrum</b> .....	4
Long Call Durations .....	4
Impediments to Proactive Customer Care.....	5
Inadequate Feedback to Customers .....	5
Inefficiencies in Staff Management.....	6
<b>A Comprehensive Service Assurance Solution</b> .....	7
Maximizing Efficiency through Customization .....	8
Facilitating Quick Action on Tickets.....	11
<b>Conclusion</b> .....	13



## Introduction

As service providers strive to keep pace with market demand for ever more services their biggest challenge is to ensure they don't lose ground in the competition to improve customer service.

The ability to sustain high levels of customer satisfaction as more services come on line is essential to minimizing customer churn and to maximizing ROI on investments in service expansion. This means service providers must avoid the impediments to efficient customer care that come with merely expanding on their legacy service-specific approaches to service assurance.

The obvious solution to this challenge lies with implementing an integrated services approach to customer service that streamlines and integrates processes across all service categories, allowing CSRs to manage all trouble calls through a single user interface. This is a tall order that has now been met by SaskTel International with introduction of the latest version of its TRACS service assurance platform.

Without waiting to achieve full service convergence, service providers can now position their customer service work force to treat voice, broadband, TV, wireless and all types of enterprise services from a converged perspective in any core or access network environment, including copper, fiber, CDMA, UMTS, GSM, WiMAX, Wi-Fi, Ethernet, DSL, DOCSIS, ATM and other platforms. TRACS, a Java EE-based solution, ties together all the relevant back office elements, workforce management systems, network operations records and trouble ticket histories in real time to provide customer service reps instant access to the information they need to address a customer's needs, no matter what type of service the customer is calling about.

By pulling all stages of the trouble ticket reporting and response processes into a single system, service providers can establish a customer service environment that will allow them to continually add new categories of service, new tiers and new applications without losing ground in their ability to maintain customer satisfaction. In fact, the tight integration and automation of processes intrinsic to TRACS ensures service providers will always have the means to continually improve customer service even as they expand the service portfolio.



## The Intensifying Service Assurance Conundrum

In a market where meeting demand for new services has been the top priority, service providers have managed to aggressively expand their service portfolios without spending time and money on massive back-office integration projects and other major adjustments to their organizations and work-flow processes. Where all-new service categories have emerged, they've found it easier to build new divisions with their own OSS, BSS and customer service operations. At the same time, they've taken steps to ensure that the processes within existing service units are streamlined as much as possible to accommodate faster provisioning of new service components, applications, tiers and packages.

While it's widely acknowledged that this "silo'd" approach to operations must eventually give way to a more efficient end-to-end operations environment that ties together all network, back office, customer service and other elements, the costs and complexities of such undertakings have been too daunting for most service providers in a competitive market where a weak economy has added to the restrictions on capital budgets. But when it comes to service assurance and the need to not only sustain but improve customer service in all these service categories, the risks of maintaining the status quo are now too big to ignore.

Several problem areas, taken as a whole, point up just how much is at stake.

### Long Call Durations

For example, service providers are discovering the time consumed per service call and, with it, customer irritation over the delays, is rising rapidly. Customer service reps have to spend valuable time going to the specific service assurance platform related to a particular caller's complaint, often without sufficient visibility into other events in that caller's service location that might help the rep to identify a possible cause and to learn whether action on that problem is already underway. If the customer is calling about more than one service, the representative has to spend time accessing multiple service assurance platforms to address the customer's queries, further adding to the delays.

Frequently, the data readily available to customer service reps within a given service category don't provide a sufficiently detailed picture of the customer's service profile because the platform in use wasn't designed to communicate nuances such as varying levels of service quality guarantees, applications-based service enhancements, information about different



types of premises devices or throughput levels on high-speed data tiers. In such instances the service rep must access billing and installation records or rely on customer's answers to questions in order to understand how serious the problem is in the context of the actual service profile and to ascertain what the target parameters for trouble ticket resolution should be.

### **Impediments to Proactive Customer Care**

Service providers are also finding that the absence of real-time integration between service assurance platforms and other elements such as workforce management, facility management systems and external knowledge bases creates a multitude of impediments to customer satisfaction. Such constraints prevent the service assurance system from becoming the service provider's first line of proactive defense against customer dissatisfaction.

For example, as network performance monitoring technologies become more sophisticated, service providers are able to mine data generated by such systems in order to more easily pinpoint sources of problems that are generating complaints. But they need a service assurance platform that can routinely aggregate and analyze such data so that when certain thresholds are reached or pre-defined patterns are generated over time the system can produce alarms and trouble tickets that lead to remedial action before customers start calling. In the case of enterprise customers with service level agreements, the system should be able to access and routinely monitor all the data records that pertain to validating that the terms of service level agreements are met and to generate alarms when they're not.

And the service assurance system should provide CSRs a view into such automated monitoring and tracking systems so that the rep can check to see whether the cause for a caller's complaint has already been identified and is being worked on. This saves costs on the time consumed by calls and builds customer confidence in the service provider's operational prowess.

### **Inadequate Feedback to Customers**

A common cause for customer irritation occurs when someone calls in after an initial complaint to determine what the status on a trouble ticket is and the service rep cannot provide specific information other than the original time of repair estimate. Service providers could significantly improve the customer's experience during the repair cycle if the service assurance platform could interface with workforce management systems to generate up-to-date information on whatever field action is underway, rather than waiting for a final report to be generated from technicians back to the customer care center.



### **Inefficiencies in Staff Management**

Another problem service providers encounter is under staffing of work groups at moments when call volumes are unusually high because of an outage or other issues that impact a large number of customers. They could avoid such problems if their service assurance system allowed managers to monitor call trends across different work groups so that they could order more people on the job in instances where the call volumes were starting to escalate.

Service providers also need to minimize the hassles associated with setting up new customer care work groups as they add new services. Today, if they draw people from existing work groups to form new ones, those people frequently must learn a whole new approach to service assurance and customer care based on whatever templates are brought into play for the new service category.

The transition would be much smoother if all work groups were tied into a single service assurance platform, obviating the need to learn new ones with every new service initiative. Indeed, the implementation of a consistent tool set will make it much easier for service providers to consolidate departments and eliminate service silos as they migrate to full service convergence.



## A Comprehensive Service Assurance Solution

SaskTel's new TRACS service assurance platform addresses all the issues discussed above and many more as well. By serving as the single touch point across all services, TRACS reduces the costs of adding new services, speeds troubleshooting and repairs and saves time and money at the point of customer contact.

TRACS was built from the ground up using Java EE coding, which has become the industry standard for implementing service-oriented architecture (SOA) and next-generation Web applications. The platform was designed and thoroughly tested in the real-world quadruple-play operating environment of Canada's Saskatchewan Telecommunications, the provincial incumbent telecom and parent of SaskTel International. Employing TRACS, the carrier has now fully integrated its service assurance processes across voice, data, IPTV and mobile services to address the needs of consumer and enterprise customers alike.

This multi-service efficiency is possible because TRACS is able to access all the pertinent information compiled in OSS and BSS systems across the service provider's entire enterprise, thereby enabling real-time access to service profiles, trouble and repair records, current network repair activities and much else. All of this information is displayed through a simple-to-use interface the CSR employs to address and trigger action on all queries from all types of customers regarding any type of service.

TRACS also allows service providers to give customers the option to activate trouble tickets themselves through the customer care segment of the service provider's Web portal. When the customer engages with this online customer care option, the TRACS applications program interfaces provide the means by which the trouble ticket can be implemented directly within TRACS while maintaining the look and feel of the service provider's interface with customers.



## Maximizing Efficiency through Customization

It's essential that service providers have maximum flexibility to precisely tune the parameters in the trouble ticket reporting and action processes to all the nuances of customer care that are intrinsic to their service categories, levels of service and types of customers. In essence, TRACS consists of three major components where these processes are defined and acted on:

- Company Information, where all the categories of metadata within the OSS and BSS systems that will be used in ticket creation are inventoried and defined as to which types of tickets and actions specific data components are applied to and how that data is formatted with respect to naming, length and display. This component allows service providers to ensure that data provided for any given trouble ticketing process is precisely tuned to the type of problem under scrutiny, thereby eliminating time spent on sorting through irrelevant information.
- Trouble Tickets, where service providers can set classifications that determine what rules will be applied to the ticket through its life cycle, including how the ticket is initiated, what information must be supplied by the customer, what sources of information, including outside knowledge bases as well as the service provider's data bases, are to be accessed and what the ticket's flow path through the company should be.
- Ticket Lists, where the prioritization and procedures attending all the trouble tickets are formulated and presented for viewing within and across service assurance work groups. Service providers can define a different template for how ticket lists and information about each ticket are presented to users depending on which work group they're in, thereby ensuring that each user wastes as little time as possible obtaining information pertinent to their needs. Ticket lists in the list layout for each work group are categorized by criteria such as customer or service components, ticket data, scheduled activities, outage patterns or action thresholds. Bulk action options are available for auto-refreshing, clearing or closing trouble tickets or changing work groups.

The efficiencies achieved through this highly flexible, customizable approach to service assurance management extend to all the procedures associated with the trouble ticket work flow, including alarms, thresholds, patterns, planned activities and alarms.



Where thresholds are concerned service providers can define how many tickets are allowed on a single piece of equipment in a specific amount of time before the situation is flagged for alarm status. As tickets come in they are automatically mapped to the pertinent threshold so that once the threshold is exceeded the person initiating a ticket as well as others in the organization will know action is required. Moreover, the threshold monitor allows users to view tracked events to give them an opportunity to spot instances that are close to hitting threshold limits and to instigate action in advance.

The platform also allows service providers to significantly reduce trouble call volume by setting up automated procedures that proactively identify and trigger action on emerging trouble spots based on analysis of data generated through the operations modules that monitor network elements. At the component level, thresholds can be set to define the number of tickets and the duration of troubles that are permissible for any given component under these automated procedures just as is done with the setting of thresholds for the manual trouble ticketing process. When these parameters are exceeded the system alerts the service assurance team that a potentially significant problem is in play.

This can be done because the TRACS system's interfaces can tie into the logs of data generated by probes associated with various network elements. The OSS system provides information on where the network element is and what services it is tied to so that TRACS can associate problems flagged from the probe logs with specific callers during the trouble ticketing process. This automated approach can also be used to generate tickets tied to specific applications running on specific network elements, as opposed to waiting for someone to get the alarm manually.

The efficiencies associated with identifying and solving problems are further enhanced through the service provider's ability to define patterns, which are derived from multiple threshold points. Patterns can be defined to encompass unexpected commonalities of instances where thresholds are exceeded at different points in the network. Such patterns can be tied to the trouble tickets pertaining to specific customers, providing the service assurance team more information to work with in notifying customers as to the status of an outage or failure. Once a pattern is identified new tickets can be tied to the pattern rather than individual thresholds, allowing CSRs to let the customer know the company is aware of the problem and when repairs are expected to be completed.



Service providers can also define scheduled activities so that threshold-oriented trouble tickets are associated with activities much as they are with patterns. This provides CSRs a way to identify problems that are related to such activities, thereby cutting the time it takes to provide the customer useful feedback on the situation and when it will be resolved.

An innovative approach to defining alarms and the situations that trigger them also affords service providers great flexibility in their approaches to service assurance management. For example, alarms can be based on the severity of a problem in the context of specific service types or the scale of impact.

If a person has a service that guarantees a problem will be fixed within 24 hours, the system will immediately identify that stipulation when the CSR is inputting information on a new trouble ticket. Different levels of severity can be assigned to alarms based on internal company policies as to where to place priorities. For example, a fiber ring going out with impact on a large area may be assigned a Severity 1 Alarm, ensuring that it gets immediate attention as a priority over less severe alarms.

There are three alarm categories associated with ensuring that trouble tickets are handled over time in accord with service provider policies. Pickup alarms can be set to reflect the amount of time the company allots between when the trouble ticket is created and action on resolution of the problem begins, ensuring that the work group will be informed if a problem isn't addressed on schedule. Update alarms can be defined to alert work groups at each instance when a customer is supposed to be informed of the status of action on a trouble ticket. A third alarm category serves to trigger escalation of a trouble ticket from one group level to the next in instances where resolution has not occurred within a set time frame. In all cases, the service provider has complete latitude to set the parameters around the various types of alarms as they apply to a given service category, service level or type of customer.

Working hand in hand with the alarm system to keep work groups and upper level management informed of what's happening across their domains is the trouble ticket audit trail, which provides complete, detailed information on all activities that have occurred through the life cycle of each ticket. For example, in the event of a pick-up alarm on a particular ticket, managers can use the audit trail to discern whether poor routing decisions, neglect within a work group or some other misstep has extended the time to resolution.



The system also allows the service provider to define conditions – “jeopardies” – that can generate notifications regarding problems with the status of trouble tickets. A policy can be set to send out email notifications or generate a notice on a ticket viewing screen if a ticket sits unattended for a given length of time within a work group.

### **Facilitating Quick Action on Tickets**

With all these parameters set to the needs of each work group, TRACS provides CSRs an abundance of information that can be applied to a trouble ticket to assist them in processing it rapidly and making sure they’re meeting guidelines and deadlines outlined by their company. The action field of the TRACS user interface allows the CSR to quickly determine what action should be taken on the ticket by presenting the CSR with action options that are directly relevant to the problem based on what the system knows about the customer’s service parameters, which thresholds, patterns and activities are in play, the alarm status and other parameters.

The most appropriate option might be to request a dispatch, which would engage a technician to go to the customer premises to fix a problem and to provide feedback into the system that allows the CSR to confirm the visit, record completion of the work and, after follow up with the customer, cancel the ticket. This highly efficient mode of triggering repair action is made possible by the fact that TRACS comes with applications program interfaces that can be used to directly tie the system into the service provider’s work force management program.

There are many action options that might be appropriate other than directly ordering the dispatch of a technician. For example, the CSR may decide the problem relates more directly to another work group, in which case the ticket can be routed to the appropriate place. And that group may determine the ticket really belongs elsewhere. The system allows maximum flexibility in the effort to link a ticket with the appropriate work group, but prior to the any routing, the original CSR on the call must take ownership of the ticket, thereby engaging the pick-up alarm process to ensure the ticket isn’t ignored as it moves to other areas.

Another action option has to do with allowing the ticket to be suspended. Perhaps the customer will be away for a certain amount of time, in which case the CSR can suspend action on the ticket with assurance it will be automatically activated for action when the customer returns. This ensures the ticket won’t be setting off pick-up alarms or escalations prematurely.



TRACS also adds efficiency to the action process at the completion of the ticket cycle with options tied to clearing and closing the ticket. If clearing is implemented, the CSR can't confirm the problem has been fixed until the customer is contacted or some other verification step is taken. Engaging the clearing process automatically sets timers on the action sequence to assure the final steps are followed. With closing, which can be activated with or without engaging the clearing process, the ticket is removed from the work list.



## Conclusion

Service providers have reached a point in the evolution to ever more services and service levels where adherence to the status quo in customer care incurs too great a risk to achieving the levels of customer satisfaction that are essential to success in a competitive market. While it may not be practical to implement full convergence of all service operations end to end, an integrated approach to managing customer assurance across all service categories is now not only practical; it's essential.

SaskTel International's new TRACS service assurance platform is a field-proven solution that supports a comprehensive approach to trouble ticket management through integration with all pertinent OSS and BSS systems, including customer service level details, network performance records, work force management systems and much else. Equally important, TRACS is designed to maximize efficiencies and reduce costs through an innovative approach to streamlining ticket creation and action processes that gives service providers maximum flexibility to set platform parameters to their specific requirements.

With TRACS in play service providers can be confident that they can keep pace with consumer and enterprise demands for new services and applications without losing ground on customer satisfaction. Indeed, even as it consolidates customer care into a single user interface across all customer and service categories, TRACS provides service providers a way to achieve much higher levels of customer satisfaction through greater efficiency in customer care.

For more information, contact:

**SaskTel**

**International Division**

2550 Sandra Schmirler Way

Regina, SK S4P 3Y2

Canada

Toll-free in US & Canada: 1-877-242-9950

Email: [sasktel.international@sasktel.com](mailto:sasktel.international@sasktel.com)

[www.sasktelinternational.com](http://www.sasktelinternational.com)



**SaskTel**   
*International*