



Proven OSS & BSS for Convergent Networks



About TTI Telecom

TTI Telecom was founded in 1992 to provide Operations Support Systems (OSS) and Business Support Systems (BSS) for telecom service providers. Since our inception we have enabled service providers around the world to maximize their business success and profitability. We do this by supplying powerful network and service management products and solutions that streamline operations and effectively manage networks and services.

Over the past decade, we have grown from 15 employees to a global company with an international staff of over 500, with offices in North America, Latin America, the Caribbean, Europe, the Far East, the Middle East and Africa. We have established Research & Development facilities in North America and Europe that focus on the development of our next-generation wireline and wireless products and solutions. We also operate Customer Support Centers around the world that provide 24/7 customer attention.

The *Netrac* OSS and BSS applications monitor and manage multi-vendor, multi-technology wireline and wireless networks spanning the various domains, including switching, transport, IP, 2G, 2.5G and 3G. Our products and solutions are robust and scalable, capable of supporting tier-1 carrier networks serving millions of subscribers.

Industry leading companies such as AT&T, Sprint, Belgacom, KPN, Telia and Telstra have all chosen us because of our world-class solutions and our unmatched commitment to the entire lifecycle of a project. It is this combination of technology and commitment that makes us our customers' "Network Management Partner".

"TTI Telecom was best able to provide us with a reliable, advanced solution to optimize our network availability and provide maximum quality of service to our customers."

Karin Valk / Business Line Manager of IP Services / KPN

"What we found unique about TTI Telecom's solution is how easily it allows highly informed, yet rapid responses to dynamic traffic exceptions and trends."

Dr. Francis Depuydt / Senior Manager of Network Management / Belgacom

Why TTI Telecom?

Customers throughout the world are turning to TTI Telecom to help them speed service delivery and manage some of the largest, most dynamic networks ever created. We have attracted loyal customers because of our key strengths, which include:

Wide OSS & BSS Product Offering

Today, few other companies offer such a wide range of products with such breadth and depth of functionality. Our cutting-edge *Netrac* OSS and BSS applications are based on the latest industry standards and tested methodologies, and we continuously enhance them to help our customers remain at the forefront of technology.

Network Management Partner Approach

Our motto "Your Network Management Partner" affirms our commitment to becoming a true partner, not just a supplier. As a partner, we work side-by-side with our customers to build solutions that fit their exact requirements, and we provide full support for every phase of the project's lifecycle. In TTI Telecom customers have one point of contact for all their network and service management needs, and a partner who will be with them for the long term.

Proven Experience

We have over 10 years of experience developing and implementing our *Netrac* products and solutions. The experience that we gained from working with some of the leading service providers in the industry is what enables us to create solutions that meet our customers' real-life needs. Solutions built to manage complex, convergent networks and services.

Responsiveness

For us, responsiveness means addressing customer requirements quickly and flexibly. It also means ensuring that our *Netrac* OSS and BSS applications keep pace with the dynamic changes in the communications marketplace. To that end, we conduct continuous market feedback sessions to help ensure that our *Netrac* products and solutions remain on the cutting-edge of technology.

Mature APIs & Open Architecture

All our Netrac products and solutions have well-defined APIs and an open architecture. They can seamlessly integrate within any existing OSS environment and with third-party systems to provide a total solution.

"RHK believes that TTI has taken the correct approach in demonstrating value within Tier-1 service provider operations."

Telecom Analyst Firm / RHK





Our Focus - OSS & BSS for Service Providers

What is unique about TTI Telecom is the fact that we offer a complete, turnkey solution based on our wide offering of *Netrac* products. Our *Netrac* OSS and BSS applications meet all the service provisioning and service assurance needs of service providers: from Fault and Performance Management, to Inventory and Provisioning, to Service Management and bi-directional Mediation.

In addition to developing powerful OSS and BSS products and solutions, we also support the entire lifecycle of a project. We assess our customers' specific needs and customize our systems to meet these needs. We get our systems up and running quickly, and also provide on-site training, support and consulting services. In fact, we do it all:

OSS & BSS Development

We develop our products to fit service providers' exact technical needs and business requirements. Our products added benefit is that are pre-integrated, share one common, user-friendly GUI, and have the same look-and-feel. In addition, our products are supported by a single database and have centralized administration and security.

Product Implementation & Integration

Our hands-on Implementation teams oversee the smooth and swift introduction of the *Netrac* products and solutions into the customer's operational environment. We work closely with leading system integrators to ensure successful project integration and deployment, and also serve as our own system integrators. Our extensive system integration experience simplifies system implementation and integration, thereby lowering cost of ownership and improving return on investment.

Training & Consulting Services

Our training program is designed to help customers master the use of our wide-range of *Netrac* products and solutions. Training courses consist of web-based tutorials, help files and hands-on simulations. Our consulting services cover every aspect of planning, operating and enhancing a communications network. Our highly-skilled consulting teams provide consulting services in five main areas, including: Network Planning; Network Performance Management; NOC Operations; Custom Services & Product Enhancements; and Integration Planning.

Customer Support

We operate Customer Support Centers throughout North America and Europe that allow us to provide swift, on-site technical and engineering support. Our Support Centers are equipped to handle any type of problem or query and ensure the uninterrupted operation of our customers' networks and services.

"The fact that TTI's offer includes system integration for large contract wins allows the company to insert itself into the entire project deployment, from the initial pilot test to post deployment. This gives TTI an advantage over other suppliers that rely on third party integrators."

Netrac Suite of Products

Netrac is made up of nine families of pre-integrated modules that can be used in various combinations to build a complete, full-fledged solution or to address specific needs in areas such as root-cause analysis or service activation. The Netrac suite Reduces integration costs, minimizes the number of vendors that service providers must manage, and accelerates time-to-market.

Service Management

The Service Management family monitors service performance and identifies services and customers affected by network degradations in real-time. It performs long-term service analysis to help operators maximize the use of their infrastructure. It also defines, tracks and reports on Service Level Agreements (SLAs), and alerts network personnel to services in danger of exceeding SLA thresholds. In addition, the Service Management family measures quality of service as the end-customer experiences it.

Service Monitor Service Analyzer SLA Manager

Provisioning

The Provisioning family streamlines the entire provisioning process. It translates orders into service implementation activities and tracks the business processes associated with the fulfillment of an order. It issues commands to network elements to activate requested services and to implement planned changes.

Work Order Activate

Integrated Platform

Oirectional Med

Network

Fault Management

The Fault Management family provides multi-domain alarm surveillance and management capabilities. It detects the root-cause of failures using topology data and IF-THEN rules, and pinpoints services and customers affected by faults. The Fault Management family manages the resolution of faults via a trouble ticketing system, and automatically solves problems by sending commands to the network equipment.

Fault Management (FaM) Correlator+ NetImpact Trouble Ticketing (NeTkT) FaultPro

Security Management

The Security Management family provides centralized, secure access to the network elements, and automates the process of downloading user security profiles to the network elements. The Security Management family protects the network from internal and external security violations by rapidly detecting and alerting administrators to security threats. SecureCentral SecureNE SecureDetect

Mediation

The Mediation family provides bidirectional connectivity to the network, regardless of technology vendor or protocol. After collecting data from the network, the Mediation family translates, formats and distributes the data to other Netrac modules and third-party systems, including billing. Netrac modules and external systems can also send operational, provisioning, diagnostic and corrective commands to the network via the Mediation family.

Device Expert (DvXpert) Network Command Interface (NCI) Billing Mediation

Planning

The Planning family automatically designs service routes while taking into account technological and business constraints. The Planning tools enable network personnel to plan and implement changes in the network, including mass modifications.

Route Builder Change Planner

Performance Management

The Performance Management family performs real-time network monitoring and long-term traffic analysis based on performance measurements and xDR records (e.g. CDRs, IPDRs, RADIUS). This family troubleshoots performance degradations before they impact customers, maximizes network utilization, and helps service providers plan for future network growth. Performance Management Module (PMM) **TrafficView**

SmartTraffic

Traffic Control Handler (TCH)

xDR Analysis

The xDR Analysis family measures quality of service in the network and analyzes aspects such as call release cause and traffic trends. The xDR Analysis family improves capacity planning, identifies fraudulent call patterns, and verifies the smooth operation of the billing process. CallExpert FraudDetect Billing Verification

Inventory Management

The Inventory Management family provides an end-to-end physical, logical and service view of the entire network, and continuously synchronizes the configuration database with the actual network. This family also serves as the basis for other OSS applications, facilitating topology-based root-cause analysis, and advanced correlation across network elements, services and customers.

Physical Inventory Logical Inventory Service Inventory Sync



Customers

Telecommunication service providers around the world, including incumbent carriers, cellular providers, local carriers, international operators, and data and Internet service providers, rely on our *Netrac* products and solutions for their service provisioning and service assurance needs. AT&T, Sprint, KPN, Belgacom, Telia, P&T Luxembourg, Telstra, Tele2 AB, Telkom South Africa, Broadview Networks, Cable & Wireless (Caribbean), and others, all benefit from the power of our solutions.

Our customers know that they can count on *Netrac* applications to be flexible and reliable because of our experience in managing some of the largest and most dynamic networks in the industry. Customers using our products and solutions can enhance their competitive edge through increased automation of key processes, faster roll-out of new services, improved network availability and performance, reduced operational costs and increased customer satisfaction.

"TTI has succeeded in winning new business by quickly responding to specific customer requirements, which may require tailoring solutions to meet those specific needs."

Partners

Telecom Analyst Firm / RHK

We have partnered with a select group of world-renowned hardware and software vendors and system integrators. These partnerships enable us to offer our mutual customers a total, comprehensive solution that builds on each company's respective strengths and technological expertise. Partners include IBM, Nortel Networks, Sun Microsystems, Inovia Telecoms, BusinessEdge Solutions and LogicaCMG.

The TTI Telecom Difference

There are hundreds of software vendors. But only TTI Telecom is "Your Network Management Partner".

The difference between us and other software vendors is that we work side-by-side with our customers through every phase of the project's lifecycle in order to ensure successful project deployment. We serve as a "one-stop-shop" for all our customers' needs. Product development, customization, implementation, integration, training, consulting and support – we do it all.

But that isn't the only difference. Developing software for service providers has always been our sole focus. We build our *Netrac* OSS and BSS with service providers in mind, which is why these applications can handle their unique needs and challenges better than any other solution.

The *Netrac* suite of pre-integrated modules enables service providers to achieve unprecedented levels of efficiency, scalability and reliability. Service providers using our total solution have reported lower integration costs, higher data integrity, and enhanced flow-through, leading to increased revenues and profits.

So when success is the goal, service providers do not take chances – they choose TTI Telecom.

"A key part of improving performance is being able to measure it. With NeTkT [Netrac Trouble Ticket], we have the data we need to assess how well we're doing and proactively drive operational improvements."

Eric G. Roden / Chief Operating Officer / Broadview Networks



Your Network Management Partner

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