Telecom Italia *Success story*

Subex Fulfillment Solution boosts Telecom Italia’s IP-VPN Service Delivery Management

Project accelerates IP Service roll-out under NGOSS umbrella

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About the operator

Telecom Italia (TI) foresaw a fundamental shift in the economics of the telecommunications business. TI realized that aggressive growth into new and expanded service offerings based on IP technologies would be the key to survival. TI then designed a streamlined Next Generation Operations Systems and Software (NGOSS) approach with a common, complete view of its network and one service delivery chain for existing and emerging services – IP-VPNs, Dedicated Internet, DSL, ATM/FR and most recently, IPTV.

TI began its drive to converge its operations under its NGOSS initiative, with the Subex Fulfillment & Assurance Solutions (formerly Syndesis) as a key partner. A major milestone in TI's NGOSS initiative was its successful integration of IP-VPNs within its DSL, ATM and Frame Relay flow-through service delivery management system powered by Subex’s Syndesis Fulfillment solution.

Implementing Subex’s Syndesis Subscriber-Centric Fulfillment solutions for integrated broadband discovery, provisioning and activation, TI’s NGOSS now spans traditionally separate technology, network and service domains, setting the stage for the rapid and cost-effective delivery of more value-added services, including content, advanced voice, mobile offerings and ultimately smart home capabilities.

Meeting the VPN challenge

One of TI’s main challenges was bringing its internal and public IP-VPN services under the new NGOSS management umbrella. Layer 3 services such as IP-VPNs and the applications they enable are ultimately dependent on lower layers of the network. A VPN can't be reliable or dynamic if it isn't riding on rock solid transport, which means in order to deliver carrier-grade VPN services, CSPs must ensure that the underlying network layers are optimized and able to support the QoS required at the IP layer and above. Beyond demanding reliable transport, VPNs introduce a number of additional challenges, involving potentially thousands of configuration options to design a single end-to-end service. As such, manual provisioning of IP-VPNs is too slow, too complicated and too prone to error to be a viable service delivery solution in today’s competitive market.

The Subex solution was able to address, with an organically integrated service fulfillment solution, both the VPN complexities at Layer 3 and the critical dependencies between IP and supporting access and transport networks. The Subex Fulfillment Solution combines and automates what would normally be separate orders and manual processes for IP and the underlying Layer two technologies into a single, automated transaction. This converged approach to service fulfillment shields operators from the complexity of VPN services, the IP applications they enable and the still-maturing networks and technologies TI began its drive to converge its operations, with the Subex Fulfillment & Assurance Solutions as a key partner.
that support them. Subex’s Subscriber-Centric Fulfillment significantly reduces order fall-out and shortens time-to-service by reducing costly rework. And by enabling TI to integrate IP-VPN management into its already successful and highly automated NGOSS architecture, the Subex service fulfillment solutions reduced TI’s operating costs even further.

New approaches to service delivery for a new communications market

TI set out to build the best possible OSS foundation to support aggressive expansion both within Italy and across the European market. But the carrier knew too that its operations were not optimal for supporting its plan to expand and roll-out leading edge IP services. Like many incumbent telecom operators, TI was organized on a technology-specific basis. Each technology silo had its own operations and service delivery infrastructure. As a result, operations were redundant and silos had trouble communicating and coordinating with each other. The cost to maintain this infrastructure was unnecessarily high. The speed with which TI could respond to new market conditions was measured in months and needed to be in days or hours.

The carrier’s end goal was to deploy a fully-integrated OSS – based on TeleManagement Forum NGOSS principles – to run its entire European network as a complete whole, not according to technology, vendor or geographical boundaries. TI wanted to deliver new services faster than any competitor and manage them end-to-end, in real time, from a single set of systems: one CRM, one Inventory, one Provisioning/Activation system.

These goals were heavily dependent on an OSS solution that would not only enable automated provisioning and scale to expected volumes, but one that could also communicate with disparate network domains, generate the end-to-end service views for multiple support functions and propagate accurate network data throughout its front and back offices. TI turned to Syndesis (now the Subex Fulfillment and Assurance Solutions business unit) for these critical capabilities.

Realizing the NGOSS vision

TI approached the VPN project in stages, initially deploying Subex’s Syndesis IP-VPN solution to manage its internal, corporate VPNs which ran over a complex, multi-vendor Cisco and Juniper IP network. In addition to successfully automating delivery of internal VPN services (including both customer edge and provider edge management), the Subex IP-VPN solution also enabled TI to significantly “clean-up” existing, manually provisioned VPNs, approximately 30 percent of which had not been provisioned correctly. Taking advantage of the network and service discovery capabilities of the Subex solution, TI could isolate and correct discrepancies between “as intended” (or “as recorded”) service configurations and the actual state of
the network and thus was able to better utilize network resources, assure security and configure VPNs more optimally.

Next came the integration of TI’s internal and public VPN services into the carrier’s NGOSS flow-through provisioning solution based on the Subex solution. This integration required the migration of thousands of existing VPN sites from a stand-alone management platform to the NGOSS, a task the project team completed over a single weekend leveraging the extensive network optimization, service import and discovery capabilities of the Subex product suite. With all IP-VPN services now under NGOSS management and all VPN sites and services now fully associated in the database with their underlying Layer 2 elements, TI processes its new VPN service requests and changes via automated flows. The Subex solution provisions and activates VPN services automatically, configuring TI’s DSL access network and its Cisco and Juniper IP core and managing both Layer 2 and Layer 3 VPN service components, in a single transaction. The next-gen Subex provisioning solution at TI currently supports more than 1,500 system users and it manages nearly 7 million DSL services (with over 6,000 distinct service profiles), more than 230,000 Dedicated Internet Access services and more than 140,000 IP VPN services – all from a common platform and single database. TI has since further expanded this solution, recently integrating service delivery for nearly 900,000 IPTV customers into this same Subex platform.

By bringing its IP-VPN services under the NGOSS umbrella, TI has further reduced operations and maintenance costs, shortened service delivery cycles, broken down the silos that once slowed responsiveness and reduced errors associated with handoffs between systems and separate databases. And just as TI experienced with the Subex DSL and ATM FR solution deployments, the accurate network data and IP-VPN service views provided by the Subex products also enhance the effectiveness of TI’s Fault Management, Inventory, Performance and SLA management NGOSS systems.

Building on success

The Subex Subscriber-Centric Fulfillment solutions are currently in production at industry-leading service providers, solving precisely the issues TI faced. The Subex solutions bring advanced provisioning automation, data integrity management for operational efficiency and service verification technologies to support rapid, consistent and highly accurate service creation.

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Overall, TI gained a better control of their network with the Subex Fulfillment and Assurance Solutions.

Subex’s Syndesis NetProvision was the first OSS component TI installed as part of its NGOSS and, since 2002, the Subex solution has served as the...
anchor for this new operations infrastructure. It provides TI with the complete service provisioning automation, service-viewing capabilities and multi-service, multi-vendor and multi-technology support that TI’s next generation network and operational environments require.

TI first implemented the Subex solution to automate data service design, activation and maintenance for xDSL and ATM/Frame Relay, initially integrating Subex products with legacy fulfillment systems – and then, other NGOSS components such as its new inventory platform – to automate flow-through provisioning of service orders. As a result of this project, TI has increased end-to-end service activations from 1,000/day to as many as 60,000/day while reducing fallout by nearly 70%. The carrier has also seen a greater than 50 percent increase in its Italian DSL subscriber base, 156 percent growth in DSL-related revenues and an overall 86 percent growth in the DSL subscriber base outside of Italy, outpacing PTTs in their home countries.

Preparing for the future

Successful implementation of its NGOSS based on Subex’s Syndesis Fulfillment suite has helped TI consolidate its position as one of Europe’s dominant telecommunications providers. TI has achieved unparalleled domestic growth while expanding internationally and outpacing national PTTs in their own home markets. Its operations are now considered “best in class” and have won widespread industry recognition, while TI has realized massive improvements in order activation, time-to-service, network asset utilization and operational expenditure. By breaking down provisioning silos for IP and underlying access and transport services, the Subex solution has helped TI realize its NGOSS vision. TI is now able to reach across traditionally separate technology, network and service domains, rapidly and cost-effectively delivering new value-added services with the Subex Subscriber-Centric Fulfillment solution.

Having now broken down provisioning silos for IP and underlying transport services, TI is well on its way to realizing its Total Broadband Management vision. Powered by the Subex product suite.

Subex’s Syndesis Subscriber-Centric Fulfillment suite of products is currently in production at industry-leading service providers, solving precisely the issues TI faced.

The NetProvision-based solution is part of a wider Operations Support System/Business Support System (OSS/BSS) end-to-end platform through which we are realizing significant benefits including an acceleration of service delivery by 300%, a 20% reduction in operational costs and a substantially improved customer satisfaction metric.”

GIOVANNI CHIARELLI, VP TECHNICAL INFORMATION SERVICES, TELECOM ITALIA
About Telecom Italia

Telecom Italia is Italy's leading telecommunications provider and is among the world's largest. The company's network supports more than 30 million lines and more than 1.85 million miles (three million kilometers) of fibre-optic cable.

About Syndesis Fulfillment Solutions from Subex

The Syndesis Fulfillment Solutions suite empowers communications service providers to rapidly create and cost-effectively deliver advanced network and application services such as Triple/Quad Play, VoIP, xDSL, Ethernet and IPTV. The Syndesis suite includes solutions that encompass the industry's best practices for automated service fulfillment, resource management, order management, data integrity management and network optimization. With unique, subscriber-centric fulfillment capabilities, the solutions offer the industry's most comprehensive control over both networks and content, streamlining service bundling and accelerating time-to-market.

About Subex Limited

Subex Limited is a leading global provider of Operations and Business Support Systems (OSS/BSS) that empowers communications service providers (CSPs) to achieve competitive advantage through Business Optimization and Service Agility - thereby enabling them to better operational efficiency to deliver enhanced service experiences to subscribers. The company pioneered the concept of a Revenue Operations Center (ROC) – a centralized approach that sustains profitable growth and financial health through coordinated operational control.

Subex's product portfolio powers the ROC and its best-in-class solutions enable new service creation, operational transformation, subscriber-centric fulfillment, provisioning automation, revenue assurance, cost management, data integrity management, fraud management and interconnect / inter-party settlement.

Subex's customers include 36 of the world's 72 biggest* telecommunications service providers. The company has more than 300 installations across 70 countries.

* Forbes' Global 2000 list, 2009

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