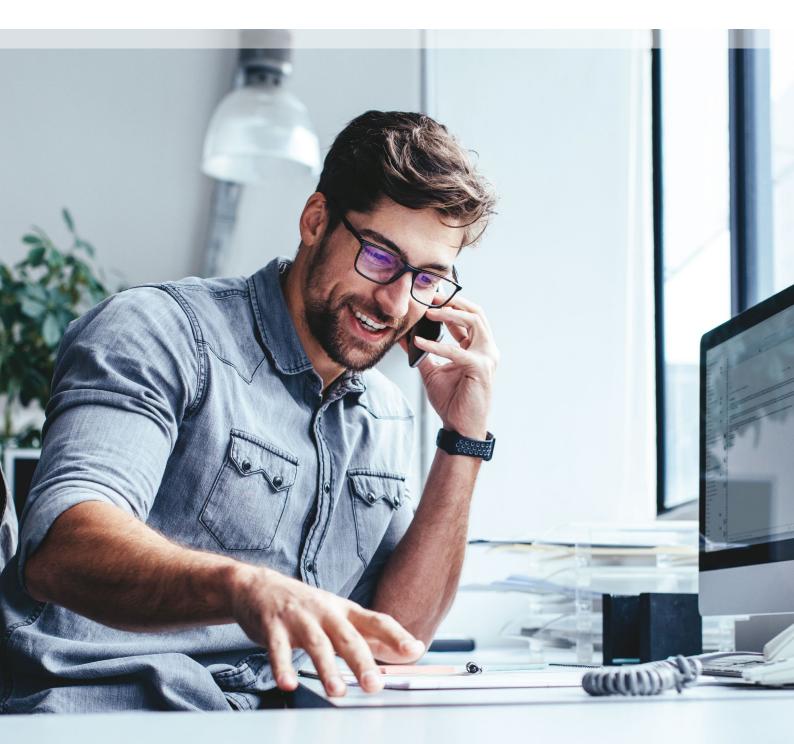
COMARCH

CUSTOMER SUCCESS STORIES HOW TELECOM OPERATORS WORLDWIDE EMBRACE SUCCESS WITH COMARCH





COMARCH THE FLEXIBILITY YOU NEED IN THE DIGITAL ERA

Comarch supports telecoms in facing the challenges of the digital era.

With our complete portfolio of IT products for telecoms we provide you with the flexibility you need with the flexibility they need in the world of constant connectivity, to dynamically adjust to the market reality and keep up with constantly changing customer expectations.

Comarch is a partner who enables telecom operators to launch new services quickly and cost-effectively, and to offer customers high quality digital services which are available anywhere, at any time.

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WHY COMARCH?

CONFIGURABLE SYSTEMS, FLEXIBLE APPROACH

- Flexible and cooperative approach
- Focus on customer centricity
- Variety of **delivery models** (including managed services, SaaS and license-based)
- Customers' influence on the system development
- Agile organization
- High modularity of BSS/OSS suites

COMPLETE FUTURE-PROOF PORTFOLIO

- Strong product roadmap and vision
- Feature-rich functionalities combined with high configurability of products
- Incorporating industry trends and advanced technologies (AI/ML, blockchain, IoT, 5G, cloud,automation, software-defined, E2EO)
- Enabling cooperation with OTT players

FIT FOR GLOBAL EXECUTION

- · Local teams (globally)
- Network of data centers
- In-house delivery model (full control over quality)
- · Certification (recognized globally)
- Network of subsidiaries (local commercial engagements)
- **Multi-tenancy** (ability to deliver single platform for multi-country organizations)
- One-stop-shop (end-to-end project delivery
- starting with research, software production and delivery, cumulating with Managed Services)

BUSINESS STABILITY & RELIABILITY

- A **reliable business partner** recognized by leading research companies
- Active member of industry associations
 (TMForum, MEF)
- Clients' recommendations (also beyond the telecom industry)
- High level of R&D investments

YEARS OF EXPERIENCE

- Presence on the telco IT market since 1993
- Proven track record in delivering projects all over the world
- Numerous IT projects implemented/executed
- · Established brand in the telecom industry

DIGITAL SECURITY

- GDPR compliance
- Automated identification of potential fraudulent activities thanks to AI/ML
- Systems configured with an ability to protect and restore critical data and services
- Hybrid approach using both simple algorithms and advanced AI engines
- Proactive defense strategies

COST-EFFICIENT BSS/OSS TRANSFORMATIONS

- Easy customization and configuration
- Products built in-house, resulting in faster and cheaper integration
- Good interoperability with legacy systems
- Flexible and easy changes and configurations of the data model

IMPROVING PROCESS EFFICIENCY WITH LEAN NETWORK PLANNING | E-PLUS GRUPPE (NOW OWNED BY TELEFÓNICA GERMANY)



■ THE BUSINESS NEED

The main goal of E-Plus in this project was to transform organizational processes. Existing network planning and rollout processes were quite complex, with hundreds of workarounds for simple operations not being supported by the tools already in use. In order to start thinking about lean, smooth and efficient processes, Comarch and E-Plus had to stop thinking about applications and focus on business activities in the area of planning and network integration.



- Redesign and simplify processes to maximize business efficiency
- Increase efficiency in planning and rollout by 50%
- Reduce time to market for new technologies to 3-6 months

PRODUCT

Comarch Next Generation Network Planning (NGNP) enables users to comprehensively and efficiently manage network planning, expansion and optimization processes. The end to end handling of strategic, engineering and administrative procedures embedded into a single OSS platform provides unprecedented business process visibility of performed business processes.

igoplus the result

- Decreasing the complexity of network planning and design processes
- Overall business process efficiency improvement by 50%
- Simplifying and standardizing the NGOSS architecture
- Time to market improvement, optimization of the network integration process
- Reduced number of network configuration errors
- Seamless integration of network infrastructure outsourcing, and E-plus network planning and design policy



Having had a very positive experience with Comarch as a partner in previous OSS transformation projects, we decided to cooperate with them again for a project that aims to rebuild our current IT landscape in the area of network performance. This project enables us to fulfill a strategy of offering our customers high quality, innovative services, sooner than our competitors do.

> **Gerhard Lűdtke** Director of Access and Transport Networks E-Plus Gruppe

PUTTING ENTERPRISE CUSTOMERS IN CONTROL FOR IMPROVED EXPERIENCE | KPN



THE BUSINESS NEED

KPN launched the project in order to build a system to support higher order intake, improve customer satisfaction, reduce churn, shorten the time needed for customer implementation, reduce the number of KPN internal activities, and cut costs.



- Enable all customers, including end users and partners, to perform self-setup in the most efficient and convenient way, and to manage all telecom-related activities
- Ensure an insight into detailed financial and customer data through web services and B2B interfaces available across Europe, networks and technologies

PRODUCT

A comprehensive BSS system was delivered in a software as a service (SaaS) model, where Comarch is responsible for full hosting and housing activities, as well as for all daily activities necessary to keep the whole system up and running. The implemented Comarch products included Convergent Billing, Corporate SelfCare, Billing Mediation, Reporting Tool and Enterprise Service Bus.

igvee the result

- Cost reduction: CAPEX and OPEX reduction thanks to the employment of an SaaS model and the automation of the service activation processes
- Minimized investment risks: Comarch shared the business risk of the project and was highly motivated to achieve KPN's business goals. The managed services model meant adjusting the equipment to assure appropriate service efficiency
- Improved customer experience: gaining full control over the order to cash process and the possibility to quickly verify the invoiced charges and optimize tariffs
- Flexibility: Comarch presented a flexible approach and provided a comprehensive offer of services and equipment – flexibly joining services, terminals and accessories



The components of KPN's previous BSS system required vast amounts of manual work being carried out by its users. Finally, a decision was made to purchase a new, integrated solution, and Comarch matched our requirements perfectly.

> **Cees Versteeg** Director IT and Operations KPN

PUTTING THE NETWORK CLOSER TO THE CUSTOMER THANKS TO CENTRALIZED NETWORK MONITORING | MTS/MOBILE TELESYSTEMS



■ THE BUSINESS NEED

When MTS decided to start their OSS transformation, their network monitoring was distributed over eight macro-regions. The network management processes and procedures were established centrally, but their implementations had regional specifications. This huge OSS landscape was not completely standardized, so it was difficult to maintain all the systems and the network.



- Centralize network monitoring distributed over eight macro-regions (network management processes and procedures were established centrally, however their implementations had regional specifications)
- Optimize network management in order to lower operational costs and increase network and service quality
- Standardize processes and procedures and unify the OSS landscape
- Move the network monitoring process into the service layer, in order to fill the gap between the network and the services offered to customers

THE IMPLEMENTED

After analysis of various areas of MTS' network, a unified umbrella OSS system was created including Comarch's Next Generation Service Assurance (NGSA), Service Inventory and SLA Monitoring products.

THE RESULT

- 300,000 network elements being monitored
- 100 alarms per second gathered on average
- 50% reduction in the number of alarms presented to operators
- 80 concurrent users of the NGSA Console
- Centralized network monitoring; a global networks operations center was established in Krasnodar – consequently, all the monitoring tasks where smoothly moved to the GNO
- Less time needed to solve problems thanks to the simplification of the system operators' working environment



We are confident that Comarch's solutions will enable MTS to successfully transition from a network-centric towards a customer-centric OSS ecosystem with the ultimate goal of delivering the best customer experience.

> Andrey Ushatsky Vice-President and Chief Technology Officer MTS

SIMPLIFIED MANAGEMENT OF A SHARED NETWORK THANKS TO OSS CONSOLIDATION | NETWORKS! – T-MOBILE/ORANGE JOINT VENTURE



■ THE BUSINESS NEED

In July 2011, two leading Polish operators, PTC (the operator of T-Mobile Poland) and PTK Centertel (the operator of Orange Poland) entered a 15-year agreement for sharing a mobile access network. The joint venture company, NetWorkS!, was formed by the two operators to manage and develop their consolidated 2G/3G network and their 4G network in the future, with the aim of enhancing network coverage and quality.



- Centralize monitoring of the network that was initially composed of two independent environments
- Implement a unified umbrella system in the assurance area
- Improve customer experience. for both T-Mobile and Orange customers, based on the shared infrastructure
- Reduce costs by combining efforts at network management level
- Increase network coverage, both outdoor and indoor
- Assure high quality of network parameters and controlled access to information regarding third-party networks

PRODUCT

The product was based on **Comarch Fault Management**, which can effectively monitor problems and defects in the entire telecom network. Through continuous monitoring of the operator's network resources, the system ensures the collection, visualization and tracking of event occurrences, creating a unified umbrella system over the various network element management systems.

\P the result

- Assuring high quality of data and reducing the number of events in a centralized network inventory
- Automation of fault clearance processes (configured correlations and integration with trouble ticketing system)
- Rapid response to all kinds of problems
 regarding network infrastructure
- Significant part of the various configurations are carried out by the operator



Comarch Fault Management has all the necessary functionalities to support an infrastructure-sharing scenario, which has been already appreciated by numerous Tier 1 operators, such as MTS Russia and Telefónica O2 Germany. Comarch's solution had already been proven by PTC (T-Mobile), and has been evaluated highly evaluation. Comarch has continuously maintained a very high standard of products and services, so it was natural to benefit from that experience and expand cooperation to the new structures.

> Przemysław Żulewski Mobile Systems Development Expert NetWorks!

SUPPORT FOR GERMANY'S LARGEST BROADCAST AND MEDIA INDUSTRY SERVICE PROVIDER IN THE RAPID AND EFFICIENT INTRODUCTION OF NEW TV SERVICES (UNDER THE BRAND NAME FREENET TV), BASED ON DVB-T2 | MEDIA BROADCAST

MEDIA BROADCAST

THE CHALLENGE

Media Broadcast, Germany's largest broadcast and media service provider, recently introduced the DVB-T2/HEVC standard, which will allow the launch of a new terrestrial service via its freenet TV brand. The company's aim is to offer premium digital content via CI+ cards and decoders distributed by resellers and a webshop application.

The aim was to implement and integrate Media Broadcast's BSS system, using Comarch Smart BSS. This comprehensive, pre-integrated solution lets the broadcaster manage all freenet TV business processes, and supports the introduction of new services based on DVB-T2 technology. **Comarch Smart BSS is delivered in private cloud**, with the equipment and platform at the Comarch data center in Dresden. High-security backup, including disaster recovery, is provided from Kraków. The contract was signed in 2015, and the project was divided into three phases. The first two were concluded by July 2016, with the third still in progress.

THE IMPLEMENTED

Comarch Smart BSS is a configurable solution for multi-technology, multi-network providers. It integrates with third-party systems and supports the management of all key processes, offering the flexibility to make changes as Media Broadcast's needs evolve. The system comprises CRM, Webshop API, Billing, Charging and Invoicing of any Service, Voucher Management, Product Catalog and Service Activation.

\P the result

Media Broadcast was able to **launch paid freenet TV services based on DVB-T2**. The solution streamlined all BSS processes and ensured high quality support, maintenance, software and cloud services. It was integrated with legacy IT systems, and interfaced with partner systems. Using one attractively-priced platform **optimized operational costs**.



We chose Comarch as partner to support us in delivering the ultimate DVB-T2 service, due to the company's broad experience in similar projects supported by references from cable TV providers and broadcasters from all over the world. The implemented solution - Comarch Smart BSS - enabled us to manage BSS processes more efficiently, and to reach our goals in terms of quickly introducing new paid TV services onto the market. We are very pleased to implement a BSS system which at the same time is easy to integrate with third-party tools and ensures a wide spectrum of functions.

BETTER CONTROL OF NETWORK OPERATIONS WITH UMBRELLA FAULT MANAGEMENT | TELEFÓNICA GERMANY





THE BUSINESS NEED

For this project, Telefónica Deutschland did not restrict itself to acquiring a system that would act as a manager of managers, integrating with its already-existing management systems. Instead, the company wanted to completely replace the element management systems in use. This required a system with a direct interface to the elements of the multi-vendor network.



- Replace the element management systems in use with a system with a direct interface to thousands of network elements from different vendors
- Equip the system with functionalities enabling the configuration of every network element
- Correlate and subsequently present data gathered from all the managed network elements in one consistent view

PRODUCTS

An umbrella OSS system was composed of Comarch Network Inventory Management, Comarch Configuration Management, Comarch Fault Management, and Comarch Performance Management. Comarch offered the possibility to precisely tailor the system to the customer's specific requirements. In this case, among other things, this meant enhancing Comarch's system with a set of specific management consoles, each for a different type of network element.

igoplus the result

- Centralized and unified control across
 all network domains
- Information on network elements and their configuration gathered in one place
- Seamless integration with the existing
 environment
- Unified system for real-time network performance management and monitoring
- Improved network reliability
- Full automation of fault management tasks, including correlation
- Future-proof design (easy extensibility)



The introduction of Comarch OSS Suite was a giant step forward in optimizing operations thanks to integrating the management of our transmission technologies into one homogeneous platform.

> **Günter Kaufmann** Manager Operations Support Systems Telefónica Germany

PAVING THE WAY FOR MACHINE TO MACHINE INNOVATION | A1



■ THE BUSINESS NEED

Looking to expand their business, Telekom Austria Group decided to enter the machine-to-machine (M2M) market and established a dedicated spin-off company for M2M in September 2011. The company mainly addresses B2B customers and solution partners with the objective of becoming the leading M2M boutique provider in the Central and Eastern Europe (CEE) region.



Telekom Austria Group was looking to support their new business with a platform that would meet the following requirements:

- Provide the highest flexibility to fulfill the company's boutique provider strategy
- Offer superior efficiency to enable high volume and low margin business conditions
- Enable dynamic development of features
- Support automated, end to end business processes
- Deliver services in a multinational set-up supporting the group structure
- Ensure full operational independence

PRODUCT

Comarch M2M Platform is a modular product based on Comarch COTS products from BSS and OSS domains combined with M2M-specific dashboards, processes and configurations. Comarch M2M Platform was honored with Pipeline's 2013 Innovation Award for "Innovation in Connectivity". Comarch has been recognized for M2M systems that enable mobile operators to provide "Intelligent Connectivity" and succeed in the M2M market.



Telekom Austria Group gained independence in running their own M2M strategy with end to end process support regarding SIM card management, a single platform for all users and groups, different functionalities and GUI for different users, support for B2B and B2B2C models, as well as hosting and outsourcing in the managed services model.



We chose Comarch because their existing product portfolio provided a good basis for the platform. More importantly, Comarch was able to prove their ability to quickly develop custom features upon request. We believe that, in dynamically growing markets, flexibility and customer orientation are the keys to success. The set-up we have chosen with Comarch helps us deliver just that.

> **Phat Huynh** Managing Director, Head of Marketing & Sales Telekom Austria Group

INTEGRATING RESOURCE AND SERVICE LAYERS FOR AN END TO END VIEW OF SERVICES | TELEKOM DEUTSCHLAND

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THE BUSINESS NEED

Faced with the challenges of today's telecommunications world, Telekom Deutschland was consolidating its OSS landscape using NGOSS principles. The resource and service inventory (R&SI) is used to managed customer facing services, resource facing services, and resources used for these services coming from different Inventory and configuration management systems.



- Optimize incident, problem and change management processes, at the level of resources and services
- Improve cooperation between the service inventory and different resource inventory management systems
- Design a system that offers integrated and flexible service modeling and a wide integration ability to seamlessly cooperate with other systems

THE IMPLEMENTED

Comarch Network & Service Inventory acts as the master system for the creation of resources in some network domains, while in the others it holds only the read-only copies of the resources used for the creation of services. Integration with third-party systems was achieved by the common information present in the environment, which ensures the simplification of the overall architecture and reduces the number of interfaces.

$igodoldsymbol{ abla}$ the result

- Improved incident, problem and change management processes thanks to end to end visibility of the services, smooth integration of service and resource layers and a consolidated overview of the ownership for services
- Setting a good starting point for a complex transformation of the operator's entire environment
- With an ongoing effort towards consolidation of the environment composed of multiple national operators, products developed by Comarch will play a central role in the future operations of Telekom Deutschland



Of all the vendors offering similar OSS solutions, only Comarch offered an already established product with a significant market position, together with the possibility of implementing specific functional requirements regarding advanced data sharing.

> Thomas Kiemle Head of Configuration & Provisioning Systems Telekom Deutschland

MULTI-MARKET TRANSFORMATION WITH FOCUS ON TIME TO MARKET AND COST OF SERVICE DELIVERY | TIER 1 OPERATOR

THE BUSINESS NEED

With the ultimate goal of improving the experience of business customers, a European Tier1 operator undertook an ambitious multi-market transformation comprising three different markets. The need was to deliver new services to business customers on all of these markets faster and cheaper, while providing a market specific and customized offer approach.



The operator needed to introduce a system that would best fit the requirements of three different markets, organizations and networks, and to achieve the following:

- Shorten time to market of new services for business customers
- Pave the way for digital services as the services are based on complex value chains, the operator needed to smoothly incorporate partners' products into its own product catalog
- Enable cooperation with local
 and cross-country partners
- Increase the precision of order capturing and delivery processes, while significantly reducing their cost
- Eliminate the gap between the design of the commercial system and the technical processes required to implement it

THE IMPLEMENTED PRODUCT

The system architecture is centered on two elements, which drive all processes: Comarch Product Catalog is a central source of product and offer other information. Comarch Next Generation Service Fulfillment increases service delivery automation, thanks to decomposing the services in its service catalog.

igvee the result

Efficiency gains in the overall order to delivery process (B2B market): 87% to 91% overall reduction of human time required for order to delivery processes.

Automation gains in B2B broadband service orders Full (100%) automation in service order handling (order fulfillment)

- Removal of manual work in service order handling
- Entire catalog-driven order decomposition and orchestration

Common IT operations thanks to a single multi-country system instance

- Single consolidated BSS/OSS system (from CRM to fulfillment)
- Supporting the delivery of the same products through different networks



To improve offer management, shorten time to market and enable new services to be built quickly and easily, Comarch proposed an approach leading to increased service reusability and automation of product management processes.

NEXT GENERATION SERVICE ASSURANCE (NGSA) IMPROVES CORPORATE CUSTOMER SATISFACTION | VODAFONE



■ THE BUSINESS NEED

Decreasing revenue due to increasing competition and additional EU regulatory measures puts huge pressure on operational costs and process efficiency. At the same time, Vodafone's strategy to increase its corporate and enterprise customer market share places even more strain on operational teams, who must already face the strong demands of enterprise customers in terms of individual SLAs and customer-specific monitoring. To cope with all of the above and to provide a competitive advantage in the enterprise customer segment, Vodafone decided to start their "Next Generation Service Assurance" OSS consolidation and transition program.



- A vast amount of different, technology-oriented tools
- High license and maintenance costs, expensive and time consuming OSS integration
- The need to efficiently manage increasing service complexity (fixed/mobile/IT convergence)
- Increasing pressure on time to market and agility
- Limited capabilities for further automation (functional gaps and complex OSS architecture)
- Missing support for operations to evolve from network to service and customer-centric management

THE IMPLEMENTED

Comarch's service model-driven Next Generation Service Assurance (NGSA) product provides the OSS capabilities needed to cope with enterprise customer demands and enables advanced customer and service management. In addition, rich capabilities to automate processes ensure increased operational efficiency and cost reductions.

igvee the result

- Replacement of three existing fault and service management systems (monitoring more than 750,000 NEs) leading to a reduction of 47% CAPEX and 68% OPEX, plus >30% cost savings for future OSS integrations
- Fully integrated customer, service and resource monitoring for all network domains, enabling Vodafone to shift from resource-centric fault management towards customer-centric service assurance
- Proactive monitoring of corporate customer services based on automated service and customer impact analysis (initial service model incl. more than 200 services and more than 150 top corporate customers)
- Shorter problem resolution times and increased operational efficiency thanks to advanced alarm reduction and correlation and automation of manual processes of NOC and SOC teams
- Improved service quality and customer experience thanks to proactive monitoring of service performance KPIs based on integrated service quality management
- The NGSA system has proven to be scalable and a centralized platform that currently supports multiple Vodafone operators



With their modern and innovative OSS portfolio, Comarch has repeatedly demonstrated strong and reliable business partnering with Vodafone. Comarch has provided high quality COTS products, coupled with their impeccable services to implement solutions on time and within budget, adapting swiftly to new business requirements arising during and after implementation. Considering factors such as time to market, quality to market, attentive customer focus, agility, value and innovation, Comarch is a partner who invariably ticks all of the boxes.

> Shane Caffney Director of OSS, Central Europe Vodafone

OPTIMIZING FIELD SERVICE MANAGEMENT FOR BETTER CUSTOMER EXPERIENCE | VIASAT



THE BUSINESS NEED

Thanks to the acquisition of WildBlue Communications, ViaSat has become an important player in the satellite Internet market in the United States, delivering its services to places that other technologies cannot reach. The rapidly increasing number of new customers has raised new challenges in mobile workforce organization and efficiencies. As a result, ViaSat was looking for a system that would help the company satisfy customer expectations for excellent service and meet increased demand. for broadband services.



- Efficiently manage broadband services delivered over a large territory (across the United States), with many sales and fulfillment partners
- Optimize resource use planning and increase
 management tool flexibility
- Centrally manage work orders dispatched to different providers, including fulfillment partners and self-installing dealers
- Prioritize work orders and assess fulfillment providers smartly, and automate processes that clear executed tasks
- Determine during the first call how much time is required to install or repair customer equipment, and dispatch field work orders promptly, without manual intervention
- Gain insight into real-time information on work order status, and monitor key performance indicators (KPIs) for the company's services, and the performance of its fulfillment providers

THE IMPLEMENTED

Comarch Field Service Management is a comprehensive product that ensures automated management of technical staff in the field, in accordance with availability of resources, and provides complete support for technicians, including mobile access to the system. The system enables reduction in the amount of paperwork and better accuracy of scheduling customer visits, as well as lower costs thanks to optimized routing. Fulfillment partner management, with a reporting functionality, ensures centralized management of work orders dispatched to different subcontractors, such as sales and fulfillment partners, and enables their performance to be monitored.

\P The result

- Faster scheduling of customer appointments and execution of escalation procedures
- Increased number of work orders executed daily, enabling new customers to enjoy ViaSat's services more quickly
- Full control over work order fulfillment starting from the creation of a work order with a defined execution time, through dispatching, execution and closure of work orders
- Improved productivity of dispatchers' and technicians' thanks to an automated process of scheduling and processing work orders
- Efficient allocation of technicians and dispatchers based on their availability and skills
- Support for technicians in the field, with mobile access to detailed task lists and the option to report task completion
- Full control over field workforce performance thanks to automated reporting schedules and distribution enabling rapid analysis of field situations



Comarch Field Service Management enabled ViaSat to automate order and resource management processes, which has enabled us to provide an excellent customer experience in fulfilling customer orders.

> **Brian Crouthers** Director of Field Operations ViaSat Inc.

IMPROVING THE EFFICIENCY OF NETWORK PLANNING ACROSS FIVE COUNTRIES IN LATIN AMERICA | TELEFÓNICA



THE BUSINESS NEED

In recent years, Telefónica has seen exponential traffic growth in transport networks, with the associated increase in network and operations investments and complexity. In order to overcome this challenge, Telefónica launched its new Transport Optimization Program, with the main goals of optimizing the current network and ensuring efficient future growth. The company chose Comarch as a trusted partner in their OSS transformation.



- Minimalize the discrepancies between data in the systems and in the live network. The company's multi-vendor and multi-technology network infrastructure in South America is managed with a multitude of legacy systems
- Shorten time to market for new network
 resource deployments
- Enhance data synchronization with the network in a simple and effective environment
- Accelerate network planning processes
- Reduce the cost of creating and operating the transport network

PRODUCT

Comarch was recommended as the system supplier by Telefónica's Global Headquarters, with the goal of delivering the project in five countries in South America. The framework-based system delivered by Comarch responded to the needs of Telefónica's multi-vendor and multi-technology environment and was composed of four connected modules: Next Generation Network Planning, Network Inventory, Configuration Management and Auto-discovery & Reconciliation.

igvee expected results

- Cost savings in transport network
 creation and operation
- Synergy in purchasing new resources from suppliers, thanks to the deployment of global planning processes
- Simplification of planning processes and tools
- Shorter time to market and automation of new network resource deployments
- Better utilization of the currently deployed network resources
- Simplification of the IT environment in five Telefónica subsidiaries



As part of Telefónica's strategy, our network and operation support systems play a crucial role as enablers of the services we provide to our clients. Implementing Comarch Next Generation Network Planning is a major step towards improving the efficiency of network planning and optimization processes in our subsidiaries in Latin America. Comarch was chosen as it has already proven to be a trusted partner of the Telefónica Group in Europe, and shown a great degree of flexibility in meeting our needs. The current implementation will provide an integration platform for a best of breed OSS solution, unified and reused across the group.

> **José González Díaz** Director of Transformation & OSS, Clobal CTO Telefónica

EFFICIENT DELIVERY OF GLOBAL NFV-BASED NETWORK SERVICES FOR ENTERPRISES ALL OVER THE WORLD | ngena, THE NEXT GENERATION ENTERPRISE NETWORK ALLIANCE



THE BUSINESS NEED

The Next Generation Enterprise Network Alliance (ngena), based on the principle of sharing network assets between partners globally, was formed by leading international telecommunications service providers with the aim of ensuring global hybrid VPN services for their multinational customers. The services are based on a virtualized infrastructure (NFV/SDN networks), being at the same time highly standardized and uniform among all ngena members, thus ensuring a consistent service experience.

The Alliance was looking for high-performance and flexible systems in order to support and unify BSS/OSS processes across member companies. For ngena, one system combining billing, CRM, selfservice, order management, fault management, service fulfillment and assurance was required.



- To achieve its goal, ngena needed a comprehensive system that would enable the sale and delivery of services within less than 12 months from the project start
- The company needed a trusted BSS/OSS provider that would not only be able to adjust the system to ngena's sophisticated needs, but also to act as a partner and complete the implementation on time
- As a brand new venture based on a new business model, the Alliance required a greenfield approach that would best utilize the wide range of possibilities, a challenge that Comarch was happy to take up

PRODUCT

The chosen system is based on a catalog-driven approach, with the fulfillment, assurance and billing processes steered by rules defined in the common product/service catalog and service inventory, spanning all the layers (customers, products, services and resources). The implemented Comarch BSS/OSS platform consists of the following modules: CRM for Telecoms, Self-service Portals, Customer Order Management, Convergent Billing, ITSM Service Desk, Performance Management, Service Fulfillment, Service Assurance.

igvee expected results

- Efficient and timely delivery of global VPN services for enterprises all over the world
- Support for all of ngena's key processes, such as sales, customer and partner management, service assurance, and network inventory management
- Shorter time to market for enterprise services and the simplification of processes related to global provisioning – resulting in an improved competitive position for ngena's partners



Considering the comprehensiveness of the solution and its complexity, as well as our ambitious timeframes, we were looking for an experienced and reliable BSS/OSS provider. Comarch has cooperated with various large telco operators, including the Deutsche Telekom group, on various projects over the past 10 years, and the trust earned in these relationships was an important factor behind choosing them to be a partner in this strategically important project. Comarch has demonstrated an understanding of our demands, and we engaged in truly collaborative solution development. Their dynamic approach and their ability to listen to our technical and business needs, as well as to adjust the development to best support our goals, convinces us we made the right decision.

> **Dr. Marcus Hacke** Founder & Managing Director ngena GmbH

MVNO TRANSFORMATION AND BSS OVERHAUL FOR THREE MOBILE VIKINGS NV BRANDS | MOBILE VIKINGS



➡ THE BUSINESS NEED

Mobile Vikings, part of DPG Media, was planning digital transformation of its mobile spectrum brands (Mobile Vikings, Stievie and JIM Mobile). The goal was to expand from a light MVNO to full MVNO in a cost-effective manner. This meant bringing together these brands, with a single, unified BSS to make business rules convergent. Comarch was chosen as provider due to its optimal coverage, extensive functionalities, best value for money offer, and experience in the telecommunications industry.



Beginning with three distinct brands, Comarch's system had to deliver convergence through a single BSS, in a project involving migrating existing systems to one that could integrate easily and was flexible enough to facilitate new product requests.

The deployed system had to overcome challenges associated with integrating the online control session for prepaid accounts from two different vendors.

Mobile Vikings also faced regulatory pressure, with strict deadlines set down by the European Commission.

PRODUCT

Comarch Smart BSS and Wholesale Billing for Mobile Vikings includes CRM, Self-care, Billing System, Product Catalog, Voucher Management, Customer Lifecycle Management, Loyalty Management, and Application Integration Framework. These optimize charging, invoicing and billing, and support authorization, service provisioning, real-time authentication, subscription and voucher management, balance checks, top-ups and business relations.

igoplus expected results

Comarch Smart BSS was built to replace the Stievie, JIM Mobile and Mobile Vikings systems, in just 18 months.

JIM Mobile & Mobile Vikings were seamlessly migrated to the new OCS without any customer interaction, with the Stievie migration taking place in between. Mobile Vikings' financial system was fully integrated, with comprehensive reporting for business KPIs and daily activities.

The Stievie was deployed in the Comarch Data Center in Kraków, in a manner flexible enough to add nView partner systems on demand.

Comarch Smart BSS now handles over 300 million monthly charging records, supporting Mobile Vikings' strong position on the Belgian telco market.



To support our FMVNO transition, Unleashed was looking for a technology partner that could help us with a BSS system that offers the full administrative scope. This BSS should cover our current mobile operations, but also has to be ready for our future multimedia operations. After intensive workshops, we are convinced that the Comarch Smart BSS and IPB solutions offer the modularity and comprehensiveness to achieve these goals. Taking into account Comarch's international and professional experience, we believe this partnership can result in great success.

> Koen Vermeire BSS Program Manager

OPTIMIZATION OF FIELD SERVICE MANAGEMENT FOR A NETWORK COVERING MORE THAN 300 000 SQUARE KILOMETERS AND MORE THAN 20 MILLION SUBSCRIBERS | ORANGE POLSKA



THE BUSINESS NEED

As the leading supplier of telecommunications services in Poland, Orange Polska was seeking to build on its reputation for the choice and quality of services offered to its 20 million-plus subscribers over a geographical area covering more than 300 000 square kilometers. The company wanted to reduce the costs of network service, simultaneously improving the quality of performed tasks. To this end, Orange Polska selected Comarch as partner for network service development.



- To provide an automated system for independent, regional field units, in a way that was both comprehensive and decentralized.
- To address a complex project covering a large geographical area, and to establish new organizational attitudes
- To deliver well-defined, stable structures including mobile devices, geographical information systems and automated task scheduling

THE IMPLEMENTED

Comarch Field Service Management was implemented in modular form. The solution supported field and back office employees, and included Dashboard, Automated Scheduling, Resource and Skill Management, Digital Map, Mobile Access and Reporting. Fully integrated with the Orange Polska environment, Comarch FSM was delivered with network inventory systems and trouble ticketing tools.

\P expected results

- Successful implementation of lean management methodology for field service operatives
- Higher efficiency among field teams and back
 office staff, including transport management
- Centralized management, monitoring and analysis of resource allocation, network management, field work and sophisticated orders
- Automated task dispatching
- Tools for real-time task management with focus on correcting network errors



Comarch's solution enabled us to introduce major improvements and streamlining in the organization. As a result, we could reduce operational costs. The system not only automated dispatching tasks but also, thanks to the integration, became a basic tool for completing the department's everyday work.

> **Krzysztof Zielosko** Director of Network Support Tools Orange Polska

IT PRODUCTS TO HELP YOU SOLVE BUSINESS CHALLENGES

PROVIDING ENTERPRISE SERVICES GLOBALLY

- Enterprise Product Catalog
- Digital Billing and Revenue Management
- Partner Management
- Wholesale Billing
- Global Network Operations Center

DIGITIZING ENTERPRISE CUSTOMERS

- Enteprise Billing, Charging & Revenue Management
- B2B Self-enablement Platform
- B2B Sales & Ordering

ENHANCING DIGITAL CUSTOMER JOURNEYS

- Digital Sales & Customer Care
- Real-time Data Control & Presentation
- Campaign Management
- Loyalty Management
- Business Intelligence

5G NETWORK OPERATIONS

- Zero-touch Network Provisioning
- Real-time OSS SDN/NFV Orchestration
- Intelligent Assurance & Analytics

RESOURCE MANAGEMENT

- Real-time Network Inventory Management
- Network Planning & Design
- Network Auto-discovery & Reconciliation
- Network Configuration Management
- Resource Order Management

INTELLIGENT ASSURANCE & ANALYTICS

- Al Control Desk
- Customer Experience Management
- Service Quality Management
- Service Monitoring

SERVICE DESIGN & FULFILLMENT

- Service Catalog
- Service Inventory
- Service Fulfillment & Orchestration
- Field Service Management
- Service Activation

IOT ECOSYSTEM

- IoT Connect
- Smart Parking
- Smart Lighting
- Smart Metering
- Mobile Healthcare for Telecoms

IOT CONNECT

- IoT Solution Management
- IoT Connectivity Management
- IoT Analytics Platform
- IoT Billing

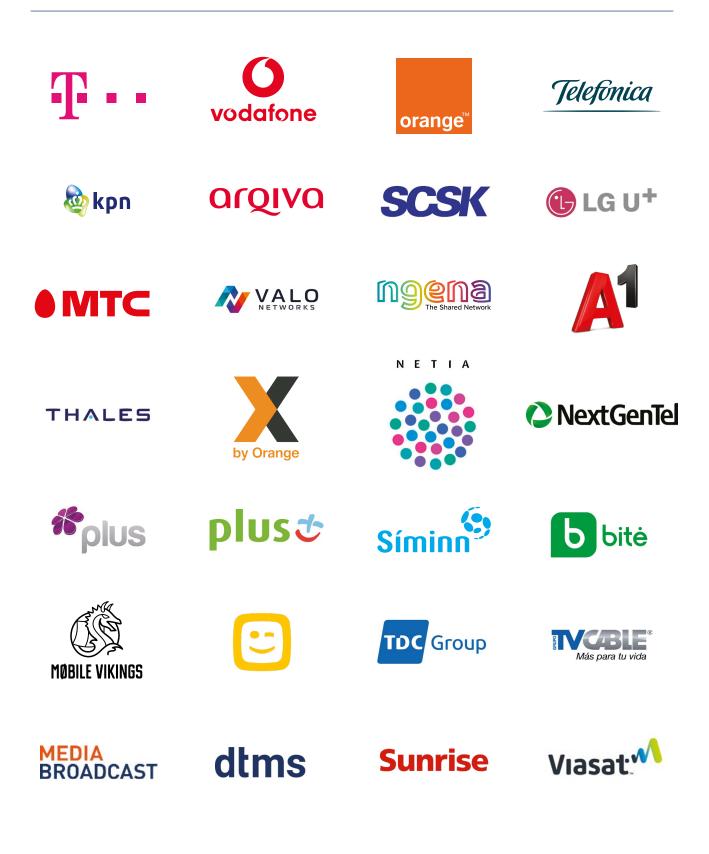
CLOUD & SECURTIY

- Cloud Data Storage & Backup
- Cloud Infraspace
- Multi-cloud Management Services
- Cyber Security
- Cloud Subscription Billing

PROFESSIONAL SERVICES

- Business Consulting
- Managed Services
- BSS/OSS Transformations
- Cloud Transformation
- End to end Project Delivery

TRUSTED BY TELECOMS WORLDWIDE



COMARCH

ABOUT COMARCH

Since 1993, Comarch's specialist telecommunications business unit has worked with some of the biggest telecoms companies in the world to transform their business operations. Our industry-recognized teleco OSS and BSS products help telecoms companies streamline their business processes and simplify their systems to increase business efficiency and revenue, as well as to improve the customer experience and help telecos bring innovative services to market. Comarch's customers in telecommunications include Telefónica, Deutsche Telekom, Vodafone, KPN and Orange.

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