Integrated B/OSS Solution

By CROSS Network Intelligence and Enxoo

enxoo
for communications

CROSS
NETWORK INTELLIGENCE

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Executive Summary
The challenge for the communications industry

Today, the communications industry is at an inflection point and the sector is being driven by a number of clear trends. The times of high profitability and margins are over. In the current business landscape, there are mounting challenges. Increasing competition forces businesses to carefully watch every penny they spend and to seek new business models.

Technology is also changing rapidly. It's been a decade since we observed the shift from voice to data. Today, the volume of data traversing fiber and wireless networks is unimaginable, pushing technology to the limits, but also fueling constant innovation.

Customers demand services to be delivered instantly. That's not like it used to be, when customers were willing to wait a few days after placing an order for delivery. Today, to keep pace with customer expectations services need to be activated instantly - from data packages and virtual servers, to content, such as in the Video On Demand business.

Price is no longer the most important decision-making factor. What matters far more are factors such as service quality, customer experience, and the satisfaction that results.

Companies that really put customers at the center of their attention often win against competitors.

All of these trends are challenging for the communications industry. Overcoming them may be even more challenging for organizations that run their businesses with Business Support Systems and Operational Support Systems (BSS/OSS, or simply B/OSS) that are disconnected or insufficiently flexible to handle new requirements. A legacy backbone can result in significant delays, poor customer experience or errors, such as inaccurate billing or pricing.

02

Industry Pain Points
## The issues that face us today

Our years of experience in the communications industry, gained during numerous implementation projects, industry-specific summits, and innumerable discussions with our customers, means we have seen the most common pain points faced today.

Gap between BSS and OSS

It isn't simply that gaps between BSS and OSS domains influence far more business issues than just an IT system. It extends to the mindset of the organization and can create a silo effect. There are two separate teams: customer-facing business departments and network-facing engineering departments, which may not communicate effectively with each other, leading to reduced productivity.

Each team battles each other instead of working together for the benefit of the customer. There may be artificial walls built from internal processes, such as approvals, domain systems, or KPIs that throttle business growth.
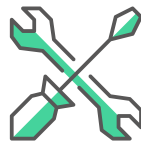
Commercial Service Catalog intertwined with Technology Catalog

Constantly changing markets require product offers to be frequently adjusted. Telecom products are a special case, as they always have two sides: commercial (customer-facing), and technical (network-facing).

Marketing should mainly communicate customer-facing aspects, omitting irrelevant technical details. At the same time, Technical or Operational Departments should focus only on network-facing aspects. Unfortunately, a common mistake is to confuse these, which can introduce interdependencies between Marketing and Operations - and may have a negative impact on the flexibility of launching new products.
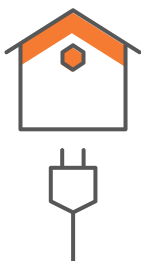
Customer Services not mapped to Network Resources

Telecoms operators often find it challenging to determine which underlying network resources (trenches, conduits, routers, splitters, etc.) support particular customer services. This makes it difficult, time-consuming and costly to perform Root Cause Analysis in the event of a network outage.

Data Quality and Low Level of Data Integration

The gap between BSS and OSS domains may result in poor data quality or a lack of integration. This can make it nearly impossible to answer even the most basic business questions, such as:

- *"What is the margin on a certain group of services?"*

- *"Which 3rd-party tails do we rent to support a certain building?"*

- *"What is the expected ROI of a certain investment?"*

The B/OSS division may be the result of business evolution too. Organizations constantly undergo structural changes, mergers, or acquisitions, and there is rarely enough capacity for IT to keep up with the changes.

IT Projects fatigue

Business organizations can tire of endless IT projects that aim to revolutionize their operations yet fail to deliver tangible results. This may result in assuming that all IT initiatives are doomed to failure.

As a result, initiating new, long-term projects organized by traditional approaches with requirement, design, implementation, and test phases can be very difficult, especially in sales organizations which are largely short/mid-term oriented.

03
Integrated B/OSS Solution Overview
An automated service fulfillment tool

With more than 15 years of experience in telecom BSS and OSS areas, CROSS Network Intelligence and Enxoo partnered to launch a common solution. This is an integrated platform for order and network management, including business and operational processes, which is exclusively optimized for telecoms

The integrated BSS/OSS solution from Enxoo & CROSS Network Intelligence is an automated service fulfillment tool built on the Salesforce® Platform. It is dedicated to services routed over multiple different technologies and resources (including leased and owned assets), or which require expansion to connect new premises to existing network infrastructure.

The solution accelerates Service Provisioning through the unification of the business and network framework; streamlines Service Assurance by shortening reaction time to incidents; and simplifies Reporting, giving transparent insight into data. In addition, the powerful, yet easy-to-use B/OSS solution:

- automates cost estimation of service enquiries for customers,

- serves and processes orders quickly and accurately,

- accelerates the process of offer preparation from days or weeks to be completed in minutes,

- increases the level of customer service using a fully scalable sales channel.

CUSTOMER

Process & Portfolio Consistency → Sales Representative

Strong Growth of Online Sales → Online Channel

Simplification of Customer Journey → Mobile

END-TO-END SOLUTION FOR MODERN B2B TELECOMS, INTEGRATING BSS AND OSS

OSS Solution of
CROSS Network Intelligence

CROSS is a next-generation network inventory product which provides an integrated and consolidated record of all owned and leased physical, logical, and virtual network inventory assets and the services which run on them.
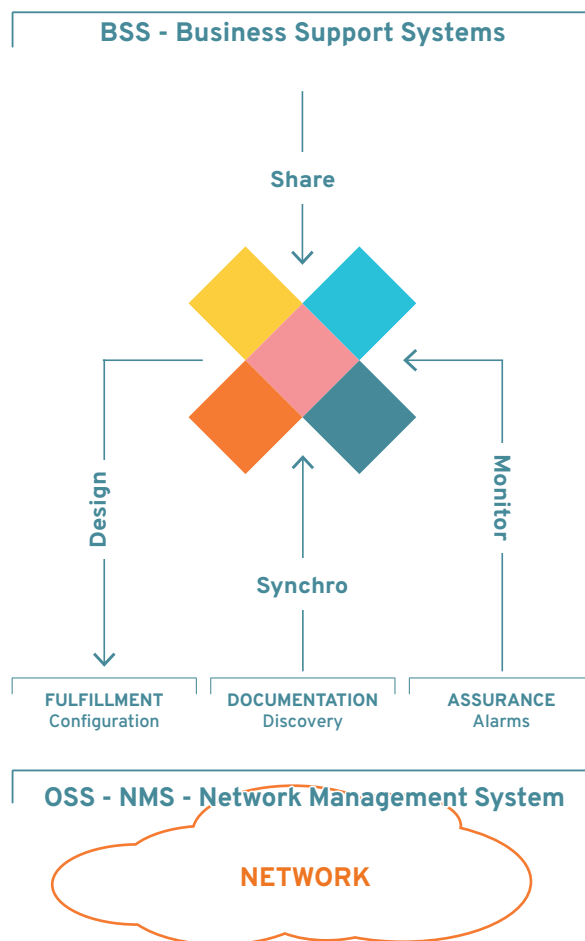
CROSS enables telecoms operators to plan, document, and integrate inventory services into their key financial, operational, and assurance processes, including:

- Root Cause Analysis and Service Impact Analysis,

- Service Fulfillment,

- Revenue Assurance (OPEX),

- Regulatory Reporting and Asset Revenue Mapping,

- Capacity Analysis,

- Virtual Network Model and sales over new technology.

CROSS provides high-performance, integrated operational inventory support with the topology and layering of your networks at its core.

The system is based on standard database technologies and programming languages with no extra hidden costs. The solution enables out-of-the-box configuration of inventory and transport technologies. Standard data loaders are designed to work with any quality of data so that you can start working immediately and improve the data as you go.

CROSS provides flexible inventory modeling, enabling agile, low-cost implementation. It delivers Service & Technology Catalog support and maps all network resources that are required for providing a service to your customer.

BSS - Business Support Systems

Share

Design

Monitor

Synchro

FULFILLMENT Configuration	DOCUMENTATION Discovery	ASSURANCE Alarms

OSS - NMS - Network Management System

NETWORK

BSS Solution of Enxoo for Communications

Enxoo for Communications is a comprehensive BSS framework covering areas from CRM and Order Management to Service Assurance, designed specifically for wholesale and B2B telecoms. It leverages Enxoo's deep experience of many project deliveries and radically reduces implementation time.

The comprehensive, pre-configured platform is based on the latest omnichannel solution, Enxoo Commerce, a quote-to-cash engine for telecoms providing a configurable service catalog and quote configurator. Enxoo for Communications is built natively on the world-leading Salesforce® Platform.

			ESB	BI
CUSTOMER / PARTNER PORTAL WITH E-COMMERCE Enxoo for Communications				
CRM / SFA Salesforce Sales Cloud	**Configure Price Quote** Enxoo for Communications	**Field Service** Enxoo for Communications*		
Marketing Automation Salesforce Pardot Marketing Cloud	**Common Service Catalog** Enxoo for Communications	**Billing** Enxoo Billing*		
Service Assurance Salesforce Service Cloud	**Order Management** Enxoo for Communications	**Employee Performance** Skilo*		
NETWORK INVENTORY / CROSS Network Intelligence				

BSS — OSS

ESB: SYSTEM INTEGRATION / Integration Cloud + MuleSoft ESB

BI: BUSINESS INTELLIGENCE / Salesforce Einstein Analytics

* optional

What are the key features of the solution?

CRM with CPQ (configure-price-quote)

Connect with your customers in an entirely new way using the leading customer-centric CRM platform from Salesforce® and an industry-specific quote-to-cash engine.

Configurable Service Catalog

Structure your product offering according to industry standards. Enable continuous product innovation with flexible, configurable products and pricing engine.
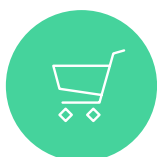
Order Management & Service Provisioning

Deliver services faster and reduce manual overhead with an industry-specific order management workflow, integrated with network provisioning platforms.

Service Assurance

Fix the root cause of incidents and provide world-class customer service.

eCommerce

Deliver a consistent customer experience across multiple channels, standardize sales processes, and meet your customers everywhere and anytime they are ready.

Employee Performance Management

Track performance of your representatives and help them grow to achieve better results and job satisfaction.

04

# End-to-end business processes in B/OSS
Focus on service, detect faults more easily

Product Catalog

According to the TM Forum Information Framework (SID) standards, a service catalog consists of a Customer-Facing Service (CFS) and a Resource-Facing Service (RFS). The CFS captures the commercial view of a service, containing attributes that are especially meaningful for an end-user. The RFS represents a way in which the service is configured and is invisible to an end-user.

We reflect both the customer-facing and resource-facing sides of a service by connecting a Commercial Service Catalog with a Technology Catalog, enabling operators to:

- facilitate order decomposition, allowing focus on the fundamental technical tasks required to provision resource-facing elements of a service;

- create reusable elements that can be used for designing new products; and

- more easily identify affected services whenever a resource fault is detected.
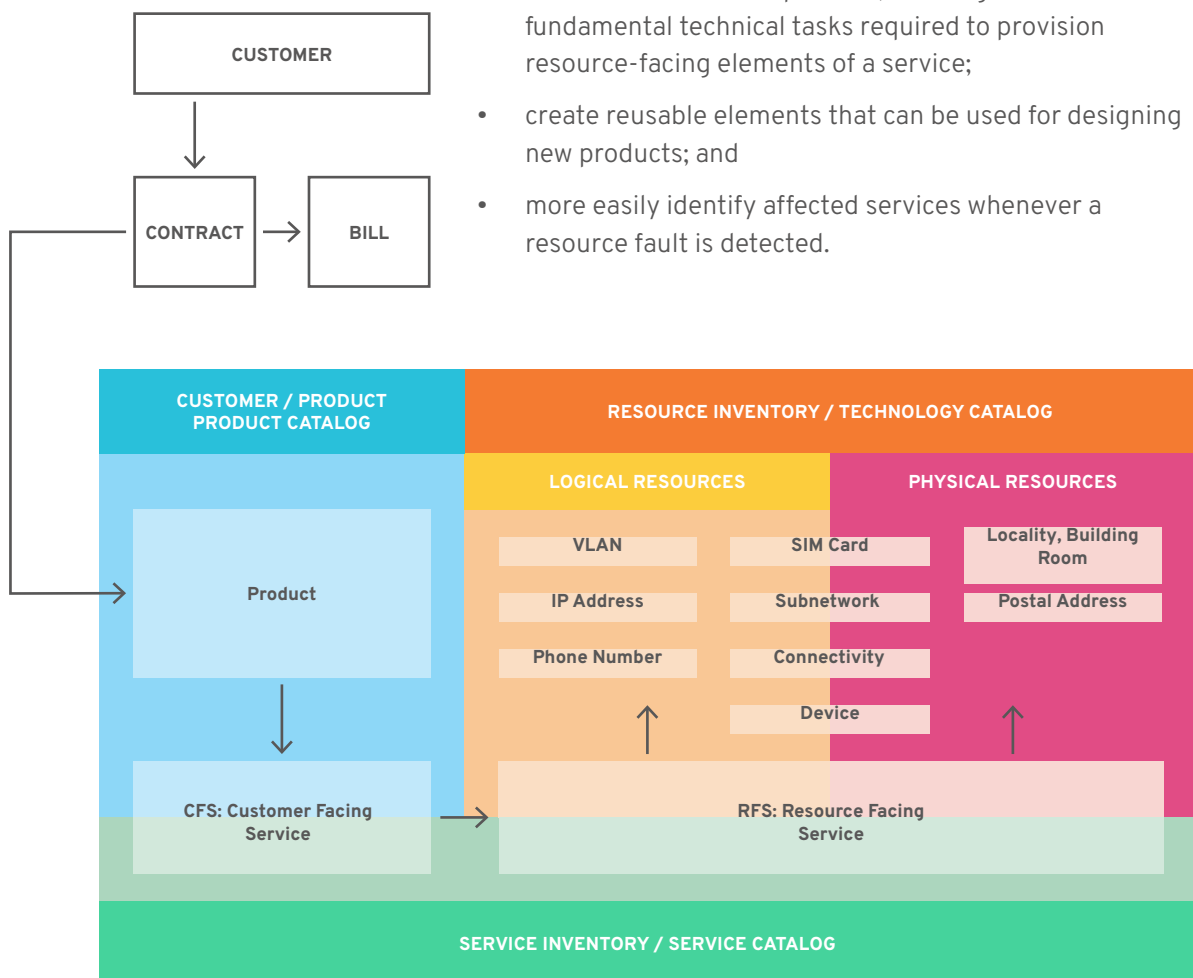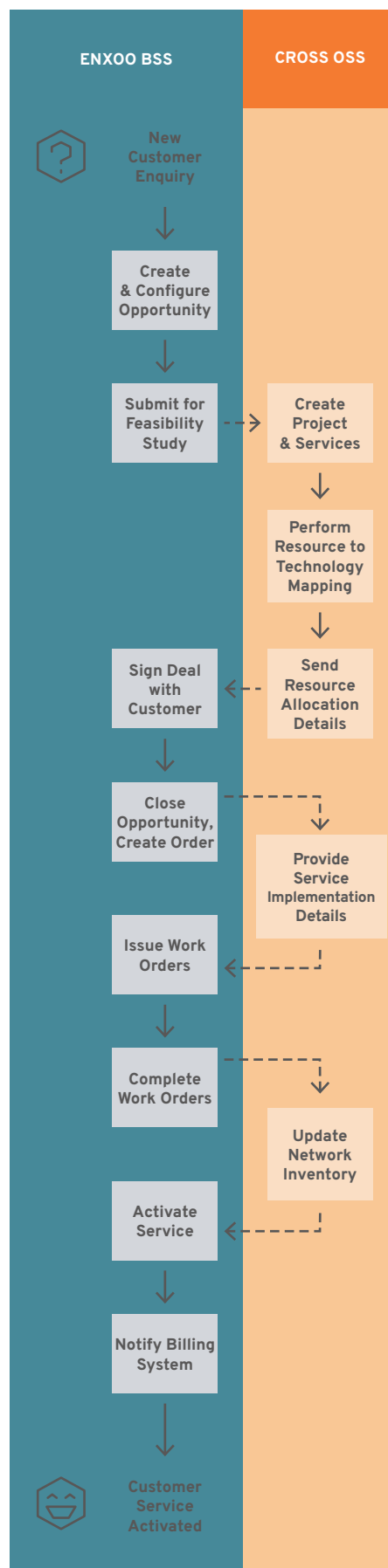
Service Activation

Service activation in the communications industry is a complex process, during which business considerations affect operational aspects at every level. These activities can be streamlined and accelerated by the introduction of a comprehensive, fully-integrated solution.

Integrating the BSS and OSS makes the service activation process more transparent. First, a new sales opportunity is identified as a result of a customer inquiry. Next, a salesperson can register the new opportunity in Enxoo BSS and configure a draft version of a quote. An initial set of products is selected and their attributes configured. A price list is taken from price book entries for every product and then consolidated into a quote. After product configuration is complete, a feasibility study request is sent to CROSS OSS. For the purpose of resource-to-technology mapping, project, service, and service components are created in the OSS based on BSS product-to-resource decomposition.

Resources are allocated according to product requirements and the results are then sent back to the BSS. A detailed offer can then be presented to the customer. After negotiations, when a deal is closed, the opportunity status is updated. Following opportunity closure, orders are created and a request for details about the service implementation is sent to CROSS OSS.

CROSS provides technical implementation details of all order items, which provides a base for work order creation in Enxoo BSS. Work orders are issued based on provisioning plans defined for products and information sent from CROSS. They may include automatic tasks, such as sending information to external systems, or manual tasks for technicians (building home connection, device configuration, etc.) Work orders are tracked in the BSS. Once they are completed, network inventory is updated in CROSS OSS, and service status is set to active. When the service is accepted by the customer, an additional callout to the billing system is made, indicating that billing can commence.

Flow diagram columns: ENXOO BSS | CROSS OSS

- New Customer Enquiry
- Create & Configure Opportunity
- Submit for Feasibility Study → Create Project & Services
- Perform Resource to Technology Mapping
- Send Resource Allocation Details → Sign Deal with Customer
- Close Opportunity, Create Order
- Provide Service Implementation Details
- Issue Work Orders
- Complete Work Orders
- Update Network Inventory
- Activate Service
- Notify Billing System
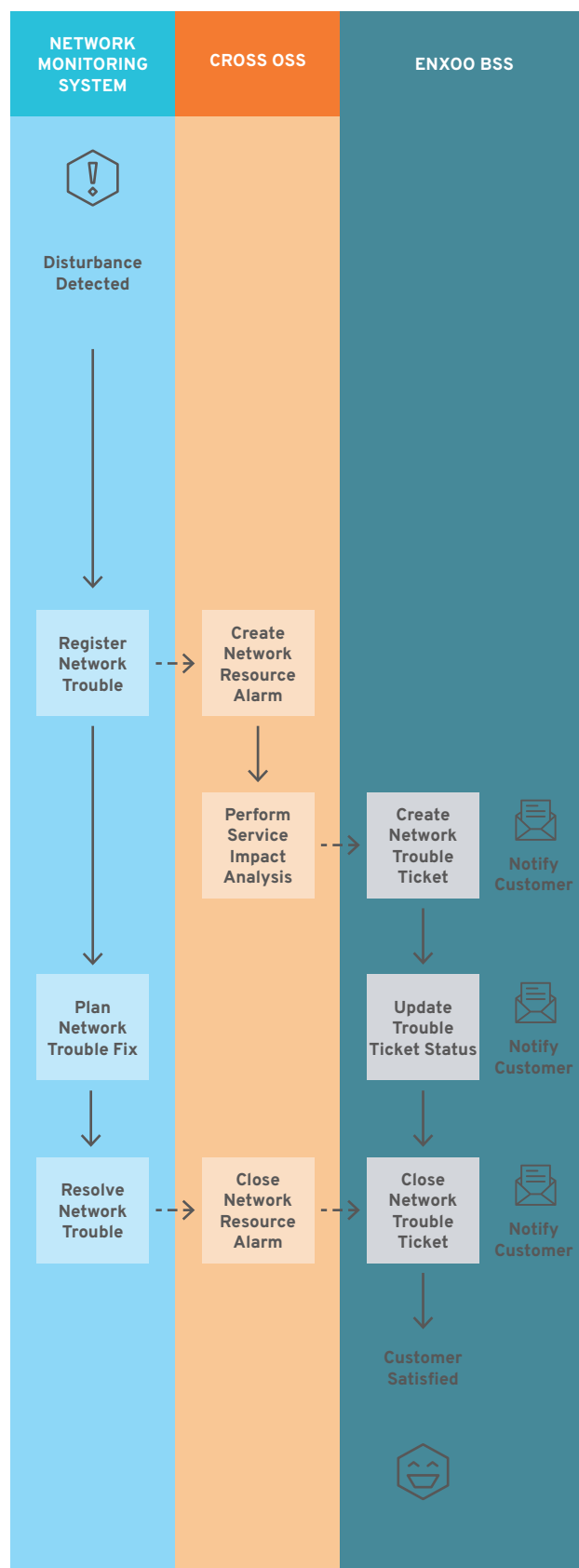- Customer Service Activated
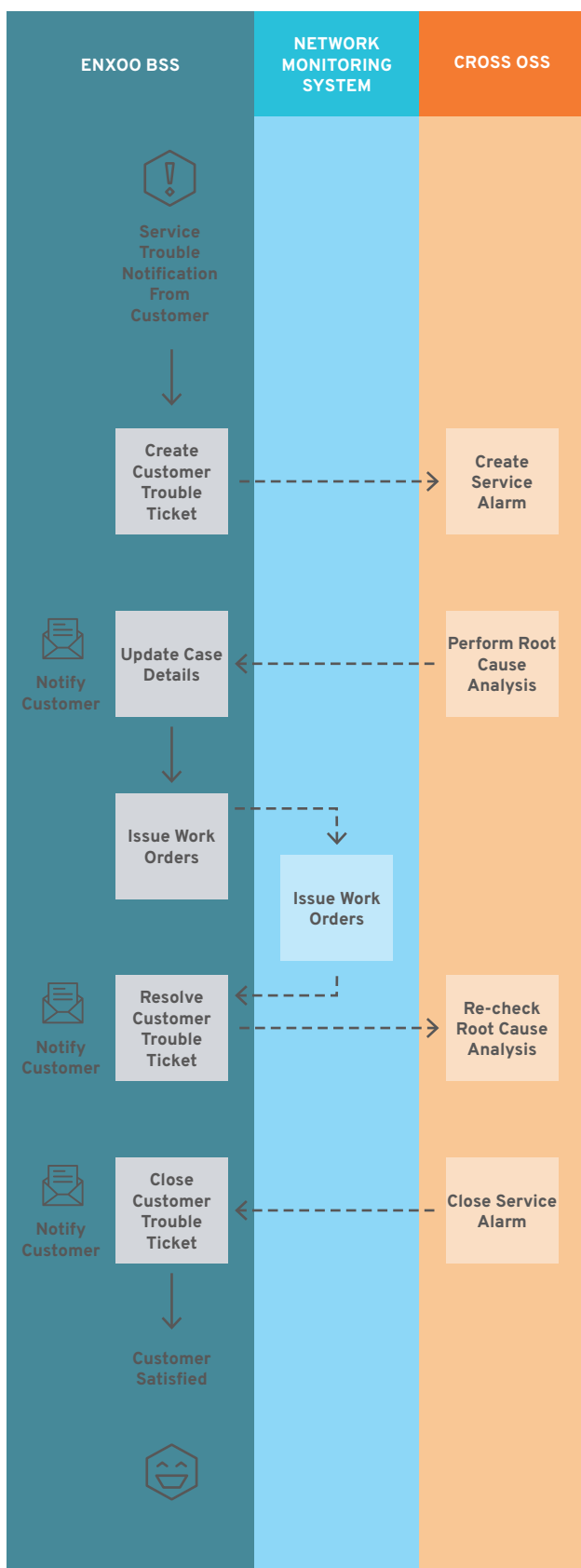
Proactive
Service Assurance

When issues are detected by Network Monitoring systems, information regarding the disturbance is sent to CROSS OSS, and an alarm is generated.

CROSS OSS starts performing a service impact analysis, returning a list of all customer services that might be affected by the malfunctioning resource. The results are then pushed to Enxoo BSS.

Based on the information sent from CROSS OSS, a network trouble ticket structure is created in Enxoo BSS. For every affected service, a customer case is created, which is used for tracking communication with the customer and for SLA calculation.

The customer is informed of the status of each case and given an estimated outage time. Status updates on each open case are also sent to the customer. As soon as the network issue is resolved, CROSS OSS sends a network alarm closure message to Enxoo BSS. Finally, Enxoo BSS closes the relevant trouble tickets and notifies the customer that the service disruption is over.

NETWORK MONITORING SYSTEM	CROSS OSS	ENXOO BSS	
⬡! Disturbance Detected			
Register Network Trouble	Create Network Resource Alarm		
	Perform Service Impact Analysis	Create Network Trouble Ticket	✉ Notify Customer
Plan Network Trouble Fix		Update Trouble Ticket Status	✉ Notify Customer
Resolve Network Trouble	Close Network Resource Alarm	Close Network Trouble Ticket	✉ Notify Customer
		Customer Satisfied	

Reactive Service Assurance

ENXOO BSS

Service Trouble Notification From Customer

Create Customer Trouble Ticket

Notify Customer — **Update Case Details**

Issue Work Orders

Notify Customer — **Resolve Customer Trouble Ticket**

Notify Customer — **Close Customer Trouble Ticket**

Customer Satisfied

NETWORK MONITORING SYSTEM

Issue Work Orders

CROSS OSS

Create Service Alarm

Perform Root Cause Analysis

Re-check Root Cause Analysis

Close Service Alarm

A customer reports that a service is not performing as intended. This can be done via a phone inquiry, email, or a self-service portal. A Customer Trouble ticket is raised in Enxoo BSS. Key information is captured and the case details are populated. A case is linked to an active service. As soon as a case is created, information about the service trouble is sent to CROSS OSS.

At this point, a Service Alarm is raised in CROSS OSS, initiating a root cause analysis. From this, a list of all network resource alarms that may be affecting the service is returned.

Based on the data from CROSS, case details are updated and information about a possible problem cause and estimated outage time is sent to the customer. Whenever key information is updated in the customer case, a notification is sent.
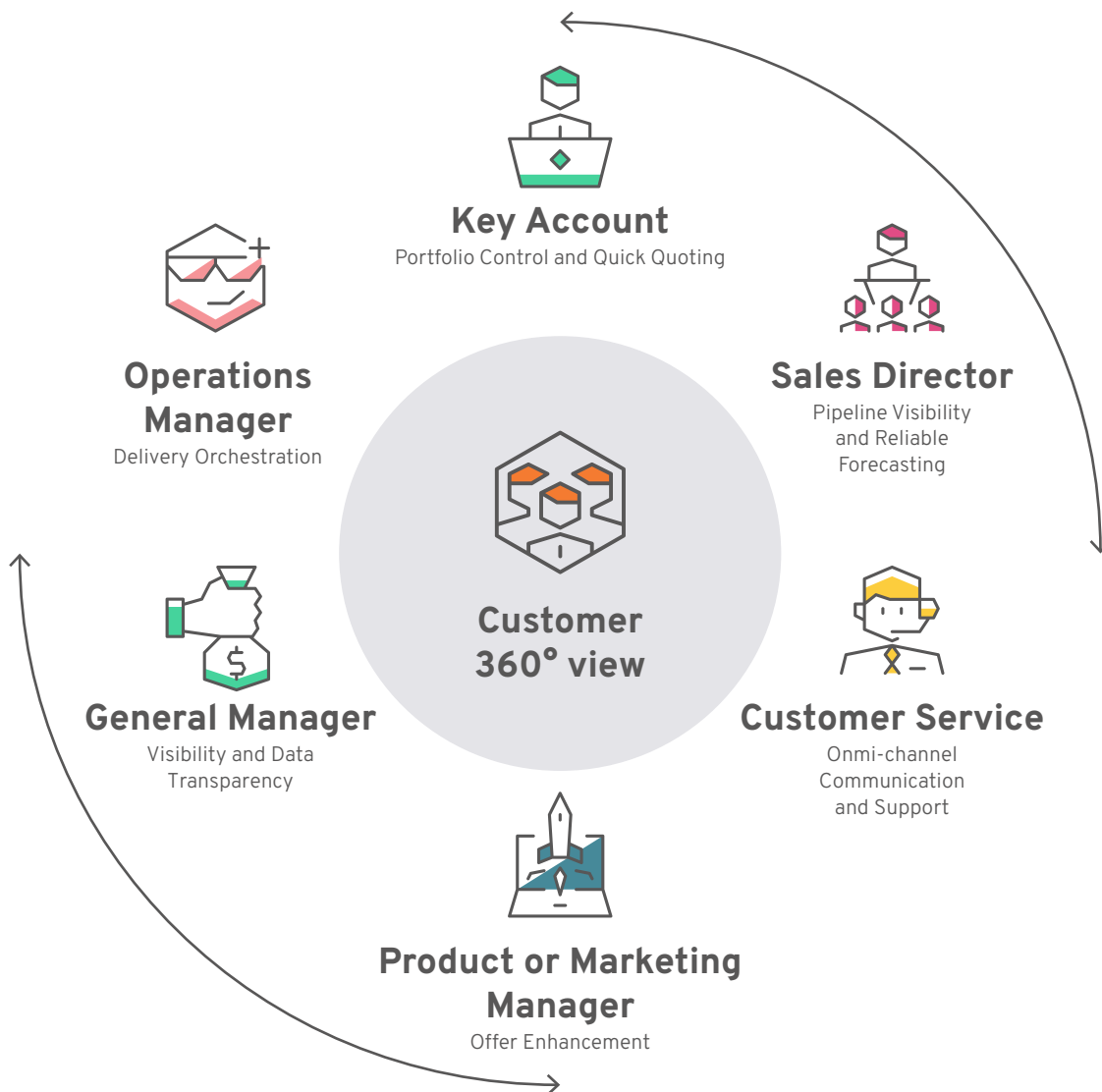
In order to resolve a case, work orders are issued to the technicians that will be performing the tasks. Once the tasks have been completed, Enxoo BSS receives a notification from the Network Operations Center and the customer case is resolved. Another request for root cause analysis is sent to check whether all network resource alarms were addressed and closed. Enxoo BSS closes the trouble ticket and notifies the customer that the service disruption is over.

05

B/OSS by CROSS and Enxoo

What are the benefits?

The integrated BSS/OSS solution from Enxoo &
CROSS provides end-to-end operational visibility of
the business for key stakeholders in the organization
and enables the customer to be the center of
attention, providing a comprehensive 360° view for
all related activities.

Key Account
Portfolio Control and Quick Quoting

Operations Manager
Delivery Orchestration

Sales Director
Pipeline Visibility
and Reliable
Forecasting

Customer 360° view

General Manager
Visibility and Data
Transparency

Customer Service
Onmi-channel
Communication
and Support

**Product or Marketing Manager**
Offer Enhancement

Account Manager's Perspective

For the Account Manager, it is essential to serve customers as well as possible. In order to do this, they need to have constant control over a product portfolio and to be able to prepare complex quotations faster and more accurately. Thanks to the integrated B/OSS solution, Account Managers can:

- store all customer information in one place and access it easily from different devices;

- reconnect with a customer regularly by setting reminders and tasks;

- build a full understanding of the customer service portfolio to control churn;

- prepare offers in minutes instead of days;

- avoid configuration mistakes;

- use active document templates for offers, pricing quotes, orders, etc.; and

- know the status of key customer activities.
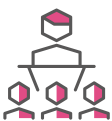
Sales Director's Perspective

Sales Directors need to have clear visibility into the sales pipeline to control the sales figures, rep performance, and KPIs. Sales insight enables them to make realistic and data-driven decisions. With the integrated B/OSS solution Sales Directors can:

- receive real-time information about the performance of the Sales Team, Account Managers, and Key Accounts;

- access a quality sales pipeline for constructive discussions with Account Managers, and Key Accounts;

- make reliable forecasting with up-to-date data; and

- increase team efficiency because of automation.

Customer's Perspective

During a purchase journey, customers pay great attention to the experience they receive from a brand. They would like to receive effective and fast customer service, characterized by deep personalization. All these factors matter when customers select their partner. The integrated B/OSS solution means that customers can receive:

- fast and error-free quotations;

- better support from all touch points;

- a partner who knows and understands them; and

- access to the automated intra-operator process for pricing and delivery.

Marketing/ Product Manager's Perspective

Marketing and Product Managers continually seek to optimize products or processes and check the results. This is crucial to staying in control of offers. With the integrated B/OSS solution, Marketing or Product Managers can:

- create pricing policies and models for automated pricing;

- improve quality in manual pricing, such as customized rates, additional discounts, and more, with a clear and efficient approval process;

- eliminate mistakes in offer configuration;

- enforce quality of product and contract documentation sent to customers using the Document Generator, which includes active templates;

- make changes to product configurations in minutes instead of weeks.

- qualify and provide sales leads and gain insights into lead and opportunity management;

- define and manage omnichannel campaigns; and

- easily measure ROI of marketing initiatives.

Operations Manager's Perspective

The delivery process and network inventory are two of the most critical responsibilities for Operations Managers. They need to streamline and orchestrate deliveries so that order provisioning is fast and accurate. Thanks to the integrated B/OSS solution, Operations Managers can:

- manage orders and Network Inventory in the OSS;

- gain full process visibility and the ability to identify bottlenecks;

- benefit from process automation for simple products;

- monitor KPIs and optimize processes; and

- communicate easily with the Sales team via Chatter.

Customer Service Perspective

To provide seamless customer experience across all channels Customer Service representatives must have the right tools at their disposal to enable them to switch between channels with ease, gather customer data, and unify customer paths. The integrated B/OSS solution enables Customer Service Representatives to:

- obtain a 360 ° view of customer data;

- support typical telecom business processes, such as customer trouble tickets or network trouble tickets more effectively;

- support all channels, such as calls, emails, social media, SMS, web, live chat, and switch between them quickly;

- manage customer entitlements and SLAs; and

- create and maintain the Knowledge Base for Customer Service Agents.
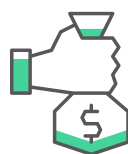
General Manager's Perspective

To be successful, General Managers need to obtain clear visibility of all business processes so that they can secure meaningful insights, maintain control over the most important elements, and develop reseller returns to boost your revenue. With the integrated B/OSS solution General Managers can:

- understand their business, thanks to clear and real-time data dashboards, such as Account Manager ranking, intake / churn results, financial parameters of signed deals, or information about new opportunities;

- enable partners to resell their products or include partner offers in the portfolio; and

- manage the business from anywhere on mobile devices.

06

Customer References
What do they say?

"

The BSS/OSS solution by Enxoo & CROSS will enable NEXERA to respond to customer demands quickly and with the highest quality. Great level of automation of the solution, flexibility of platform as well as in-depth telco knowledge and experience of Enxoo & CROSS teams encouraged us to select those partners.

"

NEXERA

"

Building new B2B and wholesale BSS systems with Salesforce CRM, including: sales, provisioning, customer service and custom CPQ, integrated to OSS and Billing (Slovakia).

"

BENESTRA

"

Consolidating the processes, services catalog and network resources. The aim was to replace all OSS systems, and integrate CROSS with the new unified CMDB.

"

T··Mobile

07

Summary
Key takeaways

About BSS/OSS solution by CROSS NI and Enxoo

The BSS/OSS end-to-end industry framework by Enxoo and CROSS is an integrated and automated service fulfillment solution based on Salesforce. Tailored for Telecoms and dedicated to services routed over multiple technologies and network resources, our solution:

- Provides a single platform for Order and Network Management;

- Accelerates and enhances Service Provisioning through the unification of business and technical frameworks;

- Streamlines Service Assurance by reducing the reaction time to incidents;

- Simplifies Reporting and gives transparent insight into data.

About CROSS Network Intelligence (CNI)

CNI is a software company dedicated to providing innovative and disruptive solutions to the telecoms and utilities market. The company started with implementing GE Smallworld products, and enhancing their functionality as required by the customers, such as enhancing the physical inventory system with Root Cause Analysis and Service Impact Analysis. This effort led to building a unique data model designed to unify physical, logical and service inventories, enabling rapid analysis of the entire technology stack across hierarchies. The data model became the core of CROSS, a next generation network inventory product. The company sales, marketing and product strategy headquarters are in Cambridge, UK, while partner and business development and product development are in Prague and Ostrava in the Czech Republic.

About Enxoo

Enxoo is an IT consulting company which delivers transformational projects to automate and simplify the quote-to-revenue process powered by Salesforce technology. Enxoo solutions are designed to help increase revenue and sales performance efficiency for companies from telecommunications, software, business services, and real estate industries. Enxoo is headquartered in Warsaw, Poland, with offices in the Czech Republic, Germany, and the USA