



quantel

DIGITAL BSS as a SERVICE

Solution Overview

Exceptional Business Efficiency,

Agility, and Convenience

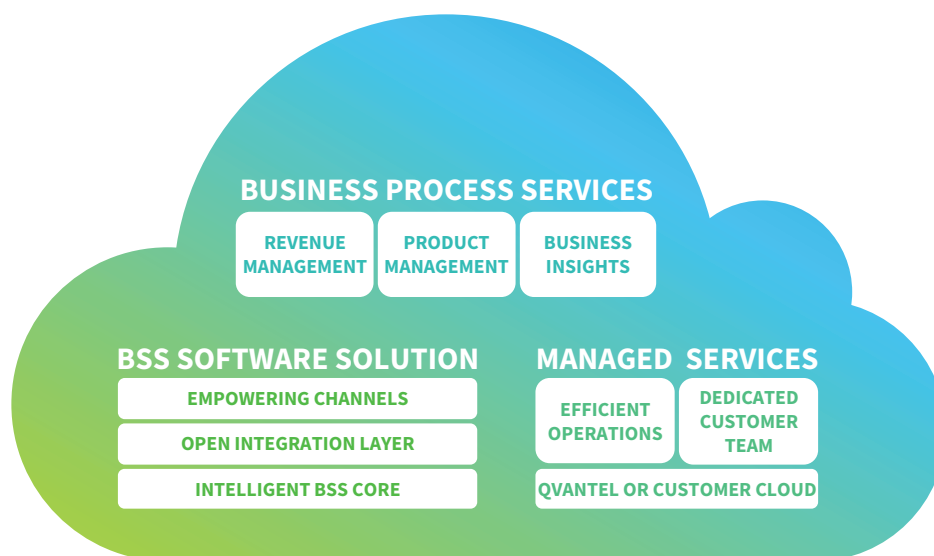
Qvintel Digital BSS as a Service

Cost Efficiency, Business Agility and Customer Service Excellence

Qvintel Digital BSS as a Service (BSSaaS) is at the heart of running Communication Service Providers' processes and software solutions that cover the vital elements of their business: Customer Interface Management, Product Portfolio Management, and Revenue Flow. It is the most convenient and efficient option for operators who want a greenfield launch of a new brand, or to set up parallel business operations with a modern new BSS solution.

Qvintel's Digital BSSaaS is also a comprehensive solution for the complete replacement of an entire legacy BSS, and provides outstanding business efficiency that enables CSPs to focus on their core business while leaving the operations to Qvintel. This enables Qvintel to deliver unmatched cost efficiency, business agility and excellence of customer services for CSPs.

The Essence of Digital BSS as a Service



Business Challenges

Trying to address today's business challenges with yesterday's paradigms of vast amounts of vendors in the BSS landscape and complex integrations is costly and slow. More and more operators are selecting BSS as a Service as a new way of running BSS operations and providing outstanding business efficiency, agility and excellence in customer service. The typical business challenges solved with BSS as a Service are:

Acceleration for New Business Areas

Sometimes CSPs might have mainstream business built on less agile and costly BSS solutions, and the best way to accelerate the entry to a new business area is establishing a new business line. This can be done in a modern and efficient way with the BSS as a Service model, setting it up to run independently from the legacy BSS. This enables the new business to speed up the market entry without constraints and costs of a legacy BSS landscape.

Transforming the Full BSS Landscape

Many CSPs are currently having major business challenges with the cost base and complexity of legacy BSS systems. Other solutions are also aging and approaching end-of-life with just a few experts being able to even maintain the old systems. For those business situations, establishing a new full BSS as a Service and starting a commercial migration to the modern new BSS system is the optimal solution for growth and to stay competitive.

Setting Up a New, Greenfield Business

When setting up a new digital businesses, CSPs are looking for a future-proof and efficient BSS strategy. Qvintel's BSS as a Service (BSSaaS) model has been optimized via over 10 years of operation, with several customers globally. Qvintel's BSSaaS provides the most convenient, flexible, and efficient solution for new businesses to succeed and adapt to modern customer and market requirements.

Exceptional Efficiency

Qvantel's Digital BSS as a Service (BSSaaS) delivers unmatched business efficiency. The service is a fusion of state-of-the-art BSS software capabilities, efficient managed services and a suite of business process services delivered with dedicated, passionate expert teams. The business efficiency is built on several corner stones that together, form an exceptionally efficient and unique way of running digital business:

- | High level of process automation built into our software and business processes
- | Solution's highly competitive cost level (thanks to high use of open source technologies and automation)
- | Ability to run multiplay business with the single BSS solution stack: B2C, B2B, mobile and fixed line
- | Predefined reference business processes that are streamlined with years of industry experience
- | Easy to use and powerful tools to empower back-office teams to optimize their business
- | Possibility to outsource selected business processes to Qvantel, to avoid extensive own headcount
- | Flexibility for leveraging best of breed selected third party solutions (e.g. for charging)
- | Cloud native micro-service design that enables efficient operations as well as expandability
- | The ability to focus on own business versus focusing on BSS software, frees the CSP to drive business success

Modern Foundation for Tomorrow's Digital Business

The Qvantel Digital BSS as a Service contains a modern, and uniquely designed omni-channel suite as well as an open and intelligent core BSS for efficient monetization of digital services. CSPs selecting the Qvantel Digital BSS as a Service can build their future digital business on a solution that is designed for tomorrow's digital business, and evolves rapidly via continuous Qvantel innovations.

The service incorporates Qvantel Digital Channels designed for digitalized business and enlightening experiences. The channel suite excels in its way of shifting service experiences from assisted channels to automated, digital self-service.

This drives both business efficiency, and delivers personalized, enriched customer experiences that increase sales and strengthens loyalty.

Among the key characteristics and key benefits of the channel solution suite are the following:

- | Omni-channel experience across all customer touchpoints
- | Simplified customer journeys, driving sales conversion and customer satisfaction
- | Intelligent, predictive experiences optimizing up-selling and providing personalized dialogue
- | Powerful customer 360 views and easy-to-use tools that reduce customer care costs and average handling time
- | Path towards highly automated customer care, with major reduction of manual work

To power the intelligent and enlightening customer journeys, and monetizing the digital services, the Qvantel Digital BSS as a Service incorporates a modern suite of core BSS capabilities for today's and tomorrow's digital business needs. Among the capabilities are:

- | Open APIs for channel innovation: for adding new digital channels such as tailored, automated kiosks and specialized digital assistants
- | Suite of channel intelligence engines for intelligent offering management and customer journey personalization
- | Efficiency of catalog driven business for quick market introductions and management throughout the service lifecycle
- | Smart basket management and shared business logic for omni-channel journeys across customer touchpoints
- | Powerful back-office tools for managing offerings, personalization of channel journeys and e.g. credit risk management

Services for Solution Delivery

Qvantel has a suite of services for taking BSS as a Service into use.

Customer Journey Simplification

For any business, designing the end-customer experience carefully from both the customer and business points of view is paramount. To enable this, Qvantel has a Customer Journey Simplification service which helps CSPs to design how customers interact with them. This service defines how journeys across digital channels can be optimized for outstanding customer experience, improving customer satisfaction and increasing customer loyalty. Qvantel uses its proven methodology to make these journeys easy and coherent across the multitude of services, segments, channels, and technical platforms.

Turnkey Solution Delivery Services

CSPs can start using the BSS as a Service solution through Qvantel's turnkey delivery services. These services have structured methodologies for planning and executing the full variety of work streams related to transformation planning, execution and taking the system into production. The methodology covers business targets definition as well as business process definition (using Qvantel reference processes) and rigid project management throughout the solution delivery process.

The benefits of Qvantel's delivery services include:

- | Fit to business need: reference processes and industry experience enables creating optimal customer solution for the business needs efficiently
- | Speed and flexibility: BSS as a Service is managed as a product – making it fast to take into use, yet customizable for accommodating customer specific needs
- | Experience and ready-made toolchains accelerate the delivery and optimize quality
- | Customer has clear visibility for progress throughout the process, and own resource usage can be kept to a minimum

Managed Services

Once the BSSaaS is taken into use, Qvantel Managed Service provide a suite of services for efficient, continuous service operations - running the customers' BSS solution smoothly without incidents or service disruptions (or in rare case of such events, ensures quick service recovery.) Qvantel's Managed Services covers the scope of IT Managed Services and also Business Process Management.

- | Dedicated customer support teams to ensure deep understanding of the customer's specific technical and business environment
- | Local and regional operation centers for seamless and immediate service, with 24/7 operational service monitoring
- | End-to-end service coverage for ensuring continuous compliance to predefined customer-specific SLA levels and KPI targets

Service Desk

The Service Desk is the primary point of contact for a customer in the case of a service disruption, service performance questions, and request for guidance or maintenance in a timely manner. Service Desk provides a single point of communication for incident and request management to the customer and a single point of coordination for problem management, major incident management and (change management) processes. The benefits of this service are:

- | Single place to report all your issues
- | Instant incident/request ticket acknowledgement, with severity levels/ priorities
- | Coordinating the resolution of incidents and requests with minimal delay
- | Communicating both with the customer and all the third-party stakeholders

Operations Center

Operations center provides proactive monitoring, troubleshooting, and resolution of application/system events 24/7/365. It is responsible for performing technical analysis of all events that occur throughout the IT infrastructure. Events are raised via active monitoring and depending upon the complexity, the event can be escalated via the defined incident management process to the next support tier.

The benefits of the operations center service are:

- | Proactive monitoring and troubleshooting of Qvantel and 3rd party service disruptions for proactive mitigation of problems and speeding up resolution times
- | Ensuring that all the incidents and changes in the service are tracked and monitored throughout their lifecycle
- | A dedicated team consisting of professionals with a deep knowledge of Qvantel's BSS solution
- | Proactive planning of routine maintenance tasks to prevent any incidents or downtime in the services

Business Process Management

By transferring the management and operation of their BSS software solution and selected business processes to Qvantel, our customers can gain major operational efficiencies for their business. Dedicated teams with extensive domain knowledge provide expert service with short ramp-up times and minimal support requirements. Together with Qvantel's team, the customer can quickly package new offerings, manage deployments and billing, and get insight into what works in the field. Full, real time transparency to the business processes and related data helps the customer to react to any needed changes quickly.

Billing Management Services

Billing Management service secures the quality of the production billing, including the management of all billing related changes done to the system. Customers are provided with a dedicated team that have extensive domain knowledge, to provide expert billing service by carrying out e.g. the following main tasks:

- | Define and maintain billing configurations
- | Manage bill runs and secure billing quality
- | Report on billing-related process and quality issues
- | Coordinate development and improvements in billing-related processes

Accounts Receivable Management

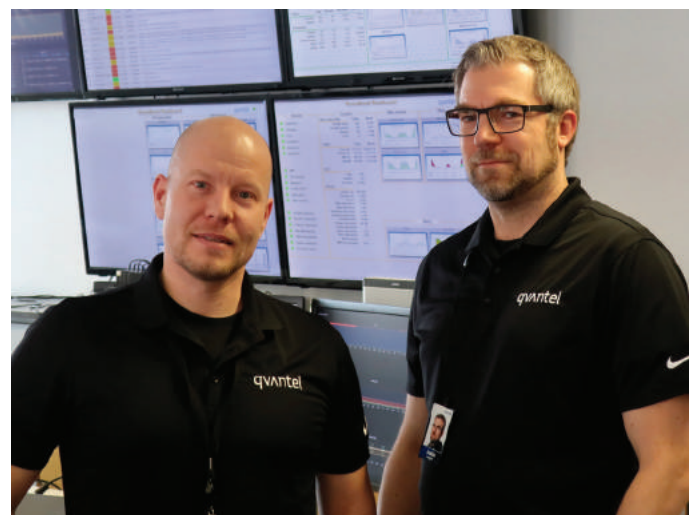
Accounts Receivable Management service operates and monitors payment handling and other financial flows, and secures the quality of these payments. The service carries out the following main tasks on behalf of the CSP:

- | Operates and monitors payment handling and other financial flows (e.g. payment plans, debt collection and accounting)
- | Secures accounts receivable (AR) related quality
- | Defines and maintains AR configurations
- | Reports on AR related events
- | Coordinates development and improvements in AR related processes

Product Configuration Management

The purpose of Product Configuration Management is to support customers to accurately, effectively and with best possible time-to-market configure and maintain product and pricing configurations. Product Configuration Management services cover for example:

- | Consulting with business stakeholders on product and pricing configuration changes
- | Defining and maintaining product and pricing configurations
- | Reporting on product configuration process and quality issues
- | Coordinating development and improvements in product configuration related processes



Architected for Cloud and Unique Adaptability

Qvantel Digital BSS as a Service (BSSaaS) is designed to be agnostic of alternative underlying private cloud / infrastructure options. BSSaaS can be consumed from Qvantel provided private cloud or data center of your choice. In both cases, Qvantel takes care of service management both for software and selected suite of customer business processes.

Our high use of best of breed Open Source technologies leverages strong industry momentum for future-proof evolution. Open APIs enable innovation on top of the public API, and addition or replacements of core system components. For example, if there is a need to leverage an existing data source as a master for a specific domain, the unique integration architecture enables implementation of existing data master directly into the core of the BSSaaS architecture.

This openness for adaptability enables optimal re-use of selected existing investments and flexibility for future evolution. Qvantel BSSaaS is executed on top of modern Computing Platform running business services as microservices. For Qvantel customers, microservices enable the following benefits:

Scalability

System scales instances up and down on need basis

Expandability

New services can be added without downtime

Manageability

Unified logging, reporting, and management

Qvantel Digital BSS Product Portfolio

Qvantel products are built and tested for optimized interoperability so that our customers experience no incompatibility issues. The Qvantel Digital BSS product portfolio has the following three distinctive layers.

Digital Channels

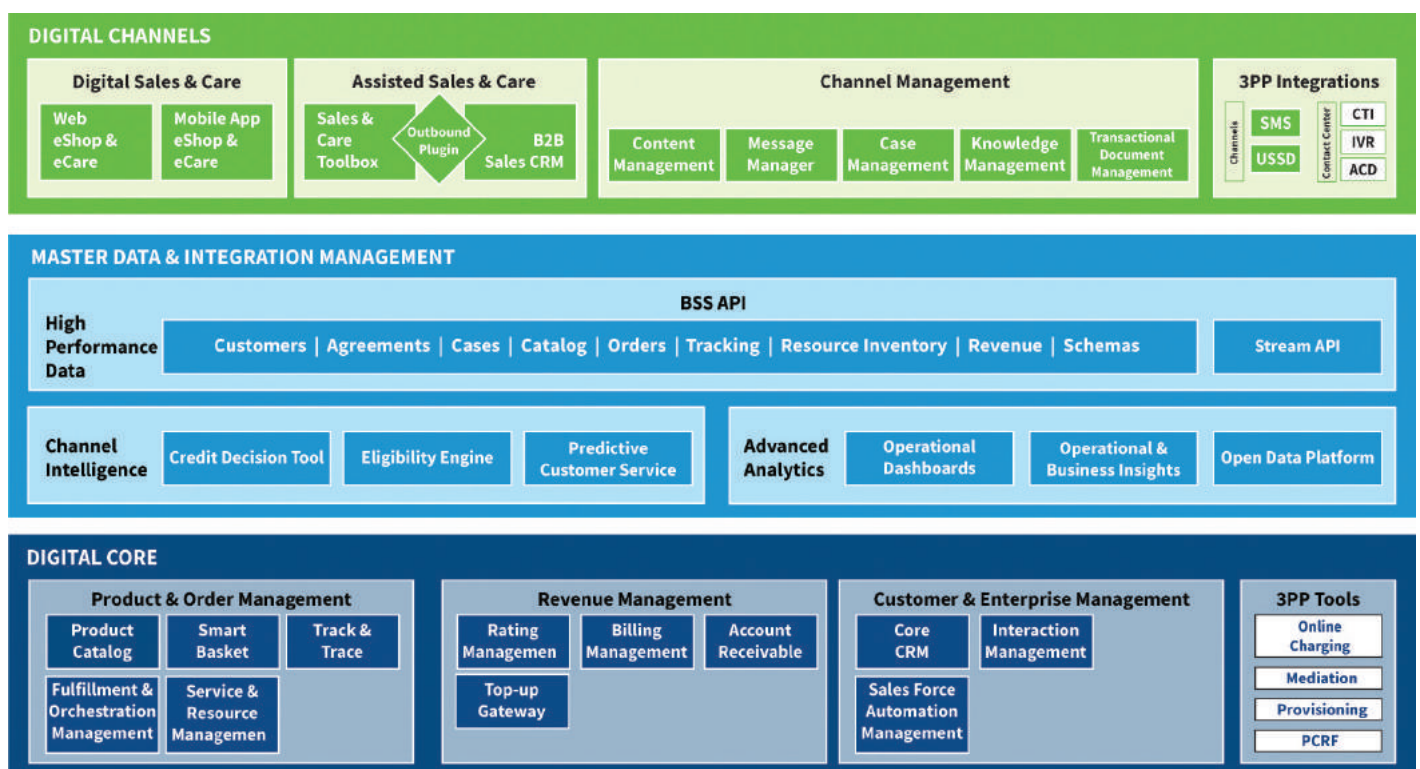
The Digital Channel layer provides a modern omni-channel solution for B2C, B2B, mobile and fixed line business. The solution covers full customer lifecycle and both assisted and digital customer touchpoints.

Master Data and Integration Management

The Master Data and Integration Management layer serves as common data management and integration framework that provides the open BSS API comprising all business domain entities for both system-level integration and external usage.

Digital Core

The Digital Core holds the main business relevant data and process logic for all core business domains, including Product and Order management, Revenue Management and Customer Management.



Qvantel Digital BSSaaS Capabilities

The Digital BSS as a Service contains the following capabilities*:

B2C eCare	The eShop & eCare approach unifies sales and self-service customer journeys by allowing end-customers from all segments to choose their own way of shopping and managing their services in an anytime-anywhere fashion.
Mobile App	Mobile App allows the users to choose their own way of shopping and managing their services, all in one place and easily reachable.
Sales & Care Toolbox	Sales & Care Toolbox provides business-user interfaces for customer service and sales journeys. It allows CSRs to manage their customers in a full 360° view.
B2B Sales CRM	The B2B Sales CRM enriches enterprise engagements and sales processes with sales-force automation and customer-relationship management capabilities.
Content Management	Content Management is a module for managing presentation layer of digital channels, such as eShop, eCare and mobile applications.
Message Manager	Message Manager application integrates all customer email and SMS editing, testing and sending needs in one configurable service.
BSS API with High Performance Data (HPD)*	The BSS API defines the common public API for both external use and system level integrations, forming an unified information layer powered by high-performance data.
Product Catalog	Product catalog enables catalog driven BSS capabilities by acting as the commercial, fulfillment and billing catalog of the BSS solution. It contains easy to use catalog designer for creation and maintenance of catalog resources, services, products and offerings.
Fulfillment & Orchestration Management	Enables activating the digital services needed for the order or sending fulfillment requests to other systems e.g. when manual onsite deliveries are part of order fulfillment.
Smart Basket	Smart Basket provides channel management features including price, tax and discount calculation, basket validation and basket persistence for enabling customer omni experience.
Track & Trace	Track&Trace allows tracking and tracing of the customer orders.
Resource Inventory Management	Resource Inventory Management manages resources that are related to a mobile/fixed network operator such as MSISDNs. SIM cards and devices.
Core CRM	Provides CRM business logic and configurability for the use cases related to customer and agreements lifecycle.
Interaction Management	Tools for managing the business interactions towards end-customers and other external parties. It logs interactions between the end-customer and the CSP.
Sales Force Automation Management	Sales force automation CRM business logic and APIs especially designed for telecom B2B sales solutions.

Open Data Platform	Open Data Platform (ODP) enables multidimensional reporting and advanced analytics. ODP is a data exploration ecosystem enabling to take full control of data analytics.
Operational & Business Insights	Operational & Business Insights option of ODP gives CSPs visibility to their core business processes via a set of predefined, customizable dashboards.
Stream API	Stream API enables real-time flow of BSS events to any external components.
Profiles	Profiles stores for CSPs real-time 360 view of their customers. Profiles are used by rule engines, channel components and notification components.
Predictive Customer Service	Predictive Customer Service consumes customer information from multiple sources to create tailored, channel specific decisions to a broad range of channels.
Credit Decision Tool	Credit Decision Tool (CDT) is a configurable credit scoring decision engine which enables automated, high-speed, high-quality credit decisions and customer screenings.
Eligibility Engine	Eligibility Engine is a configurable rule engine framework which enables automated, high-speed, high-quality business decision.
Billing Mediation	Billing mediation collects and pre-processes call and event detail data and delivers that to rating and billing engines.
Rating Management	Rating assigns monetary value to call and event data records based on rating configuration.
Billing Management	Billing and invoicing module provides the billing configurations for various monetization models as well as billing process management and execution.
Accounts Receivable	Accounts Receivable module provides the necessary tools, capabilities and interfaces to manage operations related to invoices, payments and balances, enabling control of the cash and revenue flows.
Top-Up Gateway	Top-Up Gateway is a software service which manages top-up recharges, cancellations, adjustments and enquiries in the BSS side.
Case Management	Case Management enables handling customer issues and recording their reasons and resolution paths based on defined business interaction logic.
Knowledge Management	Knowledge Management is a tool for creating and managing knowledge, such as FAQ and knowledge base.
Transactional Document Management	Transactional Document Management is solution for creating, handling and managing documents such as bills, invoices, contract according to business processes of the CSP.
Operational Dashboards	Operational Dashboards provides views and visualizations, showing (near) real-time and historical data of selected key metrics gathered from the system and business processes.

* Qvantel is continuously improving the Digital BSSaaS capabilities. Please request the latest information from your Qvantel sales representative.

Benefits of BSS as a Service Model

The BSS as a Service model enables CSPs to focus on business and leaves the operations to Qvantel, with proven efficiency and quality. Qvantel's BSS as a Service model has been optimized via over 10 years of operation, with several customers globally. This enables Qvantel to deliver unmatched cost efficiency, business agility and excellence of customer services for CSPs.

Modern BSS for Tomorrow's Digital Business

Qvantel's Digital BSS as a Service features a modern omni-channel suite as well as an open & intelligent core BSS functionality for efficient monetization of digital services.

Business Efficiency

BSS as a Service model is designed to provide exceptional effectiveness for business via both cost efficiency, freeing CSPs to focus on business planning and management, and also enabling significantly lower own headcount needs instead of in-house managed BSS operations

Governance with KPIs

Delivered BSS services are continuously measured both with technical and business measures. Well structured governance and KPI mechanisms provide CSPs with full visibility to operations and drive Qvantel to continuously optimize the quality and efficiency of the services.

Extension of Your Business

BSS as a Service is operated for CSPs by Qvantel, which dedicates a team of BSS and digital business specialists to operate both the IT services and selected suite of customer business processes.

Visibility Via Dashboards

Real-time visibility to both technical and business metrics that tell the health, trends and insights of the operations and business.

24/7/365 Availability

Qvantel and CSP agree on a set of SLAs and KPIs for the agreed services so that CSP can rely on continuous service quality, availability of support and expertise.

Regular Feature Updates

Qvantel BSS as a Service is based on a suite of Qvantel BSS software products. The new feature enhancements are designed with industry insights, customer and market requirements and made available on a regular basis.

Custom Enhancements

Customer specific customizations and feature enhancements are also possible via leveraging the customer specific teams that are part of the BSS as a Service model.

Stable Operations

BSS as a Service model contains an extensive and automated test framework for functional and non-functional testing, for consistently keeping services quality at the best possible level.

About Qvantel

Qvantel is a pioneer in the field of BSS with over 20 years of experience in digital solutions for Communication Service Providers (CSPs).

We help CSPs with successful digital transformations to maximize their business efficiency, provide exceptional customer experience, and reduce operational costs with results of up to 80% reductions in BSS OPEX.

Our service and software offerings accommodate multiple paths to digitalization:

- | Qvantel Digital BSS as a Service
- | Qvantel Digital Channels
- | Qvantel Digital BSS Core
- | Qvantel Digital Accelerator

Qvantel is a privately held company with over 1000 employees in offices across Finland, Colombia, Estonia, India, Italy, Singapore, Spain, Sweden, Ukraine, and USA.



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