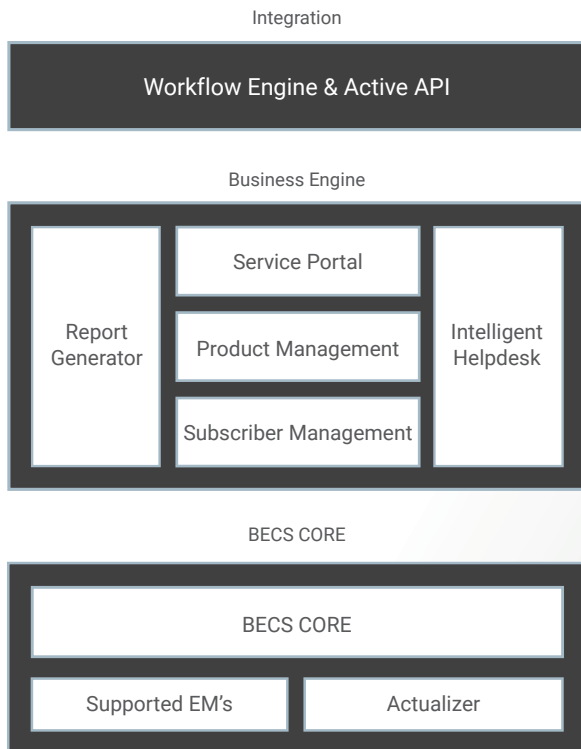


BECS and BBE



Product Suite

BECS® and BBE



BECS - Network Orchestrator

BECS is a sophisticated Network Orchestrator that handles all technical aspects of network management during the fulfillment process. This includes network design, creation, configuration, and service activation. By eliminating dependencies between the OSS/BSS layer and the network, BECS streamlines and harmonises network operations.

Specifically designed for multi-vendor environments, BECS offers a highly adaptable approach to device management, enabling fully automated, end-to-end network orchestration from Customer Premises Equipment (CPE) to the core network.

BBE - Operational and Business Support

BBE equips network operators with the essential operational and business tools needed to run a successful network. It offers functionalities for various departments such as sales, product management, customer service, end-users, and building contractors, facilitating the delivery of products and services to end-users. With robust automation capabilities, BBE ensures end-to-end automation, accelerating time to market while enhancing customer retention.

Integration Capabilities: Every function within the product suite is accessible via an API call. The Active API provides abstracted, functional API calls for daily operations and can be expanded with new functions. Our Kafka-based integration platform defines, schedules, and enforces operational and business processes across the OSS/BSS layer, ensuring data and process integrity throughout the organisation.

BECS® - Network Orchestration



Service Management

With BECS, OSS/BSS systems don't need to be aware of the underlying hardware infrastructure or network topology. The BECS API provides a catalog of all available services through a simplified interface. BBE or any other system can select and activate these services by specifying the desired service and location(s).

BECS's topology awareness ensures it understands service activation dependencies, automatically configuring all necessary network devices for end-to-end service provisioning. When services are deactivated, BECS efficiently removes any unnecessary configurations. This results in a harmonized network with service-agnostic customer connections, effectively concealing network complexities.

Network Management

In addition to service management, BECS automates various network operations, including:

- **Zero Touch configuration** – BECS configures a device without any pre-configuration or engineer interaction.
- **Resource Management** – BECS handles logical resources like IP addresses, VLANs, and routing parameters, eliminating issues such as IP address collisions or misassigned VLANs.

Element Management

BECS is capable of managing an entire network, even with diverse devices from multiple vendors. PacketFront offers certified, supported element managers for the most common network devices.

If a new element manager is needed, PacketFront can develop it upon request.

The Actualizer toolkit allows operators to define and build their own element managers using the intuitive BECS GUI, guided by wizards, requiring no deep BECS knowledge or programming skills.

In addition to direct communication with network devices, BECS can integrate with vendor-specific element managers using a JSON RPC-based API.

“ When updating configurations for specific devices, device types, or geographical areas, BECS pushes the changes to all affected devices, including customer premises equipment. ”

BBE - Product Management

Service Development

Service development involves meeting the technical requirements of a service. The initial step is to classify your service as either a “Network Service” or a “Non-Network Service”:

- **Network Service:** This category includes actual network services (such as QoS, bandwidth, and device configuration) supported by BECS Service and Network Management modules.
- **Non-Network Service:** This type encompasses services unrelated to the network (like email addresses or web hosting accounts). These services can act as placeholders, send email forms, or trigger workflows/scripts to external systems (e.g., creating a work order for shipping and configuring set-top boxes).

Next, categorise the service (e.g., Internet, IPTV, VOIP) and add any technical service attributes (such as a phone number for a VOIP service) and dependencies (e.g., an IPTV add-on channel requiring IPTV Basic). Once all technical requirements are satisfied, the service is ready for the next phase: Product Packaging.

Product Packaging

Services act as the building blocks for products. A product can consist of various services in any combination. Product lifecycle attributes (such as sales start and product availability dates) are applied, and constraints and dependencies are defined (e.g., upgrading to a higher-priced product is immediate, while switching to a cheaper product may be prohibited due to a contract length).

Sales & Marketing

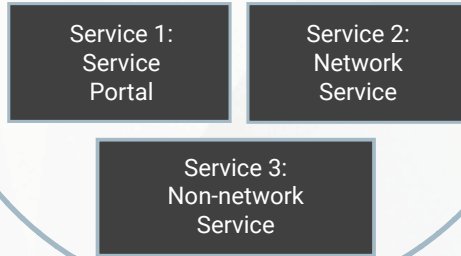
Sales and marketing teams define multiple offerings (commercial subsets of the product) and coverage areas (e.g., specific cities or regions where the offer is valid) for each product. Each offer includes terms and conditions detailing price, binding periods, and other commercial factors.

Marketing campaigns and loyalty programs can be created and targeted for specific areas (like low take-rate regions) or particular demographic groups (such as students or existing customers).



Service Deployment

Service Attributes
Service Dependencies
Service Categories



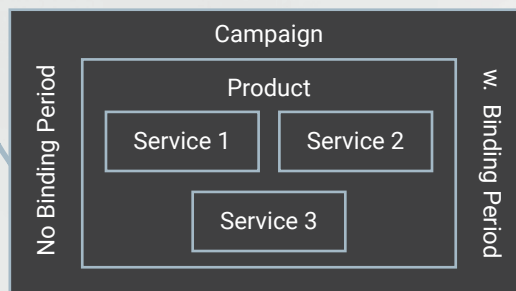
Product Packaging

Service Building
Product Lifecycle Attributes
Constraints & Dependencies



Sales & Marketing

Offerings & Coverage
Terms & Conditions
Marketing Campaigns



BBE - Service Portal

Selling Fulfillment

The Service Portal serves as a comprehensive one-stop-shop for your customers. It features functions designed to minimize delivery costs and time-to-market while accelerating the order-to-cash process.

A fully automated, customer-oriented rollout and delivery process is the most efficient way to unlock your revenue potential.

Product Marketing

Marketing your network and services has never been more crucial, and the Service Portal is your gateway to the world. It includes an editorial administration tool, enabling sales organisations and external partners to easily update the portal with the latest marketing campaigns and commercial banners without requiring IT assistance.

Customer Retention

“My Pages” offers customers an overview of their current services and account information. Additionally, a support tab displays network status, provides troubleshooting guides, and allows customers to raise trouble tickets. Tailored marketing based on customers’ current services and history can create targeted promotions, enhancing cross-sell and up-sell opportunities.



Data visualisation



Statistics Gathering

BECS and BBE collect extensive statistics across the entire system, ranging from detailed network data to customer subscription histories and billing records. They also include a distribution function that allows this data to be sent to external systems.

Data Analysis

All data within BECS and BBE is available for comprehensive analysis. BBE includes a variety of standard reports for billing, subscriptions, and delivery addresses. A report generator based on the JasperReport engine enables the creation of customised reports with complex input and output variables.

Dashboard

BBE users can access personalised dashboards displaying the most valuable information for each user. This information can be presented on a network-wide level or for specific areas, providing tailored insights and facilitating informed decision-making.

BBE - Subscriber Management

Customer Awareness

The Subscriber Management module features a customisable customer database, enhancing customer-centric functions and automating processes in critical areas such as marketing analysis, service provisioning, and helpdesk operations.

“BBE facilitates seamless import and export of end-user data to and from other customer management systems, such as Customer Relationship Management (CRM) systems”.

“ *BBE enables smooth import and export of end-user data from/to other customer management systems, such as Customer Relationship Management (CRM) systems.* ”



BBE - Intelligent Helpdesk



Troubleshooting

BBE offers an advanced troubleshooting interface for first-line customer service, providing immediate access to accurate network and service information, which enhances the customer experience. This reduces the need for escalation to technical personnel, thereby lowering overall troubleshooting costs. BBE can also be easily integrated with external ticketing systems, streamlining trouble ticket handling.

Proactive

During troubleshooting, customer service representatives can follow the “green lights” from the top device down to the CPE. If an issue is indicated by a “red” light, various countermeasures are available for immediate resolution.

Customer service can use a BBE function to verify service configuration in the network and, if a mismatch is detected, a repair button corrects the configuration error. Other available corrective actions include renewing DHCP leases, reloading CPEs, and running configuration checks.

BBE - Workflow Engine



Process Engineering

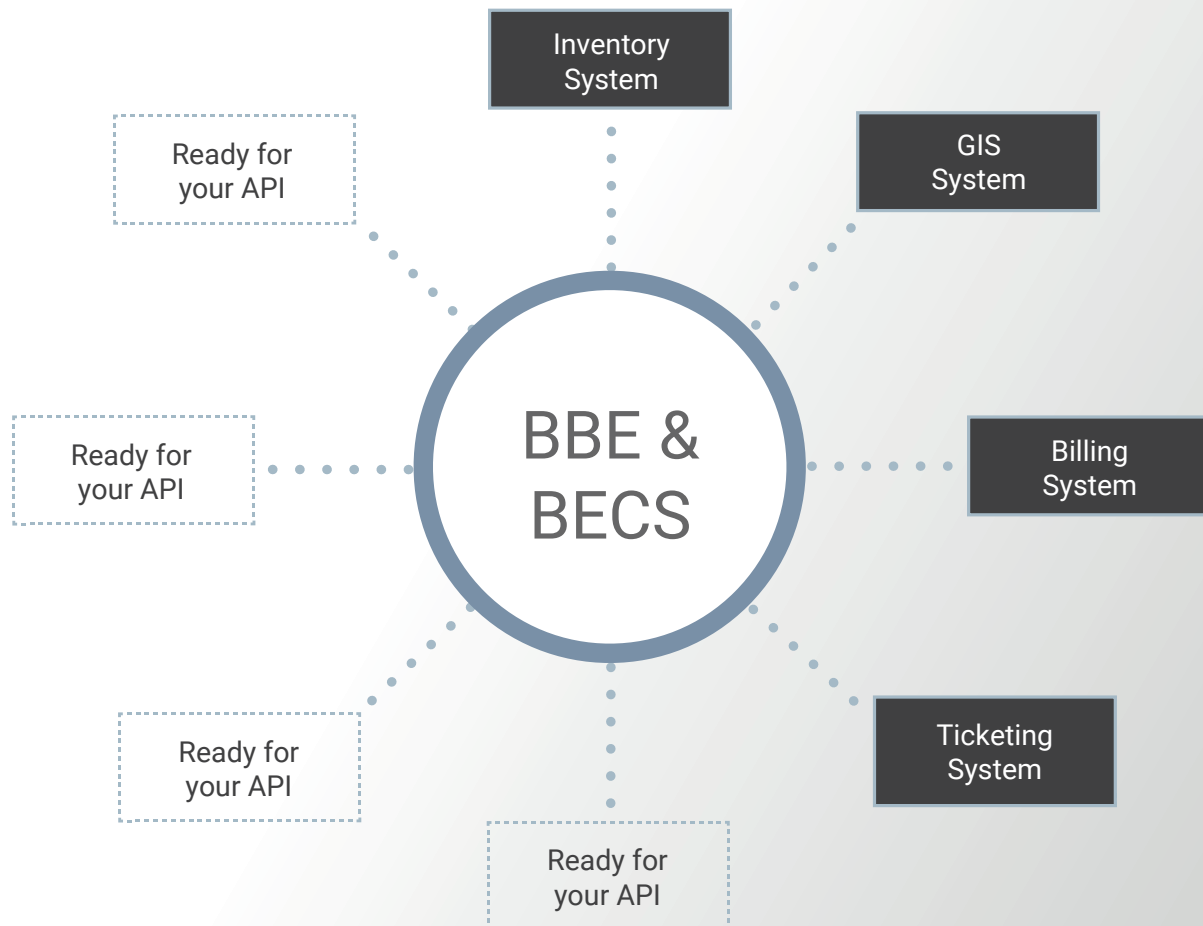
In BBE, every action is part of a workflow, which serves as the backbone for managing processes across the organisation. The workflow engine ensures that the right person and department always know what to do and when.

By leveraging the Workflow Engine, you can easily model custom workflows, extending beyond BBE's standard functions and integrating with external systems to achieve end-to-end control.

Process Automation

With robust scripting capabilities, the Workflow Engine can fully automate parts or entire processes, involving human interaction only when necessary. While network automation is essential, adding process automation significantly reduces the lead time between rollout and actual service delivery, enhancing overall efficiency.

Active API



OSS/BSS Integration

Everything that BECS and BBE offer is represented and accessible through API calls. The Active API goes further by providing abstracted API calls that encompass long chains of actions. This allows network integration without requiring any specific knowledge of BECS or the network itself.

Flexible and Expandable API

The Active APIs use common JSON RPC and SOAP/XML interfaces for all integrations and utilises Apache Kafka. The APIs can be extended with extensions

that publish new API calls and functions to meet any system integration needs.

For straightforward integrations, such as sending billing records to a billing system, BBE handles the process directly. For more complex processes, like linking GIS data with an inventory system before deploying a new fiber port, the workflow engine manages the synchronisation, ensuring both data and process integrity.

Key Features

BECS

BECS Core

- Network Planning & Roll-out
- Resource Management
- Service Management
- Service Provisioning
- Service assurance

Supported EM's

- Element Management
- Service Configuration
- Software Management

Actualizer

- Element Management Development Framework
- Any device type
- No programming skills needed

BBE

Product Management

- Service Development
- Product & Lifecycle Management
- Offer & Campaign Management

Report generator

- Statistics Gathering
- Data Analysis
- Dashboard

Service Portal

- Selling Fulfillment
- Product Marketing
- Customer Retention

Intelligent helpdesk

- Troubleshooting
- Pro-active Fault Management
- Problem Handling

Subscriber Management

- Customer Awareness
- CRM support

Integration

Active API

- OSS/BSS Integration
- Flexible and Expandable API
- Support for Jason RPC and SOAP

Workflow Engine

- Process Engineering
- Process Automation

Customer Success stories

Southern Communications Group

Read about how Southern Communications Group has instigated the 'Buy Back Time' program:



Virtual1

Learn how network orchestration has enabled an automated customer experience at Virtual1:



Mittnät

Read about how Mittnät succeeded as an open access FTTH operator:



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