PacketFront
Software

BECS and BBE

Product Suite

BECS & BBE
Product Suite

Integration

Workflow Engine & Active API

Business Engine

Report Generator	Service Portal	Intelligent Helpdesk
	Product Management	
	Subscriber Management	

BECS CORE

BECS CORE
Supported EM's	Actualizer
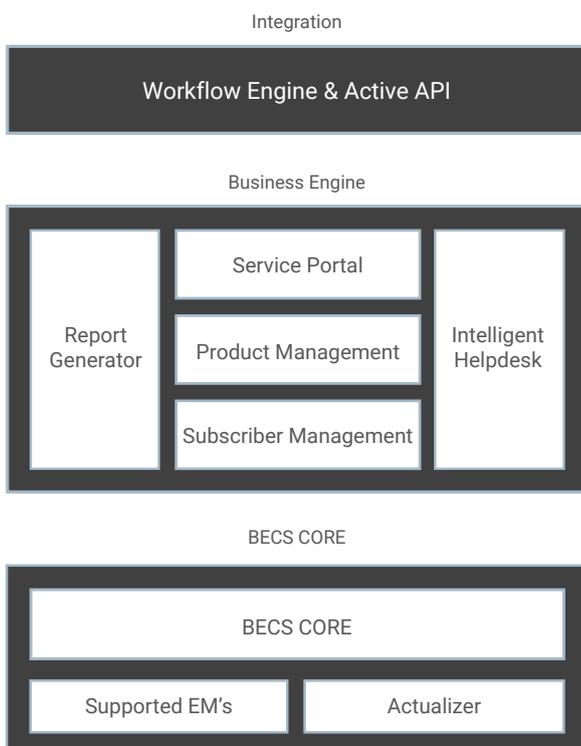
BECS

BECS is a Network Orchestrator which takes care of all technical aspects of the network within the fulfillment process including design, creation, configuration and activation of services. BECS also harmonizes the network by removing dependencies between the OSS/BSS layer and the network.

BECS is especially designed for multi-vendor environments and provides a highly adaptive approach to device management, enabling fully automated, end-to-end network orchestration from CPEs up to the core level.

BBE

BBE provides the operational and business mechanisms required for running a successful network. It has tools for the different departments (e.g. sales, product management, customer service, end-users and building contractors) involved in delivering products and services to the end-user.

Supporting a high level of automation ensures end-to-end automation with the shortest possible time to market, as well as assures the highest possible customer retention.

Integration

Every function in the product suite is represented by an API call. The Active API provides abstracted functional API calls for daily operations, and the API can also be expanded with new functions and calls.

Our Kafka based integration platform defines, schedules and enforces operational and business related processes across the OSS/BSS layer, ensuring data and process integrity through the entire organization.

BECS Network Orchestration

Service Management

OSS/BSS systems do not need to know about the underlying hardware infrastructure or network topology. The BECS API exposes a catalogue of all available services via a simplified API interface. BBE or any other system can pick and choose from these services and activate them by simply pointing out the service and location(s).

Thanks to BECS topology awareness, it knows about dependencies in regards to the service activation. This means BECS automatically activates configuration in all required network devices enabling end-to-end service provisioning. It also means that it will remove all configuration not needed when services are deactivated.

The end result is a harmonized network with service agnostic customer connections (ports), where all network complexities and considerations are hidden.

Network Management

Besides the service management, BECS also automates other network operations, such as:

- Zero Touch configuration – BECS configures a divice without any pre-configuration or interaction needed by an engineer.

- Resource Management – By letting BECS handle logical resources, such as IP addresses, VLANs and routing parameters, we solve a common problem. You will no longer have IP address collisions or wrongly assigned VLANs.

Element Management

BECS can manage the entire network, even if it is composed of varying kinds of devices from multiple vendors. PacketFront provides certified, supported element managers for the most common network devices on the market. If there is a need for a new element manager, PacketFront can develop it on request.

The Actualizer toolkit allows operators to define and build own element managers. The development environment is the BECS GUI, which has intuitive wizards guiding through the process. This means that an element manager can be created without any deeper BECS knowledge or programming skills.

Besides communicating directly with the network devices, BECS can be integrated with a hardware vendor specific element manager by using Jason RPC based API.

" Whenever you update a configuration for a specific device, type of device or geographical area, BECS will push the changes to all affected devices, including customer premises equipment. "

BBE Product Management

Service Development

The service development fulfills the technical requirements of a Service. The First step is to define your service as one of two types: "Network Service" or "Non-network Service".

- Network Service: This type represents the actual network services (with QoS, Bandwidth, Element configuration etc.) provided and supported by BECS Service and Network Management modules.

- Non-Network Service: This service type encapsulates anything that does not concern the network aspects of a service (E-mail addresses, web-hotel accounts, etc.). The service may exist as a place holder, send an email form or trigger a workflow or a script towards external systems (e.g. create a work order for shipping and configuring set-top boxes).

The next step is to categorize the service (Internet, IPTV, VOIP, etc.) and add any technical Service Attributes, (e.g. phone number in a VOIP service) and/or dependencies (e.g. IPTV add-on channel require IPTV Basic). When all technical requirements are met the service is ready for next step: Product Packaging.

Product Packaging

The services are the building-blocks of the products. A product may consist of any number and constellation of services.

Product Lifecycle Attributes (sales start, product availability dates, etc.) are applied, and product constraints and dependencies are defined for the product. (e.g. an upgrade to a higher priced product is done instantly, while switching to a cheaper product will enforce binding time).

Sales & Marketing

Sales and marketing applies any number of offerings (i.e. commercial subsets for the product in question) and coverage (e.g. the city/area where the offering is valid) for each product. Each offer is defined with Terms & Conditions where price, binding periods, and other commercial factors are outlined.

Marketing campaigns and loyalty programs may be created and targeted for specific areas (e.g. low take-rate areas) or particular demographic groups (students, existing customers, etc.).

Service Deployment

Service Attributes

Service Dependencies

Service Categories

Service 1: Service Portal	Service 2: Network Service

Service 3: Non-network Service

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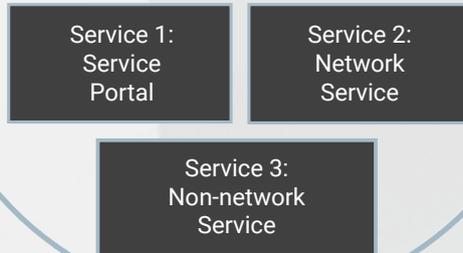
Product Packaging

Service Building

Product Lifecycle Attributes

Constraints & Dependencies

Product

Service 1	Service 2

Service 3

↓

Sales & Marketing

Offerings & Coverage

Terms & Conditions

Marketing Campaigns

Campaign

No Binding Period

w. Binding Period

Product

Service 1	Service 2

Service 3

Service Portal

Selling Fullfilment

The Service Portal is a one-stop-shop for your customers. The service portal has interfaces for different roles in the organization (e.g. marketing and sales functions, installation-portal for field technicians), all inteded to support the objective of minimizing the delivery cost and time-to- market and at the same time speeding up the order-to-cash process as much as possible.

A fully automated, customer oriented roll-out and delivery is the most efficient way to reach your untapped revenue potential.

Product Marketing

Marketing your network and services have never been more important and the service portal is your window towards the world. The Service Portal facillitates an editorial administration tool.

This enables a sales organisation and external partners to easily change and update the portal with the latest marketing campaigns and commercial banners without technical IT-assistance.

Customer Retention

"My Pages" provides the customer with an overview of current services, account information etc. In addition, a support tab displays network status, provides trouble shooting guides and means to raise trouble tickets. Based on customers current service and service history, marketing can be specifically tailored and targeted towards customers with value add promotions creating cross- and up-sale opportunities.
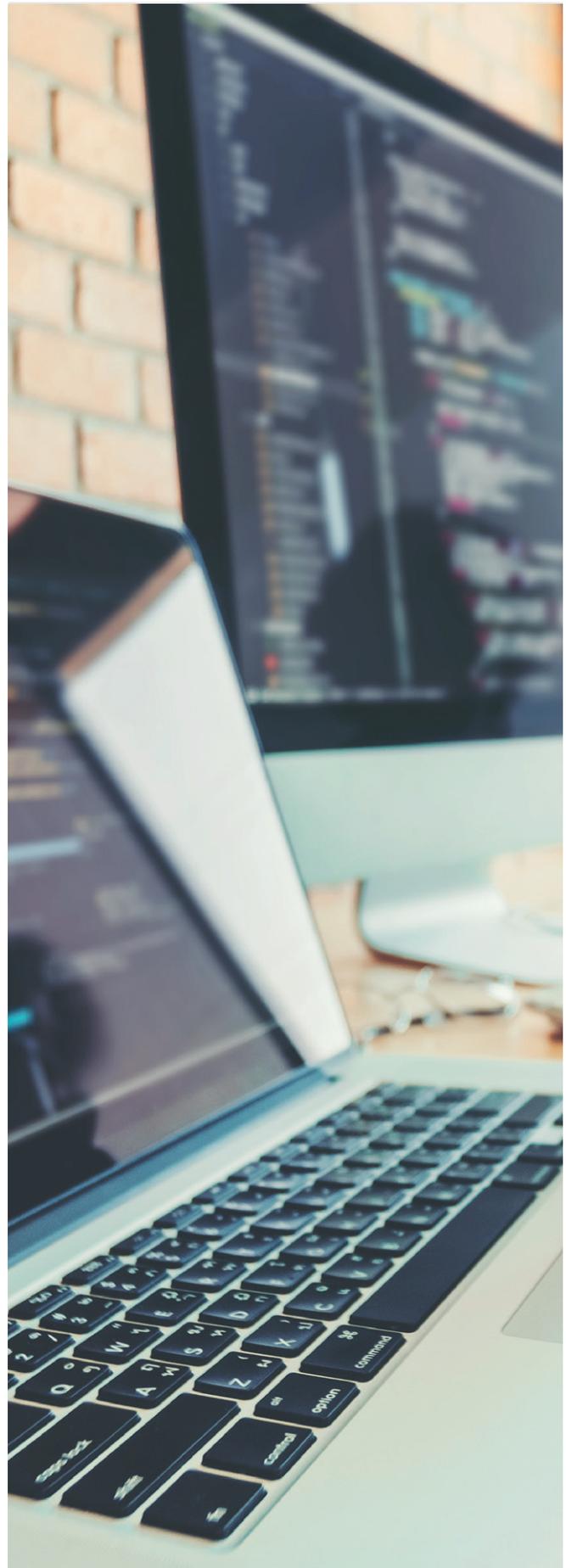
Data visualization

Statistics Gathering

BECS and BBE generate statistics throughout the entire system, which can be anything from detailed network data to customer subscription history and billing records. BECS and BBE also accommodates a distribution function where this data can be sent to external systems.

Data Analysis

All information in BECS and BBE is available for data analysis. BBE includes a number of standard reports for billing, subscriptions, delivery addresses etc. A report generator, based on JasperReport engine, is used to create customized reports allowing complex input and output variables.

Dashboard

BBE users have access to individualized dashboards presenting the most valuable information for each user. The information can be presented on a entire network level or for a certain area.

Subscriber Management

Customer Awareness

The Subscriber Management module facilitates a customer database with fully customizable data fields. The database enables customer oriented functions and enhances functionality and automation in areas where the customer association is of central significance (such as marketing analysis, service provisioning and helpdesk).

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

Intelligent Helpdesk

Troubleshooting

BBE has an advanced trouble shooting view for the first line of customer services. Accurate network and service information is available immediately improving the customer experience. At the same time the need for escalation to technical personnel can be minimized reducing the overall trouble shooting cost. BBE can be easily integrated with an external ticketing system providing streamlined trouble ticket handling.

Proactive

When doing troubleshooting the Customer Service just follows the "Green lights", from the top device all the way down to the CPE. If something is "Red" a number of countermeasures are available for immediate problem solving.

The Customer Service can use a BBE function to check the desired service configuration in the network and in case a mismatch is detected a repair button will correct the configuration error. Other corrective actions available are for example DHCP lease, reload CPE and run configuration check.

Workflow Engine

Process Engineering

Every action in BBE is part of a workflow. The workflows are the means of controlling your processes throughout the organization. The workflow engine makes sure that the correct person and department always knows what to do and when.

By utilizing the Workflow Engine you can easily model your own workflows reaching well outside what BBE normally does and integrate towards external systems to ensure end-to-end control.

Process Automation

The powerful scripting capabilities can fully automate parts of, or complete, processes and only use human interaction when required.

Network automation is crucial in itself but add process automation on top of that and you will significantly reduce the lead time between roll-out and actual service delivery.
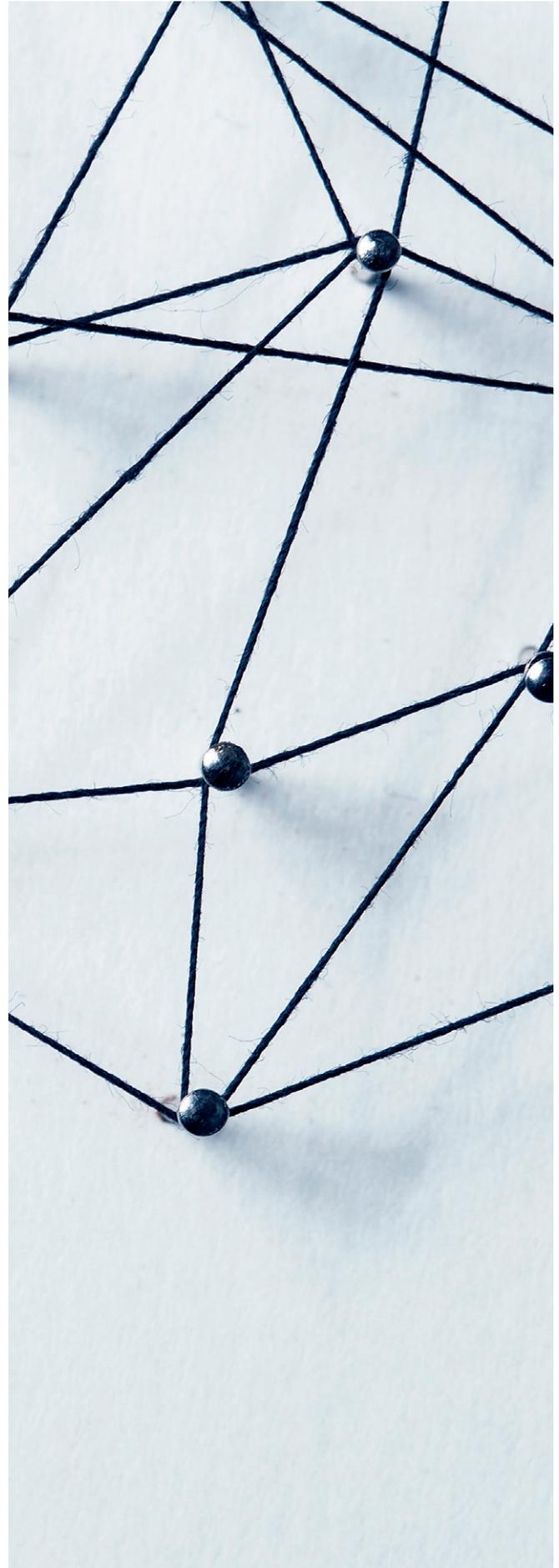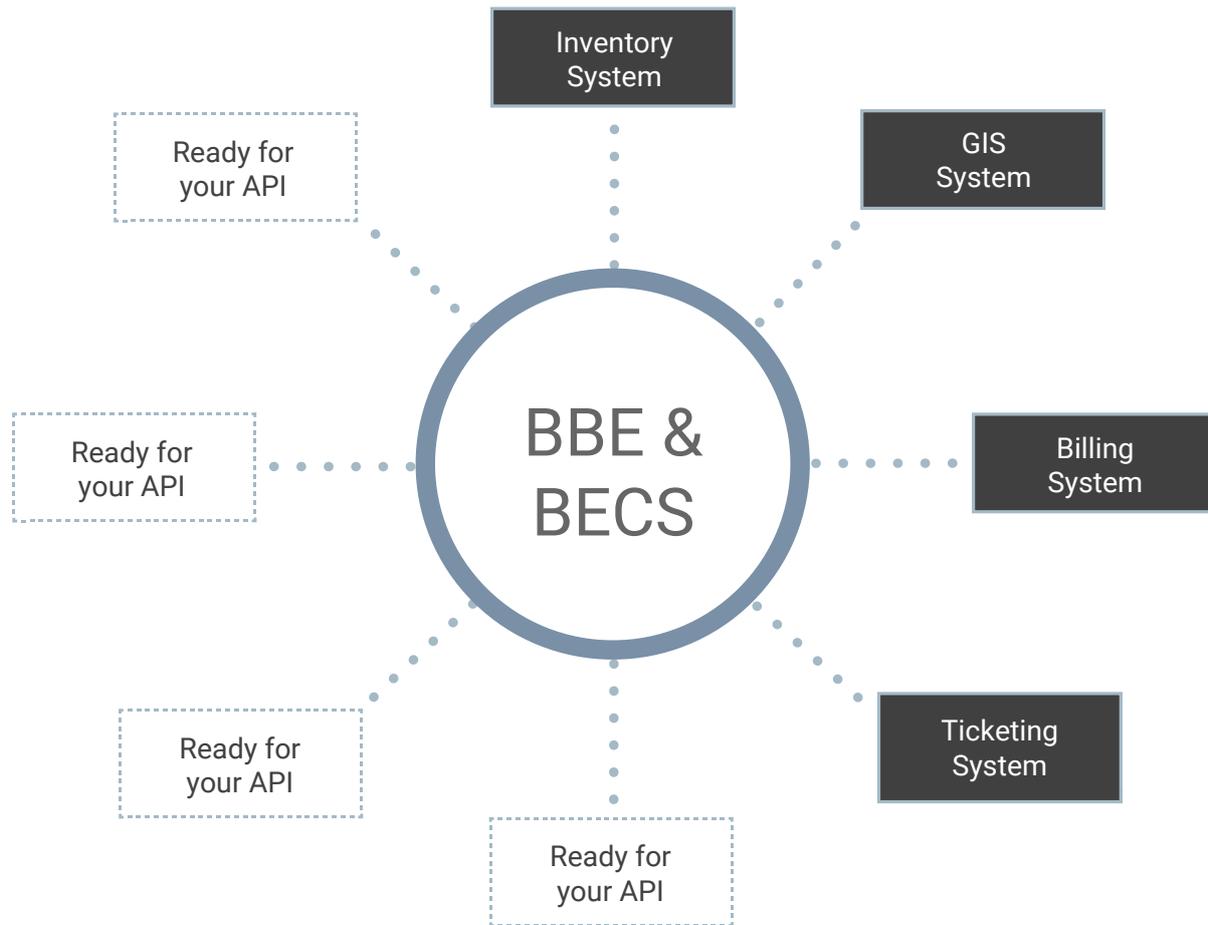
Active API

OSS/BSS Integration

Everything BECS and BBE can do is represented and accessible as an API call. On top of that, the Active API facilitates abstracted API calls that represent long chains of actions. This means that integration towards the network does not require any knowledge of neither BECS, nor the network.

A straight-forward integration (e.g. sending billing records to a billing system) is done by BBE directly, while more complex processes (e.g. linking GIS data with an inventory system before deploying a new fiber port) are done towards the workflow engine that synchronizes the systems ensuring both data and process integrity.

Flexible and Expandable API

The Active APIs are the common Jason RPC and SOAP/XML interfaces for all integrations. They can be extended with API extensions that publish new API calls and functions to cater for any systems integration needs.

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

Subscriber Management
- Customer Awareness
- CRM support

Intelligent helpdesk
- Troubleshooting
- Pro-active Fault Management
- Problem Handling

Service Portal
- Selling Fullfillment
- Product Marketing
- Customer Retention

Integration

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

Workflow Engine
- Process Engineering
- Process Automation

PacketFront Software

Since 2001, PacketFront Software has delivered efficient automation solutions for telecom operators, city carriers and enterprises in more than 20 countries. Our multi-vendor network orchestrator, BECS, provides true end-to-end network automation - enabling functionality such as zero touch configuration and automated service provisioning for all IP networks.

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