

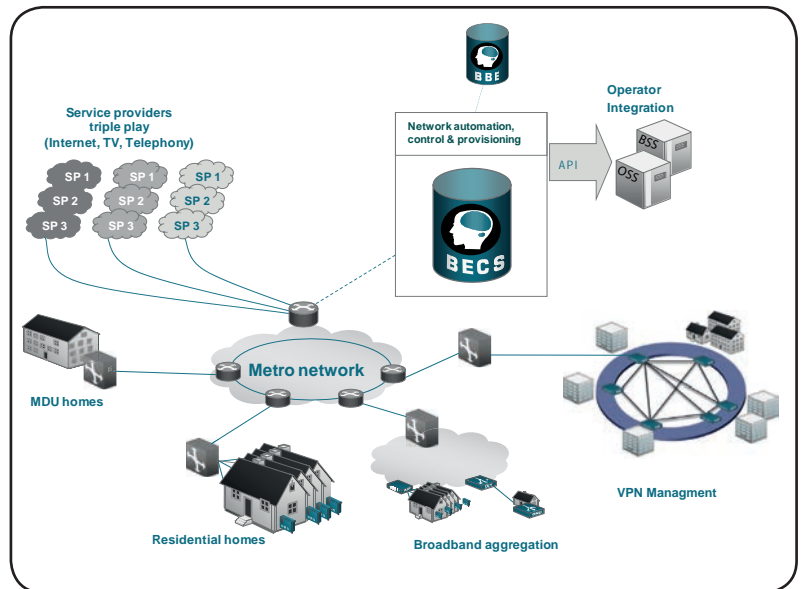
# BECS

Broadband control and provisioning system

## Advanced broadband network element manager and sophisticated service and policy control

### Key benefits:

- Automated element deployment
- Advanced service- and policy management
- Multi-vendor element support
- Customized APIs for fast and easy third party OSS/BSS integration
- Wide range of statistics
- High availability, high capacity solution



### BECS control and provisioning system

BECS™ is an advanced broadband network element manager with features for automating resource intensive tasks in the network. BECS includes essential functions for carrier class service provisioning, and Network Management.

### Wide range of functions

BECS provides a wide range of functions, covering the tasks associated with provisioning network elements, provisioning and control of any-play services, and the generation of information required for e.g. troubleshooting, billing and network statistics. BECS functionality can be summarized in two major functional blocks:

- Element management
- Service and policy management

### Element Management

BECS automates the time-consuming and demanding tasks involved in the control and provisioning of any-play services. Initial configuration and software is provisioned automatically by BECS to elements when they connect to the

network, allowing the mass deployment of elements. This is possible either all at once, or in clusters. Automated updating of element software secures the stability of the network, and reduces problems associated with multiple software releases. This also saves the time and cost associated with on-site visits.

### Service and policy management

Activation, deactivation and changes in service subscriptions cause numerous updates to service profiles. BECS automates these tasks, thus reducing manual work to a minimum. Every activation, deactivation or change in a service subscription triggers the service profile configuration to be automatically provisioned to affected elements which cuts costs in the network operation and speeds up service delivery.

### High Capacity and High Availability

BECS has been designed to meet requirements at any scale – from small greenfield networks to large telecom network operators deploying any type of access technology in existing networks.

The BECS initial system setup supports a network with approximately 1000 ele-

ments per cell, or 120,000 clients for a fully populated cell. As the network expands, the scale-as-you-grow feature of BECS allows for you to add extra cells when necessary. Each added cell supports an additional 120,000 clients.

High availability (HA) allows the network to continue to deliver service in the unlikely event of a fatal hardware or software error. The system modularity combined with the architecture fulfill the demands of a carrier class solution. The architecture of BECS divides a BECS system into the BECS Core and BECS Cells.

The High Availability setup allows both the BECS Core and BECS Cell to be coupled in pairs where each server also can be located at separate sites in order to increase the reliability of the system.

## Easy to integrate with other systems

Integration with other systems is made using the BECS Mediation Point (MP) The MP provides easy interaction with the business-critical systems of network owners and/or service providers.

PacketFront also offers the Broadband Business Engine (BBE) suite of applications that are integrated with BECS and provide functionality for management of workflows, subscribers, helpdesks, billing, tickets and service selection.

## Allows open access per service

BECS capability to treat each service separately is vital for the success of an open-access network. Parameters such as bandwidth, QoS, priority, security, etc. are determined individually for each service. A set-top box for TV-over-IP, for example, requires a high bandwidth from the transmitter, while a VoIP service is sensitive to delay but requires less bandwidth. Each individual service profile can be set on demand or can be scheduled. This allows for granular control of the network, giving essential advantages such as advanced service

differentiation and personalization. It also enables fast troubleshooting as services are separated and treated individually, and thus easily monitored.

## Secure distribution of TV/video

BECS offers restricted multicast access, allowing the distribution of commercial TV to be controlled by the network. Smart Cards are thus unnecessary.

## IP address management

BECS can also be configured to allocate and control IP addresses through its integrated DHCP functionality. The handling of IP addresses from the address scopes of multiple service providers is highly complex. The DHCP server in BECS ensures that each end-user device (PC, telephone, TV) receives an IP address from the provider of that specific service. This procedure provides efficient use and control of IP addresses.

## Access technology agnostic

BECS provides native support for different network designs, and it provides flexibility in the choice of access technology, such as xDSL, active Ethernet or PON.

## Modular element management

BECS manages hardware using specific product kit packages to achieve flexible and easy control of hardware in a multi-vendor environment. Each element manager uses the native configuration commands for the hardware that make it possible for BECS to manage any type of access hardware.

To create element managers quickly and efficiently, the BECS Actualizer product kit is provided. With its easy-to-use GUI wizard, Actualizer does not require expert programming skills, the user only needs to know how to natively configure the new hardware. This allows the network operator to create and update element managers by themselves without using expensive consulting manhours.

### Technical requirement

#### Server requirements

Sun Microsystems	<ul style="list-style-type: none"> <li>• Minimum: Sun Sparc T1000, recommended: T2000</li> <li>• 4 Gbyte RAM*</li> <li>• 10 Gbyte disk space *</li> <li>• Sun Solaris 10 for Sparc operating system</li> </ul>
Intel x86	<ul style="list-style-type: none"> <li>• Minimum: Intel Server Class CPU, Quad core, 2.2 GHz, 8 MB cache recommended: Xeon X3430 2.53 GHz 8 MB cache, Turbo Boost</li> <li>• 4 Gbyte RAM*</li> <li>• 50 Gbyte disk space *</li> <li>• Red Hat Enterprise 6.0 (or later) for Linux operating system</li> </ul>
Management interface requirements	<ul style="list-style-type: none"> <li>• Win XP, Windows 7 operating system</li> <li>• x86 Personal Computer, compatible with the operating system</li> <li>• Screen resolution of minimum 1024x768, 16 bit colour</li> <li>• 1 GB RAM</li> <li>• 100 Mbyte free disk space</li> </ul>

\* The amount of memory and disk space required depends on the network size, amount of logging, number of services, number of customers.