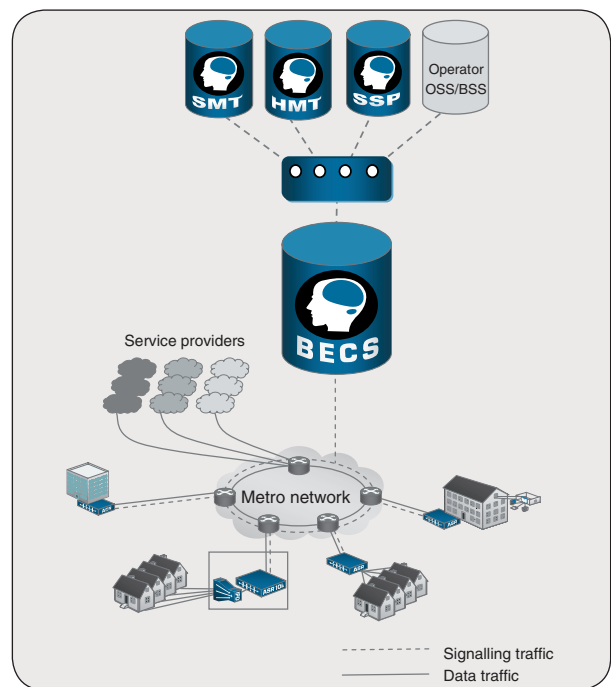


## Advanced broadband network control system optimized for open-access environments

### Key benefits:

- Granular control of triple-play services, enabling sophisticated service personalization and differentiation
- Automated service provisioning
- Cost efficient mass deployment of broadband routers
- Automated and secure authentication and authorization of end users' access to broadband services, incl IPTV
- Optimized for multi service-provider networks – open access environments
- Placed outside data path, thus no traffic bottleneck

*BECS is a centralized system for the control and provisioning of triple-play services.*



BECS is the central control and provisioning system of PacketFront's automated broadband solution. It provides the functions that are essential for the control and provisioning of advanced, carrier-class, triple-play services, for admission control of end users, and for the provisioning of network elements.

The design of all PacketFront networks is based on a distributed architecture, where BECS acts as the policy decision point for the network elements. This design also separates pay-load traffic from signalling traffic. Thus, no pay-load traffic flows through the BECS system, avoiding traffic bottlenecks and disturbances in the network.

### Wide range of functions

BECS provides a wide range of functions, covering the tasks associated with provisioning network elements, provisioning and control of the triple-play services, and the generation of information required for e.g. troubleshooting, billing and network statistics.

### Automated control and provisioning of network elements

BECS automates the time-consuming and demanding tasks involved in the control and provisioning of triple-play services in an open-access environment. Initial configuration and software is provisioned automatically by BECS to the ASRs upon connection to the network, allowing mass deployment of broadband routers. This is possible either all at once, or in clusters. Automated updates of ASR software secure the stability of the network, and reduce problems associated with different software releases. Costly time spent on on-site visits is also saved.

### Automated control and provisioning of triple-play services

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 results in a service profile

configuration automatically being provisioned to the ASR concerned, saving valuable resources in the network operation and speeding up service delivery.

### Scalability

BECS has been designed to meet requirements at any scale – from small greenfield networks to large telecom network operators deploying PacketFront technology in their existing access networks. BECS's initial system set-up supports a network with approximately 75,000 connected end devices. As the network expands, the scale-as-you-grow facility in BECS allows for redundant cell additions, in which each added cell supports an additional 75,000 end devices.

### Easy integration with other systems

Integration with other systems is made through the BECS Mediation Point. This separates the point of interaction from the core of BECS, and ensures that the integration is smooth and time-efficient. BECS Mediation Point provides easy interaction with the business-critical systems of network owners and/or service providers.

### Open access per service

BECS' capability of treating 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 band-

width. Each individual service profile can be set on demand or on a scheduled basis. Through this, a granular control of the network is offered, giving essential advantages such as advanced service differentiation and personalization. It also enables fast troubleshooting as services are separated and treated individual, 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 allocates and controls IP addresses through its integrated DHCP functionality. The handling of IP addresses from the address scopes of multiple service pro-

viders 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.

### Flexibility and simplicity in network design

BECS provides native support for different network designs, and it provides flexibility in the choice of access technology. BECS can control and provision services and network elements independently of the access technology used to connect the end user.

### Technical requirement

#### Server HW requirements

Sun Microsystems  
Sun Sparc V220/V240  
4 Gbyte RAM\*  
10 Gbyte free disk space\*  
**Sun Solaris 10 for Sparc operating system**

#### Management interface requirements

Win 2000 or Win XP operating system  
x86 Personal Computer, compatible with the operating system  
Screen resolution of minimum 1024x768, 16 bit colour  
512 Mbyte DRAM  
100 Mbyte free disk space

\* The amount of memory and disk space required depends on the network size, amount of logging, number of services, number of customers, etc. Please contact PacketFront for an exact estimate.