ASR 4000

Advanced Services Router

Purpose-built broadband router for open-access FTTH deployments

Key benefits:

- Purpose built for FTTH access
- Delivers advanced triple-play services
- Hardened design optimized for FTTH deployments
- Cost-efficiently controlled from BECS™
- Treats each service individually for open access at service level
- Enables advanced service differentiation and personalization

ASR 4000 is PacketFront's high-performance broadband router optimized for FTTH access delivering advanced triple-play services to countless end users. The hardened design without the need for mechanical cooling makes it well suited for installation in non-controlled environments, such as basements of multi dwelling units, street cabinets or other locations not intended for telecom equipment.

Policy enforcement point

The ASR 4000 transports all data traffic including Internet, IPTV, IP telephony etc. The service policies defined in BECS are enforced in the network by the ASR 4000 and dynamically applied for all users connected. This includes everything from packet filters, bandwidth shaping and what range of IP-address to use. Acting as a client to BECS it receives all communication over a dedicated connection avoiding network disturbances during peak hours.

Open access per service

The ASR 4000 offers individual treatment per service, i.e. parameters like QoS, bandwidth, security and priority, are set per service. Thus, the ASR 4000 treats services, rather than connections or ports.

Through this granular control of services, different bandwidths can be given to the same device (MAC-address) on one interface of the ASR 4000, which allows the allocation of different bandwidth to different members of the household on the same client (e.g. a PC). The ASR 4000 also shapes, and not only polices, bandwidth which gives much better performance and accuracy than other means of bandwidth limitation.

IP address management and security in open-access networks

Based on flexible IP address allocation and dynamic configuration, the ASR 4000 fully supports multiple service providers in a shared infrastructure. In cooperation with BECS, the ASR 4000 provides dynamic and static address allocation of private, public and service-provider specific IP addresses. This allocation is also enforced and controlled in ASR 4000 such as multicast source filters and traceability functions; preventing ARP-spoofing and address conflicts. Such anti-spoof mechanisms also play an important role in the prevention and follow-up of hacking and abuse.

Automated installation, configuration and upgrading

Being controlled from BECS, ASR 4000 is automatically provisioned with the initial configuration profile and correct iBOS software version when deployed in the network. This is triggered upon connecting the ASR 4000 to the network and requires no manual or on-site configuration. Upgrading of iBOS software is also performed by means of automation.

Automated service provisioning

Provisioning of services is automated in the ASR 4000 from BECS. Service profiles are sent to the ASR 4000 containing all necessary information required to deliver the services securely to the end-users' clients (set-top-boxes, PCs or IP phones). Authentication and authorization of clients is automatically taken care of in BECS, resulting in a service-provisioning process that is performed without manual intervention, and thus saving valuable resources.

PacketFront®
The Future of Broadband. Today

ASR 4000

Description

Model	Description	Wavelength (nm)	Max/Min output pwr (dBm)	Max/Min input pwr (dBm)
ASR 4124	24 10/100BaseTX, RJ45 ports	-	-	-
ASR 4224	24 100BaseFX, Multi mode, MTRJ ports	1310	-	-
ASR 4624	24 100BaseBX10, Single mode, single fiber, SC ports	1550/1310	-8/-15	0/-31
ASR 4724	24 100BaseFX, Single mode, dual fiber, LC ports	1310	0/-20	0/-28

Physical

Ports:
- 1 out of band 10/100BaseTX admin
- 1 RS-232 serial console interface
- 2 SFP-based Gigabit Ethernet 1000Base-X uplink ports
- Downlink ports depending on model

Dimension (H) (W) (D):
- 44x435x225mm, 1.73”x17.12”x8.86”

Weight:
- 7kg, 15.4lbs

Indicators:
- 1 graphic display with 4-button user interface for status monitoring

Acoustic:
- Max 10dBA noise level

Environmental

Operating temperature:
- 0 to 35-45°C, 32 to 95-113°F depending on model

Operating humidity:
- 10% to 90%, non condensing

Storage temperature:
- -10 to 70°C, 14 to 158°F

Storage humidity:
- 5% to 95%, non condensing

Mounting:
- Standard 19” rack and wall mountable

Heat dissipation:
- See power consumption

Power and safety

90-240V AC, 50-60 Hz

Automatic restart of the system when any of the faults conditions are cleared

Power consumption:
- ASR 4124: 20W
- ASR 4224: 46W
- ASR 4624: 33W
- ASR 4724: 36W

Regulatory compliance

CE and ETL-mark, IEC/EN/UL 60950, IEC/EN/UL 60825, CB-certificate, ETSI EN 300386, FCC Part 15 Subpart B, RoHS directive 2002/95/EC

IP forwarding

Classification:
- Layer 2-4 packet classification with filtering
- Per-service packets and bytes accounting

Unicast:
- 2000 IPv4 routes
- Up to 4 paths using ECMP

Multicast:
- 256 S, G IPv4 multicast forwarding entries
- Per-port replication

Quality of Service

Packet queuing:
- Weighted round robin (WRR)

Policing:
- 256 Single/Dual Token Bucket Policer, with packet drop or recolor (64kbps - 20Mbps)

Shaping:
- 256 Shapers with packet drop or recolor (64kbps - 20Mbps)

Routing protocol support

Unicast:
- OSPFv2

Multicast:
- PIM-SM/SSM
- IGMPv2, v3

Management

SNMPv1, v2 and v3

TELNET

Industry standard CLI

PFDP – PacketFront Device Protocol

NTP

SYSLOG

RS232 console serial port

DHCP

NetFlow v9

Security

IP spoofing protection

Restrictable multicast access

Interface mirroring to local or remote interface

UNI isolated ports

DHCP snooping

Ethernet and Bridging

IEEE 802.3u – Fast Ethernet

IEEE 802.3z – Gigabit Ethernet

IEEE 802.1p and 802.1Q with full VLAN range

IEEE 802.1 D Spanning-tree

IEEE 802.1w Rapid spanning-tree

8192 MAC addresses

Per VLAN learning

Virtual Private Networking

IP tunnels:
- 256 tunnels
- Transparent ethernet bridging over L2TPv3
- Port forwarding over L2TPv3
- IP over GRE
- Ethernet over GRE

For more information go to:
www.packetfront.com

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