

ORCA BTX-4K

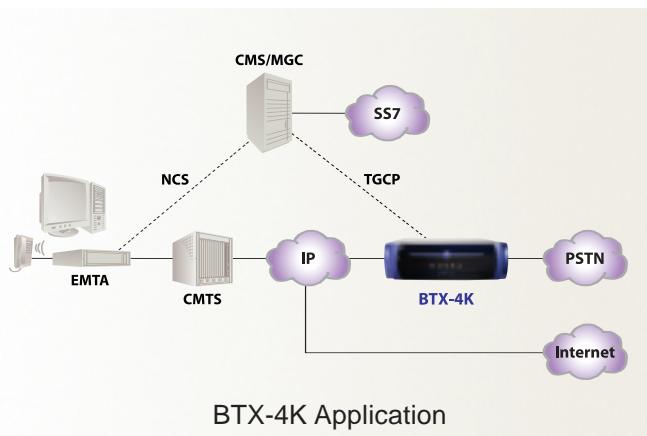


ORCA BTX-4K

The ORCA BTX-4K is a high-density VoIP media gateway that provides interworking between a PacketCable™ managed IP network and the public switched telephone network (PSTN). The BTX-4K enables cable telephony subscribers to communicate with landline and mobile telephone subscribers throughout the world. The BTX-4K provides new levels of scalability and reliability for cable VoIP. The gateway supports up to 4,032 1+1 redundant voice ports in a three rack unit (RU) tall chassis. This scalability and reliability enables cable network operators to efficiently build-out and maintain their networks.

ORCA: Open, Reliable Communications Architecture

The ORCA product family consists of carrier-class VoIP infrastructure products. Service providers throughout the world use ORCA gateways and softswitches to deliver local, long distance and enhanced telephone services.



Capacity

The BTX-4K supports up to 4,032 1+1 redundant voice ports on six DS3s, two STM1 or two OC3 interfaces. Up to 14 BTX-4K units can fit into a single rack, and provide over 56,000 voice ports.

Standards Compliance and Interoperability

The BTX-4K complies with the PacketCable signaling protocol (TGCP), codec and security specifications. The BTX-4K also complies with the PacketCable Electronic Surveillance Specification to support the wire tapping functionality described in the Communications Assistance for Law Enforcement Act (CALEA) specification.

Network and Softswitch Interoperability

The PacketCable TGCP ISUP event package supported by the BTX-4K will allow SS7 networks to control subscriber calls. To support E911 calls and Operator Services, each BTX-4K voice port supports MF tone generation and detection. To support quality of service over the cable HFC plant, the BTX-4K interoperates with leading softswitches to support the PacketCable Dynamic Quality of Service (DQoS) specification.

Operators may deploy multiple softswitches to achieve flexibility in terms of scalability, geographic redundancy and leverage with vendors. To help achieve this flexibility, multiple softswitches can control the resources of a single BTX-4K. Using the TGCP protocol, up to 48 softswitches can control the resources of a BTX-4K.

Voice Processing

The BTX-4K supports G.711 μ -law and A-law encoding. For home office and small business services, the BTX-4K automatically detects fax and modem signals. In addition, the BTX-4K provides dynamic jitter buffers, adaptive echo cancellation, packet loss concealment and Diffserv packet prioritization to support high quality voice communications under the most demanding IP network conditions.

Reliability

Many features enable the BTX-4K to deliver the high systems-availability required in regional data center and central office applications. The BTX-4K is NEBS certified. All voice ports and common logic resources are 1+1 redundant and hot swappable. Power supplies and fans are redundant and hot swappable. In addition, BTX-4K capacity can be increased and software can be upgraded without interrupting calls.

Management

Nuera NetConductor is a secure multi-user client/server element management system that allows operators and technicians to monitor and control the BTX-4K.

ORCA BTX-4K



Over 56,000 ports
in one rack

Specifications

Voice Interface	
DS3	6
OC3, STM-1	2
Capacity	
T1s (DS3, OC3)	168
E1s (STM-1)	126
MGCs	48
Standards Compliance	
TGCP	PacketCable™ compliant call control signaling; ISUP, MO and MT event packages; DNS support
Codec	G.711 μ -law and A-law; fax, modem and TTY support
Security	IPSec for TGCP signaling; HMAC and AES for bearer (media) traffic
CALEA	Signaling and bearer (media) traffic forking
Reliability	
Voice Ports	1+1 redundant and hot swappable
Common Logic	1+1 redundant and hot swappable
Fans	Redundant and hot swappable
Power Feeds	Redundant
NEBS Certifications	Level 3
Voice Processing	
Vocoder	G.711 μ -law and A-law 64Kbps, G.729ab
Fax	Group III, Super G3 and T.38
Modem	V.32, V.34 and V.90
Echo Cancellation	G.168; 0-128ms
Jitter Buffers	Dynamic
Packet Loss Concealment	Automatic
PSTN Signaling	
Channel Associated	MF signaling for E911 and Operator Services
Common Channel	ISUP, ISDN PRI IUA
Packet Interface	
Bearer (media)	Dual 1000 Base-SX optical
Signaling & Management	Dual 100 Base-T
Element Management	
Agent	SNMPv2 and SNMPv3
Manager	NetConductor multi-user client/server element management system
Environment	
DC Inputs	-48 VDC, 6 Amps
Size	5.25" (13.3 cm) H, 17.5" (44.5 cm) W, 22" (55.9 cm) D
Weight	33 lbs (15 kg)
Operating	5 to 40°C