

## Cisco BPX 8680 Universal Service Node

AS THE EVOLUTION TOWARD NEW WORLD SERVICES CONTINUES, SERVICE PROVIDERS ARE BEING CHALLENGED TO KEEP PACE WITH A VAST AMOUNT OF TRAFFIC WHILE SIMULTANEOUSLY MEETING THE INCREASING DEMAND FOR NEW APPLICATIONS. SERVICE PROVIDERS REQUIRE NEW PRODUCTS AND TECHNOLOGIES TO ADDRESS THE OPPORTUNITIES THAT ARE PRESENTED BY THE HIGH DEMAND FOR IP AND DATA SERVICES. THE CISCO BPX 8680<sup>®</sup> UNIVERSAL SERVICE NODE IS AN IP+ATM WAN EDGE SWITCH THAT ENABLES SERVICE PROVIDERS TO DELIVER THE REVENUE GENERATING SERVICES AND NEW APPLICATIONS OF THE 21<sup>ST</sup> CENTURY.

### Overview

The BPX 8680 integrates the proven and widely deployed technology of the BPX 8600 with the differentiated services of the MGX 8850. This solution enables service providers to cost-effectively deliver ATM, Frame Relay, SNA, voice, and circuit emulation services while simultaneously adopting technology solutions to deliver emerging integrated services such as voice over IP, IP-based virtual private networks (VPNs), managed intranets, and premium Internet services.

### Universal Service Node Features

The BPX 8680 Universal Service Node is a scalable IP+ATM WAN edge switch that combines the benefits of Cisco IOS<sup>®</sup> IP with the extensive queuing, buffering, scalability, and quality-of-service (QoS) capabilities provided by the BPX 8600 and MGX<sup>™</sup> 8800 series platforms. The BPX 8680 switch incorporates a modular, multishelf architecture that scales from small sites to very large sites and enables service providers to meet the rapidly growing demand for new applications while cost-effectively delivering today's revenue-generating services.



The BPX 8680 builds upon proven Cisco ATM technology that forms the backbone in the world's largest data networks and shares technology with the MGX 8800 to scale to the industry's highest port densities. The BPX 8680 consists of one or more MGX 8850s connected as feeders to a BPX 8620. Architected for very large installations, the BPX 8680 can scale to 16,000 DS1s by adding up to 16 MGX 8850 concentrator shelves while still being managed as a single node.

The BPX 8680 enables advanced IP services by combining Layer 2 virtual circuit advantages with Layer 3 scalability, using Multiprotocol Label Switching (MPLS). Service providers benefit from IP+ATM switching by being able to deploy emerging services such as voice over IP and VPNs without requiring multiple overlay networks.

## BPX 8680 System Specifications

### Crosspoint Switch Fabric

- Peak switching capacity of 19.2 Gbps
- Twelve 800/1600-Mbps switch ports that support up to OC-12/STM-4 cell rate
- Arbiter establishes up to 20 million cell connections per second

### Dimensions

- H x W x D: 22.75<sup>1</sup> x 17.72 x 27 in. (57.8 x 45 x 68.6 cm)
- Rack mountable in industry-standard EIA/RETMA racks (17.75 in. [45.1 cm] minimum between rails); rack-mount adapters are available for mounting in 23 in. (58.42 cm) telco racks

### Supported Interfaces

- OC-12c/STM-4
- OC-3c/STM-1
- T3
- E3
- Channelized T3 (down to DS0)

1. Plus combined height of edge concentrator shelves

- n x T1/E1
- T1/E1
- Channelized T1 (DS0 and DS0A)
- Channelized E1
- HSSI, X.21, V.35
- Ethernet
- Fast Ethernet
- Fiber Distributed Data Interface (FDDI)

### Services

- IP VPNs
- Voice
- Frame Relay
- PPP access
- SNA outsourcing
- Cell relay
- Frame relay to ATM network interworking
- Frame Relay to ATM service interworking
- Circuit emulation
- Complete suite of Cisco IOS-based protocols and services



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