IntellaPatch®
Physical Layer Switch Overview

APCON Solutions for Networks

IntellaPatch Series 2000 Chassis Features

- 1, 2, 4, 9 or 18 blades per chassis
- Up to 16-port blade design with 1-inch height
- Hot-swappable blades and transceivers

IntellaPatch Series 3000 Chassis Features

- 1, 2 or 4 blades per chassis
- Up to 36-port blade design with 1U blade height
- Redundant controller cards with automatic fail-over
- Hot-swappable power supplies, controllers, blades and transceivers
- Field-replaceable fans
- High-density backplane

IntellaPatch Switches Offer

- Up to 1.22 Tbps switching capacity
- Point-to-point (full duplex or simplex), multicast (1 to n), and loop topologies
- Non-blocking, any-to-any switching architecture
- Signal regeneration on all ports

IntellaPatch® Physical Layer Switches enable companies to optimize use of IT and lab resources by providing a method for remotely moving and sharing expensive monitoring, intrusion detection and testing devices across an entire network.

IntellaPatch provides the widest array of modular switching solutions based on scalable chassis, protocol-specific and multi-protocol blades, and intuitive management software. With our technology, users are able to reconfigure network connections in seconds, avoiding time-consuming and error-prone manual patching. They are also allowed secure, remote access to any point on the network via embedded software.

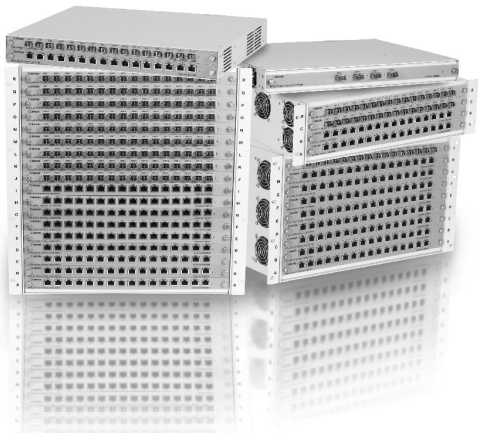
IntellaPatch Families

APCON now offers IntellaPatch switches in two distinct product lines.

The **Series 2000** family represents the original IntellaPatch switch, providing up to 16 ports per blade in a 1-inch blade height. The product line is available in five chassis sizes, ranging from 16 to 288 ports each. Chassis feature hot-swappable blades and transceivers, and all offer non-blocking, any-to-any switching architecture.

The new **Series 3000**, which debuts September 2008, features higher-density blades – offering up to 36 ports each in a 1U height. Those with tight space constraints will now be able to have 144 ports of non-blocking, any-to-any switching architecture available in a compact 4U height – the same port count at less than half the height offered by the Series 2000.

The Series 3000 line provides further innovation with its fault-tolerant dual controller cards. Unlike switches with single controllers that can halt network operations during a failure, the Series 3000 has high availability fail-over allowing it to be used in-line in the production network of an enterprise or test lab environment.



Series 2000

The IntellaPatch Series 3000 is modular, offering hot-swappable power supplies and field-replaceable fans. It also allows hitless firmware upgrades and a host of advanced diagnostic features. The line is initially available in 72- and 144-port configurations, and that will quickly be followed-up with a 36-port offering.

Both Series 2000 and Series 3000 IntellaPatch switches allow secure, remote access for multiple users via an embedded web interface, and are compatible with all APCON user interfaces.

Series 3000
ACI-3072 72 Port Chassis

Two Industry-Specific Configurations

IntellaPatch chassis are available in two configurations – Standard and Enterprise. From 16 to 288 ports, each chassis ships preloaded with a suite of embedded software optimized for the intended environment.

The **Standard** configuration, which is ideal for lab environments and test automation, includes the WebX web interface and Telnet capabilities. It also offers APCON's CLI (Command Line Interface) / API (Applications Programming Interface), SSL/SSH encryption and redundant power supplies.*

The **Enterprise** configuration, designed for network monitoring applications, combines the standard WebX interface with embedded Monitor application. TACACS+ and RADIUS directory authentication, and SNMPv3 with gets/sets/traps, are also included for improved network integration and accessibility. For optimal reliability and security, all Enterprise chassis offer SSL/SSH encryption and redundant power supplies as well.*

*Redundant power supplies included on 64, 144 and 288 port chassis.

Series 3000
ACI-3072 144 Port Chassis

IntellaPatch BLADES

OPTICAL BLADE MODELS

Fibre Channel

The Series 2000 offers a 16-port Fibre Channel blade that simultaneously supports 1, 2 and 4 Gbps data rates, and has the flexibility to manually specify or automatically negotiate data rates. Also supported is 10 Gbps Fibre Channel blade enabling engineers to switch high data rates with ease.

The Series 3000 offers a 36-port Fibre Channel blade that supports 8 Gbps.

Ethernet & FDDI

Copper Ethernet Blade
Series 2000

The Series 2000 offers a 16-port Ethernet/FDDI blade that supports Fast Ethernet, Gigabit Ethernet and FDDI. This blade supports Gigabit Ethernet media conversion when paired with the copper 10/100/1000 Ethernet blade. Also offered is a 10 Gbps Ethernet blade enabling engineers to switch high data rates with ease.

The Series 3000 offers a 36-port 100/1000 Ethernet blade that supports Fast Ethernet and Gigabit Ethernet, and a 10 Gbps Fiber Ethernet blade.

SONET/SDH (with Gigabit Ethernet support)

APCON's 16-port SONET/SDH blade simultaneously supports OC-3/STM-1, OC-12/STM-4, OC-48/STM-16 and Gigabit Ethernet enabling media conversion. Series 2000 only.

Multi-Protocol

APCON's 16-port multi-protocol blade offers tremendous flexibility by supporting Ethernet, FDDI, SONET/SDH, NTSC/PAL and other protocols from 10 Mbps–4.25 Gbps, HDTV, ESCON and Infiniband, depending on the SFP installed. Series 2000 only.

Copper Ethernet Blade
Series 3000

COPPER BLADE MODELS

10/100/1000 Ethernet

The Series 2000 offers a 16-port Ethernet blade that simultaneously supports Ethernet, Fast Ethernet and Gigabit Ethernet. This blade has the flexibility to manually specify individual or automatically negotiate data rates.

The Series 3000 offers a 36-port 10/100/1000 Copper Ethernet blade that supports Ethernet, Fast Ethernet and Gigabit Ethernet.

T1/E1/J1

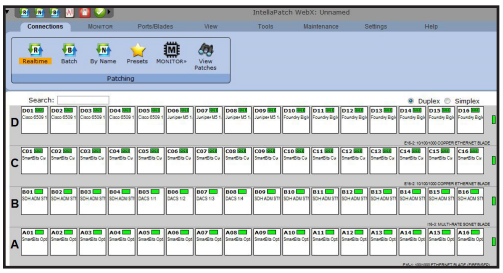
APCON's 8-port T1/E1/J1 blade simultaneously supports the American, European and Japanese telecommunications standards. Series 2000 only.

DS3/E3/STS-1

APCON's 8-port DS3/E3/STS-1 blade simultaneously supports all three telecommunications standards and data rates. Series 2000 only.

SOFTWARE & APPLICATION TOOLS

APCON offers five independent software interfaces, each designed to meet the unique requirements of different users and organizations. Combined with any IntellaPatch switch, these tools provide the ideal solution for electronically moving and sharing expensive testing devices and monitoring equipment across an entire network. Key distinctions for APCON software include:



WebX patching screen

WebX Interface

WebX is the embedded web interface included on all IntellaPatch physical layer switches. With no software to install, users can immediately begin configuring and managing port connections in an intuitive environment via a two-click interface. Features include the ability to navigate, configure and view all switch features and security functions; monitor switch status; and detect, diagnose and correct system issues. WebX software supports SSL.

Monitor

APCON Monitor provides a simplified solution for electronically sharing network monitoring devices. Now embedded in the WebX interface included on all Enterprise Chassis, Monitor enables physical connectivity of monitoring devices to any point in the network, resulting in full network visibility.

Embedded CLI

Ideal for test lab applications, the IntellaPatch CLI (API) allows users to enter commands through a Telnet program that will be executed as if they were entered directly on the switch. For remote users and system administrators needing to access and manage servers running SSH, IntellaPatch software supports SSH and SSH v2 clients to provide a secure interactive file transfer and terminal client functionality.

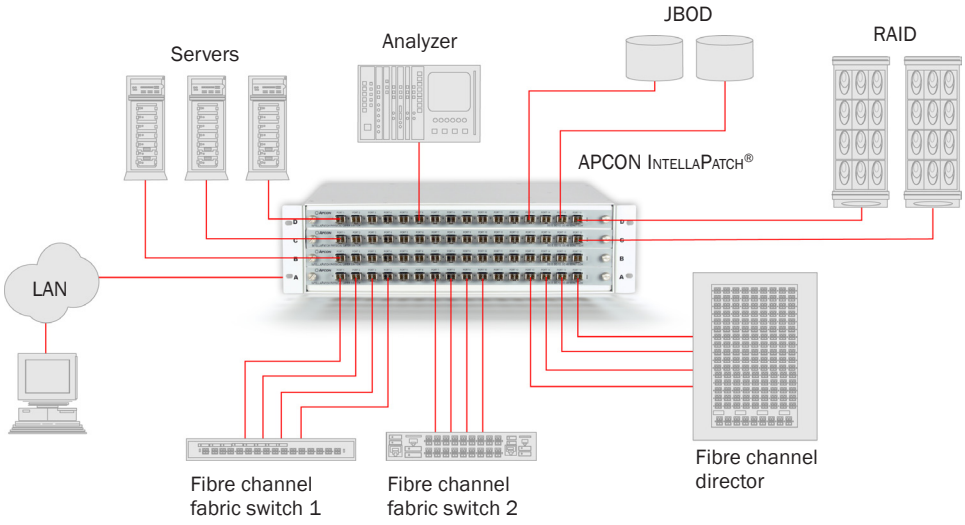
SNMP

Simple Network Management Protocol, called SNMP, allows the IntellaPatch switch to be seamlessly integrated into existing network and element management platforms via APCON's standardized MIBs (Management Information Base).

TITAN

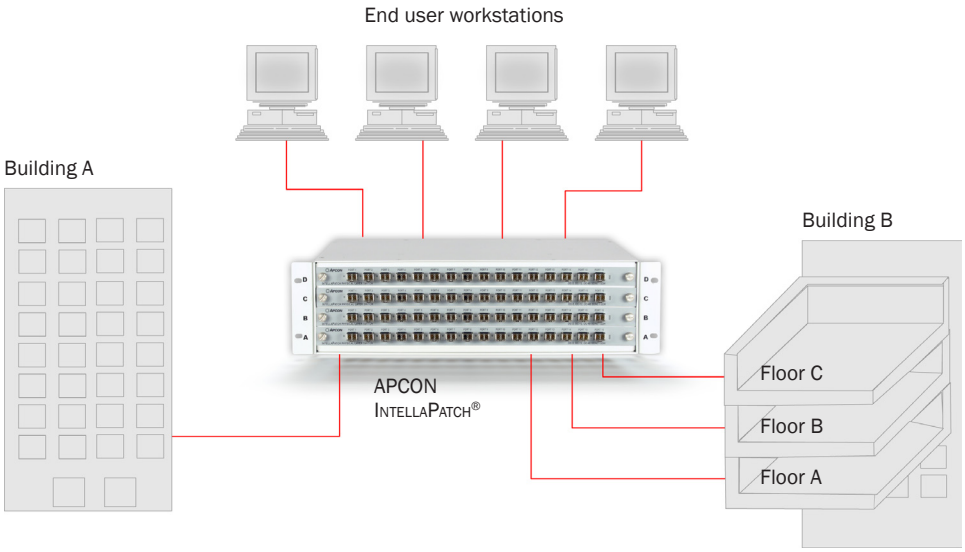
TITAN is the ideal software tool for enabling users to cascade multiple IntellaPatch switches to create an expanded virtual switch matrix. This architecture scales to support complex test automation and enterprise monitoring environments supporting thousands of ports and devices.

IntellaPatch APPLICATIONS



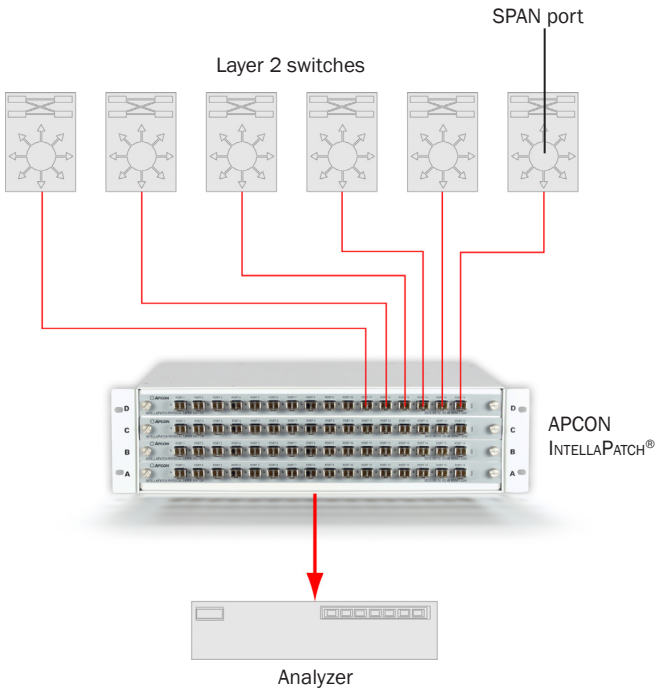
TEST LAB AUTOMATION

Adding an APCON IntellaPatch into an interoperability or compatibility test lab decreases time spent configuring and reconfiguring a test bed, improves test repeatability and increases efficiency – ultimately decreasing product time to market.



NETWORK SECURITY & ACCESS CONTROL

APCON physical layer switches provide a secure solution for access control of any network, large or small, by allowing network managers to connect or disconnect network connections electronically from a remote location.



SHARING MONITOR & ANALYSIS EQUIPMENT

APCON IntellaPatch enables increased efficiency and cost savings for monitoring and analysis in today's enterprise network environment. Expensive equipment, such as packet analyzers, probes or intrusion detection systems can be shared electronically. This solution reduces capital equipment requirements and maintenance costs while boosting network efficiency.

Standard Chassis Configuration Benefits

- Reduces capital equipment and operating expenditures
- Enables remote access
- Enables test case automation
- Reduces product time to market

Applications

- Test lab automation

Enterprise Chassis Configuration Benefits

- Reduces capital equipment and operating expenditures
- Enables remote access
- Increases utilization of existing resources
- Increases network visibility
- Reduces mean time to repair (MTTR)

Applications

- Sharing monitoring and analysis equipment in enterprise networks
- Network security and access control

Protected under US Patent #6,243,510.