INTEGRATED ACCESS
The ATLAS™ Series

www.adtran.com/atlas   **ADTRAN**®

Not just an integrated access device.
A multifunction WAN access switch.

The ATLAS™ Series from ADTRAN.®

Why ATLAS?

The ATLAS Series is a family of powerful and versatile Integrated Access Devices (IADs) that have far-reaching application in today's advanced telecommunications networks. This single, versatile platform is capable of both dedicated and switched access—performing the functions found in T1/T3/E1 multiplexers, 1/0 and 3/1/0 digital cross connect switches, channel banks, Frame Relay access devices/concentrators/switches, IP routers, inverse multiplexers, and ISDN switches.

There are several compelling reasons to implement ADTRAN's ATLAS integrated access solutions as part of your network plan.

1. **Consolidation—You are currently using separate networks** for voice, data, video, and Internet. ATLAS allows you to consolidate and converge traffic onto fewer circuits, reducing recurring monthly communications costs.

2. **Network efficiency—Your network is currently inefficient** because bandwidth is dedicated to separate voice and data systems. ATLAS includes circuit switching and packet routing technology that enables you to combine traffic and oversubscribe circuits, extracting greater performance from the same bandwidth.

3. **Conversion—Current network equipment is configured for T1** (such as PBX/Key Systems), but you wish to take advantage of the additional call features and potentially lower tariffs provided by ISDN PRI. ATLAS converts PRI to T1, PRI to BRI, and PRI to analog; so, in many situations you can enjoy the benefits of PRI service without expensive upgrades to your existing equipment.

Solutions to empower your wide area network.

The ATLAS Series from ADTRAN is one of the most versatile integrated access platforms available for converging voice, data, and video applications. Numerous user and network interfaces, coupled with advanced multiplexing, switching, and routing capabilities, enable cost reductions in your network that you might never have anticipated.

ATLAS 890
Fully redundant, high-density, multiservice IAD

- Fully redundant logic and power supplies
- High-speed, multiprotocol backplane
- 13 expansion slots (AC version)
- 15 expansion slots (DC version)
- Up to 64 T1s or one T3

ATLAS 830
High-density, modular, multiservice IAD

- High-speed, multiprotocol backplane
- Eight expansion slots
- Up to 34 T1/PRIs, 32 E1s, or one T3
- Compact footprint (17.5" W x 12.5" D x 5.5" H)

Replaces ATLAS 800 and ATLAS 800PLUS models

In any case, what is the most powerful, cost-effective integrated access system for today's varied internetworking applications? The ATLAS Series from ADTRAN.

Is flexibility an important consideration in your network plan?

The ATLAS Series offers many of the features previously found only in larger multiplexing, PBX, or router equipment, at a lower entry cost. Each ATLAS chassis features a high-speed, multiprotocol backplane and numerous expansion slots. The system supports various network interfaces and as many as 25 different hot-swappable application modules. With the right configuration, you can basically plug in any T1/E1, T3, ISDN PRI/BRI, or analog circuit, then pick-and-choose the voice, data, or video applications you need to deliver. If a special tariff warrants a service change, or a new branch office needs to be added, the modular, flexible ATLAS can accommodate the change.

Is Return on Investment a growing concern for your company?

Lowering network costs is a top priority in most companies today. Which investments are worth the expenditure? ATLAS is a solution that significantly reduces the cost of current applications, and at the same time, positions your network for future growth.

By consolidating telecom traffic onto fewer circuits, ATLAS lowers monthly payouts. By replacing multiple pieces of older, possibly outdated equipment, ATLAS streamlines network operations, reduces IT workload, and conserves space. Further, ATLAS extends the functionality of most TDM integrated access devices to include switching, which serves to optimize each circuit. In most network models, ATLAS generates a very accept-able payback period, and delivers a strong ROI.

Interchangeable Application Modules

The ATLAS Series is a modular platform that can be configured to meet current networking requirements, while establishing a simple and inexpensive upgrade path. A variety of interchangeable interface modules satisfy technology requirements ranging from voice to data to Internet to videoconferencing.

Backed by a full five-year warranty and unsurpassed technical support from the leading supplier of network access solutions, the ATLAS Series is one of the most risk-free decisions you can make for integrated access.

ATLAS 550

Medium-capacity, modular, multiservice IAD

- High-speed, six-slot, multiprotocol backplane
- Two network interface slots
- Four expansion slots
- Up to 18 T1/PRI ports
- Up to 32 analog ports
- Compact footprint (17" W x 11.75" D x 3.5" H)

The simplicity of a single chassis. The functionality of an entire rack of equipment.

An architecture so remarkably advanced, it makes your job easy.

Before ATLAS

Network
Network
Network
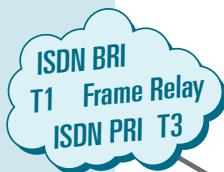
LAN
Videoconference Equipment
PBX/Key System
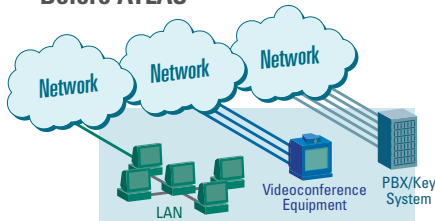
Lower one of your largest expenses.

The most substantial and economically quantifiable benefit of creating a converged voice/data network is the elimination of redundant circuits. In many enterprise networks, different applications have their own circuits. For example, voice may have digital or analog trunks, data may have separate Internet access, and videoconferencing systems may use several ISDN lines. Since circuit costs typically represent one of the largest IT expenditures, it makes sense that reducing those costs would be a top priority. Reducing network costs is what ATLAS is all about.

Simplify your network using ATLAS™

Today's Wide Area Network (WAN) typically consists of multiple overlays to handle various traffic types, complicated by the presence of varying service and pricing options between geographic regions. Network complexity is also compounded by business mergers and reorganizations. As networks grow more complex, and the applications needed to support a distributed workforce increase, a solution like ATLAS becomes a necessity.

ATLAS is a multifunction, modular platform that accommodates multiple protocols and interfaces, collapsing parallel networks into a more streamlined and less expensive topology. ATLAS consolidates voice, fax, modem, video, Local Area Network (LAN), and legacy data traffic over a single wide area link, reducing overall telecommunication expenses.
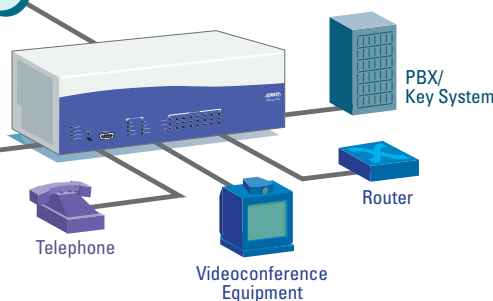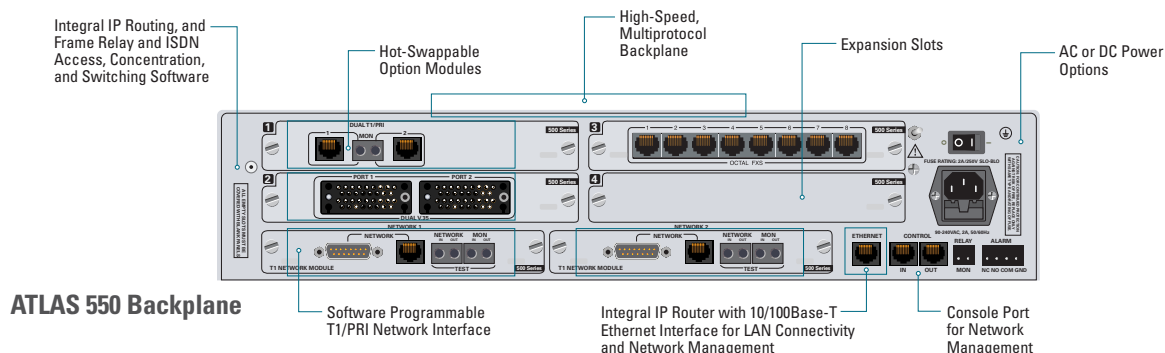
A comprehensive multiservice access platform

An ATLAS IAD merges many internetworking functions into a small, economical, modular platform that can replace a rack of traditional single-function devices. An ATLAS IAD typically resides at the edge of the network at the customer premises, and consolidates the functions found in multiport multiplexers, channel banks, 1/0 and 3/1/0 cross connect switches, Frame Relay Access Devices/concentrators/switches, IP routers, inverse multiplexers, and ISDN switches.

- DSU/CSU
- Switch
- Channel Bank
- Multiplexer
- Router
- DACS
- I-MUX
- Voice Compression
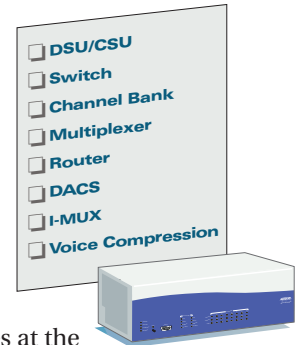
Bandwidth sharing

An ATLAS IAD is positioned between the network service provider circuit(s) and the end user equipment, enabling many network devices to share WAN access and bandwidth. ATLAS supports multiple network technologies and numerous equipment interfaces. The system's flexibility makes it easier to satisfy diverse applications in hybrid networks, and to evolve network systems and applications as requirements change.

ISDN BRI
T1 Frame Relay
ISDN PRI T3

After ATLAS

PBX/Key System
LAN
Telephone
Videoconference Equipment
Router

ATLAS 550 Backplane

Integral IP Routing, and Frame Relay and ISDN Access, Concentration, and Switching Software

Hot-Swappable Option Modules

High-Speed, Multiprotocol Backplane

Expansion Slots

AC or DC Power Options

Software Programmable T1/PRI Network Interface

Integral IP Router with 10/100Base-T Ethernet Interface for LAN Connectivity and Network Management

Console Port for Network Management

High-speed, multifunction backplane

ATLAS is a modular and scalable platform, designed to help you implement the most cost-effective solutions to meet current needs, while accommodating future growth. To take advantage of new service opportunities, or to meet new user requirements, simply add the appropriate option modules.

Numerous interface options

The configuration of an ATLAS system can vary widely depending on a number of factors. Which applications are being accommodated? How much capacity do you need for each? How much excess capacity should be allowed for near-term growth?

A large offering of network and device interfaces allows you to tailor an ATLAS solution to fit your current needs with the least possible expenditure, and still accommodate change. Pre-configured systems are available for popular applications.

ATLAS 890/830/550 Interface Options

- **T1/PRI—**Configurable as DS1, DSX-1, or PRI; supports Drop/Insert, 1/0 DACS, PRI switching, and Frame Relay

- **E1/PRA—**Supports E1 and Net-5 Euro-ISDN (PRA), Drop/Insert, 1/0 DACS, and Frame Relay

- **ISDN BRI/U—**ANSI T1.601-compliant BRI U-interfaces to emulate or terminate ISDN from common switch types

- **ISDN BRI S/T—**Multiple BRI S/T interfaces supporting Net-3 Euro-ISDN

- **Analog Voice—**Options for FXS, FXO, E&M with popular call features; mapped or dynamically switched DS0s

- **Voice Compression—**4-, 8-, 16-, and 24-channel G.723.1 compression with a 6:1 ratio on analog calls from channelized T1 or PRI

- **Nx56/64 V.35—**Multiple synchronous V.35 ports support Nx56/64 kbps operation up to 2.048 Mbps

- **USSI—**Multiple Universal Synchronous Serial Interface ports supporting EIA-530, RS-449/V.36, X.21/V.11, or EIA-232; Nx56/64 kbps operation up to 2.048 Mbps

- **NxT1 HSSI/V.35—**Aggregates from two to eight T1s into a single logical channel in point-to-point applications; supports multiple T1s or T3

- **Nx56/64 BONDING—**BONDING Mode 1 processor(s) with up to 2.048 Mbps capacity each; from two to 32 user-configurable B-Channels per processor

ATLAS 890/830 Interface Options

- **T3—**Channelized T3 connectivity, 3/1/0 DACS, PRI over T3, and T1 Inverse Multiplexing (with additional module)

- **T3 with Drop & Insert—**Channelized T3 connectivity with Drop/Insert to any other channelized T3 device

- **Dual Video—**Dual independent video ports simultaneously support V.35, EIA-530, or RS-449 interfaces; includes RS-366 dialing interface and supports DTE rates from 112 kbps to 1.472 Mbps (with additional card)

ATLAS 550 Interface Options

- **Ethernet Switch—**Layer 2 switch with eight 10/100Base-T Ethernet interfaces

- **Legacy Data—**Multiple EIA-232 or V.35 interfaces for synchronous or asynchronous packet data transport using SNA/SDLC, HDLC, transparent Async, and Transparent Bit-Oriented Protocols (TBOP)

- **ADPCM—**32-channel G.726 compression for 16 kbps and 32 kbps voice applications and G.711 for 64 kbps voice

For a complete description of available option modules, visit **www.adtran.com/atlas**

For assistance configuring your ATLAS system, contact your technology reseller, or call an ADTRAN network engineer at 800 615-1176.

Numerous opportunities to decrease costs, increase performance, and optimize network resources.

The ATLAS™ Series at work in your network.

A Solution for Many Industries

- Government
- Education
- Entertainment
- Financial Services
- Healthcare
- Manufacturing
- Retail
- Transportation
- Utilities

Consolidation and dynamic switching

Is your network subscribing to more bandwidth than necessary? Do you need to make better use of the bandwidth that you already have? Would you like to convert from the circuit types you currently have to another type without changing out your communications equipment? If so, ADTRAN's ATLAS IAD is the ideal choice.

One of the distinguishing characteristics of the ATLAS Series of IADs is the ability to perform dynamic circuit switching and packet routing. You no longer have to dedicate channels within your circuits. Unlike traditional termination equipment, that requires static or dedicated channel assignments, ATLAS can dynamically switch traffic on a call-by-call basis.

- **Consolidation—**With dynamic switching, ATLAS enables users to consolidate many circuits and combine voice, data, video, and Internet traffic on the same circuit.

- **Oversubscription—**ATLAS enables users to oversubscribe the circuit so more users and devices can be connected. In many scenarios, not every user or device requires simultaneous access to the WAN. Less bandwidth can be deployed, which reduces costs, and ATLAS will dynamically switch calls to the available bandwidth.

- **Least cost routing—**The integral switchboard and dial plan equip ATLAS with switching features similar to a PBX (without voice-mail and advanced call features). For example, ATLAS can dynamically switch local calls to the local service provider while long distance calls are switched to the interexchange or long distance carrier.

DACS and grooming

ATLAS IADs also provide DACS and grooming functions, which are ideal for optimizing T1 and T3 circuits. Using the DACSing function within ATLAS, users can perform timeslot interchange. Any DS0 from any T1 or T3 can be cross-connected or reassigned to any other DS0 on any other T1 or T3.

ATLAS grooming functionality allows users to combine partially filled T1s into fully filled T1s. On many enterprise networks, users can combine voice DS0s coming into the central site from individual T1s into fewer DSX-1 interfaces for the PBX. Grooming can increase efficiency and reduce the number of DSX-1 interfaces required.

ATLAS 830/890 platforms support 3/1/0 DACSing. The ATLAS 550 supports 1/0 DACSing. ATLAS is the ideal choice for users who need DACSing and grooming in a small economical system.

Frame Relay switching

As a central site frame switch, ATLAS can help you create a fully unified Frame Relay voice/data WAN infrastructure that significantly reduces long distance costs, while maintaining the quality and integrity of voice communications.

In a Voice over Frame Relay (VoFR) application, the ATLAS IAD receives voice traffic from an existing voice switch or PBX, and then packetizes and optionally compresses it for transmission over the Frame Relay connection, to deliver near toll-grade voice calls.

Conversion

The ATLAS Series includes conversion and switching technology that transparently links two different line technologies. Because ATLAS supports a large number of line technologies (T3, T1, ISDN PRI/BRI), several cost-saving opportunities exist. For example, the system can convert PRI to T1 or PRI to multiple BRIs, allowing you to take advantage of the lowest possible tariff in a certain location, or to reduce the number of circuits required in a particular application, without changing your existing voice and data equipment.

- **Convert PRI to T1 to avoid costly PBX/Key System upgrades—**The ATLAS IAD, functioning as a PRI-to-T1 converter, enables you to obtain call features available only through ISDN PRI, or to take advantage of the low PRI rates available in some locations, without a PBX/Key System upgrade. The ATLAS IAD supports PRI connection to the public ISDN network and T1 connection to the PBX, and performs the switching and conversion necessary to transparently link the two technologies. ATLAS converts ISDN Calling/Called Party Number to a Feature Group D ANI/DNIS format. ATLAS can be a fraction of the cost of a PBX upgrade, and used in this application, results in a very short payback period.

- **Eliminate multiple BRI circuits to the PSTN—**ATLAS IADs also perform PRI to BRI signal conversion, accommodating up to 100 BRI interfaces in a single chassis. The ATLAS IAD interfaces to the PSTN using one or more PRIs, then transparently converts between PRI and BRI, distributing BRIs as needed to support multiple videoconference systems or routers using BRI for dial backup.

- **Consolidate analog phones onto a single PRI—**Functioning as a PRI Channel Bank, an ATLAS IAD performs the ISDN-to-analog conversions necessary to support many analog phones over a single PRI circuit. ATLAS converts ISDN Calling/Called Party information from the PRI to Caller ID on the FXS interface using FSK signalling. ATLAS also provides dynamic call-by-call routing based on the phone number dialed. Overbooking supports more phones and faxes using equal or lesser bandwidth, increasing circuit utilization and reducing costs.

Improve network reliability

In a converged network, where more electronics and users are consolidated into less equipment, protecting communications against downtime becomes even more critical than before. ATLAS offers optional redundancy and dial backup hardware to protect against unforeseen disasters.

Converged networks can benefit from the fully-redundant ATLAS 890, featuring duplicate system controllers and power supplies. Fault detection circuitry automatically detects errors and switches over to a hot standby controller. The controller modules are hot-swappable, so the ATLAS system remains operational even as the other controller is removed for repair or replacement. Dual power supplies perform load sharing.

A well-planned, well-executed disaster recovery system could save thousands, or even millions of dollars in lost revenue. ADTRAN offers comprehensive dial backup solutions to protect mission-critical communications on both Frame Relay and point-to-point T1 networks. ADTRAN's dial-around-the-cloud solution for Frame Relay features Safe-T-Net, a technology which detects a link or PVC failure and automatically initiates a secondary route for voice and data traffic. For point-to-point T1 networks, ATLAS offers optional hardware solutions to protect mission-critical data services to remote sites.

Manage network resources

The ATLAS Series is a fully managed WAN access and switching solution. Management options include ADTRAN's graphical, web-based N-Form™ network management suite, as well as local or remote management using front and rear VT100 craft interfaces (terminal or dial-in access) and a 10/100 Ethernet connection for SNMP and Telnet access. Front-panel LEDs reveal complete operational status.

ADTRAN's easy-to-use, web-enabled network management and trend analysis software suite provides ultimate network control. N-Form permits high-level, at-a-glance network snapshots, with quick drill-down to detailed configuration and real-time troubleshooting diagnostics.
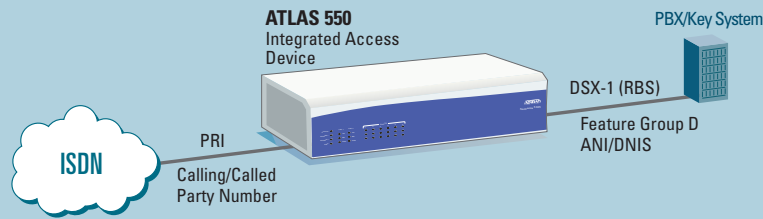
PRI-to-T1 Signal Conversion

ATLAS 550
Integrated Access Device

PBX/Key System

DSX-1 (RBS)

Feature Group D
ANI/DNIS

PRI

ISDN

Calling/Called
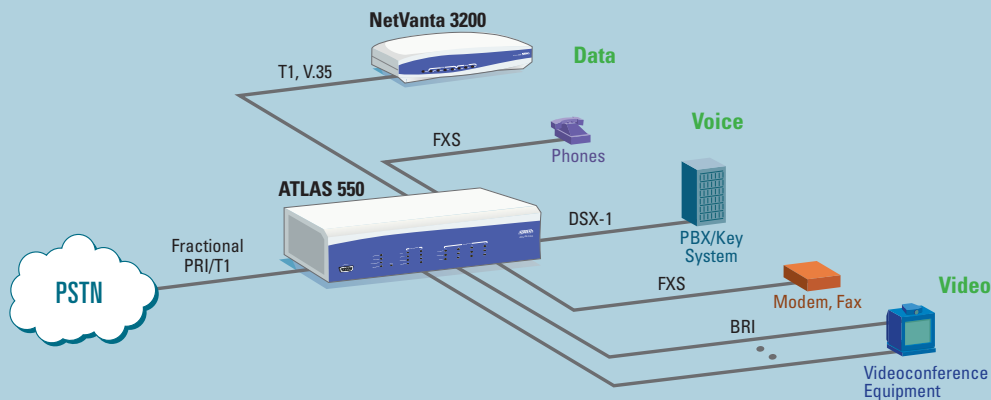Party Number

In addition to its dynamic switching functionality, the ATLAS™ Series includes a signal conversion technology that transparently links two different line technologies. The system converts between line types, such as PRI-to-T1, PRI-to-BRI, and PRI-to-analog. This flexibility allows you to take advantage of the lowest possible tariff in a certain location, and make use of helpful calling features, without changing your existing voice and data equipment. In this example, PRI tariffs are less expensive each month than T1, and Calling/Called Party information is required. Instead of upgrading the existing T1-based PBX, ATLAS is used to perform PRI-to-T1 (DSX-1) conversion and deliver Feature Group D ANI/DNIS from the ISDN Calling/Called Party information. Signal conversion software is standard on all ATLAS models.

Voice, Data, and Video Consolidation

NetVanta 3200

T1, V.35

Data

FXS

Voice

Phones

ATLAS 550

DSX-1

Fractional
PRI/T1

PSTN

PBX/Key
System

FXS

Modem, Fax

BRI

Video

Videoconference
Equipment

ATLAS offers a reliable and economical solution for consolidating multiple WAN access circuits to enable voice, data, and video systems to share common bandwidth and reduce costs. Fractional PRI/T1 service includes a portion of the bandwidth for switched services (B-Channels) and the remaining bandwidth for dedicated channels. Check with your service provider to see if Fractional PRI is available.

PRI Channel Bank

ATLAS 550
Integrated Access Device

PRI

ISDN

Calling/Called
Party Number

1–32 FXS
(FSK Caller ID)
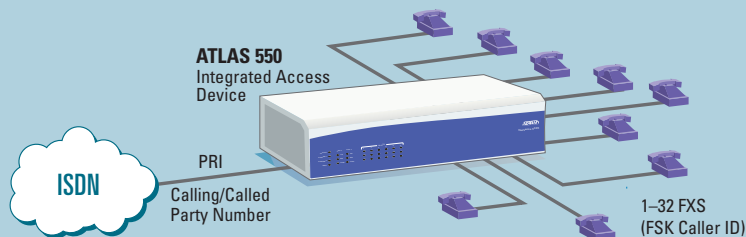
The ATLAS platform provides a cost-effective method of integrating ISDN PRI service into analog devices such as phones, faxes, or Key Systems that do not have PRI capability. In this application, the ATLAS system is used as a PRI channel bank, consolidating multiple analog devices onto a single PRI trunk. The ATLAS system handles the conversion of ISDN signals to analog signals, as well as the conversion of ISDN Calling Party information to FSK tones (in order to provide Caller ID information to analog FXS interfaces). With the ATLAS 550 IAD, overbooking of the 23 B-Channels on the PRI accommodates up to 32 analog interfaces. The system performs dynamic, call-by-call routing and switching based upon the phone number dialed.
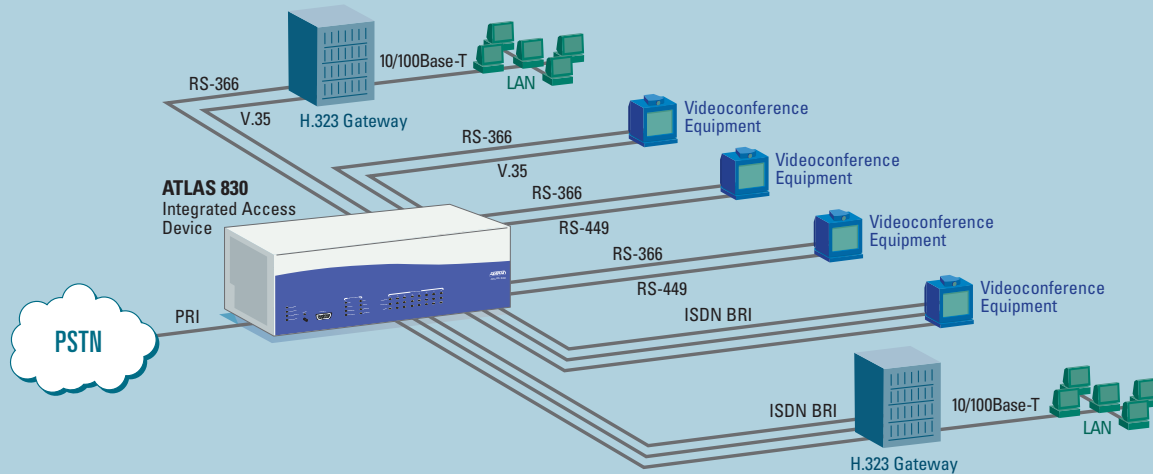
PRI Channel Bank and Oversubscription
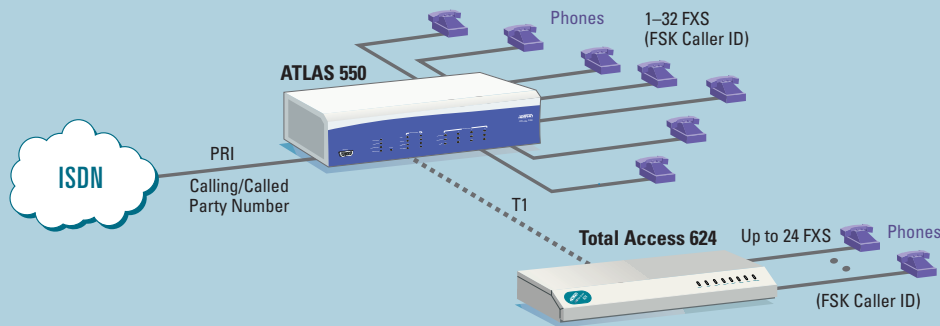
ATLAS can be used to oversubscribe analog interfaces to a PRI. For applications that need higher levels of connectivity, Total Access® 624s can be paired with ATLAS to create an economical, high-density solution.

Videoconferencing Consolidation

ADTRAN's ATLAS 830/890 Video Switch offers enterprise customers a solution for sharing bandwidth between multiple videoconferencing systems or to share bandwidth between videoconferencing and other WAN applications. Video switching and bandwidth sharing can result in significant cost savings through a reduction of dedicated WAN access circuits. The ATLAS Video Switch provides a diverse set of common, industry-standard interfaces for connecting video equipment to the WAN, such as ISDN PRI/BRI, V.35, EIA-530, RS-449, and RS-366 dialing. The availability of these interfaces makes the ATLAS Video Switch interoperable with all leading videoconferencing equipment including H.320 and H.323 gateway devices. The system supports video transmissions from 112 kbps up to a full PRI (1.472 kbps) using the ATLAS Nx56/64 BONDING Module.

Analog Support for VoIP
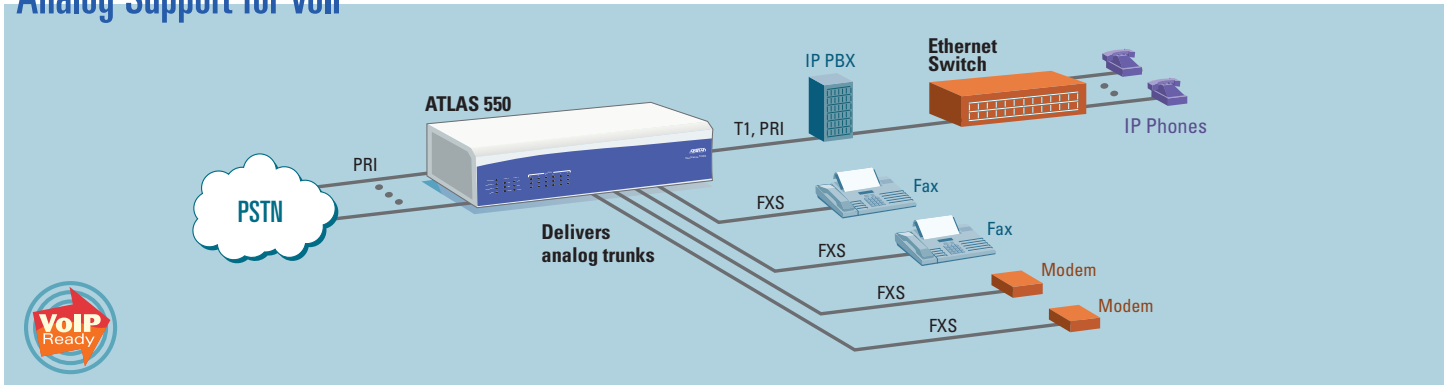
Typically, analog support for fax and modem devices with an IP PBX is limited due to the packet nature of an IP network. The analog signal can experience delay, jitter, and packet loss causing low performance and drop outs. ATLAS™ provides true analog trunk circuits and call-by-call routing for full-rate modem and reliable fax operation. This also eliminates the need for additional hardware or licenses for the IP PBX.
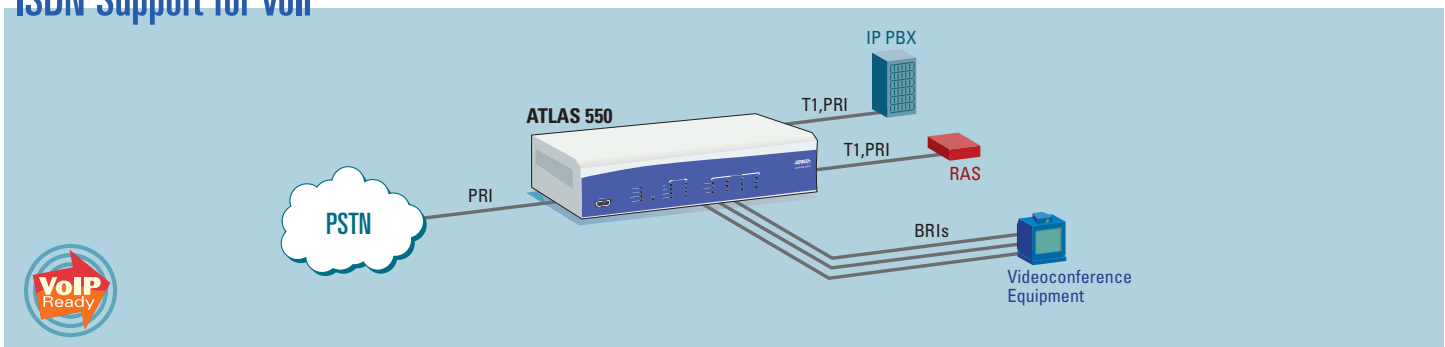
TDM to IP Migration
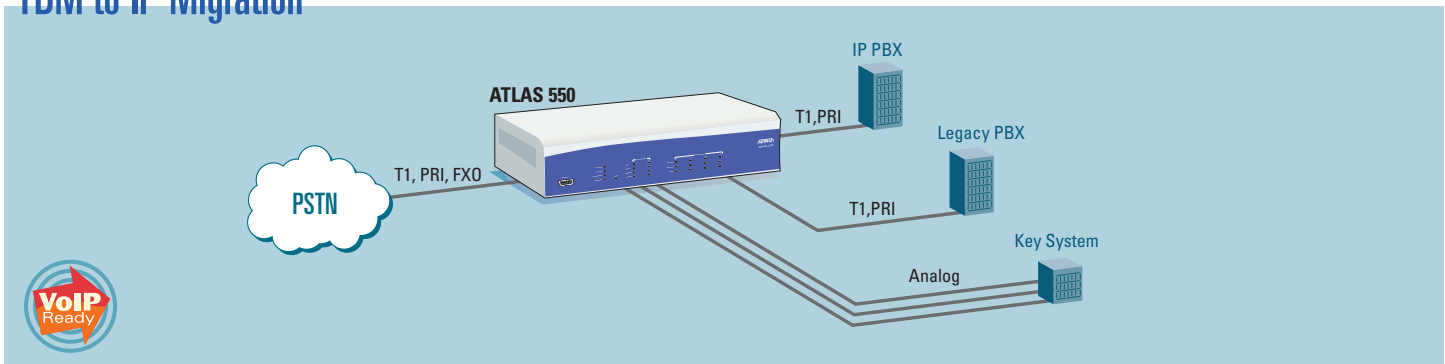
ADTRAN's ATLAS is used to help migrate from legacy TDM to IP telephony by enabling multiple PBX systems to share common WAN bandwidth and reduce monthly telco costs. The integral ATLAS switchboard and dial plan enable quick and easy call routing changes as users migrate from one PBX to the other.
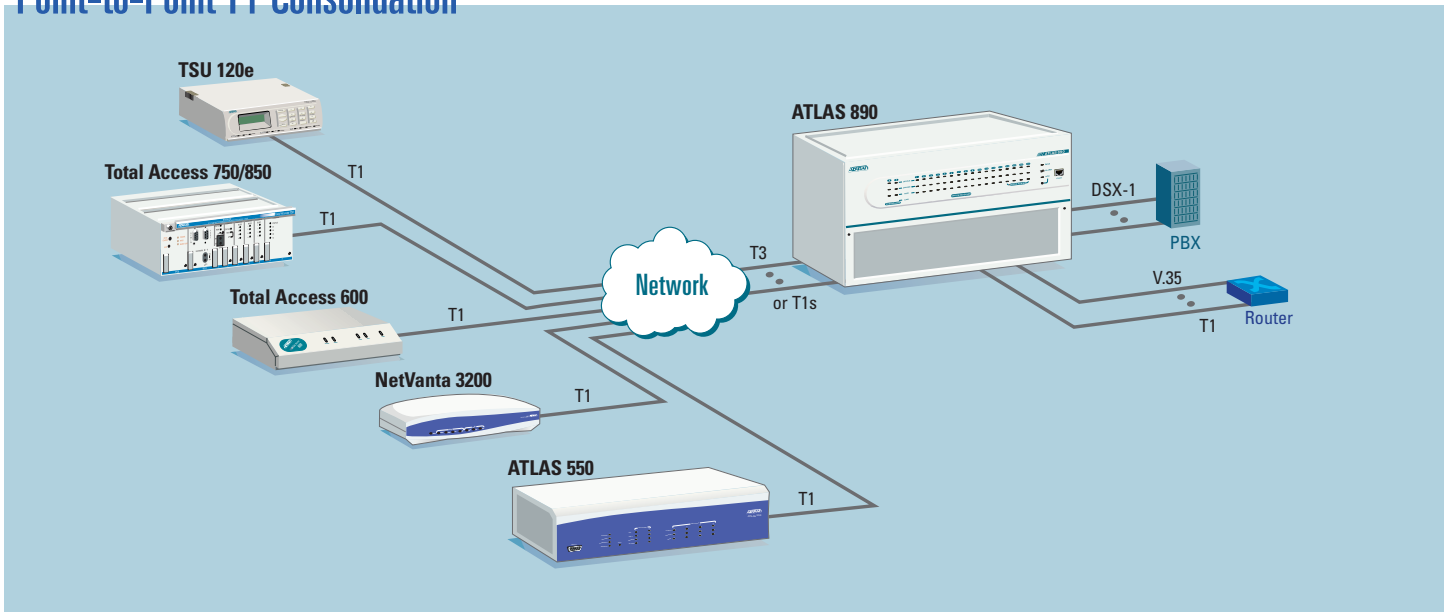
ISDN Support for VoIP

While IP PBXs terminate an ISDN circuit from the network, they may not emulate or deliver ISDN services to user devices such as videoconference systems or Remote Access Servers (RAS). ADTRAN's ATLAS offers industry-standard ISDN termination, deployment, and switching to complement the IP PBX.
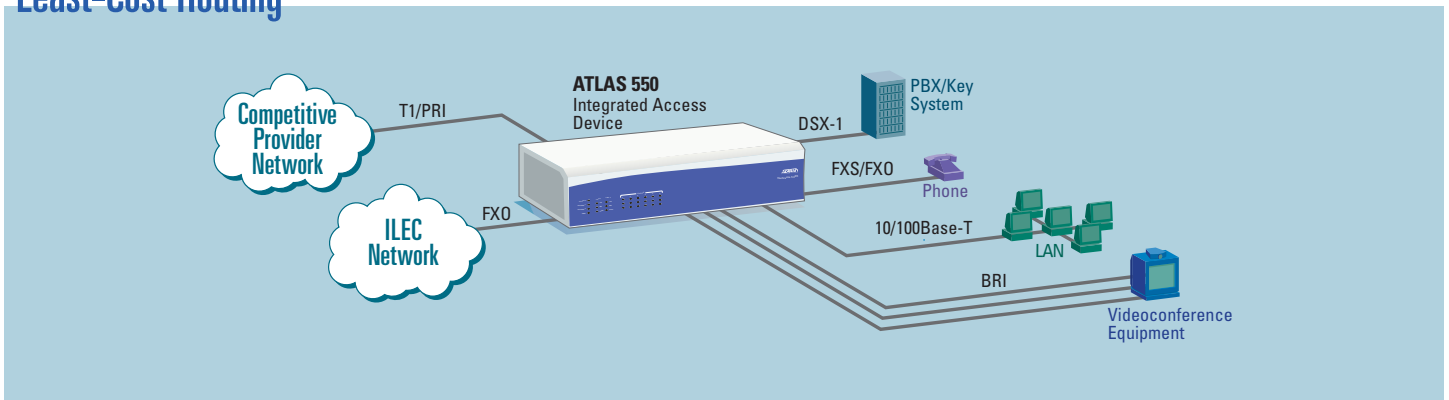
Point-to-Point T1 Consolidation

TSU 120e

Total Access 750/850

T1

ATLAS 890

DSX-1

PBX

T1

T3

V.35

Total Access 600

or T1s

T1

Router

T1

Network

NetVanta 3200

T1

ATLAS 550

T1

In point-to-point applications, an ATLAS IAD at the host site can consolidate traffic and free up rackspace, simplifying overall network operation and management. Here, an ATLAS 890 provides full system redundancy (power supply and system controller) and terminates multiple independent T1s from remote sites or T1s from a channelized T3, grooming voice to a

PBX and splitting out data to V.35 interfaces. Data may be transported directly to a LAN (integral 10/100Base-T port and internal IP routing software) or to an external router. The ATLAS 550 and 830 offer similar functionality for smaller applications.

Least-Cost Routing

Competitive Provider Network

T1/PRI

ATLAS 550
Integrated Access Device

PBX/Key System

DSX-1

FXS/FXO

Phone

ILEC Network

FXO

10/100Base-T

LAN

BRI

Videoconference Equipment

Using an internal switchboard and dial plan, the ATLAS Series dynamically routes three- to 10-digit voice calls to the preferred service provider based on the phone number dialed. This least-cost routing functionality directs local calls to one service provider and long distance calls to another. Number substitution capability is also available. Circuit consolida-

tion offers additional cost savings. In this example, a LAN, PBX, analog phones, and videoconference equipment are physically connected to the ATLAS IAD. ATLAS combines the traffic and eliminates separate circuits for each application, significantly reducing telecom costs.

High-Speed Serial Data Transfer
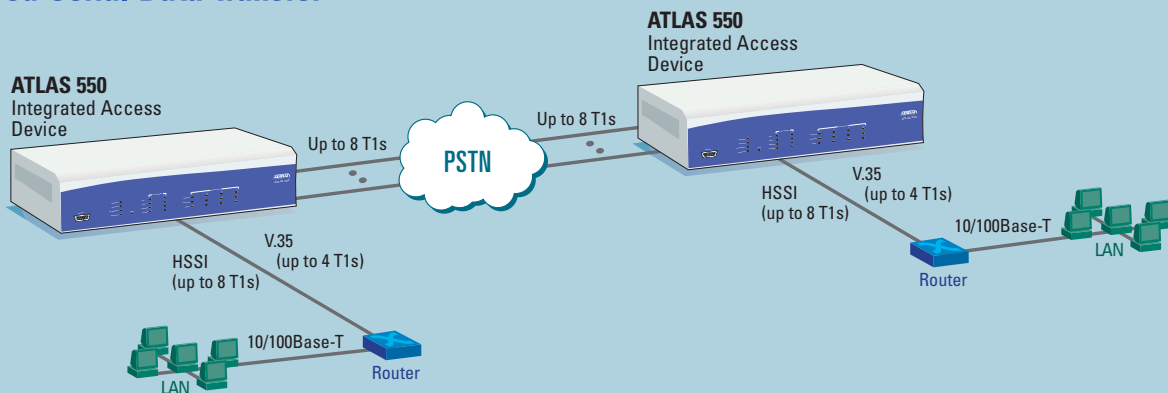
An ATLAS™ IAD equipped with an NxT1 HSSI/V.35 module provides high-speed, point-to-point connectivity between two HSSI or V.35-equipped external routers. ATLAS combines up to eight T1 circuits into a single logical data stream that is fed to an integral High Speed Serial Interface (HSSI) port or V.35 port (requires optional cable). Using an ADTRAN-developed T1 inverse multiplexing protocol, the ATLAS system automatically adjusts the data rate to the HSSI/V.35 port upon loss of one or more T1 circuits. In addition to the HSSI port, four T1 ports are included on the NxT1 HSSI/V.35 Module. Additional T1 capacity is possible by installing ATLAS T1 modules. This functionality is available for the ATLAS 830, ATLAS 890, and ATLAS 550.

Packet Network Emulation
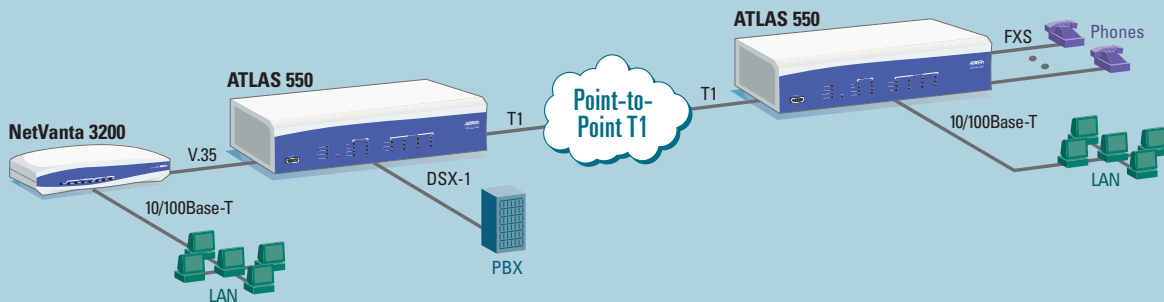
ATLAS emulates Frame Relay service over a point-to-point T1 for users that need more voice capacity. Voice can be packetized and compressed (up to 6:1) while sharing the bandwidth with data.

Switched Network Emulation
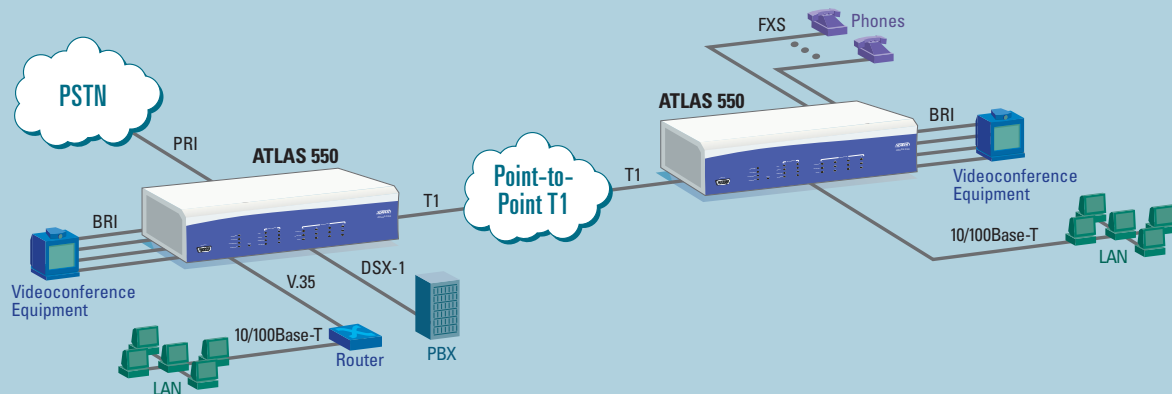
ATLAS emulates Fractional PRI/BRI over point-to-point T1 to allow voice and video to dynamically share the same channels, with the remaining channels dedicated to data. ATLAS also provides central access to the public network for the remote site's voice and video applications.

Frame Relay Access, Concentration, and Switching with Dial Backup
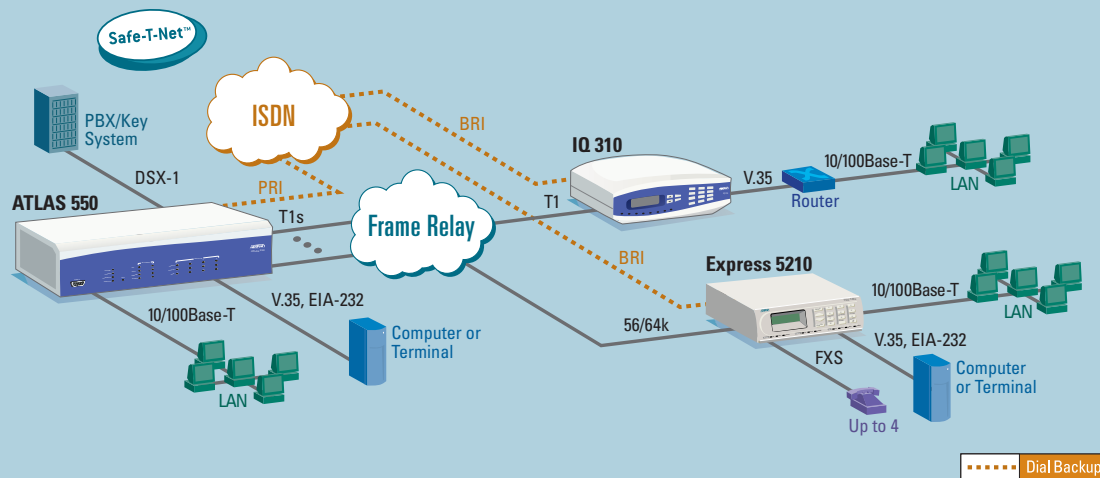
Frame Relay services continue to be a viable option for enterprises seeking a cost-effective solution for interconnecting multiple sites. ADTRAN's ATLAS Frame Relay switching, Express Frame Relay access, and IQ 310TM traffic monitoring products combine to provide an invaluable solution for Frame Relay connectivity and performance monitoring,

problem detection, and rapid dial backup. In this application, ATLAS serves as a central site frame switch. Data can be concentrated to an external router or routed directly to the LAN via the ATLAS integral IP/PPP router. Voice is packetized with optional compression to provide near toll-quality communication between sites.

Wide Area Network Emulation
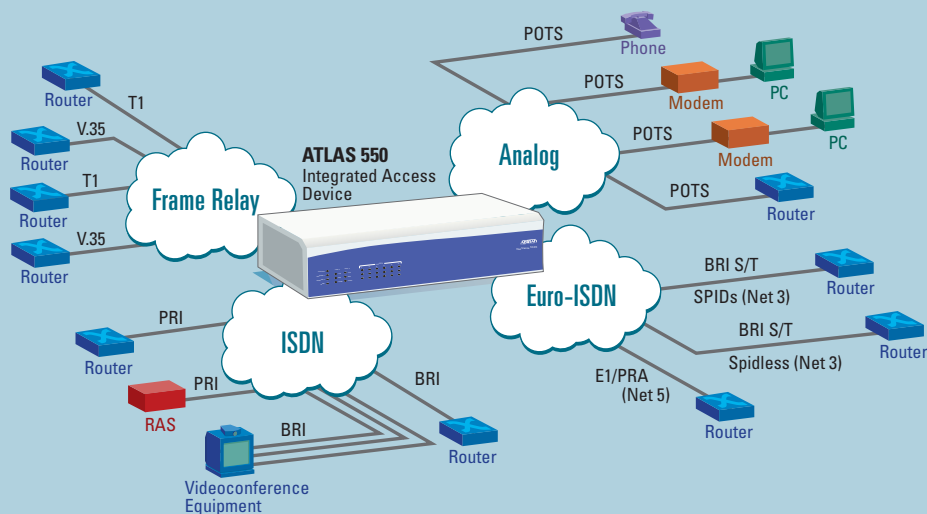
The ATLAS 550 and ATLAS 800 Series make it possible to affordably simulate Frame Relay, ISDN, Euro-ISDN, and analog POTS service, without the expense of live circuits. In this application, the ATLAS 550 emulates a central office switch or WAN for staging what-if scenarios, or testing new equipment and technologies off-net, with no network costs.

Frame Relay functionality includes support for external routers or direct LAN connections. ISDN functionality emulates Lucent 5ESS, Nortel DMS 100, and National ISDN. Net-3 and Net-5 Euro-ISDN functionality includes E1/PRA, BRI S/T, and BRI-U. Analog emulation supports FXS, FXO, and E&M interfaces.

ADTRAN: One of the world's most successful network access equipment suppliers.

ADTRAN is a company you can depend on for high-value, customer-centric solutions.

Value-oriented solutions for the cost-conscious IT manager

ADTRAN® addresses today's value-oriented networking market with a full line of enterprise solutions for LAN-to-WAN connectivity over IP, TDM, switched, and Ethernet architectures. Our mission with these solutions is to lower acquisition costs, lower recurring monthly costs, or both, lowering the Total Cost of Ownership and offering you the best possible value in network access.

The reliability of a market leader

Our LAN-to-WAN solutions complement our highly successful and long-standing lines of wide area connectivity and carrier-class network access products. Our newest products reflect the same exacting attention to detail that won us market leadership positions in key technologies such as integrated access devices (IADs), T1/HDSL2/4 transport, T1 and subrate CSU/DSUs, Frame Relay/DDS extension, and ISDN extension.

Relentless product refinement and cost reduction

A strategy of relentless product refinement and cost reduction remains one of the primary drivers behind our market success. Cost reduction at ADTRAN is about smart engineering, not cutting corners. We reward engineers who reduce costs in the same way we reward engineers who innovate. We also lower costs by using ADTRAN-developed intellectual property where feasible.

Quality and reliability in every unit

Your ADTRAN purchase is backed by an indisputable reputation of quality and reliability—the result of ADTRAN's long-term, corporate-wide commitment to quality assurance in all phases of business and manufacturing operations. From initial product design and development to post-production testing of every single unit shipped, ADTRAN means quality. A TL 9000 3.0 and ISO 9001:2000 certified supplier supporting next-generation quality standards, the company maintains extensive in-house labs for reliability, component, and compliance testing—all in the name of customer satisfaction.

High-touch customer support

Every ADTRAN solution is backed by a 100% satisfaction guarantee, including an industry-leading, five-year warranty and best-in-class service and support.

- **Unlimited toll-free telephone technical support**—A single toll-free call puts you in touch with a knowledgeable expert in our technical support organization.

- **ADTRAN Custom Extended Services (ACES)**—ADTRAN's customizable installation and maintenance services program guarantees priority access to a technical support engineer, with 30-minute call back and on-site product replacement in as few as four hours, depending on the service plan selected.

- **Comprehensive training and certification services**—Comprehensive training and certification program includes free and fee-based options. Sessions are available on-site, off-site, on CD, and on the Internet.

LAN to WAN Think **ADTRAN.**

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NetVanta 2000 Series
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Technical Questions 800 615-1176 *www.adtran.com/support*
Where To Buy 877 280-8416 *www.adtran.com/where2buy*

ATLAS™ Series IAD Feature Matrix

	ATLAS 550	ATLAS 830	ATLAS 890 Redundant	ATLAS 890 Non-Redundant
Part Number	AC: 1200305L2	AC: 1200780L1	AC: 4200321L2	AC: 4200321L1
	DC: 1200550L2	DC: 1200781L1	DC: 4200321L4	DC: 4200321L3
Base Chassis, System Controller				
Integral T1/PRI/DSX-1 Ports	1	2	0	0
Ethernet Port	10/100Base-T	10/100Base-T	10/100Base-T	10/100Base-T
Expansion Slot	5	8	13 AC/15 DC	15 AC/16 DC
AC Power	1200305L2	1200780L1	4200321L2	4200321L1
DC Power	1200550L2	1200781L1	4200321L4	4200321L3
Redundant Power Supply		▲	●	▲
Redundant Controller			●	▲
Alarm Contacts	●	●	●	●
SNMP, Telnet	●	●	●	●
System Features (additional modules required)				
1/0 DACS	●	●	●	●
3/1/0 DACS		●	●	●
ISDN Switch	●	●	●	●
Call Switching (Dial Plan)	●	●	●	●
Frame Relay Switch	●	●	●	●
IP Routing (Frame Relay, PPP)	●	●	●	●
Voice over Frame Relay	●	●	●	●
Safe-T-Net™*	●	●	●	●
IMUX – Nx56/64 BONDING	●	●	●	●
IMUX – NxT1 Point-to-Point	●	●	●	●
Expansion Ports (maximum)				
T3 Ports		✗	✗	✗
T1/PRI Ports	17	32	52 AC, 60 DC	60 AC, 64 DC
E1/PRA Ports	2	32	52 AC, 60 DC	60 AC, 64 DC
ISDN BRI Ports (U or S/T)	16	64	104 AC, 120 DC	120 AC, 128 DC
V.35 Interfaces	8	32	52 AC, 60 DC	60 AC, 64 DC
USSI Ports (EIA-530, RS-449/V.36, X.21/V.11, EIA-232)	8	32	52 AC, 60 DC	60 AC, 64 DC
Analog Ports (FXS, FXO, or E&M)	32	32 (FXS Only)	48 (FXS Only)	48 (FXS Only)
Frame Relay, IP Router				
Frame Relay Packets Per Second (PPS)	5,000	7,900	11,000	11,000
DLCIs Supported (Maximum)	992	992	992	992
IQ Statistics	●	●	●	●
Voice Compression Calls	32	64	64	64
IP Router Packets Per Second (PPS)	3000	3200	4000	4000
IP Route Table Entries	2700	2700	2700	2700
Static Route Entries	128	128	128	128
DHCP Client/Server	●			
Time Division Multiplexing, ISDN Switching				
TDM Backplane Bandwidth (In-bound)	216 DS0s	720 DS0s	720 DS0s	720 DS0s
TDM Backplane Bandwidth (Out-bound)	216 DS0s	720 DS0s	720 DS0s	720 DS0s
ISDN PRI to T1 Conversions	5	10	15	15
NFAS, NFAS with Backup D-Channel		❏	❏	❏

● Standard ✗ Maximum number of ports available depends on application

▲ Option available ❏ One backup D-Channel

* *Safe-T-Net is ADTRAN's technology that provides dial backup disaster recovery of the Frame Relay network.*

**To place an order for an ADTRAN solution,
please contact your technology supplier.**

ADTRAN, Inc.

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ADTRAN is an ISO 9001:2000 certified supplier.

ADTRAN is a TL 9000 3.0 certified supplier.

Five-year warranty applies only to products sold in North America and Europe.

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