Enhanced Asynchronous Transfer Mode (ATM) Solutions



Leverage the Lucent Advantage™ to deliver high-speed and high-volume transport of voice, data, and video traffic with private line-class reliability

The benefits of Enhanced ATM for your business:

- Enables you to generate new revenue opportunities from your existing network
- Helps lower network operating costs
- Supports LANs, MANs, and WANs to eliminate performance and interoperability issues
- Provides a single, unified multiservice backbone to achieve more capacity, speed, and reliability

The benefits of Enhanced ATM for your enterprise customers:

- Transports data securely and reliably between geographically dispersed sites
- Provides cost-effective alternative to a DS3 line
- Scales bandwidth on demand
- Maintains QoS across all transport needs

Lucent Technologies
Bell Labs Innovations

Enhanced ATM Solutions



Enhanced Asynchronous Transfer Mode (ATM) solutions let you offer your enterprise customers a secure and reliable means of moving high-speed, high-volume voice, data and video over the same network with Quality of Service (QoS) and Classes of Service (CoS).

The low delay, high performance and speed of ATM make it one of the most widely deployed backbone core technologies in the world. It provides traffic prioritization and network redundancy, making it a secure and reliable means of exchanging information between geographically dispersed sites.

Enterprise customers are demanding reliable, cost-effective Wide Area Network (WAN) services. They're also very selective about how these services are configured and priced. They want the throughput of DS3 when traffic levels are high, but want to pay DS1 prices. And they want to maintain appropriate levels of QoS.

You can leverage your existing network investment to meet these demands with Enhanced Asynchronous Transfer Mode (ATM) Solutions that offer the Lucent Advantage™: the network flexibility and reliability enterprise customers want, and the ability to lower their data networking costs.

Enhanced ATM Solutions support high-speed transport of voice, video, and data that is seamless and cost-effective, enabling you to consolidate multiple lower-cost DS1 or T1/E1 lines to create a single, higher-speed, virtual, fractional DS3 (or T3/E3) line for transport. As a result, converged data, voice, and video services can be delivered on the bandwidth your customers require — for a fraction of the cost of a DS3/T3/E3.

What enterprises want …

Enterprises are seeking flexible, reliable, and cost-effective services that support mission-critical applications with multiple levels of QoS and CoS. Enhanced ATM Solutions help you meet these needs because they support a wide range of data transmission rates, from 25 Mbps to 155 Mbps over copper, and from 100 Mbps to 622 Mbps (OC-12) and higher over multimode or single-mode fiber.

You can provide customers with transport of voice, fax, data, image, video, graphic images, and multimedia with QoS levels geared to match the delay and latency requirements of each type of traffic. The traffic can be asynchronous, synchronous, or isochronous — or any combination. ATM's fixed-size, connection-oriented, cell-based nature allows QoS parameters to be keyed to the class of service (CoS).

ATM is highly scalable in terms of both bandwidth and geographic reach. It is the first service to offer true bandwidth on demand. At any point during an ATM transmission, its dynamic bandwidth allocation features adapt automatically to the bandwidth required.

What enterprises need …

Enterprises need to lower their operating costs to remain profitable and competitive. Until recently, enterprises whose bandwidth requirements outgrew their DS3/T1/E1 lines had only one option: a DS3/T3/E3 line. Typically, this meant they had to pay for far more bandwidth than they actually needed. Inverse multiplexing over ATM (IMA) offers an incremental and scalable solution for these enterprises, providing wide area access over ATM by combining multiple DS1/T1/E1 lines into a fractional DS3/T3/E3 line.

This also enables your enterprise customers to choose the optimum interface speed — and therefore better control their costs. In daily operation, this combined interface can speed up data transmission by adjusting traffic QoS priorities, making unused bandwidth available to handle data bursts while maintaining guarantees to critical real-time data.

Enhanced ATM Solutions can combine data needs into a single service interface for additional cost and performance benefits. Enterprises can consolidate their networking needs into a single interface carrying voice, video, and data. Bandwidth assignments can be adjusted easily and quickly.

How Enhanced ATM Solutions pay off for you …

Enhanced ATM Solutions that leverage the Lucent Advantage™ can help you lower operating expenses while helping you deliver new services quickly and efficiently.

Enhanced ATM Solutions support CoS and private line-quality, latency-sensitive services. Enhanced ATM is highly flexible, operating equally well in LAN, MAN, and WAN environments, helping you reduce performance and interoperability issues.

Your enterprise customers will be able to buy high-quality services, such as IP Virtual Private Networks (IP VPNs), to serve the needs of a mobile workforce. This means they will turn to you when they want to outsource their service capabilities, because you will be able to offer the services they want at an attractive price.

Lucent can help you reduce operational complexity and cost with our Navis® iOperations Software. It is a single, integrated solution for end-to-end service creation, provisioning, monitoring, and service quality management of current and next-generation services over multi-vendor, multi-technology networks.

Lucent has products that optimize networks for handling real-time and non-real-time services simultaneously. GX 550® and CBX 500® Multiservice WAN switches use traffic management to push congestion to the network edge to make better use of the core. Traffic management is critical for supporting a full range of voice, video, and data services since it controls the data transmission rate of ATM devices on a specific connection.

Traffic management is used to:

- Alleviate congestion in the network
- Offer cost-effective support for Variable Bit Rate non-real-time (VBRnrt), Unspecified Bit Rate (UBR) and Available Bit Rate (ABR) applications
- Provide fair access to network resources for all services
- Reduce cell loss for bursty connections



We have the products, software and services that enable you to offer Enhanced ATM Solutions quickly and profitably. Enhanced ATM Solutions that deliver the Lucent Advantage™ include:

GX 550® Multiservice WAN Switch

A proven, carrier-class, core switch that scales ATM networks and provides the availability, service-aware routing, and high-speed switching required of multiservice networks.

CBX 500® Multiservice WAN Switch

Provides the infrastructure for the next-generation networks that customers want. Deployed at the network edge, this carrier-class 5 Gbps switch equips you to deliver ATM, circuit emulation, Frame Relay, and IP services.

PacketStar® PSAX Multiservice Media Gateway

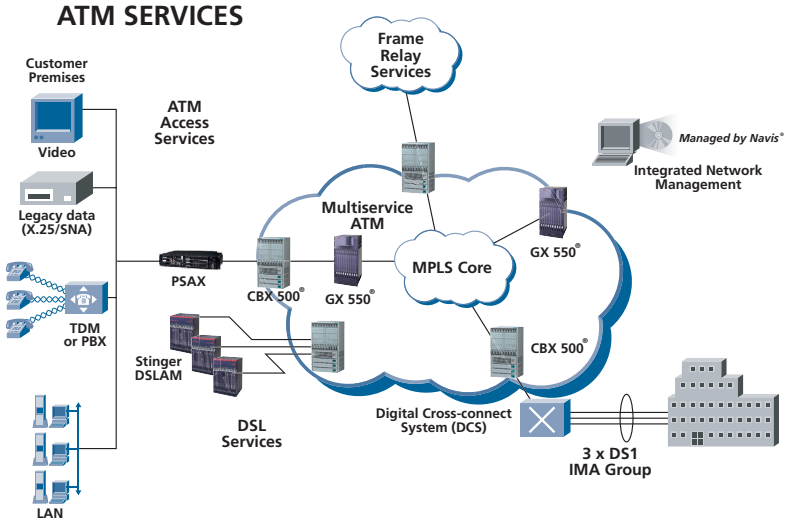
Supports mobile and wireline networks, legacy through leading-edge transport systems. You can use PSAX to deliver carrier-grade access circuit emulation, Frame Relay, IP and ATM services.

Network Management with *Navis*® EMS-CBGX

Navis® EMS-CBGX is a centralized service and network management software application that delivers sophisticated, standards-based management and control of Lucent multiservice products — Frame Relay, Switched Multimegabit Data Service (SMDS), ATM, and IP switch networks — on a single platform.

Service Provisioning with *NavisXtend*™ Management Systems

The *NavisXtend*™ management systems provide complete standards-based management of Lucent IP, Frame Relay, ATM, and SMDS backbone networks with unprecedented control. It extends the capabilities of Navis® EMS-CBGX environments to accommodate complex service networks distributed over regional, national or global areas.



Lucent multiservice networks provide the QoS, carrier-class reliability and scalability to enable you to offer multiple, profitable services using ATM.

Deliver the Lucent Advantage™ to your enterprise customers

Using Lucent Enhanced ATM Solutions built on our multiservice core switching solutions, you can easily integrate multiprotocol label switching (MPLS) — all supporting today's profitable ATM, Frame Relay, and business-quality IP services. This can help you offer new, revenue-generating services such as MPLS VPNs over a single, unified MPLS core multiservice backbone and give your enterprise customers the Lucent Advantage™: more capacity, speed, and reliability while lowering costs, reducing network complexity, and simplifying network management.

Talk to your Lucent representative about Enhanced ATM Solutions that make it possible to create and provision new services over a highly reliable infrastructure, customize service on a massive scale to meet the outsourcing needs of enterprise customers, and create simpler, lower-cost solutions that optimize your existing infrastructure investment.

Enhanced ATM Service Provider Applications

- Network backbone
- IP over ATM
- ATM access and concentration
- High-speed Internet access, voice/data convergence, and Virtual Private Networks (VPNs)
- Circuit Emulation services
- Voice services

To learn more about Enhanced ATM Solutions with the Lucent Advantage™, please contact your sales representative, or call 1-888-426-2252. You can also visit our web site at http://www.lucent.com/atm.

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