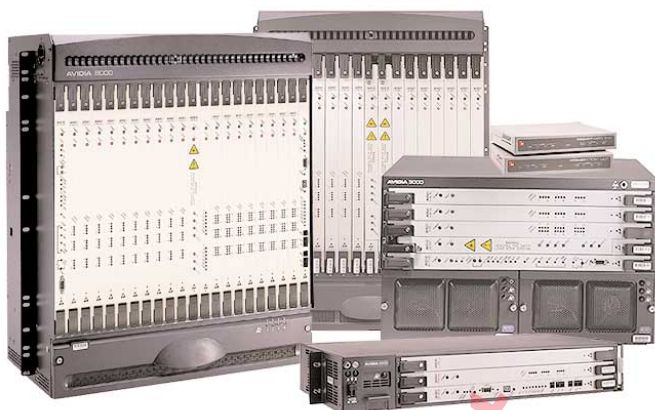


Avidia System

Multi-service Delivery System



ADC's Avidia® System is a multi-service DSL switch designed to put profitability into the broadband deployment of global carriers. Avidia's enhanced platform addresses any size market and every phase of carrier deployment including yet to deploy, in full scale deployment or looking for additional service offerings. The advanced feature set of the Avidia System not only enables the most common DSL-based services, like high-speed Internet, but also delivers high-margin bandwidth content that grows revenue and retains customers. Additionally, Avidia boasts automated configuration and provisioning for reduced operational costs and network downtime.

Avidia provides the best return on investment by enabling carriers to utilize their current assets. Through leveraging the existing network infrastructure, Avidia further reduces operating and equipment costs and minimizes service disruption for decreased time to delivery and increased customer satisfaction. It offers the latest in technology breakthroughs including, G.shdsl enabled services, ultra-high port density, advanced IMA and subtending capabilities and a video-ready architecture to deliver today's most advanced multimedia services. By enabling Video over DSL, the Avidia System helps carriers combat the growing threat of alternative providers such as cable, satellite and ISP's, plus future-proofs equipment for delivering tomorrow's broadband services.

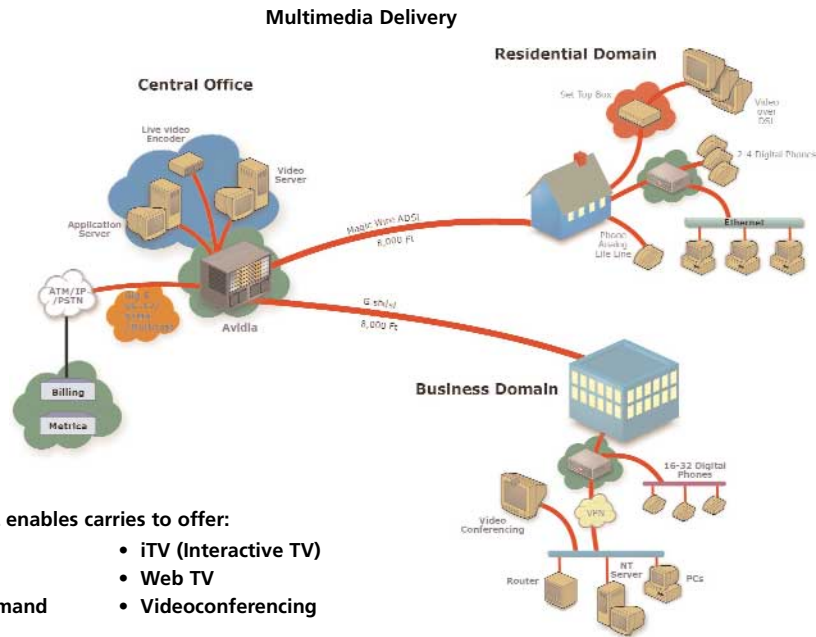
Key Features

- Switching architecture supports broadcast function necessary for video delivery
- Advanced IMA and Subtending capabilities for reduced broadband deployment costs
- ATM and IP uplinks:
 - OC-3c/STM-1, DS3,T1/E1 IMA, 10/100Base-T
- Widest variety of subscriber interfaces:
 - G.shdsl, ADSL, SDSL, IDSL and T1/E1 IMA
- Industry leading port density
- Widest breadth of chassis sizes, both CO and environmentally hardened remotes
- Lifeline-Derived POTS secures 911 availability in power outage
- ATM UNI 4.0 for comprehensive ATM access
- ILMI/PNNI 1.0 for advanced ATM management
- End-to-end management supports flowthrough provisioning and monitoring for quick turn-up and revenue generation
- ADC's unmatched services and support

Applications

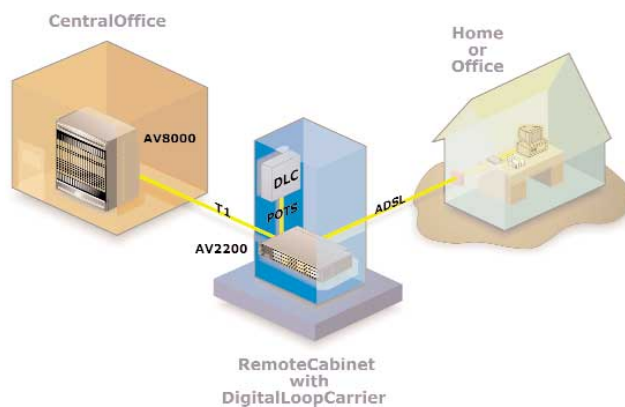
Multimedia Service Delivery

Today's consumer has an insatiable appetite for multimedia services. In order for telco's to maintain and grow their customer base, they must be able to provide video delivery. DSL is the ideal technology to deliver video services in addition to voice and data. Video over DSL allows service providers to leverage the existing infrastructure to reduce costs and increase time to deployment. Delivering video services not only creates a new revenue source for carriers but also positions them for future DSL driven revenues. The Avidia System's advanced switching architecture with Internet Group Management Protocol (IGMP) greatly increases the quality of delivery and reduces network latency.



Extended Reach with Hardened Remote DSL Deployment

The Avidia 2200 enables service providers to expand their broadband coverage by delivering profitable ADSL services to customers beyond the Digital Loop Carrier (DLC) with voice over the same line. Its compact and hardened form factor installs into existing outdoor cabinets, eliminating new equipment costs and reducing time to deployment. With advanced IMA functionality, the AV2200 allows carriers to use the more widely deployed and less expensive T1/E1 infrastructure while maintaining QoS for increased customer satisfaction.

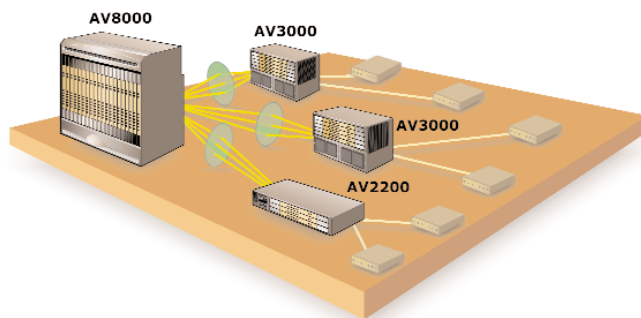


Hardened Remote DSL Deployment

Applications

Leveraging Scalable Bandwidth- IMA

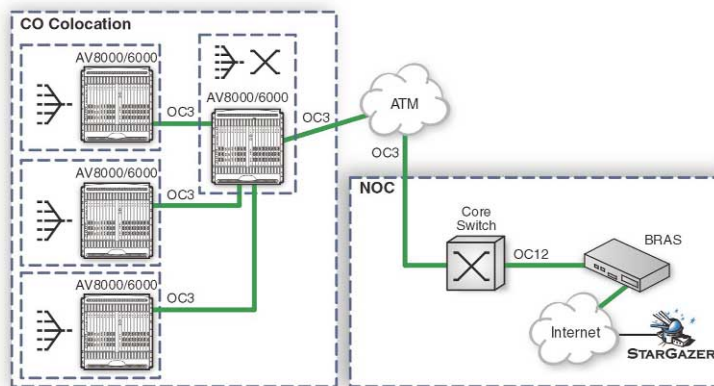
If carriers don't want their WAN to be a bottleneck for high-speed LAN applications, then scaling their current T1/E1 infrastructure to meet their customers' demands for higher bandwidth is a viable solution. ADC's Avidia products pair robust inverse multiplexing technology with the inherent strengths of ATM to help carriers leverage this higher bandwidth and scalable network. The Avidia System's industry leading IMA functionality aggregates T1/E1 links to create scalable, larger bandwidth networks for transporting high-speed voice, video and data traffic when T3/E3 links are not readily available or are cost prohibitive, and when T3/E3 bandwidth is too much. The ATM component of Avidia's IMA feature maintains QoS for efficient and seamless handling of broadband services.



IMA Applications

Reducing Cost and Complexity- Subtending

Through its superior subtending capabilities, the Avidia System offers a valuable solution that allows higher profits through reduced capital and operating expenses in both the Central Office and Remote Terminals. In order to reduce the backhaul costs and traffic burdens on the core network over the WAN, you must concentrate uplinks from DSL traffic as close to the network edge as possible. Avidia's combined DSLAM and ATM edge switch functionality concentrates multiple traffic streams to a single network uplink, eliminating the need for expensive ATM switches. This higher operating efficiency reduces associated labor and training costs. While most systems only offer subtending through daisy-chain configuration, the Avidia System also supports star-topology subtending which has advanced traffic control and is much more reliable.



Subtending Application

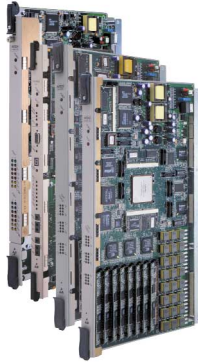


Description

2 / 0 2 • 1 0 0 0 0 0 Avidia System Multi-service Delivery System

Expanding The Power Of Broadband Delivery

The Avidia System's enhanced feature set makes it the most flexible and reliable platform on the market today. It's ability to offer new and existing broadband services helps service providers respond quickly to customer demands to retain and grow revenue. Whether you are looking to take advantage of the cost efficiencies of DSL, more profitable service offerings to a wider audience or advanced platform requirements for video delivery, Avidia supports all deployment and buying criteria from the Central Office to the customer premise.

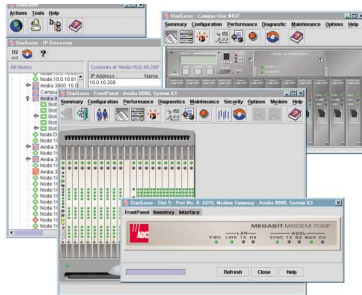


Versatile. Flexible. Scalable

The Avidia System features a wide variety of DSL interfaces, network interfaces and subtending interfaces for complete flexibility in the network. It offers the latest in access (ATM or IP) and service capabilities (G.shdsl, 24-port ADSL, IMA) for handling voice, video and data. The versatility of the Avidia platform provides the highest port density of 24 lines per card, scaling to over 1,200 users per bay. It can also provide very small DSL deployments of 12 subscribers. Through subtending Avidia chassis the number of lines can be further increased. DSL deployment can be extended to remote customers and additional customers can be served through a single network interface.

Customer Premise Solutions

ADC has one of the most comprehensive lines of last mile solutions available in the world, including a complete family of DSL-based customer premise equipment which is comprised of modems, IAD's and bridges and routers. With this extensive line of high performance CPE, ADC enables broadband applications for small business, consumer and corporate environments.



Advanced Management

ADC's StarGazer Element Management System makes deploying broadband easier and less expensive. Using an interactive graphical representation of Avidia Systems and CPE, StarGazer enables network operators to quickly and easily check equipment status and set connection profiles. Also supported are advanced security settings, statistic monitoring and performance charting.

ADC Delivers Any, DSL Anywhere

ADC's DSL solutions give carrier networks the flexibility, capacity and intelligent traffic management needed to profitably deploy broadband services to more subscribers. By supporting all DSL technologies over copper, from the CO to the customer premise, ADC's DSL solutions both reduce operational costs while supporting the greatest variety of high-margin applications. Our extensive portfolio of DSL products includes Avidia, iAN™ and BroadAccess 40 Multi-service Delivery Platforms; Megabit Modem® CPE; Soneplex®, HiGain® and WorldDSL™ T1/E1 equipment; PG-Flex^{plus}™ Edge IAD and Edge RAM solutions; Singularit.e™ Operations Support System Software; and ADC's industry leading services and support.



Avidia Chassis Summary

Chassis	Avidia 8000	Avidia 6000	Avidia 3000	Avidia 2200
Target Environment	Central Office	Central Office	Multi-Tenant Unit, Central Office	Remote Cabinet
Dimensions (HxWxD)	24.5 x 23 x 12 in (62.2 x 58.4 x 30.5 cm)	24.5 x 19 x 12 in (62.2 x 48.3 x 30.5 cm)	10.5 x 19 x 12 in (26.6 x 48.3 x 30.5 cm)	3.5 x 23 x 12 in (8.9 x 58.4 x 30.5 cm)
Weight	67lbs. (30.4 kg.)	60.6lbs. (26.9 kg.)	12.8lbs. (5.8 kg.)	8.2lbs. (3.7 kg.)
Certification	NEBS 3, CE, UL 1950, FCC Class A, hardened	NEBS 3, CE, UL 1950	NEBS 3, CE, UL 1950, FCC Class A,	NEBS 3, CE, UL 1950, FCC Class A, hardened
Power	-48VDC	-48VDC	-48VDC or 100/220 VAC	-48VDC
Subscriber Interfaces Supported	SDSL (Cell and Frame), ADSL (G.lite and G.dmt), G.shdsl, 8xT1/E1 IMA, IDSL	SDSL (Cell and Frame), ADSL (G.lite and G.dmt), G.shdsl, 8xT1/E1 IMA, IDSL	SDSL (Cell and Frame), ADSL (G.lite and G.dmt), G.shdsl, 8xT1/E1 IMA, IDSL	ADSL (G.lite and G.dmt)
Number of xDSL Ports	432	336	72	24
Number of T1/E1 Ports	144	112	24	N/A
Network Interfaces Supported	ATM (OC-3c/STM-1, DS-3, 8xT1/E1)	ATM (OC-3c/STM-1, DS-3, 8xT1/E1)	ATM (OC-3c/STM-1, DS-3, 8xT1/E1) and IP (10/100Base-T)	8xT1/E1
Catalog Number	AV8000	AV6000	AV3200-AC (AC Power) AV3200-DC (DC Power)	AV2200

Chassis Operating Environment

Operating Temperature: 32°F to 122°F (0°C to 50°C)

Relative Humidity: 10% to 80% (non-condensing)

Operating Altitude: up to 10Kft (3,048 m)

Storage Temperature: -40°F to 158°F (-40°C to 70°C); 5% to 95% relative humidity

Storage Altitude: -1Kft to 30Kft (-305 to 9,144 m)

Subscriber/Network Cards

Name	24-port ADSL Cell	24-port G.shdsl Cell	8 port T1 Card ¹	8 port DSX-1 Card ¹	24 port SDSL Cell Card	24 port SDSL Frame Card	24 port IDSL Frame Card	8 port E1 Card ¹
Catalog Number	AV542-LP	AV532	AV355	AV353	AV522	AV421	AV412	AV352
Subscriber Interface	ADSL (G.lite, G.dmt or T1.413), Rate Adaptive/ Rate Selective	G.shdsl, Rate Selective	8xT1 IMA	8xDSX-1	SDSL, Rate Selective	SDSL, Rate Selective	IDSL	8xE1 IMA
Network Interface	N/A	N/A	8xT1 IMA	8xDSX-1	N/A	N/A	N/A	8xE1 IMA
Data Rate	Full-rate: 7.552 Mbps to 928 kbps; G.lite: 1.5 Mbps to 512 kbps	192 kbps to 2.304 symmetrical	1.544 Mbps	1.544 Mbps	128 kbps to 2.048 Mbps symmetrical	128 kbps to 2.048 Mbps symmetrical	144 kbps symmetrical	2.048 Mbps
Maximum Reach	18 kft/5.5km	18 kft/5.5km	6 kft/1.8 km (w/o repeaters)	655 ft/200m	20 kft/6.1 km	20 kft/6.1 km	18 kft/5.5 km	6 kft/1.8 km (w/o repeaters)
Ports per Card	24	24	8	8	24	24	24	8
Transport	ATM Cells	ATM Cells	ATM Cells (UNI)	ATM Cells (UNI)	ATM Cells	Ethernet Frames	Ethernet Frames	ATM Cells (UNI)

¹ Cards can function as either a network or subscriber interface

Network Cards

Model AV323/AV324 1-port/4-port DS3 Card	450 ft. / 137 m range Redundant APS port Dual coax BNC connectors
Model AV311 OC-3 Multimode Module	6,561 ft. / 2 km range
Model AV312 OC-3 Single-mode Module	49,212 ft. / 15 km range
Model AV313 OC-3 Single-mode Module	131,233 ft. / 40 km range
All OC-3 Modules	Dual SC connectors Redundant APS port ATM PVC and SVC support per ATM UNI 3.1 & 4.0 signaling, ITU Q.2931 signaling, and APS requirement per Bellcore TR-NWT-000253 Virtual circuit (VC) and virtual path (VP) switching, VP tunneling 4,096 VPI and 24,000 VCI Support of CBR, VBR-rt, VBR-nrt and UBR traffic types Selective discarding of cells according to CLP Early, partial packet discard Intelligent dynamic buffering architecture with per VP/VC queuing Traffic management per VC basis Full support for usage parameter control (UPC) and connection admission (CAC) requirements

Management Cards

Model AV210 Network Management Module	Single-slot master SNMP agent, chassis maintenance and alarm service card Hierarchical master/subagent structure Supports and backs up subagents for each subscriber or network card Supports numerous public and private MIBs 300 MIPS RISC processor 32MB of RAM EE-PROM (flash) for redundant configuration info Built-in DHCP, DNS, TFTP and HTTP servers Optional 10/100BASE-T line interface In-band or out-of-band communications Supports local alarms interface and local craft interface
Model AV220 Network Management Module	LAN Network Port: 10/100Base-T Ethernet Port (Avidia chassis) Console Port: RS-232 DB-9 Craft Port (management card) ATM xDSL or Frame Ports: 96 WAN ports Embedded HTTP agent Embedded SNMP Master agent Clocking: cell bus A and cell bus B Bridging/Routing: RFC 2684 ATM connection features: 96 ports per card, maximum 254 VPC's/VCC's per card
Model AV355 Combined T1 Management Module	ATM connection features: 8 ports per card, maximum 4094 VPC's/VCC's per card, maximum 255 VPC per port, maximum 992 VCC per port UNI support: ATM Forum UNI 3.1 signaling (SVC) DS1 Management Interface Features: ATM in-band mgmt support SNMP-based network management system support IMA: one IMA group-up to eight ports in one group up to four IMA groups- two ports per group
Model AV353 Combined E1 Management Module	ATM connection features: 8 ports per card, maximum 4094 VPC's/VCC's per card, maximum 255 VPC per port, maximum 992 VCC per port UNI support: ATM Forum UNI 3.1 signaling (SVC) E1 Management Interface Features: ATM in-band mgmt support SNMP-based network management system support IMA: up to four IMA groups- two ports per group



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