Ascend

Aptis CVX 1800 Access Switch Announcement

ASCEND

Brief Summary of Announcement

On December 8, Aptis Communications (Burlington, MA) announced that the CVX 1800 Access Switch will be in beta trials in Q1'98, and will begin shipping sometime in Q2'98. Aptis, a privately held start-up established in January 1997, is positioning the CVX 1800 as the "first true carrier-class access switch" that meets the needs of an "unaddressed market" – Telcos and large service providers.

The CVX 1800 is an 18- slot switch with distributed processing capability based on a flow-through switch. Aptis claims the 4 Gbps packet bus midplane is designed to support over 6,000 modem/ISDN calls per shelf – but during the initial introduction the product is expected to support only 1,344 per Chassis/System. Aptis claims that its modem cards will be based on Rockwell's next-generation triple-modem/chip technology.

List Pricing:

- CVX 1800 chassis $59,000

- Fully configured unit ~$500,000

Other claims (Note: These are just marketing claims by Aptis. Product shipment is at least two to three quarters away):

- *Performance and Quality of Service (QoS):* "Internal testing proves the CVX 1800 is the only RAC that maintains 100% throughput as calls are scaled".

- *CO-Ready Reliability*: Designed for NEBS 3 compliance. Fully-redundant, hot-swappable architecture.

- *Multiservice support for dial-up, leased line and xDSL*. Other RACs must be "retrofitted" to support multiple services.

- *"Virtual POP" and "Manageability"* through the "most scalable and reliable network management system"

Ascend Response

Aptis has not started beta trials with its recently announced CVX 1800 product and is making claims based solely on their own engineering tests and hardware-based architectural assumptions. Aptis' major claim of addressing a new carrier-class market is not warranted. Ascend was the first to announce a high-density, carrier-class product in September of 1996 and the first to deliver a product of that class to go into a production network in early 1997.

Aptis' high-density modem capacity claim is far into the future and has not been proven in a true production environment.

Today, the MAX TNT™ can support up to 672 modems/system (720 –E1 version) and up to 2,016 modems per Telco rack. The MAX TNT has been in full production for over one year, and its modem software has been tested in critical network environments. It should be noted that Rockwell's high-density modem technology will not be available in quantities until Q2'98. So, Aptis' delivery claims will be further pushed into the future. Moreover, Ascend has a long and successful history of working with Rockwell in terms of incorporating Rockwell's latest technology into its product line.

No service provider will deploy unproven technology – the CVX 1800 will require many months of independent testing in a carrier environment.

Aptis' performance claims are based on internal tests only – not an independent testing group simulating real-world usage.

The MAX TNT has been tested by an independent testing agency (The Tolly Group). These performance tests simulated real-world usage and demonstrate that the MAX TNT scales linearly. Also, recently Data Communications awarded the MAX TNT with "Top Performer" award further substantiating Ascend MAX TNT's performance/scalability in a real world environment

The MAX TNT has been performing in critical network environments – COs and POPs - for almost a year.

The MAX TNT will have NEBS 3 compliancy soon. The MAX TNT features back-up support of modem modules, and provides redundant, hot-swappable power supplies. It also has hot-swappable expansion modules and support for redundant T3 connectivity.

Aptis "Multiservice" claims are nothing new.

- The MAX TNT supports a wider array of dial-up, leased-lines, and xDSL TODAY.

- The MAX TNT has E1 and T3 support – the CVX 1800 does not.

- The MAX TNT supports IDSL, SDSL, and RADSL TODAY – the CVX 1800 does not have xDSL support in initial release.

Ascend's MAX TNT has market proven multi-device, multi-level, multi-vendor network management with NavisAccess™.

NavisAccess is a market-tested management system that allows users to manage all remote networking resources – including third party routers and switches – from a single powerful management station.

Ascend was the first to introduce "wholesaling" concept for Service Providers. Aptis' claim is, again, not new and is far into the future.

Aptis does not have the complete "end-to-end" WAN solution set that Carriers/ISPs need for their production networks.

Aptis does not have the infrastructure to provide world-class support demanded by carriers and large service providers.

Aptis does not have the sales channel to reach carriers and lacks the international presence demanded by carriers and large service providers.

Selling Against Aptis CVX 1800

Carriers and large service providers have the following key requirements when selecting a vendor/product for their mission-critical networks:

- Field Experience and track record in terms of deployment and support

- Performance/scalability

- Full range of WAN connectivity options

- Bandwidth management and control

- Investment protection

- International interoperability

- Comprehensive network management

- Security and VPN capability

- World-wide technical support

Aptis is a start-up with no track record and field history. Ascend's MAX TNT is a field-tested product that meets key customer requirements TODAY. Ascend's ability to meet customer requirements can be summarized as follows:

Key Customer Requirements	Ascend MAX TNT Advantage
Field experience/track record	**The Ascend MAX line has won and maintained a clear market leadership position for over three years!** • The MAX platform is used in 85 of the world's top 100 Internet Service Providers (ISPs) and leverages Ascend's access software development used in over 40,000 MAX family installations worldwide. • Ascend had a worldwide market share of 62.2% of PRI access concentrator sales and 50.6% of analog access concentrator port sales in Q3'97 (Dell'Oro Group 11/97).
Performance/scalability	The MAX TNT has been tested by an independent testing agency (The Tolly Group). These performance tests simulated real-world usage and demonstrate that the MAX TNT scales linearly. Also, recently Data Communications awarded the MAX TNT with "Top Performer" award.
WAN connectivity	Full range of WAN connectivity options: • Redundant DS3 support • T1/E1/PRI • High-speed serial - HSSI, • Serial WAN - V.35, RS449 • Frame Relay UNI/NNI support • Support for 4032 Frame Relay PVCs
Bandwidth management and control	Comprehensive set of features including Multilink PPP (MP), Multilink Protocol Plus™ (MP+), Multichassis MP and MP+ • B-channel aggregation within the chassis or between multiple chassis • BACP support • NFAS support • DS3/T3 bandwidth aggregation support • Bonding of ISDN B-channel support
Investment protection	• Long history of deployment in the access concentrator/network service Market share leadership with field-tested products • Guaranteed interoperability with a wide number of modem manufacturers and carrier networks including carriers in over 36 countries • MAX TNT software is based on MAX™ 4000 software – which has over a 3-year track record in over 40,000 installations. • Market-proven ISDN expertise
International interoperability	• Supports up to 720 concurrent analog or ISDN sessions per system in E1 version • Up to 28 T1/E1/ PRIs • DS3 support • Guaranteed interoperability with a wide number of modem manufacturers and carrier networks including carriers in over 36 countries
Network management	• NavisAccess manages the entire network from single terminal and provides support across product families and multi-vendor equipment-device grouping. • Includes pre-compiled MIBs and comprehensive GUI-based management of many third-party products.

Security and VPN capability	Comprehensive security options including : • RADIUS extensions (120+), • TACACS/TACACS+ Support • Token-based Security support • Calling Line ID (CLID) Support • Secure Access™ Integrated dynamic firewall option • (The Winner of the PC Magazine Editor's Choice Award for Firewalls – October, 1997) • VPN support for over one year with ATMP, PPTP and delivering L2TP, L2F support
Technical support	Ascend provides world-wide support and has over 200 experienced support personnel

Summary of CVX 1800 Major Weaknesses

- **A new company with no production experience and no track record.**
  - No history with the ISP/carrier customer base
  - No history with high-end access concentrators

- **Questionable customer support capability**
  - Aptis is a very small company (approximately 30 employees)
  - Ascend's TAC has over 200 experienced support personnel

- **No international presence**

- **No security**
  - No dynamic, integrated firewall capability
  - No TACACS/TACACS+
  - No CLID
  - No extended RADIUS
  - No token-based security

- **No end-to-end multi-device/multi-vendor network management**
  - Limited management capabilities are single device only

- **No support for DSL technology at this time**

The Bottom Line

The Aptis CVX 1800 has no track record and is far into the future. Aptis' claims are based on architecture and engineering tests – it doesn't have the rich features or production track-record that ISP/Carriers demand.

Aptis is a new, small company and cannot match Ascend's field record and resources required to support the ISP/Carrier segment.

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