

Ascend

3Com/USR Announces the Total Control HiPer Access System

Summary of Announcement

As anticipated, 3Com/USR announced two new hardware components for the USR Total Control Hub:

1. HiPer DSP Card: 12 DSPs that can process two remote calls each (24 sessions per card) — increasing density by 50%
2. HiPer Access Router Card: routes all incoming calls based on new, internally developed, routing software (replaces Livingston code)

Fully configured, a Total Control Hub with 14 HiPer DSP cards and two load-sharing HiPer Router cards can support up to 336 calls (V.34, 56K or ISDN) and dual 10/100Base-T Ethernet interfaces within the USR Total Control Hub (TCH) chassis.

3Com/USR is promoting the system as the highest port count available in the smallest amount of space – 336 ports (420 ports in E1 version) in less than nine inches of rack mount space. The loaded chassis can support up to 672 calls (840 E1) per Telco rack. In addition, they are making the following claims:

- Carrier-class product — NEBS compliant, redundant power supplies
- Hot swappable
- 17,000 MIPS of processing power in a single chassis
- Mix and match of old "quad" cards and new HiPer cards in the same chassis providing total investment protection
- Shelf-space savings
- Low cost:
 - List price per port of the Total Control HiPer Access System (fully loaded): \$539*
 - List price per HiPer DSP card set: \$11,500
 - List price per HiPer Access Router card set :\$9,995

** based on component pricing – does not include cost of TCH chassis*

3Com promises HiPer Card set availability in mid-August, and HiPer Router card set availability for September. International availability for E1/PRI has not been disclosed.

Brief Analysis and Ascend Response

Despite the announcement, the new Total Control HiPer components will not ship in volume until Q4 '97. There is no date set for the release of the E1/PRI version, despite the demand and rapid growth potential in this marketplace. The MAX TNT™ has been shipping since late 1996 in the US and since the first quarter of 1997 internationally (with E1/PRI capability).



3Com is positioning the enhanced Total Control HiPer Access System as a low-cost, high-density, carrier-class product aimed primarily at ISPs and carriers. The new 3Com product faces the following hurdles:

- **3Com/USR is introducing a major hardware enhancement and "new" software code (because of Livingston's refusal to extend its software license to USR) at the same time.** 3Com/USR customers are faced with enormous uncertainty in terms of the software being stable, making all the field upgrades, getting past homologation, etc. Their customers will have to pay a big price in terms of resources, learning curve, etc to make the new HiPer Access System a "working" product in their prime networks. In addition, these major changes will severely tax the support services of the newly combined company.
- HiPer Access DSP cards are not compatible with 3Com's remote access products (AccessBuilder, etc.) 3Com customers will not receive the investment protection and easy upgradability that the company is advertising.
- HiPer Access System does not provide all the signaling conversion support to be truly a carrier-class product.
- 3Com/USR has not yet outlined to what extent there will be hardware redundancy (other than card swappability and power supplies).

The HiPer Access System lacks the following features compared to the MAX TNT:

- No channelized T3 interface support
- No FrameLine™-like feature support
- Very limited security support compared to the MAX TNT (No extended RADIUS, TACACS/TACACS+, encryption, etc.)
- No multi-vendor network management capability as with Ascend's network management solution

The HiPer Access System is expected to have a port density of 2016 ports (analog or ISDN) in a 7-foot rack. The MAX TNT can provide 2016 ports as well in a 7-foot rack. In addition, the MAX TNT will be capable of terminating 4032 ISDN B-channel calls.

Bottom Line: The 3Com/USR's new TCH enhancements offer relatively little, too late and "new," unproven software on top of it !!!

Selling against the 3Com/USR HiPer Access System — "The Silver Bullets"

- **The MAX TNT has a proven track record and investment protection:** Ascend has the largest installed base of integrated access switches, with over 76% Access Concentrator market share (based on PRI port shipments), and has been shipping high-density access concentrators for over three years. The MAX TNT has been in production since the later part of last year. 3Com's HiPer system will be shipping during the later part of this year with an unproven and untested software code.
- **Ascend's MAX TNT has the most comprehensive set of security features** including fully integrated, dynamic firewall capability, VPN, encryption and extended RADIUS dictionary (over 120 enhancements). 3Com's HiPer system provides limited security features – no extended RADIUS capability, no TACACS/TACACS+ and just recently announced VPN solutions.
- **Ascend's MAX TNT provides shelf space savings** by supporting 2016 concurrent digital modems sessions per 7-foot Telco Rack and is capable of terminating 4032 ISDN B-channel calls in a rack system.
- **Ascend's MAX™ line supports E1 and E1/PRI for international customers TODAY:** 3Com/USR has not provided any clear indication as to the availability of these key features.
- **Ascend's network management solution provides end-to-end network management:** This is a multi-level, multi-vendor solution that provides total network management that is designed specifically for ISPs, carriers and corporations to support a variety of network access services and devices. Ascend's network management provides discovery and mapping, configuration management, performance measurement and fault monitoring functionality to provide a customized view of the network as a whole, or device by device.
- **Ascend's MAX line is highly scalable, flexible and supports all WAN access protocols TODAY:** Ascend is the leader in providing scalable and flexible access concentrator solutions. The MAX product line provides scalable and flexible configurations from eight to 672 modems, up to four T1/E1s/ PRIs, T3 and Frame Relay connections —covering a wide array of customer needs. 3Com/USR currently provides only T1, ISDN PRI and Frame Relay support.

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- **The MAX TNT** — offers Switched 56, DDS 56, T1/FT1, E1, T3, ISDN BRI and PRI, and Frame Relay.
 - **The MAX line has guaranteed interoperability** with a wide number of modem manufacturers and carrier networks including carriers in over 36 countries. 3Com/USR will have to go through the homologation process internationally with the HiPer product.
 - **Ascend's MAX line supports open 56K using the K56flex technology** that has gained significant market presence and is compatible with over 70% of the installed modem base.
 - **Ascend's MAX TNT supports multiple xDSL technologies TODAY** — allowing for flexibility and migration options as xDSL services evolve. The MAX TNT supports IDSL, SDSL, and RADSL-CAP.
 - **Ascend's MAX TNT is a true carrier-class** product providing high port density, the key signaling conversion required by carrier customers, a high level of redundancy and is NEBS-compliant.

USR is promising “futures,” while we are delivering them now!

Please refer to MAX TNT Competitive comparison table for product comparisons.

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