Ascend

COMPETITIVE FLASH

Cisco Announces the AS5300

Summary of Announcement

On September 22, Cisco announced that the AS5300 will be orderable in October 1997and will begin shipping in November 1997. The AS5300 is an access concentrator that supports four T1/E1/PRI lines — up to 96 calls (120 in E1 version). It is targeted at the ISP/Carrier and large enterprise customer.

- New hardware platform: 150-Mhz RISC R4700 CPU (Cisco 4700-M router)
  - Claims the processor has a secondary memory cache to help it sustain large call volume
- Supports four T1/E1/PRI per box — 96 (120 internationally) calls
- Promises Microcom or new Cisco MICA modems with K56Flex support (from Telebit acquisition)
  - Support for a "trade-up path" targeted toward AS5200 customers
  - Microcom modules are 12-port cards (remains 48 modem maximum per box)
  - Cisco MICA technology incorporates two modems per DSP (24-port module, or 96 modems/box)
  - MICA technology expected to support native R2 signaling
- Can expand DRAM support up to 64 Mbps
- Same footprint as AS5200
- Promoted as part of the AccessPath line, and managed with AccessPath Manager
- Supports CiscoIOS LAN-to-LAN routing support for IP, IPX and AppleTalk
- Support for 10Base-T and 100Base-T Ethernet (UTP)
- List pricing starts at $44,960 (approximately $468/port in 96 port configuration)
  - Cisco has dropped the AS5200's starting list price to $22,130 ($461 per port in 48 port configuration)

Ascend Response

Dubbed the "Ascend killer", the AS5300 has been anticipated for at least a year. Cisco is really late with this product, but they still haven't delivered a scalable, high-density remote access solution. This product is not comparable to the MAX TNT. The AS5300 may catch up with the MAX™ 40XX's 96 concurrent sessions, but Cisco still doesn't have a scalable, high-density solution to compete with the MAX TNT™ Cisco is working from a significant deficit: Ascend has the largest installed base of integrated access concentrators, dominating the market in terms of analog ports, ISDN B-channels, and T1/DS0 ports. The Q2'97 access concentrator market share numbers show the score:

Analog ports	Ascend 50.6%	Cisco 12%
ISDN PRI ports	Ascend 62.2%	Cisco 3.4%
T1 ports*	Ascend 33.6%	Cisco 14.4%

(Dell' Oro Group, 8/97).

* Note: E1 ports are also included

In terms of features, the AS5300 is the same as the AS5200 and therefore lacks the rich feature set offered by the MAX line (Refer to Competitive bulletin: Ascend MAX line Vs. Cisco AS5200, June 1997). The CiscoIOS software used in the AS5200/53000 is primarily a traditional routing software with large overheads and is really not geared to suit the needs of the access marketplace. The MAX line software has been well-optimized for access needs from the beginning and has been field-proven for over three years.

This new Cisco box has no track record. When Cisco released the AS5200, they ended up replacing most of them in the field a few months later. It took almost a year to make a production worthy product. Now Cisco is introducing a new hardware platform *and* new modems (MICA) and it remains to be seen if the Telebit software will be stable enough to go into production networks. The new modems also require a rewrite of CiscoIOS, which also remains to be tested in the field. Cisco customers will have to seriously consider the costs of starting a new learning curve.

Cisco's "starting" list prices are never indicative of the true end cost of the unit. The "starting" price does not include modem management price (approximately $9,600 for the MICA modems). Additional DRAM will add about $1,000 per 8 Mbps to the overall costs of the box. In the end then, the AS5300 could cost upwards of $580. At a starting rice of $542 per port for the MAX 40xx line, Cisco's AS5300 will be a higher cost solution to the end user. (Note: Cisco' firewall products range from $9,000 to $40,000 depending on number of users — more than twice compared to Ascend's Firewall solution. This makes the total Cisco solution cost even higher.)

Cisco is aiming to include the AS5300 in their Access Path system (AS5300 stacked with Cisco 7200 router and Catalyst switches to provide about 1600 ports/rack). First of all, the AccessPath is an expensive implementation with too many discrete elements. Second, the AccessPath has lower density (1,680 per rack) compared to the MAX TNT (2,016 ports/rack). Another significant drawback with the AS5300/AccessPath system is the lack of carrier-class functionality and features as in the MAX TNT like redundant T3 connectivity, redundant hot swappable power supplies/expansion modules, distributed processing, etc.

Selling Against the Cisco AS5300

- **AS5300 is not a carrier class product:** The MAX TNT has the density, scalability and WAN interfaces (including T3 functionality) to be carrier class. Cisco's AccessPath with the AS5300 may be positioned as a rack solution, but it is unlikely that 20 units can be mounted per rack. This is not an integrated solution — it is many discrete units at a very high expense.
- **AS5300 is a forklift upgrade:** Users will have to deal with a new, unproven hardware platform, new software and new modem technology. Cisco is cannibalizing its AS5200 line, without adding significant improvements.
- **AS5300 has no track record:** Cisco has a poor track record with integrated access concentrators, and the new MICA modems are not field tested. The MAX 40XX is market proved — it has been in the field for over three years. The MAX TNT has been in the field for over two quarters and is operating in major networks now.
- **AS5300 is a loosely integrated solution:** This new hardware platform mixes technologies from different sources — server technology from Livingston, modem technology from Telebit.
- **AS5300 is a high cost "solution":** At a starting price of $542 per port, the MAX 40XX is still the low-cost, high-value solution
- **Modem management software requires added costs:** The licensing fee for Microcom modems is $7,200 per 48 modems, and early indications put the MICA fee at $9,600 per 96 modems. Required memory upgrades also add to the expense.
- **Cisco has not delivered 56K yet:** Ascend has shipped over 750,000 Series56™ Digital modems to date. Cisco has announced 56K support for Microcom modems, but has not clearly spelled out 56K support for the new Telebit MICA modems. In essence, high-density 56K support could be far away for Cisco's access products.
- **AS5300 only promises future support of xDSL:** Ascend's MAX TNT supports IDSL and RADSL today.
- **CiscoWorks and AccessPath Network Management provides Cisco-centric management of multiple Cisco devices only:** Ascend's NavisAccess provides total end-to-end management of multiple services and multi-vendor network devices.
- **Cisco provides VPN tunneling support with L2F only:** The MAX line delivers VPN support using ATMP, PPTP, L2TP and L2F protocols.
- **Cisco has limited security features:** The MAX line offers integrated, dynamic firewall capability and extended RADIUS dictionary (over 120 enhancements).

The Bottom Line

- Ascend delivers the highest value at a lower price
- Ascend is the only vendor with a scalable, market tested / market proven solution

Please refer to the following competitive marketing documents for additional information:

1. Competitive Bulletin — Ascend MAX line Vs. Cisco 5200, June 1997
2. Competitive Bulletin — Cisco announces AccessPath system, June 1997

Both documents are available on the intranet in the Competitive Marketing section.

Important Note: A detailed bulletin of the MAX line Vs. AS5300 will be prepared and released to the field as soon as the AS5300 product specifications are available.

Following are excerpts from leading technology-savvy analysts (as of 9/23/97):

From the DMG Technology Group

" We do not believe that the new Cisco access product will change the competitive landscape of the carrier/ISP segment, as the AS5300 is clearly not even in the same class as the MAX TNT."

"We view Cisco's introduction of the AS5300 as a nonevent . . "

"Cisco's claim is based on management's assumption that 20 units can be placed on each rack. However, we believe that 14 units per rack is a more realistic number (to make room for router ports, etc.) and, as a result, we do not feel the AS5300 will be able to approach, much less match, the port density of the MAX TNT."

From Robertson Stephens & Co

"Despite being billed as the "Ascend Killer" in our opinion, the product features appear to be unimpressive when compared with the MAX TNT"

" . . . the AS5300 offers density higher than the AS5200 but its density is no greater than the two year old MAX 4000 and pales in comparison to the MAX TNT."

" Ascend's MAX TNT can still rule the roost."

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