Ascend

FAQ

Ascend Signaling System 7 (SS7) Gateway

1. What is the Ascend SS7 Gateway (ASG)?

The Ascend SS7 Gateway (ASG) is the first commercially available, standards-based Signaling System 7 (SS7) gateway product. Built on software and hardware gained through Ascend's recently completed acquisition of Stratus Computer, the ASG is already in field trials at leading service providers around the world. The ASG includes an Internet Call Diversion application running on a fault-tolerant platform with full SS7 capabilities, and is designed for installation at telecommunications company central offices.

The ASG solves a critical problem faced by carriers today: the congestion of voice circuits resulting from massive growth in dial-up Internet calls. By enabling remote access equipment to communicate with carriers' SS7 networks, the ASG supports redirection of resource-consuming Internet traffic from the public switched telephone network (PSTN) directly onto data networks. This breakthrough capability enables service providers to end Internet busy signals, cut the cost of providing dial-up connections and free-up PSTN circuits to carry voice traffic only. The ASG works with the Ascend market-leading MAX TNT™ WAN access switch to provide the industry's only end-to-end solution for transparently routing calls between voice and data networks

2. How is the Ascend SS7 Gateway different from the Ascend Signaling Gateway announced previously?

The Ascend SS7 Gateway has replaced the Ascend Signaling Gateway and has been shipping since September 1998. The major difference is that the new product now being delivered is based upon a central office compliant, fault-tolerant computing platform. The major application being implemented, Internet Call Diversion, remains the same. By enabling remote access equipment to communicate with carriers' SS7 networks, the ASG supports redirection of resource-consuming Internet traffic from the PSTN directly onto data networks.

The system continues to use the industry leading Hewlett Packard's HP-UX™ operating system.

ASG is fully integrated with the Ascend market-leading MAX TNT WAN access switch to provide the industry's only comprehensive solution for transparently routing calls between voice and data networks.

3. Is the Ascend SS7 Gateway standards compliant?

ASG is a fully open, standards compliant solution, including support for emerging and established Bellcore generic requirements, and ANSI and ITU standards assures an open interface between the PSTN and data networks. Future compliance with specifications recommended by the Technical Advisory Council (TAC) industry group and the Bellcore Internet Traffic Engineering Solutions Forum (ITESF) will allow ASG to interface with remote access concentrators provided by other vendors.

4. What do you mean by the ASG solution is fault-tolerant?

The Ascend SS7 Gateway is designed for trouble-free set-up, robust processing and 99.999% availability. All computation, storage and internal I/O operations run in parallel on duplexed hardware. Each circuit board continually checks itself for hardware errors. If a logic fault is detected, the system stops the faulty board instantly. The duplex partner board continues processing uninterrupted.

.

ASCEND

©1998 Ascend Communications, Inc.

5. What type of service and support do you provide for the Gateway solution?

The ASG solution has complete built-in reliability and 24 x 7 serviceability to assure uninterrupted service. The ASG monitors and diagnoses its own operation, automatically alerting the Ascend Technical Assistance Center (ATAC) at the first sign of a potential problem. A replacement part is dispatched to arrive the next business day and can be installed without interrupting the system's operation. All major components of the fault-tolerant hardware platform, including processors, disks and power supplies, are fully duplicated to assure uninterrupted operation even in the event of a component failure. In addition, the ASG includes sophisticated power-up diagnostics, duplicated ECC-protected memory and duplicated disks and SCSI controllers to prevent data corruption.

Ascend also provides comprehensive professional services to aid in systems integration and address unique requirements which may require customization. The Professional Services group is fully qualified in SS7 and Intelligent Network expertise.

6. Did the Ascend SS7 Gateway result from the recent Stratus acquisition?

Yes, ASG is the first deliverable resulting from the recent Stratus acquisition. ASG fully leverages Intelligent Network, SS7 and central office, fault-tolerant system expertise acquired from Stratus. In addition, Ascend sales and services groups have integrated those personnel with Intelligent Network and SS7 solutions experience.

7. How does the Ascend SS7 Gateway fit with Ascend's overall product families?

First, ASG is fully integrated with the Ascend market-leading MAX TNT WAN access switch to provide the industry's only comprehensive solution for transparently routing calls between voice and data networks.

Second, ASG fully complements the Ascend MultiVoice™ architecture: The ASG is a building block in the MultiVoice architecture which is designed to deliver voice- and fax-over IP, ATM, and Frame Relay networks. Future applications will enable ASG to use standards-based SS7 carrier signaling to direct voice traffic to a MultiVoice network.

8. Is the Ascend SS7 Gateway scaleable?

ASG has scalability from 50,000 to 100,000 ports. A single gateway can support many network access devices that are sited in one location or geographically distributed, delivering a solution that can scale up to tens of thousands of modem ports. These configurations are based upon industry-wide averages for data call traffic patterns; they may not be the same for every service provider. Installed configurations will be based on traffic studies in individual service provider networks.

9. What is the basic pricing and configurations for the Ascend SS7 Gateway?

A 50,000 port configuration has a list price of $1,186,000 (U.S.), or $24/port; it includes a Model 418 fault-tolerant ASG platform with 0.5GB memory, SS7 links and an Internet Call Diversion software license. A 100,000 port configuration has a list price of $1,792,000 (U.S.), or $18/port; it includes a Model 428 fault-tolerant ASG platform with 1GB memory, SS7 links and an Internet Call Diversion software license.

These configurations are based upon industry-wide averages for data call traffic patterns; they may not be the same for every service provider. Installed configurations will be based on traffic studies in individual service provider networks.

Adding PCI-based I/O controllers can provide additional connectivity. Customers outside the U.S. should contact their local Ascend representative or reseller for pricing and availability information.

10. Does the Ascend SS7 Gateway support a distributed architecture?

ASG offers an expandable and flexible distributed architecture, supporting the Enterprise Computer Telephony Forum (ECTF) framework. ASG can be integrated into an existing telephony network and can adapt to host a variety of applications over a diverse set of telephony resources. In addition, the ASG is capable of handling multiple links and networks while also providing centralized management of all circuits.

11. Can the Ascend SS7 Gateway be integrated with other remote access switching solutions?

ASG is fully open, standards-based solution which can be integrated into a multi-vendor environment.

12. What function does the MAX TNT WAN remote access switch provide?

The industry-leading MAX TNT carrier-class WAN access switch works with ASG to provide the industry's only end-to-end solution for transparently routing calls between voice and data networks. This comprehensive solution for Internet Call Diversion is the only commercially available solution now in field trials at service providers worldwide.

13. What benefit does an ILEC (Incumbent Local Exchange Carrier) get from the Ascend SS7 Gateway?

Incumbent Local Exchange Carriers (ILECs) can take advantage of new data technologies while protecting the sizeable investments they have already made in the existing PSTN. The Ascend solution enables a packet-switched data network to handle Internet calls, using only the originating ingress switch and bypassing most of the PSTN. This eliminates the cost of adding additional voice circuits that would otherwise be required for long hold time Internet calls. This more cost-effective alternative is also an investment in the next-generation network that will support enhanced Voice over IP (VoIP) services.

14. What benefit does a CLEC (Competitive Local Exchange Carrier) get from the Ascend SS7 Gateway?

The ASG allows CLECs to use a switchless network for handling dial-up calls with the same quality and reliability of the PSTN – without investing in voice circuits. As a result, CLECs penetrate the market and establish credibility with customers quickly, with minimal capital expenditures.

15. What benefit does an ISP (Internet Service Provider) get from the Ascend SS7 Gateway?

ISPs benefit indirectly from the ASG solution. Because carriers can now provide data services that satisfy both ISP and consumer needs, ISPs can choose to leave the access server business to carriers and focus on Web hosting and email.

16. Is the Ascend SS7 Gateway a true, carrier class solution?

Yes, ASG is a carrier-class solution enabling smooth deployment. The ASG platform meets Network Equipment Building System (NEBS), European Telecommunications Standards Institute (ETSI) and other standard specifications for computer equipment in central office and switching environments worldwide. It is an open hardware and software system using industry standard PCI I/O and the HP-UX operating system. This open system, multipurpose architecture supports deployment of additional applications and services on the same platform.

17. What are the SS7 capabilities of the Ascend SS7 Gateway?

The ASG SS7 infrastructure software is a full, UNIX®-based implementation of the SS7 protocols for building and linking Intelligent Network elements. The ASG employs industry-standard (ANSI) SS7 signaling to set up and tear down calls, a prerequisite for transparently routing calls between voice and data networks. It features a widely deployed protocol stack that supports multiple variations of SS7 used in carrier networks internationally.

18. What are the benefits of the Ascend SS7 Gateway solution?

A brief summary of the benefits of ASG include:

- Integrated end-to-end solution built on market-leading technology; fully integrated with the MAX TNT carrier-class WAN access switch – the industry's proven market leader
- Fault-tolerant system delivering 99.999% availability
- Built-in reliability and 24x7 serviceability, assuring uninterrupted service
- Carrier-class, fully central-office compliant solution
- Full standards compliance enabling interoperability with remote access equipment
- Scalability from 50,000 to 100,000 ports
- Complements the Ascend MultiVoice architecture, enabling a clear path to future applications which lead to a fully integrate voice, fax, data, and video public network

19. Who has already purchased the Ascend SS7 Gateway?

ASG is in field trials with a number of carriers worldwide. Thrifty Call is cited in the Ascend November 23 announcement. You can expect a number of future announcements of new customers. We cannot publicly cite all customers because of the competitive nature of their implementations.

Customers are purchasing ASG because it is the only proven, immediately Internet Call Diversion solution. In addition, it is the single solution offering a fully integrated road map to delivering on all the critical elements of the next-generation public network through the Ascend MultiVoice architecture.

20. What are the major hardware and software features of the Ascend SS7 Gateway?

For a comprehensive explanation of the application and platform features of ASG, refer to the ASG Application and Platform sections on the Ascend Web site.

ASCEND

Where Network Solutions Never End™

Worldwide and North American Headquarters
Ascend Communications, Inc.
One Ascend Plaza
1701 Harbor Bay Parkway
Alameda, CA 94502, United States
TEL: 510.769.6001
FAX: 510.747.2300
E-mail: info@ascend.com
Toll Free: 800.621.9578
FAX Server: 415.688.4343
Web Page: http://www.ascend.com

European Headquarters
Rudolph-Diesel-Strasse 16
D-64331 Weiterstadt
Germany
Tel: +49.6150.1094.10
Fax: +49.6150.1094.94

Asia-Pacific Headquarters
Suite 1908
Bank of America Tower
12 Harcourt Road
Hong Kong
Tel: +852.2844.7600
Fax: +852.2810.0298

Japan Headquarters
Level 19 Shinjuku Daiichi-Seimei Bldg.
2-7-1 Nishi-Shinjuku
Shinjuku-ku, Tokyo 163-07, Japan
Tel: +81.3.5325.7397
Fax: +81.3.5325.7399
Web Site: http://www.ascend.co.jp

Latin, South America and the Caribbean Headquarters
One Ascend Plaza
1701 Harbor Bay Parkway
Alameda, CA 94502, United States
TEL: 510.769.6001
FAX: 510.747.2300

Ascend and the Ascend logo are registered trademarks and all Ascend product names are trademarks of Ascend Communications, Inc. Other brand and product names are trademarks of their respective holders.

1857e-eq
11/98