

## To Know AscenLink®

### 1. What is AscenLink?

**Answer:** AscenLink is a WAN load balancer with unique capabilities that are normally found in multiple devices. This is the general comment made by several companies evaluating our devices. Please read the following frequently asked questions & answers for more details.

### 2. What does AscenLink do?

**Answer:** Basically, AscenLink can aggregate multiple lease lines and broadband lines, have redundancy and balance the traffic whether inbound or outbound, optimizing the usage of bandwidth while setting up policy and filters to ensure guaranteed QoS and control bandwidth usage all in one single device.

### 3. What are the other benefits of AscenLink?

**Answer:** AscenLink can enhance your network's performance; improve networking availability and scalability by providing a more efficient method of management and lowering the TCO (Total Cost of Ownership). AscenLink can route traffic with guaranteed QoS by using policy and filters in addition to controlling user's bandwidth, which is essential functionality, based on protocols and/or Source/Destination. It is an all-in-one integrated solution to increase intranet/internet capacity with built-in self healing functionality, therefore reducing the support resource requirements while improving user's experience. AscenLink will even send you an email to notify of a failure in the links or services. It will help your bottom line because it requires only one fixed IP address, while all others can be dynamic. AscenLink has a patented VPN load balancing mechanism called "Tunnel Routing" which uses multiple links to route a VPN, therefore never dropping a session even in the event of a link failure. AscenLink has advanced application functionality like persistent routing to enable communication with servers that require same source and destination IP address during authenticated and secured sessions, making AscenLink the most complete solution on the market today at a reasonable price.

#### □ Outbound Traffic

### 1. What is "Auto Routing"?

**Answer:** The function that is responsible for outbound traffic's load balancing and fault tolerance in AscenLink is "Auto Routing".

### 2. What can Auto Routing do?

**Answer:** Auto Routing can route traffic on demand using any of the 7 different kinds of algorithm based on the policies set by the administrator. Different policies may demand different algorithm to work best and AscenLink offers all the flexibility necessary to build policies and filters by associating any algorithm with a given policy. Traffic matched through a filter is then directed to a given policy where the best algorithm and route is chosen for that scenario.

### 3. What are the 7 algorithms that AscenLink has?

**Answer:** There are seven kinds of algorithm you can use: Fix, Round Robin, Weighted, Round Robin, Dynamic by Upstream Traffic, Dynamic by Downstream, Dynamic by Total Traffic and Dynamic by Connection.

### 4. How can I have load balancing and fault tolerance by Auto Routing?

**Answer:** Load balancing and fault tolerance based on L3 and L4 protocol type information is better than a regular failover because different traffic type with different QoS and priority can be handled to route and fail differently depending on the policies. Auto Routing is used to establish the Policies and Filters required by setting these rules. The Policy controls the algorithm and the route usage for each WAN link. The Filter will match traffic according to Source, Destination and Service based on L3 and L4 type information and then apply the routing and fail-over policies specified in the selected policy.

□ **Inbound Traffic**

**1. What is “Multihoming”?**

**Answer:** The function in AscenLink that is responsible for inbound traffic’s load balance and fault tolerance is “Multihoming”.

**2. How does Multihoming accomplish the load balance and fault tolerance for inbound traffic?**

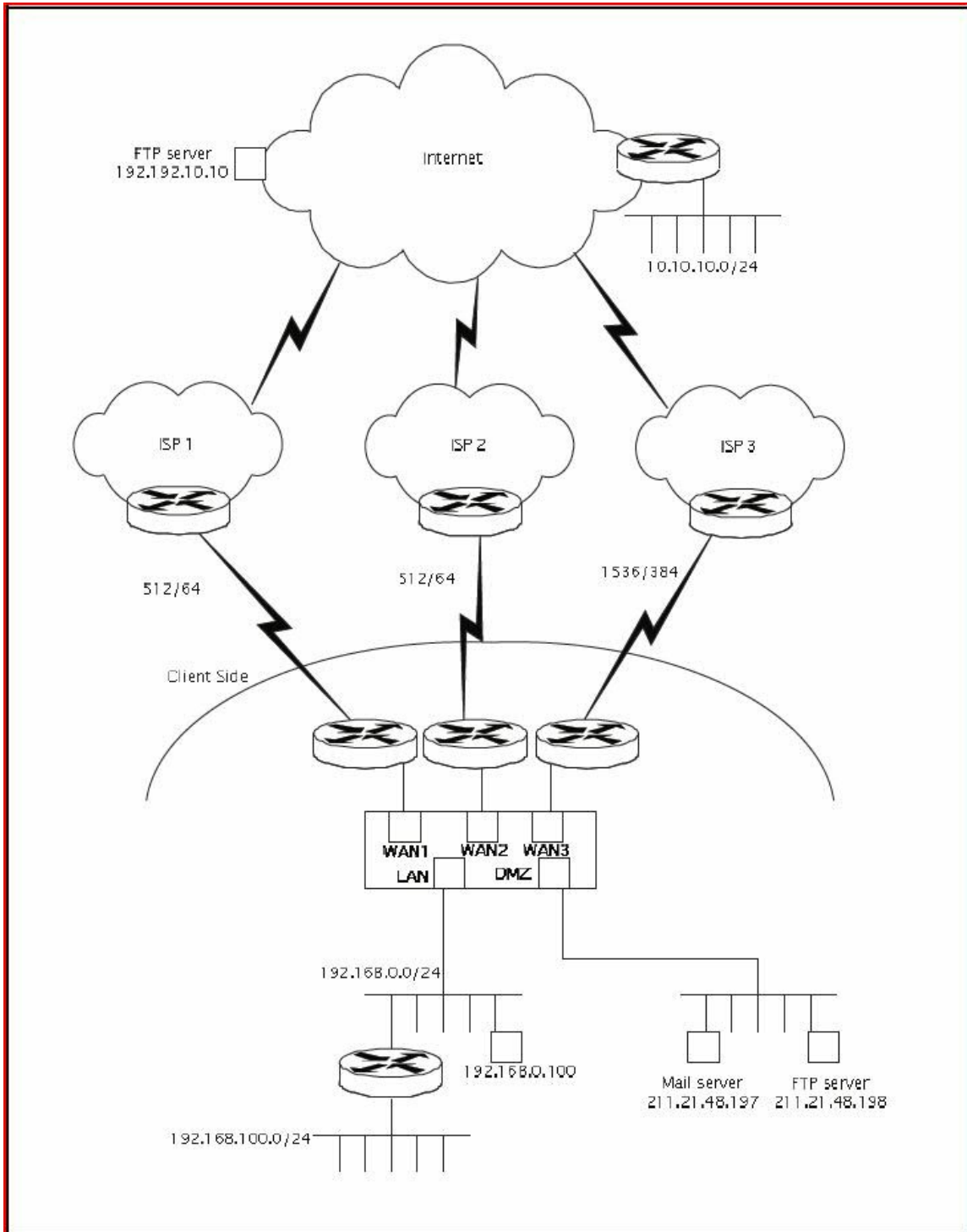
**Answer:** Multihoming will control the inbound traffic through name resolution, which is a technique called SwiftDNS. AscenLink has it’s own internal DNS, or can use external DNS. By resolving one name to many different IP addresses, clients will access the service through different paths by routing. The embedded WAN Link Health detection constantly monitors the status of each WAN Link and in case of failure, AscenLink will not reply to its client with an IP address of a failing link, which makes it fault tolerant by load balancing on the other links.

**3. What should I do with Multi-homing?**

**Answer:** First you have to change your web address registration at your NIC (Network Information Center) provider, replacing the old setting with one of AscenLink’s WAN interface IP addresses. Then you can set up Multi-homing with AscenLink.

Second you have to change the “Default Gateway” on all your PCs and Servers to match the “IP on Local Host” defined in the “Subnet Detail” for each LAN or DMZ interface. Inbound load-balancing is complex with interactions between local servers (as described in the first paragraph) and interactions with DNS servers in the network (dropping TTL values and such) depending on the network architecture including the use and placement of routers, firewalls, DMZs, DNS Servers, web servers, etc. Please contact technical support for more information on how to fully configure the AscenLink and to optimize for particular applications.

Please provide a network architecture diagram, such as in the example in the next page, in order to get meaningful advice.



Network Architecture Diagram (Sample)

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#### □ **Bandwidth Management**

##### **1. What is Bandwidth Management?**

**Answer:** Inbound and Outbound Bandwidth Management is handled separately in two different sub-menus for better granularity and control. The functionality is based on Filters and Policies and will control bandwidth on specific interfaces with minimum and maximum Kbps. This is also where priorities are set for each type of traffic.

##### **2. What can I do with Bandwidth Management?**

**Answer:** You can control the bandwidth usage based on L3 and L4 protocol information and/or Source/Destination on both inbound and outbound traffic and set priorities to enable QoS for VoIP for example.

##### **3. How can I distinguish different data flow and control them?**

**Answer:** You can assign High, Normal or Low priority to different data flows as well as assigning them guaranteed minimum or maximum bandwidth.

##### **4. Can I have different policy of Bandwidth Management between working time and off duty hours?**

**Answer:** Yes, you can set up different bandwidth policies for two different time periods.

#### □ **Persistent Routing**

##### **1. What is Persistent Routing?**

**Answer:** Persistent routing is used to secure subsequent connections of source and destination pairs that are first determined by Auto-Routing in AscenLink. It is useful for applications requiring secure connections between the server and client whereby client connection will be dropped if servers detects different source IP addresses for the same client during an authenticated and certified session. Without this functionality the users may encounter some problems caused by load balance algorithms. Persistent Routing can help to avoid these kinds of problems.

##### **2. What will Persistent Routing do?**

**Answer:** After the route to the Internet is determined, AscenLink will then apply the persistent routing rules to the subsequent connections from the same source and destination, keeping all the subsequent connections flowing through the same WAN link.

#### □ **Cache Redirection**

##### **1. What is Cache Redirection?**

**Answer:** Cache Redirection can automatically redirect service that you specify to a particular proxy server. So you may use proxy server as a transparent cache to save your bandwidth.

□ **High Availability**

**1. What is High Availability?**

**Answer:** AscenLink supports a master/slave structure for device redundancy. Two AscenLinks can be deployed together as a master/slave pair. To ensure network continuity, the slave will automatically take over if the master fails.

**2. How does it work?**

**Answer:** The first machine activated will be the master and the second one will be the slave. The master will handle all the traffic and the slave will be on warm standby. The master will continuously notify the slave of its status via their linked HA serial ports. If the slave does not receive the signal for some time, it will know that the master has failed and will then activate itself.

**3. Do I have to configure slave?**

**Answer:** No, the master will auto synchronize the configuration to the slave through the serial link.

□ **Grouping**

**1. What is Grouping?**

**Answer:** It can group things that require the same processing in the filters and rules as an object. And you can use this object anytime when setting up AscenLink.

**2. How can Grouping benefit me?**

**Answer:** Sometimes when you need to configure things with the same rules and policies, without Grouping you have to set up many rules and policies. With Grouping, you just have to set up one rule for those things. It saves you time and very easy for you to troubleshoot.

**3. How many types of Grouping do you have?**

**Answer:** We have Grouping of IP addresses and services.

## Ascenlink: Frequently Asked Questions Based on Price Sheet and recent customer interaction

### 1. What does T/R stand for?

**Answer:** T/R means tunnel routing. It is an optional feature that is used for secure applications. Tunnel Routing uses a well-known but little used protocol called GRE – Generic Routing Encapsulation, invented by Cisco. More information here:  
[http://en.wikipedia.org/wiki/Generic\\_Routing\\_Encapsulation](http://en.wikipedia.org/wiki/Generic_Routing_Encapsulation)

### 2. Is Tunnel Routing required to support VPN's ?

**Answer:** Yes and no. The administrator can set-up VPNs as a security measure for corporate type data. However, if end customers are using the internet and have corporate VPNs, they can continue to use those VPNs without Ascenlink running tunnel routing.

The main reason for TR is to build a very cost-effective and bigger VPN pipe by adding/combining existing fixed IP with Dynamic IPs configurations such as PPPoE or DHCP. TR also provides the Load Balance between WAN links and also very important is the Smart WAN health detection for the Auto failover feature to prevent single point failure. To expand on this: VPN routers are designed to create a VPN over a single WAN link and thus are limited to the speed of that link. Improving the throughput of the VPN link means buying a higher bandwidth WAN link. AscenLink can GRE-encapsulate a VPN link into multiple WAN links allowing a larger virtual circuit to carry higher speed VPN traffic. AscenLink also automatically adjusts bandwidth if a link fails, reducing the bandwidth available to the VPN but maintaining the connection for higher reliability. VPNs, Tunnels and "open" traffic can be mixed on WAN links. The VPN or Tunnel can be given priority over other traffic.

In a hotel environment where guests may be using ad-hoc VPNs from their PCs to their HQ hosts, AscenLink is completely transparent to those VPNs.

### 3. What is the deliverable if the customer selects T/R ?

**Answer:** The customer will receive a software key that turns on the feature. TR requires a minimum of 2 AL Units, usually one in HQ/HO and one per branch. As a minimum you need 1 AL 320 in HQ/HO and 1 AL 200 in each branch. The TR Option is a SW Key that will enable that function and is directly related to the S/N of the installed unit(s).

TR is included in AL200 – no key is required for that product. Tunnel Routing requires additional processor cycles within AscenLink. A Tunnel Routing calculator is available from Xtera to assist in sizing products for TR applications.

Application of TR in a hotel environment will vary. If the hotel back-office requires high-speed VPN to Head Office, then AscenLinks are required at both locations. Other customer traffic can share the WAN links but it will terminate with an ISP. This way, performance of both the corporate VPN and customer traffic is greatly improved using multiple inexpensive internet access links instead of more expensive private line circuits.

If the hotel requires a higher speed service to its ISP (WiFi backhaul, for example), then AscenLinks must be placed at the hotel and at the ISP data center. However, because of the multi-session / multi-connection nature of customer traffic from rooms or WiFi, Tunnel Routing is generally not required for this type of traffic.

### 4. What happens if the customer wants to trial Tunnel Routing ?

**Answer:** You must determine up front if the customer is interested in Tunnel routing, so that the software key is supplied for the trial period. The customer will also require at least two units capable of running tunnel routing.

A: See # 3



Ideas in a different light.

**5. What is a Gold Partner ?**

**Answer:** A Gold Partner markets and sells the product without stocking the product. Usually a Gold Partner is a VAR or SI that buys products directly from our local Distributor.

**6. Does the Gold Partner provide support for the Product? If not, who provides the support?**

**Answer:** Yes. You cannot become a Gold Partner without trained and certified technical support staff. If you are unable to provide technical support, we will find a Gold Partner willing to supply product to you. **Xtera does not provide first-line technical support on these products.**

It is in everyone's best interest to train the Technical Support people at the Distributor level as well as the Gold Partner level. We can offer Webinar upon request. But it is our plan to train as many of their "local" people as they are on location and dealing directly with their customers.

**7. Will Xtera consign equipment to the Gold Partner to function as stock?**

**Answer:** No. On location stocking is provided only for distributors that purchase the product.

**8. How many units does a partner have to stock to be considered a Distributor?**

**Answer:** A Distributor should at least have 2 AL units for VPN TR LB Applications and 1 AF unit in stock as well as Link Report and Flow Report. Distributors can take advantage of our one-time purchase of NFR POC units in limited quantity at a very attractive discounted price. A distributor must stock a minimum of three units per quarter to continue to receive the distributor price.

**9. Does Xtera have a minimum price he would like the distributor/sales partner to sell a product?**

**Answer:** No. Xtera sets the MSRP. The distributor is free to sell the unit anywhere between his cost and the suggested MSRP.

**10. Is there an initial warranty on the product?**

**Answer:** All products have a one year full warranty included in the initial price. Then customer/end user can purchase additional one-year extended warranty in 1 year increments as per price list. Distributors and Gold Partners are given an additional 3-month warranty to assist with clearing inventory.

**11. Does the warranty include technical assistance as well as repair?**

**Answer:** Yes, warranty includes technical assistance. In addition, if the product stops working it can be returned for repair. All products except the AL-100 are covered by an Advance Replacement warranty. If the product fails in-service, Xtera will ship a new/refurbished unit immediately upon request, prior to the failed unit being returned to Xtera.

**12. What does the repair cost cover?**

**Answer:** The repair price is for units that are not in warranty. It covers material and labor to cover repairable units. If a unit is not repairable, the unit is returned and the repair price can be applied toward a new unit of equal or greater value. Also, warranty is only for 90 days on any repairs of units that are out of the warranty period. And therefore it makes sense to purchase additional 1 year extended warranty.

**13. Who installs the product?**

**Answer:** The product is simple enough that the end user can install the product. If the product has been purchased from a Distributor/Channel Partner, the Distributor will have been trained and can and should assist the end-user. Xtera IP Division can also remotely assist and support the start up and initial configuration but only if trained or very IP-knowledgeable technical staff are available on site. Basic configurations of AscenLink products are simple to install. However

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I d e a s i n a d i f f e r e n t l i g h t .

complex customer networks with firewalls, DHCP, subnets, DMZ, VPNs, etc., require detailed IP and customer network knowledge.

**14. What if the end user needs help anyway? Does he call the Gold Partner, does he call the Distributor, or does he call Xtera?**

**Answer:** The end user calls whoever he purchased the product from. Remote assistance can be provided.

**15. Does the Distributor receive training?**

**Answer:** Training is made available to the Distributor. He can become a certified engineer on the product.

**16. Who Supports the product?**

**Answer:** The Distributor supports the product. He receives and answers technical questions. The distributor should call Xtera if he requires assistance.

**17. Does the Gold Partner support the product?**

**Answer: YES. You cannot become a Gold Partner without trained technical support.** Usually our Gold Partners are VARs and SIs with a very high level of understanding about the IP Technology.

**18. Is the Link report price additive to the Ascenlink product?**

**Answer:** Yes. If the customer wants the Link Report, there is a separate additive price.

**19. What is the deliverable for LinkReport?**

**Answer:** Link report is a software tool that is delivered on a CD and runs on a standard Windows PC. A SW Key will be issued and directly connected to the specific serial number of the AL unit. LinkReport can also be downloaded from our Partner Site.

**20. Can the reports be output to Word, Excel or some other form that can be shared with others ?**

**Answer:** LinkReport saves or prints statistics in .doc, .rtf, .csv and/or .xml formats. Sample Word and Excel files attached.

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**21. Can AscenLink and the Link report be demonstrated via a WebEx conference?**

**Answer:** Absolutely. Xtera has a web page which shows a monitored Ascenlink. The web link can be provided to the customer who can browse the pages at his leisure. Alternately, a Web conference can be set-up where a host peruses the menus and describes what is being viewed on the screen.

Below are the URL of our 4 demo sites.

**AscenLink**

https://linkip.demo.xtera-ip.com:8080/  
Account: "Monitor" (case-sensitive) PW: 5678

**Link Report** (report system of AscenLink)

http://linkip.demo.xtera-ip.com/script/login.php  
Account: "monitor" (not case-sensitive) PW: 5678

**AscenFlow**

https://flowip.demo.xtera-ip.com:8080/  
Account: "Monitor" (pull-down menu) PW: 5678

**Flow Report** (report system of AscenFlow)

http://flowip.demo.xtera-ip.com/  
Account: "Monitor" (case-sensitive) PW: 5678

Xtera has just launched a new website reflecting its comprehensive portfolio of network infrastructure that delivers the highest capacity, reach and value. Now, complete information on Xtera's products, solutions, and services is available for the first time on a single website that also captures the integrated mission and strategy of the new, expanded Xtera Communications.

Please check out our new website [www.xtera.com](http://www.xtera.com) or [www.biacbroadband.net](http://www.biacbroadband.net) today to see how our Long-Haul, Submarine, Metro, and WAN Traffic Management products, together with our comprehensive service offerings and deployment expertise, drive customer success and competitive differentiation.

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