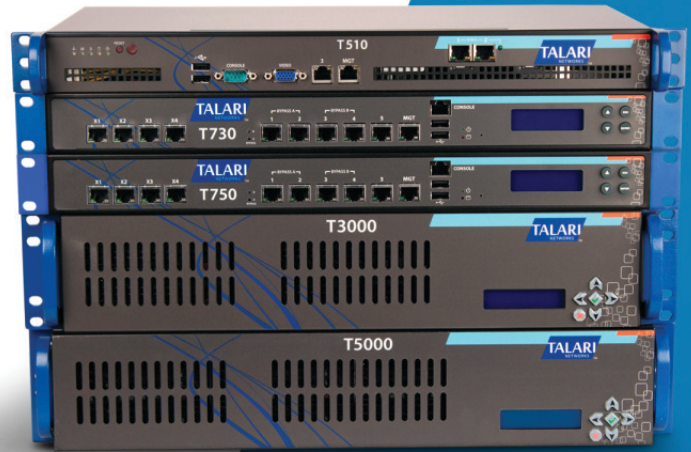




# Talari™ Mercury Appliances

Giving Enterprises a Bigger, Better, More Reliable  
WAN that Dramatically Lowers Cost per Packet



## Benefits of Talari Mercury Appliances:

Optimized aggregate networks take advantage of diverse, abundant and affordable bandwidth sources without the reliability and predictability issues traditionally associated with broadband networks. The result? Next-generation enterprise WANs without compromise:

- Applications work without interruption, even in the case of link failure or network impairments such as high jitter, delay, or packet loss
- Reliable QoS is enforced over best effort networks that don't have inherent QoS
- Previously unused backup links are utilized to provide additional bandwidth, as each application session can use all WAN links
- Inexpensive network links can be added to supplement WAN connections, increasing available bandwidth at a low cost

In today's connected world, employees depend on a reliable, high quality network to get their job done. In many enterprises, losing a network connection means losing the ability to work and even poor quality connections means time lost to slow applications, dropped calls, and session timeouts. So companies are forced to over-engineer their network, over-subscribe to expensive WAN links, and over-pay for standby backup links just to avoid the disruption and costs caused by network problems. But with Talari Mercury Appliances, there is a way to achieve the bandwidth, reliability and quality today's connected enterprises require while staying under budget.

If your business relies on a network, your network should rely on Talari.

By leveraging network bandwidth from multiple sources — including existing WAN links and broadband connections — Talari lets businesses for the first time take advantage of the economics of broadband and the public Internet without sacrificing business-quality reliability and availability.

## Mix WAN Performance with Broadband Pricing

Talari lets you mix and match different networks — like MPLS, ATM, Frame Relay and broadband Internet — to create an **optimized aggregate network** that performs much better than the most expensive single network in the mix, *but whose weighted average cost is much closer to the least expensive network in the mix.*

## Increase Network Resilience with Talari

By aggregating multiple broadband or WAN links, measuring the upstream and downstream characteristics of each link, directing traffic to links that have the appropriate characteristics for each class of traffic, and reacting to changes in less than a second, Talari ensures that applications and users are not affected by poor quality or failed links.

### Networks using Talari achieve:

- Enterprise class availability and reliability
- Significantly higher bandwidth
- Business quality performance
- Radically lower cost

# RELIABILITY

**Talari's Resilient Multipath Connectivity** delivers end-to-end network reliability and protected application performance for both TCP and UDP-based traffic. Powered by the rich information delivered by continuous health monitoring, Talari allows enterprises to reliably leverage "reasonable quality" networks — such as public Internet connections — even when such connections by themselves don't deliver the 99.95% to 99.99% reliability and packet delivery that a business expects from its WAN.

Resilient Multipath Connectivity provides multi-path multiplexing for both aggregating bandwidth and delivering end-to-end reliability, dynamically engineering around network trouble—not just outright link failure, but high packet loss or excess latency— as it occurs. It does stateful traffic steering via proprietary adaptive path selection algorithms, choosing the best path for each traffic type on a **per packet** basis. It can deliver greater individual flow performance by enabling packets, even from a single flow, to be intelligently distributed across multiple network paths covering multiple WAN connections. It adapts to loss, latency and jitter "network events" within ~250 milliseconds for domestic connections, or ~500-600 milliseconds even for longer-distance international connections. This sub-second response is more than fast enough to handle any IP application that can run on an IP WAN, and so must be able to tolerate some amount of congestion-based jitter.

# QUALITY

For real-time applications like VoIP and videoconferencing, Talari uniquely delivers ultra-reliable, cost-effective support. It routinely chooses network paths with the least packet loss and lowest jitter for such high-priority real-time traffic, and switches with sub-second response to a better path in the face of high loss or jitter delivering "platinum quality" connectivity.

Talari's technology addresses the challenging requirements of voice in a number of ways.

- A virtual conduit between two sites can have multiple classes of service, which allows VoIP packets to be assigned the appropriate priority relative to email or file transfers for instance. This guarantees that VoIP packets are not delayed in getting on to the WAN.
- At the start of a call, Talari will automatically pick the path that currently has the best characteristics for a voice call (low loss, low jitter). Since it continually monitors these characteristics of a path it can quickly reroute VoIP packets, within a fraction of a second, to a new path with minimum disruption in call quality.
- To offer the highest possible call quality it is possible to trade additional inexpensive bandwidth for 'platinum' quality voice. By replicating voice packets over two disparate paths across the network, suppressing duplicates at the receiving appliance, the destination appliance will use the most timely of two VoIP packets and be able to hide packet loss or excessive delay on either of the paths.

## The Talari Difference

- /// **Network Quality Assessment** Talari Networks uniquely continuously monitors each path to collect end-to-end metrics on one-way packet delay, jitter, packet loss and bandwidth. The health of each path is monitored end-to-end and decisions are based on the quality of the path, not just if the path is up or down.
- /// **Dynamic Traffic Engineering** Talari's dynamic bandwidth reservation is based on congestion prediction and constantly adapting to instantaneous available bandwidth. Talari also performs traffic shaping to remove burstiness with prioritization based on application class defined by configuration policies.
- /// **High Availability & Failover** Adding Talari to your network will ensure applications work without interruption – even in the case of link failure or network impairments such as high jitter, delay or packet loss. Eliminate dropped VoIP calls and experience reliable QoS over best efforts.
- /// **Multipath Connectivity** Talari Networks performs sub-second path change if any issue such as low performance or link failure is detected. Only Talari makes path decisions on a per-packet basis – not application flow to deliver the highest possible quality and reliability.

# BANDWIDTH

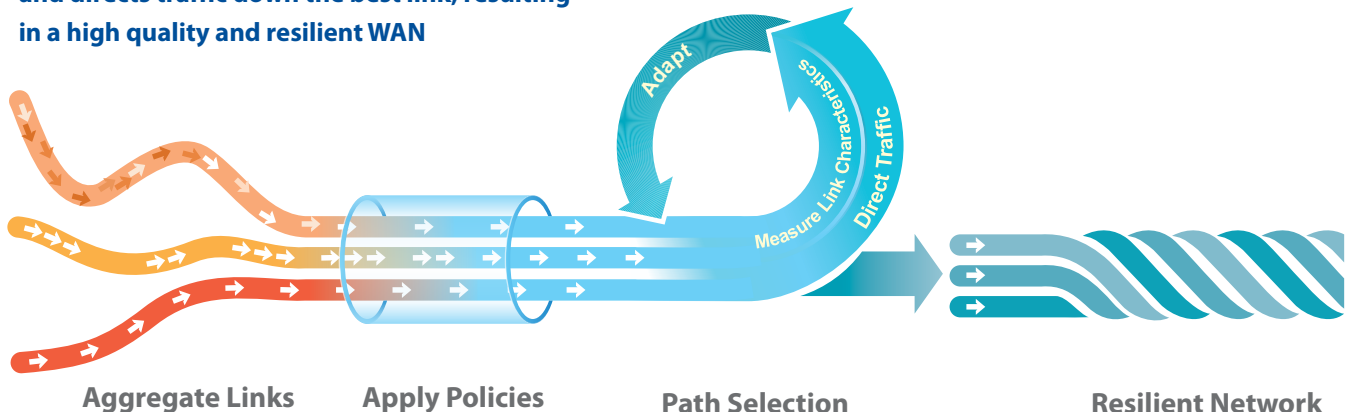
Talari Networks makes it easy to increase bandwidth. In fact enterprises can easily and affordably expand WAN bandwidth by 10 to 20 times. Using Talari technology, you can immediately increase usable, reliable bandwidth to your private WAN for remote sites by leveraging Internet links that today are only used as VPN backup connections and/or for local Internet access. APN can also leverage existing redundant private WAN connections. Bandwidth optimization can be achieved through proper management of multiple connections to leverage reliability with affordability. Since APN makes packet-by-packet forwarding decisions, rather than per-flow decisions, you can use all available bandwidth, even for a single session. APN performs bandwidth optimization and bandwidth management using multiple connections as a single pipe – sometimes referred to as WAN Virtualization, simplifying the design of QOS rules. APN allows you to add up to seven additional links to your existing WAN. The low cost of broadband Internet links makes it particularly easy to add bandwidth inexpensively at remote sites. For example, adding one 6 Mbps downstream, 768 Kbps upstream DSL to a 1.5 Mbps T1 MPLS connection can increase your corporate WAN bandwidth by 5x at that location. If you add three 6 Mbps links, you've got 12x more bandwidth at the site. Talari's technology delivers more bandwidth at a low cost with greater reliability and performance than the best single Frame Relay or MPLS network.

# LOW COST

Monthly WAN operating costs are one of the biggest expenses in any IT manager's budget - other than employee costs. Talari's technology is a powerful solution that lowers monthly WAN costs by 40% to 90% while simultaneously adding network bandwidth and improving both network reliability and application performance predictability. There are many ways to reduce IT costs by using Talari's technology:

- Replace redundant MPLS or Frame Relay backup connections and/or ISDN connections with less expensive broadband connections.
- Utilize unused backup connections, thus immediately expanding the amount of available bandwidth and delaying the purchase of new links.
- Eliminate expensive private WAN connections altogether and branch offices and replace them with multiple Internet connections from at least two different service providers.

**Talari's adaptive path selection technology reacts in sub second time frames to changing performance characteristics and directs traffic down the best link, resulting in a high quality and resilient WAN**



## / Talari Family of Mercury Appliances

Talari's family of appliances scale easily to fit the needs of every location in your business, from corporate headquarters to data center to large branch office to small or home office.

	T510	T730	T750	T3000L	T3000H	T5000L	T5000H
<b>Location</b>	SOHO/ Remote office	Remote Office	Small Data Center	HQ / Data Center	Data Center	Data Center/ Call Center	Data Center/ Call Center
<b>Mounting</b>	1U	1U	1U	2U	2U	2U	2U
<b>Bandwidth</b>	28 Mbps Total	72 Mbps Total	180 Mbps Total	240 Mbps Total	500 Mbps/ 500 Mbps (Full-Duplex)	1 Gbps/ 1 Gbps (Full-Duplex)	3 Gbps/ 3 Gbps (Full-Duplex)
<b>Fail-to-Wire</b>	✓	✓	✓	✓	✓	✓	✓
<b>High Availability</b>		✓	✓	✓	✓	✓	✓
<b>Geo-HA</b>			✓	✓	✓	✓	✓
<b>Network Control Node</b>			✓	✓	✓	✓	✓

## / Technology that Transforms WANS

Using patented Adaptive Private Network technology, Talari's solution combines diverse, abundant, affordable IP bandwidth sources, and provides reliable, resilient and high-quality connectivity between sites, insuring application continuity. Talari appliances deployed in the main office and branches/remote offices provide a meshed network of "Conduits" between sites. Each conduit is made of multiple WAN links and controls and optimizes the use of all network resources available across all WAN links.

At its core, Talari enables network managers to aggregate multiple WAN connections — existing private WANs such as MPLS, as well as any kind of Internet WAN links, such as DSL, cable, fiber, Metro Ethernet, etc.— into a virtual WAN. Talari's WAN Virtualization solution uses end-to-end algorithms to do dynamic, real-time, traffic engineering, reacting sub-second to not just link failures but also congestion-related network problems, enabling businesses to build a WAN that is simultaneously less expensive, much higher bandwidth, with lower ongoing operational costs than today's proprietary, single vendor WANs.

### About Talari Networks, Inc.

Talari Networks is redefining WAN reliability and application performance quality. By aggregating multiple diverse networks into a virtual WAN and continuously adapting traffic based on the availability and real-time quality of the network paths, Talari ensures applications that rely on a WAN are not affected by underlying network issues. Talari's patented technology delivers significant cost savings over single provider networks while also increasing reliability and quality. Talari has received numerous industry awards and accolades including being named a Gartner Cool Vendor, Best of Interop-Performance Optimization and Techworld Awards-2012 Networking Application Product of the Year. For more information, visit [www.talari.com](http://www.talari.com).



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