

# Magic Quadrant for WAN Optimization Controllers, 2006

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**The market for WAN optimization controllers remains dynamic, with vendors offering different feature sets. Organizations should identify their specific needs and look to real-life trials before committing to any purchase.**

## WHAT YOU NEED TO KNOW

Optimization techniques for WANs can improve most organizations' application response times, particularly where network latency is high, which is often due to centralization of servers and IT resources. Typically, WAN optimization controllers (WOCs) mitigate the sometimes severe impact of network latency on the performance of applications and the underlying protocols. Through data reduction and prioritization techniques, WOCs can also help organizations avoid costly bandwidth upgrades.

The WOC market is rapidly maturing, but it is still dynamic with a high level of vendor innovation. This has led to different vendors offering different combinations of features. So, before choosing a vendor, ensure you understand the applications and services running on the network, and the protocols that they use. Also conduct a detailed analysis of your network traffic to identify specific problems – for example, excessive latency, bandwidth oversubscription or lack of prioritization for certain types of traffic. Finally, insist on a real-life trial before committing to any purchase.

## Market Overview

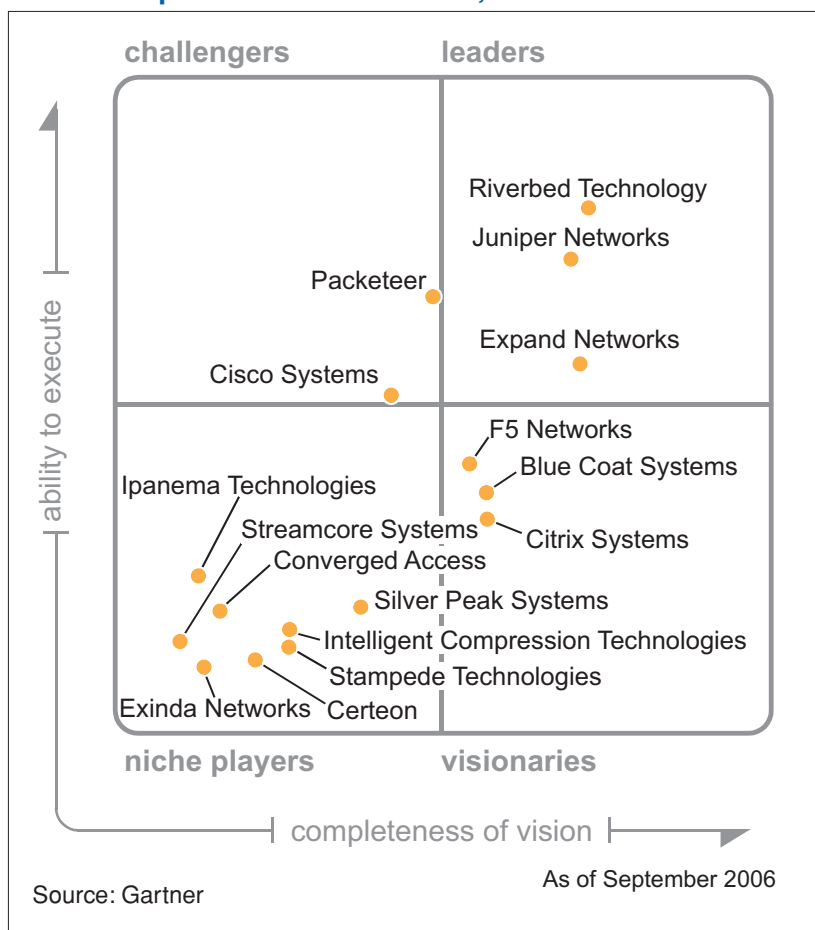
WAN optimization is about improving the performance of business applications over WAN connections. Most networks carry a variety of types of traffic, of differing characteristics and importance. Many organizations are striving to manage this traffic to optimize the response times of critical applications and reduce costs, given that bandwidth continues to represent a significant proportion of operating expenditure for wide-area data networks. But the cost of bandwidth isn't the only consideration –

minimizing the effect of latency on application response times and matching the allocation of WAN resources to business needs are also important. In addition, new application environments, like browser-based applications and Web services, can put an unexpected strain on the network.

Different types of traffic and IT architecture present both difficulties and opportunities for improving the response times of essential applications. For example:

- Traffic that isn't time-sensitive, like e-mail, backups and personal Web access, can swamp WAN links,

**MAGIC QUADRANT**  
Figure 1. Magic Quadrant for WAN Optimization Controllers, 2006



leading to slow response times from business-critical applications.

- Global centralization of branch office servers and data centers can expose latency sensitive protocols, again leading to slow response times.
- File transfers, operating system patch distribution and similar applications, such as the delivery of training videos, can quickly saturate WANs.
- Repeated transmission of the same, or similar, files, objects or data patterns can create opportunities for data compression.

Since optimizing overall application response times is a requirement for many organizations, this Magic Quadrant reviews vendors that address the common need to make more efficient and effective use of wide-area connections, regardless of the type of traffic or application.

The development of the application acceleration market has been driven by customer demand for highly integrated solutions that employ a wide range of techniques to optimize network traffic, and that offer greater scalability and fault tolerance. Vendors in this space initially addressed either the traffic shaping/quality of service (QOS) market, or the compression/caching market. These two segments have largely merged, and now many vendors have added acceleration for Microsoft Common Internet File System (CIFS) file access. CIFS is the protocol used by Windows to share files, printers and other resources. Some vendors are now merging their enterprise content delivery network (ECDN) and WOC products, or are adding ECDN features to their WOC products.

The ECDN market grew out of the caching market, to which it added the capability to deliver live and on-demand streaming media content. On-demand support was achieved by pre-positioning content in the cache. Pre-positioning helped improve the response times for semi-static content, such as business procedures and software upgrades. The ECDN market is now merging into the WOC market.

In addition, the following WOC product trends will emerge:

- Soft WOC clients will emerge, allowing single remote PC users to take advantage of a subset of WOC capabilities.
- In branch offices, the capabilities of WOCs will evolve to the point where they can support server-less branch operations, also described as branch office boxes (BOBs). This will require the addition of supporting features including Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS) and print serving.
- Monitoring and enforcing application-specific service levels that are visible to end users will emerge as a key requirement for WOC equipment.

### Market Definition/Description

A WOC is customer premises equipment that is typically connected to the LAN side of WAN routers, or is software integrated with client devices and servers. Some basic functions of WOCs may also be available in WAN routers. WOCs are typically deployed symmetrically – in data centers and remote locations – and improve the performance of applications that are accessed across a WAN. They address application performance problems caused by bandwidth constraints and latency or protocol limitations. The primary function of WOCs is to improve the response times of business-critical applications over WAN links, but they can also help to maximize return on the investment in WAN bandwidth, and sometimes avoid the need for costly bandwidth upgrades. To achieve these objectives, WOCs use a combination of techniques, including:

- Ensuring fair access for mission-critical applications during periods of congestion by prioritizing business-critical traffic, through QOS policing and traffic shaping, for example.
- Minimizing the effects of network latency using methods like protocol-specific optimization.
- Reducing the bandwidth required to transfer WAN traffic, by compressing it, for example.

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Note that when WOCs are deployed to support server centralization, bandwidth requirements may need to be increased to provide quick response times for file-open operations and to accommodate the demands of Web browser-based applications.

## Inclusion and Exclusion Criteria

To help organizations with their WAN optimization needs, Gartner has assessed vendors that offer generic, multifunction controllers or software, rather than those that only offer application- or protocol-specific ones for Web caching, HTTP compression or remotely mounted file systems, or single functions such as QOS.

As this market develops, we expect vendors that offer a combination of techniques, both generic and application- or protocol-specific, to be the most successful. To be included in this Magic Quadrant, vendors' products must, at a minimum, offer features from at least two of the following broad categories of WAN acceleration techniques:

- WAN QOS classification, enforcement and traffic shaping.
- Compression, caching and/or data replication.
- Generic protocol optimization (for TCP or HTTP, for example).
- Protocol- and application-specific optimization features, such as acceleration of the CIFS file-sharing protocol.

We have included vendors with measurable market share, plus some smaller suppliers that either offer broad capabilities or have generated interest among Gartner's clients. This includes a number of recent new entrants or startups, but we have only included vendors that had shipped revenue-generating products by 10 July 2006. Due to the wide geographical reach of the networks that will benefit most from this technology, included vendors need to have, or demonstrate that they will soon have, a global installation and support capability. As this Magic Quadrant is intended to inform enterprise purchasing decisions, we have only included vendors that focus specifically on enterprise customers.

### Added

New vendors Silver Peak and Certeon launched their WOC products in late 2005 and early 2006, respectively. These two vendors have been added because their products meet the inclusion criteria.

Established vendor Blue Coat Systems launched WOC products in 1Q06, and has been added

because its products now meet the inclusion criteria. Australian vendor Exinda Networks has been added, due to its extended distribution channels in Europe and North America, and the launch of new products.

Intelligent Compression Technologies (ICT) and Stampede Technologies have been added, as they address the emerging need for "soft" WOC clients to support single mobile/remote users. ICT offers an innovative WOC soft client and was included in Gartner's "Cool Vendors in Enterprise Communications, 2006."

Stampede Technologies recently announced specific optimizations for Ajax applications.

Citrix has been added, as it acquired WOC vendor Orbital Data in August 2006.

### Dropped

Allot has been dropped because its QOS-only products have too narrow a feature set to meet the inclusion criteria.

Tacit Networks has been dropped, as it was acquired by Packeteer in May 2006.

Orbital Data has been dropped, but its products are included under its new owners, Citrix.

## Evaluation Criteria

### Ability to Execute

Gartner analysts evaluate technology providers on the quality and efficacy of the processes, systems, methods or procedures that enable IT provider performance to be competitive, efficient and effective, and to positively impact revenue, retention and reputation. Ultimately, technology providers are judged on their ability and success in capitalizing on their vision.

*Product/Service:* Core goods and services offered by the technology provider that compete in/serve the defined market. This includes current product/service capabilities, quality, feature sets and skills, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria. For the WOC market, this criteria evaluates the underlying hardware and software platform(s) on which the vendor's products are based, the breadth of the range and their suitability for supporting additional features in the future.

*Overall Viability (Business Unit, Financial, Strategy, Organization):* Financials: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit and the likelihood of the individual business unit to continue to invest in the product, continue offering the product and advancing the state of the art within the organization's portfolio of products.

*Sales Execution/Pricing:* The technology providers' capabilities in all pre-sales activities and the structure that supports them. This includes deal management, pricing and negotiation, pre-sales support and the overall effectiveness of the sales channel. For the WOC market, the sales-execution subcriterion is more highly rated than the pricing subcriterion.

*Marketing Execution:* The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. The success and "mind share" of the products in the WOC market, including the installed base and market share, as well as the maturity and breadth of the organization's distribution channels, are also considered, along with the quality of customer case studies and references, and the level of interest from Gartner clients.

*Customer Experience:* Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. For the WOC market, the vendor's global installation and support capabilities are key component of customer experience. This can also include product ease-of-use and operation, ancillary tools, customer-support programs (and the quality thereof), availability of user groups and service-level agreements.

The following evaluation criteria have not been used:

*Market Responsiveness and Track Record is evaluated under Marketing Execution and Marketing Strategy.*

*Operations is covered under Overall Viability.*

### Completeness of Vision

Gartner analysts evaluate technology providers on their ability to convincingly articulate logical statements about current and future market direction, innovation, customer needs and competitive forces, and how well they map onto the Gartner position. Ultimately, technology providers are rated on their understanding of how market forces can be exploited to create opportunity for the provider.

*Market Understanding:* Ability of the technology provider to understand buyers' needs and translate these needs into products and services. Vendors that show the highest degree of vision listen and understand buyers' wants and needs, and can shape or enhance those wants with their added vision. For the WOC market, we expect to see a consistent track record of feature enhancements, together with a sound product road-map, as demonstration of market understanding.

*Marketing Strategy:* A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the Web site, advertising, customer programs and positioning statements.

**Table 1. Ability to Execute Evaluation Criteria**

Evaluation Criteria	Weighting
Product/Service	standard
Overall Viability (Business Unit, Financial, Strategy, Organization)	high
Sales Execution/Pricing	high
Market Responsiveness and Track Record	no rating
Marketing Execution	standard
Customer Experience	high
Operations	no rating

Source: Gartner

**Sales Strategy:** The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service and communication affiliates that extends the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

**Business Model:** The soundness and logic of a technology provider’s underlying business proposition.

**Innovation:** Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes. WOC vendors with a track record for early introduction of new features and capabilities will be highly rated. As well as feature innovation in the four broad categories defined in the inclusion criteria, we expect to see innovation in the scope of product availability (for instance, breadth of product range including datacenter, branch and remote access products), in high availability options, and in manageability and maintainability.

**Geographic Strategy:** The technology provider’s strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries, as appropriate for that geography and market. For the WOC market, we expect to see a sales and support strategy that recognizes the global nature of many user organizations’ WOC needs.

The following evaluation criteria have not been used:

*Offering (Product) Strategy* is covered under Market Understanding and Innovation.

*Vertical/Industry Strategy* is not relevant because WOC equipment is being adopted across a broad range of industries, and is a generic technology that is not industry-specific.

## Leaders

Leaders exhibit an ability to shape the market by introducing additional capabilities in their product offering and by raising awareness of the importance of these features. We expect a Leader to be growing market share, or the market as a whole, and to have solutions that resonate with an increasing number of enterprises. Leaders in the WOC market need to have a broad feature set, including QOS, generic compression, protocol acceleration and file system

acceleration, with the majority of features proven in substantial real-world implementations. They also need to be able to offer sales and support on a global basis.

## Challengers

A Challenger in this market will be a follower from a product or innovation perspective, but will have demonstrated the ability to take its products into the market and then show the relevance of those products to a wide audience. Challengers may have less-complete feature sets than Leaders or they may have new products that are as yet unproven in substantial real-world implementations.

## Visionaries

Visionaries need to address the whole market and must exhibiting strong market understanding and innovation. They can be illustrative of the future of the market. However, they currently lack the ability to influence a large portion of the market, have yet to expand their sales and support capabilities globally, may have new products that are as yet unproven in substantial real-world implementations, or do not yet have the funding to execute with the same capabilities as a vendor in the Leaders quadrant.

## Niche Players

Niche Players provide a more limited set of capabilities, and have not demonstrated enough vision or focused execution to warrant a stronger position in our analysis. They may be indicative of

**Table 2. Completeness of Vision Evaluation Criteria**

Evaluation Criteria	Weighting
Market Understanding	high
Marketing Strategy	standard
Sales Strategy	standard
Offering (Product) Strategy	no rating
Business Model	standard
Vertical/Industry Strategy	no rating
Innovation	high
Geographic Strategy	standard

Source: Gartner

emerging requirements and features. Niche Players have yet to expand their sales and support capabilities globally, may have new products that are as yet unproven in substantial real-world implementations, or do not have the funding to execute with the same capabilities as a vendor in the Leaders quadrant.

## Vendor Comments

### Blue Coat Systems

Blue Coat Systems has extended its security and content-delivery-based vision to encompass the concept of the BOB. Its Mach5 software suite for its existing SG appliances combines WAN optimization, QOS and bandwidth management, TCP optimization, CIFS, Messaging Application Programming Interface (MAPI), and HTTP(S) acceleration with enterprise content distribution and streaming media playback. Additional capabilities include traditional Web caching, along with delta-based caching and compression, and comprehensive security features. While the WAN optimization features are new and have seen very limited deployment, the base SG system has a reputation for scalability (often running into hundreds of locations) and Blue Coat's support organizations receives positive marks from customers.

Blue Coat already has a substantial installed base of SG appliances, as well as an application networking and security aligned channel partner network, which includes several large global systems integrators (SIs). To further expand its reach in large organizations, the company completed the acquisition of NetApps' NetCache business in September 2006. It also acquired Permeo to gain client technology, which we expect to be expanded into a Mach5-compatible soft WOC.

Blue Coat has priced its entry-level, disk-based CIFS-capable model very aggressively – starting at a list price of just over \$2,500 – and has committed significant resources to make Mach5 successful. While we expect the company to continue to enhance Mach5 and to deliver the soft WOC, its current offering looks strong.

Consider Blue Coat if your branch office needs to include ECDN and media playback, HTTP(S) acceleration or comprehensive security in addition to WAN optimization.

### Certeon

Certeon was founded in 2003 and launched its S-Series acceleration products in February 2006. The company recently received its second-round funding, which it intends to use to expand its sales and marketing capabilities. Its few early customers have been focused around relatively small Microsoft SharePoint applications. So far, Certeon only has a small number of channel partners, primarily in the U.S., but it has recently begun to sign up European partners. Technical assistance is provided 24/7 from locations in the U.S. and Europe. The product range starts at a list price of \$6,000 for an 80GB disk-based model, and scales to 2TB/155 Mbps.

All Certeon products support HTTP(S) acceleration and encrypted disks. The S-Series offers basic generic compression, TCP packet aggregation, reasonable QOS capabilities and good HTTP(S) acceleration, plus Microsoft (Office, SharePoint and CRM) and Oracle E-Business Suite acceleration. However, the Certeon product currently lacks CIFS or MAPI optimization. CIFS support is planned for 4Q06. Traffic between sites is carried in encrypted IPsec tunnels.

Consider Certeon in SharePoint applications where generic HTTP(S) acceleration is needed, or where disk and WAN encryption are important.

### Cisco Systems

Cisco Systems formally released its Wide Area Application Services (WAAS) software in early September 2006, having previously been in customer trials for a number of months. WAAS supersedes and extends the narrow focus of Cisco's previous wide-area file services (WAFS) (CIFS and Network File System [NFS] acceleration) product, adding generic compression, TCP flow optimization and a policy engine to dynamically select the proper optimization policy – currently supporting MAPI and MS-SQL. WAAS uses Cisco's delta-based caching and compression (Data Redundancy Elimination), which is claimed to exceed 300-Mbps throughput, scaling to 16-Gbps in a load-balanced deployment. WAAS preserves IP and TCP headers, minimizing the impact on exiting QOS, security and traffic-monitoring schemes.

Cisco, citing client feedback, has chosen to maintain QOS, traffic classification and other Internetwork Operating System (IOS)-based network services

within its core router platform. We believe that this has led to a somewhat confusing array of products – QOS, traffic classification and queuing in Cisco’s IOS-based routers; good ECDN in Application and Content Networking System Content (ACNS); and service-level monitoring and management in Cisco’s capable Network Analysis Module (NAM) and Performance Visibility Manager (PVM). The promise of WOC integration with Cisco’s secure Integrated Services Routers (ISRs) has yet to be fulfilled: the new WAAS-capable router module (NM-WAE) will not be available until 4Q06.

Cisco has the best overall distribution and support capabilities in the industry, but these are only slowly acquiring the application-level skills needed to implement WAN optimization. Cisco claims that more than 50 partners, including several of Cisco’s Global Systems Integrators and data center partners have been fully trained on WAAS prior to its formal release. So far, the features and stability of WAAS have only been tested in small-scale, real-world implementations.

Consider Cisco if WAN optimization is required where complex QOS, security and monitoring schemes are already in place.

### **Citrix Systems**

Citrix Systems completed the acquisition of WOC vendor Orbital Data in August 2006, and swiftly followed up by announcing a development and marketing partnership with Microsoft. This is aimed at creating a new Citrix BOB based on Microsoft Windows Server and the Citrix WANScaler (ex-Orbital Data) appliance. Microsoft’s WAN optimization relationships will not be exclusive to Citrix. The Citrix-branded BOB will be based on Windows Server 2003 R2. We expect that a new version of the WANScaler platform will be needed, and while the product is slated to ship in 2H07, we believe this is a very aggressive schedule, and that early 2008 is more likely.

The future WANScaler appliance promises to provide WAN optimization, content distribution, security and branch office services, and is complementary to Citrix’s existing products, particularly NetScaler (ADC) and EdgeSight (application performance monitoring). The current WANScaler product offers delta-based caching and compression, and very good TCP protocol optimization, but it offers only basic QOS and bandwidth management. It provides

CIFS, FTP and NFS acceleration, but lacks MAPI and HTTP(S) acceleration. The recently introduced 8500 and 8800 models feature up to 800GB of redundant disk space, while other models offer up to 12GB of RAM.

Citrix lacks a low-cost model for small branches, but recently introduced a soft client for single remote WANScaler users – Citrix claims that each WANScaler is capable of supporting 1,000 users. However, the soft client and the WANScaler platform itself are currently unproven beyond very small deployments. Citrix intends to make the WANScaler available through its existing application-savvy NetScaler channel partners, and the success with which Citrix integrated NetScaler into its organization bodes well for the integration of Orbital Data.

Consider Citrix WANScaler if you already have a substantial investment in other Citrix products, and if you do not need MAPI, HTTP(S) or support for large deployment in the short term.

### **Converged Access**

Converged Access’s Converged Traffic Manager (CTM) platform offers generic compression and disk-based Web caching. It offers good QOS, bandwidth management and rate shaping, with a particular focus on voice over IP (VoIP) and interactive application service-level management. A number of techniques are used to achieve target mean opinion scores (MOSs) for VoIP. The CTM range starts at under \$2,500 and scales to 100 Mbps with compression. For midsize enterprises, the vendor’s aggressively priced CAP product (listed at \$850, without a disk) combines WAN acceleration with security, VoIP services and routing functions.

While the CTM range does have both RAM and disk memory, there is currently no CIFS or MAPI acceleration. Privately held Converged Access has over 100 channel partners, including Siemens Communications. Support outside the U.S. is through channel partners and Siemens.

Consider Converged Access where VoIP optimization and service-level management are key requirements, particularly where there are a large number of small sites.

### **Exinda Networks**

Australian vendor Exinda focuses on QOS and traffic visibility, with TCP acceleration. The x700 range

starts at under \$1,000 but offers only limited compression, while the x800 range (starting at a list price of \$5,800) features WAN memory compression at up to 20 Mbps. A new disk-based range supporting CIFS acceleration is expected in late 2006. QOS and traffic monitoring capabilities are good, and the optional transparent mode makes only small changes to the TCP header, leaving the IP header intact.

Although privately held Exinda has a relatively small installed base, primarily in Australia and Asia, growth in the last year has been strong, and the vendor has begun to expand outside these markets. Exinda now has sales staff in Europe and the U.S., and recently extended its global help-desk to provide 24/7 coverage.

Consider Exinda where QOS and traffic management are key requirements, and where a large number of small sites require a low-priced appliance.

### **Expand Networks**

Privately owned Expand Networks has built a substantial customer base (second only to Packeteer) since launching its first product in 1999. While it has a substantial number of sales and support partners (including EDS), it has not managed to grow its North American business as fast as other leading vendors, although its customers include some of the largest (non-CIFS) WOC networks currently in operation. Expand offers 24/7 technical assistance from five global locations and next-day advanced replacement, but it relies on local partners for first-line, on-site support. The Expand Compass range starts at under \$2,000, and under \$2,500 for disk-based WAFS (CIFS acceleration) models, and scales to a 2TB data-centre model, though only supports 45-Mbps WAN speed with all features enabled. The separate System 10000 (which does not support CIFS acceleration) scales to over 200-Mbps WAN speed. QOS is very good, with over 350 applications being automatically discovered and identified. Compass platforms also include comprehensive TCP, FTP and HTTP acceleration, along with Citrix- and VoIP-specific optimizations. The optional transparent mode supports complete optimization functionality, but leaves IP and TCP/User Datagram Protocol (UDP) headers intact, minimizing the impact on existing QOS and security schemes.

Expand's WAFS implementation originally came from an OEM agreement with DiskSites, which Expand acquired in June 2006. The Expand approach is to become a virtual server, joining the Microsoft domain, which allows support of server message block (SMB) signing. Compass also provides print, DHCP and DNS services, supporting server-less branches, but lacks specific MAPI protocol acceleration.

Consider Expand where a broad feature set or server-less branches are key requirements.

### **F5 Networks**

F5 Networks has begun to exploit the application networking skills of its established channel partners following the acquisition of Swan Labs in October 2005. F5 offers a broad suite of application acceleration products (BIG-IP, Web Accelerator and WANJet) and broad global support, including 24/7 technical assistance backed by a four-hour advanced replacement for selected locations. WANJet offers transparent data reduction (delta-based caching and compression) rated at up to 400 Mbps; capable QOS and bandwidth management; generic protocol optimization for all TCP and some UDP traffic; and Microsoft CIFS acceleration. Secure Sockets Layer (SSL) encryption can also be enabled for site-to-site security. The range starts at a list price of under \$2,000 for a 64-Kbps unit (with no disk, but including RAM-based CIFS acceleration), with the largest model having only 4G of RAM. Disk-based delta caching is scheduled to be available in 1Q07. And, while F5's application delivery controller (ADC) product, Web Accelerator, supports HTTP(S) acceleration, this feature is not currently available on WANJet. WANJet collects network utilization statistics that can be exported in NetFlow and RMON2 formats. We expect to see MAPI, HTTP(S) and storage-specific accelerations incorporated into WANJet. And we also expect F5 to exploit its FirePass SSL virtual private network (VPN) client technology in the future to create a soft WOC client.

F5 is gradually porting its entire application acceleration portfolio to its TMOS software platform – the Web Accelerator port is complete and F5 intends to port the WANJet software next. This will give the vendor a significant advantage in integrating and distributing functions between its WOC and ADC products. We expect F5 to eventually merge its WOC and ADC products in the data centre.

Consider F5 particularly where you need to accelerate both branch office and remote Web traffic.

### **Intelligent Compression Technologies**

Intelligent Compression Technologies (ICT) focuses on the emerging need to provide soft WOC acceleration for mobile and wireless users, and for very small sites. The privately held vendor's basic AcceleNet server and client software have been proven in large consumer Internet applications, including MSN. AcceleNet 3.0 Enterprise, which launched in March 2006, adds CIFS and other file-sharing acceleration to the HTTP(S) Web browsing and MAPI mail acceleration in the basic product. We expect ICT to introduce further application-specific acceleration capabilities soon. The company also offers an optimized transport for wireless networks and automatically disables itself when it senses a low-latency network (LAN connection). QOS is currently lacking, but is planned for 2007. The Enterprise product is aimed at remote users and small offices, and currently lists at \$175 per user.

At the moment, ICT has a small number of distribution partners, primarily in the U.S., but we expect the vendor to pursue OEM relationships as well. The enterprise market is currently the smallest of ICT's target markets, the others being ISPs and mobile/satellite providers. Telephone support is currently delivered from the United States.

Consider AcceleNet 3.0 where Web, mail and file acceleration are needed for remote/mobile users, or for many very small sites.

### **Ipanema Technologies**

Ipanema Technologies, which is privately held and headquartered in France, focuses on QOS, bandwidth management and traffic monitoring, with compression and TCP optimization capabilities but without generic protocol or CIFS optimization. The vendor's products are well-suited to meshed networks, particularly those based on MPLS and large networks, for which it provides objective-driven WAN optimization that adapts dynamically to network conditions.

Ipanema's products are used by BT Global Services, Orange Business Services and Vanco to provide WAN optimization services. In addition to telcos and managed service providers, Ipanema also has a growing network of enterprise channel partners,

which have so far mostly sold to European enterprise customers. Global 24/7 support is offered through NCR, including an eight hour on-site service.

Ipanema is well funded and has grown substantially in the last 18 months (albeit from a small base). However, with its strategic focus on QOS and control rather than acceleration, and without disk-based compression, CIFS, MAPI or even specific HTTP(S) acceleration, Ipanema should be considered where application traffic management is needed, but not if acceleration and protocol optimization is the main focus.

### **Juniper Networks**

Juniper Networks has now recovered from some sales and technical difficulties in the WOC market following its acquisition of WOC vendor Peribit in July 2005. It has made good progress, introducing the WX and WXC products into its enterprise and service provider distribution and support channels. More than 160 "J-Partners" were authorized to sell and support the WX/WXC platforms by August 2006.

Juniper provides 24/7 technical assistance and on-site support from its 12 global Technical Assistance Centers. The WX range starts at a list price of just under \$2,000 (with 256MB of compression memory), while the disk-based WXC range starts at under \$6,000. For large data centers, a WXC500 stack can support Optical Carrier Rate 3 (OC-3) WAN links with up to 3TB of disk space. The broad feature set includes capable QOS, memory and disk-based delta caching and compression; TCP and HTTP acceleration; CIFS and MAPI optimization; and centralized management. The WXC platforms also support disk-based delta caching and compression, and, while not offering full ECDN capabilities, they also offer file pre-positioning capabilities. Both the WX and WXC platforms can export traffic-flow data via Simple Network Management Protocol (SNMP) and NetFlow.

In May 2006, Juniper set out its application acceleration strategy, which includes future acceleration of encrypted SSL traffic and a planned soft acceleration client for mobile users (where we expect Juniper to leverage its existing SSL VPN technology), higher WAN speeds and evolution of its WOC management system.

Consider Juniper when you need a broad feature set and global support.

## Packeteer

Packeteer, with its PacketShaper product, has the largest installed base and market share of any vendor featured in this Magic Quadrant.

PacketShaper's traffic management features are excellent and include extensive rate control capabilities as well as application-level classification, prioritization and bandwidth allocation on a per-user basis. Protocol optimization features are good, and multiple (RAM-based) compression methods are supported.

The PacketShaper range starts at a list price of \$1,500 (\$2,000 with compression and acceleration), scaling to 155-Mbps compression throughput. However, PacketShaper lacks disk-based, delta-caching compression and CIFS and MAPI acceleration. The company has been slow to respond to changing market needs, particularly CIFS and MAPI acceleration.

Following its acquisition of WAFS vendor Tacit in May 2006, Packeteer now offers the separate disk-based iShared range, starting at \$4,600 and scaling to a data centre model capable of supporting 150 remote devices. The Windows 2003-based iShared range offers basic TCP acceleration, along with disk-based delta caching and protocol acceleration for HTTP, CIFS and MAPI, but lacks PacketShaper's QOS and rate-control features. iShared offers WAFS support for Microsoft and Unix environments, along with optional print and domain controller services. In July 2006, Packeteer launched iShared Mobiliti 6.0, adding file and mail acceleration for mobile users. Packeteer's iShared range is yet to be proven in substantial deployments.

Packeteer expects to release a new platform offering most PacketShaper and all iShared features in 1Q07, but it has yet to demonstrate that it has the ability to integrate technology from acquisitions quickly. Packeteer products are supported through a substantial global network of over 800 channel partners worldwide. It offers 24/7 worldwide technical assistance, next-day advanced replacement and on-site support through its channel partners.

Consider PacketShaper where bandwidth management and reporting are key requirements, and consider iShared for HTTP, file and mail acceleration. While the capabilities of these two product ranges are very complementary, deployment and operation is likely to be more complex than with a single product.

## Riverbed Technology

Riverbed Technology continues to support its sound vision with strong execution. Since launching in 2004, the company has built a distribution channel including value-added resellers and global integrators like EDS, Equant, Fujitsu and T-Systems. It has also established OEM relationships with McData and NEC. Riverbed's original OEM relationship with Hewlett-Packard (HP) recently ended, and now HP's Services Group re-sells the Riverbed-branded appliances – this transition did cause some support concerns among potential purchasers.

Riverbed offers 24/7 technical assistance, along with next-day advance replacement, or four-hour on-site support, from its six support centers in the U.S., Europe and Asia. The Riverbed Steelhead appliance features very strong disk- and memory-based delta caching and compression for all TCP traffic, featuring a pre-population mechanism for files and Microsoft Exchange. Along with generic TCP and Microsoft CIFS acceleration, Riverbed's TCP proxy supports specific optimizations for MAPI, NFS and MS-SQL. The most recent software release (RiOS 3.0) adds comprehensive QOS marking and enforcement features, which were previously missing from Steelhead's features. RiOS 3.0 also includes enhanced management and reporting, along with export of traffic-flow data to NetFlow. New models that were recently introduced extended the range to smaller branches (starting at a list price of \$3,495), while for large data centre applications, a 4-Gbps cluster able to support 1 million concurrent TCP connections is now available.

Currently privately owned, Riverbed recently announced that it had filed with the U.S. Securities and Exchange Commission for an initial public offering of its shares.

Riverbed should be on your shortlist if accelerating HTTP, e-mail, client/server and file traffic are key requirements. It is particularly strong for situations where centralized files are accessed, with remote users making incremental changes.

Note that Riverbed completed its IPO on 21 September 2006, after the completion of our analysis for this report.

## Silver Peak Systems

Silver Peak Systems launched its NX family of appliances in late 2005. All models offer hardware encryption for disks and WANs. The range lacks an entry-level model for small branches – the starting

list price for the NX-2500, a 250GB/2-Mbps unit, is \$9,995. This scales to a 2TB/155-Mbps datacenter model, with a higher capacity model expected soon. As a recent startup, Silver Peak has a relatively small installed base biased toward U.S. customers, although it has deployed units in 16 countries. The company is still building its distribution channel and support capabilities. Telephone support is available 24/7, along with worldwide next-day advanced replacement, but on-site support is limited to North America and Europe, the Middle East and Africa (EMEA). Sales expansion to Asia is planned for 2007.

Privately held Silver Peak is well funded, and has so far executed well on its marketing plan. The NX range offers Network Memory (disk-based delta caching and compression) for all protocols, capable QOS and traffic shaping, packet loss mitigation, and specific protocol optimization for TCP and CIFS. Resilience capabilities are good, including RAID disks on all models except the NX-2500 and N+1 redundancy. Export of NetFlow traffic statistics is expected to be available shortly. Silver Peak's NX products have primarily been deployed in Digital Signal Level 3 (DS-3) and OC-3 data centre replication and backup environments, but the range has yet to be proven in networks with large numbers of sites.

Consider Silver Peak where security (encrypted disks), scalability and a broad feature set are key requirements.

### Stampede Technologies

Stampede Technologies' Application Acceleration and Web 2.0 Performance Series products, which consist of a data-centre appliance and client software (including new technology that does not require client-side software installation), are aimed at both remote/mobile users and remote sites.

Privately owned Stampede sells both direct and through a small network of value-added resellers (VARs), with a relatively small installed base consisting primarily of U.S. retail organizations, although users are located globally. The appliance starts at a list price of \$40,000, and user licenses at \$35. The Application Acceleration Series offers HTTP(S) GZIP compression and cache differencing, multiplexing of large data objects, SSL client-side termination, basic QOS and TCP protocol optimization. The Web 2.0 Performance Series adds specific SOAP, XML and HTML compression to optimize emerging HTTP/Ajax applications. Support (not 24/7) is delivered from the U.S. or through channel partners.

Consider Stampede where the primary need is to accelerate Web 2.0/Ajax applications, particularly where there are large numbers of mobile/remote users or small sites.

### Streamcore Systems

Privately owned French vendor Streamcore System is focused on QOS and traffic shaping. It also offers automatic acceleration of interactive traffic, along with link-level compression, but lacks memory- or disk-based delta-caching compression. The company's focus on managed services provided by VARs or service providers has led to a narrow feature set, with good traffic grooming, session-based QOS and bandwidth management. But it lacks generic or application-specific protocol optimization, or file system acceleration, such as CIFS.

For a product without disks and CIFS support, the entry-level pricing is high, at a list price of \$2,500. Traffic monitoring and reporting capabilities are good, and a progressive deployment is possible: QOS and traffic grooming capabilities can be implemented using appliances at central sites and data centers only, with appliances being added to remote sites where link-level compression is also needed. Streamcore's installed base is small, and primarily in Europe, although the vendor does offer sales and support in the U.S. as well.

Consider Streamcore where traffic management and visibility are required, but not if advanced delta-caching compression or protocol optimization are needed.

#### Acronym Key and Glossary Terms

<b>ADC</b>	application delivery controller
<b>BOB</b>	branch office box
<b>CIFS</b>	Common Internet File System
<b>CTM</b>	Converged Traffic Manager
<b>DHCP</b>	Dynamic Host Configuration Protocol
<b>DNS</b>	Domain Name System
<b>DS-3</b>	Digital Signal Level 3
<b>ECDN</b>	enterprise content delivery network
<b>MAPI</b>	Messaging Application Programming Interface
<b>MOS</b>	mean opinion score
<b>NFS</b>	Network File System
<b>OC-3</b>	Optical Carrier Rate 3
<b>QOS</b>	quality of service
<b>SMB</b>	server message block
<b>SSL</b>	Secure Sockets Layer
<b>VAR</b>	value-added reseller
<b>VoIP</b>	voice over IP
<b>VPN</b>	virtual private network
<b>WAFS</b>	wide-area file services
<b>WOC</b>	WAN optimization controller

## Evaluation Criteria Definitions

### Ability to Execute

**Product/Service:** Core goods and services offered by the vendor that compete in/serve the defined market. This includes current product/service capabilities, quality, feature sets and skills, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

**Overall Viability (Business Unit, Financial, Strategy, Organization):** Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood of the individual business unit to continue investing in the product, to continue offering the product and to advance the state of the art within the organization's portfolio of products.

**Sales Execution/Pricing:** The vendor's capabilities in all pre-sales activities and the structure that supports them. This includes deal management, pricing and negotiation, pre-sales support and the overall effectiveness of the sales channel.

**Market Responsiveness and Track Record:** Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

**Marketing Execution:** The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message in order to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional, thought leadership, word-of-mouth and sales activities.

**Customer Experience:** Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups and service-level agreements.

**Operations:** The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

### Completeness of Vision

**Market Understanding:** Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen and understand buyers' wants and needs, and can shape or enhance those with their added vision.

**Marketing Strategy:** A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the Web site, advertising, customer programs and positioning statements.

**Sales Strategy:** The strategy for selling product that uses the appropriate network of direct and indirect sales, marketing, service and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

**Offering (Product) Strategy:** The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature set as they map to current and future requirements.

**Business Model:** The soundness and logic of the vendor's underlying business proposition.

**Vertical/Industry Strategy:** The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including verticals.

**Innovation:** Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

**Geographic Strategy:** The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.