

## Magic Quadrant for Wireless LAN Infrastructure, 2007

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Wireless LAN technologies have earned a place in enterprise IT; no longer relegated to conference rooms and warehouses, deployments now cover entire campuses. Vendors have developed their products to answer the stringent technology, management and security requirements of the enterprise.

## WHAT YOU NEED TO KNOW

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All the vendors profiled in this report can provide the basic wireless LAN (WLAN) connectivity and Wi-Fi Protected Access 2 (WPA2) standard based security required by most enterprises. Differences in WLAN architecture, enhanced security and management features separate the offerings. This technical differentiation generally matters when reaching cell capacity or in large installations.

As the number of deployed access points (APs) in an enterprise grows, expectations of longevity (four years) and management requirements of the equipment have risen dramatically; therefore, companies supplying WLAN architecture must address these concerns.

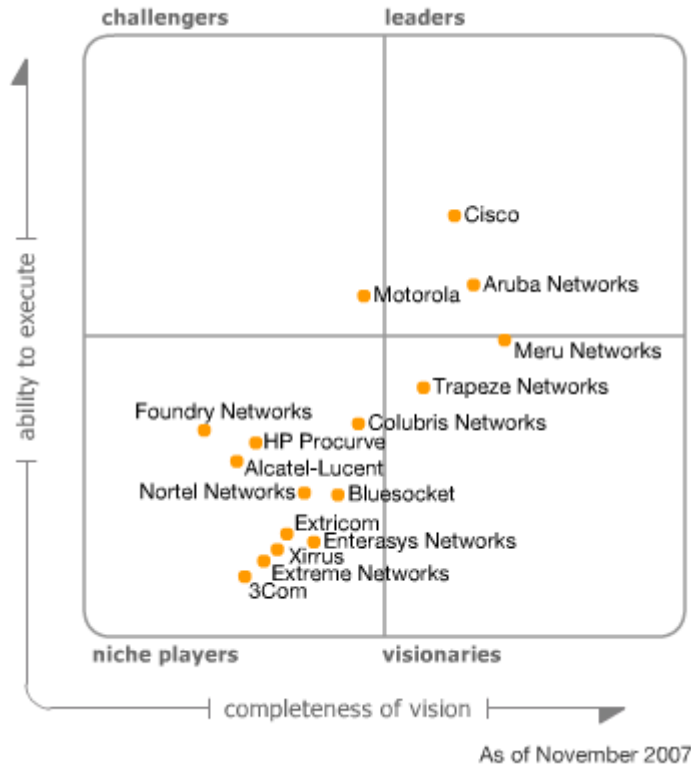
Although overlay vendors continue to innovate more rapidly on the technology front, the traditional infrastructure vendors are marketing increasingly compelling arguments for combined management of wired and wireless networks, though few have executed on this vision

Several smaller vendors have focused on vertical markets and built up a significant war chest of customers, partners and end-to-end solutions. However, this narrow focus may not equate to horizontal market success in the long run, so enterprises should expect vertical solutions and the ability to meet broader, horizontal networking requirements.

Leaders and Challengers in this Magic Quadrant (see Figure 1) will pose the least risk for client investment, but may not always provide the most leading-edge or current technology. Visionaries could provide this capability, but may present a greater risk. Niche vendors will typically appeal to vertical users, their client base, to low-price buyers or to those looking for a specific set of features.

## MAGIC QUADRANT

Figure 1. Magic Quadrant for Wireless LAN Infrastructure, 2007



Source: Gartner (December 2007)

## Market Overview

The market for wireless LAN (WLAN) infrastructure continues to grow at a dramatic pace, as consumer and enterprise investments in the technology are further enabled by the increasing functionality imbedded into the platforms. Almost all vendors identified in this document seem to be growing. This growth is driven by the increasing size of the deployments enterprises are undertaking (10K plus AP installations are no longer a rarity), and the requirements that many of the distributed vertical industries (for example, retail, insurance and manufacturing) for connecting increasing numbers of employees and devices (voice and data) with WLAN. The most active markets are warehousing and distribution, retail, healthcare and education.

However the formerly piecemeal approach that most enterprises have taken in the deployment of WLAN infrastructure provides the most serious impediment to a consolidated management and control platform. As a result, the control platforms from the combined wireless and wireline infrastructure vendors, except for HP and the resellers with wireline switching infrastructure, have collapsed management and control functionality into a single platform. Overlay implementations that result in dual management consoles (one for wired and one for wireless) remain popular, because they offer cutting-edge technology when integrated wired/wireless is not a priority.

All the rated vendors can provide the connectivity and standards-based security that most "vanilla" installations require. However, the buying decisions that enterprises make are increasing based on additional requirements for security, management, voice capabilities, and integration with management, or security appliances. Within the vertical markets, solutions involving particular applications (notably voice) and/or direct answers to specific issues — for example personal computer interface (PCI) — have netted wins for a number of vendors able to clearly articulate advantages.

802.11n (see "Key Challenges Arise for 802.11n Deployments") has the potential to change the market significantly; its increased bandwidth and range enable single network deployments for voice and data services; however, many of these advantages will take time to get to market, and prices for APs will continue to be high until real volumes of chipsets and APs are reached (late 2008/early 2009). Furthermore, the challenges of delivering power and backhaul to an improved wireless edge will slow uptake to the most technically aggressive for two to three years.

The market is populated with OEM vendors and resellers of technology. Although both are able to provide and support the technologies, those that resell have less ability to influence future product directions, management and security functions and integration points with voice and application products.

## **Market Definition/Description**

The enterprise WLAN Infrastructure market contains a host of vendors that provide 802.11 a/b/g/n compatible WLAN APs and controllers. Management and security administration software will also accompany the hardware, to assist with deployment, administration and establishment of security functionality.

### **Access Points**

Most vendor APs have one to three radios, though some specialized offerings support as many as 16. APs must support 802.3af POE standards, and must enable a variety of mounting options. APs that support the newly Wi-Fi-certified 802.11n Draft 2.0 must include power management schemes that deliver dual POE links or power regulation technology that caps peak power consumption by limiting throughput. Vendors all have plans to support the yet-to-be-ratified 802.3at POE standard and vendor upgrade promises should only be taken with money-back guarantees.

Although the physical size and appearance of the APs rarely factors into the purchase decisions, the capabilities for indoor and outdoor mounting and resistance to elements has increasingly come up during the evaluation process. The best-of-breed vendors offer multiple configurations, with varying number of radios to support a/b/g/n, as well as sensor networks for Rogue AP and RF interference deduction. Increasingly vendors are announcing Wi-Fi Certified 802.11n Draft 2.0 APs or the option of upgrading to a Draft 2.0 radio, we expect these. We expect 802.11n radios to add 70% to the total cost of the AP. As more of these APs are sold and silicon prices fall, or a secondary silicon provider is established, we expect to see prices fall relatively rapidly. A price drop to the level of today's 802.11 a/b/g APs will not occur before two years. At the same time, vendors will equip mainstream APs with more radios to provide more channels and integrated sensing, keeping prices high. Lastly, with a number of the vendors' .n APs, users will be required to use a secondary power supply or an 802.11at POE Plus power supply.

### **Controllers**

Most of the vendors profiled in this report enable roaming, authorization/authentication and quality of service (QoS) through a centralized controller, coordinating the action of the connected APs. These controllers are often centrally located in a single location or campus, and connected to the

AP's via the Ethernet ports. However, in highly distributed environments, the architectures vary depending on the enterprise's requirements for data security, voice and the cost of the landline backhaul. Increasingly, we are seeing tiered networks, with a single master controller connecting to a number of subcontrollers at the branch offices (or retail locations). The subcontrollers will strip off voice and Internet traffic, and send the control, authorization requisite and any application data back through the master controller at headquarters. This will be the ideal architecture for high distributed environments. Controls must support a number of differing network types within the same box, including this directly connected tiered environment. The best of breed will also simultaneously support mesh environments and traditional AP connections. The vendors are in a pitched battle regarding where control, management and data planes should reside. The more centralized these functions are, the more the vendor will claim increased management of security. The more distributed these functions become, the less the load is on network backhaul links.

Two basic controller architectural choices remain, which Gartner calls third and fourth generation. Both are viable. The fourth generation is not necessarily advantageous. Third-generation systems rely on the client making the decision on when to access the network, while in fourth-generation systems, the controller or AP makes the decision. In fourth-generation systems, it can be easier to mitigate interference when patching coverage holes, because client access is managed to avoid simultaneous transmissions by nearby stations, regardless of which cell they occupy. However, third-generation systems have created adaptive technology that deals with this issue by changing cell characteristics. Most buyers will infrequently encounter the need for these techniques to come into play because most cells never reach capacity. For the record, only two vendors support fourth-generation technology: Meru Networks and Extricom.

## **Software**

As investment in WLAN architecture continues to rise, IT departments are increasingly concerned about the costs of ongoing support and management of these networks. The vendors have responded by further enhancing the management capabilities, while making the management applications more intuitive. Besides being able to administer the security, QOS, and connectivity functions of the APs, the best-of-breed applications will also enable some or all the following functions:

- Predeployment assistance, with the ability to input blueprints with reflective values for building materials
- Automatic distribution of software to APs for security updates or firmware patches
- Visualization of coverage, with heat maps showing density of coverage and/or users
- Guest access administration, with preset automated processes for routing of guests
- HTML-based, enabling customization of the management views and remote capabilities

The following lists the reseller and OEM relationships:

- 3Com — Trapeze Networks
- Alcatel-Lucent — Aruba Networks
- Enterasys Networks — Trapeze Networks
- Extreme Networks — Siemens
- Foundry Networks — Meru Networks
- HP Procurve — Motorola

- Nortel Networks — Trapeze Networks (though not for .n products)

Gartner examined Airohive during the past year; although it did not fit all the inclusion criteria, it was still quite interesting for enterprise users. Airohive provides a controllerless infrastructure that supports an innovative method of AP coordination and is supported by controller software that is JAVA-based, enabling significant flexibility for the supported networks.

## Inclusion and Exclusion Criteria

This WLAN infrastructure Magic Quadrant does not include all WLAN infrastructure vendors. Vendor inclusion criteria are as follows:

Access point-based WLAN infrastructure is combined with a centralized management coordination function. This is accomplished, in most cases, by the vendor's AP, along with a WLAN switch/controller for managing WLAN infrastructure centrally. Some controllers provide capabilities for control of dissimilar APs. Some providers enable control with controllers embedded in the AP.

Installed base: Vendors should have sold WLAN equipment for at least one full year prior to publication of the WLAN Magic Quadrant, and have sufficient installed based, sales channels, partnerships and reference customers to appeal to Global 2000 IT departments

End-user interest and awareness: Enough interest from end users through inquiries placed by Gartner customers, appearances on shortlists, and industry acknowledgement of market position

Focus and commitment toward the enterprise WLAN market: Including a track record of selling in to large enterprise clients, appropriate marketing and partnerships, and a support organization capable of servicing global enterprise requirements

Vendors participating in the Magic Quadrant must be able to meet the minimum requirements for security as mandated by the Wi-Fi Alliance, including those set forth in the WPA2 standard for authentication and encryption. Additional security, including Extensible Authentication Protocol (EAP) support, is preferred by a majority of end users. Additional security capabilities include built-in Layer 2 or 3 firewall support and native virtual private network (VPN) capabilities

Guest networking must be supported by the controllers; best-of-breed products will enable a wide range of access types based on guest identity (guest, contractor, visiting employee)

Support for rogue AP detection, through a separate dedicated sensor network or built into the APs, using the WLAN radios or dedicated radios

The majority of the vendors evaluated on this Magic Quadrant have stated a clear direction toward 802.11n, the next generation of radio technology that will become the de facto standard within the next three years. Vendors without a clear 802.11n plan have received lower vision scores.

In this Magic Quadrant, we include the vendors that provide third- and fourth-generation WLAN systems (though some sell both second- and third-generation offerings); second-generation systems and stand-alone APs are not covered in this report.

### Added

Because there are many WLAN startup vendors, one of the criteria for inclusion is that the vendor should have sold products for at least one full year prior to publication. The vendor also must be able to show a track record of growth, stretching back at least three quarters and have sufficient channel relationships and a pipeline to support continued growth for the next 12 months.

## Dropped

This year, we have dropped coverage of Siemens, primarily because of a shift in strategy by Siemens to focus on the midmarket and not larger enterprise users. The company's Hi-path WLAN offering is still valid in all technical qualifications and features top-tier partnerships for vertical market solutions and voice connectivity. Siemens has positioned the products, along with the sales and marketing efforts, to take advantage of opportunities in the midsize business market. A modified version of their offering is available through Extreme Networks.

## Evaluation Criteria

### Ability to Execute

The criteria used to assess vendors in this Magic Quadrant are described in detail below. We have adjusted slightly the weighting and evaluation criteria from last year, to better reflect the buying requirements that enterprises are facing, including increased focus on applications and management capabilities.

Gartner evaluates 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 affect 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, skills and so on, 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): 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.

*Marketing Responsiveness and Track Record:* 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. 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.

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

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

<b>Evaluation Criteria</b>	<b>Weighting</b>
Marketing Execution	standard
Customer Experience	high
Operations	high

Source: Gartner (December 2007)

## **Completeness of Vision**

Gartner evaluates 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.

*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 a 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:* A technology provider's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature set as they map to current and future requirements.

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

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

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

Source: Gartner (December 2007)

## **Leaders**

A Leader will have demonstrated an ability to fulfill a broad variety of customer requirements, provide an end-to-end infrastructure-based solution and have financial viability to continue that support beyond the single installation. Leaders should have demonstrated an ability to shape the market, maintain strong relationships with their channels and customers, and have no obvious gaps within the portfolio.

## Challengers

A Challenger will have demonstrated sustained execution in the marketplace, and have clear and long-term viability in the market, but will not have shown the ability to shape and transform the market.

## Visionaries

A Visionary demonstrates an ability to increase features in its offering to provide a unique and differentiated approach to the market. A Visionary will have innovated in one or more of the key areas of WLAN technologies (convergence, security, management or operational efficiency).

## Niche Players

A Niche Player has a complete or near-complete product offering, but does not have strong go-to-market capabilities or innovation in its product offerings. Besides a capability to fulfill mainstream technology requirements, a Niche Player often has deep vertical knowledge and will be an appropriate choice for users within those vertical markets.

## Vendor Strengths and Cautions

### 3Com

#### Strengths

- Incumbent wired vendor with a base of customers to whom 3Com can sell WLAN technology
- Worldwide sales and support network, and networking centric sales teams with longstanding relationships with enterprise IT buyers
- Partnered with Trapeze to supply the base technology for its WLAN offering, giving 3Com a scalable, secure architecture

#### Cautions

- Little visibility among Gartner client base beyond wired networking customers
- Little ability to dictate technical direction beyond integration of wired and WLAN products; partner-centric vision for voice/data integration
- Perceived market instability while future of the company is considered (given recent financial transactions); see "Sale of 3Com Could Be Facilitated by TippingPoint Spinoff"

### Alcatel-Lucent

#### Strengths

- Large voice customer base in Western Europe; long track record in enterprise and service provider markets in that region
- Alcatel has nurtured partnerships for voice over Wi-Fi dual-mode clients, and produced good integration with its OEM partner Aruba, though continued private branch exchange (PBX) integration must be prioritized to remain competitive with wholly owned combinations

- Global reach equaled only by the largest vendors in this market; sales and support in Europe is best-of-breed

### **Cautions**

- Voice-centric products and services, little data integration with resold Aruba products
- Small presence in the U.S. rarely seen by Gartner on shortlists of U.S.-based companies
- Service provider focus potentially conflicting because differing audiences can have varied requirements

## **Aruba Networks**

### **Strengths**

- Strong technical vision, well-implemented, security-focused management and control functions are best of breed
- Powerful controllers, a solid, slightly early-to-market 802.11n strategy, infrastructure-based offering.
- Strong marketing message concerning the all-wireless office of the future
- Rapidly growing; loyal customer base; public company; second largest in terms of market share
- Integrated intrusion prevention system (IPS) function; does not require sensor APs; potentially lower cost of end-to-end networks

### **Cautions**

- Primarily a WLAN product company, Aruba will have to continue focusing on partnerships and other marketing relationship to gain additional relevance in the larger IT markets
- Technical differentiation, although substantial, is difficult to articulate. Aruba tends to spend a good deal of time educating the market
- A continued focus on the company's vertical, solutions-based strategy and ability to "upsell" to the horizontal user base will be required for Aruba to continue to compete with some of the smaller, more-focused WLAN vendors

## **Bluesocket**

### **Strengths**

- Products have matured beyond the management console to a fully featured AP and controller product line, though security and management of dissimilar, non-Bluesocket APs remain differentiators
- Good traction among higher education and a growing healthcare user base
- Pingtel acquisition will provide a platform for voice applications and extension to Session-Initiation Protocol (SIP)-based handhelds

## **Cautions**

- Small venture-backed company, fewer than 150 employees, though customer and revenue growth has been significant
- Some horizontal users, but vertical markets remain the lion's share of its customer base and focus for marketing and sales.
- New management team and new marketing efforts; both will take time to net results

## **Cisco**

### **Strengths**

- Strong incumbent at most midsize-to-large businesses
- Strong multisegment marketing resulting in high visibility within the client base
- Global, well-established distributor network
- WLAN products serve a broad set of needs; wide variety of form factors and price points
- Integrated and overlay product options
- High product margins
- Cisco-compatible extensions (CCX) utilities embedded in many client devices

### **Cautions**

- Competitive vendors are often more agile when it comes to integrating new technology
- Customers tend to single-source Cisco when it is the wired incumbent, ensuring that they will pay a higher price than if the product were competitively bid
- Cisco continues to have split wired and management wired management products; prospects for integration in the coming years are slim

## **Colubris Networks**

### **Strengths**

- Historical service provider focus; it has netted a sizable cadre of customers with large-scale networks and requirements for supporting many dissimilar clients
- Continued vertical focus has enabled some significant customer wins during the past year, well reflected in a growing number of solution-based partnerships
- Innovative technological vision, strong management capabilities, guest access and voice enablement are strong demonstrated capabilities of the infrastructure

### **Cautions**

- Vertical-specific marketing and partnerships continue to be Colubris's focus; however, the company must be able to articulate a vision for the horizontal customer base and the carpeted enterprise to continue its growth

- Smaller company, which had slower-than-market growth in 2005 and early 2006; the new management team and VAR focus have begun to address these issues, resulting in significant improvements in growth during the latter parts of 2006 and 2007
- Focused marketing and sales efforts, few appearances on shortlists outside of the vertical markets of education, manufacturing and retail

## **Enterasys Networks**

### **Strengths**

- Strong technical vision for distributed enterprise users, based in part on Trapeze technology, integration includes single-access policy capabilities
- Long history in data networking, long-standing relationships with enterprise IT departments
- Financial picture seems much improved after privatization

### **Cautions**

- Smaller company; despite long history in networks, it has not seen the growth that some of its competitors have (for example, Cisco and Nortel).
- Rarely seen outside of wired LAN customer base

## **Extreme Networks**

### **Strengths**

- A well-established networking company with an opportunity to sell to a client base of wired product customers
- Strong vertical focus on hospitality and education markets; broad partnerships for voice products addresses these markets
- An integrated platform for wired and wireless security, asset management and deployment assistance has enabled the company to grow its WLAN business among its WLAN user base

### **Cautions**

- Sells primarily into a client base of wired LAN customers, rarely seen among Gartner users outside that customer base
- Little marketing of the WLAN products outside of its successful and focused vertical markets; we expect that it will have to invest farther in additional vertical market solutions
- Based on Siemens technology, which has been reducing marketing visibility, but remains viable

## **Extricom**

### **Strengths**

- One of only two fourth-generation implementations of WLAN infrastructure; its channel blanket technology offers a granular application, and end-user authentication and QOS
- Stronger European base of customers
- Solution-based partnerships and OEM relationships keep cost of sales low, but make technical differentiation difficult to communicate

### **Cautions**

- Layer 2 implementation can limit scale for large installations
- Has made limited progress in North America; will have to focus significant dollars on brand and technical marketing to see growth in North America
- Small company, with decent channels to market and good growth

## **Foundry Networks**

### **Strengths**

- Foundry remains a Meru reseller, giving it access to a fully featured fourth-generation product line
- Limited integration work has been done into the foundry product line, enabling some end-to-end management of the wireless and wireline products
- Foundry is a good choice for users that are Foundry wireline and switching customers

### **Cautions**

- Foundry's commitment to this space remains questionable (product line is limited to resale), and only a small percentage of its user base is committed to the Foundry solution
- Rarely appears outside its customer base
- Only limited integration into the wired platform for management and security, reducing the advantages of the consolidated platform

## **HP Procurve**

### **Strengths**

- HP tends to successfully sell into its growing base of wired networking customers
- Uses well-sorted AP and controller technology based on the Motorola offering, further enhanced by integration into HP Procurve networking hardware and supported by a single LAN/WLAN management console
- Global sales and support capabilities are services gaining ground
- Use of Motorola technology opens potential future synergy between the companies

## **Cautions**

- Continues not to sell significant WLAN offerings outside its customer base of wired networking customers
- The Motorola/HP Procurve partnership has not produced strong awareness among end users, nor has the partnership netted many vertical solutions; HP will have to invest more in vertical marketing efforts and seek out additional software and hardware partners

## **Meru Networks**

### **Strengths**

- Meru remains one of the few fourth-generation wireless LAN infrastructure vendors
- It has a strong focus on horizontal users and a few vertical markets (for example, education, hospitality and healthcare)
- Meru has grown significantly faster than market rates in terms of installed AP and controllers, and has continued to enhance functionality and grown in terms of Gartner client awareness
- Unique methods of user-based authentication and access enable granular establishment of application and security policies, and with a tool that isn't overly complex
- Aggressive voice and 802.11n marketing messages

### **Cautions**

- Still a venture-funded company, albeit with rapid growth and a significant user base
- Focused marketing and technical differentiation that is difficult to articulate have contributed to questions about the technology and its advantages for horizontal enterprises
- Must continue to invest in partnerships and integrated wireless/wired LAN solutions to compete with the larger networking vendors

## **Motorola**

### **Strengths**

- Motorola, despite the macro issues facing the company, remains one of the largest vendors in the market with a strong commitment to enterprise users
- One of the oldest vendors in the market, with a large loyal customer base, robust product line from controllers to APs to client devices
- Widely deployed vertical market solutions, especially among retail and manufacturing clients; Gartner expects significant growth from both of these vertical solutions in the next two years
- One of the most thoroughly market-tested offerings available from a major vendor.

- Potential to combine WAN and LAN wireless offerings to create an all IP network under unified control
- Recent leadership changes at Motorola will strengthen the commitment to the enterprise networking market

### **Cautions**

- Integration of the Symbol acquisition has not been rapid; some slowdown in speed to market for next-generation products has been noted
- Although Motorola has seen significant success in vertical market solutions, its presence in the "carpeted enterprise" and among more-general users is limited, along with its ability to articulate product advantages
- Motorola, as a whole, continues to face significant challenges; although most of those issues are limited to the handset division, given the contribution that plays to the companies overall health (62% of revenue) it's easy to see how shifts in that business affect all the other divisions of the company

## **Nortel Networks**

### **Strengths**

- Voice-centric network offering based on Trapeze technology for a/b/g technology; some integration done with Nortel voice platforms, though disparate management consoles are required
- Large customer base, with global sales and support facilities; , particular strength in North America
- Strong IP PBX product line, potential to combine WLAN and IP PBX and grow overall market share, especially as increasing numbers of enterprises are migrating to all-IP for voice

### **Cautions**

- Gartner rarely sees Nortel WLAN infrastructure outside of its voice client base
- A recent announcement to migrate away from the Trapeze platform for future WLAN products will put Nortel 18 to 24 months behind the rest of the vendors in deploying an 802.11n product; this will be the second time Nortel has changed WLAN OEM technology.
- Nortel's commitment to the WLAN space can be questioned because it faces significant R&D dollar requirements to bring a competitive 802.11n product to market; spending requirements must be considered in light of the recent financial announcements

## **Trapeze Networks**

### **Strengths**

- Widely deployed solutions, increasing reseller and VAR channels, and OEM relationships with top-tier networking vendors have contributed to Trapeze's tenure in the market

- Well-articulated message around distributed controller intelligence for widely disbursed enterprises and capabilities to support a wide range of architecture types
- 802.11n product line strong; upgrade path clear from a/b/g controller infrastructure

### **Cautions**

- Trapeze must continue to address the loss of its biggest OEM partner for .n product line (Nortel) because it has the potential to affect the company's total market share
- Transition from a primarily OEM model (50% of business) to branded direct model continues; Trapeze will have to focus more heavily on its marketing message, vertical market stories and their VAR relationships
- Gartner found few examples of the "Smart Mobile" architecture, Trapeze's solution and technical differentiation around the distributed enterprise networking

### **Xirrus**

#### **Strengths**

- Vertically focused vendor finding success in vertical markets (for example, hospitality and large auditorium/room deployments)
- Network intelligence pushed out to the AP, cellular model for access control and service delivery, has worked well in environments with very dense user requirements
- Unique AP configurations (4-8-16 radios per AP) enable fewer APs and focused signal propagation
- Inexpensive when compared on a per-radio basis with other vendors

#### **Cautions**

- One of the smallest vendors rated, though growth has been rapid
- Limited planning tools and full site surveys required.
- Enhancements must be made to compete with best-of-breed network management tools
- Continued investments in vertical solutions and partnerships must be preformed to maintain sales momentum
- North America-focused company, few deployments outside of the U.S.

### **RECOMMENDED READING**

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"Magic Quadrants and MarketScopes: How Gartner Evaluates Vendors Within a Market"

### **Acronym Key and Glossary Terms**

- AP**      access point
- CCX**     Cisco-compatible extensions
- EAP**     Extensible Authentication Protocol

<b>IPS</b>	intrusion prevention system
<b>PBX</b>	private branch exchange
<b>PCI</b>	personal computer interface
<b>QOS</b>	quality of service
<b>SIP</b>	Session Initiation Protocol
<b>VPN</b>	virtual private network
<b>WLAN</b>	wireless LAN
<b>WPA2</b>	Wi-Fi Protected Access 2

## Note 1

### Definition of Overlay

Overlay — An installation of a networking component that is non-invasive to the wired infrastructure. Overlays generally employ tunneling techniques that connect the end point functionality to a central controller offering a variety of data, management and control plane functions.

### Vendors Added or Dropped

We review and adjust our inclusion criteria for Magic Quadrants and MarketScopes as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant or MarketScope may change over time. A vendor appearing in a Magic Quadrant or MarketScope one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. This may be a reflection of a change in the market and, therefore, changed evaluation criteria, or a change of focus by a vendor.

### 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, skills, etc., 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, service-level agreements, etc.

**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.

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