

## Magic Quadrant for Wireless LAN Infrastructure (Global)

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Standards-based connectivity between access points and devices is no longer a unique feature of vendors in this Magic Quadrant. Enterprises must choose infrastructure providers that can deliver network services (such as voice, video and location) and integrate wired networking products.

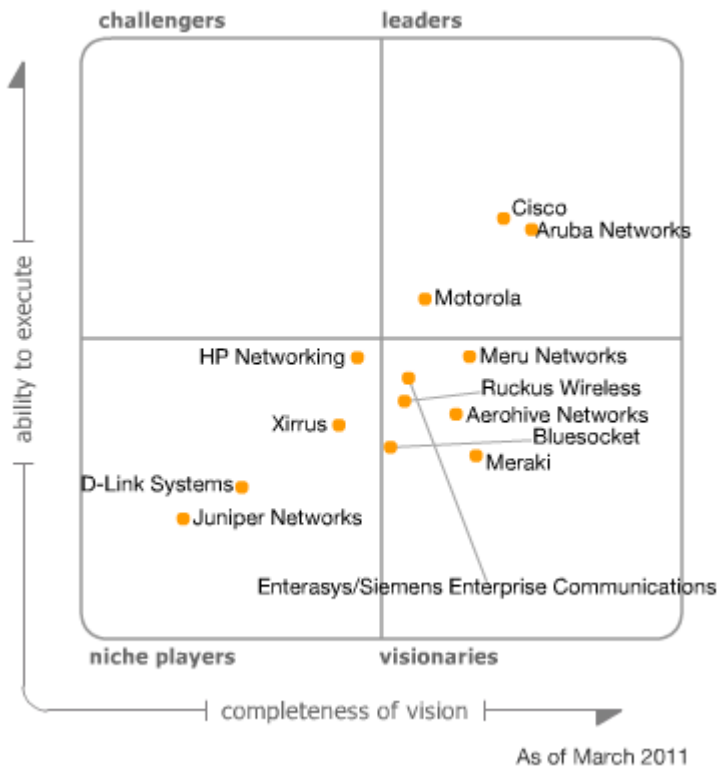
## WHAT YOU NEED TO KNOW

The vendors profiled in this research can provide standards-based connectivity from access points to a wide variety of clients, support for 802.11 a/b/g/n, a network management application and standards-based security with 802.1X through WPA2. More than in previous years, however, enterprises can choose from a larger number of alternative architectures, including controller-less, virtualized and cloud-based controllers. These divergent architectures are supplied by traditional and startup vendors, reflecting customer requirements for more choice in the deployment options for wireless LAN (WLAN) networks.

Smaller vendors continue to focus on vertical markets or regional implementations, but enterprises should expect all vendors to meet broader access-layer requirements and, often, global networking needs. Momentum continues to grow for a single vendor at the edge of the network capable of providing switches and access points, as well as differentiating network services that will consolidate security and management and provide a better and more-cohesive end-user experience. Leaders and Challengers in this Magic Quadrant will pose the least risk for client investment, but they may not always provide the most leading-edge or current technology. Vendors termed Visionaries could provide this capability, but they may present a greater risk. Niche Players will typically appeal to vertical users, low-price buyers or companies looking for a specific set of features.

## MAGIC QUADRANT

Figure 1. Magic Quadrant for Wireless LAN Infrastructure (Global)



Source: Gartner (March 2011)

## Market Overview

In today's WLAN market, infrastructure vendors provide hardware out of necessity, not for differentiation. The availability of reference designs from chip manufacturers and original design manufacturers (ODMs) continues the trends that we have highlighted in past research. We are now seeing dual-radio 802.11n access points being deployed for less than \$350, and single-radio designs for considerably less than \$300. Access points with 802.11g are now only being deployed within enterprises as a bridging strategy to the newer, faster and more-functional 802.11n access points. The adoption of 802.11n and the migration into the enterprise continues, but the movement toward the all-wireless enterprise still has to overcome hurdles (whether real or perceived) before it becomes the de facto standard for edge-of-the-network connectivity. The market and technology continue to move toward the coveted carpeted enterprise space. However, it is first being deployed in small, midsize or remote offices, where cabling in nonenterprise owned facilities is an issue and mobility is assumed. The expectations of wireless connectivity continue to grow, as workers in remote offices visit the headquarters, and where newer employees look at wired connectivity not only as legacy, but even archaic, technology.

WLAN vendors continue to improve functionality at the edge with security, reliability and guest access capabilities that often have more features than their wired equivalent. Vendors understand that they need to make the wireless experience as simple and easy as possible. We are also seeing many enhancements to network management applications, as well as proactively identifying potential issues and resolving them. The number of WLAN network services continues to grow, since this is the new playing field for differentiation. Services that provide improvements in voice, video, intrusion detection, network management and security are just the beginning. For many enterprises that are deploying access points, wireless connectivity is mission-critical. This means that site planning and support play critical roles in ensuring that WLANs are installed properly to address business issues, from capacity to transaction density, upfront, rather than waiting for a problem to occur. Overlapping coverage, dual-homed access points and mesh networking capabilities are providing multiple paths for robust communication at the edge. Proactive tools, such as network management knowledgebases, spectrum analysis and client health monitoring, are playing a larger role to ensure that the WLAN continues to perform to its optimum level once it's installed.

As the useful life of networking assets grows from three to five years, up to five to seven years, enterprises want to know that their selected WLAN vendor is in a position to address changes in the market. Vendors need to assure customers that they are in control of their network environments. We continue to expect consolidation in the market. Enterprise switch vendors that are OEMs for WLAN products without significant differentiation will need to bring new functionality in-house to achieve the necessary continuity of the "new normal," which includes integrated wired and wireless security, guest access and network management. In the future, networking technology will require application-aware policies and capabilities independent of the edge connectivity and governed through the entire network infrastructure to interact with the application.

## Market Definition/Description

The WLAN market consists of vendors that supply IEEE 802.11 standard networking components that provide mobility to the infrastructure access layer, from the edge of the wired network to the end user. Vendors have significantly narrowed the performance gap between the divergent wired and wireless environments, and continue to integrate management, security, guest access and planning services. These solutions have combined wired and wireless functionality, as well as spawned multivendor wireless solutions, to provide a solid foundation and continuity in networking infrastructure communications.

## Critical Components

The 802.11n standard has added an unprecedented level of complexity that combines automatically negotiated and user-configured variables. At the core, each WLAN solution has an access point — i.e., a component that distributes a Wi-Fi radio frequency signal to a variety of client devices. Prevailing solutions also have controller-like functionality that may be integrated into different networking components, or reside separately and sit behind the access points to consolidate functions. However, the physical appliance is becoming increasingly optional, as vendors provide multiple deployment options for the controller application, depending on the vendor and the environment.

Access points continue to support the full set of 802.11 worldwide-assigned frequencies at 2.4GHz, 4.9GHz and 5.2GHz through 5.8GHz, even though some of the frequencies cannot be legally used in every country. Multiple-frequency, multiple-radio access points have become the norm to support the continued operation of 802.11b/g solutions and address 802.11n migration issues; access points that can offer all these connection capabilities are needed for inclusion in most RFPs. Soft-radio designs in the access points have provided the required migration, as well as a path to support multiple-stream functionality defined by the 802.11n standard. The market has bifurcated, as two-radio 802.11n access points are now available for less than the \$700 list price per access point. Three- and four-radio access points continue to command a premium, but can support other functionality, such as wireless backhaul for mesh networking or wireless intrusion detection. Most full-service vendors provide access points that can be used outdoors, as well as a variety of antenna and power options.

The look and feel of controllers continue to change. Since the introduction of controller-based architectures, most vendors use a separate appliance; however, the hardware has slowly been transformed (subsumed into blades or appliances), or, in some cases, has vanished. Although the structured network functionality still exists, the physical controller has disappeared into the cloud, virtualized into an upstream server or integrated into one or more access points. In addition to lower-priced access points, these new solutions continue to reduce the total cost of ownership (TCO) for WLAN connectivity at the edge of the network. During the past 12 months, managed services for WLANs have broken into the market to supplement managed security. They also enable enterprises that do not have the time or skills to implement the complexities of WLANs to enjoy the benefits in conference rooms, as well as small or remote offices, while ensuring that they maintain compliance for payment card industry requirements and don't open the door to security threats.

## Defining Network Services

The market has seen an increase in focus on wireless network services and applications beyond the physical connection. The services are continuing to grow and include:

- Role-provisioning, guest access administration for wired and wireless guests
- Firewall and security policy enforcement
- Network management integrated with system management, which is aware of wired components and is WLAN vendor-independent
- Network access control (NAC)
- Authentication and authorization services
- WLAN forensics
- Wireless intrusion protection

- Voice services that enhance the application, including integrating with unified communications services
- Video services that enhance the application
- Location-based services, context-oriented services and asset management
- Policy and resource management

As the WLAN market matures, these services likely will be used to differentiate vendors. Expanded functionality will provide additional information to enterprises, enabling them to maximize the productivity and ROI of WLAN for all access-layer connectivity.

### **Convergence at the Edge of the Network**

Wired network enterprise vendors continue to expand their presence in the wireless community. Last year, HP's acquisition of 3Com was completed, which added the 3Com wireless product family to the HP portfolio. Toward the end of 2010, Juniper Networks acquired Trapeze Networks to add wireless connectivity to its product offering. In August 2010, Avaya announced its WLAN Controller 8180, which leverages its OEM relationship with Trapeze for 802.11a/b/g access points and its own 802.11n access points. Its split-plane wireless architecture, which separates the data from the control and management communication, leverages the scale and infrastructure of Avaya for end-to-end solutions that integrate with its switching and telephony product family, as well as the Avaya sales organization.

### **Inclusion and Exclusion Criteria**

Vendor inclusion criteria are:

- Access-point-based WLAN infrastructure must be accomplished through one of three architectures: centralized controller/switch, decentralized (cloud-based) controller or intelligent mesh. In all cases, the enterprise will establish a basis for access point behavior in a centralized control interface, which then is pushed out and executed by the access point.
- All vendors must have 802.11a/b/g/n standard products available in the market.
- All vendors must manufacture their own equipment or demonstrate differentiating value that can only be achieved among the participating vendors. The value must extend beyond an OEM/reseller relationship and simple integration into network management consoles, or running controller software on a blade in a chassis. This integration may include integrated network services, such as showing consolidated security, or a guest access policy in which wired and wireless components are centrally managed.
- Vendors should have sold WLAN equipment for at least one full year prior to the publication of the WLAN Magic Quadrant, and achieve a minimum of \$10 million in annual revenue from WLAN equipment.
- Vendors should have elicited interest from end users through inquiries from Gartner clients, appearances on shortlists and industry acknowledgment of market position.
- Vendors should have demonstrated a focus and commitment toward the enterprise WLAN market. This should include a track record of selling to large-enterprise clients, appropriate marketing and partnerships, and support organizations capable of servicing global enterprise requirements.

- Vendors participating in the Magic Quadrant must have equipment certified 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.
- Network management must be supported for the configuration and management of the infrastructure, with "vision" points given to vendors to document wireless services that include:
  - Guest networking — captive portal and/or role-provisioned
  - Wireless intrusion detection — embedded and/or overlay solutions (see Note 1)
  - Location management

### Added

- Meraki
- HP Networking (formerly known as HP ProCurve)
- Juniper Networks (formerly known as Belden-Trapeze)

### Dropped

- 3Com, due to acquisition by HP
- Belden-Trapeze, due to acquisition by Juniper Networks

## Evaluation Criteria

### Ability to Execute

We continue to adjust the weighting and criteria for this Magic Quadrant as buyers' requirements and market forces shift what is important for vendors to provide (see Table 1).

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 have a positive effect on revenue, retention and reputation. Technology providers are ultimately judged on their ability and success in capitalizing on their vision.

**Product/Service:** Here, we evaluate the WLAN infrastructure products consisting of access points, controller functionality, management and security software, and network services.

**Overall Viability (Business Unit, Financial, Strategy, Organization):** Viability includes an assessment of the organization's overall financial health, the financial and practical success of the WLAN business unit, and the likelihood of that organization continuing to invest in WLAN and WLAN-related technology and product development.

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

**Marketing Responsiveness and Track Record:** This includes the quality and effectiveness of the organization's marketing messages in communicating to the market the advantages and the unique capabilities of the vendor's product lines, company and supporting partners/services. This evaluation also includes the history of the vendor's marketing messages and its ability to react to changes in market requirements.

**Customer Experience:** How do customers and partners view this vendor? This evaluation includes significant input from Gartner clients in the form of inquiries, face-to-face meetings and written responses about the vendors. We include the results of Web-based surveys that were sent to vendor-supplied references.

**Operations:** This addresses the vendor's ability to meet its goals and commitments. Factors include the quality of the organizational structure, such as skills, experiences, programs, systems and other vehicles that enable the vendor to operate effectively and efficiently.

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

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

Source: Gartner (March 2011)

## Completeness of Vision

Gartner evaluates technology providers on their ability to convincingly articulate logical statements about current and future market directions, innovation, customer needs and competitive forces, as well as how they map onto the Gartner position (see Table 2).

Technology providers are ultimately rated on their understanding of how to exploit market forces to create opportunities for themselves.

**Marketing Strategy:** Does this vendor's marketing message articulate a clear, understandable message that answers the market requirements for technologies and services? Does the vendor's message and supporting products lead the WLAN market requirements or merely fulfill them?

**Sales Strategy:** Does the vendor's sales strategy support a wide range of customers with different requirements for WLAN and the supporting networking products? Does it have the best value-added resellers and integrators to deliver the sales and product support? Can it price and bundle to effectively to compete with other vendors?

**Offering (Product) Strategy:** Does the current and future planned product line meet the needs of buyers now, and how will it do so in the future? Is the vendor simply building products that the WLAN buyer is asking for, or is it anticipating issues those buyers will face and allocating resources to address those issues?

**Vertical/Industry Strategy:** Does the vendor's strategy, direct resources, skills and offerings meet the needs of market segments, including vertical industries?

**Innovation:** What has the WLAN vendor done to address the future requirements of wireless networking customers, including the needs for tighter integration with wired networking products, voice, video and applications support? Has the vendor successfully differentiated the current and future product lines to better address customer requirements, now and two to five years out?

**Geographic Strategy:** Do the vendor's strategy, direct resources, skills and offerings meet the needs of regions outside the vendor's "home" or native area, directly or through partners, channels and subsidiaries, as appropriate for that region and market?

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

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

Source: Gartner (March 2011)

## Leaders

A vendor in the Leaders quadrant 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 a single installation. Leaders should have demonstrated the ability to shape the market, maintain strong relationships with their channels and customers, and have no obvious gaps in their portfolios.

Enterprises need to continue to understand the various usage scenarios in their environments. "One size does not fit all," even for best-of-breed vendors, and, in some cases, the best vendors for the particular enterprise may be a Niche Player or Visionary.

## Challengers

A vendor in the Challengers quadrant 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 vendor in the Visionaries quadrant demonstrates an ability to increase features in its offering to provide a unique and differentiated approach to the market. A visionary will have contributed innovations in one or more of the key areas of WLAN technologies (e.g., convergence, security, management or operational efficiency).

## Niche Players

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

## Vendor Strengths and Cautions

### Aerohive Networks

Aerohive has continued better-than-market growth with its controller-less mesh-based architecture, while continuing to innovate. Advancements include application fingerprinting, performance policies and profiles, as well as load characterization, which can determine the health of the wireless media while providing new applications, such as TeacherView for the education sector. Many network services are integrated into the architecture and allow local policy management or RADIUS server for local authentication. Additional services or applications can be located on an appliance or in the cloud. Aerohive is an appropriate solution for enterprises with many branch offices (including schools), as well as midsize enterprises where survivability is a priority.

#### Strengths

- Application profiling has been added to Aerohive's innovative SLA capability that not only monitors, but also proactively manages, user-defined SLAs for applications that need a minimum level of wireless access to maintain application performance.
- With failover built into the architecture, the controller-less architecture provides a self-contained solution, including local firewall security, policy management, local Dynamic Host Configuration Protocol (DHCP), embedded RADIUS and active directory authentication that allows new clients, instead of operating in a last-known state.
- Aerohive offers client options as to where the network-based services (voice, video, etc.) will reside, either within the access point on-premises, or the cloud. This gives Aerohive customers a wide range of choices when deploying their hardware.
- Customers gave Aerohive high marks for its experience, including sales, support and performance of the solution.

#### Cautions

- Aerohive continues to grow faster than the market. It is still a smaller, private company that does not often appear on Gartner clients' shortlists, especially in the enterprise space. It needs to increase its marketing communications to gain additional visibility, as well as to help clients understand the benefits of the cooperative control architecture.
- As with other pure-play WLAN vendors, Aerohive needs a clear strategy for wireline networking integration and support. This could include partnerships, interoperability agreements or switch-technology ownership. We expect the recent Pareto acquisition will accelerate Aerohive's offering and strategy.
- Aerohive has a limited sales channel that is 100% indirect, which can cause issues when explaining differentiating features. However, expansion of the channel will help Aerohive drive its products into new geographies and vertical markets, and must be done to continue growth.

### Aruba Networks

Aruba continues to maintain a strong position with excellent financial growth (faster than market rate) and technical performance (many industry firsts). Aruba has gained market share and penetrated further into leading verticals like healthcare, retail and education. It has taken an aggressive approach to converting customers to an increasingly wireless-centric view of the

networking world through the rightsizing campaign. Aruba is an appropriate choice for enterprises where security, multivendor access point management or teleworking are high-priority decision criteria.

## Strengths

- Aruba maintains one of the largest catalogs of products in terms of access points, controllers, sensors and management consoles, appealing to nearly all network design types and price points, including network designs that embrace the emerging utility access point paradigm.
- Aruba's robust management suite of products, which are well-integrated, gives users a universal interface for managing security features, wireless intrusion prevention systems (WIPS), guest access administration and trouble shooting, all from a single console.
- Aruba was the first WLAN infrastructure vendor to have a FIPS 140-2 and Suite B certification; this, along with its long-standing focus on network security, has enabled Aruba to capture a significant part of the rapidly growing federal and defense market.
- Aruba's aggressive channel expansion, coupled with low-priced access points, has enabled the company to sell effectively to a wide range of enterprises, from the largest Global 2000 to small businesses of fewer than 50 people.

## Cautions

- While Aruba has a highly successful partnership with Alcatel-Lucent, Gartner believes that partnership with wired networking vendors will not be enough for buyers that require a converged wired and wireless solution. While very few enterprises currently purchase networking equipment off a single contract, that number is predicted to grow to a majority during the next three to four years.
- Aruba will need to continue to invest in the end-to-end voice products to compete effectively with the other leading vendors: Motorola has the Total Enterprise Access and Mobility (TEAM) group of products and Cisco has voice devices. Aruba has partnerships only with other handheld vendors to supply customers that want to purchase end-to-end solutions.
- Aruba has an aggressive strategy for addressing the use of video across its networks, with multimedia-grade Wi-Fi. It will have to continue to build consensus and align its diverse mix of partners to maintain this early lead.

## Bluesocket

Bluesocket is among a group of smaller players in the WLAN community whose steady, organic growth can be found mainly in the Northeastern U.S. It has a solid security solution with a good following, as well as high-availability architecture based on virtual WLAN (vWLAN). Bluesocket needs to be more vocal about its differentiation and to leverage that differentiation in its bid to expand its market share. The announcement of the relationship with IBM is a start at expanding its channel. Its vWLAN distributed architecture is appropriate for enterprises in education, hospitality and healthcare, and for enterprises that are building end-to-end 802.11n networks and/or clients that are not planning to fully replace their access points; Bluesocket controller supports multivendor network management of existing access points. Its WLAN solution is a good fit for clients looking for secure WLANs, as well as those that require redundancy.

## Strengths

- Bluesocket has an excellent, fully integrated security suite and NAC that supports WLAN and wired networking. The company will need to market this capability more in its messages and leverage this differentiation when competing with vendors that cannot provide this functionality.
- In our WLAN survey, customers gave Bluesocket high marks for its service and support experience across all of its target markets, and solid performance for small and large installations.
- Bluesocket has focused on significant redundancy and virtualization. Its high-availability scheme runs throughout the architecture to provide seamless, zero-failover capability.

## Cautions

- Because Bluesocket relies on partners for global distribution and service, enterprises with global installations should ensure that Bluesocket and its partners can meet their business needs.
- Bluesocket's relatively small size, when compared with many of the other vendors in the infrastructure market, remains a risk factor for large enterprise investments. Bluesocket will have to make significant investments in sales and marketing to achieve the necessary growth and critical mass.
- As we have cautioned clients about other WLAN-only vendors, Bluesocket needs to expand its networking strategy to include a wired vendor relationship, because an increasing number of enterprises look for end-to-end access layer capabilities.

## Cisco

Cisco is the largest company in the enterprise WLAN infrastructure market and has the strongest channel in the industry, which results in global presence and strong revenue market share. Cisco's ability to reach many verticals and identify not only WLAN solution needs, but also provide a wide range of networking components, enables many customers to implement entire end-to-end Cisco solutions.

## Strengths

- Cisco remains the market share leader in the enterprise WLAN market, and is one of the largest enterprise networking companies in the world. A strong, networking-focused sales channel (with 95% of sales generated via channels), support and marketing, coupled with Cisco's ability to deliver wireless networking solutions to a broad audience, has contributed to Cisco's maintaining the No. 1 position in WLAN since Gartner started tracking this market. Cisco is a good choice for a wide variety of enterprises, especially those that are current Cisco networking product customers.
- Cisco's products and services reach a wide range of IT markets, such as security, wired networking, wireless networking and network management. This has enabled it to build a variety of solution sets and answer the requirements of the majority of networking buyers.
- Many enterprises have Cisco products end-to-end in their infrastructures. Cisco continues to articulate benefits of its end-to-end solution, including lower management costs, streamlined purchase and evaluation process, and end-to-end control, security and provisioning.

- Motion and Borderless Network architecture remain Cisco's vision for the delivery and benefits of end-to-end networking. Cisco has continued to build products and services to support that vision. We expect it to accelerate that product development and those introductions during the next 18 to 24 months, as more users look for fully integrated networking solutions.
- Good service provider relationships with carriers in the U.S. and worldwide will provide opportunities for service-based solutions (offered by carriers) and, potentially, third-generation (3G) offload networks with product enhancements.

## Cautions

- As with any long-range product and service vision, Cisco's Motion and Borderless Network is taking time to find its way into the WLAN product sets. Functionality such as ClientLink, M-Drive and Clean Air fit nicely into the Borderless Network vision, but delivery of some features has been slow. We expect a faster time to market for new products as Cisco increases its focus on WLAN.
- Consistent performance of Cisco resellers proposing and, more importantly, implementing complex WLAN infrastructure solutions remains an issue. Although having improved during the past few years, with the training and certification rigors implemented during the past 24 months, given the huge number of resellers, this process will take time.
- The value of Cisco Compatible Extensions (CCX) for end-user organizations continues to decline, particularly in the face of standards like 802.11k/r. Support for non-CCX dual-mode voice devices is limited to testing and partnerships, but there is little infrastructure support.
- Prices for some application/services software, particularly AnyConnect and Virtual Office Virtual Private Network (VPN), are higher compared with products from other infrastructure vendors, particularly those products that are bundled into other product suites.

## D-Link Systems

D-Link Systems continues to grow its enterprise WLAN business with a strong channel that provides wired and wireless business solutions. It is one of the few vendors whose 802.11a/b/g sales still outnumber 802.11n, but it is aggressively launching new 802.11n access points to assist enterprises with the transition. D-Link has a broad global presence, with nearly 60% of its wireless revenue coming from outside North America and Europe. It is an appropriate choice for enterprises primarily in education, government, hospitality and the retail market sectors.

## Strengths

- Growing its installed base through autonomous access points and cementing its place as the largest market share vendor in the small or midsize business (SMB) market, D-Link does this with a better cost/performance ratio for disconnected and small branch offices than any other major vendor.
- It continues to focus on developing energy-efficient "green" products that conserve energy while providing performance. It has made significant gains, compared with many of the other vendors profiled in this research.

- D-Link's Unified Access system provides N+1 and N+N redundancy not only for mission-critical applications, but it also is a growing requirement in the enterprise where wireless is providing edge connectivity.

### **Cautions**

- D-Link has the ability to provide 802.11a/b/g solutions, which have been the majority of its business. Enterprises looking for 802.11n solutions need to test D-Link's newer products to ensure that they meet the usage scenario requirements for the environment.
- Enterprises looking for network services need to understand what is integrated and what modules may need to be purchased. While the D-View wireless management module may be purchased, WIPS, firewall, meshing and location services are integrated into the unified wired and wireless switch platform.
- The company needs greater marketing to enterprise decision makers to accelerate visibility and growth, to become more broadly relevant in larger opportunities and new markets.

### **Enterasys/Siemens Enterprise Communications**

The integration of the Siemens HiPath Wireless Manager into the Enterasys networking portfolio has established a good networking edge story that combines wired and wireless access and provides differentiation. As the wireless market continues to grow, Enterasys/Siemens continues to struggle at establishing a strong brand, which has limited penetration and market share as a company and a product in the wireless market. Enterasys/Siemens continues to be an appropriate choice for enterprise with Siemens voice or Enterasys data networking products, as well as greenfield networks with a requirement for integrating wired and wireless networking.

### **Strengths**

- Enterasys/Siemens has continued to build on the strong integration with Siemens voice infrastructure products and the Enterasys data networking line, delivering significant additional value to customers with integrated networking requirements.
- Enterasys/Siemens is one of the few vendors that can deliver on the integrated wired and wireless value proposition, with single security policy enforcement, including WIDS (with applications providing sensor capabilities), guest access applications across wired/wireless/voice/data products, and single-point provisioning for voice, data, wired and wireless. Enterasys/Siemens bundles this functionality into the standard software set (shipped with controllers), further increasing its value to enterprises.
- The vendor has continued strong presence in core markets in Western Europe and the healthcare verticals, some success in hospitality, and limited growth in other noncore markets.

### **Cautions**

- Despite the strength of the combined product sets, few outside the core markets, such as healthcare or data networking customers, are aware of the solutions; the lack of branding around the company name hasn't improved that position.
- The value of integrated network services, such as guest access and redundancy, needs to be better communicated to customers, or broken out as line items, as they are with other vendors.

- With 90% of revenue derived from indirect sales, limited partnerships and channel development activities are restricting Enterasys/Siemens from gaining market share.

## HP Networking

With HP's purchase of Colubris Networks in 2008, and 3Com in 2010, HP Networking has access to a broad suite of access points, infrastructure and software. With the closure of the 3Com deal, the well-integrated products that include voice and data wired and wireless fell squarely into the HP Networking diverse product set. In 2010, HP moved Networking into Enterprise Storage, Servers and Networking (ESSN), setting the path for alignment with the larger servers and storage businesses,

### Strengths

- The continued focus on the integration of the wired and wireless networking product sets delivers a solution that provides a single-pane-of-glass management and security administration capabilities.
- As the market increases the focus on application services and software, HP's long history of selling services, and delivering profitable software and services will enable it to continue to gain market share from the traditional vendors.
- In terms of global sales channels and service/support, few vendors can equal HP's reach.
- Aggressive prices (often 30% less than competing products), lifetime warranties and integrated software suites give HP an edge for value-seeking enterprises, and have enabled it to grab market share from some of the traditional vendors.

### Cautions

- HP Networking has been slow to integrate the 3Com networking products. In most cases, it sells the former 3Com or Colubris Multi-Service Mobility (MSM) technologies dependent on customer requirements, which has resulted in confusion in the client base. Enterprise should demand a clear migration path for either product set before purchase.
- While we are optimistic that the move into the larger servers and storage group is a positive move for the networking products and the investments required to merge all the disparate product sets, if timelines for integration extend more than 12 months, then enterprises should be concerned. Gartner believes that if integration takes a long time, then HP Networking will lose much of the momentum it has gained in the WLAN market
- Perhaps because of the transition in product lines, channel and sales training still lags behind offerings from Cisco and Aruba, particularly for larger, very complex installations.

## Juniper Networks

After completing the integration of its operational business units into Belden, Juniper Networks announced that it had entered into a definitive agreement to purchase Trapeze Networks from Belden. Trapeze has been known for its solid WLAN offering, but its aging differentiation and loss of several OEMs is challenging Trapeze to maintain market share as it transitions to Juniper. The new wireless offering from Juniper is an appropriate choice for vendors in healthcare, though it still has the ability to deliver through its channel into other markets, such as education.

## Strengths

- Juniper's Unified Mobility Services platform enables enterprises to integrate, optimize and maintain wireless network performance for an increasing number of services and applications.
- Juniper has a strong solution for failover and branch-office independence. It was one of the first vendors to offer distributed forwarding capabilities, best suited for branch offices with limited backhaul capabilities/costs.
- Before the acquisition, Trapeze received high marks for its service and support, according to outbound customer surveys; and customers rated Trapeze high on its ability to deliver acceptable performance for small and large installations. We expect this performance to continue as Trapeze transitions to Juniper.

## Cautions

- Though Trapeze Networks has recovered some of its market share, it does not appear often on Gartner clients' shortlists, especially in the enterprise space. Trapeze needs to increase its marketing communication as it transitions to Juniper to gain additional visibility and help clients understand its differentiation.
- While we expect the move to Juniper to increase Trapeze's revenue through better distribution channels and a converged access layer solution, the move to Junos, Juniper Networks' OS, and integration with existing network services will take time. We expect it will take more than 24 to 36 months before the products are well-integrated into the Juniper product lines.
- Customers that have purchased Trapeze solutions through OEM relationships will need to ensure continuance of service and support. This may include establishing a relationship directly with Trapeze and Juniper.

## Meraki

Meraki is a young, innovative vendor with a wide range of outdoor solutions and a growing indoor enterprise-focused product line. A unique, cloud-based controller architecture, coupled with intuitive mesh networking capabilities, has won it a loyal customer base. One of the first vendors to offer a fully hosted solution, Meraki is a good choice for enterprises that require a mix of indoor and outdoor connectivity, or those looking for a fully hosted solution.

## Strengths

- Cloud-based controller architecture enables low, total-solution costs for enterprises that only require access points. Alternatively, enterprises can buy WLAN at a monthly, per access point rate. Combined with in-depth and responsive customer service, the pricing strategy is one of the more flexible methods for purchase/deployment in this market.
- Meraki's mesh networking capabilities are among the easiest to establish and troubleshoot. Automated routing, setup and rerouting, and reporting are based in the hosted controller software.
- The controller and supporting software are hosted, which enables any update and changes to be implemented networkwide, immediately.
- With a customer-focused organization, high-touch sales and support model, Meraki continues to get very high marks from customers we have spoken to.

## Cautions

- One of the smallest vendors profiled in this Magic Quadrant raises questions about long-term viability, especially with the volumes and aggressiveness of its competition. Enterprises are encouraged to understand issues associated with controller software access upfront, because enterprises only purchase the access points.
- Meraki altered its business model during the past few years, with less focus on the urban Wi-Fi/emerging markets and more focus on the enterprise. This shift has upset some of its traditional customer base.
- Meraki's hosted mode cannot provide auditable end-to-end security (a limitation of the architecture); therefore, it may not be appropriate for governments or enterprises that require end-to-end security certifications.
- Like all wireless overlay vendors, Meraki will have to pursue partnerships and a co-selling arrangement with wired LAN providers, and further expand the control and provision capabilities it introduced in 2010.

## Meru Networks

Meru Networks completed its initial public offering in 2010, and has been executing its strategy to increase its visibility and expand its channel development into targeted vertical markets and new geographies. This has been complemented by its Wireless Interoperability and Network Solutions (WINS) program, which has completed and certified over 40 partners for end-to-end vertical market solutions. Meru is a good choice for healthcare, hospitality and education clients, and is expanding into new markets, such as retail enterprises with high-density requirements.

## Strengths

- Comprehensive commitment to network management and troubleshooting enhancements shows Meru's commitment to consistent and reliable wireless connectivity for mission-critical applications.
- Its virtualized Service Assurance Platform provides flexibility for the location of controller functionality and network services, as well as tighter integration with partner edge services. The ability to deploy its virtual cell architecture and/or a traditional cellular architecture gives clients choices.
- Meru has developed a loyal geographically diverse customer base, particularly among IT departments with limited resources, due to easy methods of setup and troubleshooting. This is further enhanced by good customer support and service.

## Cautions

- Meru has made an extensive commitment to marketing its messages to potential clients, and will need to continue investing to gain brand and message awareness. Gartner rarely sees Meru outside of target verticals.
- As a wireless-overlay-only vendor, Meru will have to establish better relationships with its wired networking partners for customers that will increasingly require end-to-end management and support.
- Meru provides some network services through strategic partnerships. Enterprises need to verify that these services address their requirements, since Meru will not control the long-term direction.

- Meru is a relatively small vendor, with limited sales resources, but its products are being installed globally through partners. Although current reports of support capabilities are favorable, large enterprises should ensure that Meru can continue to provide the required levels of support.

## Motorola

Motorola has built one of the most complete WLAN product lines in the market. With the integration of its Canopy, AirDefense and Total Enterprise Access and Mobility (TEAM) product families into a cohesive offering, plus enhancements to its Adaptive architecture, Motorola can meet the new needs of its target markets. Now a separate entity from the boom and bust of the devices company, Motorola has a clear mandate to continue to build robust solutions for its traditional verticals, retail and government, and produce growth in some of the emerging verticals (notably healthcare and education). Motorola is a good solution for retail, government and other verticals that have data collection or heavy security and analytical requirements. Motorola is also appropriate for enterprises with indoor and outdoor network requirements.

### Strengths

- Motorola continues to deliver market-leading, vertical-market-based solutions in retail and state/local governments, many based on an end-to-end product offering, including infrastructure, voice and data handheld devices, and management, security and forensics software.
- Motorola is one of the few vendors that offers best-of-breed infrastructure planning, management, security and analytics software, much of it gleaned from past acquisitions (AirDefense, Wireless Valley and Mesh Networks), the majority of which have been integrated into a single software suite.
- Strong sales channels and relationships in its traditional markets can easily be leveraged into an advantage in the fast-growing K through 12 education market and federal government markets.

### Cautions

- Motorola's application/services strategy and hosted offerings — outside of wireless intrusion detection, voice support and network management — will require additional spending/development by the company to compete with the best-of-breed vendors.
- Despite recent efforts, Motorola has little traction and few end-to-end solutions outside its traditional vertical industries, and has been under attack in those traditional industries.
- The partnerships with wired vendors, such as Brocade and Extreme, have produced few results for Motorola, and do not currently deliver the level of integration or single-pane-of-glass management for enterprises. Motorola and these partners will have to move quickly to compete with vendors such as HP and Cisco.

## Ruckus Wireless

Ruckus Wireless continues its strong growth in the enterprise WLAN space, bolstered by continued successes in its carrier business and an aggressive strategy for capturing carrier offload business. It has had success in midsize and large enterprise installations. Globally, Ruckus has established relationships with a large number of wireless carriers. We expect Ruckus to continue this global expansion of its enterprise business, which has, to date, been somewhat

limited geographically. Ruckus is a good solution for enterprises in hospitality, education and other industries requiring a cost-effective WLAN network.

### **Strengths**

- Ruckus has a large customer base using the in-home distribution of standard and high-definition IPTV in subscribers' homes worldwide. It has done an excellent job in leveraging its carrier relationships.
- It has a broad offering with an aggressive pricing model that enables users to deploy WLAN inside and outside the home, as well as in different usage scenarios, including enterprise, branch and teleworkers.
- In our WLAN survey, clients gave Ruckus high marks for its service and support experience across all its target markets, and solid performance for small and large installations.
- Ruckus offers a limited lifetime warranty as an option for its wireless offering, matching many of the larger vendors' offerings and further underlining its cost-based advantages that it communicates.

### **Cautions**

- To address the growing number of enterprises that will be looking for combined wired and wireless networking solutions, Ruckus will need to continue to expand the relationships it has with wired networking vendors.
- To continue its impressive growth, and achieve critical mass and global reach that some of the largest enterprise will require, Ruckus must invest in technical marketing and global channel development. This will help Ruckus deliver a strong case for differentiation, global sales and service support.
- Ruckus's technical advantages often are lost in the cost-based marketing of the product sets. As prices for access points and controllers continue to fall, many of those cost advantages will decline. Therefore, Ruckus will need to differentiate its product by focusing on the technical advantages the infrastructure provides, such as efficient video delivery and network coverage/reach.

### **Xirrus**

Xirrus continues to increase its market share in the WLAN market with its phased-array architecture, which includes integrating controller and network application functionality into a single platform that can include up to 16 radios. This solution enables Xirrus to service highly dense user environments, such as classrooms, auditoriums and entertainment venues, with fewer wiring requirements than other vendors. This type of implementation also is suited for small or remote offices, as well as traditionally difficult to wire locations. Xirrus is an excellent choice for enterprises with dense user requirements and a need for supplemental vendors.

### **Strengths**

- Dual-homed Gigabit Ethernet ports on each array, meshing capability and hot standby mode enables Xirrus to provide redundancy for mission-critical applications.
- Built-in firewall, spectrum analyzer and other performance tools, as well as an integrated controller and network services capability, means that users need fewer appliances or

servers for the wireless solution, and have the ability to integrate up to 16 radios in a single array for less wiring at the edge of the network.

- Xirrus customers continue to give them high marks for service and support. Many of them use Xirrus to solve unique coverage or density issues.

## Cautions

- Despite its growth during the past two years, Xirrus does not appear on Gartner clients' shortlists, especially in the enterprise space. The vendor needs to increase its marketing communications to gain additional visibility and help clients understand the benefits of the array architecture.
- With the falling prices of access points and other WLAN hardware components, Xirrus's price advantage on its array (due to a shared power and physical design) and its lack of a controller requirement can be construed as a higher priced offering.
- As with other pure-play WLAN vendors, Xirrus needs to articulate its wired networking strategy for enterprises looking for end-to-end access layer capabilities.

## RECOMMENDED READING

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*Some documents may not be available as part of your current Gartner subscription.*

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

### Note 1

#### Overlay Defined

Gartner defines overlay as an installation of a networking component that is noninvasive to the wired infrastructure. Overlays generally employ tunneling techniques that connect the endpoint 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 website, 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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