

Magic Quadrant for Application Delivery Controllers

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VIEW SUMMARY

The application delivery controller is a key component within enterprise data center and public cloud architectures. Network, security and application personnel should evaluate ADCs based on how they integrate with key applications and cloud/virtualization platforms.

Market Definition/Description

This document was revised on 21 October 2014. The document you are viewing is the corrected version. For more information, see the [Corrections](#) page on gartner.com.

Application delivery controllers (ADCs) are generally deployed in the data center and provide functions that optimize delivery of enterprise applications across the network. ADCs provide functionality for both user-to-application and application-to-application traffic. The ADC effectively bridges the gap between the application and underlying protocols and the traditional packet-based networks. The market evolved from load-balancing systems that were developed in the latter half of the 1990s to ensure the availability and scalability of websites. Enterprises use ADCs today to improve the following aspects of their applications:

- Availability
- Scalability
- End-user performance
- Data center resource utilization
- Security

The following ADC deployment models are commonly found in the market:

- Single-instance hardware appliance
- Multi-instance hardware appliance
- Software-based ADC running on a bare-metal server or as a virtual appliance or within a Linux container
- Software-based ADC available in cloud service providers (which is a variant of the other deployment options)

In addition, we are observing the early emergence of ADC capabilities being extended via a cloud-based as-a-service offering. Gartner anticipates this trend to be of increasing importance as the ADC market evolves to serve application traffic patterns that do not follow traditional hub-and-spoke/data-center-centric models.

Magic Quadrant

Figure 1. Magic Quadrant for Application Delivery Controllers

EVIDENCE

The authors of this research have had more than 1,500 client interactions on the topic of enterprise networking over the past 12 months. Surveys conducted with customer and reseller references provided by the vendors in this research (number of respondents equals 89). Analysis of vendors' responses to Gartner questionnaires, as well as vendor briefings/presentations. Gartner's enterprise network equipment market share research.

NOTE 1 EVALUATION CRITERIA DEFINITIONS

The Evaluation Criteria Definitions section below contains Gartner's standard Magic Quadrant evaluation criteria and generic definitions. It should not be considered integral to the ADC Magic Quadrant document. Market-specific definitions and weightings are described in the Evaluation Criteria section.

EVALUATION CRITERIA DEFINITIONS

Ability to Execute

Product/Service: Core goods and services offered by the vendor for 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: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

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

Market Responsiveness/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 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 initiatives, 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 and so on.

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 to 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 products 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



Source: Gartner (September 2014)

differentiation, functionality, methodology and feature sets 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 vertical markets.

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.

Vendor Strengths and Cautions

A10 Networks

A10 Networks completed a successful initial public offering (IPO) in 2014 and raised more than \$187 million, which improves its balance sheet and provides more financial flexibility. A10 grew at above market rates in the last four quarters, and it continues to gain traction and awareness in enterprise accounts. A10's product development has focused on creating scalable, efficient, high-performance platforms, with an increasing focus on integrating security features — both within the core ADC platform and through investments in dedicated solutions, such as its Thunder Threat Protection System product. A10 has a simple licensing model that includes all platform features, which simplifies procurement and drives down the total price for enterprises requiring broader ADC features. A10 is a good choice for enterprises seeking a highly scalable, cost-effective ADC solution.

Strengths

A10 offers all-inclusive licensing for all its products — including recent additions in security, virtualization and cloud capabilities — making it simple for the enterprise to purchase and manage A10 solutions.

A10 offers high-performance platforms (from a virtual ADC to a 1 rack unit appliance delivering 150 Gbps throughput), with solid support for advanced traffic management and scripting features and a limited but growing set of security features.

A10 supports Internet Protocol version 6 (IPv6) with feature parity, and it has strong IPv6 gateway functionality that meets the needs of enterprises and service providers.

A10's physical ADCs consume less rack space than many competitors, which can reduce facilities' expenditure and is especially valuable for organizations with limited data center space.

Cautions

A10 must continue to ramp up its capabilities to help enterprise clients with complex and custom application environments, and it must expand the development of application templates as part of its effort around enterprise application deployments.

A limited focus on Web acceleration, traffic reporting, and application visibility and performance reporting can limit A10's applicability in some environments. Custom scripting capabilities can be used to improve on the reporting functions.

A10's Web application firewall (WAF) software is limited compared with that of leading competitors and needs significant development to be a competitive WAF product. Gartner expects A10 will continue to add features to its WAF offering to expand its capabilities.

A10 has limited coverage in some markets, and enterprises should ensure appropriate local support is available.

Array Networks

Array Networks, which is publicly traded on the Taiwan Stock Exchange, focuses on application delivery with a portfolio of ADC, Secure Sockets Layer (SSL) VPN and WAN optimization controller (WOC) products. Although a relatively small player in the ADC space, Array has grown substantially, nearly doubling ADC revenue from 2012 to 2013, and it now has more than 2,000 ADC customers. Array's core focus is to provide high-performance SSL solutions at a low cost. During the past 12 months, the company has released several new products, including the midrange APV3600 ADC appliance and a multitenant hardware appliance, the AVX10650. Cloud and e-commerce providers and midsize

enterprises with stringent SSL performance requirements needing cost-effective solutions should consider Array.

Strengths

Array's ADC provides cost-effective and high-performance SSL capability, which is very compelling for midmarket, cost-conscious enterprise, SaaS and e-commerce organizations.

Array has a good understanding of market requirements and focus in its target geographies (China, India and Japan) and verticals (e-commerce and cloud providers).

Array's solutions can apply from midmarket to highly scalable environments.

Array's products have been successfully deployed in very large-scale cloud and service provider environments.

Cautions

Array supports fewer advanced features when compared with market leaders.

While Array is seeking geographic expansion, enterprises should ensure the company provides appropriate sales and engineering support, particularly outside Array's target markets.

Lack of support for Microsoft's Hyper-V on the Array vAPV virtual ADC has been an issue, considering Array's focus on the midmarket, but this support is now available as of the third quarter of 2014.

Array devotes limited marketing activities toward mainstream enterprises and consequently lacks brand awareness in the market.

Barracuda Networks

Barracuda Networks focuses on the small or midsize business (SMB) market with a broad portfolio of products, including its Load Balancer ADC and a more advanced WAF with ADC capabilities. Barracuda has more than 7,000 ADC customers. During the past 12 months, the company has released the 540 ADC (a midrange appliance with 2 Gbps of throughput); added its ADC in the Amazon Web Services (AWS) catalog; and embedded application security into its higher-end ADC products at no cost. Barracuda raised \$74 million in a November 2013 IPO, which improves its balance sheet and provides more financial flexibility. Small and midmarket organizations should consider this vendor, particularly if security is a priority and/or other Barracuda products exist in the infrastructure.

Strengths

Barracuda aggressively prices its ADC offerings, thus providing a lower-priced alternative than many of its leading competitors.

Barracuda provides free hardware upgrades to customers that purchase a four-year maintenance contract, which results in long-term capital expenditure savings. This maintenance program is highly unusual and is a differentiator in the market.

Barracuda has strong corporate brand awareness within its target markets, and it delivers solutions that are well-aligned to meet SMB requirements.

Barracuda provides a simplified user interface that eases deployment and operational support burdens.

Cautions

Barracuda lacks brand awareness in the ADC market and is not considered a trusted vendor for most large enterprises.

Barracuda markets both an ADC product and a full-featured WAF based on an ADC platform, which often confuses potential customers and limits Barracuda's opportunities for organizations looking for ADC solutions.

Barracuda was later to the market in releasing, supporting and promoting virtualization and cloud-based offerings, compared with leading competitors in the market.

Barracuda has limited experience with customization and programmatic interfaces, which prevents Barracuda from addressing complex application environments.

Citrix

Citrix provides a comprehensive ADC solution that meets nearly all enterprise requirements, and it has established itself as the clear No. 2 ADC player, when measured by revenue. During the past 12 months, the company has continued to add enterprise features to its NetScaler products, including support for database load balancing and asymmetric optimization capability called "MobileStream" to improve application performance for mobile applications. Cisco, which exited the ADC market in late 2012, now officially partners with Citrix and promotes Citrix NetScaler through its sales channel. Citrix should be considered for all standard application ADC opportunities globally.

Strengths

The NetScaler product meets a broad range of use cases and is widely deployed in both enterprise and cloud service providers.

Citrix has a high degree of brand awareness among Gartner clients, shows up on most client "shortlists" and is cited by nearly all other ADC vendors as a top competitor.

The NetScaler SDX hardware platform can be used to host commonly deployed third-party applications and services, including BlueCat, CA SiteMinder, Palo Alto Networks and Websense. This functionality can reduce the hardware expenditure for enterprises and provide a consistent delivery platform.

Citrix provides integration with multiple Cisco Nexus switching products, including virtual service integration with the Nexus 1000V, Remote Integrated Service Engine (RISE) support for the Nexus 7000 and integration into Cisco's Application Centric Infrastructure (ACI) portfolio.

Citrix provides, at no cost, global load balancing as an embedded feature in its NetScaler product.

Cautions

Gartner has observed that the NetScaler SDX platform can carry high upfront capital costs when compared with competitive offerings. Although the SDX platform may help lower the overall total cost of ownership (TCO), these higher upfront costs can be an issue for some clients.

While the SDX is Citrix's flagship platform, it may not be sufficient to provide full consolidation of applications and services. We have observed some Citrix customers have needed to deploy multiple SDX or MPX platforms to achieve required performance.

Citrix has fewer application deployment wizards than the leading ADC competitors, and it has not demonstrated the level of application expertise and customization as other leading ADC vendors.

F5

F5 remains the market leader in revenue and innovation with very deep financial and technical resources. Its application-life-cycle-focused innovation is centered on open programmability via APIs, such as iApps, iRules and iCall, as well as on platform performance enhancement. Recent platform upgrades, including solid-state drive (SSD) options for many appliances and the packaging and sales enhancements tied to its "Synthesis" launch, have helped combat a perception of an overly complex, hardware-centric system. F5's in-depth knowledge of applications deployed in complex enterprise data center environments remains a primary differentiator. Consider F5 for all ADC requirements, particularly the most demanding, in which integration with application and virtualization environments is critical.

Strengths

F5 has a broad and comprehensive vision, encompassing physical and virtual deployments in enterprise, cloud and service provider environments.

F5's internal knowledge base, end-user community, and understanding of diverse and custom application environments make it the top choice for complex environments.

F5 has a feature-rich platform with a highly flexible programmable interface via a programmable framework. The interface includes iRules for data planes, iApps for application-centric provisioning, iControl for management APIs and integration, and now iCall for control plane scripting.

F5 continues to execute on its cloud strategy with further feature developments and acquisitions, such as Defense.Net.

F5 has announced support for an increasing number of software-defined network (SDN), orchestration and cloud environments, including AWS, Cisco ACI, Microsoft System Center, OpenStack and VMware NSX.

Cautions

F5 commands a noticeable price premium when compared with other vendors in the ADC marketplace.

Enterprises need to engage with knowledgeable engineering and online resources to ensure that they get maximum value from the product offering.

The abundance of APIs, as well as integration into development environments, orchestration systems and F5's custom scripting in environments such as iRules and iApps, create a series of lock-in features for F5 customers.

Kemp Technologies

Kemp Technologies is a small, privately held pure-play ADC vendor, and its line of LoadMaster products has traditionally delivered cost-effective ADC and load-balancing solutions to the small- and midsize-enterprise segments. During the past 12 months, Kemp has continued to enhance its portfolio to better support mainstream enterprise requirements and added support for increased SSL performance and further security features. Kemp's ADC products now meet the needs of many enterprises, and the company has consequently grown market share from 1.3% to 2.3% during the past five quarters and now has more than 11,000 customers. All SMBs should consider Kemp, as well as enterprises that prefer a basic featured, lower-cost ADC alternative.

Strengths

Kemp has a wide range of deployment options for customers, including physical appliance, virtual appliance (support the leading hypervisors) and bare metal, and within leading cloud providers (including AWS and Microsoft Azure).

Kemp's ADC software is the only ADC on the market that can run via bare metal, supporting x86 servers from leading server vendors.

Gartner typically observes Kemp's offerings as one of the lowest-priced alternatives in competitive situations.

Kemp offers configuration migration tools for customers switching from alternative vendors, easing the operational burden of changing ADC vendors.

The company is well-positioned as SDN and network function virtualization (NFV) achieve increased mainstream adoption, as Kemp has a software-centric vision, with SDN and NFV products available.

Cautions

Kemp currently does not provide WAF capabilities, although this functionality is on the company's road map and is expected to ship in the second half of 2014. In the interim, WAF functionality can be provided through Kemp's partners or open-source software.

Kemp has a limited number of configuration templates and advanced application features.

Kemp is one of the smallest players covered in this Magic Quadrant, so enterprises should ensure that they have appropriate sales and engineering support either from Kemp or Kemp's partners.

Kemp suffers from limited brand awareness in mainstream enterprises. Thus, there are a limited number of IT personnel familiar with Kemp, which can hinder deployments.

Piolink

Piolink is a strong regional player based in South Korea. It is a publicly traded company on the Korea Exchange with a focus on ADC and related security products, such as a WAF built on the same hardware and OS as its ADC. The majority of revenue comes from South Korea (where Piolink is challenging for No. 1 market share). It has expanded into other developing Asian markets with a strategy for continued regional expansion, which has contributed to its consistent 10% to 15% annual growth rate. Piolink's products offer a basic set of ADC features, with a built-in global server load balancing (GSLB) feature. Piolink also offers a WAF, but it is not yet integrated into the ADC platform. Piolink should be considered for standard ADC deployments in South Korea and other markets where it has established local

presence.

Strengths

Piolink offers an ADC solution with a basic load balancing/ADC feature set, with all capabilities built on common OS and hardware platforms. Its newer PAS-KV appliance offers the ability to run multiple ADC instances, while PAS-KS is a software-based virtual ADC for x86 servers.

Piolink is a major player in the South Korean market, and it provides capable support structures and an ability to deliver ADC and WAF (and related security) solutions.

Piolink, with an intent to provide tighter platform integration in the future, has expanded its offerings into adjacent security and SDN areas.

Piolink bundles free GSLB capabilities with its PAS-KV solutions.

Cautions

Piolink has not yet integrated its WAF appliance into the ADC and therefore requires the deployment of separate appliances.

Piolink has not yet developed detailed skills for complex application deployments, and the product does not have many application-specific features to aid in ADC deployments.

Piolink has specific geographic coverage in South Korea and emerging markets in Asia (specifically, China, Indonesia and Vietnam), which can limit its value for multinational organizations.

Radware

Through its Virtual Application Delivery Infrastructure (VADI) architecture, Radware provides a pay-as-you-grow model that supports scale-up and scale-out growth, and integrates enhanced security and end-user experience monitoring features. Radware has a strong set of security capabilities and has enhanced its integrated application performance FastView offerings, which provide market-leading front-end optimization (FEO) capabilities. Radware should be considered for all ADC deployments, particularly in environments in which application performance is critical, and when integration of security and monitoring is important.

Strengths

Radware offers cost-effective models via its VADI solution. VADI provides scale-up (pay as you grow), scale-in (device consolidation via multitenancy) and scale-out via a clustering architecture.

Radware offers investment protection via a guarantee that any platform purchased will support all software releases for a minimum of five years.

Radware's FastView provides the deepest set of acceleration capabilities in the market, especially for SAP and mobile application environments, and it is now fully integrated onto standard ADC platforms.

Radware continues to invest and deploy cloud-based capabilities to enhance physical and virtual ADC deployments within enterprise and hybrid cloud environments, specifically through its differentiated cloud-based Attack Mitigation Network service.

As an active participant in a number of SDN ecosystems, including with VMware, HP and Cisco, Radware is well-positioned as SDN, NFV and network virtualization achieve increased mainstream adoption.

Cautions

Radware's market awareness and shortlist consideration lag leading competitors, based on Gartner client feedback and survey results.

Radware's ADC growth has lagged that of leading competitors for many years, which Gartner analysts believe speaks to a lack of focus on go-to-market activities.

Radware's sales coverage and routes to market are not as comprehensive as those of its leading competitors. While we are seeing increasing investments in some regions, enterprises should ensure that local resources are available and that these resources have appropriate levels of expertise.

Radware does not have as much experience dealing with complex environments compared with larger vendors. However, continued customer efforts with its programmatic scripting capability (AppShape++) are helping to expand its capabilities.

Riverbed

Riverbed has the most comprehensive application performance portfolio, including WAN optimization, ADCs, remote storage optimization, and application and performance management solutions. Revenue for Riverbed's ADC product, recently renamed "SteelApp," grew below the overall ADC market growth rate during the past year. Riverbed is focused on software-based implementations of ADC technology with a growing list of deployment options. Most notable is its "micro-ADC" footprint, which allows for multiple ADC instances to run in very small Linux containers without a hypervisor. This capability is now integrated into its Services Controller to simplify deployment of SteelApp instances. SteelApp is a key part of Riverbed's service-based solutions, and we expect to see further integration of SteelApp into Riverbed's Application Performance Platform. Riverbed should be considered by enterprises looking for software-based ADC solutions that span enterprise and cloud deployments.

Strengths

Riverbed has a strong long-term vision of managing application performance across a wide range of deployment scenarios.

The SteelApp products offer a rich and growing set of ADC capabilities, including content optimization and WAF security capabilities.

The SteelApp ADC offers good integration with various cloud and SDN environments, and its micro-ADC Linux container provides for efficient, highly scalable ADC instances.

Riverbed is the only ADC vendor to offer full application performance management and network performance management offerings that are part of its SteelCentral portfolio.

Cautions

Many clients report that Riverbed's software-based ADCs can be expensive, although the capacity licensing approach can be attractive in some deployment scenarios.

The SteelApp ADC is not integrated with Riverbed's mainstream SteelHead business, and its software-only solution makes it difficult for Riverbed sales teams to cross-sell the SteelApp technology. Only select channels and field engineers are in a position to offer the detailed level of support required in complex ADC environments.

The SteelApp product is currently available only as software, which limits Riverbed's opportunities with traditional ADC enterprise buyers. In August 2014, Riverbed revealed that a hardware-based appliance is on the road map, with expected delivery in the second half of 2014.

Sangfor

Sangfor, which entered the ADC market in 2009, provides application acceleration, security and infrastructure products. Sangfor focuses on service providers and financial services institutions in the Chinese market. It is growing well above the overall ADC market growth rate and now has more than 3,000 customers. During the past 12 months, Sangfor has released several performance and security capabilities, including asymmetric optimization, support for 60 Gbps throughput and SSL that meets Office of Security Commercial Code Administration (OSCCA) standards. Sangfor's ADC is a good fit for organizations in Asia/Pacific looking for security and load-balancing functionality.

Strengths

Sangfor does well in its target markets — predominantly, China — with products that are tailored to meet specific usability and security requirements.

Sangfor, with 54% year-over-year growth, performed well beyond the overall ADC market growth rate in 2013.

Sangfor has a good range of security features, such as distributed denial of service (DDoS) protection, support for SSL OSCCA standards, Address Resolution Protocol (ARP) attack protection and extended access control lists (ACLs).

Cautions

Sangfor has a limited global installed base and lacks brand awareness outside of the Asia/Pacific region. Sangfor accounts for only about 1.4% of global ADC market revenue.

Compared with some ADC vendors, Sangfor lacks the depth of application-specific optimizations and programmatic scripting capabilities typically needed in larger enterprises.

Sangfor has been late to market with a software-based ADC, and nearly all of its ADC sales are hardware-based.

Because Sangfor is growing its business in markets outside China, enterprises should be cautious of the experience of its partners, because the ADC may be a new technology focus for these partners.

Vendors Added and 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's appearance 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. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

Piolink was added to the 2014 Magic Quadrant.

Dropped

Fortinet was dropped because it no longer meets our revenue criteria.

Brocade, which focuses on providing scalable and high-performance solutions to organizations that operate very large networks — predominantly in the service provider segment — did not meet the requirement for 500 enterprise customers, which is part of our inclusion criteria.

We track a number of vendors that do not meet our inclusion criteria because they garner interest from the Gartner client base and/or have the potential to impact this marketplace over time. Vendors actively tracked by Gartner include Brocade, Embrane, Fortinet, IBM, jetNEXUS, Loadbalancer.org, Microsoft and VMware, and cloud-only vendors such as Akamai, AWS, Instart Logic, Lagrange Systems and Virtela (an NTT Communications company). In addition, Gartner follows open-source solutions such as HAProxy and Nginx.

Inclusion and Exclusion Criteria

Criteria for *inclusion* in the ADC Magic Quadrant include the vendor's ability to:

Produce and release ADC products for general availability as of 1 May 2014, and demonstrate commitment and relevance to the *enterprise* ADC market.

Demonstrate relevance to Gartner clients via achievement of a minimum of 1% market share (or roughly \$16 million of product revenue) in the total ADC market during the past four quarters and/or 10% share within broad submarkets (such as midmarket/large enterprise) or market geographies (such as Europe, North Asia and Latin America). All components must be available on the vendors' published price list and tracked by Gartner's quantitative processes.

The vendor must be able to demonstrate at least 500 enterprise customers that use its ADC products in production environments as of 1 May 2014.

The vendor must have an ability to deploy ADC technology in multiple form factors or deployment options for user-to-application and application-to-application traffic flows.

ADC vendors may be *excluded* from this research for one or more of the following reasons:

The vendor is not actively shipping products to enterprise customers or has minimal continued investments in the ADC market.

The company is not the original manufacturer of the ADC product. This includes hardware OEMs, resellers that repackage products that would qualify from their original manufacturers, as well as carriers and ISPs that provide managed services.

Evaluation Criteria

Ability to Execute

We analyze the vendor's capabilities across broad business functions. Vendors that have expanded their ADC products across a wider range of protocols and applications, improved their service and support capabilities, and focused on improving enterprise applications will be more highly rated in the Magic Quadrant analysis.

Product or Service evaluates the capabilities of the products or solutions offered to the market. Key items to be considered for the application delivery market are how well the products address enterprise application needs, the breadth of the products (in terms of different functional capabilities) and how well they scale — from entry-level products to high-end products and features. Support for virtual ADCs and virtualized ADC platforms, as well as support for cloud requirements, including elasticity and orchestration, is increasingly important. Key aspects that demonstrate continued execution in this area are how the vendor expands the types of applications that are optimized, as well as the flexibility to deploy the ADC in different form factors and deployment architectures. A focus on simplifying operational requirements is also key to a technology that crosses multiple functional groups.

Overall Viability includes an assessment of the organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue to invest in the product, offer the product, and advance the state of the art in the organization's product portfolio.

Sales Execution/Pricing looks at the vendor's ability to get the product into the market efficiently. In this market, we look for specialist capabilities — that is, a vendor and associated channels that understand and deliver solutions for optimizing a range of data center applications. In this market, pricing has become a more important criterion during the past 18 months. As the market matures and expands to include SMBs, customer pricing and flexible licensing approaches will become even more important. Additionally, we expect global distribution and support to serve large-enterprise accounts.

Market Responsiveness/Record focuses on the vendor's capability 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 provider's history of responsiveness.

Marketing Execution measures the clarity, quality, creativity and efficacy of programs that are 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 of the product/brand and organization in the minds of buyers. This mind share can be driven by a combination of publicity, promotions, thought leadership, word of mouth and sales activities.

Customer Experience looks at a vendor's capability to deal with postsales issues. Because of the specialized nature of the application delivery market and the mission-critical nature of many of the application environments supported by the ADC, vendors are expected to escalate and respond to issues in a timely fashion with dedicated and specialized resources, and to have detailed expertise in many specific application environments. Another consideration is a vendor's ability to deal with increasing global demands. Additional support tools and programs are indications of a maturing approach to the market.

Ability to Execute reflects the market conditions and, to a large degree, it is our analysis and interpretation of what we hear from the market. Our assessment focuses on how a vendor participates in the day-to-day activities of the market (see Table 1).

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product or Service	High
Overall Viability	Medium
Sales Execution/Pricing	Medium
Market Responsiveness/Record	Medium
Marketing Execution	Medium
Customer Experience	High
Operations	Not Rated

Source: Gartner (September 2014)

Completeness of Vision

Market Understanding looks at the vendor's capability to understand buyers' current and future needs, and to translate those needs into an evolving road map of products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those wants and needs with their added vision. An example of the expectations in this category is how vendors have enhanced their portfolios to address new application environments, or how they are developing ways of integrating ADC services into emerging SDN-based networks.

Marketing Strategy examines the messages and methods that vendors use to disseminate their messages. Are they clear and differentiated? Are they consistently communicated throughout the organization, and communicated externally through the website, advertising, customer programs and positioning statements? A key attribute of a market leader is the ability to shape and direct the key discussion points in a market to help shift a market in new or expanded directions.

Sales Strategy looks at how the vendor is approaching emerging use cases to support mobility and cloud and their ability to take advantage of different channels, delivery models and business models.

Offering (Product) Strategy looks at a vendor's product road map and architecture, which we map against our view of enterprise requirements. We expect product direction to focus on optimizing enterprise application performance and security. Specific technologies may include connection management, security enforcement, application enhancements, and emerging solutions for enterprise WAN deployment and related technologies. The timely incorporation of new application architectures — and deployment models that support SDN, cloud and mobile environments — contributes to this ranking.

Business Model assesses a vendor's approach to the market. Does the vendor have an approach that enables it to scale the elements of its business (for example, development, sales/distribution and manufacturing) cost-effectively, from startup to maturity? Does the vendor understand how to leverage key assets to grow profitably? Can it gain additional revenue by charging separately for optional, high-value features or by changing the business model for delivering ADC functionality in different ways? Other key attributes in this market would be reflected in how the vendor uses partnerships and bundling/integration to increase sales. The ability to build strong partnerships with a broad range of application vendors and associated system integrators demonstrates leadership.

Innovation measures a vendor's ability to move the market into new solution areas, and to define and deliver new technologies or business models. In the application delivery market, innovation is key to both meeting rapidly expanding requirements and keeping ahead of new (and often more-agile) competitors.

Completeness of Vision distills a vendor's view of the future, the direction of the market and the vendor's role in shaping that market. We expect the vendor's vision to be compatible with our view of the market's evolution. A vendor's vision of the evolution of the data center and the expanding role of ADCs in an increasingly distributed cloud and mobile environment are important criteria. In contrast with how we measure Ability to Execute criteria, more of the rating for Completeness of Vision is based on direct vendor interactions, and on our analysis of the vendor's view of the future (see Table 2).

Table 2. Completeness of Vision Evaluation Criteria

Evaluation Criteria	Weighting
Market Understanding	High
Marketing Strategy	Low
Sales Strategy	Low
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Not Rated
Innovation	High
Geographic Strategy	Not Rated

Source: Gartner (September 2014)

See Note 1 and Evaluation Criteria Definitions at the end of this document for Gartner's generic Magic Quadrant criteria descriptions.

Quadrant Descriptions

Leaders

A Leader exhibits the ability to shape the market by introducing additional capabilities in its product offerings and by raising awareness of the importance of these features. Key capabilities for a Leader revolve around the ADC capabilities that focus on enterprise application capabilities. We expect a Leader to have strong or growing market share and to have solutions that resonate with an increasing number of enterprises. Expertise in complex data center application deployment is also necessary to be a Leader in the Magic Quadrant for ADCs.

Challengers

A Challenger in this market is a follower from a product or innovation perspective, but it has demonstrated the capability to take its products into the market and show their relevance to a wide audience.

Visionaries

Visionaries are vendors that have provided key innovative elements that illustrate the future of the market, and they have an ability to influence the direction of the market toward new approaches. However, they lack the capability to reach a large portion of the market; they haven't expanded their sales and support capabilities on a global basis; or they lack the funding to execute with the same capabilities as a vendor in the Leaders quadrant. Examples of technical innovation include the integration of ADCs into cloud and SDN architectures, facilitating the deployment of ADCs into ADC cloud offerings or advancing Web content optimization capabilities into broader applications. Visionary status is not a matter of deploying certain features but, rather, requires a vendor to be early enough to demonstrate new approaches while having an ability to change key aspects of the market.

Niche Players

Niche Players provide more limited capabilities or geographic focus, and they haven't demonstrated enough vision or focused execution to warrant a stronger position in our analysis.

Context

The key criterion in this Magic Quadrant focuses on the vendor's ability to provide products and services that solve complex application deployment challenges. Success in this market goes beyond features. It involves a deep understanding of how the elements of applications perform across the network and how emerging network and application deployment options, such as network fabrics, SDN and cloud services, will change ADC deployment models.

Market Overview

The market for data-center-based solutions to optimize the delivery of applications across the network continues to develop, and our expectations increase with each iteration of this Magic Quadrant. As a result, the Magic Quadrant axis depicts a shift up and to the right with each revision. Consequently, vendors must progress to maintain their positions in each new Magic Quadrant.

The ADC market provides asymmetrical solutions to improve the reliability, performance, efficiency and security of a wide range of applications. New use cases of ADC technology continue to emerge, reflecting significant innovation in the market. These technologies apply across a growing base of enterprise applications that may use the Internet, or may have little or no roots in Internet-based and browser-based technologies. This market continues to be highly innovative; not only do the larger vendors included in this Magic Quadrant participate, but also some smaller vendors that are not included in this Magic Quadrant.

What Has Changed?

During the past year, the vendor landscape has undergone moderate change, as evidenced by two vendors (Brocade and Fortinet) failing to meet the inclusion criteria for this research, the addition of another vendor (Piolink) and three companies undertaking IPOs (A10, Barracuda and Piolink).

Vendors have continued to integrate their products with virtualization and cloud solutions such as those from Microsoft and VMware or those based on emerging OpenStack implementations. Vendors also have accelerated their involvement in the emerging SDN and NFV ecosystems. Security incidents such as the Heartbleed vulnerability, continued DDoS attacks and concern from governmental spying have further underscored the importance of security capabilities available within ADC platforms. ADCs have become an increasingly popular platform to deploy WAF functionality (see "Magic Quadrant for Web Application Firewalls," in which four vendors covered in the ADC Magic Quadrant are also evaluated for their specific WAF capabilities).

From the buying perspective, organizations continue to invest in ADC technology, and we can broadly categorize enterprise ADC buyers into the following types:

Standard — A buyer looking for primarily basic load-balancing functionality to provide high availability for applications. This is typically a buyer from the networking organization, but also includes cloud teams looking to incorporate basic load balancing as a service (LBaaS) offerings into their private cloud offerings. Most of these buyers purchase fully capable ADCs that are not fully exploited in their implementation.

Extended — A buyer looking for basic functionality and to leverage more of the advanced ADC features, such as security (that is, WAF and DDoS), performance (asymmetric FEO, dynamic compression and caching), and geographic load balancing. This is typically a buying effort that includes networking and system/application administration personnel.

Advanced — A buyer looking for advanced ADC features and integration/orchestration with virtualization and cloud management platforms. Advanced buyers are also typically looking for delivery of application delivery in a platform that provides pooled resources. This is typically a multidisciplinary effort including architecture, cloud, networking and system/application personnel.

Buying practices continue to evolve, with drivers leading to different approaches to ADC deployments.

For mainstream ADC buyers, we continue to see a shift from *standard* buying habits toward *extended* and *advanced* buying behaviors.

We are also seeing a gradual shift within some clients to support both agile and DevOps methodologies, which is changing buying habits in both directions — toward either buying more advanced solutions or buying more basic offerings for those advanced development approaches in which application development incorporates some of the advanced-performance-related features of the ADC. This leads to consideration of simpler ADCs and, in some cases, the integration of open-source solutions into the application environment.

We are also seeing the beginnings of a trend toward cloud resident ADC services as enterprises attempt to deal with the increasingly distributed traffic patterns of cloud-based applications, mobile devices and new application architectures, whereby the browser has taken on some of the content aggregation role from the Web server.

In the SMB market and midmarket, much of the ADC investment is net-new expenditure as organizations upgrade from rudimentary load-balancing solutions (that is, manual processes, Microsoft Network Load Balancing [NLB] and DNS round robin).

In larger enterprises, much of the investment is for ADC refreshes or incremental capacity expansion. The ADC technology refreshes are driven by several factors, including general hardware refresh/performance requirements, and end of life and replacement of widely used Cisco Application Control Engine (ACE) and Microsoft Threat Management Gateway (TMG) products that have been discontinued. Expansion of existing ADC solutions are driven by several factors, including organizations that are:

Extending ADC capabilities into nonproduction environments, such as development/test/quality assurance (QA). These requirements are often met by virtual appliance and software-based instances. Some vendors have seen nearly a six times increase in the sales of their virtual ADC instances.

Expanding the footprint of applications within existing data centers as well as within public/private cloud service providers.

Looking toward the future, ADCs must adapt to:

Changing traffic patterns within the data center due to adoption of data center fabrics, SDN and related technologies. This should result in more deployments of pooled ADCs, typically delivered on virtualized appliances, combined with application-specific deployments on software-based ADCs.

Changing traffic patterns across the WAN due to adoption of SaaS, infrastructure as a service (IaaS) and mobile access. With an increasing amount of applications residing in IaaS data centers, ADC vendors will need software to not only coordinate configurations between private and public data centers, but also track and enable cloud orchestration. ADC functions that extend current

global load-balancing features could also play a key role in how services are delivered. ADC services deployed as a cloud service could also bridge the gap between traditional hub-and-spoke traffic flows and the more distributed flows driven by mobile application deployments and direct-to-Internet traffic patterns.

Changing application architectures that have migrated away from classic hub-and-spoke communication paths. Looking at emerging application architectures, Gartner finds that the browser is increasingly taking on the role of the Web server in aggregating data sources from diverse locations. ADC deployments must evolve to deal with this shift of traffic patterns.

Overall, ample differentiation still exists between products, but this differentiation is often specialized and, in many instances, difficult to fully leverage in mainstream enterprises. In other words, Gartner finds that many solutions profiled in this research are "good enough" to meet the needs of most organizations.

Although the market emerged from load-balancing solutions that were designed to improve the availability and reliability of websites, load balancing and SSL termination for basic HTML traffic are not, by themselves, sufficient to qualify products as ADCs. The range of functionality offered by ADCs continues to grow and can include some, or all, of the following:

Reliability

- Dynamic Layers 4 through 7 (L4-7) redirection, load balancing and failover
- Transaction assurance
- Load balancing for database and big data use cases
- High availability and clustering for ADC platforms

DC efficiency

- TCP connection multiplexing
- SSL termination
- Proxy caching
- XML validation and transformation

Performance

- Data compression and dynamic/adaptive compression
- Protocol optimization
- Caching
- Content transformation and rewrite
- HTML (and other application protocol) optimizations — Prefetching and selective encoding
- Object reordering and consolidation
- Application-specific acceleration
- SPDY proxy

Security

- WAF
- Network-level security functions, distributed denial-of-service protection and server cloaking
- Access control, identity management and single sign-on

Platform capabilities

- Rules and programmatic interfaces
- Application configuration templates and wizards to ease deployment
- Role-based management
- Virtualized appliance and software form factors
- Application performance management capabilities
- Cloud deployment and control
- Back-end server monitoring
- Network-address translation (NAT)
- Bidirectional and stateful application proxy
- IPv6 to IPv4 gateway functions
- Global load balancing
- Integration with other IT systems (via APIs and protocols)

ADCs can be key components of diverse environments, such as portals, ERP systems, Microsoft Outlook and Office Communications Server, control points for virtualization, adjuncts to enterprise service buses or a service within service-oriented architecture (SOA), and, increasingly, as an element of application development environments.

Most advanced ADCs incorporate rule-based extensibility that enables customers to customize the behavior of their ADCs. In addition, many ADCs incorporate programmatic control interfaces — open APIs — that enable them to be controlled by external systems, including application servers, data center management and provisioning applications (orchestration), and network and system management applications.

An important emerging role for ADCs is in providing a protocol gateway between IPv4 and IPv6, allowing IPv6-based users — predominantly on the public Internet — to access websites that support only IPv4.

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