

Magic Quadrant for Application Delivery Controllers

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The application delivery controller is a key component within enterprise data center architectures. Data center architects should evaluate ADCs based on how well they integrate with a wide variety of applications, and how well they support more advanced features.

Market Definition/Description

Application delivery controllers (ADCs) provide asymmetric functions that optimize enterprise applications as they are delivered to users across various internal and external networks and access methods. The ADC effectively bridges the gap between the application and traditional packet-based network technologies. The market evolved from the load balancing systems that were initially developed to ensure the availability and scalability of websites. Today, enterprises use ADCs to optimize application availability, end-user performance, data center resources and security across a growing variety of enterprise applications.

Magic Quadrant

Figure 1. Magic Quadrant for Application Delivery Controllers



Source: Gartner (October 2013)

Vendor Strengths and Cautions

A10 Networks

A10 continued to gain traction over the past year as awareness in the enterprise ADC market improved significantly. It is maturing from a vendor best described as a "fast follower" to one that is

starting to craft its own unique approach to the market. A10's product development has focused on creating scalable, high-performance platforms, and recently completed a platform upgrade with the new Thunder line of ADCs. Equally notable is the continued expansion of features with the latest software upgrades, which now include an integrated Web application firewall (WAF), SSL Intercept and other security features. A10 is also continuing to disrupt the market with aggressive pricing and packaging innovations. A10 has a simple licensing model that includes all platform features, which simplifies procurement and drives down the price for enterprises requiring broader ADC features. A10 is a good choice for enterprises seeking a highly scalable, cost-effective solution that supports an increasingly advanced ADC feature set.

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 a high-performance platform (from a virtual ADC to 150 Gbps appliance), with solid support for advanced traffic management and scripting features and a broad set of security features.
- A10 supports Internet Protocol version 6 (IPv6) with feature parity, and it has strong IPv6 gateway functionality.
- A10's legal issues have been resolved, and the reduced risk and more assured future have allowed the company to increase investments in its business with a significant increase of sales resources and R&D.

Cautions

- A10's ability to help customers with more complex or custom environments is still somewhat limited as it continues to ramp up experience and staff in system engineering and professional services roles.
- Although the platform supports strong traffic scripting, and the scripts can be managed via the management platform, there is limited integration with third-party application development (AD) platforms for close integration with AD and management.
- A10 has a limited focus on Web acceleration, traffic reporting, and application visibility and performance reporting. Custom scripting capabilities can be used to improve on the reporting functions.
- A10 has limited brand awareness and coverage in some markets.

Array Networks

The majority of Array's revenue is derived from emerging markets, and the company continues to do well in Asia; also, an increased focus on North America is resulting in slightly increased growth. For the most part, Array continues to compete on price/performance for dedicated load balancing

scenarios. Feature support is evolving, mainly targeting application-focused load balancing, cloud management integration and multilayer security, including the recent introduction of WAF features in Array WebWall. However, there remains little integration with the application environment. Array is a good choice for enterprises and cloud providers that are seeking reliable and scalable core ADC functionality, such as load balancing and SSL offload with the ability to control costs.

Strengths

- Array has a good understanding of its target markets as well as a focused approach to deliver required features and capabilities for them.
- Array has a strong presence in Asian enterprises — in particular, businesses in China, India and Japan that are seeking cost-effective, high-performance load balancers.
- Array has a broad range of hardware appliances to support a wide variety of scalability and performance requirements, a virtualized appliance supporting five virtual instances, and a virtual ADC with support for KVM, VMware, XenServer and OpenXen.

Cautions

- Because Array is seeking geographic expansion and building a wide range of partnerships to enable growth, enterprises should be cautious of its support capabilities across all geographies and partners.
- Array's main focus is on developing cost-effective, high-performance load balancers with core AD features that meet the needs of many enterprises and cloud providers. Enterprises should be aware that Array supports fewer advanced features — such as traffic management, reporting, scripted application content manipulation and security — when compared with market leaders.
- Lack of support for Hyper-V is an issue with Array's midmarket focus, which has a higher proportion of Microsoft's virtualization base.

Barracuda Networks

In 1H13, Barracuda Networks introduced a rearchitected ADC platform that combines its previously separate, but overlapping, load balancing and WAF solutions. This much-needed advance will enable Barracuda to target the ADC market more effectively with a product that also increases performance to a level more appropriate for enterprise (rather than just small or midsize business [SMB]) deployments. Recent software upgrades have also provided templates for common applications to simplify deployments. Consider Barracuda for implementations in common application environments where a low-cost solution or a security-focused solution is the primary requirement.

Strengths

- Barracuda Networks has developed a broad reach, and is a well-known brand in and beyond its midmarket target customers. However, more awareness of its ADC and related capabilities is required to become a more mainstream player.
- The new Barracuda Load Balancer ADC has a more complete feature set with advanced application security capabilities as an add-on option. This provides a much better upgrade path for Barracuda customers than previous offerings.
- In addition to the security-focused ADCs in its enterprise portfolio, Barracuda offers aggressively priced ADC products that meet the requirements of SMBs and an increasing number of enterprise environments.

Cautions

- Barracuda has delivered virtual ADC functionality, but only recently started to deliver support for key cloud platforms and Hyper-V.
- Barracuda's support and professional services are not as strong as those of the leading vendors for complex implementations.
- Barracuda is not well-suited to complex application environments in which a programmatic interface may be required.

Brocade

Brocade's ADC business remains focused on delivering solutions for network service providers, hosting providers and large enterprises with similar needs for very high performance and/or multitenancy. Since the 2012 edition of this Magic Quadrant, Brocade has introduced virtual machine (VM) editions of its ADC that provide more cost-effective price points for somewhat smaller-scale needs.

Strengths

- Brocade offers very high-performance ADC solutions, including large key size SSL acceleration.
- Brocade's ADC solutions offer proven high-availability capabilities.
- Brocade has added comprehensive scripting via OpenScript and its APIs in areas such as provisioning and orchestration.

Cautions

- Brocade's ADC go-to-market approach is primarily focused on service providers and hosting providers, with a secondary effort on standard enterprise application environments.

- Support for advanced/custom application environments that need OpenScript is a relatively new investment for Brocade, and there are not yet many documented references in this area, nor is there much technical support experience.
- Brocade lacks lower-price ADC platforms for smaller enterprise data centers, and the recent release of the Virtual ADX is still limited in hypervisor support for deployment at the individual application level.

Citrix

Citrix is the No. 2 ADC vendor in terms of overall revenue. It has an experienced global channel partner program, in which it is proficient at leveraging its existing customer relationship in XenDesktop and XenApp solutions. Citrix has also established an alliance with Cisco and is successfully leveraging this to grow revenue. Citrix provides strong support for advanced features based on an architectural vision (TriScale), and a solid understanding of the application environment. It is an excellent choice for enterprises seeking a user-friendly solution for the broadest set of deployment needs.

Strengths

- The innovative TriScale architecture serves as the foundation of Citrix's flexible, cost-optimized deployment model. TriScale provides scale-up (pay as you grow), scale-in (device consolidation via multitenancy) and scale-out via clustering.
- Cisco's referral of ADC business from its former Application Control Engine (ACE) products to Citrix provides Citrix with additional credibility and access to accounts that previously would not have considered a Citrix ADC solution.
- Citrix has opened its platform for integration and consolidation of external services, such as Palo Alto Networks' WAF and VMware's NSX software-defined networking (SDN) solutions.
- Citrix has developed a good cloud strategy with its NetScaler VPX virtual ADC, and has added support for OpenStack and CloudStack, as well as VMware vCloud. However, market traction has not yet ramped up.

Cautions

- Although Citrix supports a XenMobile gateway for protocol acceleration of mobile clients, there is still limited support for asymmetric Web acceleration, such as HTTP and TCP optimization technologies.
- Citrix continues to focus on predefined rule templates for ease of use. Although a broad set of rules exists, based on specific use cases, it offers less flexible rule setting than programmatic approaches.
- The lack of a programmatic rule engine has limited the Citrix field engineering expertise that is required in some custom deployment situations, compared with other ADC leaders.

F5

F5 remains the market leader in revenue and innovation. Its application-life-cycle-focused innovation is centered on open APIs, such as iApps, iRules and iCall, as well as on platform performance enhancement. However, the complexity of this system is beyond the comprehension of some of F5's channel partners and customers. 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, with an industry-leading understanding of the needs of AD, deployment and management.
- F5's internal knowledge base 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 for deploying Big-IP ADC services in cloud environments, such as Big-IQ Cloud providing northbound APIs for integration with management platforms (HP, IBM, Microsoft and VMware), and DevOps tools (Opscode, Puppet Labs) making changes to the Big-IP ADC layer and application instances.

Cautions

- Although F5 has introduced on-demand, scale-up licensing price plans for hardware and software platforms, the price/performance level is still challenging for enterprises with more basic needs, and for the lower end of the market. F5 often does not steer its customers toward clustered solutions, or toward the use of its Virtual Edition software for production use.
- Enterprises need to engage with knowledgeable engineering and online resources to ensure that they get maximum value from the product offering.
- F5 has a loyal community of customers that make use of custom scripting as well as integration with popular integrated development environments, such as Eclipse and .NET/Visual Basic. However, the use of these customized features results in lock-in for its customers.
- With the release of TMOS 11.4, F5 has removed arbitrary restrictions on software modules running on lower-end platforms. Customers with existing low-end platforms still need to confirm possible restrictions due to memory constraints.

Fortinet (Coyote Point)

Fortinet enters this Magic Quadrant via its acquisition of Coyote Point. Fortinet had an existing OEM relationship with Array Networks to offer its products, such as the "FortiBalancer," and had

developed its own ADC under the "FortiADC" name. The Coyote Point products will continue to be offered under their own brand and channels; they are being progressively added to the Fortinet portfolio under the FortiADC brand, with the intention of eventually displacing all Array Networks product lines.

Fortinet also acquired XDN, a provider of cloud-based global load balancing capabilities that can be used to complement Fortinet's ADC products.

Strengths

- Fortinet's strong expertise in network security should enable significant incremental security capabilities to be added to the Coyote Point ADC products over time.
- The Coyote Point products have a well-proven, rich suite of ADC capabilities that are suited to midmarket customers.
- The ADC products are offered at attractive price points for their capabilities.

Cautions

- Fortinet's security focus may divert development priorities away from broader ADC capabilities relating to improving application performance and scalability.
- Fortinet currently has a dual AD product line as it works through the transition from its OEM-based products to the Fortinet-owned Coyote Point product family. Customers should seek detailed information on the technical and commercial upgrade paths for the specific devices they select.
- Compared with leading providers in this Magic Quadrant, Fortinet has limited scripting and integration into third-party virtualization orchestration and SDN systems.

Kemp Technologies

While Kemp Technologies is a new entrant in this year's Magic Quadrant, it has participated in the ADC market for many years. Historically, it has focused on delivering cost-effective load balancing solutions that largely target the SMB market. However, a change in ownership in early 2012 provided a much-needed capital injection, allowing Kemp to expand its R&D and go-to-market activities. Today, Kemp is growing rapidly in the SMB and large enterprise markets, and has met our inclusion criteria for revenue attainment and relevance to our client base. Kemp offers appliance-based solutions and software solutions that support all major hypervisors, and also has partnerships with the Cisco Unified Computing System (UCS) and Dell to run natively on server platforms.

Strengths

- Kemp has an increasing number of feature capabilities that run on hardware appliances, software in virtual environments, or bare-metal installations on Cisco, Dell and HP server platforms.

- Kemp offers full investment protection plans with full credit if enterprises need to upgrade to higher-performance platforms.
- Kemp is focusing on the needs of enterprises in deploying its ADC infrastructure in different form factors across enterprise and cloud environments. This includes support for Amazon Web Services (AWS) and Windows Azure, reseller agreements with Dell, and a growing set of ecosystem partners.

Cautions

- Currently, Kemp does not have WAF capabilities; however, it has added other security features, such as distributed denial of service (DDoS) protection, and basic firewall and intrusion prevention system capabilities.
- While seeing increased traction and investment, Kemp is one of the smallest players covered in this Magic Quadrant, so enterprises should ensure that they have appropriate sales and engineering support, and also that they deal with appropriate Kemp partners.
- Kemp offers a growing set of ADC features; however, it is still too load-balancing-centric, and it has limited capabilities in dealing with complex or custom application environments. In many aspects, the foundational capabilities are available in the platform; however, Kemp needs to develop use cases and expertise to make them more readily accessible.

Radware

Radware provides a broad range of capabilities through its Virtual Application Delivery Infrastructure (VADI) architecture, including hardware, virtual and cloud-based delivery of ADC services. VADI provides a pay-as-you-grow model that supports scale-up and scale-out growth, and integrates enhanced security and application performance monitoring (APM) features. Radware continues to innovate, acquiring Strangeloop for increased Web performance optimization, jointly developing custom SAP optimizations and participating heavily in the emerging SDN ecosystem. Radware should be considered for all ADC deployments, particularly in environments where application performance for e-commerce or SAP implementations is critical, and when integration of security and monitoring is important.

Strengths

- Radware provides the most flexible set of architectural features as part of its VADI architecture. VADI provides scale-up (pay as you grow), scale-in (device consolidation via multitenancy) and scale-out via clustering.
- Radware offers investment protection via a guarantee that any platform purchased will support all software releases for a minimum of five years.
- Radware FastView provides the deepest set of acceleration capabilities in the market, especially for SAP and mobile application environments. It also includes integrated security, APM and service-level agreement (SLA) monitoring capabilities within its ADC product line.

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

Cautions

- Despite a strong technical solution, Radware's routes to market are not as strong as those of its leading competitors because it has historically underinvested in sales and marketing. Gartner does not see Radware included in as many customer shortlists as would be expected during ADC selections.
- While Radware has recently introduced AppShape++ scripting, it does not have as much experience dealing with custom environments as other leaders do.

Riverbed

Riverbed entered the ADC market in mid-2011 by acquiring ADC vendor Zeus Technology and Web page optimization vendor Aptimize to form its Stingray product line. Riverbed is focused on software-based implementations of ADC technology, and, during the past year, it made significant strides in positioning its Stingray solution in a variety of user cases. Most notable is its "micro-ADC" footprint, which allows for multiple ADC instances to run in very small computing footprints without a hypervisor. Riverbed has also established a licensing model based on capacity — regardless of implementation or number of ADC instances. Riverbed should be considered by enterprises looking for ADC solutions that span enterprise and cloud deployment options, or those coupling ADC features with a growing list of enterprise applications and AD environments.

Strengths

- Riverbed has a strong long-term vision of managing application performance across a wide range of deployment scenarios.
- The Stingray products offer a rich set of ADC capabilities, including content optimization and WAF security capabilities.
- The Stingray ADC offers good integration with various cloud environments, and its micro-ADC Linux container provides for efficient, highly scalable ADC instances.
- The pure software-based Stingray ADC (not just a VM) is well-suited to the DevOps approach of attaching services to applications, rather than linking to appliances or VMs.

Cautions

- Clients report that Riverbed ADCs can be expensive, although the capacity licensing approach can be attractive in some deployments.
- The Stingray ADC is still a small percentage of Riverbed's business with no integration into its mainstream Steelhead line. Only select channels and field engineers are in a position to offer the detailed level of support required in complex ADC environments.

- The Stingray product family is pure software products, and appliance versions of the products are not available. While some organizations prefer the flexibility of this approach, others prefer the simplicity of a physical appliance, or they require performance capabilities (especially for SSL) that a hardware appliance can deliver.

Sangfor

Sangfor was founded in 2000 with an initial focus on security. Its ADC, Sangfor AD, was launched in 2009. Sangfor has largely focused on the Chinese market and on growing its channel presence. Feature support is focused on the needs of the Chinese enterprise and government market, which are still primarily load balancing combined with security features. Sangfor has increased focus outside of China, but with limited market growth. The Sangfor AD is a good choice for price-sensitive enterprises in Asia that are mainly seeking load balancing combined with security.

Strengths

- Sangfor is established in the Chinese market with a solid support organization. It is now focusing on expanding its channel partners for wider reach within China.
- Sangfor has a good range of security features, such as DDoS protection, ARP attack protection, support of standard access control list (ACL) features, extended ACL features and other security functions.
- Sangfor has a broad range of appliances sold with a simple, all-inclusive licensing structure in which the only additional optional feature is its unilateral acceleration.

Cautions

- Compared with the leading vendors, Sangfor has a narrow feature set that is specifically targeted at Chinese market requirements. Feature additions remain incremental extensions to the load balancing focus, with no specific focus on application layer programmatic scripting.
- Sangfor has been late to market with a software-based ADC, which has limited hypervisor support.
- Since Sangfor is targeting markets outside China as well as expanding channel reach within China, enterprises should be cautious of the experience of its partners, because the ADC may be a new solution area 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 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.

Added

The following two vendors were added to this Magic Quadrant: Fortinet (due to its acquisition of Coyote Point) and Kemp Technologies.

Dropped

Strangeloop was dropped due to its acquisition by Radware.

Coyote Point was dropped due to its acquisition by Fortinet.

Cisco was dropped due to its announcement that it was withdrawing from direct participation in this market (see "Cisco's Strategic Shift in the ADC Market Offers New Opportunities to ACE Customers" for more details).

Inclusion and Exclusion Criteria

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

- Produce and release products for general availability, and demonstrate commitment to the ADC market.
- Deliver solutions directly to the enterprise market or indirectly through service-provider-bundled solutions across several geographies.
- Demonstrate relevance to Gartner clients via achievement of a minimum of 1% market share (or roughly \$16 million of product revenue) in the ADC market over the past four quarters.

Note that, while they did not meet the revenue inclusion criteria, we continue to track vendors such as ActivNetworks, jetNexus, Piolink and other alternatives that provide ADC functionality that may suit particular buyers' needs.

Evaluation Criteria

Ability to Execute

We analyze the vendor's capabilities across broad business functions. Vendors that have expanded their 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 considered 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.

Overall Viability (Business Unit, Financial, Strategy, Organization) 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 over 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 or coverage in specific targeted regions 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, we expect ADC vendors to escalate and respond to problems 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

Criteria	Weight
Product or Service	High
Overall Viability	Medium
Sales Execution/Pricing	Medium
Market Responsiveness/Record	Medium
Marketing Execution	Medium
Customer Experience	High
Operations	No Rating

Source: Gartner (October 2013)

Completeness of Vision

Market Understanding looks at a 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 methods that vendors use to disseminate their messages. Are they clear and differentiated? Are they consistently communicated throughout the organization, and 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 it in new or expanded directions.

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 — such as service-oriented architecture (SOA), Web services, Ajax, SIP, virtual ADCs, and integration into cloud and SDN architectures — also 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 taking other approaches to bundle solutions to gain share? Other key attributes in this market would be reflected in how the vendor uses partnerships 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. In the application delivery market, innovation is key to meeting rapidly expanding requirements, and to 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 SOA/cloud 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	No Rating
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	No Rating
Innovation	High
Geographic Strategy	No Rating

Source: Gartner (October 2013)

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 this Magic Quadrant.

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. However, they lack the capability to influence 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 innovation include the integration of ADCs into cloud and SDN architectures, or to advance Web content optimization capabilities into broader applications.

Niche Players

Niche Players provide more limited capabilities or geographic focus, and 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.

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 performance, efficiency, deployment and security of a wide range of applications. New use cases of the 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. These smaller vendors take part in the ADC market and often focus on specific market segments; examples include ActivNetworks (wireless service providers and video optimization), Embrane (cloud services platforms including load balancing functions) and Piolink (South Korea market focus).

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:

- Layer 4 through Layer 7 redirection, load balancing and failover
- TCP connection multiplexing
- Server offload (for example, SSL termination and TCP connection management)
- Data compression
- Network address translation
- Network-level security functions, DDoS protection and server cloaking
- Selective compression
- Caching
- Content transformation and rewrite
- Application firewall
- Transaction assurance
- Rules and programmatic interfaces
- HTML (and other application protocol) optimizations — perfecting, selective encoding and so forth
- XML validation and transformation
- Virtualization
- Back-end server monitoring
- Load balancing for database and big data use cases
- Application performance management
- Application-specific acceleration
- Bidirectional and stateful application proxy
- IPv4 to IPv6 gateway functions

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 SOA, and, increasingly, as an element of AD environments.

ADCs are delivered in multiple form factors today — physical and virtualized physical appliances or software running in virtual environments, on bare-metal servers, or as Linux containers. Tight integration with data center automation suites is becoming common to automate provisioning and increase data center agility. SDN will automate provisioning of the Level 2/Level 3 network. These networks must be linked to upper-layer services, such as ADCs. This mapping of SDN-managed physical ports to service platforms will most likely be done by higher-level automation applications.

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.

Gartner Recommended Reading

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

"How Gartner Evaluates Vendors and Markets in Magic Quadrants and MarketScopes"

"Load Balancers Are Officially Dead; Refocus on Application Delivery"

"Toolkit: Sample RFP for Application Delivery Controllers"

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 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.

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