

Ovum Decision Matrix: Selecting an Application Performance Management Solution, 2014–15

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SUMMARY

Catalyst

The market for application performance management (APM) solutions continues to expand on the strength of innovation within the APM industry, resulting in new-generation tools, and also as a result of major shifts in IT usage around mobile and cloud, leading to demand for new APM capabilities. To help IT decision-makers choose the right solution for their needs, this Ovum Decision Matrix on APM takes 10 of the leading APM solutions in the market and evaluates and compares them side by side.

Ovum view

APM is an essential activity for enterprises at multiple levels: during development it assists developers and QA staff with pre-release performance testing; during live production it assists IT operations ensure mission-critical applications are running within the boundaries of SLAs (service-level agreements); it supports the delivery of IT services to the business; advanced technology can preempt issues before end users are affected; and it supports troubleshooting and defect-fixing when problems do occur. APM solutions monitor the IT environment, manage the gathering of metric data, and provide reports and dashboards for administrators, managers, and other stakeholders.

The definition and span of APM coverage is taken broadly here, not just in terms of what aspects of the IT infrastructure may affect the smooth running of software applications, but into realms where APM metrics provide business-level information and therefore overlap with business process management. For example, the capability to process high volumes of realtime streams of metrics using Big Data technology has opened new business-oriented possibilities for organizations to manage the logistics of

globally distributed sites. Ovum also includes application security monitoring within the broader scope of APM, reflecting the increased use of applications outside the firewall and the increase in Internet commerce; security-related issues should be part of a comprehensive application-monitoring strategy.

APM remains a market with many different types of solutions, from hardware-based appliances to pure-software solutions. Typically, vendors approach the market with particular strengths and build out their coverage portfolio on top of these – for example, building solutions around complex event processing engines, or Big Data realtime analytics capabilities. The market has seen a definite shift towards solutions supporting the latest mobile and cloud computing trends. As enterprises make better use of cloud services, and enterprise end users and consumers increasingly use smart mobile devices, the need to manage performance on these environments correspondingly grows. When selecting solutions, prospective APM customers should look to see what coverage exists today for cloud and mobile, and what is on the vendor's roadmap, because Ovum considers these trends to be significant shifts in how IT is used.

An emerging category within APM is log management, which has been growing at a strong pace with a number of new vendors joining the market; Splunk, in particular, has made quite a splash. These solutions are able to process vast amounts of machine data in realtime, so they represent a fusion of new technologies applied to existing categories of data. As the capabilities of log management tools are realized by users, developers write improved logs, creating a virtuous circle. A number of APM vendors we cover in this report are able to replicate these modern log management capabilities and are responding to this emerging solution category by better targeting their existing features.

The vendors in this Decision Matrix are assessed on the basis of technology features, market execution, and market impact. Our analysis of tier-one APM vendors shows that a band of vendors – CA Technologies, Compuware, HP, and IBM – are the clear leaders, with BMC and Dell Quest situated just outside this group. The remaining vendors in our review – ExtraHop, iTrinegy, Nastel, and SolarWinds – are all distinct with their particular strengths, but do not have the breadth of APM coverage that the other vendors can offer. How a prospective customer decides on which solution is right for them will depend on many factors: existing legacy tools, particular pain-points, and most-urgent monitoring needs. It is for this reason that we provide two powerful tools to help in decision-making: all of our solutions' features analysis data is available in the Ovum Interactive Decision Matrix for APM, in which the feature weights can be changed by the user as required; the Ovum Rainbow Map for APM (Figure 3) shows at a glance which vendor solution covers which APM categories.

Key findings

- The APM solutions market sees continued growth for incumbent vendors, as well as the appearance of new vendors.
- New technology adoption by organizations across cloud and mobile sees corresponding demand grow for APM covering these environments.
- APM vendors are increasingly offering APM as a service option and Ovum expects this trend to grow as users become more comfortable with this approach and also find it compatible with their overall use of cloud services.

- Big Data realtime analytics is driving the latest-generation solutions, providing enhanced predictive APM as well as supporting log management advances.
- Log management has made an impact as a distinct category complementary to traditional APM, with new-generation solutions exploiting Big Data realtime technologies.
- Ovum finds CA Technologies, Compuware, HP, and IBM to be the leading solutions on the market, offering breadth and depth of feature capabilities, the ability to execute strongly in a highly competitive market, and excellent market impact. Ovum recommends the inclusion of these solutions on enterprises' APM shortlists.
- BMC and Dell Quest have admirable solutions that are just short of our leader category, and which have also performed well in terms of execution and market impact. Ovum recommends that enterprises consider these solutions when evaluating APM vendors.
- Solutions from ExtraHop, iTrinegy, Nastel, and SolarWinds all have distinct strengths and Ovum recommends that enterprises explore these solutions when selecting an APM solution.

Ovum ratings

- **Market leader:** This category represents the leading solutions that we believe are worthy of a place on most technology-selection shortlists. The vendor has established a commanding market position with a product that is widely accepted as best of breed.
- **Market challenger:** The products in this category have a good market positioning and are sold and marketed well. The products offer competitive functionality and a good price-performance proposition, and should be considered as part of the technology selection.
- **Market follower:** Solutions in this category are typically aimed at meeting the requirements of a particular kind of customer. As a tier-one offering, they should be explored as part of the technology-selection process.

Ovum Interactive Decision Matrix

To access the Interactive Decision Matrix for APM – an online interactive tool that provides the technology features that Ovum believes are crucial differentiators for leading solutions in this area – please download the Ovum Interactive Decision Matrix tool from the Ovum Knowledge Center.

MARKET AND SOLUTION ANALYSIS

Ovum Decision Matrix: APM, 2014–15

APM has become a broad field as it has grown over the years to encompass the following areas requiring monitoring and management:

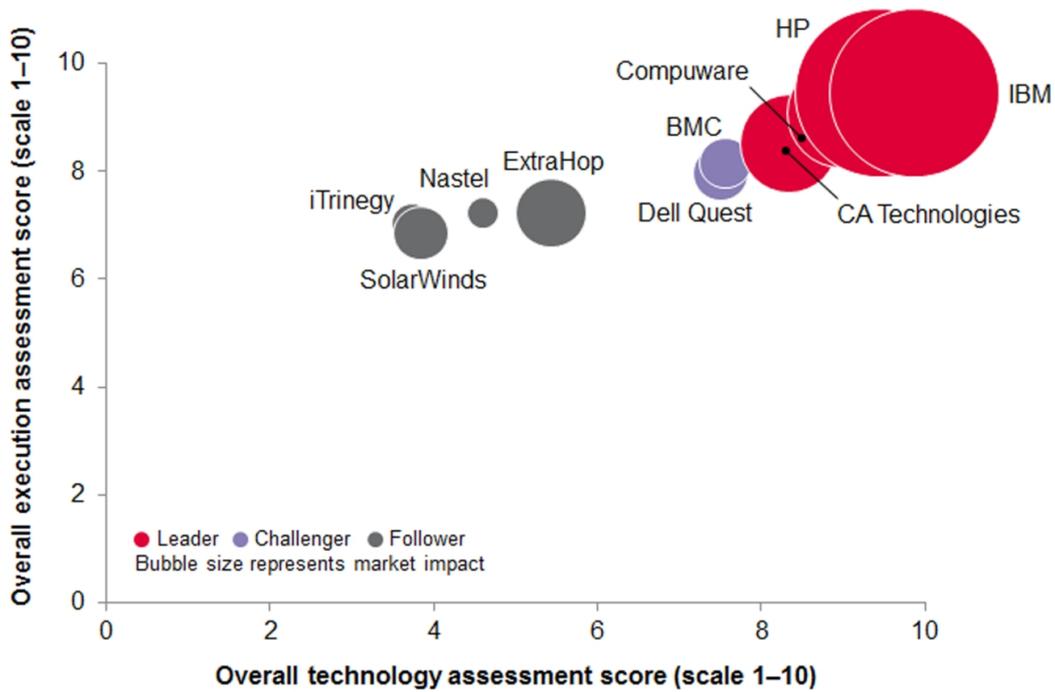
- Application development, from understanding how nonfunctional requirements perform using performance testing, to fixing defects.
- Operations, where reducing risk in the IT environment, ensuring compliance with SLAs, addressing help-desk issues, and monitoring mission-critical applications and infrastructure are paramount.

- End-user experience monitoring, with synthetic and real users, to preempt application issues, ensuring they are caught before they disrupt user experience.
- Application overlap across network, storage, and databases, ensuring 360-degree monitoring of any aspects that can disrupt applications.
- Data center infrastructure from servers to middleware, ensuring application transactions can cross the IT environment without trouble.
- Business-level transactions may cross-cut multiple applications; business transaction management is a high-level view that treats business transactions as integral operations meaningful to the business.
- New areas of APM include intelligent monitoring of machine and wire data to support business operations, through to application security monitoring, as APM finds new ways to be relevant to organizations.
- New Big Data realtime technologies are also supporting advanced APM analytics.

The users of APM tend to fall into distinct categories including developers, operators, system administrators, database administrators, network engineers, web masters, senior executives, and line-of-business managers. The DevOps movement is helping these silos to engage in improved communication and is lowering barriers between them, and is therefore relevant to APM.

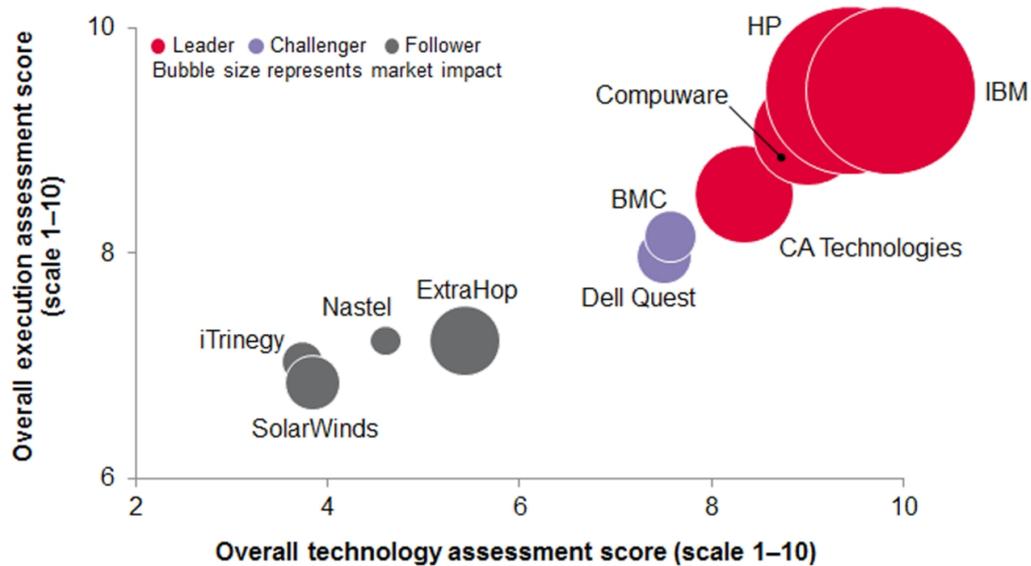
Ovum has evaluated and compared APM solutions from the leading vendors in the market across three dimensions: technology, comprising a comprehensive features analysis; execution in the market, based on the vendors' ability to deliver to the market; and vendors' market impact, comprising analysis of revenue, revenue growth, and market penetration. The results are aggregated in the Ovum Decision Matrix on APM for 2014–15 (see Figures 1 and 2). Ovum has categorized these vendors as leaders, challengers, and followers based on the Ovum Decision Matrix results. The vendors are listed by category in Table 1.

Figure 1: Ovum Decision Matrix: APM, 2014–15



Source: Ovum

Figure 2: Expanded view of Ovum Decision Matrix: APM, 2014–15



Source: Ovum

Table 1: Ovum Decision Matrix: APM, 2014–15

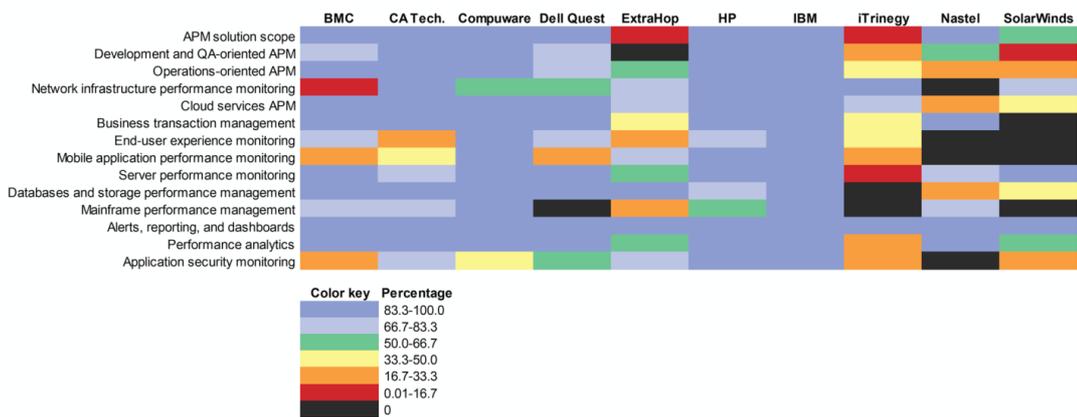
Market leaders	Market challengers	Market followers
CA Technologies	BMC	ExtraHop
Compuware	Dell Quest	iTrinegy
HP		Nastel
IBM		SolarWinds

Source: Ovum

APM vendor solutions Rainbow Map

Ovum's unique solution Rainbow Map shows at a glance how each vendor's solution fares per APM category. A black entry indicates the vendor has chosen to offer no capabilities in that area; otherwise the color index works from the red end of the spectrum, indicating lack of features, towards green and then blue indicating maximum APM feature coverage.

Figure 3: Ovum Rainbow Map on APM vendor solutions, 2014–15



Source: Ovum

Market leaders: vendor solutions

CA Technologies

CA APM has a long history as an enterprise-strength product, one that can exploit CA Technologies' investment in its Service Assurance Solutions portfolio, such as the integration layer that connects data center segments, including network and other infrastructure, with applications and services. The latest release offers enhanced capabilities in analytics, and cloud monitoring, which ensures CA APM's place as a leading APM solution.

Compuware

Compuware should be on the shortlist for enterprises looking for a state-of-the-art APM solution. Ovum is impressed by the breadth and depth of the offering's capabilities, and Compuware has addressed the

needs of the Internet generation with an SaaS APM offering, as well as the mobile generation with full native-to-web and hybrid mobile monitoring capabilities. It has deep-dive capabilities suitable for developers, testers, database administrators, IT infrastructure operators, and business transaction management administrators. The solution portfolio's breadth makes Compuware an excellent APM vendor for organizations adopting DevOps across the IT department.

HP

HP has a wide range of APM solutions that integrate well with its adjacent solution areas in application lifecycle management such as testing where it has particular strength. HP can leverage these integrations to provide lifecycle solutions for DevOps. For example, HP Diagnostics provides application code visibility and is combined with predictive analytics available within HP AppPulse to trigger alerts that pick up end-user anomalies before they grow into service-level issues. Latencies can be traced down to application stack layers. The value in the HP ALM-APM integration is that HP AppPulse will be aware, for example, that a recent code change was made into production and resulted in changes in performance metrics. Enterprises should shortlist HP APM for its breadth and depth of capabilities.

IBM

IBM is able to offer a comprehensive set of features – across newly architected products designed to meet both on-premise and cloud requirements – that are lightweight, easy to deploy, and well integrated. IBM is also reaching out to a wider user base with the introduction of easy access to tools via direct web downloads, easy deployments, and free trials. This is a new approach from IBM, supported by a new streamlined web-based buying process designed to address the needs of a new generation of web-savvy businesses. Monitoring end-user experience for mobile is essential today, and IBM is supporting IBM Worklight-based apps and intends to add third-party mobile development support.

Market challengers: vendor solutions

BMC

BMC is, to use its words, passionate about business service management, and its APM solution is part of that ecosystem of its offerings, and has a natural focus on IT operations. Users can select modular components according to their needs and BMC BPPM acts as the core hub, allowing integration with third-party tools in heterogeneous environments. BMC can therefore offer APM as part of a comprehensive IT applications, services, and infrastructure-monitoring solution for IT operations. It has advanced technology based on behavioral analytics and event-correlation analysis that underpins its solution to provide early alerts and reduce false positives.

Dell Quest

Dell Quest Foglight offers a fully integrated model-based monitoring platform (patented technology) that does not treat APM (or any particular domain) as a point solution. Rather Foglight APM is built on the same platform as the Foglight for Databases product and Foglight for Virtualization product. This gives

users a full picture of their environment for multi-stakeholder collaboration and a single view of performance-related events. The Foglight Real User Experience monitoring features combine both network packet capture and browser instrumentation data to provide complete coverage of user experience issues from front-end to back-end to third-party problems.

Market followers: vendor solutions

ExtraHop

ExtraHop's solution is different from many traditional approaches in APM in that it passively mines the network to manage application performance, availability, and security. The increasingly heterogeneous, distributed, and dynamic nature of applications across physical and virtual environments is causing IT organizations to seek approaches that are better able to monitor such applications. ExtraHop is at the forefront of tapping data on the network – including the full bidirectional transactional payload underlying all on-the-wire communications – for use in APM. Its solution is designed to be simpler to deploy and maintain, and will work for all applications. IT organizations have to maintain legacy applications while supporting new IT initiatives, such as cloud migration, BYOD, DevOps collaboration, VDI, and more, and this will cause these organizations to seek out solutions that work for all their networked applications, whether custom-developed or off-the-shelf.

iTrinegy

The use cases for iTrinegy solutions vary from application developers and testers who need to test an application in realistic network conditions and therefore need to capture live network characteristics, to IT operations staff that need visibility into network traffic and application performance. Such performance testing can be carried out on a geographically distributed WAN.

AppQoS is aimed primarily but not exclusively at the SME market, and INE is targeted at the entire enterprise market. iTrinegy solutions provide deep network inspection-based APM. AppQoS is able to provide a wide variety of performance-monitoring-related tasks: network performance; client-side issues and end-user experience; and application and transaction monitoring. iTrinegy offerings may be best used as part of a cost-effective best-of-breed, point-solutions APM strategy.

The emulator uses a drag-and-drop GUI for configuring a network environment. The INE can create a pre-production test environment that can be used to triage fix-on-fail issues, and can also be used to service all programs and projects making changes to applications or the live network. The scope for reducing errors moving in to production is huge.

Nastel

Nastel's sweet spot is middleware, and Nastel AutoPilot is an advanced solution that is a good choice in complex IT environments where middleware acts as the "nervous system" of the application infrastructure including automated systems that do not even have any end users. Thus Nastel AutoPilot is ideal for monitoring data centers that have mainframes/legacy machines and distributed computers; use multiple tiers; and where messages go beyond the firewall and not just a web server, i.e. service-oriented architecture. Ensuring that middleware is behaving correctly can reduce problems

appearing at the fringes and affecting business performance. The capability to monitor business-level policies, such as compliance, adds considerable strength to the product.

SolarWinds

SolarWinds' products will appeal to IT users and IT departments that value ease of use, from simple purchase and deployment to product use. SolarWinds' product strategy is to serve mature markets with products that solve most use cases at a low price. This means its products are inherently not bleeding edge in terms of the range of potential market expectations for a given solution. As the APM market continues to mature, the company states it will look for opportunities to satisfy use cases for large numbers of customers versus investing in cutting-edge technology that only serves a handful of larger customers that have the human and financial resources to implement the solution. Thus SolarWinds has a highly targeted approach to the market and it has been successful in satisfying its target customers. SolarWinds' network management business is where the company started, and its systems management and APM business is now growing at the fastest rate.

Emerging vendors

The APM solutions market has other vendors that have not appeared in this report, because our focus is tier-one vendors. A number of larger players that were invited to participate in this report, such as Microsoft and NetScout, declined our invitation. Others were too small to appear as a tier-one solution. The lists in Table 2 are subsets of those available on the market and should be read as representative samples.

Table 2: Emerging vendors, APM, 2014–15: sample lists

Log management	New vendors	Other APM vendors
Loggly	AppDynamics	Aternity
Splunk	Boundary	BlueStripe
	Lacuna Systems	Correlsense
	New Relic	eG Innovations
		Microsoft
		NetScout
		Netuitive
		OpTier
		PreAlert
		Riverbed

Source: Ovum

An emerging APM category is log management and Ovum has recently conducted On The Radar reports on two: Loggly and Splunk. We report below why these log management vendors should warrant your attention.

Why put Loggly on your radar?

Enterprises with any degree of complexity in their log management should consider the benefits of a hosted service like Loggly, to enable them to focus valuable resources on their core competencies. The SaaS offering makes it easy to try out the solution and also grow or shrink usage according to variable business requirements without any additional provisioning or software deployments. Log information contains a wealth of information which largely goes unused because the volume of data is simply too large for humans to process. Research shows that the majority of IT issues first turn up as unusual entries in log data, often too subtle to be noticed and buried amid a mass of normal data. An experienced operations professional may notice such anomalies but rarely has time to inspect and follow up on every lead. As a result, they are more likely to act at a later stage of escalation. The key benefit of log management using massive volumes of machine-readable data is to pick up on small signals as soon as they occur and create an alert to raise awareness, isolate the issue, and resolve it to ensure a healthy application and environment. Operators then have much more time to deal with the issues instead of looking for them. The possibilities are that log management may well lead software developers to create richer log information, giving log management tools more power in diagnosing and troubleshooting problems. It becomes a virtuous circle that results in improved IT services.

Why put Splunk on your radar?

Splunk Enterprise mines the fields embedded in machine-generated data – log files and headers in messages and content that is generated by a host of applications from social network services such as Twitter, to enterprise applications, to IT tools such as APM. An example use case is one of North America's largest home improvement chains, where Splunk is used to carry out 120,000 searches per day and index 500GB of metadata per day. It uses 25,000 forwarders (connectors that feed Splunk) and is used across over 2,100 branches of the store in the US and Canada. The company uses Splunk to provide proactive alerts and populate an operational dashboard. After using Splunk, the customer reduced its mean time to resolve issues, and outages dropped by around 43%.

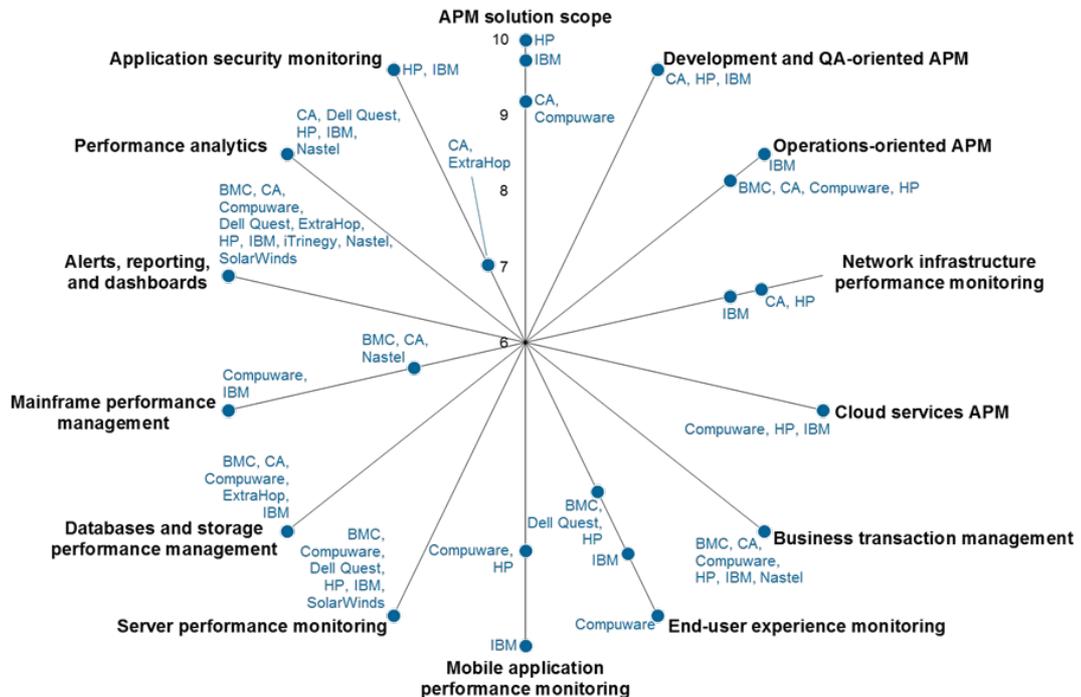
Splunk has grown rapidly because of its ability to deploy quickly and deliver value quickly. The technology indexes data in full fidelity; it does not impose any structure until query time. This model removes the traditional data management requirement of setting up extract, transform, and load pre-processing and database schemas. Splunk scales horizontally using MapReduce, a Big Data technique that distributes processing across commodity computing.

Many organizations turn to Splunk as a Google search-like tool to mine and analyze machine data. It is ideal as a complement to existing tools in silos that generate vast amounts of data. Use cases where batch, iterative analysis is required on the data are not suitable for Splunk, and where pattern-based statistical correlation analysis across individual metrics is required, partner solutions are available. Splunk can be downloaded for free to trial. A new offering, Hunk – Splunk Analytics for Hadoop – is now available.

MARKET LEADERS

Market leaders: technology

Figure 4: Ovum Decision Matrix: APM, 2014–15 – Market leaders – technology



Source: Ovum

CA Technologies

CA Technologies has achieved strongly across the board of feature criteria, with end-user experience monitoring the only obvious gap and which it defers to a third-party solution. CA also holds some aces, notably its capabilities in the overlapping sphere of ITSM and to which integration with its APM solution yields additional benefits, as well as CA Lisa service virtualization addressing DevOps.

Compuware

Compuware has made APM its prime business focus and delivers a fine solution that delivers a score near to the top in several categories. The vendor has spent the last few years integrating three solutions gained through acquisitions and original offerings, namely Gomez, DynaTrace, and Vantage, and this phase has concluded with a well-integrated whole.

HP

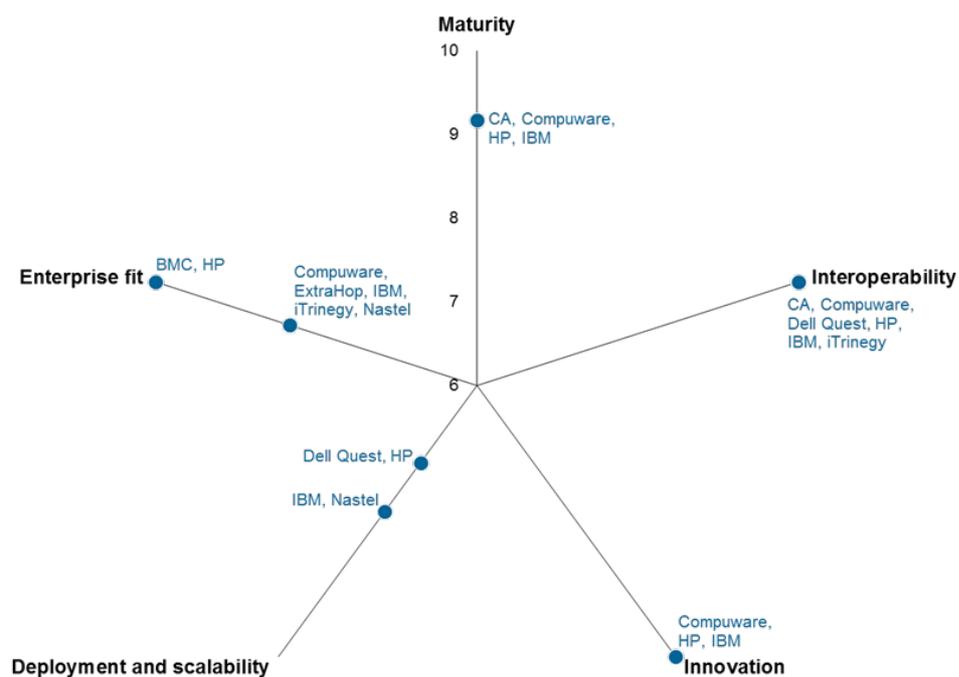
HP has achieved scores near the top in Ovum's APM feature matrix and has a comprehensive solution set. HP can also integrate its APM offerings with capabilities in adjoining areas of ITSM and network performance management, an advantage for the larger enterprises that require wide-ranging solutions.

IBM

IBM has a near perfect set of scores against our feature matrix criteria, spanning the whole range of APM categories. IBM is a vendor that enterprises should shortlist for their APM requirements. While IBM has traditionally targeted large enterprises, it is also looking to increase its SME presence with APM products available for direct download.

Market leaders: execution

Figure 5: Ovum Decision Matrix: APM, 2014–15 – Market leaders – execution



Source: Ovum

CA Technologies

In a competitive market CA Technologies can leverage its global sales force to present its APM solution as part of a comprehensive ITSM portfolio. It has been a leader in this space since the Wily acquisition

and continues to acquire new solutions and grow organically. Overall, CA APM is a mature solution that is keeping pace with new technologies.

Compuware

Compuware has an excellent execution score, reflecting its focus on being a leader in the APM space. It continues to innovate, building on the advanced capabilities of the DynaTrace technology. Ovum recommends that organizations, no matter their size, shortlist Compuware.

HP

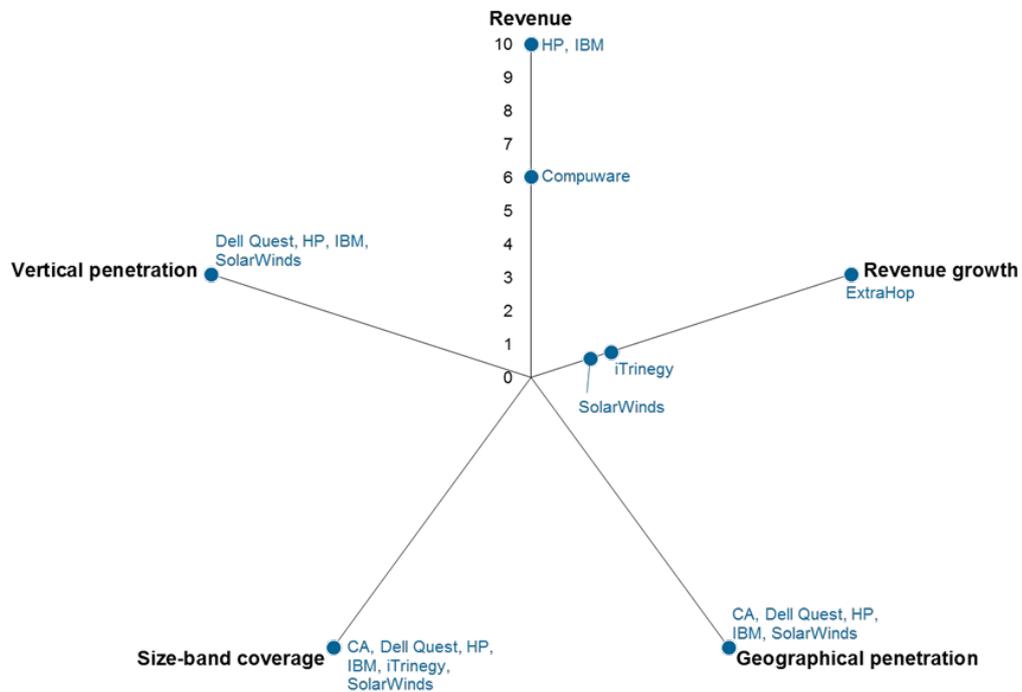
HP's execution ratings share equal position at the top and reflect HP's ability to execute well, leveraging its strength in adjoining areas of performance testing and ITSM. With a global sales force and professional services wing – HP Enterprise Services – HP is able to deliver first-class support throughout the sale and post-sales lifecycle.

IBM

IBM executes supremely well in the market with the backing of a global sales force and one of the largest IT services providers, IBM Global Business Services. The company is able to continually innovate, whether organically or through acquisitions.

Market leaders: market impact

Figure 6: Ovum Decision Matrix: APM, 2014–15 – Market leaders – market impact



Source: Ovum

CA Technologies

CA has a healthy market share and scope to grow at an enviable rate given its large presence. Geographical penetration, including across company sizes and vertical industries, is also near perfect in our scoring.

Compuware

Despite being the smallest company by size among the leaders, Compuware has market revenues that reflect its ambitions. Given its market presence, its growth is also respectable and in line with expectations.

HP

HP's share of the APM market is one of the largest, matched by only one other vendor in our analysis. Given its market size, its rate of growth is perfectly reasonable and its market penetration across the segments of geography, client size, and industry vertical are excellent.

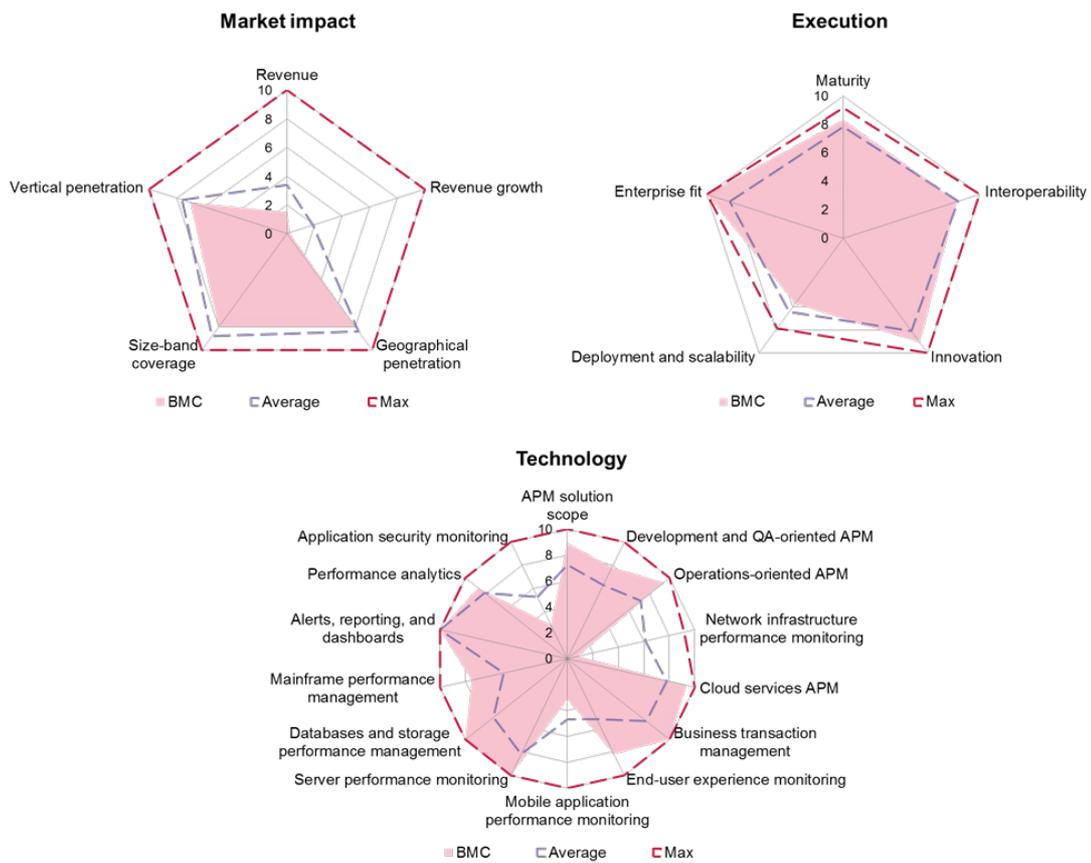
IBM

The global APM market is in the billion-dollar range and demand is increasing. IBM has a leading market share of this total and this is reflected in its market impact score, which is highly weighted towards base revenue in Ovum's model.

VENDOR ANALYSIS

BMC, Ovum recommendation: Challenger

Figure 7: BMC radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

IT operations is BMC's sweet spot – BMC's focus on IT operations provides the level of detail it needs to manage the data center and maintain high-quality service delivery. Tied in with other BMC solutions such as capacity management, CMDB service information, help desk, and infrastructure performance management, it is able to leverage information sharing to improve the APM capability.

BMC offers cloud- and SaaS-ready APM solutions – BMC APM can be used for monitoring cloud services and applications delivered as SaaS – for example, monitoring applications running on Amazon public cloud. It offers end-user experience of real users in realtime using passive non-intrusive technology.

Akamai CDN users can now monitor their end users' experience – BMC has a partnership with Akamai for monitoring users who are served by the Akamai Content Delivery Network. Akamai has developed its EdgeConnect service to allow APM vendors to integrate into it and be able to monitor end-user experience.

Weaknesses

Mobile APM can be improved – Clearly, mobile APM is a crucial requirement today and while BMC has capabilities in this category, it is aware of gaps and its roadmap indicates these will be filled. Its related BMC MyIT initiative is highly innovative and Ovum believes BMC will deliver in this space. In the meantime it is selling Aternity to its customers with mobile APM requirements.

Network infrastructure performance monitoring is mainly available via third parties – BMC has a Marketzone Direct Partner solution program for third-party solutions, apart from capacity management which is available as an add-on. While we do not expect an APM solution to cover every aspect of network performance management, we find peer solutions are able to provide some capability. However, BMC has far fewer features here than the typical APM solution.

Opportunities

BMC acquired StreamStep and now markets an enterprise DevOps solution – Coupling BMC's DevOps capabilities in automated application release management with its developer-oriented APM capabilities should be an obvious opportunity but one that BMC has not yet capitalized on. BMC has the pieces in play and needs to be more proactive with its DevOps messaging as it relates to APM.

Application security monitoring is lacking in many aspects – For an APM solution not to provide any guidance on security risk is a missed opportunity. Security tends to be a niche and silo activity, often neglected, and can result in massive costs to the organization when security breaches occur. While many dedicated security solutions are available, security-oriented performance testing helps prevent security-related, application-level vulnerabilities from being released into production in the first place.

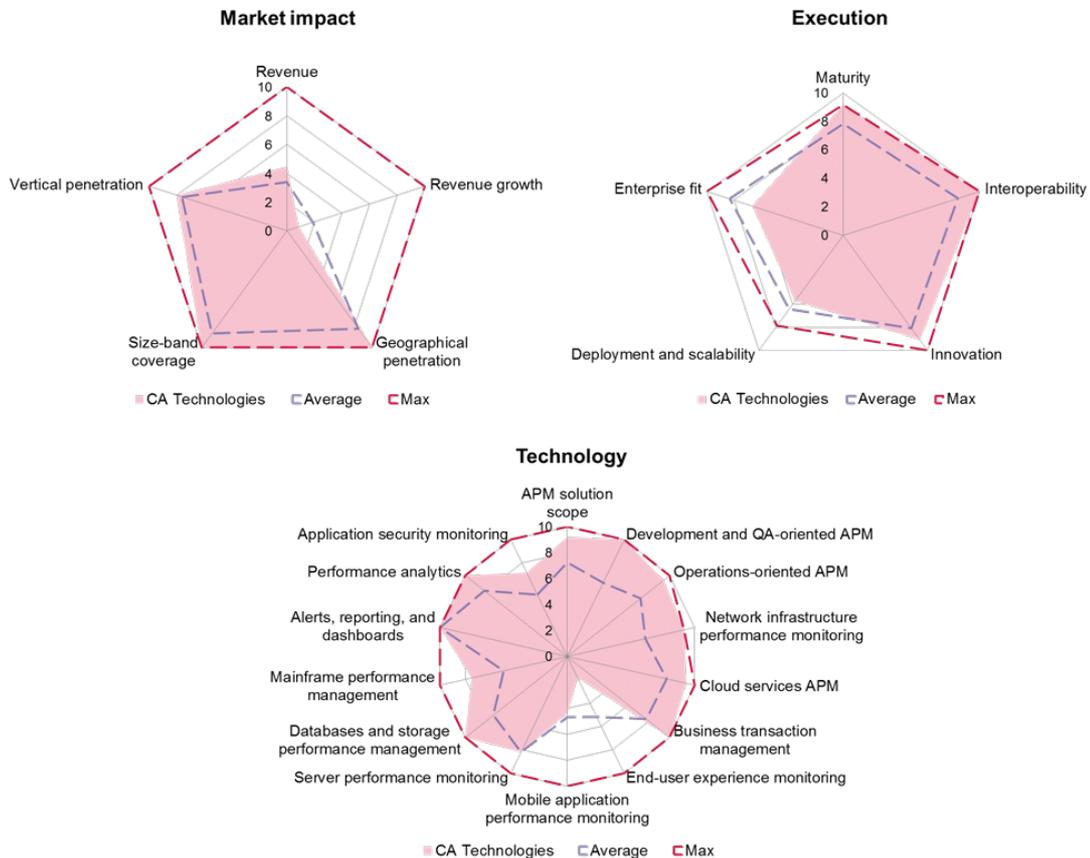
Threats

BMC is on the brink of breaking into the APM leaders category – BMC has been ahead of the market in terms of its analytics capabilities, and its integrated IT operations-oriented APM with Business Service Management is clearly attractive to many enterprises. We believe that by filling a few gaps in its offering, BMC can join the APM leaders group.

BMC may well make additional acquisitions in APM – We would not be surprised if BMC makes additional acquisitions in APM and becomes more of a threat to smaller APM vendors.

CA Technologies, Ovum recommendation: Leader

Figure 8: CA Technologies radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

Advanced analytics engine is integrated into APM – CA ABA is integrated into APM, providing metrics across the range of IT infrastructure agents streaming data into the engine in realtime, which is then able to correlate these against its multivariate models to discover abnormal behavior. This level of analysis is essential for complex and large data centers, and CA Technologies is able to deliver a complete solution, fully integrated into its APM portfolio.

CA APM Cloud Monitor shows that CA is cloud-ready – Cloud usage is a major shift in IT, and CA Technologies is able to deliver a cloud-ready APM solution. CA APM Cloud Monitor, based on WatchMouse, which CA Technologies acquired in 2011, has had significant enhancements. For example, an on-premise monitoring station resides behind the firewall for added security, through which clients on the cloud can connect to the server. CA APM Cloud Monitor monitors 26 different protocols, many of which measure B2B interactions and browser-based B2C, which includes network services like

DNS, VoIP (SIP), IM (XMPP), email (POP3/IMAP/SMTP), AUTH (LDAP), and web services (SOAP/REST).

Weaknesses

End-user experience monitoring can be improved – CA Technologies' end-user monitoring supports browser-based monitoring and the monitoring of web-service APIs, allowing the monitoring of the server side of mobile and enterprise applications. However, it does not cover a range of features for client-side applications, including traditional desktop/laptop machines (CA has a third-party solution available under a separate license). In addition, a growing area is monitoring end-user behavior on the client side – for example, which buttons are clicked and which web pages are visited. Although this is more web analytics than APM, there is an overlap and an opportunity for CA Technologies here.

Mobile APM offering needs improvement – CA Technologies' mobile APM is limited to app performance of HTML5/web apps, monitoring of HTTP requests, and traffic from Android, iOS, and Windows devices. There is no monitoring of mobile networks or geographical-related network issues, and no mobile device performance monitoring, with no tracking of app versions. Mobile is a major enterprise activity today and CA Technologies should be expanding its APM scope further into this field as demand for mobile performance monitoring grows. It is able to offer CA APM Cloud Monitor to monitor the APIs used to support mobile end users; for example, Twitter is using CA APM Cloud Monitor's API monitoring capabilities and public status page to deliver transparency to its customers and partners.

Opportunities

DevOps adoption is an excellent growth opportunity for CA Technologies – CA Technologies has in-depth capabilities for supporting DevOps teams, not least through its service virtualization tool CA LISA, which is now integrated with CA Capacity Management. For instance, the capability to drill down to line-of-code detail when troubleshooting problems is a key benefit for developers. APM plays an important role within a continuous delivery process.

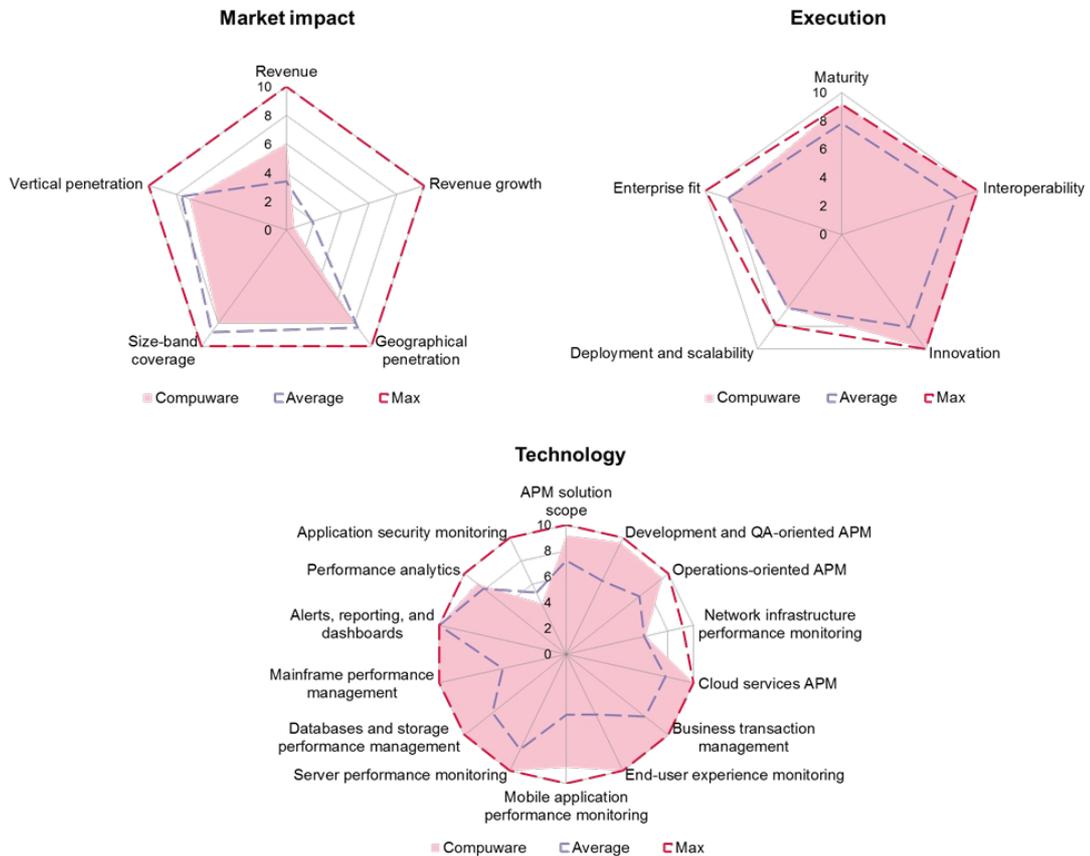
Log management is a growth area and an opportunity CA Technologies should address – CA Technologies, as a leading APM vendor, needs to have a strategy in place to meet the challenge in log management solutions from new start-ups. This is an opportunity as the market expands into new growth segments.

Threats

APM as a whole is a growth market and acquisitions are likely – APM continues to grow as a market, with new entrants appearing, due to innovation in performance-monitoring technology, such as realtime data streaming and Big Data analytics, as well as the result of changes in IT usage, such as the shift to mobile and cloud. CA Technologies is large enough to ensure investment in its APM solution and is likely to take advantage of opportunities to acquire smaller players that have something of value to offer.

Compuware, Ovum recommendation: Leader

Figure 9: Compuware radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

Mobile and web user experience management are both offered – Mobile usage is now ubiquitous and Compuware APM is able to offer native, web, and hybrid user experience monitoring through one console, spanning the client side, the server side, and the network in between. Synthetic monitoring of mobile networks with 4G/LTE support is available, examining signal strength, bandwidth, and W3C performance metrics. Hybrid apps, currently popular using such tools as PhoneGap (and Cordova), and native apps, covering iOS, Android, and Windows Phone, are all covered by Compuware APM; agent development kit instruments iOS and Android apps (using the OS API) for real-user monitoring (RUM) of native and hybrid mobile apps.

To help expand its presence in a growth market, Compuware will make its mobile APM offering available in a free edition until the end of 2014 and a try-and-buy license option will commence in 4Q14.

Applications can be monitored in cloud environments – Public cloud usage continues to grow and enterprises need an APM solution to span such usage, whether the business is Internet based or uses cloud for burst activities. Compuware APM provides monitoring capabilities for applications running on Amazon cloud, Microsoft Azure, and other cloud environments. Compuware can instrument any cloud environment that's open by its use of the available API, all IaaS, and many PaaS, but some cloud environments are closed to external instrumentation (e.g. Force.com).

Big Data monitoring supports business-level transactions – Big Data processing is increasingly being used by retailers and others using Hadoop MapReduce and other novel database technologies that require APM. Compuware APM is able to provide deep-dive cluster usage, task analysis, and job performance monitoring on these technologies through its Outage Analyzer Big Data platform. This platform also provides analytics for state-of-the-art NoSQL technologies such as Cassandra and MongoDB, and Compuware has go-to-market partnerships with companies such as Hadoop specialists Hortonworks and Amazon.

Weaknesses

Unified communications monitoring can be improved – Compuware's Data Center RUM solution provides network traffic and services monitoring as well as database and middleware APM. However, given that APM – not network performance management – is the central focus we unsurprisingly have found a number of feature gaps, mainly around unified communications. Nevertheless, Compuware does have capabilities in this space, for example application-aware NPM; so, it is a question of whether a dedicated network solution is required.

Security monitoring is a specialist activity mainly outside Compuware's scope – Ovum considers security to be an APM issue, although the IT industry largely considers security to be a specialist activity; the problem with such a silo approach is that security then becomes neglected. Compuware APM can provide unauthorized access-attempt monitoring and unusual traffic size analysis, but capabilities in recognizing security-related application performance issues will need to be found in third-party solutions.

Opportunities

Log management is a big growth opportunity in APM – In recent times log management as a specific data-mining and filtering activity has surged in adoption and Compuware has chosen to partner with Splunk, one of the leaders in this surge, rather than compete head-to-head – at least for now. We believe that log management is an important category within APM as users look to find cost savings in early warning monitoring and this could be an opportunity for Compuware to provide its own offering (or make an acquisition).

Compuware has available freemium products to onboard customers – Compuware offers a freemium product on an ongoing basis for monitoring of real-user native mobile, and synthetic web and mobile, with an easy upgrade to the full commercial product. Performance tests that provide ad hoc measurements, Outage Analyzer, and Benchmarks are available for Synthetic Mobile and Web as free offerings.

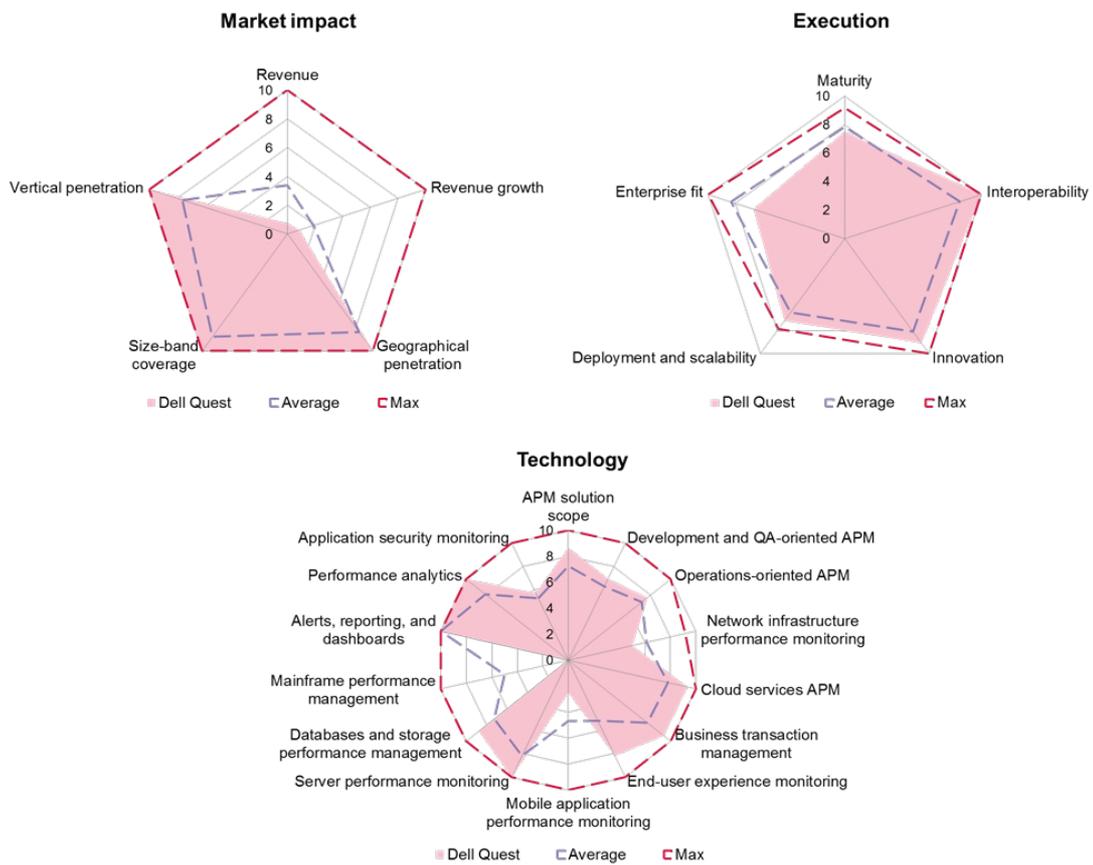
Threats

The APM market has pressure from below with freeware offerings – The rise of freeware APM solutions is being met by Compuware with more freemium offerings as the market adjusts to a wave of smaller vendors with cheaper solutions. Compuware needs to stay ahead by targeting the larger organizations with complex APM requirements.

Pressure from the top by large IT players also increases competition in the market – Compuware is able to deliver a comprehensive APM solution with a dedicated focus. The threat from above by larger IT players will continue to put pressure on Compuware to stay one step ahead of the field.

Dell Quest, Ovum recommendation: Challenger

Figure 10: Dell Quest radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

Web page analytics and performance monitoring to manage web traffic are offered – Dell Quest Foglight analytics allows historical trends in web traffic behavior to be captured. These analytics help IT

operations to decide, for example, how many and what type of servers to deploy to manage the expected traffic. To make these decisions it helps to make use of the discrete traffic data rather than just an aggregation, and Big Data technologies enable the massive processing that is required. This approach can discern whether a particular browser or regional ISP is causing an issue; having this knowledge prevents IT operations from overreacting to issues and helps it tackle particular problems. The technology understands patterns of usage and has a sophisticated model of what is normal behavior, which is automatically learned from past behavior.

Dell Quest Foglight Transaction Recorder offers integrated business transaction management – Foglight uses a single definition of a transaction that combines all the collected data points into a common representation, called Transaction DNA (a patent-pending technology); this enables users to see application server performance metrics, infrastructure usage, user behavior/web interactions, runtime topologies, and other key metrics in a single place.

Weaknesses

Foglight's mobile APM coverage is lacking in features – On the client side, Dell Quest's mobile APM is limited to web standards-based monitoring with no native client-side capability. Given the momentum behind this IT wave, Dell Quest needs to fill this gap with a module for Foglight. Dell does have the Kace series of appliances for mobile device management; these are separately licensed and go beyond an APM monitoring requirement, but they are not cloud friendly because they are appliances. However, Kace virtual appliances are available that will run on a VMware environment.

The network performance monitoring does not extend to unified communications – Ovum does not expect an APM solution to be a network performance management solution as well, but we do find an area of overlap. However, Dell Quest has limited features in this area.

Does not cover legacy mainframe systems – A lot of legacy mainframe systems are still in use, but Dell Quest has essentially opted out of providing any deep APM for this market segment, apart from measuring traffic going in and returning.

Opportunities

Dell's marketing for its enterprise software solutions can be improved – If you go to dell.com you will find the Dell e-commerce site but with no link to its enterprise software. To discover Dell's enterprise software you need to already know that it is offered under brands such as Quest and Kace. There is no link between quest.com and kace.com. These are missed opportunities – Dell needs a connected enterprise software marketing approach.

Forthcoming Foglight APM SaaS solution follows on Foglight Windows Azure diagnostics and monitoring solution – Customers of the Foglight Windows Azure solution had only to install one piece of software and the management of the solution and data storage was all done at the Dell end, on the cloud. This approach is suitable for SMEs or enterprise departments and provides fast turnkey deployment and fast time to value, without the need for the IT department to provide support. At the time of writing, Dell Quest withdrew the specific Windows Azure SaaS solution and will be releasing an SaaS solution that supports multiple environments. This will be a significant opportunity for Dell Quest.

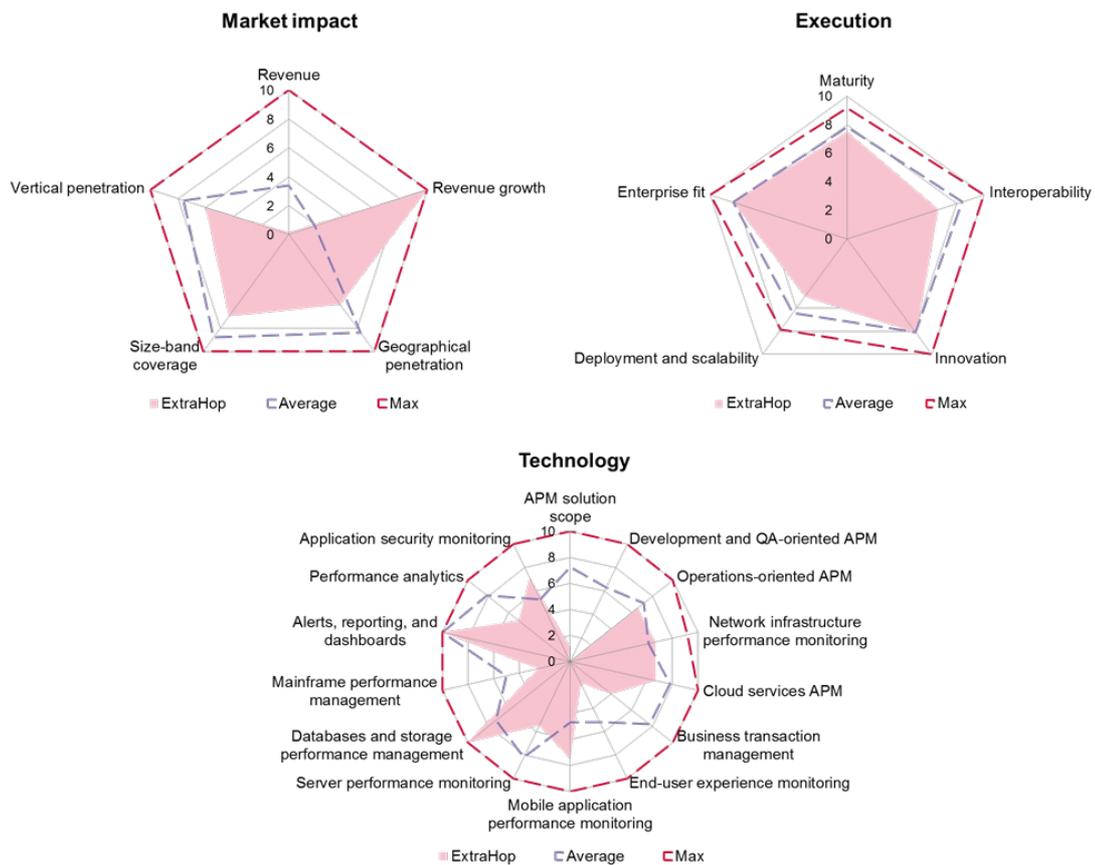
Threats

Dell will be seeking to expand its enterprise software capabilities – Dell is less threatened by than threatening to smaller APM vendors and more acquisitions are to be expected. Sitting outside of the leader category in our Ovum Decision Matrix on APM, there is every incentive for Dell to improve its capabilities.

Dell has a tough future ahead but good prospects – Dell's move into enterprise software is a reaction to the diminishing role of PCs, which remains its largest core business. PCs will not disappear anytime soon but that market has been overshadowed by mobile devices. So the future of Dell does rest on how successful it is in transitioning itself into an enterprise software supplier.

ExtraHop, Ovum recommendation: Follower

Figure 11: ExtraHop radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

Realtime processing of wire data, based on Big Data analytics technology, is offered – The ability to track vast amounts of network traffic in realtime is a major accomplishment. This capability is built on Big Data technology and an advanced context and correlation engine that does the equivalent of complex event processing, but for Layer-2 through Layer-7 traffic.

Business use cases that go beyond traditional APM scope are addressed via open and extensible platform – ExtraHop has released a number of free extensions of its platform, including SharePoint, cloud, and WAN analytics. Among them, ExtraHop has developed a security module for monitoring security-related events, as it finds its customers using its extensibility for pervasive monitoring. The security module detects anomalous activity around storage and database access, for example, a user accessing more than 100 files an hour.

IT operational intelligence is offered for virtual and dynamic applications – ExtraHop is at the forefront of new APM technologies. Its ability to mine wire data complements the rise in log management solutions (for machine data). The combination of wire and machine data is perfectly complementary and ExtraHop's partnership with Splunk is a good match.

Weaknesses

ExtraHop is aimed squarely at IT operations but has a DevOps role – ExtraHop's ability to deliver operational intelligence is aimed at operations and is not specifically designed to offer features of interest to developers, such as source code-level detail of issues or to QA for performance testing. However, the solution can play a role in DevOps as part of the support that IT operations staff requires to monitor the health of applications.

Best-of-breed product requires complementary solutions to cover gaps for full APM coverage – ExtraHop does one job extremely well, namely tapping wire data – which has multiple uses within IT operations – but users will require other solutions in place to ensure that gaps are covered. As mentioned, this includes developer-oriented APM, but also end-user experience monitoring and mainframe performance monitoring.

Opportunities

Given the synergy between machine and wire data, a single solution that can do both would be a powerful product – ExtraHop has a partnership with Splunk and the alliance begs the question of whether ExtraHop should evolve to cover log data itself. The use of realtime Big Data analysis is common between the two approaches and having both wire and machine-mining technologies under the same hood may yield even better synergies.

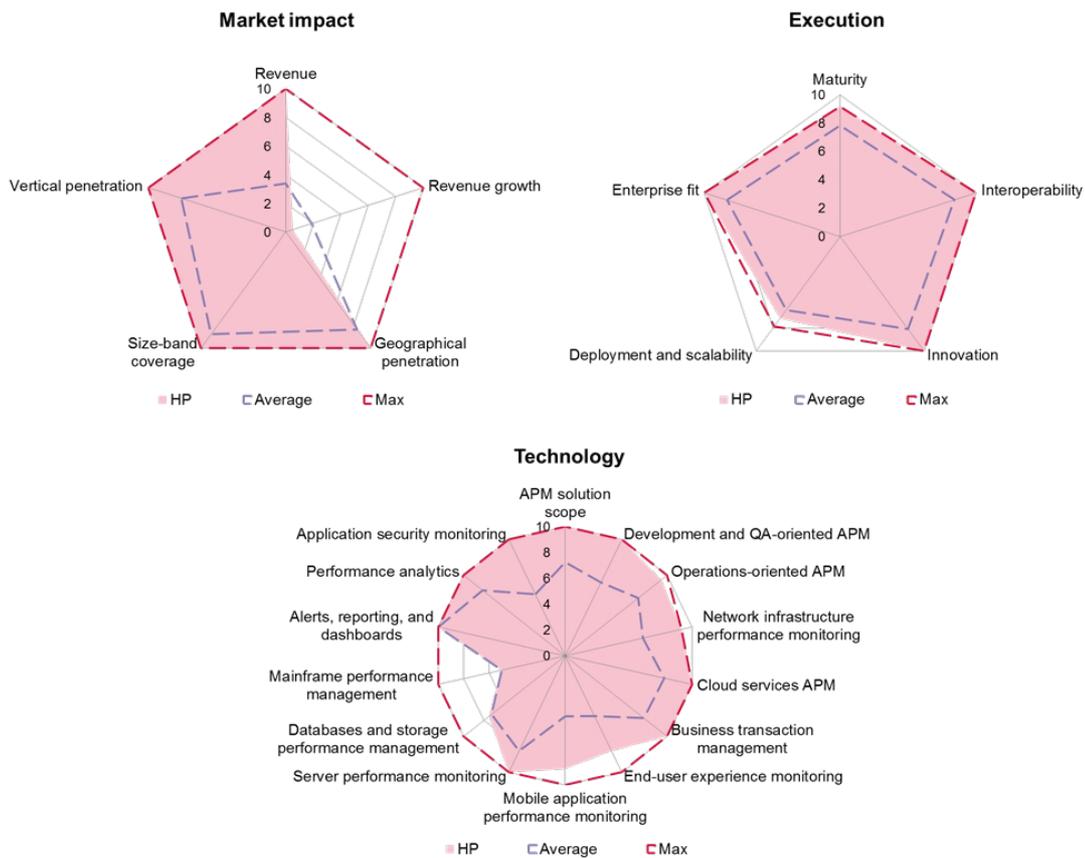
ExtraHop's strategic partnerships are a sound marketing strategy – ExtraHop is proving adept at strategic partnerships, and the evolution of data centers to software-defined data centers and networks creates a rich source of operational intelligence. More partnerships such as with Splunk and Arista will help grow ExtraHop's reach and proof of value to prospective customers.

Threats

ExtraHop's disruptive technology may prove attractive to a buyer – ExtraHop's founders came from F5 Networks, having created new and patented technology built on their network expertise. It is unlikely F5 will make a move into APM but there is the possibility that a larger APM vendor may take an interest in ExtraHop.

HP, Ovum recommendation: Leader

Figure 12: HP radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

Offering includes event correlation with monitoring automation – HP's Event Correlation Services are able to correlate events across infrastructure and applications. Complex event correlation is an advanced form of analyzing events and tracing root causes. It also features gamification, an approach that improves user engagement: HP Operations Bridge (HP OMi) notifies operators who have reached

notable goals, usually set by their management. Achieving such goals requires adopting best practices, so operational efficiency is also improved.

Synthetic application monitoring is available from over 80 global locations – HP can offer synthetic performance tracking from over 80 globally distributed locations, including coverage of telecom Internet networks and mobile carrier networks. Transactions can be traced across the complete chain between, say, a mobile app and the enterprise data center. The visual UI in HP AppPulse allows any number of points in a chain to be monitored with a few clicks. From solution download, to deployment with no agents installed on any client devices, using a URL test of a simple synthetic transaction to receive useful performance data takes as little as 5 minutes.

Weaknesses

Big Data technology requires APM – HP uses Big Data technology in its APM solutions, allowing very large data sets to be processed in near-realtime. HP also provides monitoring capabilities around JDBC drivers, JMX (Java Management Extensions), and web services, but it now needs to support proprietary Big Data databases including NoSQL databases. The market in these databases is growing as Big Data adoption grows. While database APM has always been a specialty play, a leading APM vendor like HP needs to further enhance this capability.

Mainframe APM market is still significant – HP has some mainframe APM capabilities and for a major vendor that will be shortlisted by large global organizations this needs to be enhanced. The financial sector is still running a massive amount of COBOL code on mainframes and mainframe sales globally are increasing, so this is a market with prospects, although the trend is migration away from mainframes. HP is able to offer HP Diagnostics, which has visibility into mainframe CICS/MQ calls made from Java applications, and HP TransactionVision provides CICS, MQ, and IMS sensors to trace asynchronous transactions across modern and legacy infrastructure all the way to the mainframe.

Opportunities

HP's ALM-APM integration could benefit from support of third-party ALM tools – HP can demonstrate the value in ALM-APM integration, particularly with DevOps-related continuous delivery. With most enterprises running a heterogeneous tool environment, HP should consider encompassing third-party integrations, such as open source ALM solutions.

Client-side native mobile APM is needed for full sweep of options – The shift to mobile apps usage has created a need to monitor such apps, and HP is able to support open web standards-based apps and native support for Android and iOS. The addition of Windows and BlackBerry would merit support as a watching brief if customer demand picks up. Although internal enterprise usage tends to favor iOS and Android, many businesses build apps for their consumer customers and this opens up the need for APM to cover the broader market.

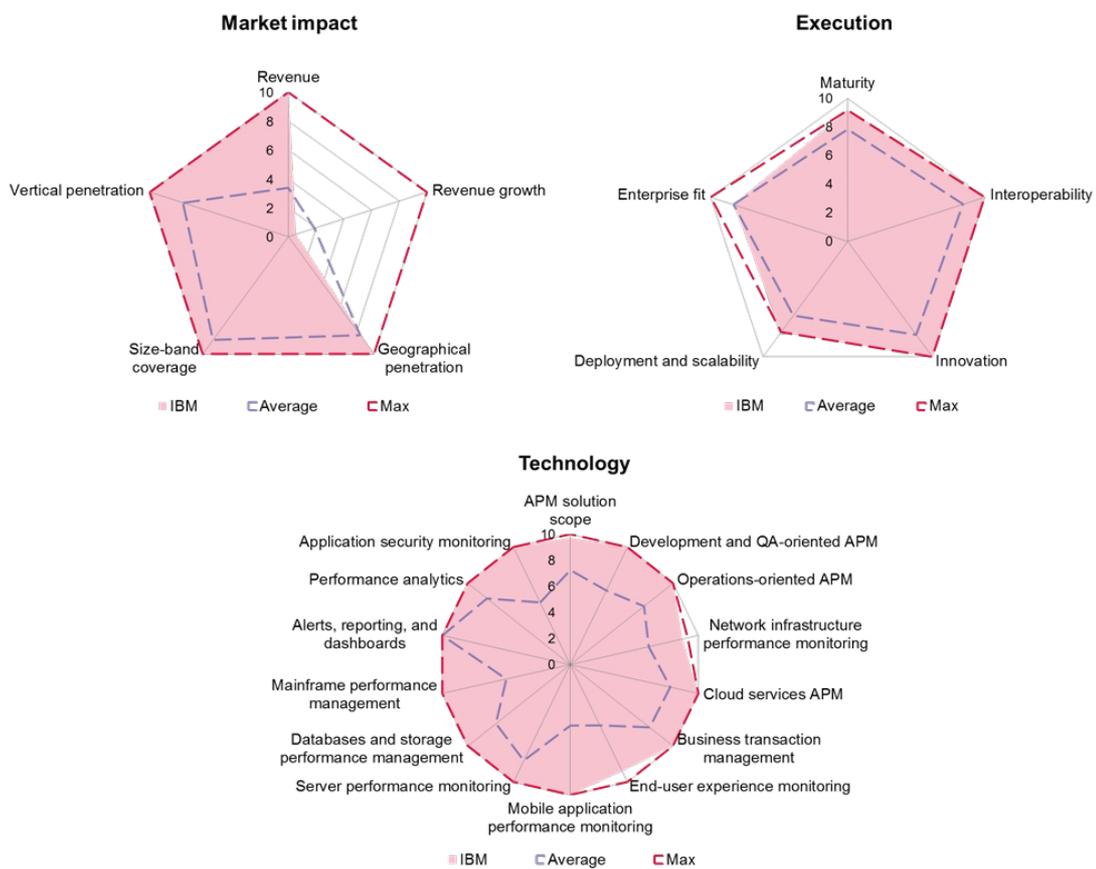
Efforts should continue to address portfolio complexity and licensing – The wide range and diverse names of HP's solutions makes the portfolio appear complex to a new user. So we are pleased to see that HP Software is simplifying its pricing. All HP Software products will be sold by editions/bundles and for APM there will be three available editions: Community, Premium, and Ultimate.

Threats

Log management vendors are making the APM market more competitive – Log management is a fast-rising category in APM, and HP is addressing this threat with Ops Analytics, currently in version 2.0 (June 2013). Ops Analytics 2.0 is a new architecture that leverages HP Big Data technologies such as Vertica, and supports structured and unstructured data in a consolidated tool (i.e. metric data, event data, log file data, and more). Ops Analytics is targeted for both APM and infrastructure management and operations.

IBM, Ovum recommendation: Leader

Figure 13: IBM radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

IBM's solutions are feature-rich with good support for DevOps and mobile devices – The IBM APM solutions are feature-rich and cloud-friendly with options for on-premise and SaaS. They also address the needs of enterprises today, including support for development, with continuous delivery

(DevOps) monitoring and performance monitoring when developers require it, support for smart mobile devices with essential end-user app monitoring, and deep IT operations capabilities, with advanced analytics and correlation capabilities, advanced troubleshooting and problem resolution, and business transaction management.

New architecture is designed to be cloud-friendly – The IBM APM cloud-monitoring components that are used on the cloud are run as a distinct application in the cloud. It monitors the target application and the virtual machine that the cloud service provider has issued. It can also be moved with the target application if and when virtual environments are switched. This new-generation architecture is well designed for the cloud environment.

Weaknesses

Support is needed for a wider range of third-party applications – The IBM SmartCloud APM Diagnostics Lite edition is restricted to WebSphere environments. If IBM is to successfully reach out to the wider community of smaller developers, the solution needs to connect with a wider choice of application servers. The full edition of the product is expanding its coverage from JBoss, Tomcat, WebSphere, and others to additional third-party applications and environments. Similarly, the mobile app support is currently best for IBM Worklight, but Ovum expects IBM to support a wider range of third-party applications.

IBM's technical success with the new APM architecture needs a new image – IBM's image is as a vendor that focuses on high-value deals with large enterprises. It needs to extend this image if it is to appeal to a new generation of cloud-centric users, particularly because it is seeking to attract the SME and "small group within large enterprise" market. It is addressing this change technically and will need to correspondingly address the image aspects.

Opportunities

Log management has exploded on to the APM scene – One area in which IBM has had capability, but has taken longer to highlight its benefits to the wider market, is Big Data-based log management. IBM SmartCloud Analytics delivers this capability but with additional depth. IBM identifies the six key areas of performance data: performance metrics (available through APIs and web services), log files (custom and standardized log information), alerts and alarms (syslog events, for example), core files (heap stacks, for example), configuration files, and network traffic. Typical market log management solutions tackle only log data, whereas IBM's approach is to address all six areas in an integrated way. In addition, through the acquisition of Vivisimo, it has Big Data-friendly text data analysis, so IBM's SmartCloud Analytics offering stands out based on its wealth of capability. This is an opportunity to enter a fast-growing market that is complementary to traditional APM and where IBM could raise its profile.

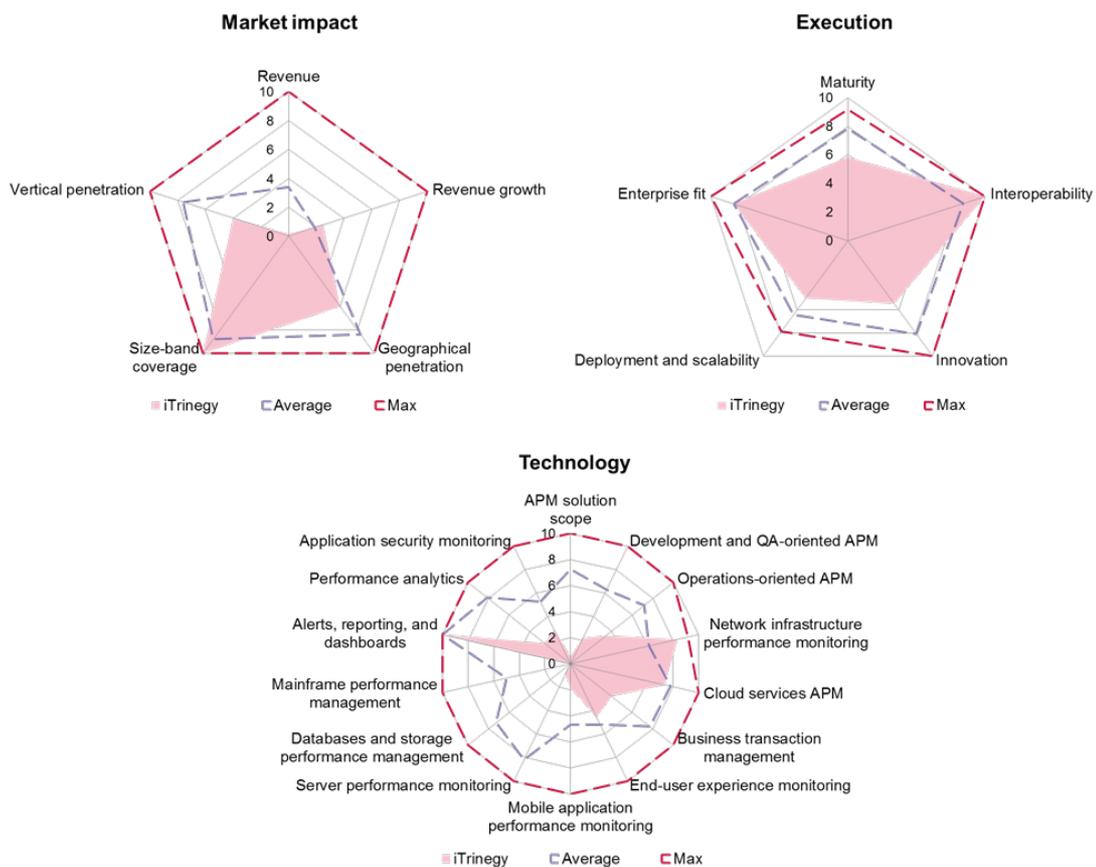
DevOps will gain visibility and adoption – IBM understands the opportunity in closing the loop with development and it is able to support its DevOps solutions, particularly the recent UrbanCode acquisition, with good APM integration. Support for popular open source continuous delivery solutions such as Jenkins is also a good move by IBM.

Threats

Incumbent APM players face threats from new low-cost vendors – IBM's APM solutions face competition from smaller vendors that specialize in a subset of features at a correspondingly lower cost. IBM is meeting this threat with entry-point solutions designed to attract buyers with smaller budgets. In addition, IBM has launched a new streamlined SmartCloud APM website, which offers a low-cost, try-and-buy opportunity to appeal to a new class of purchasers.

iTrinegy, Ovum recommendation: Follower

Figure 14: iTrinegy radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

Network performance management is the core technology – iTrinegy is able to leverage its NPM technology to offer a wide range of APM capabilities: appliances can be peer-to-peer linked to provide wide area network coverage; the solutions are compatible for supporting cloud-based services and virtualized IT environments.

INE offers an offline environment representing a facsimile of the live one – Application testers can use INE as part of their application testing under realistic network conditions before going live with deployments. The network simulation capabilities characterize the live network after it has been baselined and can test the applications under realistic conditions.

Appliance solution is easy to deploy and configure – AppQoS is an appliance solution that is easy to deploy and configure, providing a scalable clustered solution that has minimal effect on the environment that is being monitored and therefore is suitable for continuous realtime use. Flexible and cost-effective device options are available from VM guest, portable 20Mbps, to multi-port 10GB versions. It offers APM with deep-level packet inspection across protocols such as HTTP, FTP, CIFS, and VoIP.

Weaknesses

Advanced correlation analytics and Big Data stream processing are missing – iTrinegy solutions may be used in complex, large enterprise IT environments when linked with additional products, but for organizations that do not have Big Data-scale requirements, such as SMEs, the solution's lack of capabilities in Big Data analytics may not be an issue.

iTrinegy solutions do not currently cover database, storage, and mainframe APM – Areas where iTrinegy has no current capabilities are in database, storage, and mainframe APM. The server performance monitoring is also lacking, and there is no coverage of application servers and middleware. iTrinegy does have these areas on its roadmap.

Opportunities

Software-defined networking (SDN) will be an opportunity as this technology gains adoption – SDN decouples control of traffic from the traffic itself and this adds greater flexibility to managing networks. iTrinegy has SDN on its radar and will be releasing products that are able to monitor and emulate software-defined networks and perform as SDN devices.

Organizations moving to internal cloud setups, from LAN to WAN, can use iTrinegy appliances or its professional services – iTrinegy finds that businesses that run into issues when moving to an internal cloud environment can benefit either from its solutions or its professional services to troubleshoot specific problems.

iTrinegy mobile APM is limited to monitoring HTTP requests but new capabilities are imminent – Mobile is a significant IT wave and organizations will need mobile APM. Currently iTrinegy AppQoS can only monitor web traffic to mobile devices. However, iTrinegy is launching its Mobile Network Profiler soon for iOS and Android devices. This application will sit on the mobile device and sample the network continuously to build up a picture of the network to that device, as well as statistically across a population of devices. The output of this can be used in the INE to replicate that mobile network for testing and debugging applications.

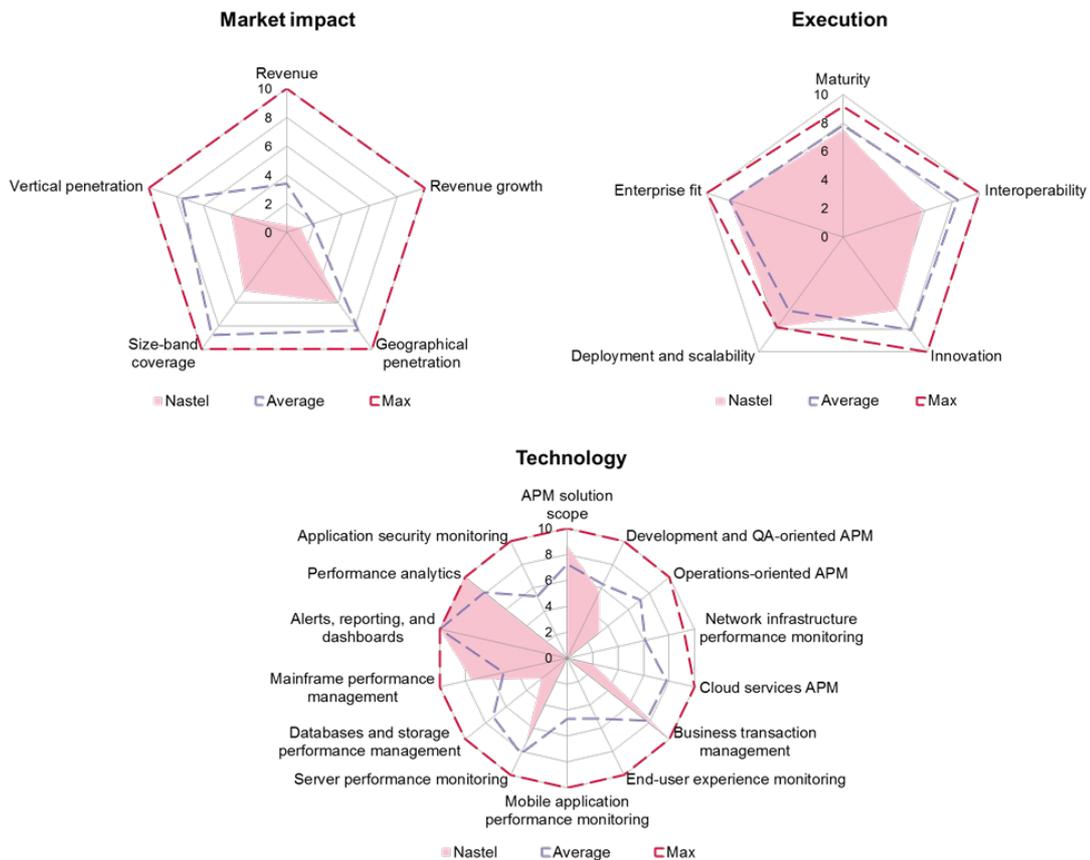
Threats

iTrinegy can grow its presence in its target market – iTrinegy's approach to APM – mining network traffic for wider APM intelligence – has sufficient momentum to hold its own in a highly competitive

market. As a privately held company it does not face the pressures of a publicly listed one, and its announced continuous profitability should ensure its stability. iTrinegy is now focused on organic growth and collaboration with partners who will OEM the products into existing portfolios.

Nastel, Ovum recommendation: Follower

Figure 15: Nastel radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

Middleware is a differentiator for Nastel – Nastel has a history of managing and monitoring the performance of middleware, specifically IBM WebSphere, Microsoft Biztalk, Solace, and Tibco. For these middleware solutions Nastel can offer technology that goes deep into the middleware stack where other APM tools do not enter.

CEP is available for going beyond analytics of purely time-series performance metrics – The CEP engine at the heart of Nastel AutoPilot adds to the advanced correlation analytics with AutoPilot's ability to inspect payload messages and apply business rules. This can be used to trigger events relating to business conditions such as compliance actions. The difference between this approach and

just having analytics is that with CEP and business rules you can just set the conditions required whereas the latter requires a period of learning what is normal – these use cases are completely different and Nastel is able to provide both types of monitoring.

AutoPilot is suitable for heterogeneous IT environments – Nastel AutoPilot covers both distributed and mainframe machines and this makes it highly suitable for financial firms, which are the major users of legacy systems. The business transaction management capability is therefore agnostic to which type of machine is involved in the chain and this makes for powerful transaction analysis capabilities.

Weaknesses

End-user experience monitoring (EUEM) is limited – EUEM is a major gap in the feature set and Nastel is clearly, at least at this stage in its growth, not focused on client-side monitoring. This also affects its capabilities on mobile devices, which heavily require client-side monitoring. So Nastel is clearly a server-side APM vendor.

Network performance management and security monitoring are missing – Nastel's focus is applications, so there are no network performance management features. Furthermore, there are no features related to identifying security weaknesses. However, the solution can consume SNMP alerts if forwarded to it and can include this as part of its situational analysis. Nastel focuses on particular segments of APM and does not attempt to move outside those boundaries.

Opportunities

Nastel has technology that can be applied to log and wire data management – Machine and network data management have become hot spots recently and this could be an opportunity for Nastel to expand into.

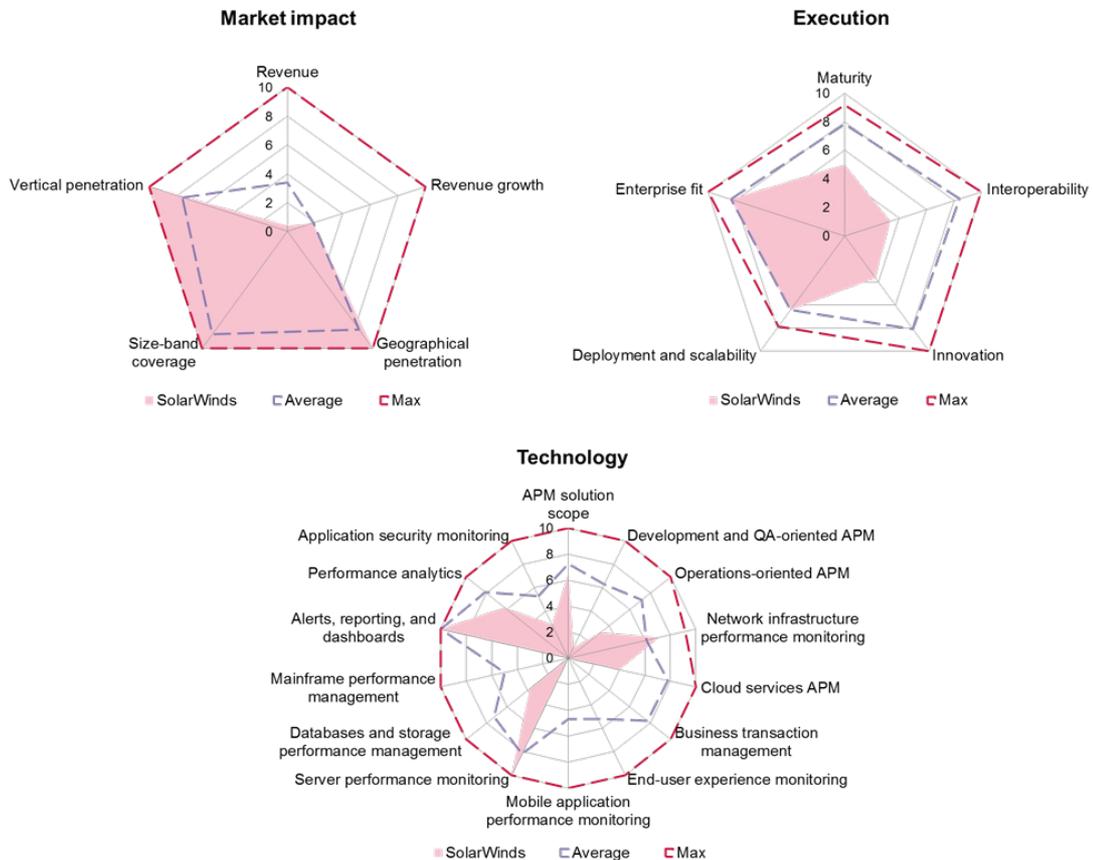
Nastel has many partnerships to help expand its reach – Nastel has useful APM partnerships with CA and HP, and many other ones as well. Positioning itself as a best-of-breed solution for middleware APM is a sound approach and additional partnerships with point-solution APM providers may also be a useful approach to explore.

Threats

Nastel has a clear focus and useful partnership arrangements – Rationalization in the APM market is likely to happen and Nastel is certainly attractive in its core middleware offerings and CEP expertise.

SolarWinds, Ovum recommendation: Follower

Figure 16: SolarWinds radar diagrams



Source: Ovum

Ovum SWOT assessment

Strengths

Orion platform is at the root of SolarWinds' business growth – The SolarWinds Orion platform allows IT professionals to add on functionality as needed, providing end-to-end visibility when combining just a few products. Most of its products are built and integrated with this common platform, which allows users to leverage a unified experience for viewing, reporting, and alerting on IT operations data. It also allows customers to start wherever they would like: they can address specific points of pain, expand over time, and address connected problems in any combination they require.

SolarWinds pays close attention to its user base through an active online community – SolarWinds has supported an online user community that allows it to respond to user needs directly and rapidly. Whether it is discussing a new features wish list, addressing problems that need attention, or helping new users ramp up their use of the tool, the community is a useful support resource.

Log and Event Manager for security information and event management is offered – Security information and event management (SIEM) is an important activity to monitor. While SolarWinds technology does not extend to Big Data realtime streaming, it has capabilities that may prove sufficient for its target market.

Weaknesses

SolarWinds' portfolio lacks client-side mobile application performance management – Ovum understands that SolarWinds' owners have a mobile device management/BYOD business unit; whether this can be leveraged to provide mobile APM remains to be seen. At present SolarWinds does not cover client-side mobile APM, but when the company sees substantial demand for this technology among its customers it will consider involvement in this space.

SolarWinds' portfolio lacks business transaction management – SolarWinds does not offer any capabilities in business transaction management.

SolarWinds' portfolio lacks end-user experience monitoring – SolarWinds can provide end-user experience monitoring for web applications through synthetic capabilities but otherwise lacks further capabilities in this area.

SolarWinds' portfolio lacks mainframe performance monitoring – SolarWinds does not offer any capabilities for mainframe performance management.

Opportunities

SolarWinds' business approach has potential for growth – SolarWinds has made a successful business out of its approach to the market and has plenty of scope to expand its product range and fill the gaps identified in this report. Too many software products on the market today lack intuitive interfaces, which results in underuse and even shelf-ware. SolarWinds has made a point of simplicity in its interfaces, and this is a good formula to take forward.

A best-of-breed approach could be enhanced with strategic partnerships – Ovum has found a number of gaps in SolarWinds' APM coverage. Nevertheless, by augmenting with third-party solutions, SolarWinds could fill these gaps with integrations, creating an opportunity for the company.

Threats

A fast-growing company in a competitive market may prove an acquisition target – SolarWinds may choose to grow its portfolio, acquire smaller rivals to fill its portfolio gaps, or become an acquisition target itself.

VENDOR SOLUTION SELECTION

Inclusion criteria

The APM software tools market is broad in terms of having a range of many niche products to all-encompassing suites, and also in the scope of coverage. We have focused on the leading vendors in the market, which had to satisfy the following selection criteria:

- Solution's target market is mid- to large-sized enterprise customers, typically those with more than 1,000 employees.
- Vendor must have APM solution license revenues greater than or equal to \$50m, or total APM-related revenues, including services, greater than or equal to \$80m and have individual customer companies greater than or equal to 150.
- Vendor does not focus on APM in a single vertical industry and is not restricted to one application platform.

Vendor solution should include support for at least five core functional areas and four additional areas:

- **Core APM disciplines:** application performance monitoring and optimization (covers application servers); business transaction management; cloud-related APM (covers APM-as-a-service, APM for cloud running applications, APM of cloud hosting services); dashboard and reporting; end-user experience monitoring; mobile application performance management; physical and virtual server performance management; and predictive IT performance analytics.
- **Additional APM disciplines:** application performance testing; application security control and monitoring; database performance management; diagnosis and root-cause analysis to line-of-source-code detail; mainframe APM; middleware support; network performance monitoring; SLA monitoring; topology and change-impact analysis; and unified communications performance management.

Methodology

The Ovum Decision Matrix on APM is assessed on three dimensions (technology, market execution, and market impact), and is based on our extensive research of the APM field, supported by a comprehensive questionnaire, technology features matrix, and briefings with the vendors involved. It is possible to view the features matrix associated with the technology assessment, including the weights we used, as a product on the Ovum Knowledge Center (*Ovum Interactive Decision Matrix: APM: 2014–15*). This product allows the user to reset the weightings according to their own organizational requirements for APM and create a personalized evaluation. A number of features are included as points of information and weighted zero in Ovum's assessment; however, these entries provide for useful selection criteria in the Ovum Interactive Decision Matrix.

Technology analysis

The key report vendors were invited to complete an APM features matrix, a spreadsheet listing product features Ovum believes are required in an APM solution. Ovum then weighted these entries by individual row and by section. The final ranking of vendors in the Ovum Decision Matrix technology dimension is based on the scores vendors achieve from this analysis. The criterion for a vendor to answer "yes" to a feature is that it must be available out-of-the-box in any product within its range of products. A third-party provider, custom integration, or partnership is not sufficient to merit a "yes."

Note that the Ovum Interactive Decision Matrix for APM provides additional information such as whether a feature is part of the main solution offering or requires an add-on, separately licensed product from the vendor's portfolio.

The criteria groups identified for APM are as follows:

- **APM solution scope:** Is the solution delivered as an appliance or software only; does it use agents; is it designed to be used constantly on, 24x7; what specific computer language application servers does it instrument; and what middleware and OS does it monitor?
- **Development and QA-oriented APM:** For supporting development and QA, does the product have fault resolution to source code line of detail, can it record environment-setting transactions and application data up to a fault event for playback, and does it provide a range of application performance-testing capabilities?
- **Operations-oriented APM:** For supporting IT operations we look for monitoring of dynamic applications across physical, virtual, and cloud environments; browser-rich UI component performance; automated triage; runbook automation; unified monitoring of all changes, in realtime; out-of-box integration with CMDBs; application traffic management: data packet-level application routing optimization; measurement of real end-user traffic through content delivery networks (CDNs); monitoring website and application availability and round-trip response time; and topology and change-impact analysis.
- **Network infrastructure performance monitoring:** Measure packet loss; monitor retransmissions; network traffic management, including load management; identify and pinpoint network bottlenecks between application components; capacity management/planning; router and switch performance management; WAN performance management; remote data center monitoring; and various unified communications performance management features.
- **Cloud services APM:** Offer APM-as-a-service; monitor applications on public cloud services; monitor applications on private cloud services; seamlessly track applications across cloud and on-premise environments; relate dynamic changes of cloud physical/virtual infrastructure to application performance; offer topology map of dependencies in cloud environment; detect and recognize third-party cloud service usage; and monitor cost of public cloud usage.
- **Business transaction management:** Offer integrated cloud, mobile, virtual, and physical-tiers business transaction tracking; track every business transaction across applications and tiers; offer business transaction response time; monitor business transaction load; offer business transaction error detection; display and alert on slow and stopped transactions; visually display topology and business transaction paths; offer business impact management; offer an SLA defined as an automatic performance baseline; offer an SLA that is manually defined as service-level objectives for key transactions; offer SLA breach-alerting with customizable tolerance rules; and offer unified BTM across distributed and mainframe environments.
- **End-user experience monitoring:** Browser-based tracking; mobile device client-side APM; desktop/laptop; monitoring across all devices, all browsers; capture click paths and Web 2.0 page actions; trace logic of end-user clicks of rich components on the server side; track visitor satisfaction, e.g. satisfied/tolerating/frustrated; compare end-user experience and performance against industry leaders and competitors using dynamic baselines; and automatically detect and monitor the performance of landing pages.

- **Mobile application performance monitoring:** By geography; mobile network carrier performance; mobile device performance; monitor by app versions; server-side app performance solution; and client-side app performance solution across a range of OS and web standards.
- **Server performance monitoring:** Criteria for deep-dive APM across physical and virtual machine performance features from CPU usage to managing APM across live VM migration.
- **Databases and storage performance management:** NoSQL-type databases, cloud-based databases, SQL query analysis and tuning, data storage performance management, and deep-dive performance management into specific enterprise databases.
- **Mainframe performance management:** Only monitors mainframe system i/o traffic; full transaction tracking across CICS, IMS transaction, and MQ environments; deep z/OS performance monitoring; single solution for distributed and mainframe APM; separate solutions for distributed and mainframe APM; and COBOL performance monitoring.
- **Alerts, reporting, and dashboards:** Realtime alerts, executive dashboards, prebuilt reporting, and custom dashboards and reporting.
- **Performance analytics:** Anomaly detection; Big Data capabilities; advanced statistical correlation analysis; history and trend analytics; predictive analytics; realtime application discovery; and complex event correlation.
- **Application security monitoring:** Application security reporting and monitoring and user role changes; unauthorized access attempts, unusual traffic-size analysis, URL-length analysis, HTTP user-agent string analysis, and mobile application security monitoring.

Market execution

In this dimension, we review the capability of the solution around the following key areas:

- **Maturity:** The stage that the product is currently at in the maturity lifecycle is assessed here, relating to the maturity of the overall technology area.
- **Interoperability:** In this element we assess how easily the solution/service can be integrated into the organization's operations, relative to the demand for integration for the project.
- **Innovation:** Innovation can be a key differentiator in the value that an enterprise achieves from a software or services implementation, and this is assessed in this criterion.
- **Deployment and scalability:** Referring to a combination of assessed criteria and points of information, Ovum analysts provide detail on various deployment issues, including time, industries, services, and support. Also, how a customer organization can scale the solution upwards and downwards in response to business needs; points of information are also provided to show the scalability of the solution across different scenarios.
- **Enterprise fit:** The alignment of the solution with enterprises' needs is assessed in this dimension, and the potential ROI period identified.

Market impact

The global market impact of a solution is assessed in this dimension. Market impact is measured across five categories, each of which has a maximum score of 10 over a linear scale. Ovum uses a weighting

system to reflect market maturity, indicated as a percentage in parentheses below. Note that revenues across vendors vary enormously so that the small vendors have earnings that practically fail to appear on a linear score graph, where the maximum equals the top earning vendor. Equally, small vendors can have huge growth rates an order greater than that of large vendors, so growth rates for the large vendors will appear at the lower end of the linear scale.

- **Revenues (60%):** Each solution's global APM revenues are calculated as a percentage of the market leader's. Overall global revenue carries the highest weighting in the market impact dimension.
- **Revenue growth (20%):** Each solution's revenue growth estimate for the next 12 months is calculated as a percentage of the growth rate of the fastest-growing solution in the market.
- **Geographical penetration (6.67%):** Ovum determines each solution's penetration in six regions based on achieving 20 or more customers in each region: North America; South and Central America; Europe, Middle East, and Africa; Asia, including the Far East; and Australia and New Zealand.
- **Size-band coverage (6.66%):** Ovum determines each solution's penetration based on achieving 20 or more customers in five company size bands: 10,000 or more employees; 5,000 to 9,999; 1,000 to 4,999; 500 to 999; and 499 or fewer.
- **Vertical penetration (6.67%):** Ovum determines each solution's penetration based on achieving 20 or more customers in the following verticals: education; energy exploration and production; energy utilities; financial markets; central and local government; healthcare; insurance; life sciences; manufacturing; media and entertainment; professional services; retail, wholesale, and distribution; technology; telecommunications; and travel, transportation, logistics, and hospitality.

APPENDIX

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Ovum Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at consulting@ovum.com.

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