IBM Watson IoT. Tech Mahindra

Issue 1

EAM on the cloud – Tech Mahindra enables the rise in cloud adoption by customers

Tech Mahindra in Collaboration with IBM

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Enterprise Asset Management Today

Executive Summary

Asset Intensive Industries Experiencing Windfall Gains With Tech Mahindra Implementation of Maximo

Enterprise Asset Management (EAM) is an exciting space to be due to advances in Cloud and IOT. It exhibits a tremendous potential to add value and help customers reduce costs. Digital implementation can improve operational efficiency especially in the asset intensive industries.

Over the last 15 years, industry has witnessed a manifold increase in awareness & action on EAM application implementations. The customer list continues to grow organically due to increasing complexity in assets & organization's global spread.

The advent of IOT, sensors and rise in smart assets as well increasing complexity and volume of assets is unprecedented, thus making asset management and tracking more important than ever. While operational issues are mostly well managed in many large organizations, the trajectory has started changing. The focus is now on CIOs to bring down the total cost of ownership (TCO). With the advent of SaaS applications, options for reducing TCO have dramatically increased. Though there was some static friction, as in any new technology life cycle, the overall industry is beginning to gain force. Shorter implementation schedules, shift from CAPEX to OPEX, multi-tenancy, medley of cloud hosting options, ready plug-in options, Dockers & Containers, etc. are pushing even the industry laggards from on premise to Cloud.

While this transition was slow, the trajectory is undergoing a low change towards hosted solutions. Tech Mahindra as a Systems integrator and solution provider has witnessed this shift to the cloud or hosted solutions happening at a much faster pace than earlier. Today, CIOs are more open to cloud adoption as security concerns and technological advances are addressing data privacy issues with Data centers available in most local countries, data privacy and security concern barriers have been further broken down thus making adoption easier. The trend has been towards moving towards a hosted solution in a preferred cloud service provider like Amazon or Azure to avail the advantage of the reducing capital expenditure and also ensuring that the organization's data is secure by having a private cloud solution.



BK Kumar Sr. VP · P2Pr Consulting Practice. Tech Mahindra Ltd.



Tech Mahindra is a leading SI company with deep rooted consulting practice across multiple industry verticals and COTS products. We share an exclusive Platinum GSI partnership with IBM. In the last 3 years, Tech Mahindra has seen a steady shift of clients preferring Hosted Cloud based solutions over the traditional on premise model, for EAM applications. The situation is similar for upgrades, new implementations & tech refresh engagements. Tech Mahindra has delivered three very large scale Maximo implementations & Upgrades in Australia, APAC, Europe & North America.

These Maximo cloud implementations & upgrades are on IBM SaaS, AWS & Azure.

Success Story 1 – Very Large Cement Manufacturer

ANZ Region

First of its kind in the world – Maximo hosted on AWS with DB2 Database IBM believes this to be a FIRST of its kind implementation in the world, where IBM Maximo

has been hosted on an AWS environment with a DB2 database and delivered in a SaaS framework.

The large cement manufacturer's asset management technology was 20+ years old. It was hard to manage and expensive to support. These were drivers for the EAM transformation program across Cement, Concrete & Quarries business & multiple sites in Australia.

Tech Mahindra delivered the project by hosting Maximo on AWS cloud and used Mulesoft ESB for integrations. The implementation is an Opex model





based on a fixed monthly charge for Software licensing, Cloud hosting and IBM Maximo support services.

Tech Mahindra used pre-built accelerators for commissioning various sites across the continent. For migrating 20+ yrs of data the team used data scrubbing & migration scripts. In addition to standard class room training, Tech Mahindra owned the entire Change management that included a complete e-learning package for end-user training. The result was a successful go-live with ZERO business impact.

According to the project sponsor, go-live was a "nonevent" – it was smooth and caused no disruption to his business.

Success Story 2 – Public Services Transportation Company

APAC Region

Maximo Implementation on MS Azure

Tech Mahindra implemented a Bus Maintenance Management System (BMMS) for a public sector transportation authority in Singapore.

The Bus Maintenance Management System (BMMS) was needed to enhance the company's capability to track asset allocation across locations, operators & contractors. This is in addition to tracking operator compliances, coordinate inter-department activities and track maintenance activities of different operators against buses and infrastructure leased.

Tech Mahindra has successfully implemented BMMS leveraging IBM Maximo for Transportation Industry with Health, Safety and Environment add-ons. The solution was implemented on Azure Public Cloud satisfying GovTech IM8 guidelines and a public application for contractors and field engineers. The solution spreads across 7 different departments within the organization and 4 public transport operators (PTO), with each department having distinct asset and maintenance requirements while being collaborative for certain processes. The BMMS application is developed for integration with 4 PTO systems which undertake Operations and Maintenance activities as contracted by the client.

The implementation is supported as a service and operates on a monthly subscription mode.

Success Story 3 – Manual Operations to Cloud transformation - Very Large Energy Conglomerate

Europe & NA

IBM SaaS Implementation

Tech Mahindra is currently engaged with this global energy conglomerate for 10+ years, delivering Maximo projects for its six business areas- Aviation, Power generation, Wind energy, Operations & Maintenance, Oil & Gas, Renewables and Transportation. Tech Mahindra provides 24*5 L2, L3 support over 28 sites across six time zones, and manages various Upgrades, Implementations and Development & Maintenance projects.

With business spanning across EU & NA, work management was largely managed manually. This leads to inefficiencies through disconnected tools, loss of productivity and lack of visibility for operations. The aim was to simplify current, myriad processes/tools and meet business CTQs related to Utilization, Cost Management and Regulatory Compliances. Total cost of ownership for the current on premise implementation was also an issue due to stagnant per user cost driven by low usage. The primary objective of the engagement is to design, develop and implement a best-in-class IT platform for Asset Management and Work-Order Management processes. Tech Mahindra implemented IBM Maximo SaaS in Europe & North America.

It all culminated in a successful move from on premise model to a hosted SaaS platform. This implementation has since reduced costs as well as risks associated with the previous On-Premise model.

Conclusion

We see that on premise hosting is dying a faster death for EAM applications. Given the demand for a lean and fit journey, it is becoming increasingly difficult for organizations to have the kind of infrastructure and support services, in-house. With EAM-as-a-Service, the responsibility & risk now shifts to vendors. Good vendor governance and tracking model is all that is required to run the business through vendor partners.

In addition, as delivery models mature, SI vendor partners are gearing up to assume the risk, define SaaS roadmap & partnerships, and deliver service performance. These are changing times and clients have nothing holding them back to consider THE HOSTED model. IBM has retained its position for the 2nd year in the Leaders Quadrant of the Gartner Magic Quadrant for Enterprise Asset Management Software.* At IBM, 60-75% of the top 20 organizations in many key industry verticals use Maximo, which we believe is proof that IBM's investment in innovations & research around Maximo continues to yield results. We believe that IBM's Maximo has clearly positioned itself as a Leader. "Last five years have been very exciting for our EAM practice. The initial enquiries on cloud hosting services quickly gained momentum as business started recognizing the cost benefits apart from ease of software maintenance. We sustained the interest through proof of concepts while quickly ramping up our competency to deliver what the market needs. The rest is history. In the last three years, we have successfully delivered challenging large-scale cloud implementations on multiple platforms.

In the recent past, we have seen the transformation of cloud services for IBM Maximo, from just being a consideration point to now becoming an approved blue print in the CIO's KRA. As SI partners, we not only equip ourselves to sail this journey, but also act as navigators that steer businesses in the right direction.

Even though the trend is certain, the current shift is more towards private cloud and not public cloud. Customers prefer hosted solution as the next best option to on premise implementation. We are certain that the next shift to public cloud will commence once the security parameters are taken care of.

It is raining good business from the cloud and I am sure it will soon become a sky of opportunities. Tech Mahindra's relationship with IBM has only grown stronger every year for the past 15+ years. The synergy has ensured requisite support in every sphere to grow, sustain and deliver impeccable value to our customers".

– BK Kumar, Sr. VP – P2Pr Consulting Practice. Tech Mahindra Ltd.

"Tech Mahindra and IBM share a strategic partnership around Watson IOT especially around our Connected Operations portfolio of Maximo and Tririga. Their rich experience coupled with their early adoption of flexible engagement models like 'Maximo on Cloud' helps accelerate the transformation journey and outcomes for customers. Tech Mahindra's recent wins and successful delivery is a testimony to their expertise and scale on IBM Maximo. The diverse hosting options on platforms like IBM Cloud, AWS and Microsoft Azure has given customers an expanding choice in addition to an encouraging top line growth through sales of Maximo licenses. We believe our collaboration and partnership with Tech Mahindra can design and deliver what is best for businesses."

- Heather Peru , Global Vice President Sales GTM & Enablement, IBM Watson Internet of Things

Source: Tech Mahindra

*Gartner Inc., Magic Quadrant for Enterprise Asset Management Software, 9 October 2018, G00347118

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Research from Gartner Cloud-Based Enterprise Asset Management Continues to Face Headwinds

Cloud-based deployments of EAM systems will increase during the next five years as buyers accept cloud as an option and functional limitations are lessened. But takeup by assetintensive industry CIOs is not universal, and it is not the dominant delivery model.

Impacts

- Increasing acceptance of cloud as a deployment option has led to the growth of enterprise asset management (EAM) deployments in the cloud and, therefore, an expanding choice for buyers. This has allowed CIOs to not have to choose between functionality and cloud.
- The response by large, established EAM vendors to the growing demand for cloud-based options has been slow. Some have yet to gain traction with their cloud offerings, but others are offering cloud-only options, so a detailed understanding of your vendor's strategy is needed.
- In the near term, complex requirements and customization of existing systems are the primary impediments to the adoption of cloud-based EAM. A CIO needs to have a clear view of EAM complexity.

Recommendations

CIOs of asset-intensive industries looking for innovations from cloud delivery should:

- Make cloud an option if considering a new EAM project or upgrading one. However, be aware of the relative immaturity of the market and your vendor in particular.
- Be prepared to switch vendors if cloud deployment of EAM is your preference and your current vendor does not have a proven cloud option. Also, avoid investing in a cloud-based EAM solution unless the vendor has a strong infrastructure as a service (IaaS) strategy and partnership.
- Don't rush into cloud if you have complex EAM requirements. However, if you are committed to pursuing a cloud strategy, then plan on a single-instance, hosted approach to cloud to give flexibility in customizations and interfaces.

Strategic Planning Assumption

Through 2020, the dominant delivery method for EAM in large asset-intensive organizations will continue to be on-premises systems, with cloud/ SaaS being more favored by smaller organizations.

Analysis

Gartner defines "cloud computing" as "a style of computing in which scalable and elastic IT-enabled capabilities are delivered as a service using internet technologies" (see Note 1). (For more information on the definition of cloud, see "Cloud Computing Primer for 2018.")

A number of enterprise application markets, such as human capital management (HCM), have seen significant adoption of cloud deployment models during the past 10 years. HCM applications are already a cloud-first market from a supply point of view, as almost all of the top five vendors in market share (and many smaller ones) are no longer actively selling on-premises software. (For a more detailed explanation of the HCM market, see "Market Snapshot: Human Capital Management Software, Worldwide, 2017"). The EAM market, in contrast, has seen very limited use of cloud-based deployment options and is more like manufacturing operations (MO), which remains staunchly resistant, with only 1% of vendor revenue attributed to SaaS and less than 20% to any subscription model (for more explanation of the MO market, see "Market Snapshot: ERP Manufacturing and Operations Software, Worldwide, 2016").

The asset-intensive world that EAM inhabits reflects the slow refresh and upgrade cycles in the operational technology domain. However, user attitudes are changing as the prevalence and stability of cloud offerings become more proven. The expanding vendor offerings are changing the market dynamics. While most large-scale EAM offerings are now available on-premises or cloud, there are a number of small vendors disrupting the status quo by focusing on low-cost, cloud-based EAM solutions. The larger vendors are starting to develop or, in some cases, reintroduce their own cloud strategies and products to the market. The end result is an expanding set of cloud-based EAM options for buyers. But we have reported previously that EAM cloud takeup does not mimic other enterprise applications:

"A postmodern ERP approach also allows vendors to vary their messaging around what they have available in the cloud versus what is to come (and have that aligned with the general pace of cloud adoption and maturity across ERP). For example, HCM cloud adoption is already high, but it's very low for manufacturing and operations and EAM" – "Market Share Analysis: ERP Software, Worldwide, 2016"

Figure 1. Impacts and Top Recommendations for Cloud-Based EAM

Impacts	Top Recommendations	
Increasing acceptance of cloud as a deployment option has led to the growth of EAM deployments, but not all buyers are interested.	Make cloud an option if considering a new EAM project. However, be aware of the relative immaturity of the market and your vendor in particular.	
The response by large, established EAM vendors to the growing demand for cloud-based options has been slow, with some yet to gain traction with their cloud offerings.	 Be prepared to switch vendors if cloud deployment of EAM is your first choice and you current vendor does not have a proven cloud option. Avoid investing in a cloud-based EAM solution unless the vendor has a strong laaS strategy and partnership. 	
In the near term, complex requirements and customization of existing systems are the primary impediments to the adoption of cloud- based EAM.	 Don't rush into cloud if you have complex EAM requirements. But if you are committed to pursuing a cloud strategy, then plan on a single instance, hosted approach to cloud to give flexibility. 	

Source: Gartner (May 2018)

Impacts and Recommendations

Increasing Acceptance of Cloud as a Deployment Option Has Led to Growth of EAM Deployments and Expanding Choices for Buyers

Interest in cloud among asset-intensive industries generally lags behind other industry groups. In our CIO survey of 2017 (see Figure 2), we asked CIOs to rank the most important technologies to support the business mission. Cloud ranked only fourth at 7% compared with leading organizations that ranked it third at 15%. (For more details on this survey, see "2018 CIO Agenda: Global Perspectives for Asset-Intensive Industries.")

This perspective was reinforced when we did our CEO survey. We asked asset-intensive industry CEOs for indications of the technologies that will aid productivity improvements. Some stark differences emerged (see Figure 3). CEOs ranked ERP first (itself an indication of conservative thinking), a result of 15% for asset-intensive industries. Conversely, cloud was selected by 7% for all industries, but only 2% for asset-intensive industry CEOs, showing that this is not an area they see as a productivity booster.

It is becoming increasingly rare for organizations that are in the market to buy, upgrade or replace an EAM system to not have a dialogue on the possibility of a cloud deployment. This openness to discuss cloud as an option is relatively new and is a leading indicator for future cloud. While the majority of existing EAM deployments are still onpremises, interest in EAM in the cloud has increased according to the number of new cloud-based EAM deployments. Most of these deployments are in the midtier market (companies with \$500 million to \$5 billion in revenue) in industries where EAM is not typically seen as the primary differentiating capability (such as manufacturing). However, in the last 12 months, based on 185 client inquiry discussions on EAM selection, Gartner has started to see an interest by even the largest organizations in cloud-based EAM. Some have no choice if their vendor is going to a cloud-only delivery model.

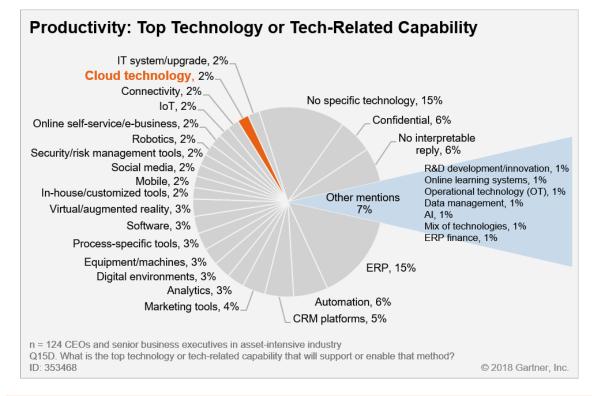
Figure 2. Asset-Intensive CIOs Rank Cloud Lower

Most Important Technology That Will Differentiate Business/Are Most Crucial to Achieving Organization's Mission

Rank	Asset-Intensive Industries (n = 915)		Top Performers (n = 165)	
1	Business intelligence (BI)/analytics	31%	Bl/analytics	28%
2	Digitalization/digital marketing	17%	Digitalization/digital marketing	17%
3	Internet of Things	14%	Cloud services/solutions	15%
4	Cloud services/solutions	7%	Mobility/mobile applications	7%
5	Enterprise resource planning	7%	Artificial intelligence	7%
6	Mobility/mobile applications	6%	Internet of Things	6%
7	Automation	5%	Integration/interoperability	4%
8	Artificial intelligence	4%	Application programming interface	4%
9	Customer relationship management	4%	Infrastructure/data center	3%
10	E-business/e-commerce	3%	Security and risk	3%
	Percentag	e of Re	spondents	
nowing t hich tec	answering, excludes "Don't know" answers, n vai he 10 most common answers per segment, code hnology area do you think is most important to h st crucial to achieving your organization's missior 8	ed open-t elping yo	ext responses.	artner, I

Source: Gartner (May 2018)

Figure 3. Asset-Intensive CEOs Rank Cloud Lower



It is not simply new EAM implementations that are being deployed in the cloud. The number of EAM system upgrades that resulted in a move from on-premises to the cloud also has increased. The latter decision was often made with two considerations in mind: the desire to get away from managing upgrades every two to five years, and limited resources to maintain their on-premises infrastructures. Gartner research confirms that the decision to move from on-premises to the cloud is not, as is commonly perceived, based on reducing software expenditures. Upgrading to a new version of software based in the cloud will typically increase the support fees paid to the vendor over the life of the product. However, it can, over time, reduce the costs as part of a broader move to reduce investments in infrastructure and support resources.

Most organizations are looking to minimize the cost of deploying and maintaining the applications they use to run their businesses, and organizations that need EAM are no different. However, cost has different implications for different types of organizations. For example, most organizations have to live with capital budget constraints, favoring the annual operating expense that comes with a cloud deployment. On the other hand, utilities that operate in a cost-of-service, rate-recoverybased regulatory framework are motivated to favor capital expenditures and minimize operational costs. This doesn't preclude cloud deployments, but requires a different approach to cloud deployment and payment. Regardless, cloud should not necessarily be equated with "less expensive," since a typical license scale equates to a 1/36 of an annual license fee per user/ per month (that is, three years of cloud costs equate to the perpetual license cost). Any evaluation should take this into account, as well as the total cost of ownership associated with supporting the application and the underlying infrastructure.

Recommendations:

Make cloud an option if considering a new EAM project, but be aware of the relative immaturity of the market. Run pilots and evaluate reference cases that show the maturity of the solution and applicability to your own situation.

If considering an EAM system upgrade, then evaluate whether cloud might be a viable – and possibly even the best – deployment option. For that, do not just compare the financial benefits, but also compare the risks that come from being a relatively early adopter.

The Response by Large, Established EAM Vendors to the Growing Demand for Cloud-Based Options Has Been Slow

EAM vendor response to growing demand for cloudbased options has been very uneven, reflecting differing capabilities and priorities. Smaller established vendors have been most responsive to market changes. This is reflected in the growth in new EAM deployments in the cloud and the choice of existing customers to use an upgrade project to move to the cloud.

Hosted/SaaS/cloud EAM deployments:

- ABB Asset Suite: 5%
- ABB Ellipse: 5%
- eMaint: 100%
- IBM Maximo: 10%
- IFS: 4%
- Mainsaver: 25%
- Ramco Systems: 25%
- Schneider Electric: 5%

Source: Vendor responses to 2017 EAM Magic Quadrant vendor survey. SAP declined to respond, but has a cloud option for S/4HANA. Infor declined to respond, but has a cloud deployment capability for EAM. Oracle declined to respond, but Oracle Maintenance Cloud (R13) is designed for cloud-only deployment. (For more details on the EAM Magic Quadrant, see "Magic Quadrant for Enterprise Asset Management Software.")

The cloud-based EAM market is also benefiting from expanding choices. In 2014, IBM introduced a cloud-based EAM offering, and Infor recommitted to cloud-based EAM. Less-established EAM vendors such as Ramco Systems, AssetPoint and eMaint which lead with, or only offer, their EAM solutions in the cloud are also providing alternatives for buyers. While these vendors represent a relatively small portion of the global EAM market, they have experienced significant growth in recent years as they fill the gap left by the mainstream vendors. In particular, eMaint and a number of similar vendors have provided a cost-effective alternative for small to midtier organizations looking to automate their maintenance processes for the first time. It has yet to be seen whether they can provide the functionality necessary to penetrate the asset-centric segment of the market traditionally dominated by the larger, established EAM vendors. Regardless of how the competitive landscape evolves, as vendors continue to invest in their cloud-based EAM solutions, buyer options will expand.

When looking at cloud offerings you are buying and end-to-end service, SLAs should move the responsibility for overall performance to the vendor. However, still be aware of a given vendor's strategy with respect to using third-party laaS providers (see Note 2). Most EAM vendors have moved, or are moving, toward using service providers, such as Amazon Web Services or Microsoft Azure Cloud, to provide the physical infrastructure for hosting their software. This is because they can't match the cost-efficiencies and geographic scale of these laaS services. Vendor strategies are currently in flux and may be subject to change, and you should be fully informed of how they are delivering those services and meeting your SLAs. In general, cloud versions of existing on-premises EAM solutions from the large, established vendors are still in the early stages of development. Some of these established vendors have yet to offer their products in the cloud. Even those that have an existing offering are not yet delivering the full set of EAM functionality in their cloud offerings. On the other hand, smaller vendors of cloud-based EAM solutions do not offer the same breadth of functionality as the established providers.

Recommendations:

- If cloud deployment of EAM is your first choice, be prepared to switch vendors. Your current vendor may not have a viable cloud option or, indeed, may be moving to cloud-only. Compare the roadmaps of your alternative vendors for the next two application and feature updates with what your current provider offers to more fully plan the future.
- Don't invest in a cloud-based EAM solution unless the vendor has a strong laaS strategy and partnership, and offers an end-to-end service level, including guarantees for performance, data protection, and backup and restore.

Complex Requirements and Customization of Existing Systems Are the Primary Impediments to Adoption of Cloud-Based EAM in the Near Term

There are a number of considerations organizations should take into account when considering EAM in the cloud. Those considerations will vary depending on whether it's a completely new EAM deployment or it's an upgrade/replacement of an existing EAM system. Here are the primary considerations:

Complexity of EAM functional requirements. Large organizations in asset-centric industries should carefully compare the functionality of cloud-based EAM offerings with on-premises versions. Most cloud-based EAM products, including the cloud versions of established on-premises EAM products, do not support the scope of functionality available in leading on-premises offerings. This might eliminate the cloud option at the present time for some organizations.

- Degree of customization of an existing EAM installation. Although somewhat related to complexity, this is a separate consideration. More often than not, legacy EAM deployments have a considerable amount of customization built into them, and cloud EAM options can limit customization (although a certain degree of configuration is possible). This favors the use of cloud by organizations with standard EAM requirements and limited complexity.
- Integration requirements. These will rarely preclude a cloud-based deployment of EAM, but may dictate the type of cloud deployment an organization chooses. EAM systems typically will be integrated with financial, HR and, often, procurement applications. These integrations do not preclude a single-tenant approach to hosting, but could preclude a multitenant SaaS approach.
- Risk-reward. Organizations are hesitant because of the balance between risk and benefit. If they follow other parts of the business and move to the cloud, then there is undoubtedly increased risk based on the disruption it would cause the business. But the benefits are elusive. The system response may be slower, meaning data synchronization might become an issue. The browser isn't a great mechanism for fast data entry, and the processes will act no different. So the only business benefit perceived is the cost of IT, but that is not proven to be true either. For a risk-averse part of the business where stability is vital, such a move may not add up.

Support resources. Most organizations are facing constraints with respect to internally available support resources. This is particularly true for small to midsize businesses, which explains their early embrace of EAM in the cloud. However, it might also be true for larger, global organizations with widely dispersed assets, such as mining, or oil and gas. For these types of organizations, lack of support resources and the necessary infrastructure in remote locations may favor some form of cloud deployment.

Some of these considerations may rule out EAM in the cloud for your organization today. Unlike enterprise software markets with more-mature cloud offerings – such as CRM and HRM – EAM in the cloud is still early in its development, and takeup lags considerably.

As an example of this, we can look at the utility industry, which is a typical complex asset environment. In a recent survey of utility industry investments, which is representative of assetintensive industries. Although EAM is listed as a spending priority by 50% of respondents (see Figure 4), the priority based on cloud investment came in at 8% (see Figure 5). For more details on the utility market survey, see "2018 CIO Agenda: Utility Industry Insights." (see figure 4)

Gartner predicts that cloud-based EAM deployments will continue to grow during the next five years. But through 2020, the dominant delivery method for EAM in large, asset-intensive organizations will continue to be on-premises systems, with cloud/ SaaS being more favored by smaller organizations. This primarily will be driven by organizations with limited internal resources to manage the deployment and/or ongoing support of an EAM system. However, for many organizations, it may still be many years before a suitable cloud EAM solution is available to meet their needs. It is, therefore, incumbent on buyers to carefully evaluate the option of EAM in the cloud in the context of the organization's

Rank	Utilities (n = 68)		
1	Customer information system (CIS)	51%	
2	Meter data management	51%	
3	Supervisory control and data acquisition (SCADA) systems		
4	Enterprise asset management (EAM)		
5	Geographic information system (GIS) and related applications	43%	
6	Energy management system (EMS)	32%	
7	Energy trading and risk management	29%	
8	Distribution management system (DMS) and advanced DMS (ADMS)		
9	Wholesale market operations		
10	Other	7%	
11	Emission management	3%	
	Percentage of Respondents		
se select	y is utilities and willing to answer. the industry-specific solution priorities that your company will spend the most on in from the following list.		

Figure 4. EAM Is a High Priority for Utilities

Source: Gartner (May 2018)

Figure 5. Cloud Is a Low Spending Priority for Utilities

Rank	Utilities (n = 89)	
1	BI/analytics	19%
2	Cybersecurity/information security	18%
3	Enterprise resource planning	9%
4	Digitalization/digital marketing	9%
5	Internet of Things	9%
6	Cloud services/solution	8%
7	Customer relationship management	7%
8	System/process automation	7%
9	E-commerce/website/client-facing	6%
10	Green IT	6%
	Percentage of Respondents	
	is utilities, excludes "Don't know" answers; n = 89. chnology areas where your organization will be spending the highest amount of	

overall application support strategy, as well as the evolving solution landscape. Putting aside the semantics of what constitutes a cloud deployment, organizations with complex EAM requirements may want to consider a traditional hosted model versus a multitenant SaaS offering.

Recommendations:

- If you have complex EAM requirements, don't rush into cloud.
- If you have complex requirements, but are committed to pursuing a cloud strategy, then plan on a single-instance, hosted approach to cloud.

Evidence

The data used to form the opinions and recommendations has been formed from a number of internal Gartner sources, including:

- Client inquiries from companies selecting or upgrading their EAM systems
- The survey of the 11 EAM vendors that formed the basis of the 2017 EAM Magic Quadrant
- The CIO and CEO surveys referenced in the Gartner Recommended Reading section
- The Market Share Analysis documents listed in the Gartner Recommended Reading section

Note 1 Cloud Defined

Gartner defines "cloud computing" as "a style of computing in which scalable and elastic ITenabled capabilities are delivered as a service using internet technologies." Strictly speaking, it does not encompass traditional application hosting. However, for the purposes of this research, we will use the term to refer to any form of third-party hosting of EAM software requiring access to the application via the internet. Vendors also define cloud loosely and lump multitenant SaaS offerings, singletenant SaaS and traditional hosted models under that term. Some vendors offer a multitenant SaaS option, others only offer single-tenant hosting and some offer both. In most cases, cloud deployments presume a subscription method of paying for the service. There are instances, however, of customers opting to pay a perpetual license fee to have the application hosted in the cloud by the vendor. Annual support costs in this scenario are typically higher than the traditional maintenance fees paid when the application is deployed on-premises.

Note 2

"laaS" Defined

Gartner defines laaS as a standardized, highly automated offering, where compute resources, complemented by storage and networking capabilities, are owned and hosted by a service provider and offered to customers on demand.

Source: Gartner Research, G00353468, Kristian Steenstrup, Nicole Foust, 2 May 2018

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