Mobile Application Management (MAM)

Assessment of Secure SSO-enabling Products

Ria Baldoz

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GE relies on both internally developed and commercially available mobile apps. Most external apps do not meet GE's IT requirements: 1) being SSO-enabled and 2) using SAML or OIDC. Because of this, many preferred business solutions cannot be pursued. In order to make commercial apps available to employees, GE needs to look at products that will help with Enterprise Mobility Management (EMM), specifically Mobile Application Management (MAM). This report will assess current EMM suites with an emphasis on MAM capabilities and will recommend which product GE should purchase.

Contents

Business Need

GE requires all mobile apps to be SSO-enabled via SAML or OIDC. Most external apps do not meet this requirement, preventing employees from using preferred solutions.

Background

Enterprise Mobility Management (EMM)

Enterprise mobility management (EMM) secures mobile phones so that employees can use them for work-related tasks.

There are three main components to EMM:

1) Mobile Device Management (MDM) – securing devices
2) Mobile Application Management (MAM) – securing apps
3) Mobile Content management (MCM) – securing mobile content

In order to address GE's business need for secure external apps, this report will investigate the top EMM suites with an emphasis on their MAM capabilities.

Mobile Application Management (MAM)

Mobile Application Management (MAM) enables companies to control whether or not:
- User authentication is required for a specific app
- Data associated with the app can be stored on the device
- Specific APIs such as copy and paste or file sharing will be allowed

MAM solutions provide control over mobile applications through two methods:
1) Containerization
2) App wrapping

They aim to solve the same problem, but do it differently. Some vendors offer both methods, while others only offer one method.

Containerization

Containerization is the process of securing an app by integrating an app's code with an MAM vendor's software development kit (SDK). Containerization is built directly into the app while it is still being developed.

Cautions
- Can lock an organization into the MAM vendor's products
- Independent software vendors do not typically build different versions of their apps for each MAM vendor's SDK
- Difficult to update and rewrite apps that have already been built and deployed

App Wrapping

App wrapping is the process of securing an app by adding a management layer without changing the underlying app. The MAM vendor's dynamic libraries are layered over the application's native

binary files after the app is compiled. Once an app is wrapped, all security and control policies can be added by an administrator.

Cautions

- Can potentially violate an app's terms of use, copyright laws and licenses if permission is not received from the software vendors who create the app

EMM Suites

Gartner Magic Quadrant

The Gartner Magic Quadrant is an annual report that assesses the competitors of a specific market. Competitors are plotted on a graph based on their ability to execute (along the y-axis) and completeness of vision (along the x-axis). Competitors are given a classification depending on which quadrant in the graph they are plotted. There are four classifications: Leaders, Challengers, Visionaries and Niche Players.

In June 2016, Gartner published a Magic Quadrant report that assessed the top EMM suites. For an assessment of all 14 competitors, see the Appendix.

Figure 1. 2016 Magic Quadrant for EMM Suites

Top EMM Suites
Three EMM suites stood out from the rest. They are:

1) Citrix
2) MobileIron
3) VMware AirWatch

All three suites were classified as Leaders in the Gartner Magic Quadrant. In addition, all three had proven large-scale deployments and strong MAM capabilities, making them viable options for GE.

Citrix
Compared to other EMM suites, Citrix has invested the most in the usability of its MAM product, Xenmobile. Xenmobile's most impressive feature is the ability for administrators to block or remove enterprise apps from any mobile device. This is useful in cases of device theft or suspicion of security threats. In the past year, Citrix has seen steady growth in its XenMobile client base, which has made independent software vendors more willing to build apps that can be configured with Citrix's SDK for containerization.

MAM
- ✓ Containerization
- ✓ App Wrapping

Cautions
- Planned spinoff of the GoTo business unit in 2016 and a new CEO may have an impact on the XenMobile product

MobileIron
MobileIron is one of the few stand-alone EMM vendors, meaning that customers do not have to engage in a broader license agreement in order to use MobileIron's products. Its MAM product, AppConnect, provides application inventory, which gives administrators the ability to track which apps employees have installed as well as the presence of any unauthorized apps. User adoption can also be monitored, which can be valuable for internal app development. In the past year, MobileIron's customer base grew significantly, as well as its patent portfolio and the sophistication of its EMM deployments. AppConnect has been identified as having one of the most extensive ecosystems, offering stability, solution readiness and scalability.

MAM
- ✓ Containerization
- ✓ App Wrapping

Cautions
- Can be difficult to access appropriate IT support for simple issues
- Most of MobileIron's executive leadership – director of engineering, director of sales, CFO and CEO – have been replaced, which creates short-term uncertainty

VMware AirWatch

VMware AirWatch offers comprehensive application lifecycle management. It enables administrators to oversee apps from acquisition to distribution, to tracking versions and managing licenses. Through the App Reputation Scanning module, administrators can evaluate app risks, generate app whitelists and blacklists and establish compliance policies for different levels of security. Through each step of the application lifecycle, administrators have access to embedded training videos and links. AirWatch differentiates itself with zero-day support for new OSs. The company is currently expanding into the management of Internet of Things (IoT) devices and unified workspaces.

MAM
- ✓ Containerization
- ✓ App Wrapping

Cautions
- Can be difficult to access appropriate IT support for simple issues
- VMware's parent company, EMC, is planned to be purchased by Dell, which raises concern that the VMware AirWatch product will no longer receive the same support or focus it has under a stand-alone VMware

Recommendation

MobileIron's AppConnect is the best fit for GE. MobileIron's primary differentiator is its current integration within GE. GE relies on MobileIron to manage its active directory and its mobile devices. GE also uses MobileIron AppTunnel to install VPN clients on GE's mobile phones. This means that if GE purchases AppConnect, it will not have to worry about data migration or about software compatibility.

Ultimately, purchasing AppConnect is a strategic move. Rather than look for other companies to partner with, GE will be able to leverage an existing business relationship with MobileIron, saving time and potentially money.

Appendix

Assessment of EMM Suites							
EMM Suites	Classification	SAML or OIDC	Operating System	Containerization	App Wrapping	Good fit for GE?	Pricing
Blackberry	Leader	SAML	Android iOS Blackberry	●	●		$3/user/month to $25/user/month
Cisco	Niche Players	not specified	Android iOS Windows	●			request a quote
Citrix	Leader	SAML	Android iOS Windows	●	●	●	request a quote
IBM	Leader	not specified	Android iOS Blackberry Windows Mobile devices	●	●		request a quote
Landesk	Visionaries	not specified	Android (limited) iOS (limited)		●		request a quote
Matrix42	Niche Players	SAML	Android iOS Windows	●			request a quote
Microsoft	Visionaries	SAML	Android (limited) Windows (limited)	●	●		$8.75/user/month
MobileIron	Leader	SAML	Android iOS Windows	●	●	●	request a quote
NationSky	Niche Players	not specified	Android iOS (limited) Windows (limited)	●			request a quote
SAP	Niche Players	not specified	Android iOS Windows		●		$1.27/device/month for cloud-based solution to $60/one-time/device for on-prmise solution
Snow Software	Niche Players	not specified	Android iOS	●	●		request a quote
Sophos	Visionaries	not specified	Android iOS Windows	●			request a quote
SOTI	Visionaries	not specified	Android iOS Windows	●			request a quote
VMware AirWatch	Leader	SAML	Android iOS Blackberry Symbian Windows	●	●	●	$4.44/device/month (for Containerization) $6.33/device/month (for containerization and app wrapping)

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