Enterprise Mobility Management-as-a-Service: Cloud Control and Agility

Mobility does not stand alone - its value comes from its connectivity. The confluence of mobile with cloud and social technologies in a coherent IT construct was first documented in a November 2011 Aberdeen Group article series for CIO.co.uk: SoMoClo™: Converged IT Infrastructure for Business Transformation. It described mobile endpoints as an integrated whole with social and cloud infrastructure. This was the fundamental paradigm shift introduced by software-configurable smartphones in 2008, which reimagined mobile devices as cloud endpoints — always connected, sharing, communicating, collaborating, processing, and storing data in an untethered world.

Cloud and the User-Centric Mobility Model

The conventional mobility model is device-centric, consisting of a preconfigured, locked-down, and centrally procured smartphone using proprietary mobile software to access corporate data via a secured communications tunnel through a security firewall. It is secure and reliable, but costly to implement and support. Although the model has served the needs of executives and field-based employees for over a decade, it doesn't scale well: it's typically based on proprietary middleware software that is expensive and difficult to update. This is a reason why enterprise mobility penetration hovered between 10% and 20% in most industries prior to 2008. The introduction and later popularity of Apple's smartphone in 2007 and app store in 2008 radically changed that model (Figure 1).

Figure 1: The User-Centric Model – End-User as Endpoint

Analyst Insight

Aberdeen’s Insights provide the analyst’s perspective on the research as drawn from an aggregated view of research surveys, interviews, and data analysis.

EMM-as-a-Service Principles

The pooled resources of cloud-based IT infrastructure provide a foundation for agile Enterprise Mobility Management (EMM):

- **Rapid deployment**: Shared, multi-tenant architecture sets up quickly
- **Scalable**: Size to the need, from small enterprise to complex global deployment
- **Agile**: Adapt to platform and ecosystem changes as they happen
- **Elastic**: Size up, size down, on-demand
- **Secure**: Pooled resources for state-of-the-art security; trust established with certifications and controls
- **Shared knowledge**: Aggregated data for real-time analytics and shared insights
In the new user-centric model, the endpoint is the user, whose identity, social activity, content storage, and access permissions can be managed in the cloud. All endpoints are presumed to be mobile: the customer, the enterprise knowledge worker, and the channel partner tied to neither location nor device – be it smartphone, tablet, or laptop. This correlates with the dissolution of the conventional client/server model in corporate computing, in favor of the virtualized data center and platform-as-a-service model of cloud computing.

The rapid adoption of Apple's user-centric model by other vendors such as Microsoft and Google has led to a broad democratization of enterprise mobile data and network access. No longer just for executives and field personnel, it has propagated mobility throughout the organization. The increasing acceptance of employee-owned mobile devices used for work purposes (Bring-Your-Own-Device or BYOD) has further accelerated this transformation.

Broader mobility adoption has meanwhile increased the corresponding challenges of device and data insecurity, regulation noncompliance, and runaway telecommunications and data usage expenses. This has led in turn to the rise of Enterprise Mobility Management (EMM) solutions to more effectively manage the full lifecycle of the enterprise mobility ecosystem.

The evolution of EMM was first documented in Aberdeen's May 2010 study Enterprise Mobility Management: Optimizing the Full Mobile Lifecycle. The first solutions on the market focused on Mobile Device Management (MDM) hosted in the traditional device-centric model; however they have quickly evolved to more comprehensive solutions which incorporate the ‘cradle-to-grave’ full lifecycle of enterprise mobility, which is the hallmark of today's more mature EMM solutions.

In the July 2012 study of 578 organizations in 45 countries, Enterprise Mobility Management 2012: the Global Perspective, top-performing organizations (the Best-in-Class – see sidebar) enjoyed significant advantages as compared to Industry Average and Laggard organizations (Figure 2).
The Best-in-Class saw substantial Year-over-Year (Y/Y) improvements in several key performance metrics: decrease in unrecovered lost or stolen devices, and increases in speed of decision-making, workforce productivity, and adherence to mobile policy. As a result, they were also much more likely to rate their workforce as 'extremely productive' than All Others (Industry Average and Laggards combined).

The continuing evolution of EMM has resulted in the development of new service models, such as EMM-as-a-service, following the same IT path pioneered by mobile data access and storage in the cloud. The provisioning, deployment, management, security, and decommissioning of the mobile device and application ecosystem via cloud-based services are now attractive alternatives to more conventional server-based EMM approaches.

Although cloud-hosted mobility solutions are relatively new, their use is growing rapidly. As first reported in the February 2011 EMM report *Enterprise Mobility Management 2011: Mobility Becomes Core IT*, Best-in-Class organizations in the more recent 2012 study are leading the way in terms of cloud adoption (Figure 3).

![Figure 3: Cloud Adoption](source: Aberdeen Group, July 2012)

From mobile app support to systems analytics, app development, app deployment, and device deployment, top-performing organizations are beginning to migrate their core mobility services to the cloud (Figure 4).

![Figure 4: Cloud-Enabled Mobile File Sharing](source: Aberdeen Group, July 2012)
As shown in Figure 4, interest in cloud-based mobility services doesn’t stop at the device and software. Best-in-Class organizations are significantly ahead of All Others when it comes to secure and compliant file sharing via the cloud. However, Industry Average and Laggard respondents are intent on catching up: Laggards are 70% (on smartphones) and 79% (on tablets) more likely than the Best-in-Class to implement secure mobile file sharing via the cloud in the next 12 months.

When looking at the various EMM service-delivery models from data center to cloud, the conventional service delivery model of self-hosted and self-managed EMM software behind a firewall in a private data center still predominates (Figure 5).

Figure 5: Current and Planned EMM Service Delivery Models

However, when asked about their implementation plans within the next 12 months, survey respondents tell a different story. Not only is self-managing EMM-as-a-Service in the cloud the model projected to have the greatest absolute growth in near-term investment (ie., within the current budget cycle), but also the greatest growth rate by a significant margin. The future for cloud-based EMM appears bright.

Case in Point: EMM in the Cloud

The Frederick Mutual Insurance Company, an A-Rated property and liability insurance carrier based in Frederick, Maryland, offers services throughout that state. The company was looking for a mobile solution to empower their network of professional independent field agents. The company had been using older-generation smartphones and laptops for their field agents for some time, along with standalone cameras to capture site-specific insurance claim incidents. While these methods sufficed for the agents’ basic needs, the company was looking for an updated solution to better support an increase in field customer responsiveness and overall productivity.
They field-tested the latest smartphones and tablets equipped with improved productivity and communications apps, resulting in a high-level of employee approval and buy-in. As a result of the successful pilot, the company decided to replace their older-generation equipment with the latest technology. Instead of procuring the mobile devices directly, the company chose a Bring-Your-Own-Device (BYOD) strategy. They offered employees partial reimbursement for their device and monthly wireless carrier service fees, but allowed them to select their own specific device configuration and carrier.

In order to manage and secure the new devices, a robust EMM solution was needed that was especially effective with BYOD. The company field-tested and evaluated several EMM solutions, and came to the conclusion that a cloud-based EMM-as-a-service configuration best fit their needs. They concluded that the cloud model best supported their business’ scalability and flexibility demands, especially as an organization with remote field agents and seasonal demands.

The cloud-based model they selected enables their field agents to have uninterrupted access to the data and services they need, even if they can’t get to the office, or a catastrophic event occurs that would paralyze a more conventional client-server setup.

According to David Pitzer, Frederick Mutual VP and CIO, “The cloud model was important to us in a variety of ways beyond cost and ease-of-use. From a disaster recovery standpoint, as an insurance carrier our employees need to be available to our insured even if they can’t get to the office due to a catastrophic event. A cloud-based infrastructure ensures that we can be there for our customers, even at the worst of times.”

They also found that their cloud solution delivered other benefits over traditional server-based EMM: it forestalled the need for the two physical servers required by another system that they had evaluated, costing them $50,000 less in hardware and IT support costs in the first year.

After giving employees notice about the new BYOD policy and the time needed to acquire their own devices, the Frederick Mutual IT support team is now able to rapidly set up and enroll new devices. They use their cloud EMM to enforce application and device compliance and to deploy the core business apps that replaced the fragmented laptop/smartphone/physical camera infrastructure that they used previously.

As a result, the company has been able to reduce latency for case resolution and automate case workflow for remote agents. This has resulted in increased agent responsiveness and productivity, improved resilience to disaster events, reduced costs, and better service delivery — resulting in happier customers.

**What's Next for EMM-as-a-Service**

Although cloud-based EMM solutions are new to many, they have been in the market for several years, and offer similar capabilities to more
conventional EMM offerings. In part because of their Software-as-a-Service (SaaS) delivery model and more agile technical infrastructure, they can be deployed rapidly and respond more quickly to variations in demand and throughput. In addition, significant advancement in this sector can be expected in the near future.

As a cloud service, EMM has the potential to be more tightly integrated with other SaaS-based data and analytics systems, such as content, data, and user identity management systems. Areas of expected functionality enhancement include:

- **Protection of Personally Identifiable Information (PII)**, which is of particular importance with BYOD configurations when the device may be managed by the company but the employee has personal data that they wish to keep private.

- **Mobile App Management (MAM)**: comprehensive application development, distribution, security, and compliance tools are essential for management of the rapid rise in adoption of custom enterprise mobile apps coming online.

- **Data Loss Prevention (DLP)**: mobile content and data compliance management tools are essential to prevent the leakage of company intellectual property to unauthorized sources.

- **Mobile Collaboration**: mobile document sharing and collaboration has become part and parcel of the user-centric mobility model, but if it’s not secure and compliant, it’s not enterprise-grade. This principle also applies to synchronous and asynchronous forms of collaboration such as Instant Messaging (IM) and micro-blogging (e.g. ‘tweeting’).

- **Geo-Fencing**: All recent-issue smartphones and most tablets have embedded Global Positioning System (GPS) sensors; and software-based systems can further refine positioning using Wi-Fi® signal interference patterns. As a result, access privileges to specific networks, data, and content can be made relevant to an individual’s location. For example, a doctor may have access to patient records when on-site at a hospital, but not when she or he leaves the premises.

- **Aggregate Analytics**: with a cloud-based EMM approach, the system has the potential to analyze anonymized performance data across a great number of users. Imagine being able to benchmark your organization’s real-time performance against your peers, or in other markets. It could even go one step further, applying predictive analytic practices gleaned from Big Data analysis, to predict problems or bottlenecks before they actually happen.

With EMM in the Cloud, the sky is the limit!