Mobile Enterprise: Movius Embraces Multiple Virtual Personas To Secure Enterprise Mobility

How Movius Extended Its Customer Offerings By Addressing Enterprise Mobility Concerns

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Purpose and Intent

Movius Interactive Corp. (Movius) is headquartered in Atlanta, GA and provides communications solutions to service providers, such as mobile phone carriers, in order that these service providers are able to offer products and services to their customers, especially enterprises. As part of continuing improvements to its products and services, Movius decided to introduce a Multiple Virtual Personas (MVP) approach so that its service provider customers can offer mobile services which enable enterprises to keep their data and applications separate and secure from personal data and apps on an individual employee's mobile device.

This case study is the 10th in a series in which different organizations talk about their objectives and experiences with mobility and with end users.Through these case studies, Constellation Research clients discover what others had to find out for themselves.

These case studies complement Constellation Research's Mobile Device Management (MoDM), Mobile App and Data Management (MADM) and Mobile Enterprise Management (MEM) reports. In addition, the case studies contribute practical depth to two of Constellation Research's primary research themes:

- Technology Optimization

- The New C-Suite/Consumerization of IT.

Executive Summary

In this report, Movius Director of Marketing and Technology Jose Romero discussed how the company analyzed the challenges that enterprise end users must confront when faced with Bring Your Own Device (BYOD) purchases made by employees who want to use these personal devices to assist them at work. He describes how Movius extended an existing solution (where one SIM card can have more than one number associated with it) by adapting a third-party solution in order to deliver security and separation of enterprise data+apps from personal data+apps. This opened up a multi-level opportunity to please all BYOD owners, the enterprise IT department and the service providers. This is one of many new products now being offered to Movius' service provider customers.

The Movius Approach To Separating Enterprise Mobile Data+Apps From Personal Data+Apps

Movius has been in business for over 30 years, offering solutions to customers related to communications services. It has more than 150 customers worldwide (many of these being Tier 1 telecommunications carriers) and it operates on five continents.

As Jose Romero described: "Originally, we were one of the earliest providers of paging systems when they were state of the art. Over the years, we evolved and extended into voicemail services. For many years, we were one of the top five solution providers in a market providing highly relevant services to both service providers and enterprises. From being successful in the voicemail market, we moved on and our current focus is on supplying value-added services to mobile, fixed-line and Mobile Service Operators (MSOs), but with both consumer and enterprise end-users in mind. Today, we use the slogan 'keeping your subscriber connected ... anywhere, anytime' which embraces voice, messaging and data."

One SIM Card, More Than One Phone Number…

More recently, Movius moved beyond voicemail and into supporting value-added services to service providers. For example, one of the services it created for Telefonica is a solution which enables the Spanish-headquartered telecommunications company to offer an additional phone number on what are now called "feature phones" (this differentiates them from today's smartphones, which are much more powerful and capable).

Telefonica now deploys what Movius calls its Side-Line Service in its Latin American subsidiaries. Its selling point is that it enables a user -- for a small, fixed monthly charge -- to have a second mobile number (and account) in addition to a personal number (and account), even though the feature phone has only one SIM card. Movius provides the linkage via software installed with the carrier. This is popular because it keeps business and private mobile connectivity separate.

The Side-Line Service does not, however, address a different enterprise need -- for a smartphone user to separate what belongs to the employer or enterprise and that which is private and belongs to the employee. With the arrival of BYOD in which people carry around a single mobile device, there is a need to keep the two different app+data spaces separate.

This is very different to the time when enterprises would buy and give mobile telephones to employees, who would also have their own private phone in parallel. Increasingly, employees want to carry only one phone. "Our research identified that (the) corporate IT (department) is simultaneously being asked to provide ever more connectivity to its internal systems from smart devices while possessing ever less control over the ownership and use of smart devices," said Mr. Romero.

Thus, a tension exists between:

- **Smart device owner-users who want to do more with their devices.** They see a smart device as a tool to help them do their job -- it is no longer just a phone but is also an access point and even a processing device.

- **The IT department which wants to secure and preserve enterprise IT assets.** It is not so much that IT is against employees using smart devices, but

more that IT takes seriously its responsibility to ensure that corporate data is not lost and applications are not wrongly accessed.

There is a third dimension involving the carriers. As Mr. Romero explained, "The objective of carriers is to maximize revenues from their mobile infrastructure investment; the more revenues they can earn in supplying services, the more profitable they will be. However, think about this: If you are an employee who has to make phone calls or use data services on behalf of the employer over carrier-provided networks and then need to claim back the cost for this access from the employer, you have a certain disincentive to use your (personal) voice or data plan. It's a hassle to endure going through any expense claim process to obtain the refund for what is the employer's business. Some employers offer stipends, but it is unclear whether the employee is pocketing the money or running out of it, due to the vastness of enterprise usage. At the same time, the employer might have the employee doing more (work) with his or her device if he or she knows that the employer will pay the cost of enterprise-related voice and data usage and if the carrier can provide a separate billable service to the employer enterprise."

The challenge for many carriers is that their existing service offerings fail to generate significant additional revenue for them. In essence, their problem is that the other solutions carriers sell bring in only a fixed fee, typically $5 a month. "An example was that offered by AT&T with its Toggle (Version 1.0) service and its fixed income per user: this was the limit of the additional income achievable. What is of far more interest to carriers is if they can make it easier for their enterprise-related traffic volumes to expand: more usage means more revenues," says Mr. Romero.

Having Your Cake And Eating It In the Enterprise

What Movius sees is an opportunity for all to benefit -- if it can separate the employee's personal usage and work usage. A clear separation can be made by capitalizing on the capability to deliver two or more mobile numbers/accounts to one SIM. As a result:

- **Employees will be happy.** They would not have to use their personal data plans and/or incur communications charges that subsequently need authorization for reimbursement. Overall, life would be simpler.

- **Enterprises will be happy.** If an enterprise makes use of its advantageous, corporately-negotiated voice and data rates and is able to see and analyze what employees are doing when accessing corporate IT, the enterprise will have a cleaner environment to support, keep employer/employee apps+data distinct and make better use of bulk communications rates.

- **Carriers will be happy**. The carrier stands to benefit if there is a clear distinction between personal and work use of data plans. If it is clear that enterprise-relevant activities are billable to the enterprise, employees will be more likely to use a personal mobile device for work. The more that an employer encourages use for enterprise benefit, the more value is added via mobility plus the more revenue for the carrier.

Movius was the thinking along these lines as it considered how to extend its Side-Line Service to make it more attractive and relevant to enterprise IT and more likely to increase carrier revenues.

Delivering Seamless Consumerization of IT and BYOD for Enterprise Class Requirements

Having understood what enterprises and mobile carriers would like, Movius focused on looking for various companies that offered persona-based solutions. Movius believed that if it could work with one of these companies, then it could create a specific product for carriers which maintained a secure separation between an employee's and employer's 'personas' and their associated apps and data.

Movius looked at a number of approaches, including those based on virtualization (for example VMware) and other techniques like containerization (for example Enterproid's Divide) to see if it could find a match. It was, however, at the 2012 Mobile World Congress (MWC) in Barcelona that Movius found what it considered the most secure and capable implementation of multiple personas: a product developed by Cellrox, a Tel Aviv company. This product builds on a specific implementation of virtualization originally researched and patented at Columbia University in New York.

Mr. Romero said: "What particularly impressed us was that, though we first met Cellrox at MWC, we were able to complete an initial high level evaluation and almost a proof of concept within the week of MWC. This made the Cellrox solution highly credible."
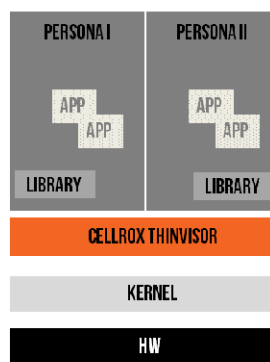

Figure 1: Thinvisor architecture (Source: Cellrox)

The Cellrox approach creates a lightweight virtualization layer, which it calls the Thinvisor (see Figure 1). On top of this, the user or enterprise creates different personas -- not just one or two, but this can be several. Key features Cellrox offers include:

- **Provisioning unique and different secure personas.** The Thinvisor preserves the distinction between, say, the employee personal persona and the employer persona or between a personal persona and a child's games persona. They cannot

"talk" between each other. So data or apps in one are not accessible or shareable with another persona (with the Thinvisor preserving the distinction between, say, the employee personal persona and the employer persona or a personal persona and a child's games persona).

- **Ensuring fast implementation.** Movius reports that it could observe no apparent degradation of mobile device performance, which it believes to be critically important. Users do not readily tolerate degradation from the quality they can obtain with a bare device. Adding layers of software must not noticeably reduce performance.

- **Allowing for employer-designated persona configuration.** Enterprises can configure, deploy and manage specific personas that they choose. They can set up personas in advance, deploy them and have confidence that enterprise assets remain under control.

- **Installing multiple personas.** A user might separate personas for personal matters, work, games or family. This is practical. For some people, a work and a personal persona will not be sufficient. Consider a CEO of one public company who is a director of another public company; he or she will not want to confuse information.

- **Providing a rich and compelling interface.** This mattered to Movius. If you cannot easily tell which persona you are 'in', you can make mistakes. According to Movius, Cellrox has invested in refining how to present many personas in simple ways that are easy to understand.

- **Delivering security at the lowest practicable computing level.** As always, security is better if it is ensured at a level closest to the hardware. Thus far, the approach taken by Movius, using the Cellrox technology, appears to be as low as is practicable, without making changes to the kernel itself (which would potentially set off other compatibility issues).

Mr. Romero made another point, related to the Movius Side-Line Service: "Cellrox helped us put a demo together within two weeks, which enabled us to see its technology working with the Side-Line Service. This means we can leverage our existing product investment as well as introduce new product and service possibilities."

To obtain executive buy-in, Movius presented an analysis of all the technology alternatives. It also provided the executives with demonstrations of what each alternative could do and how each performed. It was clear from this which technology was most appropriate. Movius selected the Cellrox approach to providing multiple personas. Within three months of their first meeting, Movius and Cellrox had an agreement for Movius to use the Cellrox technology in future Movius offerings.

The result is a new product which Movius calls '*myIdentities*'. Movius is launching the product in 2012 for sale to telecom service providers. It makes sense for myIdentities to be a carrier-level product: A carrier can provide a mobile voice and/or data plan for a

specific persona which is tied to an identity (the telephone number) which in turn links to the single SIM. In effect, this means the enterprise persona now has its own calling/data plan, and with this, the necessary configuration and management.

In practical terms, the multiple personas scenario based on *myIdentities* works as follows:

- **The end user chooses and buys a device.** This is the BYOD approach, and with this device comes a SIM and a telephone number/account for which the device owner pays.

- **The enterprise buys into the *myIdentities* approach.** This is marketed by the carrier -- Movius does not sell direct to the enterprise. The carrier creates a customer enterprise-specific configuration for deployment, which includes an enterprise persona and the Thinvisor enabling-technology.

- **The end user then brings the new personal device into the enterprise.** He or she will request access to enterprise IT and, once this is authorized, the user downloads and installs the Thinvisor and enterprise work persona on the smart device. This has its own number/account (paid for by the enterprise), which is linked to the common SIM via Movius software running at the carrier. Importantly, the employer's carrier does not have to be the same carrier as the device owner's carrier.

- **Now the end user has his or her own persona as well as the enterprise one.** Neither of these personas can talk to each other or exchange information or apps.

Keeping the identities separate is a big plus when just about everyone has a mobile device to bring to work. "For enterprises, we believe this has value. The work persona is an enterprise artifact that the enterprise defines and which now conforms to what the enterprise wants. In addition, all this occurs without interfering at all with what has become the personal persona of the owner. It could not be simpler -- which has come to matter in an increasingly BYOD environment.

"In addition, once the work persona is running, the employee has access to the apps and data that the IT (department) decides to make available. These only run in the work persona," said Mr. Romero.

Initial Feedback

Movius is now starting to roll myIdentities out to customers. The first market will likely be Mexico, with other Latin American countries following close behind.

Thus far, according to Mr. Romero, the feedback has been positive: "Enterprises are telling us they recognize what we are making easier for them. They particularly like the ease of implementation plus the fact that it works with many of the existing mobile device management applications which enterprises may already have installed."

The feedback also suggested that Movius has differentiated itself:

- Most competitors have focused on the IT department.

- In contrast, Movius has considered the employee/device owner dimension.

At the same time, it should be no real surprise that carriers are interested:

- It provides a critical opportunity to gain additional revenue from corporate customers.

- Employees need no longer be inhibited by fear that they might exceed their personal data plans once they are able to use employer-paid data plans.

- Carriers can reasonably anticipate higher corporate-plan usage as employees exploit BYOD devices.

- Security and separation are cleanly implemented.

Lessons Learned and Best Practices

Mr. Romero said he gained valuable insight from Movius' experience developing and rolling out technology for multiple personas on a mobile device. To him, there were three major lessons learned:

- **Look at mobility holistically**. "It is imperative to look at the issues holistically. If you consider just security or IT or the carrier or just the BYOD-owner, you can end up with a distortion of what is really wanted. In mobility, there are many stakeholders, each with genuine needs. It took us some time to understand this and to draw the right conclusions. We think we have it now," said Mr. Romero.

- **Make the end-user involvement and experience seamless and simple.** "If it is difficult or awkward, BYOD-owners will not buy in, and may go off and do something different. Overall, this is not in the interest of enterprises. (In addition), the user must feel comfortable that his or her 'property' (data, apps, photos, music, whatever) really is separate and inaccessible to the employer."

- **Be open and flexible to change.** Given that mobility is changing so rapidly, said Mr. Romero, "you should prepare for what is not yet expected." He believes that the Movius platform enabling multiple personas allows for flexibility and adjustments to new requirements that were once unimagineable. "Five years ago, the notion of BYOD was fanciful, even theoretical. Along comes the iPhone, then the iPad and powerful Android devices -- and suddenly we all urgently have to address BYOD and issues like separation of employee and employer assets on a shared-usage device no longer owned by the enterprise. Mobility is where change is occurring and being inadequately prepared is to constrain your long-term option and capabilities."

Actionable Advice: Seven Steps to Success

Mr. Romero captures how mobile devices are changing, how enterprises must work today and how new needs are emerging because employees want to use their own smart devices for work. By combining Mr. Romero's input and Constellation Research's experience and findings, we present seven recommendations that will significantly improve your enterprise's ability to succeed with the new mobility:

1. **Accept that mobility is here to stay.** Enterprises can try to resist mobility. It might work, but more likely is already futile. Better results will arrive if enterprises signal acceptance early and adapt to encourage use of mobile devices.

2. **Quantify what your users are already using.** Find out what mobile devices are being used, and how, with your IT systems. Think about whether what you discover represents a security risk. Then act.

3. **Introduce a framework for mobile device management, and automate it.** Automated policy enforcement is much easier than a manual one. But it does require preparation, communication (to employees) and then application into a policy engine. The effort is worth it, not least in assuring impartiality.

4. **Plan for how you will separate employer and employee assets.** These assets include data (from e-mails and SMS messages to photos, audio/video and apps). Enterprise assets require protection while simultaneously employee assets must remain beyond the purview of the enterprise (respect for privacy).

5. **Exploit the knowledge of mobile management specialists.** Mobile device management on an enterprise scale requires deep knowledge of mobile device issues, including security. There is no point in reinventing what others can do for for you at much less cost and with much less effort – unless you are a huge enterprise with special needs.

6. **Consider mobility to be a strategic business opportunity.** Mobility beyond simple phone functions opens up information and delivery options. The more open the enterprise "mind," the greater the payback.

7. **Remember to be friendly**. In the past, the IT department has prescribed policies and proscribed activities -- because it could do so (it owned the technology). That will no longer work and may even be a reason to consider making another, more employee-friendly department responsible for the management of mobility (albeit within an IT-designed envelope). A related consideration: Do not assume that traditional systems management tools apply to mobility; most are inflexible and better-suited to data centers than employees.

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Disclosures

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Analyst Bio: Charles Brett

Mobile and Infrastructure Strategist for Enterprises, Blended with CoIT

Charles Brett is currently Vice President and Principal Analyst at Constellation Research, Inc. For more than 25 years, Charles has focused on delivering common sense to the application of technologies, especially software, in organizations of all sizes around the world.

Expertise

Charles' initial focus at Constellation is on mobility management in the enterprise including Mobile Device Management (MDM) and Bring Your Own Device (BYOD). He has consulted and worked with users and vendors on high-performance, low-cost processing, including organization-specific, cloud-like computing, event processing/complex event processing (especially when combined with GPS), enterprise architecture, including automating the discovery and management of applications, plus integration of diverse systems, virtualization and how to cut costs and electronic publishing. He has an ongoing interest in automated metering for the electricity, gas and water industries.

Specific sectors of interest and experience include finance (especially systems supporting wholesale finance), telecommunications and energy and its conservation.

Media Influence

Previously, Charles was the Editorial Director of *MIDDLEWARESPECTRA* (now published as *INSIGHT-SPECTRA*), a journal focusing on the use of software, especially integration with its multiplicity of middleware technologies.

Charles has been a regular at multiple industry conferences and has written for numerous publications, including *The Times* of London and the *Financial Times*.

He was the General Chair in 2005 of the bi-annual High Performance Systems Workshop.

He is also the author of "Explaining iTunes, iPhones and iPads for Windows Users," (2011) and "The 5 Axes of Business Application Integration," (2004).

Education

Charles has an M.A. and B.A. in Modern History from the University of Oxford.

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Constellation Research is a specialty research and advisory firm that serves business leaders who seek to unleash the power of emerging and disruptive technologies. Our research analysts start by understanding the business objective, applying real world experience and insights and then incorporating disruptive technologies and innovative business models as appropriate.

We cater to board of directors, C-suite executives and line of business leaders looking for an edge in business model and technology innovation. We help our clients combine the disruptive and traditional technologies in solving the tough business problems. Most importantly, our research outputs always provide an insightful buy-side point of view. We look forward to serving you with Insight, Inspiration, and Impact.

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2. **Addressing the business problem first**. Research starts by addressing business value and then applying where disruptive and emerging technologies may play a role.

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- Founded and headquartered in the San Francisco Bay Area, United States, in 2010.
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- Experienced research team with an average of 21 years of practitioner, management, and industry experience.
- Creators of the Constellation Supernova Awards - the industry's first and largest recognition of innovators, pioneers, and teams who apply emerging and disruptive technology to drive business value.
- Organizers of the Constellation Connected Enterprise - an innovation summit and best practices knowledge sharing retreat for business leaders.
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