"…With the coupling of Good and BlackBerry assets, we expect to see a much more favorable competitive position emerge for BlackBerry. Companies that currently have legacy Good or BlackBerry deployments would do well to upgrade......"

Good, Better, BES

Mobile is becoming a mature work style at many organizations. And the role of MDM has drastically changed from a stop-gap measure to take care of a rapid deployment of mobile devices often brought into the organizations by LOB instead of IT, to one of expanding infrastructure based not on the ability to manage devices, but one of expanding the mobile processes that allow companies to evolve into more complete work processes. It means that those organizations offering enterprise level mobile suites must expand their capabilities beyond the traditional management, or fade away. That is why so many EMM vendors have been acquired in the past 2 years by major players with a stake in enterprise back end infrastructure.

For its part, BlackBerry has been on a path to expand or fade away in its mobile infrastructure offerings. It recently acquired Good, a troubled vendor that had many interesting and attractive assets, but was not able to get them into the market effectively. Now that Good is part of BlackBerry, BlackBerry intends to take Good and its own complimentary technology, to places it couldn't go before.

Since BES and Good were architected similarly, using a NOC and web services, the integration of the two has advanced fairly rapidly. Full integration is not yet complete, but the first stages aggregating management functions under one screen are available. We expect full product integration at both the front end and back end to take no more than 6-12 months to complete.

BlackBerry is taking the best things from Good and marrying them to the superior management of BES and other important BlackBerry assets. BlackBerry is packaging its component assets like SecuSmart, Movirtu, and especially WatchDox, into suites of enterprise level packages for delivery to organizations needing much more than base level MDM and EMM can provide (although the lowest level suite can provide basic entry level capability if desired).

BlackBerry is targeting multiple classes of user organizations and users themselves in putting together a variety of suites. This allows various pricing levels, from entry ($3/user/month) to advanced ($30/user/month), as well allowing companies to only deploy those components it needs. This helps with cost, but also provides an easy upgrade path as companies' needs expand along with their level of maturity in using mobile processes.

BlackBerry understands that even with the capabilities in the Good products, it can never offer everything a company may need to succeed. Therefore, it has opened the product to integration with other companies' offerings through APIs, and will

build an ecosystem of specialized features and functions needed to enable advanced mobile work styles.

Extending the Good Secure browser to Windows platforms enables companies that offer access on mobile devices to extend that secured access to PCs as well. It offers secured, containerized access so that no corporate data is ever allowed to be stored to the PC. This is a direct competing product to VDI products (e.g., Citrix, VMWare), but with no need for as much infrastructure, nor the need for specialized servers beyond what BES and Good already have in place.

BlackBerry is also making the full features available as a cloud-based offering. It has created a partnership with Microsoft to make the solution available on the Azure cloud. With a major shift underway to cloud based rather than on-prem deployments of EMM capabilities, and with Microsoft Azure having a large portion of the enterprise market, this will make it easy for enterprise customers to quickly turn on BlackBerry services, and should give a significant boost to BlackBerry deployments.

By 2017, we expect approximately 75 percent of EMM solutions will be deployed in the cloud, with on-premise solutions mostly reserved for legacy installations. Further, high capability EMM installations beyond simple mobile device management will represent 50 percent of deployments, up from 25 percent in 2014. This reflects the ease of enabling higher end capabilities like file management, app stores, single sign on and data security when provisioned by cloud-based software as a service systems.

Bottom Line: With the coupling of Good and BlackBerry assets, we expect to see a much more favorable competitive position emerge for BlackBerry. Companies that currently have legacy Good or BlackBerry deployments would do well to upgrade. Further, BlackBerry now is well positioned to compete with all of the major EMM platforms (e.g., MobileIron, VMWare/Ariwatch, IBM MaaS360, Citrix). Over the next 1-2 years, we expect BlackBerry to grow its market share as a result of this integration and new offerings.

IoT and the Augmented Worker

We are on the verge of a major transformation in field force automation. No, not the software programs prevalent for the past decade. Rather, it will be enabled by a new wave of instrumentation tech that will significantly alter how work gets done.

"…Over the next 3-5 years, most companies will move from experimenting with the new augmented reality and cognitive based systems into production mode.. Companies should be making plans now to incorporate these technologies on a phased-in basis …

Augmented reality, cognitive computing, data analytics, autonomous robotics, 3D printing and connected "things" will fundamentally alter work as we know it. It's the next industrial revolution on steroids where single function machines and unaided people will be obsolete. And it's less than a decade away. But it won't be easy to get there. Next generation security, wireless networks and computing engines will have a fundamental effect on how we work and live. And the move to things will completely alter the way we work.

It's all about the 3Ws: Workers, Work flow, Workplace.
Personnel enhancement will include real time sensor monitoring of all aspects of the worker. Included will be augmented reality heads-up display that can capture what the worker is doing, and a cognitive computing engine to assist with what the worker needs to know to get the job done. For example, trying to repair a machine will begin with a camera taking a picture, sending it to a cognitive data base, which will then send all the relevant disassembly and repair part information to the worker

based on knowledge of the workspace and problems needing to be solved. No more need for workers carrying all the information for all the models in their heads. And the information will be presented to the worker in a heads up, step by step workflow visual displayed process to make the operation almost foolproof.

Full sensor based monitoring will enable a real time analytics engine that alters the work flow in real time with actionable and dynamic tasks that amplify the ability of each worker. No more need for specialized support people that supplement uniquely specialized tasks. Each worker will be dynamically tasked and assisted to complete all necessary tasks. It's a fully functional dynamically alterable and fully adaptable enhancement to organizational productivity.

The overall workplace environment will change dramatically as well, with a number of fundamental tools and infrastructure upgrades. Some of the technologies that will be put in place will include:
- Non interfering heads up displays
- Camera monitoring of workers task environment, then helping out with instructions, guidance, parts information, etc.
- Sensors to detect potentially dangerous situations
- Compute power to help diagnose problems based on sensed information like temp, pressure, gas, stress, etc.
- Replacement part creation in real time via 3D printing when needed, eliminating need for inventory and return trips
- "Smart tools" connected to the cloud to properly adjust or install things
- Interconnected tools to act as an intermediary – if it's not the right tool, find one
- Knowledge assistance to make workers experts in many tasks
- Social media to interconnect workers for tax collaboration
- improved and smart back end systems for scheduling, routing, billing, time management, mostly based on sensory input
- Always connected, always assisted, always augmented corporate backend systems

This will take a major investment by organizations that deploy workers in mobile or field-based functions. And it will take many years to be fully accomplished. But the result will be fewer workers doing more tasks at a higher quality level. It will significantly improve productivity, increase revenues, improve customer service, and make it much simpler for organizations to hire and keep employees.

Bottom line: Over the next 3-5 years, most companies will move from experimenting with the new augmented reality and cognitive based systems into production mode. The learning curve may be steep and investment high, but the payback will be substantial. Companies should be making plans now to incorporate these technologies on a phased-in basis. Failure to do so will result in becoming non-competitive over the long term.

Cisco's 5G and IoT Awakening

"…Cisco is wisely expanding into new growth markets. Cisco is serious about the potential for IoT, as it is about 5G as well. Jasper brings Cisco much closer to carriers which will help Cisco longer term with the next wave of upgrades......"

Cisco's recent mantra has been that it wants to be not only the leading vendor of networking infrastructure, but also one of services and enabling technology. To this end, it has been creating a number of products focused on securing all things networked, converting networks from hardware-specific focused devices to SDN, establishing itself as the preferred conduit to all things cloud, becoming a major supplier to the next generation of wireless networks (5G), and enabling the emerging market for IoT.

To become a major player for next generation wireless networks, Cisco recently announced a partnership with Ericsson for RAN and services so it can move beyond being a network backend infrastructure supplier (see our previous research note "Cisco/Ericsson partnership – brought to you by 5G", Technology Brief,

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December 2015). It has also previously launched cloud-based initiatives, partnering with EMC/VMWare by forming VCE. It is investing heavily in security related technologies to make networks a safer place. And it now has added a major installed base to its IoT initiatives by acquiring Jasper Technologies.

Jasper Technologies is a cloud-based IoT services platform enabling enterprises and service providers to provision, manage and control wirelessly connected IoT devices globally. For $1.4B Cisco acquires an installed base of 3500 companies, including some high visibility ones like Ford and GM. The goal is to enable extended connectivity for the rapidly growing market of enterprise connected "things". With Jasper, Cisco gets an ability to complement its dominant position in enterprise WiFi infrastructure, while providing a path forward to manage and control growing numbers of dispersed WiFi services offered in public places.

Having largely missed the mobile trends of the last decade which primarily benefited startups, companies like Cisco are being preemptive in their attempts to be major implementers and enablers of the IoT market, one that could have 30B-50B devices on line in the next 5-7 years. Cisco is not the only major company to pursue this market, but it may be in the best position to do so.

To make IoT work, companies will need more than just connectivity. They require process management, data management and data analysis – all areas where Cisco believes it can grow and differentiate itself in the market, both through its own in-house developed products and through partnerships which it will offer as services. Jasper's services provide a platform with a recurring revenue stream that will be helpful to Cisco's bottom line, especially as it layers additional paid services on top. In addition, Jasper has good connections with many of the major worldwide wireless carriers which can be furthered leveraged by Cisco.

Bottom Line: No longer satisfied with being a back end IP infrastructure company as everything goes virtual, including IP network equipment, Cisco is wisely expanding into new growth markets. Cisco is serious about the potential for IoT, as it is about 5G as well. Jasper brings Cisco much closer to carriers which will help Cisco longer term with the next wave of upgrades, as well as identifying and enabling sensors and devices directly with value added services. Jasper is a great acquisition. This won't be the last acquisition for Cisco in this space.

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J.Gold Associates provides advisory services, syndicated research, strategic consulting and in-context analysis to help its clients make important technology choices and to enable improved product deployment decisions and go to market strategies. We work with our clients to produce successful new product strategies and deployments through workshops and reviews, business and strategic plan coaching and reviews, assistance in product selection and vendor evaluations, needs analysis, competitive analysis, and ongoing expertise transfer.

J.Gold Associates provides its clients with insightful, meaningful and actionable analysis of trends in the computer and technology industries. We have acquired a broad based knowledge of the technology landscape and business deployment requirements, and bring that expertise to bear in our work. We cover the needs of business users in enterprise and SMB markets, plus focus on emerging consumer technologies that will quickly be re-purposed to business use.

We can provide your company with a trusted and expert resource to maximize your investments and minimize your risk. Please contact us to see how we can help you.