Technology Brief...

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Research, Analysis, Strategy, Insight

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BlackBerry's Security Reframed

BlackBerry has long been known for its smartphones with superior security in an era where too many devices were, and still are, susceptible. But markets change, and BlackBerry is no longer the device powerhouse it once was. Over the past few years had has refocused. With its migration away from devices and into software, it has concentrated on leveraging its key strengths in device management (BES), infrastructure (NOC), and secure content (Watchdox) while also embracing changing market needs and acquiring cross platform secure client technology (Good Dynamics). With its hardware fading, it has become almost a pure software company focused on securing enterprise and government users.

BlackBerry understands that there is a compelling need for organizations to provide secured infrastructure for a growing number of mobile, and soon IoT/EoT, devices that enable workers to be more productive. To this end, it has recently introduced a suite of security products that it hopes will elevate its status in the emerging market for universal workspaces (i.e., any device accessing any application and any content in a secured enterprise environment) and Workspaces as a Service. In this relatively newly defined space, it primarily competes with Citrix and VMware. But does it have advantages that make it stand out?

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BlackBerry's approach is not primarily built upon a VDI platform like its competitors. Rather it revolves around a highly secure document management approach (WatchDox) coupled with its enhanced secured client (Good Dynamics legacy), and its delivery mechanism built on its NOC infrastructure that has arguably the most secure delivery capabilities in the industry. This architecture provides BlackBerry the ability to work with virtually any end user client, including potentially Windows and Mac PC-level devices. All that's needed is a secured client app. Currently BlackBerry supplies a client for Android and iOS, and it recently announced support for Windows 10 as well (although it doesn't have a Mac client at this point, this is probably not a major issue in its target markets). It also provides a fully secured web interface capability that is cross platform and works well with enterprise web-centric apps. All of this is coupled to BlackBerry's cross platform capable management engine (BES) that creates a complete management and security capability for the end user environment.

While VMware and Citrix have similar offerings, neither takes the approach that BlackBerry does. Their products are primarily attractive to their existing VDI customers that can then add-on the components needed. VMware has essentially integrated its Horizon desktop with the AirWatch backend management and security engine. And Citrix likewise has started with its base of desktop

virtualization components and added additional management and security solutions (XenMobile and Sharefile). We believe that the approach that BlackBerry has taken, starting at the data and moving forward rather than starting at the client and moving backward, is a superior approach longer term, providing more flexibility and better manageability and security of the most valuable assets – the corporate data. It also provides the easiest path to add-on functionality and potentially third party enhancements, including working within a Microsoft environment (e.g., Azure, Office 365).

However, the Workspaces as a Service approach is an emerging area. And while there is significant potential for growth, there is no guarantee many companies will go this route by "rip and replace". Rather, add-on to existing infrastructure components is more likely in the short term. But new end user devices and a refocus on content security, especially in regulated industries and government, will likely drive adoption over the next 2-3 years, to the benefit of BlackBerry and potentially its competitors.

Bottom Line: We believe that BlackBerry has now achieved nearly a full transformation to a software enabled company from the primarily hardware device oriented company it was a few years ago. Its refocus on secure workspaces is a good strategy going forward. Organizations that require cross client platform support in the most secure way would do well to consider BlackBerry. Further, we expect BlackBerry to continue on the path to enable more functionality into the core product and also to have the product extended to the world of Enterprise of Things coming soon to most enterprises.

Coming to the party late: AMD and AI

AMD recently announced a major program focused on empowering it to take its place in the upcoming battle for the emerging burgeoning market in machine learning (ML) and artificial intelligence (AI). Well known for its Radeon GPUs, its Radeon Instinct program is meant to leverage its assets in graphics processors to compete head to head with Nvidia, its long time rival in the GPU marketplace, and to create separation from Intel in x86 platforms. AMD comes to market about a year later than it should have, but is it too late to have a major impact, especially now that Intel has also entered what will be a fiercely competitive market?

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While late to the game, AMD has made some interesting moves to bolster its entry. Indeed, the delay in coming to market has allowed it to leverage a greater openness to emerging frameworks and platforms than might have been possible as an early entrant. And the fact that no real standards have dominated the AI/ML market means that embracing a wide range of still nascent technology models is an advantage. But AMD needs to build momentum in an emerging market that is very fragmented at this point, but that also has begun to coalesce around preferences for vendors in certain verticals.

While it's still early in the market, Nvidia has already scored some major wins with its platforms in automotive and supercomputing. And Intel is pressing hard to establish its Xeon Phy and FPLA devices as enablers of advanced AI/ML systems, and especially in enterprise focused markets. So AMD will need to establish some major wins relatively quickly. It needs to counter Nvidia's momentum by getting to market early and visibly with its DGX-1 supercomputer and autonomous driving Drive platforms, and announcing high profile partnerships with IBM, Tesla, etc.

Because it's hard to determine exact performance without specific benchmark tests, and there really aren't any that are generally accepted in AI/ML at this point, it's not clear how competitive the new AMD devices are. Nevertheless, we expect that AMD will have some significant market impact if for no other reason than it has cache with its Radeon brand, and because it has good relationships with many OEMs that want to play in this space (e.g., HP, Dell). It has already demonstrated systems with Inventec and SuperMicro among others. However, Intel with its Alterra FPLAs has one market advantage that neither Nvidia nor AMD can match by offering the arrays where programmable computing structure built into hardware is required (e.g., ML/AI trained systems).

A major advantage despite being late is that AMD will support virtually all frameworks, including the ability to convert CUDA language programs written for the Nvidia platform. How much actual leverage this provides is yet to be seen, but it does put AMD into consideration in those instances where software systems have already been developed. And it allows it to compete on a superior hardware basis if it can prove it is indeed better. The result is that while AMD had essentially ceded the market to Nvidia for the past year, it is now offering a competitive product to try and capture market advantage. And it assures a competitive "race" much like the AMD/Nvidia competition in GPUs.

Bottom line: With the release of Radeon Instinct products and its Deep Learning for Radeon toolkits, AMD is staking out its place in a growth marketplace in which all major chip vendors will compete. It also signals that AMD is beginning to drive to more competitive and compelling products after being behind for the past few years. Nevertheless, given its relatively late entry, it has some ground to make up.

Opinion: Should we fear AI as some have suggested?

One thousand years ago, you were considered a learned person if you had read 6 books. 500 years ago, you were considered an expert if you had learned a skill through a multiple year apprenticeship. Today, you are not considered accomplished unless you've had 20 years of education. But is that enough?

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Things have gotten so complex in our world that the ability to become expert in any one field is rapidly shrinking. It used to be that smart people were smart in many topics and areas of expertise. Now, with so much information, the level of expertise that people can actually achieve in wide topic areas is shrinking dramatically because there is so much to know about each topic. And with the incredible advances in knowledge, the actual amount we can absorb in any one area will make us deeper but narrower in our level of knowledge. We've successfully added technology to assist with increasing our knowledge over many years, from the abacus to supercomputers, and there is no reason to believe we can't, or shouldn't, continue to do so into the future.

What we should really be talking about with AI is not Artificial Intelligence, but Assisted Intelligence.

It was not that many years ago that we had to go to a library to find information, hoping that books would be available to help us learn things (even though many were out of date as soon as they were published). Than the web came along and we had immense amounts of information available but no good way to find it. Then we discovered that search engines like AltaVista, Yahoo, and Google could provide

us with near instantaneous access to an immense number of sources to fulfill our appetite for knowledge. Would anyone argue that we should not be using Google search to bolster our knowledge and make things available we could never have learned on our own? But search really is only a step along the path to AI.

As the world around us has become more complex, and as the amount of knowledge available to us has exploded, and will continue to do so with even more intensity, there really will be little choice for us but to include Assisted Intelligence as a key component of our lives.

We've seen predictions that AI will replace many humans doing their day to day jobs and cause widespread unemployment. Of course, we've heard similar complaints about all new forms of technology, probably starting when humans invented the wheel. And yes, new technology makes some jobs obsolete, but also creates so many new opportunities that most would agree it is never a bad thing to have more technology in our lives.

Certainly there is a negative risk to deploying AI, as there is to all knowledge and technology, from fire to nuclear science. But to believe we can't successfully utilize AI as a tool to better all of our lives is a mistake. And ultimately we will all be the better off for it.

Indeed, some have speculated that within X years (where X varies by pundit), that AI has the ability to take over our world and make us obsolete. I expect it to take many generations, if ever, for AI to achieve anywhere near the ability to run a complex society, let alone replace human intelligence. It's something to be wary of, but not something that should stop research and deployment of systems.

So fear of AI is irrational. It's a useful tool like so many other technologies. Yes, there are potential downsides, but without it, the future may be significantly less optimistic.

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