Technology Brief...

BlackBerry Provides a Spark to EoT Security

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The need to fully secure the Enterprise of Things has not always been a smooth process. Indeed, many devices that are powering the EoT in today's companies were designed as standalone components that may not have been very securely designed, and often did not take into account the need to interact with corporate systems in a secure, private and manageable way. What's needed is a way to certify security and compliance from the lowest level of the device hardware through to the back end systems interacting with the EoT products.

BlackBerry recently announced its Spark platform. As a leading company in security of "things" based on its deep portfolio and long history of fully securing mobile devices, BlackBerry Spark combines all of the management and security components in the BlackBerry arsenal into one package. It includes components like its secure RTOS QNX to verify that the operating system of any EoT device is secure, its substantial management suite of products to manage and protect the devices in use (BlackBerry UEM), a secured alerting/workflow capability (AtHoc) and its NOC ability to network securely with any cloud, like AWS, Azure, Google Cloud, etc. We expect that it will even integrate its BlackBerry Dynamics platform in the future for those devices that require a user interface (this represents an increasingly large percentage number of EoT devices). Future capabilities will also include AI and machine learning to provide adaptive policy deployment to improve security as well as user experience. BlackBerry is aiming to provide security from the kernel to the edge and at each step along the way – not a trivial task.

BlackBerry Spark's combination of capabilities makes it attractive for Enterprise of Things developers to fully secure their solutions. We estimate that currently 80%-85% of EoT deployments do not meet commonly accepted enterprise security standards or create a truly secure environment for enterprise solutions. As a result, companies currently deploying EoT solutions often have no idea if their end to end solution is truly safe, nor do they have an easy way to determine if they are. BlackBerry is seizing an opportunity to provide a "known quantity" by leveraging its already strong security focused capabilities to provide an enterprise-class environment to power the EoT. Its secured infrastructure components could make it much safer (and easier) for companies to build a fully compliant product chain. And its ability to create an easily monitored chain of trust and audit trail can assure organizations that their security requirements are being met.

Industries with the most exposure to EoT security lapses include health care, financial, public safety, manufacturing, transportation and logistics. In many cases, these are also industries that have relatively weak secured environments, (e.g.,

many hospital devices may be 5-7 years old and have little security built in to prevent hacking, and many manufacturing devices still in use may be even older and more exposed). A highly diverse supply chain means products from many vendors are often "cobbled together" to complete a solution, making a consolidated approach to security highly difficult to achieve.

Current systems are difficult enough to secure. The problem for enterprise will only get worse as we rely on more and more autonomous devices to engage with corporate business needs. Indeed, in the past what might have been an inconvenience to companies who had a security breach, now can cause real physical damage and human injury. It is imperative as we move toward a future of autonomous devices, especially in mission critical situations, that EoT devices be fully protected from hacking – from the lowest level of the OS to the code running the device. Management of the EoT products are key, and must include a chain of trust for the devices from early manufacturing through to corporate ongoing management such as software updates, non-hackable identity, secured communications and totally encrypted data while at rest or in transit.

Bottom line: A consolidated environment that includes an uncompromised security chain encompassing low level hardware all the way to user interface and apps is required to make an EoT solution truly secure. Enterprises should look at BlackBerry's combined offering as a strong offering for the needs of EoT security and manageability. By combining a number of important components in one platform, we expect a much easier way for organizations to deploy EoT than through the pieced together approach commonly in use today.

Dell Technologies has its "EyeOT" on you

One of the major targets that vendors have been focusing on recently in the emerging market for Enterprise of Things (EoT) solutions has been video surveillance. From chip makers supplying smart systems that do local analysis for cameras (e.g., Qualcomm, Intel), to edge computer and storage solutions (e.g., Dell IoT, HPE) to cloud based AI and analysis (e.g., Microsoft, Google, AWS, IBM), vendors have been trying to take advantage of the vastly expanding surveillance deployments in public and private institutions. Given that most such systems employ dozens, hundreds, or even thousands of high definition cameras, and in some cases even use 4K equipment, the amount of data and analysis needing to be done can be staggering.

Estimates are that well over 120M cameras were shipped in 2017, and we expect that number to at least double by 2020. A 4K camera generates 110GB of data per hour, and a body cam being used by law enforcement and other public agencies can generate 1TB of data per year per user – all of which must be analyzed and stored for long periods to be available for evidence if needed.

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Video Surveillance is a complex environment to fully computerize. If companies dealing with multiple cameras need to send each pixel into the cloud for analysis, networks would be totally overwhelmed. What's needed is a way to do some level of local, on-camera processing to at the very least compress all data. But it's even better to determine through local analysis only the "exception" data that needs to be sent to another stage for further processing. This requires increasingly intelligent cameras, which are being deployed with high levels of internal processing power and specialized visual processing subsystems. These are being supplied through specialized hardware and software from the major chip vendors (e.g., Qualcomm, Intel) and a large and growing list of camera companies.

Once cameras are enabled with local processing, the next phase is to provide an edge server as close to the device as possible. This minimizes the need for high performance wide area networking requirements and allows the edge server to determine through local

analysis, what data needs to move on to another stage, which is most likely in the cloud. It is in this space that most of the traditional sever vendors (e.g., Dell, HPE, Lenovo, IBM) want to play as they can offer specialized "extensions" of their existing systems.

Dell has targeted the edge processing node as one of the growth areas for its increasingly robust IoT solutions. Its "Dell Technologies IoT Solutions for Surveillance" platform is a combination of an easily expandable server solution combined with specialized software components from VMware (Pulse IoT Management solution) and Dell EMC (vSphere, vSAN and ECS). The intent is to provide a one stop shop for organizations that need a solution and don't want or have the needed expertise to put all the components together themselves.

While this is a pre-configured solution for video surveillance, we expect Dell to take much of the architecture and deploy it in other, similar IoT/EoT solutions. Surveillance is relatively easy to define and low hanging fruit. Harder problems in EoT, like health care, manufacturing and transportation, where there is more diversity means that it may not be as easy for Dell to offer a single unified solution. Nevertheless, by learning on this targeted EoT solution how to provide a more concise out of the box experience, we expect Dell to become a leader in offering complete solutions to a variety of business needs and vertical markets.

Dell does have an advantage in that it has so many of the components needed for a complete solution in-house, giving it a potential advantage over HP, Lenovo, etc., who need to partner with outside companies to provide a complete solution. While that may not be a major burden, it does lessen the ability to move quickly in a marketplace that is not yet well defined and can change very rapidly.

Bottom Line: Organizations with a specific need in the emerging space of EoT would do well to examine preconfigured solutions from key vendors who can leverage the expertise gained by working with a variety of companies with similar needs. Because the market is still being defined and will change rapidly, it's imperative that companies look at an EoT solution that can be both tailored to their specific needs and also leverage as many assets and off-the-shelf components as possible. Only major players like Dell can bring enough resources to bear to make that happen.

Citrix and Microsoft – Enabling the "Instant Desktop"

"…Products like the Citrix DaaS aids organizations in overcoming the challenges of infrastructure management and enables users to become productive almost immediately through virtual workspaces. It's imperative that companies investigate new methods of getting users on-line quickly, given that so much change is taking place in the expanding needs of digital transformation..."

At its recent Inspire conference, Microsoft made a number of announcements that increased its capabilities in security, collaboration and modern desktops. As digital transformation continues its march in restructuring organizations large and small, a primary corporate focus has to be how to enable users to become productive quickly in a rapidly and continuously changing environment.

One of the key announcements made by Microsoft concerned the ability for companies to quickly deploy workspaces for employees through its Virtual Desktop solution (and its complimentary Managed Desktop Service which is offered separately for managing hardware devices). This solution is built on top of Microsoft Azure cloud services, and includes existing Microsoft enabling components like Office 365 and Microsoft Security Graph for IAM/security.

The offering is targeted at helping companies move to a Modern Windows interface included in the Windows 10 environment, but will also offer Windows 7 support for those companies needing to stay on Windows 7 due to application requirements. While similar to desktop services already offered by the PC makers (e.g., Dell, HP), this is not specifically hardware device focused, but extends the ability for organization to quickly spin up a complete workstation (device, OS, apps) for its users.

One of the biggest hurdles that IT faces in today's computing environment is getting new workers up and running quickly. We estimate that as much as 15%-25% of a worker's

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productivity is negatively affected by not having the right workspace for their needs. Contractors, remote employees, company mergers, etc., all increase complexity for IT by bringing new users into the corporate arena. The workers that IT supports all expect immediate access to workspace tools to become productive contributors. A workspace solution's deployment simplicity and time to user productivity results in providing a rapid ROI, and must be a key selection criteria for any company deploying end user workspaces. Cloud enabled solutions offer these features, but are not always deployed by enterprises. Our research shows that scarce IT resources and lack of expertise are significant inhibitors to driving cloud transformation and worker enablement for many organizations.

Working directly with Microsoft tools, licensing and integration are not always easy, especially for smaller organizations with limited IT resources. To solve this problem, Citrix and Microsoft have partnered to offer a "one stop shop" solution to quickly getting new users up and running while minimizing the IT resources required. Citrix combines a number of its existing capabilities, including UEM, secured workspaces, security/IAM capabilities, and remote connection management into this solution, which is layered on top of and enhances the Microsoft tools. All of these capabilities significantly reduce the complexity of deploying worker desktops and reduce complexity by making "a single pane of glass" management systems available in the cloud rather than needing to be installed on premise (although there is that option if desired).

Because of its new relationship as a Microsoft reseller, the Citrix Desktop as a Service (DaaS) solution which includes Office 365 and Windows licenses, can provide companies the ability to bypass the difficult to understand and often convoluted Microsoft licensing process. Time to user enablement, time to user productivity and ease of deployment by IT are all key attributes of this solution. Citrix is also offering this product to its channel partners to enable special vertical customizations to be added for specific solution offerings, and/or to supply it to smaller organizations that don't have the scale to buy direct from Microsoft and/or Citrix.

Bottom Line: Citrix has long delivered virtual environments, cloud solutions and continues to grow its close relationship with Microsoft. Products like the Citrix DaaS aids organizations in overcoming the challenges of infrastructure management and enables users to become productive almost immediately through virtual workspaces. It's imperative that companies investigate new methods of getting users on-line quickly, given that so much change is taking place in the expanding needs of digital transformation. This should be investigated as an attractive and cost effective solution for many organizations, especially those with limited IT resources.

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