



Technology Brief...

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Citrix Receiver: A Mobile Window into the Enterprise

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Citrix recently announced its Receiver product for the iPhone, enabling enterprises to deploy desktop apps (in conjunction with XenApps and/or Xen Desktop) to the popular device. Many companies have utilized Citrix clients for years to provide access from virtually any PC to corporate apps without having to install the app on that device, allowing often underpowered or older PCs to run the app. It is also a way that many organizations (e.g., banks, insurance, legal, health care) insured that no sensitive information would be "leaked", as no data actually resided on the local device, making data breaches very difficult.

By deploying a client for the iPhone, Citrix is enabling a common and secure access point for a variety of business applications, without having to create a specific iPhone app for each. Like its PC predecessor, this capability means that minimal device management is needed, and no data is resident on the device. This is especially important for devices which may not meet all regulatory standards. Receiver utilizes compression to circumvent the inherent bandwidth limitations of wireless networks, offering a simple way for companies to deploy devices securely and without the need for custom apps.

However, Receiver does have some limitations. It requires connectivity, offering no real time interaction should the network connection be lost. And it requires a Citrix infrastructure commitment to function. But if one is already in place, Receiver allows companies to deploy iPhones, Androids, BlackBerries, etc. without the need for multiple applications. And because Receiver is designed to utilize multi-tasking, it stays alive on the device (through regular "pinging" of the server) even when users switch to another application.

Since users can't simply work with a full screen PC app on a small, 2-4 inch display, Receiver provides tools to build multiple application "panes" of 320 x 480 pixels. And there are specialized viewers pre-built for common apps like Microsoft Office and mobile widget tools to mine application data for mobile devices. All this is utilized to make apps more device friendly, with optimization for the smaller screen and device navigation.

We believe that such "thin client" access models can help many organizations struggling to deploy mobile apps. It is highly advantageous to companies that allow "user liable" devices to access corporate resources, since no on-device app (other than Receiver) is required. This can substantially lower the Total Cost of Ownership (TCO) of these devices. Further, the thin client model allows a wider

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range of smart phone device types to be supported (e.g., iPhone, iPad, Android, BlackBerry). And finally, the cost and complexity of developing and maintaining a unique application client for each device type is eliminated, reducing the TCO and time to deployment of corporate mobile solutions. One cautionary note to the lower TCO however is, since this method of operation requires real time data flow across the wireless network, companies should assure that the 3G data plans they have in place for their users will not exceed their quotas, as doing so could incur major cost penalties.

Bottom Line: While not right for every company, those that already have a Citrix infrastructure in place, and are struggling with demands for user-liable devices of many kinds, should consider Receiver as a way to initiate access for these devices, even though not all features and functions (e.g., calendar syncing, off-line email) are enabled. Receiver should allow companies to meet stringent regulatory compliance challenges while still supporting a variety of otherwise insecure devices.

Microsoft's Head is in the Cloud

Microsoft has been ratcheting up its Software as a Service (SaaS) Azure platform messaging as it sees more companies moving to a computing-on-demand, cloud based infrastructure. Indeed, pressure is mounting as companies try to eliminate the "scared cows" of IT running in-house dedicated servers for all the corporate back office functions (e.g., ERP, CRM, databases, e-commerce, web hosting). Azure is built around Windows Azure (modified Windows Server to support SaaS), and SQL Azure (SQL for SaaS).

The cloud significantly enhances a company's flexibility in meeting its computing requirements. It can buy the computing resources it needs, almost on a moment by moment basis. This allows ramping up and down very quickly to meet load requirements, as opposed to buying and installing enough capacity to meet peak loads, with much of the compute resources remaining idle at non-peak times. Further, with Azure and other cloud-based offerings, companies no longer need to worry about systems management and upgrades, as this is included and transparent to the buyer of cloud services. Finally, for many companies, being able to have the required compute resources as needed will significantly reduce the overhead costs associated with running the business, especially for those companies that maintain older or outdated equipment, and could drastically reduce the procurement and operations costs of infrastructure.

An interesting initiative Microsoft is undertaking, in conjunction with Dell, HP Fujitsu, etc., is creating a "drop in" prefabricated data center "Appliance". It allows a container loaded with compute "blocks" of 1K servers, to be dropped in place at nearly any location and provide an instant cloud-based data center. This is a very attractive option for rapid deployment of compute resources, requiring no special facilities build-out. Microsoft announced that eBay will be the first appliance customer. We expect the HW partners to eventually offer appliances in various "block" sizes both larger and smaller than the current 1K machines to service a wider audience of customers.

One limitation of the current system is an inability to virtualize individual servers within a block of servers, resulting in less flexibility and lower per-server loads. Microsoft is fixing this, but it may take 6-12 months for this important feature to be available. This gives VMWare, Citrix, etc. a major initial market advantage in virtualization. Nevertheless, we believe the lack of this feature is not a major

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roadblock to adoption. And the fact that Microsoft maintains Azure with updates, management and services, not the client, is a very attractive feature.

Microsoft also recently announced a cloud-based system for small business, named Aurora. It's meant to replace the current Small Business Server with a blending of both on-premise and cloud-based services. This SaaS for SMB should go a long way toward enabling SMB companies to deploy a more manageable infrastructure and essentially eliminate the need for local IT support, since Microsoft will maintain the platform via remote management of updates, etc.

We don't expect the majority of companies to adopt large cloud-based computing initiatives in the short term (2-3 years) although many will experiment with the technology. We do think the cloud will have a major impact, but we are early in the cycle and most companies will move slowly and will likely take 3-5 years for many mainstream applications to migrate to the cloud. Many companies will worry about keeping their data off-site. For these companies, localized clouds will be available (i.e., having the cloud based systems at the corporate site), and we expect to see a hybrid approach taking shape where a localized cloud with resident data is enhanced by cloud resources across a network connection in hyperspace. Azure will eventually provide this capability, as will competitive offerings from Amazon, Cisco, Oracle, EMC, etc.

Bottom line: Cloud-based computing is inevitable as more companies discover the benefits of not having to deploy and manage compute resources. But we believe this will take time and most companies will be slow to change. In fact, we expect SMB to be leaders in this transition over the next 2-3 years. We believe Microsoft will have a major stake in this new market, particularly as Windows Server-centric shops move to cloud based services.

IBM's Mobile Misdirection

IBM recently opened a new mobility engineering center combining disparate groups from its software and Lotus divisions. The intent is to extend its role as a key player in the mobile ecosystem, an area it pioneered. Its focus is centered on enterprise mobility and telecom enablement. Both are growing segments with clearly no dominant players.

IBM already serves most of the telcom market with its products and is well received there. But we believe IBM's definition of enterprise mobility is skewed. It believes enterprise mobility is centered on extending e-commerce capabilities to mobile platforms for companies externally focused. It currently does not have a crisp message for organizations struggling with mobilizing their own internal workforce. Further, it sees its key opportunity as deploying mobility via extensions to existing WebSphere installations, and not enabling mobility for companies with competing platforms which often don't have good mobile capabilities and need the help that a packaged IBM solution could offer. Finally, it believes that Lotus Domino will be the way companies move to the social functions necessary for future mobility and enabling mobile worker systems.

We believe IBM is missing the point in a number of areas. First, relatively few companies run WebSphere infrastructure (<10% run WebSphere middleware in a study we conducted). That leaves the majority of companies unlikely to go with IBM for their mobility needs if WebSphere is a prerequisite.

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Second, while mobile e-commerce is important, it's not the major thrust of most companies right now (other than some large retailers, banks and financial institutions). More mundane tasks (e.g., messaging, document delivery, workflow, user scheduling, access to CRM, ERP, SFA) are important. Can Domino and its derivatives Quickr, Connections, Sametime, etc. help here? Perhaps, but not as effectively as IBM packaging a solution for organizations that wish to mobilize existing products (e.g., SAP, Oracle).

Next, many companies have a major challenge with managing the mobility already in place. More and more are moving to outsourced services. IBM does have a professional services group concentrating on this opportunity. And it can provide customized services to meet some of the needs we indicated above. But many companies see customized professional services as too expensive and time consuming. And key IBM products (e.g., Tivoli) do not yet enable existing management functions to encompass the myriad of mobile products.

IBM's strategy to focus on mobility for large telcoms is an area in which it can do very well given its large installed base. It will also do well at banks and financial institutions where it has a major presence and WebSphere installs. But for the majority of other companies, particularly those that do not have a heavy IBM infrastructure commitment, IBM is essentially locking itself out of the market by insisting on a WebSphere core for any mobility solutions. WebSphere is perceived as a difficult and expensive product to deploy and is likely well beyond the scope of what many companies need for mobilized solutions. This insistence on a WebSphere-centric approach will leave IBM competitors (e.g., HP, SAP/Sybase, Oracle, Microsoft and more specialized mobile competitors like Antenna and RIM) in a position to take business that IBM isn't focusing on.

Bottom Line: There is nothing wrong with IBM playing off its installed base of users. And IBM has developed a number of key mobile extensions to WebSphere over the years. However, its reliance on WebSphere will severely restrict the market it can serve. Many mid and larger size organizations would welcome help with their mobile deployments, but would probably not welcome having to install a new platform with large professional services commitments. Companies who already have WebSphere would do well to look at the offerings that IBM has. Those companies not already running WebSphere or not inclined to deploy it would be better served looking elsewhere.



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