Deploying Wireless Solutions Beyond Email in the Enterprise
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This reference document is based on a Research In Motion/TechTarget Webcast, "Deploying Wireless Solutions Beyond Email in the Enterprise." To view the Webcast online, please click the link.

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About TechTarget IT Briefings

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For inquiries and additional information, contact:
Tina Hills
Director of Product Marketing, Webcasts, TechTarget
thills@techtarget.com

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This reference document takes an in-depth look at deploying wireless applications beyond email in the enterprise.

**What to consider before deploying wireless applications**

There are several key success factors associated with deploying wireless applications beyond email within the enterprise. First, you should understand and identify the business problem in your organization. As always, you don’t want to deploy technology for the sake of technology. The most important thing is to understand the business problems that you can address with wireless.

You also have to understand who your mobile users are and what their requirements are while they are away from their desk: What applications do these folks use? What do they need most when they are out in the field, at a customer site, or trying to catch a flight—what is important to them and what do they need to have access to at all times?

After you understand the business problem, you must understand what the ROI metrics are for a wireless solution to address that problem. In other words, what benefits will you see from moving to a wireless solution or extending an existing wireless application? What are the costs and TCO that will be incurred by deploying such a solution? Do the benefits outweigh the costs? These issues are very important to understand in advance.

Next, you have to understand how you can leverage the opportunities that wireless brings. For example, BlackBerry® for the enterprise offers always-on, secure connectivity to the enterprise with “push technology” that allows you to proactively alert your users and send data. It’s important to understand how you can leverage those technologies to drive the value in your solutions.

Finally, you have to gain an understanding of how you can deploy wireless solutions without compromising your existing IT policies and procedures. Everyone knows that security is the number one priority of all IT departments today. How can you deploy a wireless solution without compromising your security protocols? How can you do so and still have the same level of manageability and control over these handhelds and applications that you do for your desktop environment? How can you be sure that these wireless solutions are extensible and are based on open standards so that you’re not caught in the trap of reevaluating new wireless technologies two years down the line?

If you’ve begun to evaluate or deploy wireless solutions, you are undoubtedly aware of the key challenges shown in Figure 1. On the right-hand side, there is the corporate networking environment safely behind the corporate firewall, which includes the email server, as well as application and web servers for hosting other types of applications within your enterprise. There are obviously desktops and laptops connected to the network and perhaps mainframe systems or other back-end systems hosting business-critical applications.

Most IT people feel safe and comfortable behind the firewall because they understand what’s going on—they understand the security model. It’s a bit frightening to think about wireless handhelds on the left side of Figure 1 that are connected to networks that are outside of your control.

Numerous questions arise here. How do these wireless handhelds achieve effective connectivity to the back-end corporate applications deployed for desktop users? How do you manage that connectivity? What is the security model? Will the connections be secure? Is the data going to be secure outside of your firewall or are you risking having confidential data be intercepted by outside sources? How can you manage wireless handhelds in the field? Handhelds do tend to have legs of their own. They walk around. They find their places. They may even go overseas on a flight. As an IT administrator, it can be scary, not knowing where your corporate assets are going physically and who has control or access to those. It’s important to understand how you can manage both the applications and the physical handhelds out in the field and ensure that your solution can deliver upon that.
The final point is on value and ROI. Once you’ve arrived at a technical solution that provides end-to-end connectivity, security and manageability, how can you obtain full value and ROI out of a solution? Is it going to cost too much to deploy? Are you not going to miss the true benefits because your users may not find the applications useful in a wireless framework? It’s important to consider how to achieve value and true return on investment on your wireless solution.

**BlackBerry in the enterprise**

With the BlackBerry wireless solution, Research In Motion (RIM) has attempted to address all of these concerns. BlackBerry provides a full end-to-end solution that includes connectivity to the corporate network and an end-to-end security model with which enterprise customers have become comfortable and familiar. BlackBerry is not just a handheld. BlackBerry is a full end-to-end wireless solution for the enterprise.

The BlackBerry enterprise solution includes the following features:

- Secure wireless extension of the corporate messaging environment
- Secure wireless access to corporate data (through push or pull technology)
- ‘Always On Always Connected®’ push technology, providing immediate access to corporate data, email, calendar, and global address list.
- Over the Air (OTA) synchronization of email and calendar items
- Integration with existing enterprise systems
- Simplified management and centralized control of the wireless environment

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1  End-to-end Triple DES encryption from enterprise mailbox to handheld when operating BlackBerry Enterprise Server software.
• Multi-network and multi-device support
• Global deployment capabilities2
• Automated desktop software deployment (using an existing software distribution process or the silent installation process)
• Powerful development environment and open architecture for third-party and in-house solution development3
• Advanced wireless handhelds include phone, email, corporate data, browser, SMS, and organizer applications

A number of wireless handhelds are available, including ones for GPRS, CDMA and iDEN® networks, which are Java-based, as well as handhelds for Mobitex and DataTAC® networks, which are C++ based. You will have to consider supporting multiple networks as well as roaming. What happens when your users go overseas or perhaps travel throughout North America? With BlackBerry, we provide that single connectivity through the BlackBerry Enterprise Server out to all of the BlackBerry Wireless Handhelds™ you might support within your organization.

The same security model and the same connectivity model apply, independent of which wireless network you are working with. In a mixed environment, RIM offers a complete and effective solution that manages connectivity, end-to-end security, and also provides tools to manage handhelds out in the field. The BlackBerry server traditionally has enabled users to connect to the email server behind the corporate firewall.

Moving beyond email, companies can use BlackBerry to enable business-critical applications to be leveraged within the same framework. RIM has extended the BlackBerry Enterprise Server with a feature called Mobile Data Service. Mobile Data Service now enables handheld applications to not only talk to the back-end email servers behind your corporate firewall, but also to talk using standard protocols to your other applications and web servers behind the firewall.

The key point is that we’re offering a full end-to-end connectivity model that provides the same encryption between the handheld and the BlackBerry Enterprise Server for not only email but for all application data, whether it be a custom application that you deploy or a third-party application. This model also supports both the pull- and push-content model. Systems that reside behind your firewall can proactively push data out to applications on the BlackBerry handheld, just as email gets pushed to users. This is a very valuable feature. It can greatly enhance the value of most applications.

The BlackBerry Enterprise Server with Mobile Data Service provides a full suite of management tools to allow you to manage not only the handheld but also the applications that are on those handhelds and how they’re allowed to connect to your various applications behind your firewall.

In summary, the BlackBerry solution with Mobile Data Service enables you to deploy new wireless applications that connect to your existing back-end systems without the need to purchase or manage any new wireless connections or pricing plans. These applications leverage your existing BlackBerry server connection without you having to worry about security beyond the firewall for these new applications, because they use the same encryption scheme that you’ve adopted for BlackBerry wireless email. Finally, you can deploy new wireless solutions without having to worry about connectivity and support for multiple networks either within North America or around the world, including while your users are roaming.

In essence, Mobile Data Service enables enterprises to easily extend their existing enterprise applications and processes to the BlackBerry Wireless Handheld™ without having to worry about technical details. You can focus on solving your business problems rather than solving technical problems with wireless.

Many of these concepts form the foundation for a number of third-party applications that are available. Questions that can arise: How as an enterprise can I deploy new wireless applications on BlackBerry that address the need for a real value proposition, that address the needs of my mobile users and solve pressing business problems today? BlackBerry answers these questions by deploying enterprise-class solutions. BlackBerry for the enterprise focus is on real business applications that can solve today’s business problems.

So, how can you address your mobile users’ needs? How can you increase your ROI without impacting your TCO? How can you leverage your existing

2 Check with service provider for availability, roaming arrangements and service plans. International roaming may be subject to network and export control restrictions.
3 Additional application development or third party software may be required. Some restrictions may apply to third party software, such as service provider support and license conditions. RIM shall in no way be liable for any third party software or your use of such software.
investment in BlackBerry and wide area wireless networking technologies? Finally, how can you do all of this without compromising existing IT policies and procedures? This reference paper will take you through these answers, and what you need to know before you get started.

Types of wireless enterprise applications

The first type of wireless solution you can deploy within the enterprise are "prepackaged" third-party applications. These are offered by an independent software vendor; RIM has partnered with a number of ISVs. With a third-party solution, the ISV will typically deploy a custom application onto the handheld and provide a server component behind your firewall that can connect to your back-end systems and provide connectivity to the BlackBerry handheld.

The second option for deploying a wireless solution is to develop your own custom application, whether browser-based or client/server in nature. In this case, you would evaluate your existing browser-based applications as well as other applications. If you did have the resources, you might choose to develop those applications out to the BlackBerry handheld.

There are number of situations in which using the third-party solution makes more sense than developing your own application. There are other cases where, if you have an existing application that was built for a web-based interface, then building your own custom application may indeed make sense. This reference paper will focus on third-party solutions that are available for you to deploy within your enterprise. Another reference paper will examine developing your own custom browser-based solution or client/server application for BlackBerry.

Third-party BlackBerry solutions

RIM has alliance partners in the industry as well as carrier partners. Many partners provide so-called "horizontal" applications on BlackBerry. Horizontal solutions are solutions that apply to organizations across multiple industries. A simple example is email, which applies to you whether you are in finance, real-estate, or some other industry. Other types of horizontal applications include CRM and network management. Horizontal solutions within the enterprise may target all mobile users within the organization or they may focus on a specific user group such as the sales team or executive management.

The second type of applications that are available are called "vertical" or industry-focused solutions. Industry-focused solutions, as the name implies, apply to organizations within specific industries. Particular industries have very specific needs.

Network and systems management

The first solution area is called network and systems management. Here, the application aims to help IT administrators remotely access and manage the intranet servers. The scenario is what if one of your servers goes down? How does your IT administrator—if it happens to be 1:00 a.m.—get in and restart that server or change settings and configuration files? Traditionally, IT folks had to dial in. If they were out and about, they might have gotten a page and then they had to go home, dial in and try to get the server back up and running. This takes a lot of time and is expensive, in hard and soft costs of application downtime and also of the dial-in connections. With this type of wireless enterprise solutions, the business problem being solved is the IT administrators' remote access to the corporate intranet servers to keep the business systems up and running.

The applications that are available for BlackBerry in this space provide a number of unique and valuable features. First, the applications allow IT administrators to remotely access your intranet base, both Windows- and Unix-based servers and whatever else you might be running. These administrators can perform user-management tasks, they can view event logs, they can analyze statistics and services, they can even reboot the server. A simple example is a process has gone down on a server and an application is no longer available. The IT administrator can immediately from their BlackBerry handheld access that server remotely, edit a configuration, restart a service, and if necessary, actually reboot the server without ever having to go back to their desk or go home to do that.

Network management applications carry a number of key benefits and ROI factors. First, you will improve IT response and recovery time for business-critical applications that have gone down. Most IT people understand the impact if application X or Y goes down or if this server has a problem. The wireless network management application can significantly decrease your server and application downtime, which in turn increases your productivity. One of the hard cost savings that network management applications can generally provide you on BlackBerry is reducing remote access costs. For IT administrators who need to dial in from their home or laptop, they can now do that through BlackBerry, leveraging their
existing wireless connection. This can greatly improve employee lifestyle and satisfaction because the IT people can respond to events while on the go.

When considering deploying this type of solution on BlackBerry, there are several issues to consider. The first key point—and this is a common point across all of these applications—is that these solutions leverage your existing BlackBerry server connection and security model. BlackBerry essentially has a secure connection into your corporate network. These applications leverage that connection, so you don’t have to worry about a new connection to access your corporate infrastructure. You’re leveraging that same secure connection that the BlackBerry server already provides.

This means that all you really need to do is deploy a third-party server behind your firewall that you would configure to work with your existing intranet-based servers, and that application would again use the BlackBerry server to communicate to the handheld. Because you don’t have to provide a new network connection or security model, costs are minimized and deployment is quick. Some enterprises have entered into a pilot phase literally within hours if they already have a BlackBerry server running in-house. This is an exciting paradigm shift from years ago when wireless solutions were always associated with days, weeks or even months of configuration and roll-out time.

**Document management**

Document management applies to many users in an organization, primarily the sales and field force and executives—the people who are out on the road who need access to documents back at the office, as well as executives who need to access documents for reference or to forward to others while they are away. These applications provide simple remote access to documents.

Put yourself into the shoes of a salesperson, for example, who is out at a customer site. The customer inevitably will ask about this product or that feature. Many of us can relate to the salesperson saying, "Oh, I have a white paper on that back at the office. When I get back there I’ll send it over to you." Instead, imagine from your BlackBerry handheld being able to immediately pull out the handheld, grab that document from your network drive, and email it directly to the person you’re talking to.

The great fact of third-party BlackBerry enterprise solutions is they leverage the existing BlackBerry server connection so you can get a very quick time to pilot and low deployment cost. Typically you will deploy the third-party server application, behind your firewall, and configure it to work with your existing document resources, whether they be simple folders on your network drives or more formal document management systems. Those server applications can be configured to tie into any of those existing resources and again provide immediate access to those documents from a BlackBerry handheld. As with the network management applications, we have seen many enterprises deploy these types of solutions in an afternoon rather than a matter of days or weeks.

**Messaging and collaboration**

Those who use BlackBerry or another wireless handheld tend find that having immediate access to wireless email is an extremely effective mechanism for immediate collaboration and keeping in touch with internal workgroups as well as with external customers. If you’re using an instant messaging application today from your desktop, you may well see a lot of value in having access to that application from your handheld. A simple example is enterprises that use an application such as Lotus Same Time as a desktop tool to allow workgroup collaboration within the enterprise.

If you’ve defined instant messaging as an enterprise productivity tool for your organization, you have likely already understood the ROI and how it can enable your users to more effectively use their time and work as groups. Extending that out to BlackBerry is a natural progression as users can continue to collaborate and use those same instant messaging tools while they’re away from their desk. With BlackBerry, the typical solution will involve deploying a third-party server behind the firewall that will integrate with your existing instant messaging solution. These behind-the-firewall applications will typically integrate with your existing accounts and push out new messages to the BlackBerry handheld and also provide that proxy point so the BlackBerry handheld can act as a client to the instant messaging system using the same account. To your peers, you look like you are online and available even while you’re away from your desk.

**Business continuity and disaster recovery**

Another type of application that is starting to come into its own in the wireless space is business continuity and disaster recovery. When users are away from their desks, how do they know when some
kind of disaster has happened, or when a large system has gone down? How can they be notified and learn what policies and procedures to follow? Even for those users who are at their desks when something happens, when they leave their desks, how can they have a list of all contact information and processes to follow?

With BlackBerry and our partners, we offer a variety of solutions that enable you to integrate with your existing disaster recovery plans and push out all of those emergency procedures, contact numbers and checklists to the BlackBerry handheld. This is very exciting because the BlackBerry handheld is typically something that the user always have with them, which means they will always have access to business continuity information at the touch of a button. These applications will typically push out notifications when a disaster has occurred, but can also pre-populate the handheld with all of those procedures and all of that information in advance of a disaster.

There are a lot of great benefits to this type of solution. Improving the continuity of operations within your enterprise is critical for any large enterprise. The exact ROI will depend on your specific use case. If you do rely on paper emergency documents today, you can replace the need for people to carry around those paper documents at all times.

**Service management and job dispatch**

With service management and job dispatch, the targets are the sales force, the field force, or IT and help desk personnel: anyone who uses trouble tickets and jobs as a way of managing their day-to-day activities. Here, the BlackBerry wireless application gives users the ability to access back-end trouble tickets and jobs when they’re mobile. Today, for the most part, field force staff will typically go into an office, get a list on a piece of paper of all their jobs for that day, and they’ll go out into the field and execute on those jobs.

With BlackBerry, the field personnel every morning can have those jobs pushed down to their handheld and be able to manage the lifecycle of those jobs and trouble tickets from their handheld. This would include tasks such as closing a ticket, updating the status or the history of a ticket. If you can close that case in real time and the system discovers that this field force employee has finished all their jobs for today but there’s an hour left in the day, perhaps the system can push out other trouble tickets and jobs so that they can again make the most of their time.

The ability to manage trouble tickets and job dispatch systems wirelessly can improve customer satisfaction. More importantly, field personnel, IT staff and help desk technicians can manage those job dispatch and trouble tickets wirelessly and electronically, which will help to improve their accuracy, efficiency and satisfaction because they don’t have to go back and forth to their desk or office just to find out what their next job is or to update the system. Typically a large increase in productivity is associated with these types of applications.

**Forms and data collection**

Another horizontal application is the area of forms and data collection from the field. A number of enterprises and industries have field force and sales force people that rely on simple forms to collect information and submit it to a back-end system. Whether it be a form for an inspector out at a site to update the information or a call report form for a salesperson, there are many situations in which field personnel will find themselves in the field with no access to a laptop or PC to submit forms, and they're reporting on the fly.

When you extend that functionality out to a BlackBerry handheld, you can take advantage of the “Always On, Always Connected” paradigm to allow users to enter form data and submit it electronically from their handheld in real time. Not only will this likely improve data accuracy, but you should also see improved timeliness and efficiency of those applications. No longer do back-end folks have to go back and forth to their desk or office just to find out what their next job is or to update the system.

For these types of applications, deployment considerations are similar to those for the other enterprise wireless applications discussed above. Third-party partners typically provide a server application that you can install behind your firewall that will integrate with your back-end databases or your existing back-end applications. They provide a sophisticated client application on the handheld to create forms...
and publish forms to your users and have them effectively submit information, whether they’re in or out of coverage.

That’s another important feature for those who have field force personnel who may not be in wireless coverage at all times. These types of applications allow you to submit form data and the third-party application will queue it up. As soon as the user gets back into coverage it will be automatically submitted to the system without user intervention. There is a lot of value here around immediacy of data, efficiencies of processes, and accuracy and consistency of data, which can impact your CRM systems or your back-end systems.

**Customer relationship management and sales force automation**

RIM has seen many enterprises trying to understand how they can take their sales force and their CRM systems wireless. The business problem that these enterprises tend to face is, “I have a number of sales folks out in the field. How can they access and update our back-end CRM system and their customer’s information while they’re mobile?” Here, we have a number of partners that provide applications for BlackBerry handhelds that will allow you to access data from back-end CRM systems including customer information, sales funnel or customer sales order status.

Being able to update your CRM system remotely is extremely valuable as you could place orders immediately at the time of confirmation from the customer, even while you’re still at the customer’s site. You could update your customer data or report on calls or visits you had to those customers at the time it happens in the field rather than waiting until to get back to your desk where you might forget information or make mistakes. You could increase sales opportunities because having immediate access to the CRM system has a lot of implications.

You could improve your customer satisfaction by providing customers immediate information on their orders or being able to go back to them on various pieces they may have in the existing system. You could also improve the efficiency and accuracy of your order processes, which relates to higher quality data from the field.

We work with many vendors in this category. If you use a large enterprise system such as SAP, Siebel or PeopleSoft, these solutions provide wireless modules today that you can integrate into your existing system. That enables the CRM system to be essentially published as wireless-friendly content. With the BlackBerry handheld and the BlackBerry Browser, you can access that data remotely without again having to dial in or login from the BlackBerry handheld or worry about your security model. In many cases the tools may be available today on the back end. You have to evaluate how you can deploy it on BlackBerry, leveraging the secure connection that you have with the BlackBerry Enterprise Server.

**BlackBerry deployment tips**

When it comes to deploying these applications, BlackBerry provides a number of management and deployment features as part of the server that make deployment simpler and much more effective. There are two different areas. One concerns management and one concerns deployment. On the management side, BlackBerry provides "wireless IT policies and commands." From the BlackBerry server you can create a series of policies or commands to control the handhelds that are out there.

For example, if you’re deploying a CRM application on your BlackBerry handheld, you may wonder if that data on the handheld is secure. What if the salesperson loses his handheld and somebody else finds it--will they have access to that CRM data? With BlackBerry we offer a number of security features. From the BlackBerry server you can enforce that all handhelds must have a password. If someone finds a handheld, they won’t be able to access the data because it is password protected. You can also issue commands from the BlackBerry server to lock a handheld or even wipe the data clean. So if one of your field people loses a handheld, you can issue a command to wipe all of the CRM data from the handheld so it won’t fall into the wrong hands.

On the deployment side, we provide two different mechanisms for application deployment on BlackBerry. There is the BlackBerry Desktop Manager which users can use to install applications through the desktop. We also have tools so that as an enterprise you can deploy these out to multiple desktops in an effective way. If you’d rather not rely on users running the desktop software, we provide the ability for users to download applications wirelessly today.

You could post the applications internally and have users connect to that internal server from their

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*Requires BlackBerry Enterprise Server v3.5 or higher*
BlackBerry handheld, download the applications wirelessly without ever having to go to their desktop. This is a very effective means, and we’re extending it in the future to allow you to push out those applications wirelessly to all of the users that you want to have that application. This will eliminate the problem of users who delay installing or updating an application. The BlackBerry is a corporate asset and you’ve invested in it for business usage, so we provide you the tools to make sure your users are going to have a good experience and that you can get business-critical applications out to employees in the field.

Many people know BlackBerry as an enabler of wireless email. But what’s critical to understand is that as enterprise systems evolve wireless solutions evolve. BlackBerry is an extensible wireless enterprise platform that will enable you to deploy new applications quickly and easily. The starting point is to think about what business information and applications are critical to your end users. Email is likely one of them, but there are likely a number of others.

This is not just about accessing your CRM system remotely. It’s not just about accessing documents. It’s about any piece of your business that makes sense to access wirelessly. We will work to provide a solution and partners to make sure we can address those All of the third-party solutions discussed here leverage your existing investment in BlackBerry wireless email. You can increase your return on investment and increase your usage of wireless without impacting TCO because you don’t have to deploy new wireless connections or service plans. The entire cost of your solution is the server and client deployment of the third-party applications, which typically from an ROI standpoint pay for themselves very quickly.

**For more information**

RIM offers a number of different resources to learn more about wireless solutions in general and BlackBerry in particular.

The web site www.BlackBerry.com is a good first place to start. The site features a developer’s forum www.blackberry.com/developers/forum/index.jsp and is used by application developers around the world. RIM also offers BlackBerry reference documents on a variety of topics. The Technical Knowledge Center www.blackberry.com/support/index.shtml on the site can help you get answers to particular questions.

The network provider web sites are another good resource for information on what the carriers offer for BlackBerry and what their coverage is. It is a good idea to speak to a carrier sales representative. All carrier sales teams have access to additional RIM resources. They can come to your site and help you answer any of your questions about BlackBerry.

There is also an archive of BlackBerry web seminars on the web site at www.blackberry.com/news/events/web_seminars_archive.shtml.
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