



BLACKBERRYS and TREOS and IPAQS, oh my



A mobile messaging gateway will help you manage a menagerie of devices. We're bullish on our Editor's Choice, Good Technology's GoodLink

» **The yen to stay connected** has end users badgering IT for full-featured mobile messaging. Adventurous types may have even struck out on their own mobile e-mail safaris, only to be disappointed when their slick, pricey and probably non-reimbursed PDAs and smartphones didn't live up to expectations: Although it's relatively easy to sync e-mail wirelessly, your users have become accustomed to the niceties of enterprise groupware, such as calendaring, contact lists and task information.

Your organization must assess whether extending full groupware functionality to mobile devices is a smart business move. In "Freed Up or Tied Down?," page 27, we help you make that determination. If you decide to move forward, you must investigate a mobile messaging gateway. These products provide e-mail syncing, calendaring, contacts, task lists—features you'd expect from a desktop client, but on a mobile platform. In

BY DAN RENFROE

addition, mobile gateway vendors have built in a number of features that will please enterprise IT, such as device management, security and simplified administration. Overall, we'd be happy with any of the products we tested, though there are a few that go above and beyond. Much depends on your specific environment.

These gateways can be installed in-house, behind the firewall or in a DMZ, or they can be hosted by an ASP or vendor. We tested only those that can be installed behind the firewall; once a large enterprise begins to deploy wireless e-mail broadly, IT will enjoy the control this setup provides. You agree, according to our reader poll for this article: Fifty-two percent of you say you prefer an enterprise-managed mobile e-mail gateway that supports PDA and smartphone clients. A distant second was direct wireless access to existing corporate e-mail systems over the Internet.

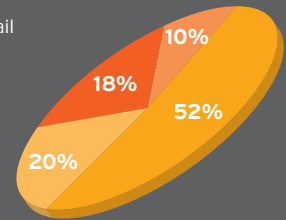
We sent out invitations to 10 vendors, telling them we'd be testing role-based administration, logging and statistics; provisioning and management of client users and devices, including deploying client software by all available methods; security features, such as the ability to wipe and restore data from devices, and policy features, such as password-locking; the ability to install third-party software; ease of use, including e-mail operations, send/receive, address book access, follow-up flags and groupware operations like calendar, task and contact-management functions; and performance of their systems in transmitting encrypted data across wireless WAN links (see "How We Tested," page 39, for details).

Six vendors accepted, and we installed Extended Systems' OneBridge Mobile Groupware 4.2, Good Technology's GoodLink 4.0, Intellisync's Wireless Email 6.2, JP Mobile's SureWave Mobile Office and Mobile

READER POLL

Which of the following approaches is your preference for a wireless e-mail solution?

- An enterprise-managed mobile e-mail gateway that supports PDA and smartphone clients
- Direct notebook access via wireless Internet to existing corporate e-mail systems (no gateways)
- A hosted solution that allows use of PDAs and smartphones
- A personally managed gateway that runs on my PC and supports my PDA and smartphone clients



Source: NETWORK COMPUTING Reader Poll, 513 respondents

Defense 5.0, Research In Motion's BlackBerry Enterprise Server 4.0, and Seven Networks' Seven Server Edition 6.0 in our Syracuse University Real-World Labs®. Infowave declined to participate, and Notify Technology Corp. didn't respond by our deadline. Visto also declined, citing an inability to support our testing scenario with its operator-driven model. Smartner initially agreed, but withdrew after being acquired by Seven.

Most of the products we tested support several enterprise messaging platforms, but for our tests we used Microsoft Exchange as our back-end server. We modeled a typical enterprise where users keep their preferred devices, and wireless WAN resources are a precious commodity. We included about a dozen different wireless devices in our tests.

For a technology like wireless e-mail, which isn't likely to be considered critical (go figure), getting a reasonable price is paramount. In fact, more than half our poll respondents said they'd pay no more than \$10 per user per month for wireless e-mail delivered by a service provider. To get a handle on each vendor's pricing

REAL-WORLD LABS® REPORT CARD

Mobile Messaging Gateways

	Good Technology GoodLink 4.0	Intellisync Wireless Email 6.2	RIM BlackBerry Enterprise Server 4.0	Extended Systems OneBridge Mobile Groupware 4.2	Seven Networks Seven Server Edition 6.0	JP Mobile SureWave Mobile Office and SureWave Defense 5.0
CLIENT CONFIGURATION & MANAGEMENT (20%)	4.5	4	4	3	3	3.5
DEVICE & PLATFORM SUPPORT (20%)	3.5	4	3	4.5	4.5	4
END-USER EXPERIENCE (20%)	5	4	4	4	3	3
SERVER CONFIGURATION & MANAGEMENT (20%)	4.5	4	4	3.5	4	3.5
COST (10%)	3	4	4.5	3.5	4	2
PERFORMANCE (10%)	3	4	4.5	3.5	3	4.5
TOTAL SCORE (100%)	4.10	4.00	3.90	3.70	3.60	3.45

A≥4.3, B≥3.5, C≥2.5, D≥1.5, F<1.5 A-C GRADES INCLUDE + OR - IN THEIR RANGES. TOTAL SCORES AND WEIGHTED SCORES ARE BASED ON A SCALE OF 0-5.

B+

B+

B

B

B-

C+

CLIENT CONFIGURATION & MANAGEMENT takes into account deployment of clients and mobile management capabilities.

DEVICE & PLATFORM SUPPORT evaluates the breadth of support for mobile device platforms and enterprise messaging servers.

END-USER EXPERIENCE refers to the features and capabilities of each product across all supported device platforms.

Customize the results of this report card using the Interactive Report Card®, a Java applet, at www.nwc.com.

structure, we presented three scenarios for deployments of increasing scale, with 50, 200 and 2,000 clients. We requested pricing for one year and asked that costs for the first year's maintenance and support be included. GoodLink and Seven rely on monthly subscriptions, whereas Intellisync has an outright purchase model. RIM's software costs were the most competitive, to the tune of \$14,997 for 200 users, compared with JP Mobile's price of \$82,492.50 (for more detailed pricing info, see "Wireless E-Mail Gateway Pricing," page 47).

Data Transmissions

These gateways use SMS or IP links to get data to devices. Seven's method is unique: It sends an encrypted SMS trigger to the device telling it that it has new messages on the server. The message is intercepted by the client software on the device, and the client initiates an IP pull to retrieve the data. Many vendors, including JP Mobile, offer SMS push as a backup to IP push, but the trend is toward data transfer based solely on IP.

To determine the amount of traffic generated by typical e-mail, we sent several messages with large attachments to the mobile devices. Our performance tests yielded interesting results because the clients don't all communicate the same way. Some, such as JP Mobile's,

connect directly to the server and provide good compression despite the encryption. Others, such as Good's, connect through a NOC (network operations center) and don't optimize the link. (For more on our performance tests, see "Get That Data Down," page 40.)

User provisioning is handled in more or less the same way across the board. In most cases, users are selected from the Exchange address list individually; Extended Systems and Intellisync let us select one or more Active Directory or Exchange groups, and Good and RIM let us add users by means of a formatted text file. Provisioned user information is stored by the mobile messaging gateway separate from the directory, though user authentication is always performed by Active Directory or Exchange.

Device provisioning options are more diverse. Extended Systems and RIM automatically provision devices when they're first synced. Seven requires that the device phone number be entered as part of the user-provisioning process, while JP Mobile puts device provisioning in the hands of users by requiring them to provision their devices through a Web page.

Remember: Once you deploy wireless e-mail, these devices shift from personal computing platforms to extensions of your network, so you must manage and

HOW WE TESTED MOBILE MESSAGING GATEWAYS

We put the screws to six mobile messaging gateways at our Syracuse University Real-World Labs®, testing the deployment and management of both server and mobile clients, evaluating end-user functionality, and monitoring the amount of data each server transmits to assess how efficiently the systems conserve slow and costly wireless WAN resources.

Each product had its own server with dual 1,000-MHz Pentium III processors and 1,024 MB of RAM. We installed all gateways on Windows Server 2003 and integrated them with an Exchange 2003 server. We placed these products behind our firewall and made the appropriate changes to let them communicate with the outside world.

We tested the gateways' provisioning of users and deployment of clients using all available methods, including cable/cradle and over-the-air installation. We also tested mobile management features, performing such tasks as enabling

device passwords, installing third-party applications and remotely wiping data on "lost or stolen" devices.

To test end-user functionality, we requested that vendors supply devices representative of the platforms they support. Each vendor, with the exception of RIM, provided us with at least one Windows Mobile device (HTC Blue Angel, MDA III, SX66, PDA2K), one Palm device (either Treo 600 or 650) and one Symbian device (Sony Ericsson P910 or Nokia 9500). RIM sent us a BlackBerry 7100t and a BlackBerry 7290. In addition, several vendors provided Windows Mobile Smartphone edition devices, and Seven sent us a J2ME cell phone. We put on our end-user hat and treated each device as if it were our own, sending messages, responding to meeting requests and creating tasks and notes; this gave us a clear understanding of each product's capabilities.

To test performance, we examined data transmissions from each

server using ClearSight Networks' Analyzer 4.0. We sent three messages with the same 294-KB Word attachment to a client for each gateway (Windows Mobile for all, except RIM, where we used the BlackBerry 7290) and monitored the amount of client-server traffic required to transmit the message. We also sent three messages with the same 57-KB JPG and 123-KB Excel spreadsheet, and monitored the traffic for each of those transactions. See "Get That Data Down," page 40, for detailed test results.

All NETWORK COMPUTING product reviews are conducted by current or former IT professionals in our Real-World Labs® or partner labs, according to our own test criteria. Vendor involvement is limited to assistance in configuration and troubleshooting. NETWORK COMPUTING schedules reviews based solely on our editorial judgment of reader needs, and we conduct tests and publish results without vendor influence.

secure them as enterprise resources. Intellisync provides solid device-management capabilities, including third-party application installation, device security, and client backup and restore. Based on our review of Good Technology's Mobile Suite last summer (see "Herding Highly Mobile Cats," ID# 1516f3), we expected, well, good things, so we weren't surprised that the company led the pack in both server and client configuration and management features. RIM also provided robust management features, but that's part and parcel of being a maker of both devices and software.

Management capabilities, such as the ability to gather device information, are similar across platforms, though management features for Symbian devices lag behind. We checked to see how well each product tracked device information, including battery life, processor speed and installed applications. Good's GoodLink, with both a Web monitoring portal and a management console, automatically gathered a wealth of data about each device and its connection activity. RIM's management console also provided extensive information about our test devices, as did Extended Systems and Intellisync, though with these, some initial configuration was necessary. JP Mobile provided a minimal set of data, sufficient to meet our needs, while Seven clued us in on platform and application version only and lacked the granular detail we found on rival systems.

Job 1: Security

In our minds, the most important features a product can provide are related to device security. These features include protecting devices from unauthorized use through passwords and safeguarding data on lost or stolen devices through remote data erasure. Device-password functionality was provided by all the products we tested, with the exception of Seven, but implementation quality varied greatly. Extended Systems opted for the simple method of requiring the device's built-in password capabilities to be enabled before synchronization. Intellisync and JP Mobile took it one step further by letting us specify the password strength/complexity required, while Good and RIM went the distance by automatically nuking the device contents when we exceeded the password-attempt threshold. Don't be nervous about this capability—both vendors also provide backups to ensure that users who forget their passwords don't lose all their data. Unfortunately, no vendor provides device-password management for the Symbian platform.

The ability to obliterate data on lost or stolen devices varies greatly as well. Intellisync was one of the most flexible, letting us delete just PIM data or force the device to hard reset and wipe all data. Good, JP Mobile and Seven let us wipe just the PIM data. Extended Systems and RIM both provide a nuclear option by resetting the device contents back to factory defaults. Reloading appli-

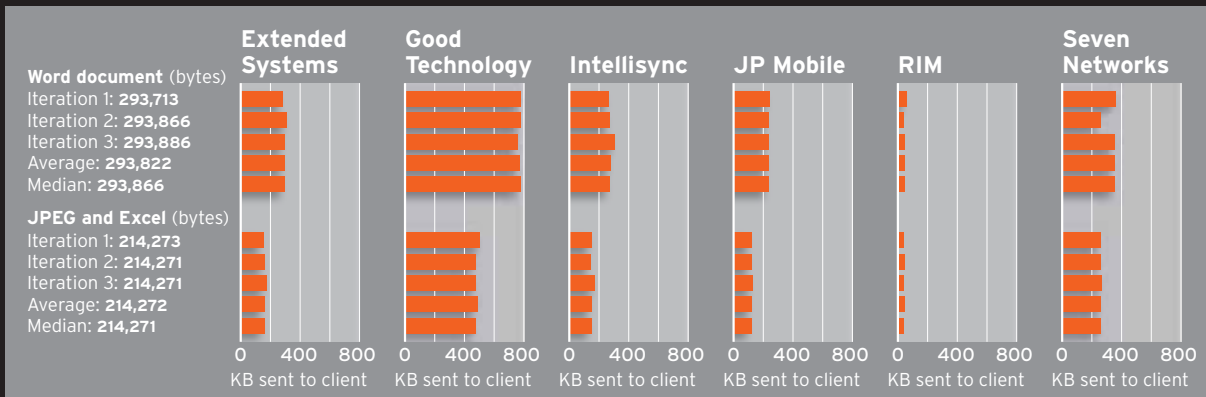
GET THAT DATA DOWN

Our performance tests yielded some interesting results. Our goal was to assess the amount of traffic generated in a typical message transaction with a large attachment. Although we expected a penalty for the encryption these gateways employ, we also expected some compression to compensate.

However, we found that the test we designed wouldn't apply to all the product architectures. For instance, GoodLink clients connected to a NOC rather than to our server, making it impossible to monitor communications. Our monitoring captured the traffic from our server to the NOC, which wasn't as optimized as the traffic headed

out to the handheld. We gave GoodLink a moderate score in this category, based on our subjective measure of how long it took to download messages compared with rivals.

RIM was a relative standout in the performance category. It retrieved our 294-KB message with an average size of 47 KB, far outstripping the competition. This is mainly because of RIM's architecture, which focuses on viewing attachments rather than actually downloading them. For example, images are sent to the device with reduced resolution, and spreadsheets are displayed on-screen. However, some formatting and the ability to show formulas are lost. But though the RIM



cations took 15 to 45 minutes, depending on the product, so though it's not arduous, you wouldn't want to have to do it every day. This is especially true for gateways, like Extended Systems' OneBridge, that don't have wireless deployment tools readily available.

The End-User Experience

One of the most interesting aspects of this review was discovering the approach each vendor takes in providing the best possible end-user experience. For the Windows Mobile and Symbian platforms, most vendors integrate with the native groupware apps on the device, making the sync app the only software to install. Vendors that support the Palm platform have developed their own groupware apps, because the built-in one didn't meet all their needs. The J2ME cell phones, supported by Seven, also require a new app, because there is no standard messaging app for that platform.

We were very pleased with Good's approach to client applications. The company's decision to develop its own application for all its supported platforms (Palm and Windows Mobile) provides a consistent experience across devices. RIM's applications, of course, were designed with the BlackBerry Enterprise Server in mind.

We're unhappy that all the vendors that claimed to support Symbian devices provide limited functionality, some more so than others. It's a form of bait and

switch, in our opinion. Our testing revealed that groupware features on the Symbian platform pale in comparison with their Palm and Windows Mobile counterparts. For example, features such as meeting requests, tasks and notes are often dropped. This won't be a deal-breaker for most, but it's something to consider if Symbian device manufacturers, such as Nokia, are on your enterprise's supported-items list. Intellisync offers the best Symbian support of all the vendors in this review.

Good's GoodLink provides the best functionality on client devices, closely approximating the features found in Microsoft Outlook, with helpful extras such as the ability to activate "out of office" notifications and a history of recent correspondents for quick message addressing. No discussion of end-user experience would be complete without a nod to RIM's BlackBerry platform, which is favored by many for just that reason, but Extended Systems and Intellisync held their own, providing solid mobile-messaging features. JP Mobile's Sure-Wave hits the basics but doesn't go above and beyond. The Seven clients are the most limited, offering primarily e-mail and few extra collaboration features.

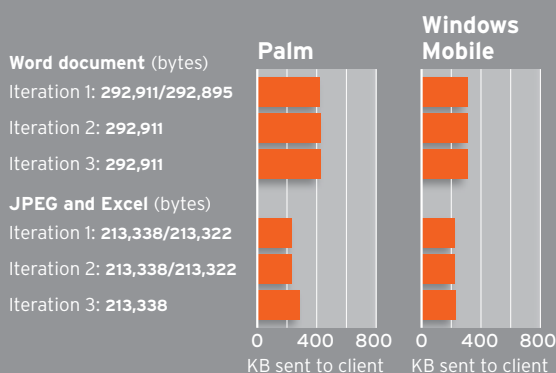
Gadgets Galore

It's a jungle of devices out there. We recommend you make a decision about a wireless e-mail gateway in conjunction with choosing supported wireless device platforms. Of particular importance is whether your users need a single device for e-mail and phone or are willing to carry both a cell phone and a PDA. In terms of device support, Seven makes clients for the broadest variety of platforms; we tested its clients for J2ME, Palm, Symbian, Windows Mobile and Smartphone. Good was limited, with clients on Palm and Windows Mobile platforms only. Despite our requests, RIM provided support for its own clients only. The company has announced licensing programs that will let Palm, Symbian and Windows Mobile devices work with the BlackBerry Enterprise Server, but we couldn't verify these claims within our testing window. Extended Systems, Intellisync and JP Mobile provide support for Palm, Symbian, Windows Mobile and Smartphone.

As for back-end server OS support, forget diversity: It's Windows-only with all the products tested. In terms of enterprise messaging platform support, however, there's more variety. Extended Systems, JP Mobile and RIM have the best options, serving Domino, Exchange and GroupWise. The others support Exchange plus one of the others, with the exception of GoodLink, which is available for Exchange only. Although we were disappointed by Good's limited messaging-platform support, Exchange's market dominance makes it a safe choice. As of February, Exchange owned 33 percent of the installed insourced messaging software market, up from 31 percent last year, according to Radicati Group. The analysts expect that share to reach 39 percent by 2009. In our reader poll, Exchange led the pack with 64 percent. Notes had 14 percent, GroupWise only 8 percent.

architecture hinders the end user from saving the attachment for offline viewing or editing, it does get the attachment content to the user in the shortest amount of time. And, of course, the attachment is still available on the messaging server for later access.

JP Mobile proved the best at compressing the actual attachment, downloading our 294-KB message in approximately 240 KB. Seven seemed to focus not on the size of the actual message, but on queuing groups of traffic to provide a constant stream, a process that yields better data rates on WWANs, which have high latency but handle constant traffic better than bursts.



It was a tough competition, but at the end of the day GoodLink overcame its Exchange-only limitation and earned our Editor's Choice award for its easy management and deployment, superb user interface, and strong mobile management features.

We came away with a tie for second place. Intellisync Wireless Email 6.2 has a solid list of features sure to please any enterprise, including full-featured mobile management and slick end-user perks, such as the ability to import travel schedules, driving directions and local weather. RIM's BlackBerry Enterprise Server has exceptional performance and a reasonable cost, but it's hampered by its limited device support.

Extended Systems and Seven offer excellent device support, but are hindered by less-than-stellar client configuration and management. And JP Mobile finished last mainly because of its pricing.

Good Technology GoodLink 4.0 Our Editor's Choice is perfect for enterprises that want to fully realize the functionality of their Exchange servers in a

B+ mobile environment while enjoying many mobile management capabilities. The last time we reviewed Good's product, the company offered its own mobile device platform, but it has since decided (wisely, we think) to focus its efforts on support for popular mobile device platforms.

Initial deployment and configuration of the server were a snap; we didn't even have to open holes in our firewall because all communications are initiated by the GoodLink server. This is one of the few products we tested with full-featured role-based administration, including both predefined roles and custom configurations. The logs and statistics provide plenty of detail for system administrators without being overwhelming.

MOBILE MESSAGING GATEWAYS VENDORS AT A GLANCE

PUBLIC COMPANIES

Company name	Year founded	Product name	Year launched	Market capitalization as of Jun. 20 \$000	Key customers	News
EXTENDED SYSTEMS (XTND)	1984	OneBridge Mobile Groupware 4.2	1999	\$54,530	Airbus, BASF, British Airways, Columbus Children's Hospital, DaimlerChrysler, Deutsche Bank, Janssen-Cilag, Otis Elevator, Porsche, Russell Investment Group	Company reported record profit of \$2.2 million in fiscal Q3, but \$1.5 million of the margin was due to payments from earlier lawsuit against Agilent and Samsung.
INTELLISYNC (SYNC)	1993	Intellisync Wireless Email 6.2	2000	185,900	A.T. Kearney, Hawaiian Airlines, Owens Corning, Progressive Insurance, Sherwin Williams, Siemens, The Standard Insurance Co., Toyota, Unisys, Verizon Communications	Reported net loss of 7 cents per share in fiscal Q3, compared with net loss of 3 cents per share in Q3 2004.
RESEARCH IN MOTION (RIMM)	1984	BlackBerry Enterprise Server 4.0 for Microsoft Exchange	1999	14,150,000	Boeing, ChoicePoint, ConocoPhillips, Georgia Pacific, HealthNet, Pennsylvania Office of the Attorney General, PitneyBowes, Sony Pictures Entertainment, State Street Global Advisors, U.S. Department of Agriculture	Company barely profitable in fiscal Q1, reporting earnings of about a penny per share and a slight drop in revenue from Q1 2004.

Source: Company reports, Yahoo.com

PRIVATE COMPANIES

Company name	Year founded	Product name	Year launched	Employees	Key customers	News
GOOD TECHNOLOGY	2000	GoodLink 4.0	2004	500	Electronic Arts, FedEx Kinko's, McGraw-Hill, Starbucks, Unum Provident	Company reports that its technology is now being used by more than 70 carriers in more than 35 countries worldwide.
JP MOBILE	1995	SureWave Mobile Office and SureWave Defense 5.0	2001	100	Argo Turbo, Cooper Sculley, Newsweek, Tenet Health Care, Texas Instruments, XM Satellite Radio, Wyeth	Signed partnership in May with Microsoft to deliver wireless e-mail services to Exchange Service Providers.
SEVEN NETWORKS	2000	Seven Server Edition 6.0	2001	180	Accenture, Boeing, Ford, Hewlett-Packard, KPMG, L'Oréal, Lucent Technologies, McDonald's, Mitsubishi Motors, Toshiba, Toyota, UPS, Xerox	April acquisition of Smartner, a European wireless e-mail company, expanded company's reach to 45 service providers in 30 countries.

Source: Company reports

The drawback to GoodLink's custom application is that device support is limited; we could test it only with Palm and Pocket PC platforms, though support should be available for Windows Smartphone by the time you read this. Despite that, we were pleased with the deployment method: Once the device is provisioned, a handheld user visits an e-mailed Web link and downloads the GoodLink application. This takes about 20 minutes over a GPRS network. The application can also be installed using a cradle or cable sync.

The GoodLink app lets the user store a backup of the application on nonvolatile memory in case the device later gets wiped. In addition to examining basic management, we tested the installation of third-party applications wirelessly and were pleased. We could even pause an active application download and resume later.

We were amazed at the similarities between the GoodLink client and a standard Outlook client. If we were reading a message while another arrived, we received an unobtrusive pop-up similar to Outlook's notification feature. GoodLink is also the only product to support message flags like those used in Outlook. On the downside, we were shocked to discover that though we could view message attachments in a variety of formats, we couldn't attach a file to a new message. Also, though GoodLink lets you work offline on Palm, you can't do so with Windows Mobile until the next release, which is scheduled to be out when you read this.

GoodLink 4.0. Good Technology, (866) 723-4663, (408) 327-6000. www.good.com



Intellisync Corp. Wireless Email 6.2 Unlike GoodLink, Intellisync Wireless Email, a component of the Intellisync Mobile Suite, requires a database to store configuration information. However, it's perfectly happy with the Microsoft SQL Desktop Engine.

We were pleased with how easy it was to perform the initial server configuration, and Wireless Email was one of few products that let us provision users on a per-group basis—a handy feature if you're rolling this product out to many users. Like GoodLink, Wireless Email also provides role-based administration and excellent logs for troubleshooting.

Client deployment was limited to cradle sync, but wireless installation should be available in the next version. Because Intellisync powers Verizon's Wireless Sync service, Verizon PDAs come preloaded with the Wireless Email app. Third-party application installation was successful on Palm and Windows Mobile platforms and could even be configured to download across multiple synchronization sessions, which is especially useful for large installations.

We found user and device management extremely flexible; in addition to testing data-oblivation features, we made specific devices inactive so that synchronization will fail, and we made user accounts inactive so that a user couldn't synchronize to any device. The device password capability includes the option to randomly generate an unlock password for each device. Device passwords are unique to the device/mobile messaging gateway. User passwords are the same as Exchange/AD passwords. Intellisync also provides disaster recovery for mobile devices by backing up the entire handheld, not just PIM data.

We were pleased with device support as well, testing

EXCHANGE OTA CAPABILITIES

Many enterprises may not be able to justify the added expense of a third-party mobile messaging system, so it was important to test the native capabilities provided by Microsoft Exchange. Microsoft has built in perfectly serviceable mobile sync capabilities for users to access their e-mail and synchronize their Exchange calendars.

We tested Exchange 2003's ActiveSync capabilities with a Windows Mobile device and a Palm Treo 650. The Windows Mobile device was able to sync e-mail, contacts and calendar with the Exchange server through manual configuration of ActiveSync on the mobile device. The version of VersaMail that comes with the Palm Treo 650 provides basic capabilities to sync e-mail and calendar items with

Exchange, though you won't find them on earlier Palm devices.

Neither application lets individuals sync tasks or memos, and neither provides access to the global address list. Additionally, they place a large burden on IT staff, as each device must be manually configured to access the Exchange server. This method also lacks the mobile management capabilities provided by third-party gateways, such as the ability to install software wirelessly; Microsoft prefers to steer customers toward Systems Management Server for these kinds of capabilities. There also are no security features, like the ability to require power-on passwords or remotely wipe stored data from the device.

On June 6, Microsoft released the Windows Mobile Messaging and Security

Features Pack, which will work with wireless features expected in Exchange Server 2003 with Service Pack 2, due in the fall. This combo will make some of the vendors in this review nervous by reportedly addressing some of the synchronization and security features lacking in Exchange. The Features Pack's expanded capabilities include synchronization of tasks and Outlook contact photos. It also provides our favorite mobile security features, device passwords and remote data obliteration. Microsoft is developing these features for its Windows Mobile clients, but they will be available to anyone who licenses ActiveSync technology, such as Nokia. See more details at informationweek.com/story/showArticle.jhtml?articleID=164300483.

on Palm, Symbian and Windows Mobile. Although a few features, including device password, tasks and notes, were unavailable, Mobile Suite's Symbian support was the best we tested. A neat extra: When partnered with a desktop Outlook client, Intellisync provides local information based on recognition of e-mail messages containing airline, hotel and rental car reservations; while not useful for all enterprises, this is a boon for professionals who are mobile in every sense of the word.

Intellisync Wireless Email 6.2. Intellisync Corp., (800) 224-5430, (408) 321-3800. www.intellisync.com

Research In Motion BlackBerry Enterprise Server 4.0

When most folks think of e-mail on the go, BlackBerry is the device that comes to mind. With good reason: RIM has a strong offering, providing both the BlackBerry Enterprise Server platform and the handheld device platform.

BlackBerry Enterprise Server's configuration and administration capabilities are powerful, which is essential given that it is both a mobile messaging and mobile management product. Although BlackBerry Server has a lot of capabilities, we found the operation overly complex at times. For example, to configure role-based administration, we had to run a special utility and manually set database permissions. Also, administration was split between two separate tools, the BlackBerry Manager and the Handheld Configuration Tool, often requiring us to cycle back and forth.

We put RIM's device management through its paces. All BlackBerry devices have an application preinstalled that can be used to activate them for use with a BlackBer-

ry Enterprise Server, making for an easy deployment. We were pleased with the other management capabilities, too. For example, BlackBerry Enterprise Server can lock devices remotely and override user-defined passwords.

While our third-party app installed successfully, the process was not as straightforward as it was on GoodLink or Intellisync. On the plus side, BlackBerry Enterprise Server has excellent backup capabilities. When we wiped our test device and then reactivated it, it automatically downloaded our settings and user preferences. Nice.

Overall, the BlackBerry end-user experience was solid, providing all the expected e-mail and groupware functionality. However, we couldn't access the Exchange Global Address List, a capability many of RIM's competitors provide. And though BlackBerry Enterprise Server is bandwidth-friendly, we were frustrated that attachments are viewed a segment at a time rather than downloaded in their entirety. We often had to cool our jets when we got to the bottom of a section, waiting for the device to download the next portion.

RIM's greatest strength, as well as its main weakness, is its client hardware platform. Although RIM maintains full control of the environment and can provide a good experience for IT administrators and end users, it also limits your device options. The company has announced several licensing plans, BlackBerry Built-In and BlackBerry Connect, that it says will extend BlackBerry capabilities beyond its device platform. BlackBerry Built-In makes BlackBerry applications available on non-RIM devices, whereas BlackBerry Connect makes existing applications work with the BlackBerry Enterprise Server. Unfortunately, none of these capabilities was available for testing.

BlackBerry Enterprise Server 4.0. Research In Motion, (877) 255-2377, (519) 888-7465. www.blackberry.com

Mobile Messaging Gateway Features

	Extended Systems OneBridge Mobile Groupware 4.2	Good Technology GoodLink 4.0	Intellisync Wireless Email 6.2	JP Mobile SureWave Mobile Office and SureWave Mobile Defense 5.0	RIM BlackBerry Enterprise Server 4.0	Seven Networks Seven Server Edition 6.0
Client sync platforms	Palm, Symbian, Windows Mobile PocketPC, Windows Smartphone	Palm, Windows Mobile PocketPC	Palm, Symbian, Windows Mobile PocketPC, Windows Smartphone	Palm, Symbian, Windows Mobile PocketPC, Windows Smartphone	BlackBerry (licensing programs for several others under way)	Brew, J2ME, Palm, Symbian, Windows Mobile PocketPC, Windows Smartphone
Enterprise messaging platforms	IBM Lotus/Domino, Microsoft Exchange, Novell GroupWise	Microsoft Exchange	IBM Lotus/Domino, Microsoft Exchange, POP/IMAP	IBM Lotus/Domino, Microsoft Exchange, Novell GroupWise	IBM Lotus/Domino, Microsoft Exchange, Novell GroupWise, POP/IMAP	IBM Lotus/Domino, Microsoft Exchange, Novell GroupWise, POP/IMAP
Role-based administration	Y	Y	Y	N	Y	N
Webmail portal	Y	N	Y	N	Y	Y
Mobile-management features						
Data obliteration ¹	N	Y	Y	Y	N	Y
Device wipe ²	Y	N	Y	N	Y	Y
Third-party software install	Y	Y	Y	N	Y	N
Power-on password	Y	Y	Y	Y	Y	N

Y=Yes, N=No ¹Erase PIM data remotely ²Wipe the entire contents of the handheld device remotely

Extended Systems OneBridge Mobile Groupware 4.2

Extended's OneBridge is a solid performer in all categories and provides a platform for future expansion into other

B mobile applications, a likely draw for forward-looking enterprises. The OneBridge management console is chock full of options, including many specific to mobile applications. The system provides good logs and statistics in a separate Microsoft Management Console, which can be made available to your helpdesk staff without handing out access to the entire management application. There's even a trace-logging option, which let us gather extensive troubleshooting information on a single user. As with Intellisync's offering, we could configure domain user groups for access, a definite advantage.

We enjoyed being able to deploy our Palm and Windows Mobile clients by cable sync without the native HotSync and ActiveSync applications, but the lack of wireless installation support was disappointing. We found the mobile management features adequate, though data obliteration is available only on Palm. Windows Mobile support is forthcoming, but Symbian support is MIA.

The end-user experience was positive overall; we especially liked OneBridge's support for client-side mail filter/rule creation. However, working with mail subfolders was more difficult than with rival products.

OneBridge Mobile Groupware 4.2. Extended Systems, (800) 235-7576, (208) 322-7800. www.extendedsystems.com

Seven Server Edition 6.0 Seven Server Edition is a lightweight and elegant solution to the problem of providing

B mobile messaging to a broad variety of devices. Seven Networks is unique among participating vendors for its integration partnership with

Sprint and Cingular, each of which repackages Seven Server to sell as its enterprise e-mail offering. Although this limits enterprises' carrier choice, it also lets Seven Networks provide the broadest device support of any vendor in our review. The list even includes a J2ME cell phone client with synchronization capabilities, not just online WAP browsing.

Client deployment on Seven devices is very similar to what it is on BlackBerry—the devices come preloaded with the necessary software to initiate provisioning. Our PDAs from Sprint and Cingular sported a loader application to install the full Seven client, and the J2ME client can be download from each operator's online application shop. Perhaps because Seven is focused on bringing its product to a broad variety of platforms, it lacks some of the management capabilities we found in rivals. For example, we had data obliteration, but Seven doesn't support device passwords. If you need extensive mobile management features, such as third-party application installation or backup and restore, you'll have to look elsewhere or spring for separate mobile management software.

Seven did an excellent job providing mobile e-mail to our disparate devices, but it lacks most other groupware features. The version we tested offers calendar viewing and response to meeting requests, but we couldn't create new appointments, and it doesn't support synchronization of tasks or notes. The vendor says some of these concerns, specifically two-way calendaring, are being addressed in the next release, due out by the time of publication. The Seven server did boast one unique feature unavailable in its competitors: the ability to provide access to a shared network drive that functions as a document repository for mobile clients.

Seven Server Edition 6.0. Seven Networks, (650) 381-2511. www.seven.com

WIRELESS E-MAIL GATEWAY PRICING

We presented three scenarios to help us better understand the vendors' pricing models (see chart). All scenarios include the first year's maintenance and support. We chose not to include the cost of a wireless data plan, as it varies by provider, and in some cases the RIM data prices are higher than other PDAs.

With these pricing variations, you must do your homework. Extended Systems, Intellisync, JP Mobile and RIM all use conventional licensing models, whereas GoodLink and Seven Networks rely on a subscription model. Seven's integration with wireless operators makes for an easy purchase; in some cases, the product is

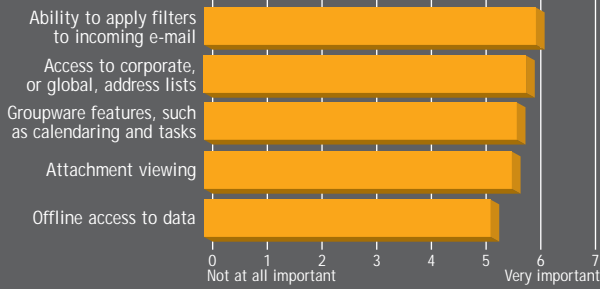
integrated with the data plan offered by the operator or is available for only a few dollars extra per month per user. JP Mobile's pricing is on the high side because the vendor had to include its security product, SureWave Mobile Defense, for testing to provide some of the security and management features we were evaluating.

	Extended Systems	Good Technology	Intellisync	JP Mobile	RIM	Seven Networks	Average	Median
Scenario 1: A small deployment with 1 server and 50 clients	\$15,000	\$15,600	\$9,500	\$20,993	\$6,096	\$9,250	\$12,740	\$12,250
Scenario 2: An enterprise deployment with 1 server and 200 clients	\$44,400	\$60,000	\$38,000	\$82,493	\$14,997	\$36,250	\$46,023	\$41,200
Scenario 3: A large enterprise deployment with 2 servers and 2,000 clients	\$324,000	\$504,000	\$380,000	\$547,493	\$115,994	\$360,250	\$371,956	\$370,125

Figures rounded to the nearest dollar

READER POLL

How important are the following features for wireless e-mail clients and gateways?



Average response shown

Source: NETWORK COMPUTING Reader Poll, 513 respondents

JP Mobile SureWave Mobile Office and Mobile Defense 5.0 JP Mobile's SureWave, with its Web-based management console and simple device provisioning and



installation, provides an excellent product for well-heeled small and midsize organizations that are looking to deploy mobile messaging.

SureWave Mobile Office is designed to take the device-management load off IT administrators. Upon configuring our test "users" for access to SureWave, we received an e-mail message directing us to the management Web page. Then we provisioned devices by entering type, phone number and wireless carrier. The system then sent

an SMS message to the device with the URL for the client download. Both users and admins can manage the device after that. Capabilities are similar to those of competitors, including the ability to lock devices and wipe PIM data, though the product can't install third-party software.

We also tested SureWave Mobile Defense, which provides extra security features, such as device password requirements and encryption of local data, through the creation of device security policies. It even let us generate an unlock code for a lost device password. Although the capabilities of the product were solid, policy distribution is not yet automated, so any changes made after the client is installed must be manually distributed.

When stacked up against the other products tested, JP Mobile's offerings held their own in most scoring categories and matched RIM in performance. The chief reason for JP Mobile's last-place finish was its pricing score, which suffered a blow when the vendor had to include SureWave Mobile Defense to meet our test requirements.

JP Mobile SureWave Mobile Office and SureWave Mobile Defense 5.0. (888) 665-2460, (972) 484-5432. www.jpmobile.com **NWC**

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