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Planning Mobility Solutions for Maximum Business Benefit: Expert Guidance and Solutions from Compaq

Abstract: Recent advances in wireless technologies have created exciting opportunities for improving employee productivity, increasing customer satisfaction, reducing transaction turn times, and enhancing the value of information by acting on it sooner. Yet, these same changes have complicated the task of selecting and deploying the most appropriate technologies for an individual company's business goals.

For example, consider the new software options recently or soon to be released:

- Microsoft Mobile Information Server 2002, introduced in January 2002
- Infowave 4.4, to be introduced in May 2002
- BlackBerry 2.1, introduced in June 2001 with another release expected in Q3 2002
- Extended Systems 3.0, introduced in April 2002

New, higher-speed radio data networks include Global System for Mobile Communications (GSM) and General Packet Radio Service (GPRS) in North America. Many enterprises now want to traverse two or more wireless protocols during a single session—for example, transitioning from an 802.11b network in the office to a GPRS network outside the building.

Evaluating the merits of an expanding number of wireless technologies can challenge even the largest enterprises. To deploy mobile solutions faster, with better business results, and with lower risk, many global companies seek the services of an expert advisor. Compaq Global Services is well qualified to help companies navigate the rapidly-changing mobile technology landscape. Its expertise includes:

- Multiple networks, such as Mobitex, Cellular Digital Packet Data (CDPD), Code Division Multiple Access (CDMA), 1 times Radio Telephone Technology (1xRTT), GSM, GPRS, other existing systems, and the emerging Universal Mobile Telecommunications Systems (UMTS)
- Radio devices
- High availability
- Integration of the software, radio network components, devices, and enterprise applications within a mobility solution

This paper begins with a brief overview of chief business factors that companies should consider when planning a mobility solution. It presents Compaq mobility solution components, and concludes with a description of ways that Compaq can help customers obtain maximum value from mobility solutions.

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Planning Mobility Solutions for Maximum Business Benefit

White paper prepared by Compaq Global Services

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Identifying Opportunities for Wireless in the Enterprise

Enterprise mobility is not a “one-size-fits-all” technology. To obtain maximum benefit from wireless technologies, a company’s first task is to crystallize its business objectives and understand how wireless technologies support them. The technology decision depends on a variety of factors, including:

- Activities the user conducts. In fact, the most successful mobility solutions are designed for a single group or department—not the company as a whole—and are crafted within the company’s mobility architecture.
- Type of data transferred.
- Skill level of user.
- Preferred mobile device: handset, handheld PDA, or portable computer.

Often, the first decision a company must make is whether it needs a wireless messaging or wireless computing solution. The following table highlights the differences.

| | <i>Wireless messaging</i> | <i>Wireless computing</i> |
|-------------------|---|---|
| Typical users | <ul style="list-style-type: none"> ▪ Executives ▪ Managers/Supervisors ▪ Mobile agents such as couriers | <ul style="list-style-type: none"> ▪ Executives ▪ Mobile sales/support staff who seldom or never dock (“road warriors”) ▪ Knowledge workers |
| User requirements | <ul style="list-style-type: none"> ▪ Exchange e-mail text messages; low volume ▪ Have access to clear instructions ▪ “Always on,” push solution ▪ Simple Web browsing | <ul style="list-style-type: none"> ▪ View rich content (Web, Microsoft Office documents, multimedia) ▪ Generate deliverables/work products for customers ▪ Access ERP or custom applications ▪ Use a familiar e-mail and Web interface, such as Microsoft Outlook and Microsoft Internet Explorer |
| Device type | <ul style="list-style-type: none"> ▪ Lightweight handheld or belt-worn devices, including Compaq iPAQ W1000, iPAQ H1100 , WAP-capable cell phones | <ul style="list-style-type: none"> ▪ Personal Digital Assistants (PDAs) ▪ Handheld computers such as the Compaq iPAQ PocketPC (3700 or 3800) ▪ Portable computers |

Compaq Global Services offers leading expertise in designing and implementing mobility solutions for both wireless messaging and wireless computing. Customer successes include:

- British Air differentiates its service at JFK International Airport by giving passengers wireless access to data, communications, transactions, and Internet-based activities.
- TD Waterhouse, a global online investment, banking, and retirement planning financial firm, increased web traffic and number of trades made by top investors by providing mobile capability to its customers.
- Allscripts Healthcare Solutions uses wireless solutions to enable its physician customers to see more patients, capture charges more effectively, reduce prescription errors, and boost medical group revenue. At the same time, the wireless solution holds down costs for patients and improves documentation and delivery of healthcare.

Compaq Mobility Solutions Components

The term “wireless” commonly refers to cellular radio networks. Most companies today need more than cellular wireless. Rather, they need to enable mobile interactions, whether the underlying technology is a cellular network or an 802.11b or 802.11a “Wi-Fi” network. Increasingly, companies will want to traverse two types of networks during a single session. Therefore, Compaq refers to radio network-enabled solutions as “mobility solutions.”

Compaq offers complete mobility solutions, comprising handheld devices; Compaq ProLiant™ servers; software for secure, enterprise-quality messaging and computing applications; and a wide range of professional services applying to architecture, component delivery, management, and custom solution development in a managed setting. An important consideration for global companies is that Compaq Global Services can provide the services to integrate multiple third-party components within the mobility infrastructure. In fact, Compaq Global Services is the only Worldwide Prime Integrator for the Microsoft Windows 2000, Windows NT, Exchange 2000, and BizTalk Server 2000 products. The Prime Integrator designation indicates that Compaq Global Services offers comprehensive program management, including a wide range of expertise, experience, project delivery and support methodology to help design and implement Windows technology-based enterprise solutions.

Key product components in Compaq mobility solutions include the following.

iPAQ™ BlackBerry™ Handhelds

The Compaq iPAQ BlackBerry handheld, from strategic business partner Research in Motion Ltd. (RIM®), is a text-only messaging system that provides secure, optimized, “always on, always connected” access to Microsoft Exchange 5.5 and Microsoft Exchange 2000 mail and calendar. Optional WAP browsers enable business users to access WAP web sites.

Compaq offers iPAQ BlackBerry handheld devices as part of an integrated package that also includes desktop tools, a Compaq ProLiant™ ML330 server for small and medium businesses or Compaq ProLiant™ DL360 server for larger enterprises, BlackBerry Enterprise Server (BES) software for Microsoft Exchange, and unlimited airtime. Companies that need to view e-mail attachments from iPAQ BlackBerry handhelds can do so with solutions from Compaq independent software vendor (ISV) partners.

Key features of the Compaq iPAQ BlackBerry handheld devices include:

- Triple DES Certicom encryption for security
- Certification for FIPS 140-1, a U.S. government standard for implementations of cryptographic modules
- Notes, Tasks, and Contacts applets that synchronize via a cradle tethered to the desktop.
- WAP browsing via the GoAmerica applet
- Flat-rate, unlimited use airtime
- Second network roaming available in Canada

Currently, the Compaq iPAQ BlackBerry wireless email solutions for Microsoft Exchange can support approximately 500 users. For larger populations, the enterprise can install additional servers.

Microsoft Mobile Information Server

Microsoft Mobile Information Server (MMIS), installed on industry standard Compaq ProLiant™ DL380 G2 servers, enables end users to access the corporate intranet and Microsoft Exchange e-mail server via mobile devices such as the Compaq iPAQ PocketPC. Key features include:

- Ability to synchronize Microsoft Exchange 2000 e-mail, Contacts, and Calendar items with Compaq iPAQ PocketPC 2002 handhelds over a variety of wireless TCP/IP connections
- Secure, encrypted client/server communication.
- WAP browsing of the Exchange 2000 and V5.5 Inbox
- “Push” notification of e-mail to Short Message Service (SMS) devices
- Ability to view Microsoft Excel and Microsoft Word attachments with no additional software; ability to view other attachments with QuickView Plus, bundled with Compaq iPAQ PocketPC 2002 handhelds
- Ability to support the largest of organizations through load balancing and symmetric multiprocessing (SMP) scaling

The MMIS secure push and synchronization functionality requires the presence of Exchange 2000.

For companies that want to provide access to other business applications, Compaq Global Services can provide custom solution development using Microsoft Mobile Internet Toolkit (MMIT), BizTalk, and eXtensible Markup Language (XML) extensions.

The Compaq Microsoft Mobile Information Server 2002 Enterprise Edition Solution can support approximately 1,000 users or more on a single server. For larger populations, the enterprise can install additional servers.

Infowave Wireless Business Engine (WBE)

Infowave Wireless Business Software, installed on two Compaq ProLiant™ ML350 servers, replicates the desktop experience on mobile devices. It provides secure, real-time access and synchronization with Microsoft Exchange 5.5 and Exchange 2000, Internet and intranet applications, and most TCP/IP-based client/server applications from laptops, multiple handhelds, and Web phones.

Using Infowave WBE, business users can:

- Synchronize e-mail items and manage Calendar items with Windows-based portables and Compaq iPAQ PocketPC 2000 handhelds. This interaction occurs over a variety of wireless TCP/IP connections with Microsoft Exchange.

- Sustain secure, compressed, and “pause tolerant” client/server connections.
- Browse the Microsoft Exchange inbox via WAP.
- Browse intranet and Internet Web sites via the included Web Connector.
- Access client/server applications via the included Open Application Connector.

Extended Systems XTNDConnect Server

Extended Systems XTNDConnect Server allows mobile access to synchronized e-mail, calendar, contacts, tasks, and custom database information. It supports access to Microsoft Exchange 5.5 and Exchange 2000. Database synchronization can be established with any Open Database Connectivity (ODBC)-compliant database or Microsoft Exchange Server Public folder. This allows users to synchronize custom application data with a wide variety of PDAs. For secure data transfer, XTNDConnect Server uses Elliptic Curve Cryptography from Certicom.

Using XTNDConnect Server, business users can:

- Synchronize Inbox, Outbox, Calendar, Contacts, and Tasks with Compaq PocketPC handhelds and EPOC devices over a variety of wireless TCP/IP connections.
- Synchronize ODBC databases and Microsoft Exchange Public Folders.
- Secure encrypted client/server communication.

In addition, IT can collect information about mobile devices, and deliver configuration changes or software updates over a wireless link.

The current XTNDConnect Server architecture supports 250 users per server; the next release is expected to support 800-plus users. Additional servers can be introduced to accommodate larger populations.

Shipcom CATAMARAN™ Multiple Application Connectivity Wireless Software

Companies that have invested heavily in enterprise systems want to make them accessible to mobile users, for further gains in business performance. To wirelessly-enable its customers' enterprise applications, Compaq will use the Shipcom CATAMARAN Multiple Application Connectivity software as the core infrastructure for its Wireless Enterprise Framework. With this technology, Compaq can quickly add wireless extensions to enterprise applications such as Siebel, SAP, and Oracle. Companies that stand to gain the most from Compaq's use of the Shipcom solution are Global 2000 organizations that require reliable, scalable, standards-based, and cost-effective hardware/software wireless solutions. Shipcom, with the industry's first Mobile Business Rules Builder (patent pending), is capable of delivering wireless projects within days and without programming. Therefore, with Shipcom as part of its Wireless Enterprise Framework, Compaq can implement enterprise solutions in 3 to 4 weeks compared to the 16 to 20 weeks usually required.

Resources for Getting Started

Compaq is committed to helping customers fully understand their business requirements and how to solve them with mobility solutions. To this end, Compaq offers the following programs and resources.

Introductory services

- *Art of The Possible Visioning Workshop*—A one-day workshop, the Art of The Possible (AOTP) Mobility Strategy Service is intended for enterprise decision-makers who already

have a good grasp of their business objectives for a mobility solution and now want to determine the best wireless initiatives for their enterprise. After this workshop, participants generally either continue to the Mobility Architecture Service, which is a Compaq Solution Architecture Methodology (CSAM) workshop, or begin a focused pilot.

For more information: http://www.compaq.com/services/mobility/mw_art.html

- *iVelocity Workshop for Wireless*—Customers just beginning to explore applications of mobility solutions for the enterprise can benefit from the iVelocity Workshop for Wireless. This workshop is recommended for customers who want to become more confident in their understanding of the value of wireless operations and Compaq's role as an advisor and solution provider.

Services for Mobility Solutions

Compaq Global Services offers the following professional services for planning, deploying, and supporting mobility solutions:

- *Architecture Services*—The Compaq Solution Architecture Methodology has been proven in over 12 years of successful engagements. It focuses on four views of the solution: business, function, technology, and implementation.
- *Lifecycle Services*—Lifecycle services include assessment, pilot, planning, design, implementation, support, and management.
- *Integration and Development Services*—Compaq solution architects and consultants analyze a customer's line-of-business and enterprise application requirements, and then provide custom development and integration of mobility solutions.
- *Component Services*—The enterprise can contract with Compaq Global Services for installation and startup, software support, and license maintenance.

For more information: <http://www.compaq.com/services/mobility/>

Compaq Global Service CarePAQs

CarePAQs are fixed-price, well-defined, bounded service activities available in North America. Compaq Global Services presently offers the following CarePAQs for wireless solutions:

- Installation and Configuration of BlackBerry Enterprise Server for Exchange
- Installation and Configuration of Infowave WBE and Suite for Exchange
- Installation and Configuration of Microsoft Mobile Information Server (release expected in May 2002)

Managed Mobility Services

Compaq Managed Services, in conjunction with Systems Integration and Customer Support, offers Managed Mobility Services for leading corporate applications, e-mail such as Microsoft Exchange, and wireless software solutions. Also available is a Managed Mobility e-Mail Pilot Service. Each engagement is custom and intended to provide the customer with a specific set of features and level of service for a monthly, per-user fee.

For more information: http://www.compaq.com/solutions/messaging/microsoftmis_mobility.html

Product and Service Bundles

Compaq recently introduced several Mobility Solution bundles for wireless messaging with Microsoft Exchange. These bundles include servers, software, access devices, and CarePAQ services:

- BlackBerry Mobility E-mail Solutions for Microsoft Exchange
<http://www.compaq.com/solutions/showroom/blackberry.html>
- Infowave Mobility Solutions for Microsoft Exchange
<http://www.compaq.com/solutions/showroom/infowave.html>
- Compaq MMIS 2002 EE Packaged Solution for Microsoft Exchange
http://www.compaq.com/solutions/showroom/microsoftmis_EEsolution.html
- Microsoft Mobile Information Server 2002 Enterprise Edition, planned for release in May 2002
<http://www.compaq.com/microsoftMIS>

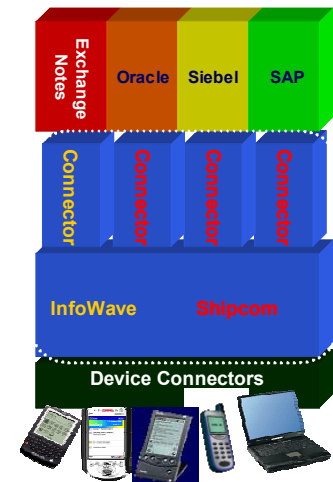
After purchasing a bundle, the customer need only add a radio device and airtime to mobilize its Microsoft Exchange users. For customers in North America, Compaq can also augment the bundle with a radio card and CDPD airtime. A data transmission technology developed for use on cellular phone frequencies, CDPD takes advantage of unused cellular channels in the 800- to 900-MHz range to transmit data.

Wireless Enterprise Framework

The Wireless Enterprise Framework helps enterprises rapidly develop a pilot for mobilizing ERP users, using the Shipcom Wireless Application solution and the Infowave Wireless Business Engine. The Infowave component contributes enterprise features such as security, performance, and connection persistence. It also makes Microsoft Exchange mailboxes accessible to mobile users.

For more information :

http://www.compaq.com/solutions/showroom/wire_ent.html



Conclusion: Taking the First Step

Mobility technologies are changing rapidly, and most enterprises could use expert guidance in determining where and how to deploy wireless solutions in the enterprise. A good first step is to take advantage of Compaq's Art of the Possible workshop or iVelocity workshop. Enterprises that already know how to take advantage of wireless technologies to meet their business goals can find all the components they need from a single, trusted source: Compaq.

For more information about Compaq Mobility Solutions, visit www.compaq.com/mobility