

BlackBerry 101:

An Introduction to the BlackBerry Wireless Solution



BlackBerry 101

Agenda

- **What is the BlackBerry Enterprise Solution?**
- **Tracing a Message**
- **Security, Security, Security**
- **Enabling the User**
- **Extensibility: Beyond Email**
- **Tips to Ease Corporate Adoption**
- **Questions?**

What is the BlackBerry Enterprise Solution?

Global Wireless Solution

- A Global Wireless Enterprise Solution
 - Provides an 'Always on', secure solution for wirelessly extending corporate data and applications to mobile users including:
 - Email, personal information management, sales force automation, field service, document management and more
 - What the solution is all about:
 - Extending the *Enterprise Securely* into *Mobility*
 - Keeping People Connected to *High Value Information*
 - Increasing Both *Personal* and *Corporate Efficiency*
 - Making the Wireless Experience *Transparent* to the User
 - *Putting TIME back in PEOPLE'S DAY*

What is the BlackBerry Enterprise Solution?

One BlackBerry Platform...

SUPPORTED ENTERPRISE APPLICATIONS/ ENVIRONMENTS (ERP, CRM, SCM, NSM) INCLUDE*:

- Amdocs Clarify
 - Oracle®
 - SAP®
 - AS/400®
 - PeopleSoft®
 - Siebel®
 - Domino®
 - Remedy®
 - UNIX®
 - Linux®
 - salesforce.com®
 - Windows®
 - NetWare®
- *Third-party support may be required

SUPPORTED ENTERPRISE DEVELOPMENT FRAMEWORKS:

- BEA®
- Java™ 2 Enterprise Edition (J2EE™)
- Microsoft .NET
- WebSphere®

SUPPORTED PROGRAMMING LANGUAGES INCLUDE:

- HTML
- WML
- HTTP
- XML
- JavaScript™

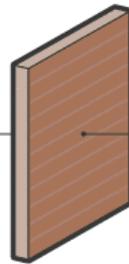


Application Servers and Database

Messaging Servers



BlackBerry Enterprise Server™



Firewall



Internet



Wireless Networks

BLACKBERRY CONNECT AND BLACKBERRY BUILT-IN TECHNOLOGY

SUPPORTED BY:

- | | | |
|------------------------|-------------------|-----------------------------|
| • Device Manufacturers | • Samsung® | Operating Systems |
| • HTC | • Siemens® | • Microsoft Windows Mobile™ |
| • Motorola® | • Sony® Ericsson® | • Palm OS® |
| • Nokia® | | • Symbian OS™ |



BlackBerry Connect™ and BlackBerry Built-In™ Devices



BlackBerry® Devices

SUPPORTED ENTERPRISE MESSAGING SERVERS:

- IBM® Lotus® Domino®
- Oracle®*
- Microsoft® Exchange
- SUN™**
- Novel® GroupWise®

*Support available through third-party applications

SUPPORT SERVICES AND PROGRAMS INCLUDE:

- Corporate Developer Support
- ISV Alliance Program/Solution Provider Program
- Professional Services
- Technical Knowledge Center
- Technical Support

BLACKBERRY DEVICES - AVAILABLE NETWORKS INCLUDE:

- CDMA2000™ 1X
- iDEN® (Nextel/Mike)
- DataTAC®
- Mobitex®
- GSM™/GPRS
- WLAN

BlackBerry Solution Overview

Keys to Wireless Handhelds

- Small and lightweight! (less than 5 oz.)
- Broad coverage
- Long battery life
- Low cost of ownership
- Integrated Wireless Technology
- “Always On, Always Connected®”
- ‘Push’ Technology
- Low latency
- Common standard open development platform (J2ME™)
- Secure, secure, secure!



What is the BlackBerry Enterprise Solution?

Devices for Every Network

- DataTAC and Mobitex
 - Dedicated Packet Data Networks
- GSM/GPRS
 - Travel in North America, Europe and Asia Pacific
- iDEN
 - Nextel Direct Connect® support
- CDMA2000 1X
 - Large North American footprint

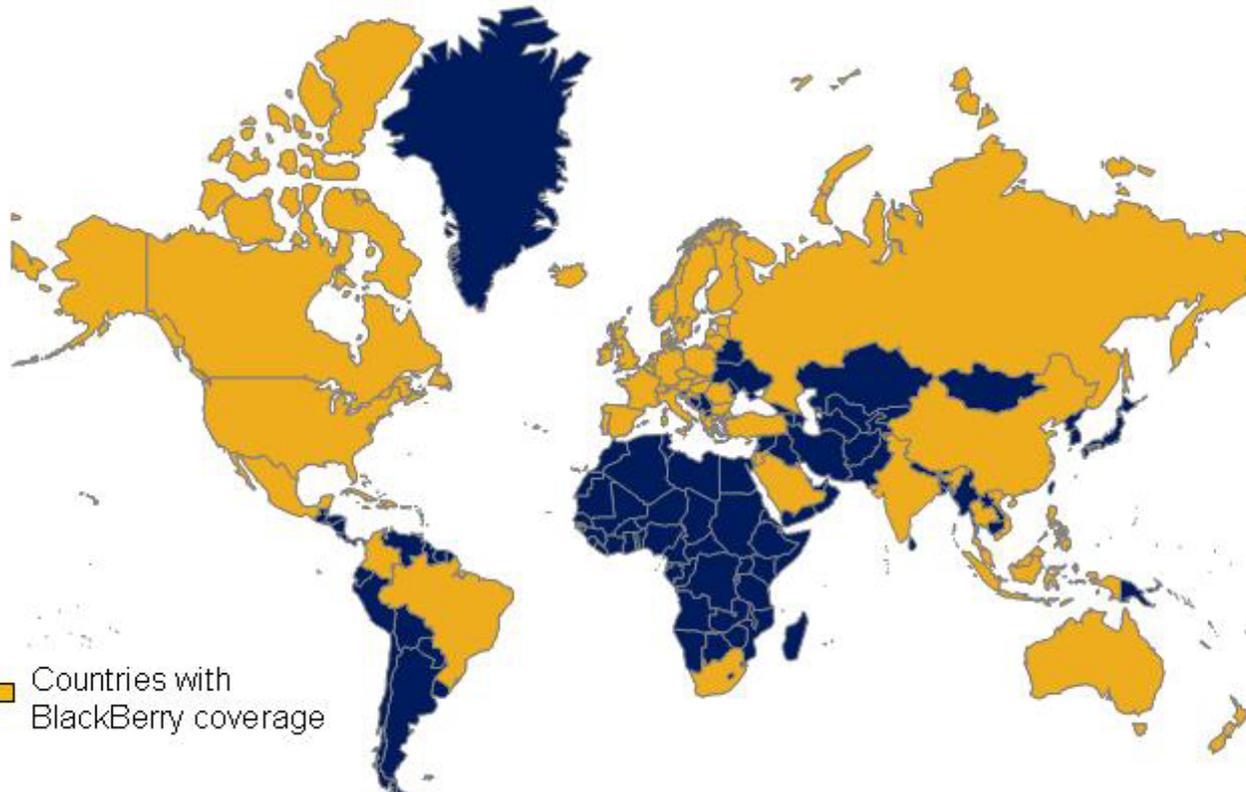


What is the BlackBerry Enterprise Solution?

BlackBerry Global Footprint

BlackBerry coverage on ~ 70 networks in over 30 countries

Americas



Europe



Asia



What is the BlackBerry Enterprise Solution?

BlackBerry Licensing Programs

- BlackBerry Connect™



- Makes use of native applications on Symbian, Palm and Windows Mobile platforms
- Provides protocol level access to the BlackBerry Infrastructure

- BlackBerry Built-In™



- Full-featured BlackBerry application suite
- Java™ virtual machine delivers native BlackBerry applications for complete BlackBerry experience

Operating Systems



Manufacturers



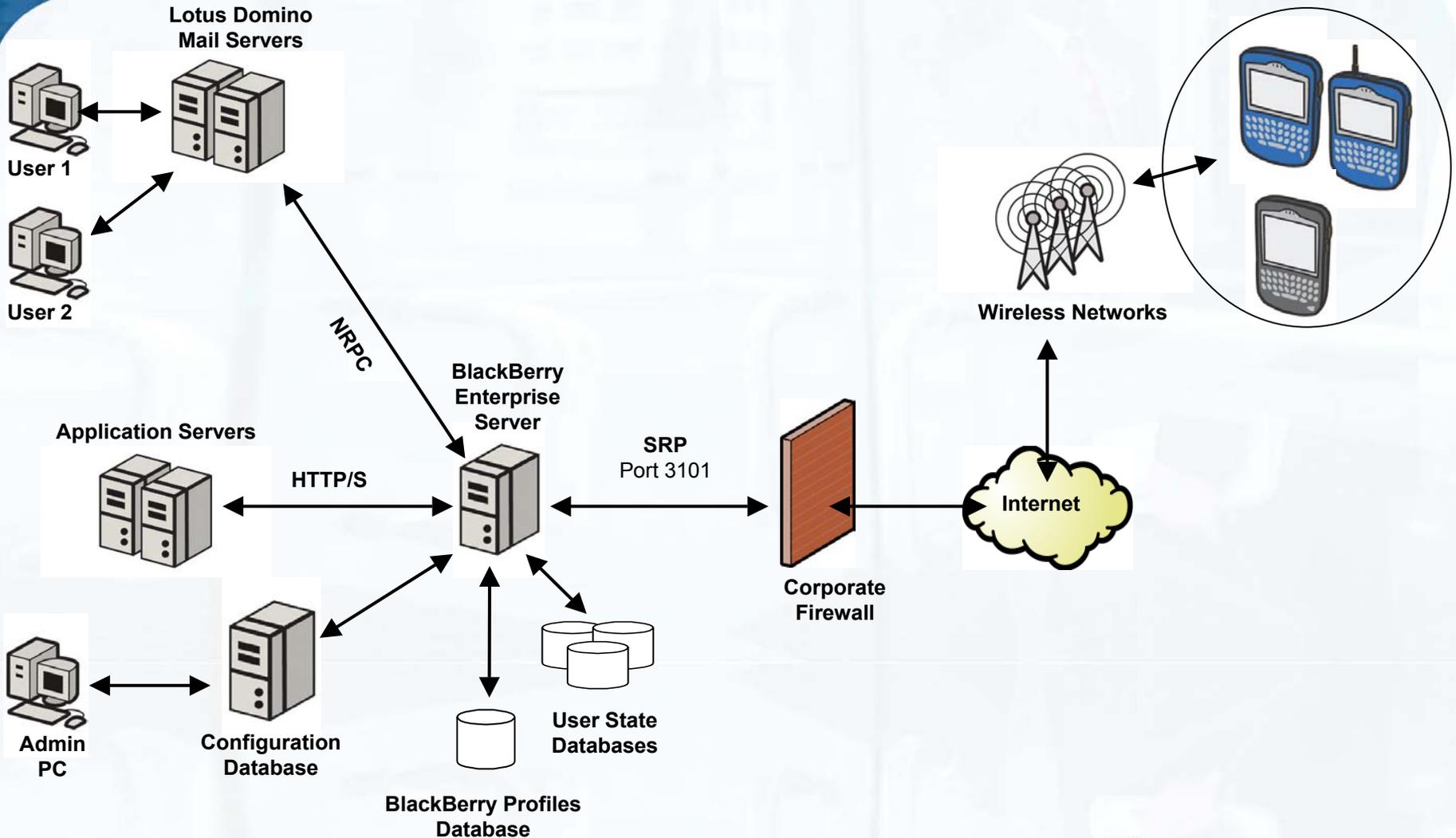
What is the BlackBerry Enterprise Solution?

Architecture - Components

- **BlackBerry Enterprise Server™ runs as an Add-in Task**
- **Domino Databases**
 - **BlackBerry Profiles Database**
 - Contains BlackBerry user configuration information
 - **BlackBerry User State Databases**
 - A State database is created for each BlackBerry enabled user.
 - Stores information about messages, calendar entries or PIM information that is sent or received by the BlackBerry handheld.
 - Each entry links the message in the mail file and the message on the handheld by storing the message's reference ID.
 - Contains outbound queue information
- **Configuration Database**
 - MSDE2000 or SQL2000 relational database
 - Details about the connection to the wireless network
 - BlackBerry user list
 - PIN to email mapping for Mobile Data Service push functionality
 - A read-only copy of each user security key

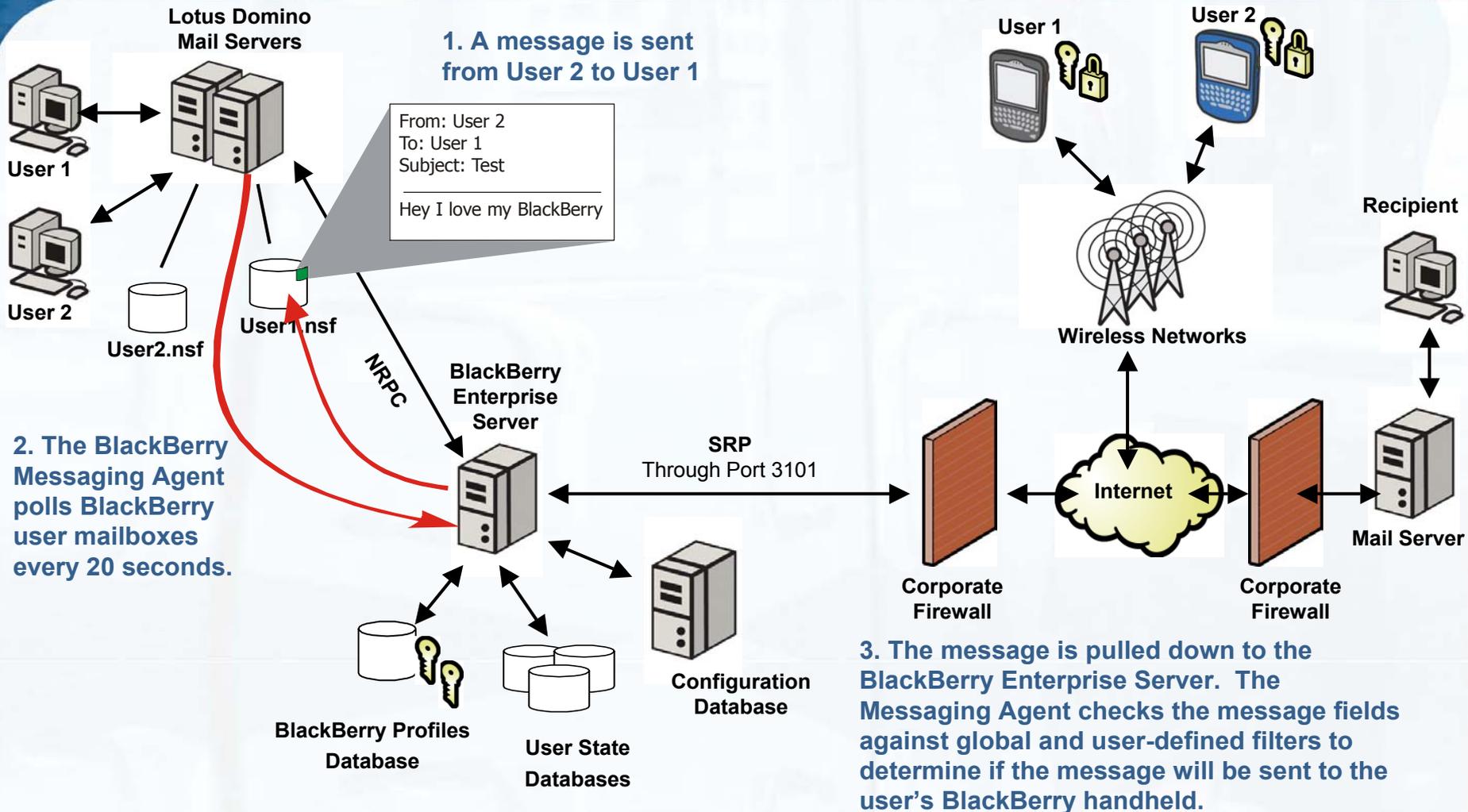
What is the BlackBerry Enterprise Solution?

Architecture



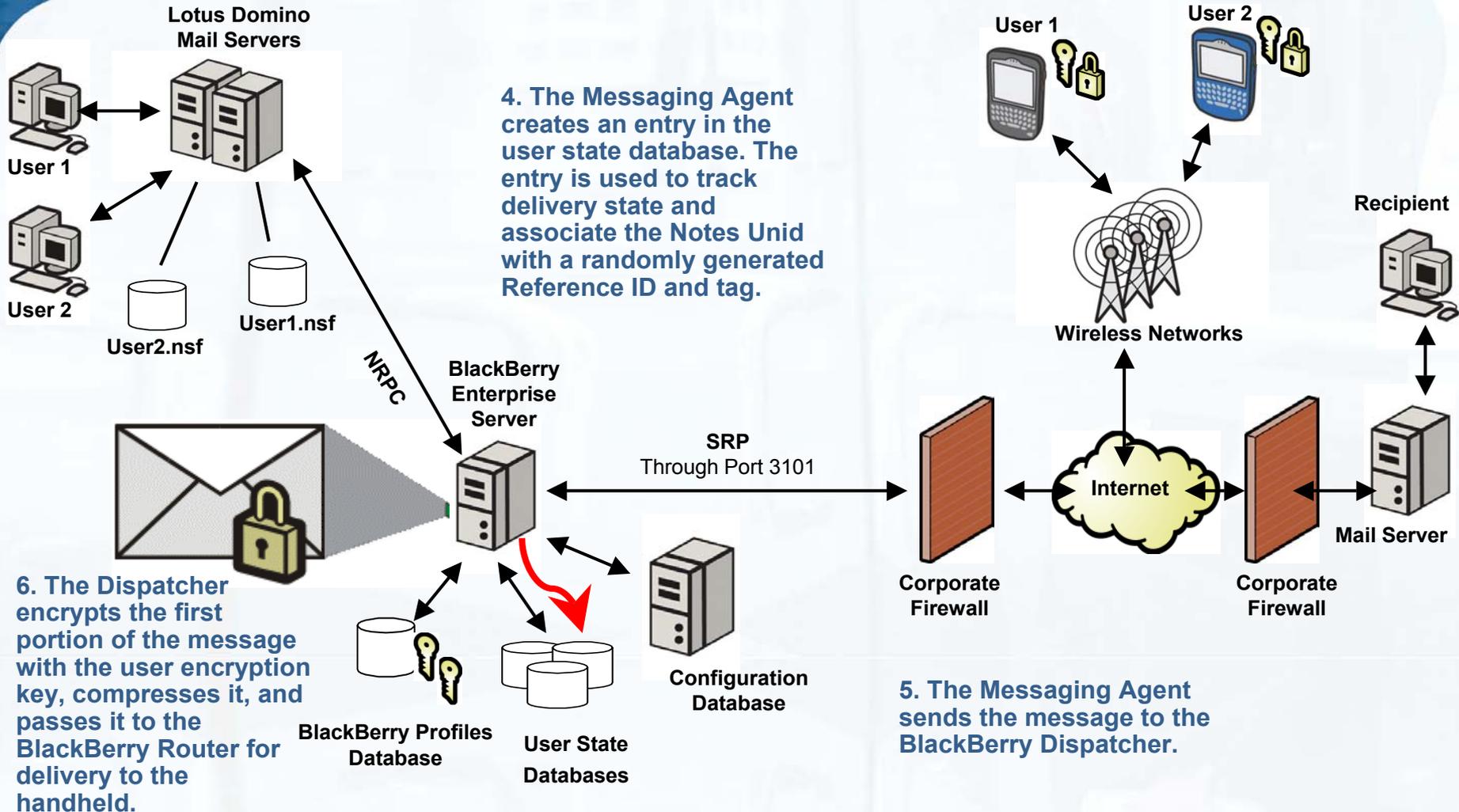
Tracing a Message

Domino to BlackBerry



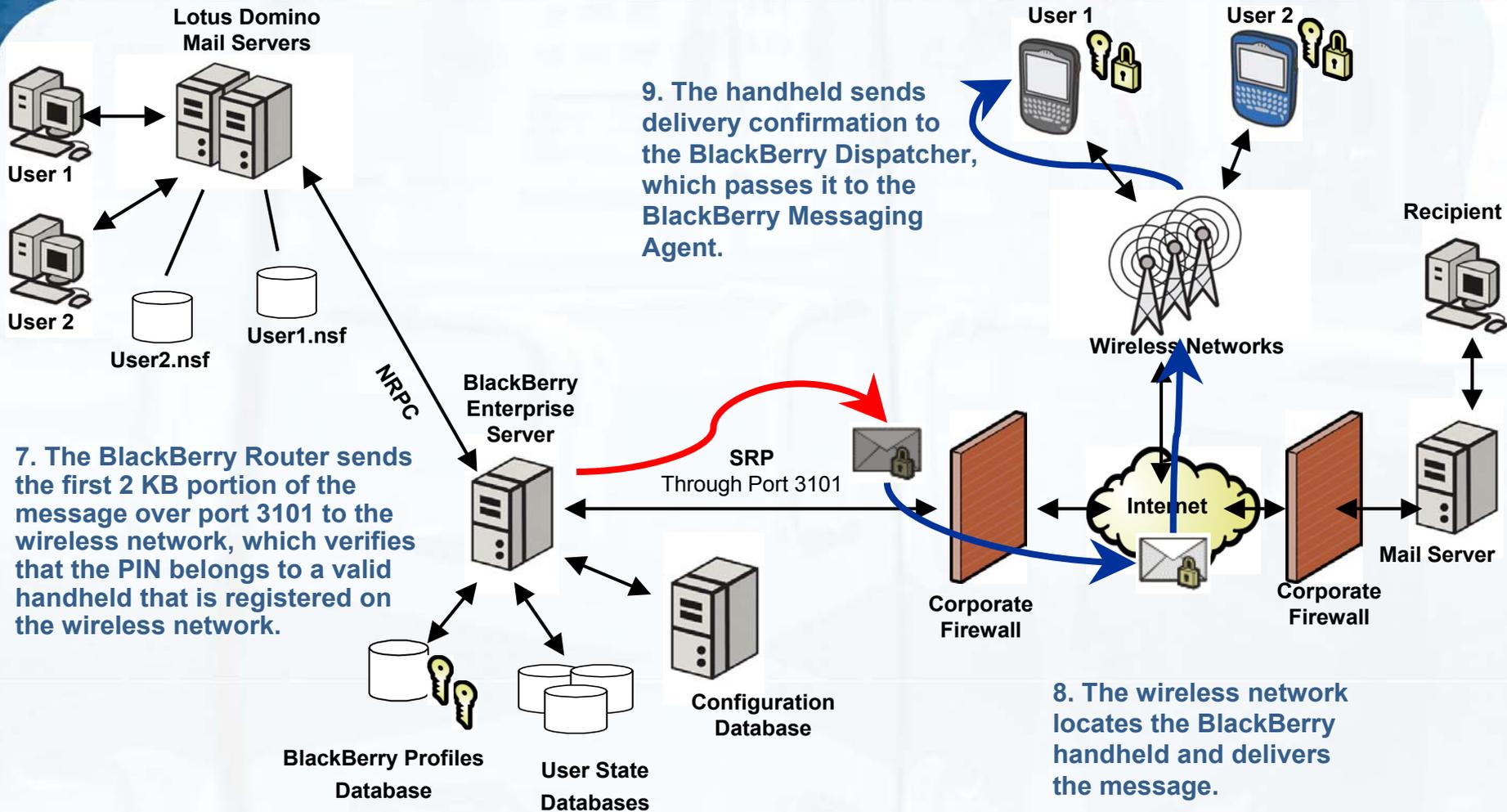
Tracing a Message

Domino to BlackBerry



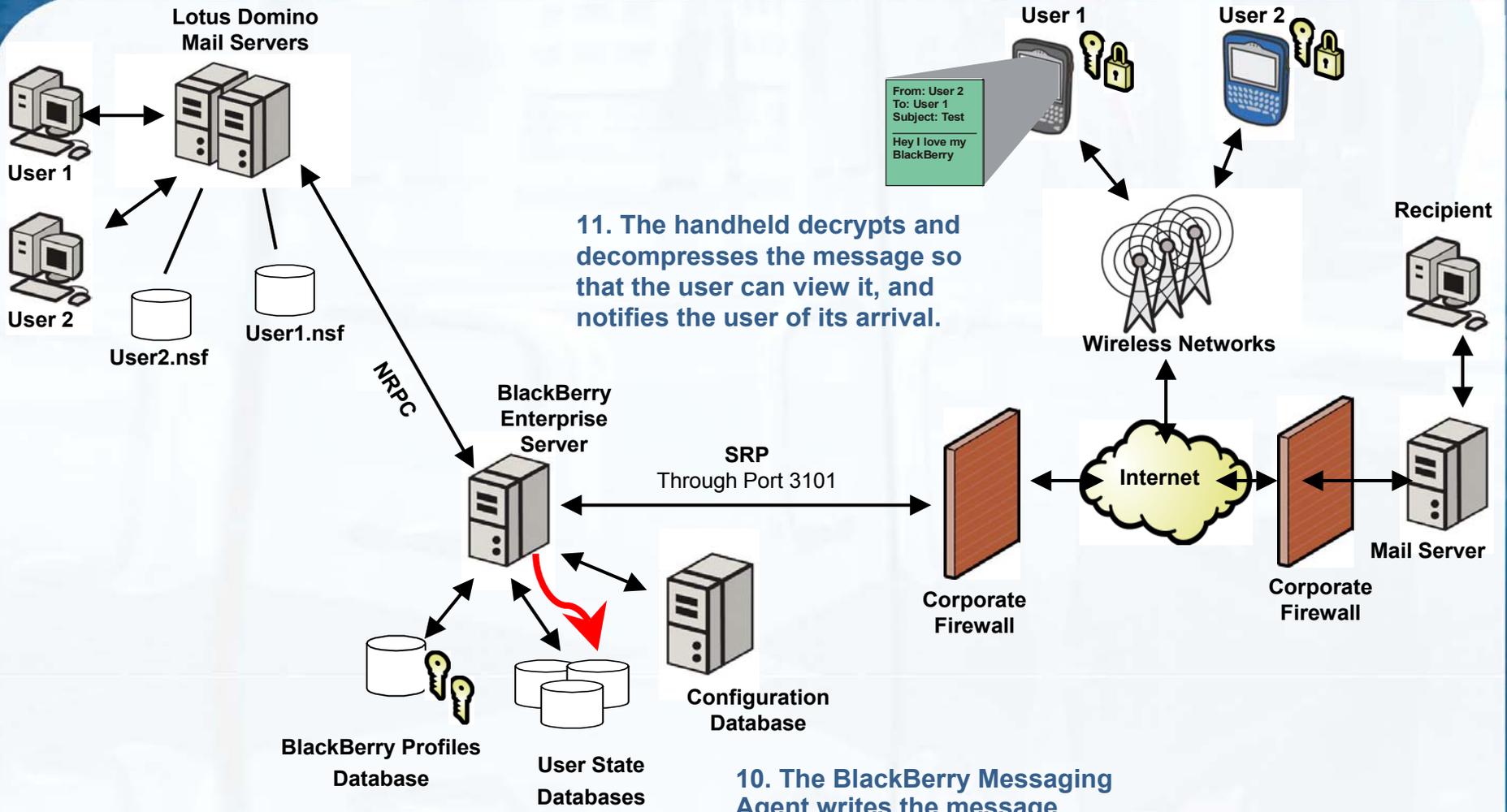
Tracing a Message

Domino to BlackBerry



Tracing a Message

Domino to BlackBerry

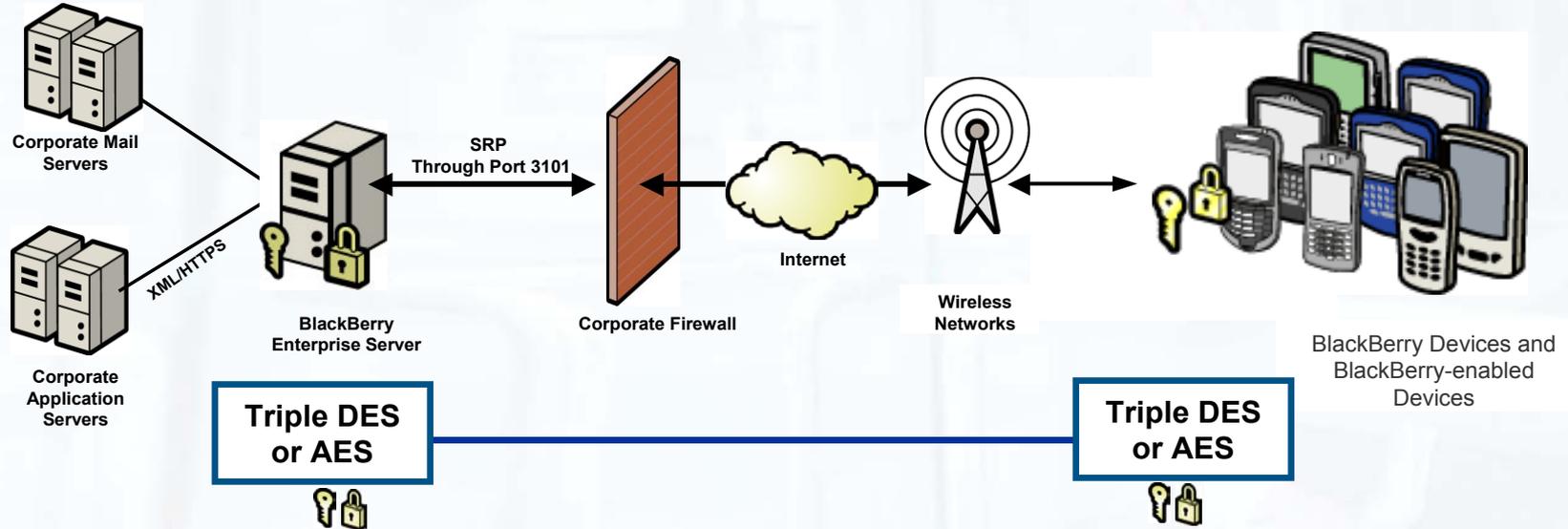


11. The handheld decrypts and decompresses the message so that the user can view it, and notifies the user of its arrival.

10. The BlackBerry Messaging Agent writes the message delivery state to the user state database.

Security, Security, Security

Security Overview



- **End-to-end security model with two transport encryption options:**
 - Triple DES (Data Encryption Standard)
 - AES (Advanced Encryption Standard)
 - Available with both BlackBerry Enterprise Server v4.0 and BlackBerry handheld software v4.0 combined together

Security, Security, Security

Security Overview

- **BlackBerry Enterprise Server Connection**
 - BlackBerry Enterprise Server requires an outbound-only initiated and authenticated connection through port 3101.
 - Data remains encrypted at all points between the BlackBerry device and the BlackBerry Enterprise Server with end-to-end Triple DES or AES encryption.
- **Handheld Security**
 - Optional handheld password security
 - Limited to 10 password attempts
 - Memory is wiped after 10 failed attempts
 - Can be required through ITPolicy
 - Local encryption of all data (messages, address book entries, calendar entries, memos and tasks)
 - Wireless IT Policies

Security, Security, Security

Industry Validated Security

- **Dedicated Internal Security Team**
 - There is a dedicated security team focused on maintaining security leadership within the BlackBerry product line
- **Industry Validated Security Model**
 - **FIPS Validated**
 - All BlackBerry handhelds as well as the BlackBerry Enterprise Server have received FIPS (Federal Information Processing) 140-2 security validation by the U.S. Government's National Institute of Standards and Technology (NIST)
 - **Independently Audited by a Third Party**
 - @stake, Inc. (www.@stake.com) performed a detailed security audit and validated all aspects of the BlackBerry Enterprise Solution security model
- **Customer Validated Security Model**
 - Large # of Government and F1000 customers have accepted and deployed the BlackBerry solution

Security, Security, Security

Generating the Encryption Key

- **Wireless Enterprise Activation:**

- **User Activation:**

- User purchases BlackBerry handheld and contacts their IT Department
 - IT adds user to the BlackBerry Enterprise Server and provides them with a password
 - User enters email address and password provided by IT
 - Security key exchange done securely over the air, and Service Books are then provisioned wirelessly

- **Wireless Key Regeneration:**

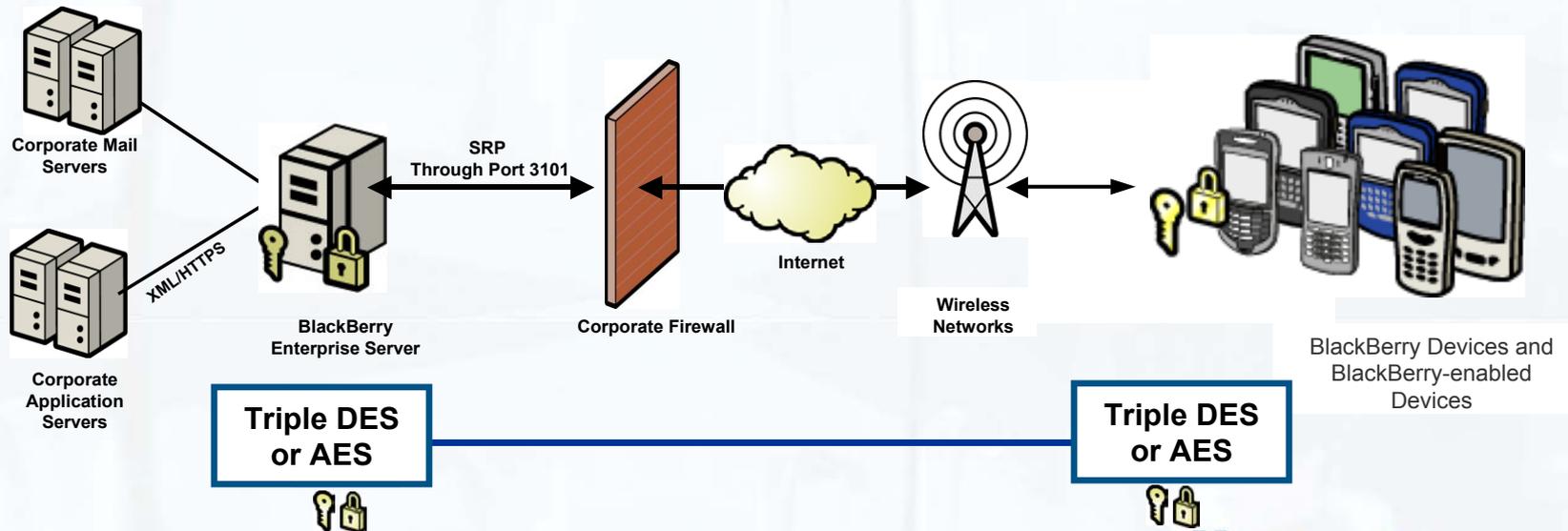
- Wireless secure symmetric encryption key regeneration from Options > Security screen. Key regeneration also occurs automatically every 30 days.



Security, Security, Security

Generating the Encryption Key

- Data sent to the BlackBerry device is encrypted by the BlackBerry Enterprise Server using the private key retrieved from the user's Domino mailbox.
- The encrypted information travels securely across the network to the device where it is decrypted with the key stored there.
- Data remains encrypted in transit and is never decrypted outside the corporate firewall



Enabling the User

Complete Two-Way Wireless Synchronization

– Wireless Email reconciliation

- Two-way wireless synchronization of message activity
- Deletes, and Folder moves
- Purge Deleted items folder from handheld to manage mailbox quotas

– Wireless PIM synchronization

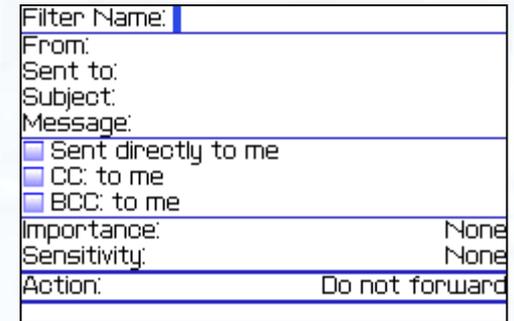
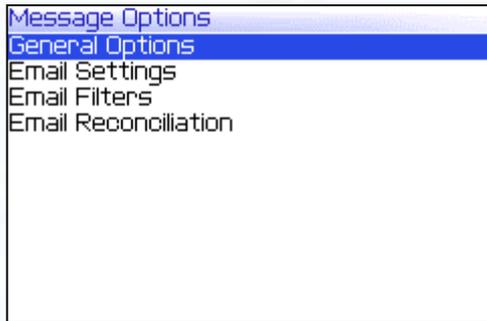
- Two-way synchronization of all PIM information
 - Address Book, Tasks, Journals (Memos)
 - Wireless Calendar Appointments and Meeting Requests

No cradling the handheld for email or PIM synchronization

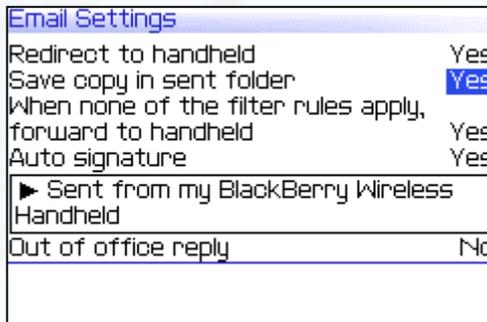
Enabling the User Wireless Email Settings

Wireless Email Settings

- Users can create, edit and modify email filters



- Users can also edit their email redirection settings, auto-signature and Out of Office reply wirelessly from the handheld!



Enabling the User

Attachment Viewing

Attachment Viewing

- Support for Word, Excel®, PowerPoint®, PDF, WordPerfect®, ASCII text, HTML and ZIP formats
- View TOC of large documents and go directly to section of interest
- Embedded graphics (within .DOC and .PDF)
 - JPG, BMP, PNG, GIF, TIFF
- Support for color in attachments
- Email addresses, URLs and phone numbers found in attachments will be hyperlinked to the appropriate BlackBerry application

A8: Revenue

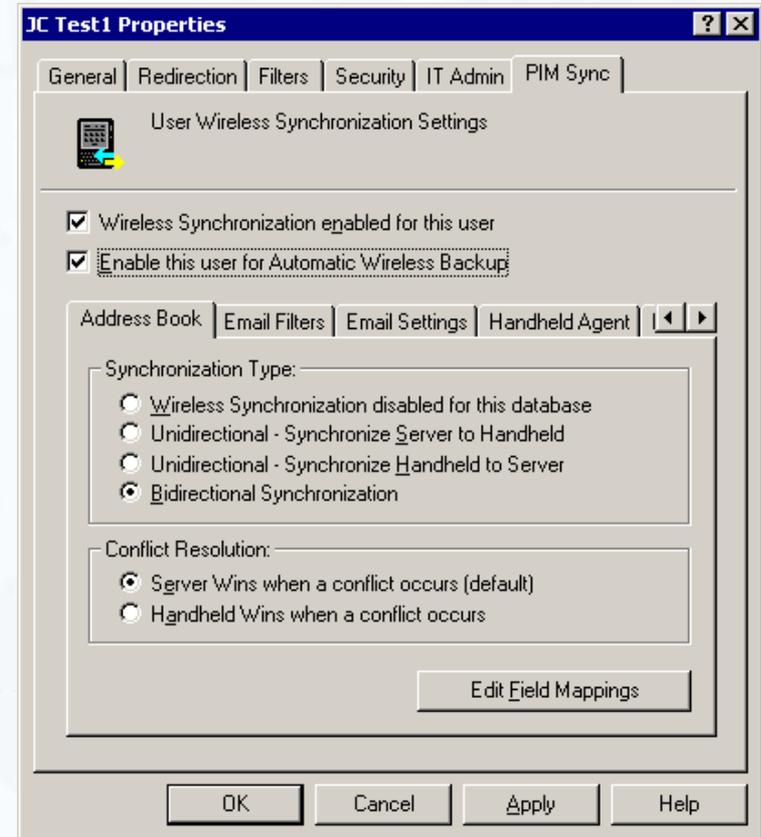
	M	B	C	U	E	
1	Acme...					
2		Jan	Feb	Mar	Q1	
3	Units					
4	Socket	1,500	2,025	2,936	6,461	
5	Caliper	1,225	1,654	2,398	5,277	
6	Valve...	950	1,283	1,860	4,093	
7	Total...	3,675	4,961	7,194	15,830	
8	Reve...					
9	\$21.5	Socket	32,250	43,538	63,129	138,917
10	\$21.5	Caliper	26,338	35,556	51,556	113,450
11	\$28.5	Valve...	27,075	36,551	52,999	116,625
12	Total...	85,663	115,645	167,684	368,396	
13						
14	Outsi...					



Enabling the User

Automatic Wireless Backup

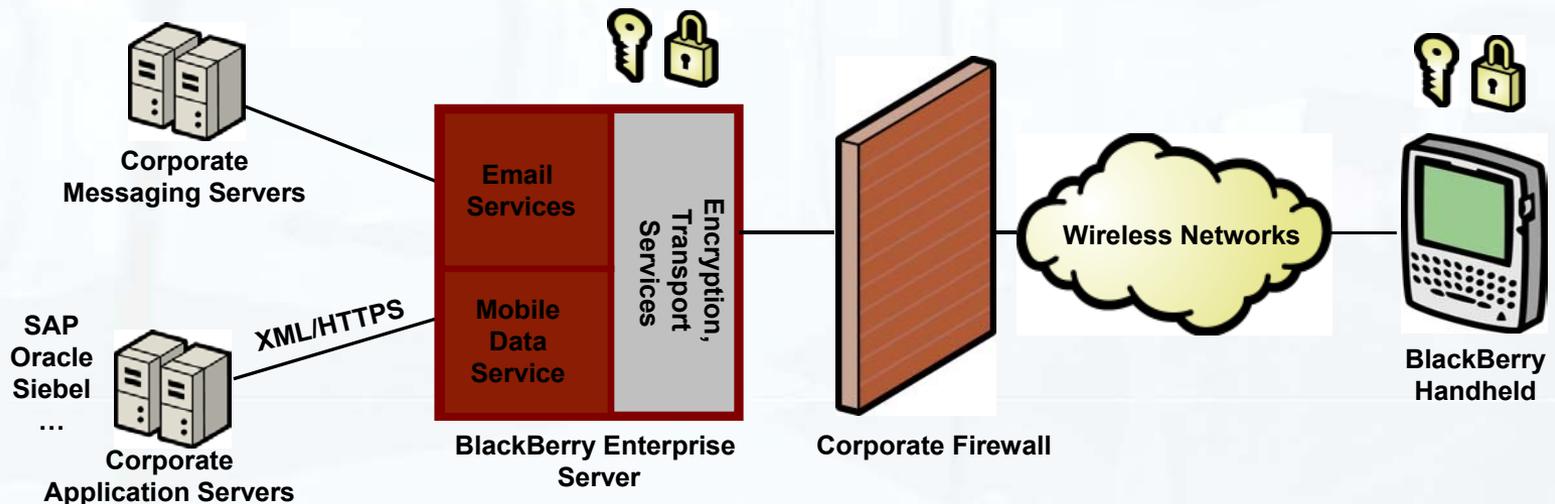
- Automatic Wireless Backup
 - Handheld settings that are not already stored on the server will be automatically backed up to the server (i.e. font settings, message options, browser bookmarks, phone call logs, etc...)
 - With Automatic Wireless Backup users settings are always backed up without having to remember to do so manually!



Extensibility: Beyond Email

Mobile Data Service

- Provides a secure pipe between the handheld and BlackBerry Enterprise Server for application data
- Support for standard protocols HTTP/HTTPS
- Optimization for standard mark-up languages (WML, cHTML, XHTML Basic and HTML)



Extensibility: Beyond Email

Mobile Data Service

- **Standard Protocol Connectivity** (HTTP, HTTPS, TCP/IP)
- **Standard Language Support** (XML, XHTML, cHTML, HTML, WML)
- **High Data Security** (3DES, AES, SSL/TLS)
- **Reliable Data Push Support**
- **Multi-Network Support** (GPRS, 1XRTT, iDEN, Mobitex, Datatac)
- **BlackBerry Browser or J2ME Client application**

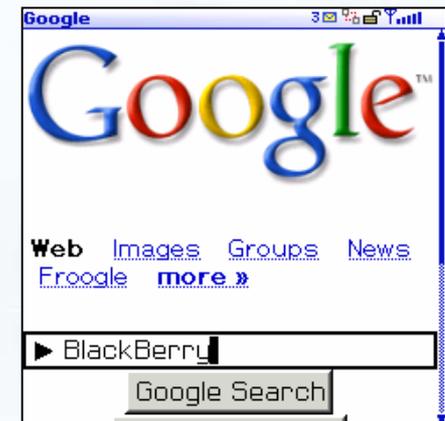


Extensibility: Beyond Email

BlackBerry Browser

- BlackBerry Browser

- WML, cHTML, xHTML, and HTML rendering
- Supports secure corporate data access through the Mobile Data Service feature of the BlackBerry Enterprise Server
- Push pages to the browser cache or Home screen
- Wirelessly configure various settings using IT Policy
- Java Script support

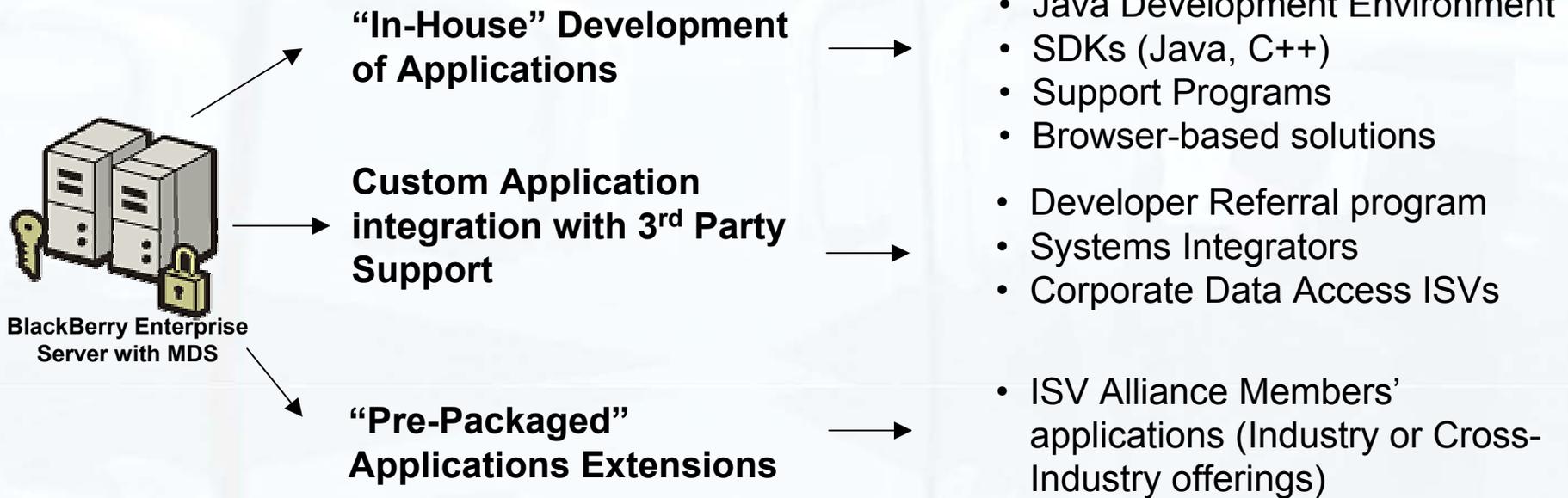


Extensibility: Beyond Email

Leveraging the BlackBerry Platform

MDS enables numerous options to deploy applications on BlackBerry by:

- abstracting the complexity of the wireless network
- laying the conduit through which data can be passed securely to/from the BlackBerry Wireless Handheld



Tips to Ease Corporate Adoption

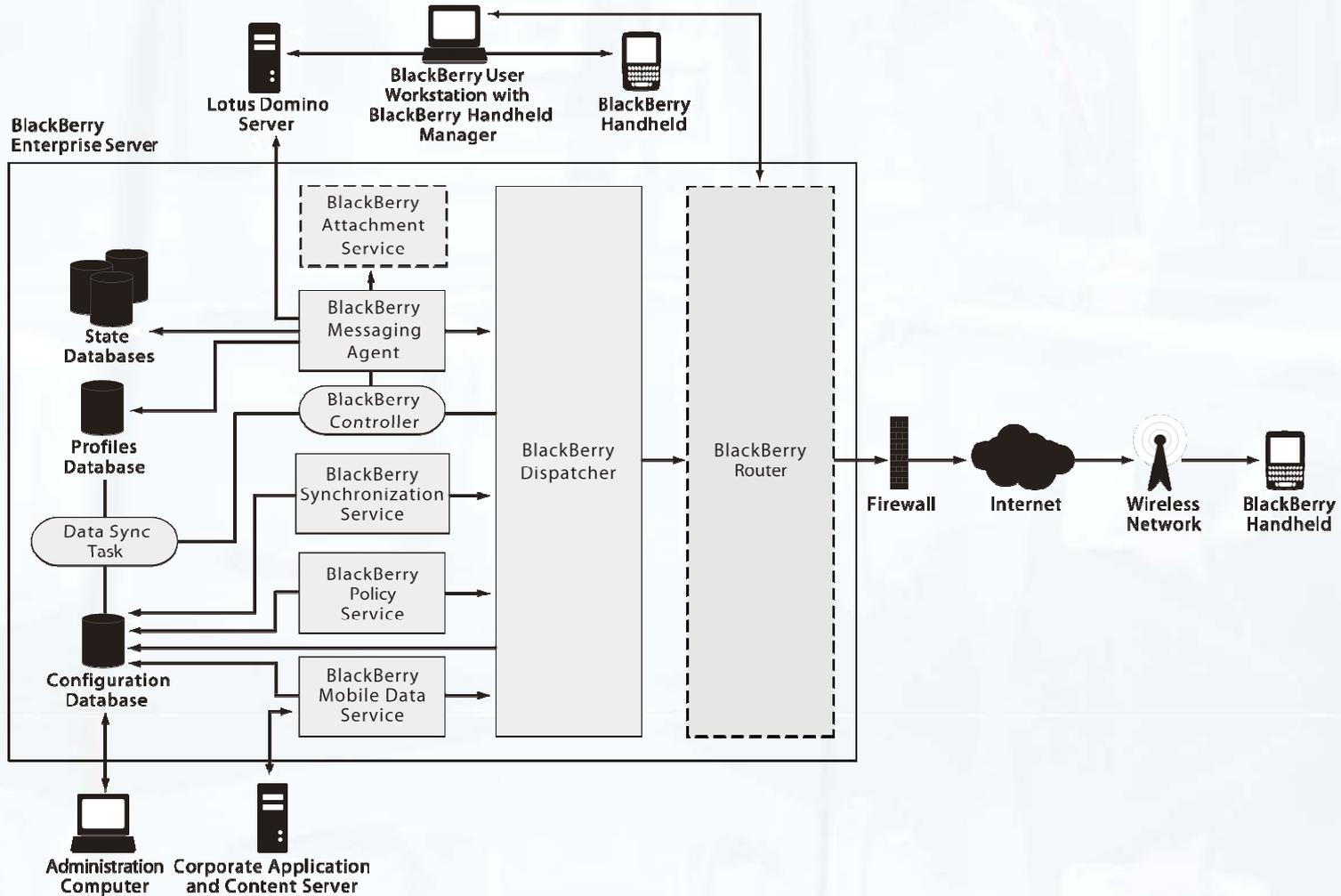
- Develop a BlackBerry Pilot Framework:
 - Get Participants from Every Area that will Affect BlackBerry: Domino Support, Network/Server Support, IT Security, Project Management, " C" - Level IT Management, Desktop Support, Help Desk, Procurement
 - Collect survey data geared towards user satisfaction and ROI potential
 - Consult with all participants to help plan Production Service Offering
- Formulate Terms and Conditions of Use
 - What are supported devices, applications, services, etc?
- Make sure you have a plan for:
 - Service Request Process, Approvals, Procurement, Charge backs, Technical Support, SLA, User Installs-Moves-Adds-Changes
 - Who Pays?... for Voice?... for Data? Do We Offer Voice and Data or Data only? Who gets the invoice?

BlackBerry 101:

An Introduction to the BlackBerry Wireless Solution

Questions?

BlackBerry 201: BlackBerry Enterprise Server Architecture



Mobilize Your Enterprise With BlackBerry Resources

BlackBerry for Lotus Domino and 3rd Party Solutions

- General Resources – BlackBerry for Lotus Domino
 - www.blackberry.com
 - www.blackberry.com/products/software/server/domino
- 3rd Party Solutions for BlackBerry
 - www.blackberry.com/ThirdParty
 - Enterprise Solutions Guide
 - Visit Lotusphere Solutions Showcase
- BlackBerry Java Development Environment and Simulators
 - www.blackberry.com/developers
 - Used for application development or testing BlackBerry Browser

BlackBerry 101

Thank You for Attending!



Research In Motion

BlackBerry for Lotus Domino Resource Kit