



Analysis and Design Assistance

Custom Application Development

Systems Integration Services

Best Practices for BlackBerry Enterprise Server (BES) In an IBM Lotus Domino Environment

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Agenda

- Who is STS?
- Who is Darren Duke?
- Overview of the BlackBerry “Solution”
- Best Practices for Installation
- Setting up IBM Lotus Sametime for BlackBerry
- Lotus Connections and Lotus Quickr for BlackBerry
- Introduction to Integrating Domino Applications for the BlackBerry
- Questions (And Hopefully Answers)



Who is STS?

- IT services company, not a hardware company
- IBM Advanced Business Partner
- BlackBerry Alliance Member
- VMware Professional Business Partner
- Based in Atlanta, GA
- Score 95%+ in annual customer satisfaction surveys
- Deep expertise in BES, Domino on iSeries, pSeries, Linux, Solaris and Windows
- <http://www.simplified-tech.com>



Who is this dude?

- From England (he tawks funnee, y'all!)
- Degree in Software Engineering
- Lost count of Lotus certifications, started Lotus Notes development with R3, over 12 years ago
- Fully BlackBerry certified, including BlackBerry Certified Enterprise Server Consultant
- BlackBerry development and administration for 4+ years
- Presenter at the 2008 BlackBerry Developer Conference in Santa Clara, CA
- <http://blog.darrenduke.net>

Overview of BlackBerry Solution

- End to end solution
 - Device
 - Service
 - Software
- Secure, robust and “just works”
- Pick your carrier
- Game changer for its users



Device (or Smartphone)

- Full J2ME compliant smartphone
- Pioneer in push email technology
- OS upgradable to add features
- Effectively a small computer with a built-in phone
- Executives love it, easy to use
- IT loves it, easy to manage
- Each device has a unique PIN

Network Operations Center (NOC)

- Huge server farms that carriers and BlackBerry devices connect to, the “router”
 - Routes data packets to the correct BES or device
 - Maps your device PIN to your BES server
 - Based on geographic location of BES
 - Most transactions are fully encrypted
 - Email is always encrypted
 - Applications maybe encrypted
- The NOC – why it’s a good thing

Levels of BES

- Windows Servers only....sorry! 64 bit OS is supported.
- BlackBerry Enterprise Server (full BES)
 - What most organizations need, 2000 user CAL limit per BES (tip, try to stick under 750 per BES if HTML and Rich Content is turned on)
 - Allows Sametime access
 - Allows MDS Runtime applications
- BlackBerry Professional
 - Aimed SMB, occasionally a good launching point
 - 30 CAL limit
 - Fewer features
- BlackBerry Internet Service (BIS)
 - You don't want BIS. POP3/IMAP only, no management

The BlackBerry Enterprise Server

- A collection of software services combine to make the BES work
 - Messaging agent is a Domino add-in task
 - SQL Server (or DB2) databases store config
 - NSF files store user information
 - BlackBerry Manager used to add, remove users, etc
- Connects to NOC via outbound initiated connection
 - Secure, like Domino
 - Encrypted connection

Best Practices – Installation -1

- BES must be on own Domino instance, not on the mail server
 - Can cause need for extra Domino license unless you are on Express Licensing
 - Can be installed on
- Supports VMware ESX
- BES supports back to Domino 5.0.12 and up to 8.0.1

Best Practices – Installation -2

- If possible use a full SQL Server, not MSDE
 - More difficult setup but worth the hassle
 - Provides simpler backup and fail over scenarios
 - MSDE only supported for up to 500 users
- Plan for growth of the BES, it is viral
 - Yes, we all started with 5 devices!
 - Your pilot system will quickly become production
- Do NOT install the entire BES in the DMZ
 - Only the BlackBerry Router is supported the DMZ

Best Practices – Installation - 3

- Note about other SQL Servers installed on BES server
 - expect issues
- Logging is ON HIGH by default, can take up lots of disk space, once BES is running tone it down
 - Via BES Configuration Applet
- Never alter the default policy, use a copy
- Keep the BES as close as possible to the mail servers
 - Going across a WAN can kill performance

Best Practices – Installation - 4

- If you are planning on more than one BES (> 1000 users) install BES in a distributed environment
 - You only need one BlackBerry Router (SOX)
 - You only need one SQL Server (full, not MSDE!)
 - You only need one Attachment Service
- Keep a copy of your SRP, CAL Auth and CAL keys....or two
- NEVER use the same SRP key on two BES servers, both will be disabled

Best Practices – Installation - 5

- Outbound email (from the device to the BES) may not work out of the box
 - Depending on your Domino mail routing scheme you may need to smart host the SMTP from BES to your mail server or your outbound SMTP gateway
 - Makes Mail Tracking much easier to use

Domino on “i” or “p”

- You still need a Windows server to install BES on, and subsequently a Domino server running on that Windows server
 - Add-in cards work, too!
- You DO NOT need to move your mail files
- BES does not care what platform your home server is running



Best Practices – Installation - 6

Questions on Installation



Best Practices – How it works - 1

- Each device has a unique PIN
- Each BES has a unique SRP ID
- RIM maintains a look up table in the NOC that maps PINs to SRPs
- When a device is activated against a BES both parties agree on encryption scheme
 - Default today is AES-256, previously (12 months ago) was 3DES. Don't change unless you know what you are doing
 - Only your BES and your device know these keys

Best Practices – How it works - 2

- BES “polls” the users NSF mail file on their home server
 - By default this is every 20 seconds and can cause tremendous load on the mail servers, so tone it down
- BES picks up the mail (or calendar entry)
 - encrypts it with the target device’s key
 - sends the first 2KB of the message over the internet to the NOC together with the target user’s PIN
 - Via an outbound initiated, two-way transaction over port 3101
 - You DO NOT NEED to open any inbound ports for BES

Best Practices – How it works - 3

- The NOC, using the device PIN, locates your device on the carrier networks
 - forwards the message to the device
 - Your device decrypts the message
 - A QoS flag is sent to back to the BES
 - The message is displayed in the messages list
 - The current “profile” is invoked to indicate delivery

Best Practices – How it works - 4

- Sending email is the exact opposite
 - Device encrypts message
 - Sent via carrier network to NOC
 - NOC (using PIN to SRP look up) sends message to home BES server
 - Home BES server drops message in mail.box
 - Copy of message place in mail file
 - Mail sent as normal from via Domino Router

Best Practices – How it works - 5

● Out of Coverage Scenario

- User has device switched off or is OoC
- NOC keeps track of all active devices
- Inactive devices have only 5 messages stored at the NOC
 - The BES is notified to “stack” the 6th and subsequent messages until otherwise informed by the NOC
 - So delete users no longer on the BES and disable users who will not be in coverage or using the device for prolonged periods of time



Best Practices – How it works - 6

- Questions on How it Works

Device Provisioning - 1

- If you are on BES 4.0.x or earlier, upgrade
- Devices can be provisioned/activated a number of ways
 - OTA, set a password (or have BES email the password and instructions to the user)
 - BlackBerry Desktop Manager
 - BlackBerry Manager

Device Provisioning - 2

- By default a new device receives:
 - Last 5 days or 200 messages, whichever is greater (headers only)
 - Calendar entries
 - Service Books allowed by assigned IT Policy
 - Device **MUST HAVE** an enterprise BlackBerry data plan
 - If activation fails, yet they can surf the web, this **IS USUALLY THE ISSUE**

Device Provisioning - 3

- If all else fails during activation:
 - See KB13852
- Contacts usually need to be added to PIM fields in BES user profile
- All Synchronizations are not equal
 - See KB02914
- Emails deleted on the device are not, by default, deleted in Lotus Notes mail file



Device Provisioning - 4

● Device Provisioning Questions

Setting up Sametime Access -1

- Options include BlackBerry Enterprise Messenger and IBM Sametime client of BlackBerry
 - One Sametime server per BES
 - Can be installed with a Software Configuration or via BlackBerry Desktop Manager
 - Presence awareness displays that the user is mobile!

Setting up Sametime Access -2

- To allow a BlackBerry to access Sametime:
 - Ensure BES was installed with the Collaboration option and was set up with the correct Sametime server information
 - Add the BES IP as a trusted community in stconfig.nsf
 - Comment out the VPS_ALLOWED_LOGIN_TYPES line in the sametime.ini file (if you have that line)
 - Restart Sametime
 - Make sure the user DOES NOT have collaboration and MDS disabled

Lotus Connections

- RIM and IBM have created a Lotus Connections client
 - <http://na.blackberry.com/eng/services/server/domino/connections.jsp>
 - BES now has policies to control settings

Lotus Quickr

● Erm....

- There is a RIM provided white paper from LS08 that use servlets to access Quickr 8.0
- Makes use of BlackBerry Browser
- <http://www.resourcecenter.blackberry.com/getdoc2.php?cp=0&eventSelected=2185>

Introduction to App Dev - 1

- The good news & the bad news is there is no one defacto mobile development platform, so pick wisely
- 3 development environments for BlackBerry
 - Java
 - MDS Runtime
 - BlackBerry Browser

Introduction to App Dev - 2

● Java

- JDE or Eclipse
- Access every aspect of the phone
- Expensive to develop, dev cycles are long
 - Most service providers ONLY offer this
- Access to every aspect of the device
- BB Maps, Google Maps, Connections, etc
- Can be used to access Corp data via MDS-CS
- Can be MIDP too, but hit and miss



Introduction to App Dev - 3

● MDS Runtime

- RAD environment for SOAP web services
- Use as a plug in Eclipse or Visual Studio
- Fast development and prototyping
- Needs MDS Runtime installed on devices
- Full BES only with MDS Integration Services
- Not all features of the device are available
- Secure and encrypted access to Corp data

Introduction to App Dev - 4

● BlackBerry Browser

- HTML and Javascript
- Cut down functionality from desktop browser
- Easiest and cheapest solution
- Can access secure Corp data via MDS-CS



Introduction to App Dev - 5

● App Dev Questions

Other BES Applications

- BlackBerry Monitoring Service
 - Free SNMP monitoring and reporting solution for BES installations
- BlackBerry Web Desktop Manager
 - Back up devices, upgrade device OS from Internet Explorer
 - Negates need for BBDM in most orgs unless you need S/MIME

The Future – or not

- Device OS 4.5
 - HTML email capability on the device (\geq 7.0.2 Domino)
 - Free time lookup
 - Edit MS Word and MS PowerPoint files on the device
- BlackBerry Bold
 - Much better browser implementation, beautiful keyboard and screen
- Touch screen and flip phones?
 - Boy Genius thinks so, <http://www.boygeniusreport.com/>
- BES 5.0
 - Fail over? Browser based?

Questions

- Feel free to ask absolutely anything Domino or BlackBerry related
- If you ask something I can't answer you will be asked to leave
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