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**BLACKBERRY ENTERPRISE MOBILITY SERVER
(BEMS) 2.x
SUPPLEMENTAL PROCEDURES**

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1. SECURITY READINESS REVIEW

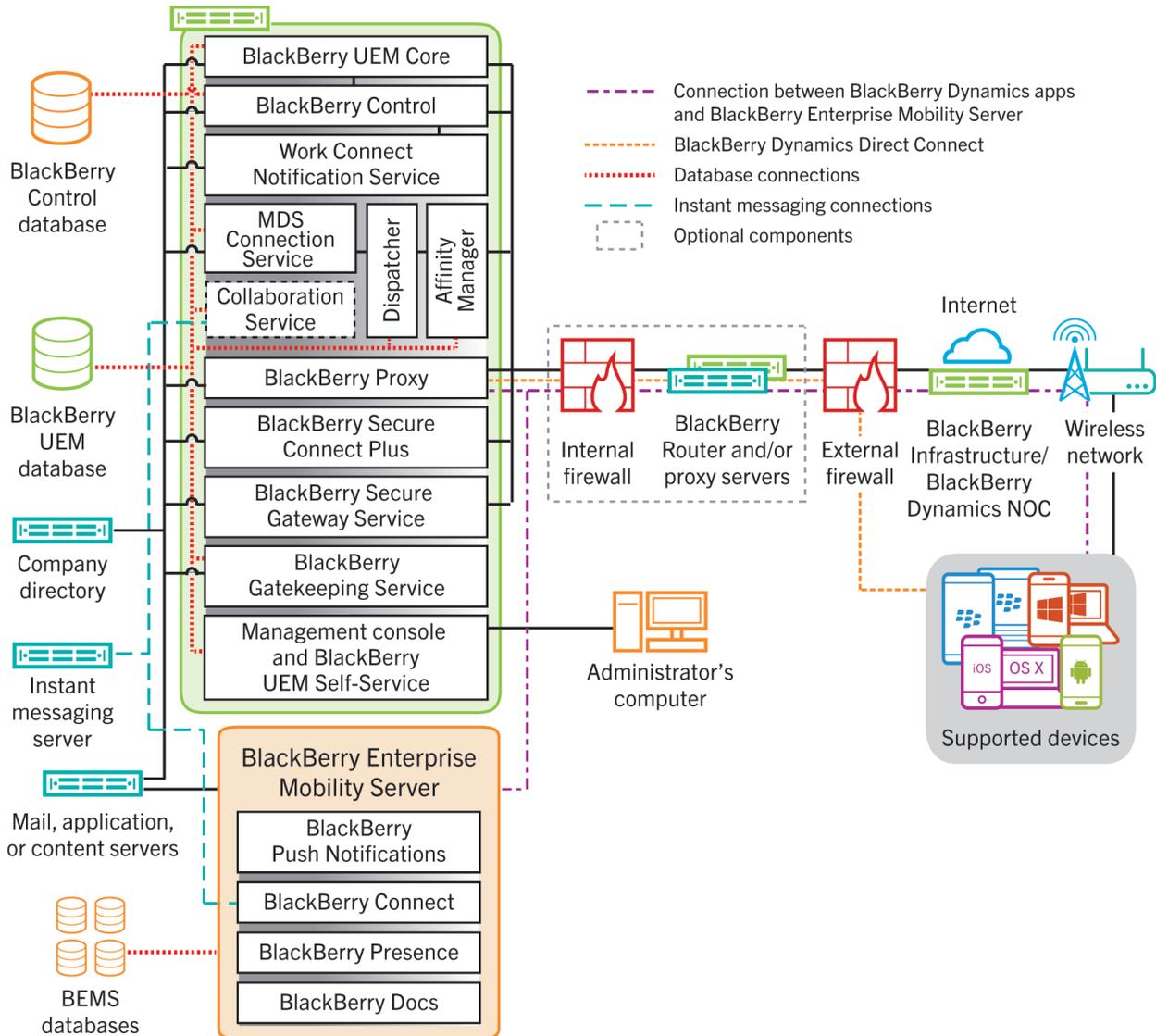
1.1 General

When conducting a BlackBerry Enterprise Mobility Server (BEMS) Security Readiness Review (SRR), the Team Lead and the assigned Reviewer identify security deficiencies and provide data from which to predict the effectiveness of proposed or implemented security measures associated with BEMS 2.x.

2. BEMS SECURITY AND CONFIGURATION INFORMATION

2.1 Architecture

Figure 2-1: BEMS/UEM Architecture



2.2 Required Firewall and Port Configurations for BEMS 2.x

Each service installed on a BEMS requires a different set of inbound and outbound ports. Please refer to the appropriate table below (Table 2-1 to 2-4) based on the services installed. Refer to the BlackBerry BEMS Installation Guide for additional information.

Configure your organization’s firewall to allow outbound two-way connections over these ports.

Table 2-1: BlackBerry Mail (Push Notifications)

Inbound/Outbound	Port (TCP)	Description
Inbound	61617	To and from computers hosting BEMS in the same cluster (bidirectional)
Inbound	61616	To and from computers hosting BEMS in the same cluster (bidirectional)
Inbound	8443	From the BlackBerry Proxy server (required for Presence and Push Notifications)
Inbound	8181	Add port if SSL is not going to be used
Outbound	443	To BlackBerry Dynamics NOC/APNS
Outbound	443	To Firebase Cloud Messaging (FCM)
Outbound	443	To Microsoft Exchange Server
Outbound	17080	To the BlackBerry Proxy server (17433 for SSL)
Outbound	61617	To and from computers hosting BEMS in the same cluster (bidirectional)
Outbound	61616	To and from computers hosting BEMS in the same cluster (bidirectional)

Table 2-2: BlackBerry Connect and BlackBerry Presence (Microsoft Lync Server and Skype for Business)

Inbound/Outbound	Port (TCP)	Description
Inbound	8080/8082	From the BlackBerry Proxy server
Inbound	8443	From the BlackBerry Proxy server (for Blackberry Presence)
Inbound	49555	From the Microsoft Lync Server and Skype for Business server (BlackBerry Connect)
Inbound	49777	From the Microsoft Lync Server and Skype for Business server (BlackBerry Presence)
Outbound	443	To BlackBerry Dynamics NOC
Outbound	206.124.114.0/24	
Outbound	206.124.121.0/24	
Outbound	206.124.122.0/24	
Outbound	5061	To the Microsoft Lync Server and Skype for Business
Outbound	17080	To the BlackBerry Proxy server
Outbound	17433	To the BlackBerry Proxy server
Outbound	1433	To the Microsoft SQL Server (default)
Outbound	1434	UDP to the Microsoft Lync database (for initial setup only)
Outbound	49777-57500	Random port in this range to the Microsoft Lync database (for initial setup only)

Table 2-3: BlackBerry Connect and BlackBerry Presence (Cisco Jabber)

Inbound/Outbound	Port (TCP)	Description
Inbound	8080/8082	From the BlackBerry Proxy server
Outbound	443	To BlackBerry Dynamics NOC
Outbound	206.124.114.0/24	
Outbound	206.124.121.0/24	
Outbound	206.124.122.0/24	
Outbound	8443	To the Cisco User Data Service
Outbound	5222	To the Cisco Jabber XMPP Service
Outbound	17080	To the BlackBerry Proxy server
Outbound	17433	To the BlackBerry Proxy server
Outbound	1433	To the Microsoft SQL Server (default)

Table 2-4: BlackBerry Docs

Inbound/Outbound	Port (TCP)	Description
Inbound	8443	From the BlackBerry proxy server
Outbound	80 or 443	To SharePoint
Outbound	80 or 443	To the Microsoft Office Web Apps server
Outbound	17080 or 17433	To the BlackBerry Proxy server
Outbound	1433	To the SQL Server (default)
Outbound	445, 139	To CIFS share
Outbound	389 or 636	To LDAP
Outbound	137-138 (UDP)	To CIFS share