

Universal Device Service

Version: 6.1



Feature and Technical Overview

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Related resources

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To read the following guides or additional related material, visit www.blackberry.com/go/serverdocs.

| Resource | Information |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>What's New in Universal Device Service 6.1 Job Aid</i> | <ul style="list-style-type: none">• Summary of new features, enhancements, and updates in Universal Device Service 6.1 |
| <i>Universal Device Service Release Notes</i> | <ul style="list-style-type: none">• Descriptions of known issues and potential workarounds |
| <i>Universal Device Service Installation and Configuration Guide</i> | <ul style="list-style-type: none">• System requirements• Installation instructions |
| <i>Universal Device Service Upgrade Guide</i> | <ul style="list-style-type: none">• System requirements• Upgrade instructions |
| <i>Universal Device Service Administration Guide</i> | <ul style="list-style-type: none">• Instructions for creating user accounts, groups, and administrator accounts• Instructions for activating devices• Instructions for creating and assigning IT policies and profiles• Instructions for managing applications on devices |

About the Universal Device Service

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The Universal Device Service is designed to permit you to manage devices that run iOS or Android OS in your organization's environment.

If you activate devices using the Universal Device Service, you can use the Universal Device Service to:

- Manage devices using the IT policies and IT administration commands that the devices support
- Configure profiles for devices so that you can control the connections to your organization's environment (VPN profiles for iOS devices, Wi-Fi profiles, certificate profiles, and email profiles for iOS devices and Android devices; email profiles for Android devices require TouchDown and Universal Device Service 6.1 MR1 or later)
- Provision and manage work applications on devices
- View the device inventory for your organization

To provide a single interface for helpdesk administrators to manage all the devices in your organization's environment, you can connect BlackBerry Mobile Fusion Studio to the Universal Device Service.

You can purchase and download the Universal Device Service from www.blackberry.com/support/downloads.

Features

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| Feature | Description |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certificate-based authentication | You can use the Universal Device Service to send certificates to devices using certificate profiles or SCEP profiles. The Universal Device Service helps to restrict access to Microsoft ActiveSync, Wi-Fi connections, or VPN connections to devices that use certificate-based authentication. Also, this feature helps you to control Microsoft ActiveSync, Wi-Fi connections, or VPN connections on devices because the Universal Device Service is designed to automatically remove profiles and certificates when a device violates one of the predefined compliance policies, for example, compliance policies for jailbroken devices or rooted devices. Certificate-based authentication does not require a proxy server between the device and your organization's messaging server. |
| Activation and management of devices | <p>To activate a device, you send an email message to the user that contains information about downloading the Mobile Fusion Client. You can manage multiple devices for each user account and view the device inventory for your organization.</p> <p>You can perform the following actions if the actions are supported by the device:</p> <ul style="list-style-type: none"> • Activate, lock, unlock and clear the device password, and delete information from a device • Reset the device password • Apply profiles and IT policies to a device • Install certificates and configure SCEP on a device |
| Mobile Fusion Client | <p>The Mobile Fusion Client permits the device to communicate with the Universal Device Service and perform the following actions:</p> <ul style="list-style-type: none"> • Retrieve device information • Display messages • Manage device settings • Permit users to deactivate devices |
| Groups | <p>Groups permit you to share roles, IT policies, and other configuration settings among similar user accounts. You can assign a user account to a group so that the user account inherits the properties of the group.</p> <p>You can install and configure the BlackBerry Directory Sync Tool to add user accounts to a group or remove user accounts from a group. For more information about the BlackBerry Directory Sync Tool, see the <i>BlackBerry Resource Kit for the Universal Device Service - Installation and Administration Guide</i>.</p> |

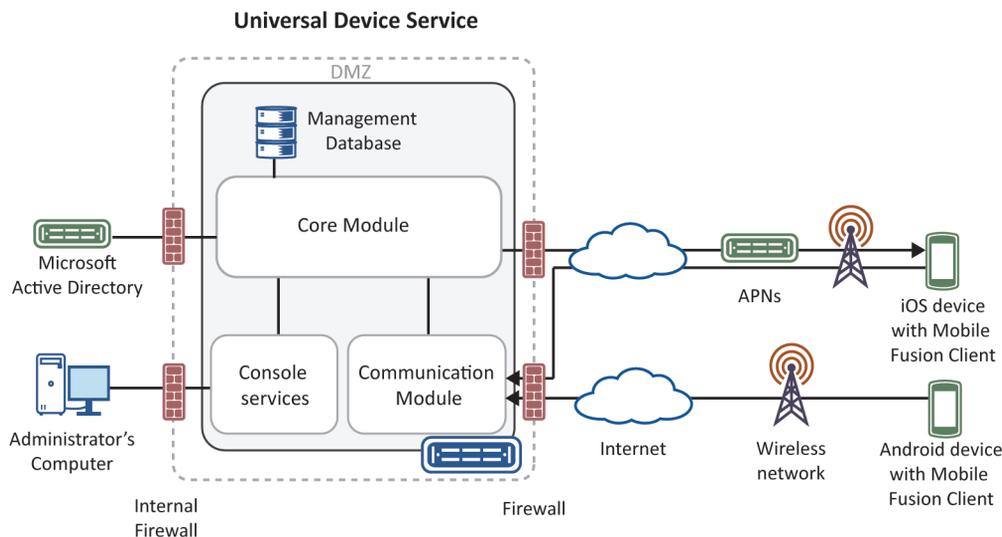
| Feature | Description |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IT policies | An IT policy is a set of IT policy rules that permit you to define password requirements and control applications and functions on a device. You can create and apply an IT policy to a user account or a group of user accounts. |
| Management of applications | You can provision and manage work apps on devices by creating application definitions and assigning software configurations to user accounts or groups. Users can download and install work apps on their iOS 5 or later devices and Android devices. When you create an application definition, you can select the option to remove the application from iOS 5 devices if users deactivate their devices. |
| Profiles | <p>You can use profiles to manage device settings that are supported by the device. You can set up and assign profiles to a user account or a group of user accounts. The profiles allow you to perform the following actions:</p> <ul style="list-style-type: none"><li data-bbox="375 591 953 618">• The VPN profile permits a device to connect to a VPN.<li data-bbox="375 635 1129 661">• The Wi-Fi profile permits a device to connect to a wireless access point.<li data-bbox="375 678 1308 730">• The Microsoft ActiveSync profile permits a device to connect to your organization's email service, if the email service supports Microsoft ActiveSync.<li data-bbox="375 748 1308 800">• The SCEP profile permits a device to enroll a certificate from a certification authority that supports the SCEP.<li data-bbox="375 817 1322 869">• The certification authority certificate profile permits a device to establish a trusted relationship with services that use certificates that are issued by the certification authority. |

Architecture

This section gives you a high-level overview of the architecture of the Universal Device Service and how it fits into an existing environment. For more information about system requirements and installation instructions, see the *Universal Device Service Installation and Configuration Guide*.

Architecture: Universal Device Service installed on one computer

You can install the Universal Device Service components on one computer.



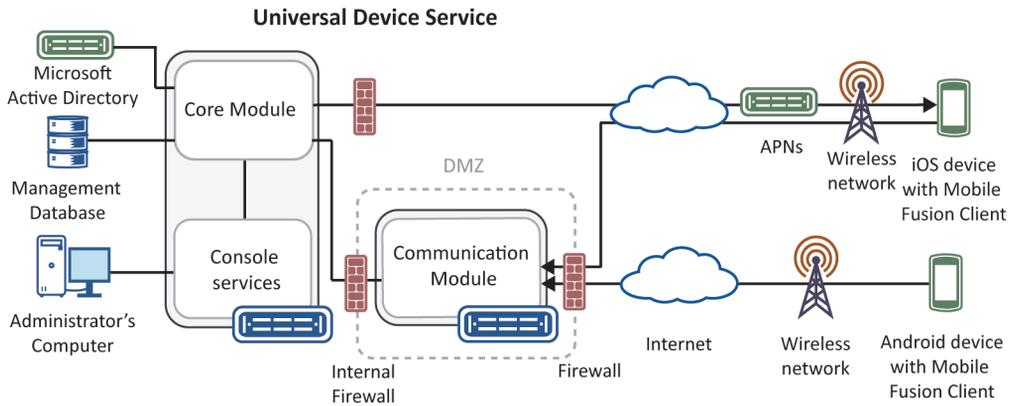
| Component | Description |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Core Module | The Core Module controls access to the Management Database and communicates with your organization's environment. The Core Module connects to the following services: |

| Component | Description |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none">• The Universal Device Service retrieves user account information from Microsoft Active Directory to create user accounts.• The Microsoft ActiveSync profile is configured on devices to allow the devices to access your organization's email service.• The Core Module sends notifications to APNs for an iOS device. The notifications inform the iOS device to contact the Communication Module. |
| Communication Module | The Communication Module manages the Universal Device Service communication. It must be accessible to the Internet so that it can communicate with iOS devices and Android devices. |
| Console services | You can use Console services to manage user accounts, IT policies, profiles, apps, and devices. |
| Mobile Fusion Client | The Mobile Fusion Client is installed on devices and communicates with the Communication Module. |

Architecture: Universal Device Service with the Communication Module installed in the DMZ

The Universal Device Service components can be installed with the following configuration:

- The Communication Module is installed on a computer in the DMZ.
- The Core Module and the Console services are installed on the same computer behind both the DMZ firewall and your organization's firewall.
- The Management Database is located on the computer that hosts the Core Module or on a separate computer.

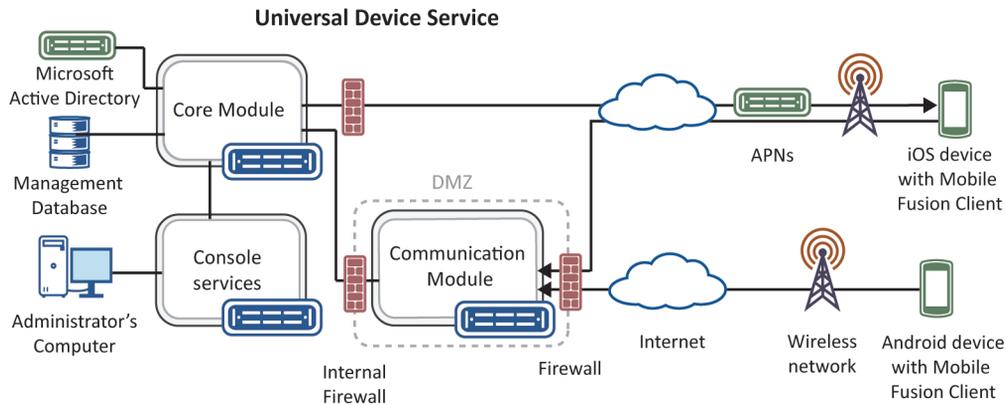


| Component | Description |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Core Module | <p>The Core Module controls access to the Management Database and communicates with your organization's environment. The Core Module connects to the following services:</p> <ul style="list-style-type: none"> • The Universal Device Service retrieves user account information from Microsoft Active Directory to create user accounts. • The Microsoft ActiveSync profile is configured on devices to allow the devices to access your organization's email service. • The Core Module sends notifications to APNs for an iOS device. The notifications inform the iOS device to contact the Communication Module. |
| Communication Module | <p>The Communication Module manages the Universal Device Service communication. The Communication Module is installed on a computer in the DMZ. It must be able to access the Internet so that it can communicate with iOS devices and Android devices. To prevent an unauthorized user from having direct access to the other Universal Device Service components, the Communication Module is installed on a computer in the DMZ, between the DMZ firewall and your organization's firewall.</p> |
| Console services | <p>You can use Console services to manage user accounts, IT policies, profiles, apps, and devices.</p> |
| Mobile Fusion Client | <p>The Mobile Fusion Client is installed on the device and communicates with the Communication Module.</p> |

Architecture: Universal Device Service installed in a distributed environment

You can install the Universal Device Service in a distributed environment with the following components:

- The Communication Module is installed on a computer in the DMZ.
- The Core Module and the Console services are installed on separate computers behind both the DMZ firewall and your organization's firewall
- The Management Database is located on the computer that hosts the Core Module or on a separate computer.



| Component | Description |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Core Module | <p>The Core Module controls access to the Management Database and communicates with your organization's environment. The Core Module connects to the following:</p> <ul style="list-style-type: none"> • The Universal Device Service retrieves user account information from Microsoft Active Directory to create user accounts. • The Microsoft ActiveSync profile is configured on devices to allow the devices to access your organization's email service. • The Core Module sends notifications to APNs for an iOS device. The notifications inform the iOS device to contact the Communication Module. |
| Communication Module | <p>The Communication Module manages the Universal Device Service communication. The Communication Module is installed on a computer in the DMZ. It must be able to access the</p> |

| Component | Description |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Internet so that it can communicate with iOS devices and Android devices. To prevent an unauthorized user from having direct access to the other Universal Device Service components, the Communication Module is installed on a computer in the DMZ, between the DMZ firewall and your organization's firewall. |
| Console services | You can use Console services to manage user accounts, IT policies, profiles, apps, and devices. |
| Mobile Fusion Client | The Mobile Fusion Client is installed on devices and communicates with the Communication Module. |

Data flows

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Data flow: Activating an iOS device over the wireless network

1. In the Administration Console, you create a user account and send an email message that contains information about downloading the Mobile Fusion Client to the user.
2. The Core Module stores the account information in the Management Database.
3. The user performs the following actions:
 - Receives the email message and installs the Mobile Fusion Client on the device.
 - Accepts the terms and conditions of the license agreement, types their organization's computer name, their username, and password, and activates the device.
4. The Mobile Fusion Client sends an activation request to the server that is specified by the user. The activation request includes the username, password, device operating system, and unique device identifier.
5. The Communication Module receives the activation request and queries the Core Module to validate the activation request.
6. The Core Module confirms that the activation request meets all the activation criteria, creates a device instance, associates it with the specified user account in the Management Database, sets the activation status for the device as unknown, and responds with a successful authentication to the Communication Module.
7. The Communication Module generates a unique identifier for the device that is used to verify the authenticity of the device in subsequent communication. The Communication Module sends a response to the device that includes the identifier, any configured Wi-Fi profile, VPN profile, and Microsoft ActiveSync profile, IT policy configuration, and a link to the Communication Module to initiate the activation process.
8. The Mobile Fusion Client displays a message to inform the user that a certificate and an MDM profile must be installed to complete the activation. The user clicks OK and is redirected to the Communication Module link for the enrollment process.
9. The Communication Module provides the certificate and the user clicks Install Now. The certificate and MDM profile are installed on the device.
10. The user clicks Done. The Mobile Fusion Client requests IT policy and configuration information and sends the device information and software information to the Communication Module.
11. The Mobile Fusion Client notifies the Communication Module that the installation is successful.
12. The Communication Module notifies the Core Module that the installation was successful.

13. The Core Module sets the device activation status to active in the Management Database.
14. The Mobile Fusion Client requests all IT policy and configuration information from the Communication Module and sends device information to the Communication Module.
15. The Communication Module receives the information, converts it, and forwards it to the Core Module.
16. The Core Module stores the device information in the Management Database.
17. The Universal Device Service activates the device.

Data flow: Activating an Android device over the wireless network

1. In the Administration Console, you create a user account and send an email message to the user that contains information about downloading the Mobile Fusion Client to the device.
2. The Core Module stores the account information in the Management Database.
3. The user performs the following actions:
 - Receives the email message and installs the Mobile Fusion Client on the device.
 - Accepts the terms and conditions of the license agreement, types their organization's computer name, their username, and password, and activates the device.
4. The Communication Module receives the activation request, and queries the Core Module to validate the activation request.
5. The Core Module confirms that the activation request meets all the activation criteria, creates a device instance, associates it with the specified user account in the Management Database, sets the activation status for the device as unknown, and responds with a successful authentication to the Communication Module.
6. The Communication Module generates a unique identifier for the device that is used to verify the authenticity of the device in subsequent communication. The Communication Module sends a response to the device that includes the identifier, any configured profiles, IT policy configuration, and a command to provide device information and configuration.
7. The Mobile Fusion Client requests IT policy and configuration information and sends the device information and software information to the Communication Module.
8. The Communication Module receives the information, and forwards it to the Core Module.
9. The Core Module stores the information in the Management Database and updates the device activation status to active.
10. The Universal Device Service activates the device.

Glossary

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|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APNs | Apple Push Notification service |
| DMZ | A demilitarized zone (DMZ) is a neutral subnetwork outside of an organization's firewall. It exists between the trusted LAN of the organization and the untrusted external wireless network and public Internet. |
| MDM | mobile device management |
| SCEP | simple certificate enrollment protocol |
| VPN | virtual private network |

Legal notice

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