

BlackBerry AtHoc

Notification Delivery Service Installation and Configuration Guide

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Getting started

The BlackBerry AtHoc Notification Delivery Service (NDS) is a dedicated server that processes alert messages from the NDS host services (plug-ins). This document describes the steps to install or upgrade NDS to the latest release.

Verify installation prerequisites

The following sections describe hardware and software requirements for installing and configuring NDS.

Hardware requirements

- A minimum of two Dual-Core Dual CPUs (such as Xeon 51xx family, Xeon E53xx family, or X53xx family) 2 GHz or higher
- One database server core for each two application server cores
- Minimum of 512 MB per application server core plus 2 GB RAM for Windows Server
- Recommended: Dual, redundant Intel NICs and power supplies
- If using Broadcom NICs, complete the following steps:
 1. Ensure that the latest drivers are installed.
 2. Disable the TCP Chimney feature, as described in the following Microsoft article: <http://support.microsoft.com/kb/951037>
- Disk space for storage on a RAID 5, RAID 0+1, or RAID 10 configured disk system. The exact allocation of the disks depends on the hardware configuration.

Notes:

- For Standalone server set up, limit SQL RAM usage to 80-85% of the total system RAM.
- For Combo server set up, limit SQL RAM usage to 60% of the total system RAM.
- The installation procedure requires at least 20 GB free for data.

Software requirements

- Windows Server 2012 Standard Edition or Windows Server 2016
- Microsoft SQL Server Standard 2012 or Microsoft SQL Server 2016. The SQL Server Agent Service must be configured as Automatic Start.
- Microsoft System CLR Types for Microsoft SQL Server 2012
- Internet Information Services (IIS) Role Service
- Microsoft .NET Framework version 4.7.2 or later
- Windows Management Framework 3.0 (PowerShell x64 bit, 3.0 Support)
- IIS extension enabled for ASP.NET 4.5
- URL rewrite module for IIS. (Downloadable at: <https://www.iis.net/downloads/microsoft/url-rewrite>.)
- Application Initialization IIS component must be installed and enabled under Web Server (IIS) > Web Server > Application Development.
- Each NDS instance must have a dedicated SQL server instance. Multiple plug-ins (TAS, OPM, or SMS) cannot be installed on the same NDS instance.
- BlackBerry AtHoc release 6.1.8.85 or later release. Required when installing the application server in combination mode. Combination mode is used when the BlackBerry AtHoc management system is installed on the application server with NDS.

Administration account requirements

Before you install, ensure that the user account that you use meets the following criteria:

- The administrator user that installs NDS and plug-ins must have the same Windows administration user account as the BlackBerry AtHoc user account.

The BlackBerry AtHoc application and NDS are run on IIS, and the IISUSR or NETWORK SERVICE group needs access to the AtHocENS folder. Additionally, the services might need DLLs to be either GACed, located in a folder with access permission, or copied to the folder or /bin folder of the program.

- This user needs to be an administrator account in Microsoft SQL Server:

- SA account must be a sysadmin
- NGAD can be public in Server Roles
- NGAD becomes the owner of the database during the NDS installation.

Note: This can conflict with using Windows authentication where the dbo is supposed to be the Windows service account.

- The Admin user, IIS user, and Network service user need EDIT access to AtHocENS folders.

Install NDS components in standalone mode

The following sections describe how to install NDS on the application server and the database server.

Deployment modes for NDS

There are two deployment modes for NDS.

- **Standalone mode:** This mode installs NDS on an application server without BlackBerry AtHoc.
- **Combined mode:** Use this mode when the BlackBerry AtHoc management system is also installed on the same application server. To learn about installing the BlackBerry AtHoc, see the [BlackBerry AtHoc Installation and Configuration Guide](#).

The following table describes the differences that are included with each deployment mode. It is important to plan the installation or upgrade knowing which components are included.

Component	Standalone mode	Combined with BlackBerry AtHoc
AtHocDeliveryService	Required	Required
Ngdelivery_<plug-in> Database	Required	Required
NgdeliveryAccount Database	Required	Required
NgdeliveryLog Database	Required	Required
NGDiagnostic Database	Required	Provided by BlackBerry AtHoc.

Choose the method you plan to use during the installation. The installation directories lead you through the installation and deployment, based on the approach you take.

Prepare the NDS installation file

Before installing, unzip and copy the installation files into a specified directory on the NDS server.

1. Locate the following file provided by your support or implementation
representative: `AtHocDeliverServer_build.zip`
2. Navigate to the **Platform** folder, right-click the file, and open the properties to check if the file is blocked.
3. If the file is blocked, unblock the file and unzip it into a temporary directory.
4. Copy the `AtHocENS` folder to Program Files(x86) on each NDS application and database server.

Install the database servers

As an installer, you must have the following items:

- SQL Server sysadmin (SA) and Windows admin rights
- A password for the NGAD, the owner of the BlackBerry AtHoc “ng” databases
- Full control for the directory in which the database installation scripts are located. Right-click on the directory and open the properties to verify.

- Full control of the database directory folder that contains the .ldf, .mdf, and .ndf files. Right-click the directory and open the properties to verify.

For more information about installing the databases, see the `readme` files in each database folder.

Note: If the application server and the database server are on the same server, do not perform steps 1 and 2.

1. Log in to the BlackBerry AtHoc database server.
2. Copy the AtHocENS folder and subfolders to the Program Files folder, see [Prepare the NDS installation file](#).
3. Navigate to the AtHocENS folder.
4. Right-click the AtHocENS folder, click **Properties** > **Security** to check if you have the **Write** permission as an administrator and user.
5. Create a new **Database** folder.
6. Right-click the **Database** folder, click **Properties** > **Security** to check if you have the **Write** permission as an administrator and user.
7. Run the script on the BlackBerry AtHoc database server.
 - a. Navigate to the following folder: `<AtHocENS>\DeliveryServer\Installations\DatabaseServer`
 - b. Right-click the `OnPremiseDBInstallation.bat` file and click **Edit** to edit the following parameters in the installation script:

Parameter	Description
<code><databaseServerInstance></code>	The IP address and instance of the NDS server
<code><saPassword></code>	The system administrator password
<code><saName></code>	The system administrator account name.
<code><ngadPassword></code>	The password for the ng database administrator. If the ngad user has been created, this password is not used to override the existing ngad password.
<code><databaseDirectory></code>	The directory for MSSQL database, such as <code><AtHocENS>\Database</code> . Used only for new installations.
<code><ngdeliverydb></code>	<code>ngdelivery_<plug-in></code> where <code><plug-in></code> is the name of related plug-ins.

- c. Click **Save** to save the changes.
- d. Run the following script as an administrator: `OnPremiseDbInstallation.bat`
- e. After the script runs, go to the folder for each database and open `runsql.log` to check for any issues in the installation.

The following databases are installed using the `OnPremiseDbInstallation.bat` script:

- `ngdelivery`
- `ngaccount`
- `ngdiagnostic`
- `ngcommon`
- `ngdeliverylog`

Install the application servers

The following section describes how to install the application server. Complete the tasks for all application servers.

For more details about the required components for either mode, see [Deployment modes for NDS](#).

Prepare Windows PowerShell

When installing the NDS on the application server, use Windows PowerShell as an administrator.

To prepare Windows PowerShell on the `<OnPremiseDbInstallation.bat>` file, complete the following steps:

1. To verify that Windows Management Framework 3 (supporting PowerShell 3) is installed, do one of the following:
 - Open Windows PowerShell and type the following command: `Get-Host`
 - The returned version should be 3.0 or higher.
 - Go to Microsoft.com to download and install Windows Management Framework 3.0 or higher.
2. Ensure that the Windows PowerShell script is enabled and complete the following steps:
 - a. Run Windows PowerShell as an administrator.
 - b. Open the command prompt, run the `Get-ExecutionPolicy` command.
The returned value should be `RemoteSigned`.
 - c. If the value is not `RemoteSigned`, run the `Set-ExecutionPolicy RemoteSigned` command, click **Yes** to override and type `Y` to change the execution policy.

Install the application server in standalone mode

These steps describe how to install the standalone version of NDS.

Important: The `AtHocProcessor` service no longer hosts NDS. A new service called `AtHocDeliveryServer` hosts NDS.

For each application server, run the installation script.

1. Navigate to following folder: `AtHocENS\DeliveryServer\Installation\Standalone_AppServer` where `AtHocENS` is the root folder of the NDS server.
2. Use one of the following methods to launch the script:
 - From Windows Explorer, right-click the script: `Install.ps1` and select **Run with PowerShell**.
 - From the Windows PowerShell command line, run `Install.ps1`.

Note: If you have not updated the Windows PowerShell security policy, see [Prepare Windows PowerShell](#).

The installation program runs.

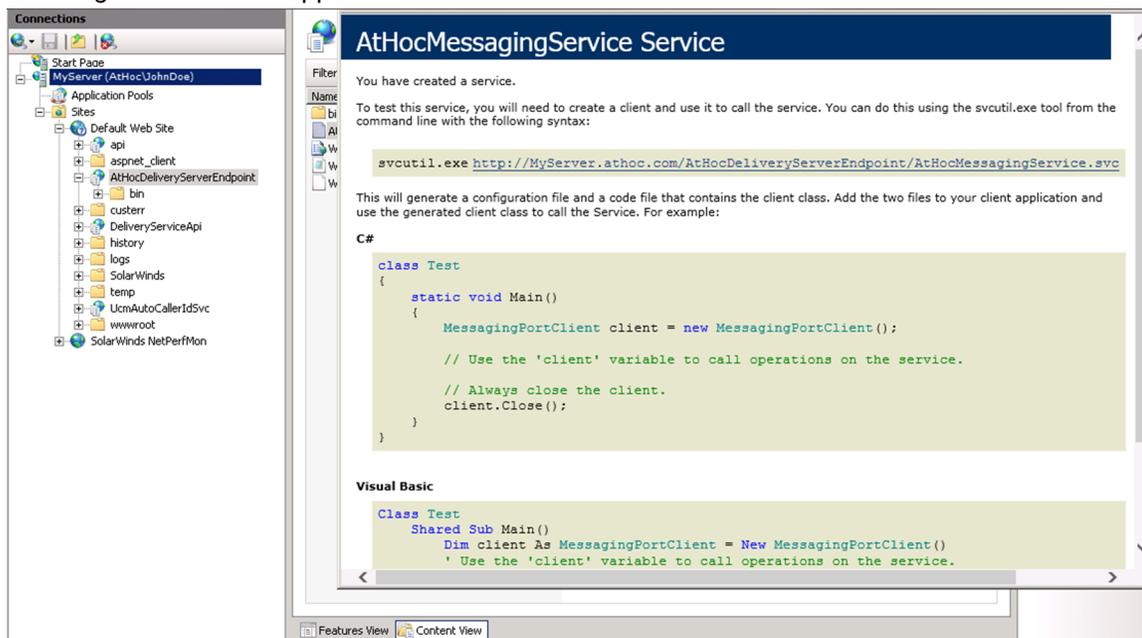
3. On the **Create Response Service** message window, for the SMS, OPM, or BBME plug-in, click **Yes**. For the TAS or Mir3 plug-in, click **No**.
4. On the **Create PDF Service** message window, for the SMS, OPM, or BBME plug-in, click **No**. For the Fax plug-in, click **Yes**.
5. Fill in the values for the prompts and press **Enter** to continue running the script.
6. Configure the UAP Web service:
 - a. Navigate to the following folder: `[AtHocENS]\DeliveryServer\web\AtHoc.NDS.UAP.WebService`.
 - b. Delete the `web.config` file and rename `Web.config.ssl` to `Web.config`.
Note: Restart IIS after renaming the files.

- c. In a web browser open the following URL: `https://localhost/AtHocDeliveryServerEndpoint/AtHocMessagingService.svc`

A confirmation window displays a message that you have successfully created the `AtHocMessagingService` service.

- d. Test the service by pasting the following link in a browser and adding the name of the server: `http://[serverAddress]/AtHocDeliveryServerEndpoint/AtHocMessagingService.svc`.

The following screen should appear:



Response link (SMS, OPM, or BBME plug-ins)

This section describes the steps to install the URL rewrite Module for IIS, configure response web service in IIS, and verify NDS response service for the SMS, OPM, or BBME plug-in.

Install the URL rewrite Module for IIS (SMS only)

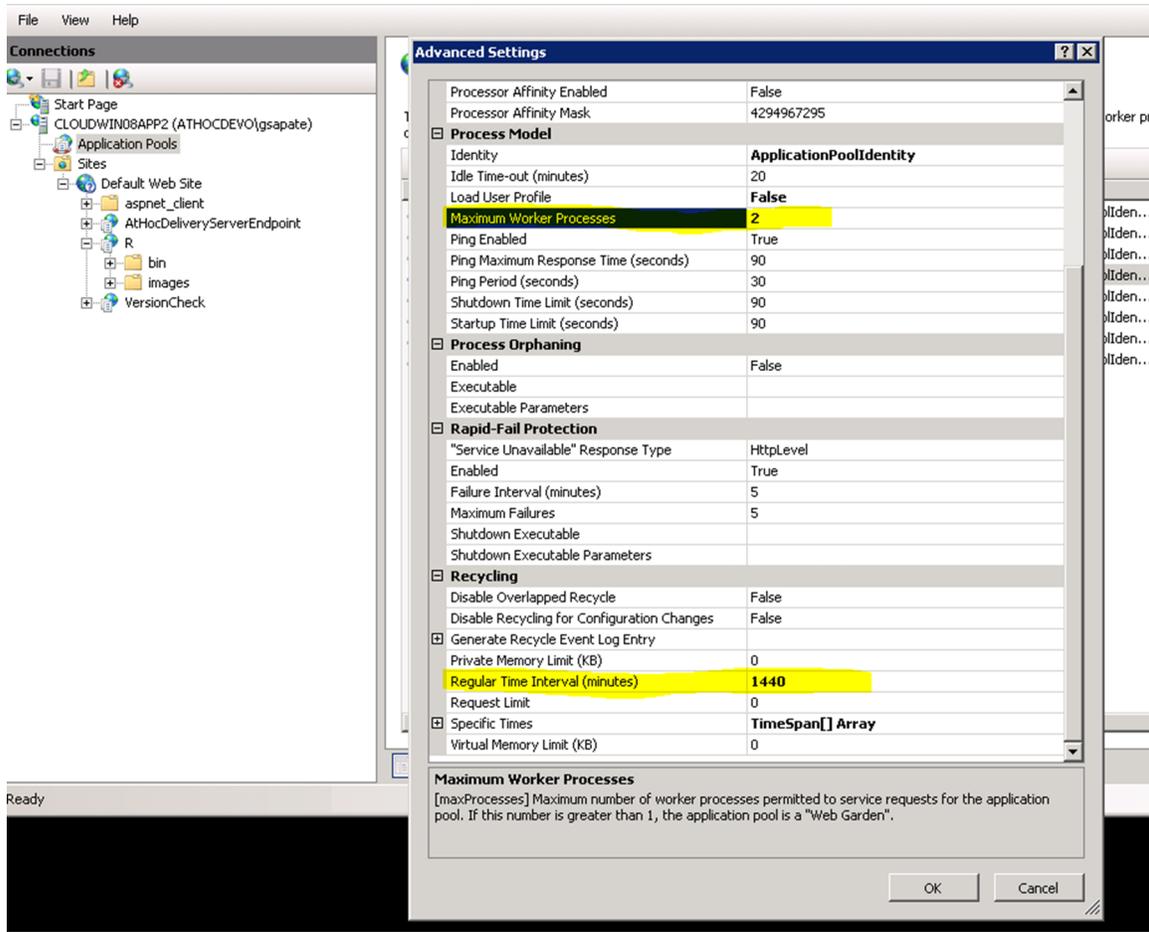
1. Download the URL Rewrite Module for IIS from <https://www.iis.net/downloads/microsoft/url-rewrite>.
2. After installation, ensure that SSL is not forced in the R application of SSL settings. Keep the **Require SSL** check box unchecked.

A version of the `web.config` file without the redirect feature is included in the `webNoRedirect.config` package.

3. In the SMS configuration, do not include `https://` in the base URL to shorten the link.

Configure response web service in IIS

1. Set up two instances for the Response Service in the application pool.
2. Set the default recycle period to 1440 minutes (24 hrs).



Verify the NDS response service

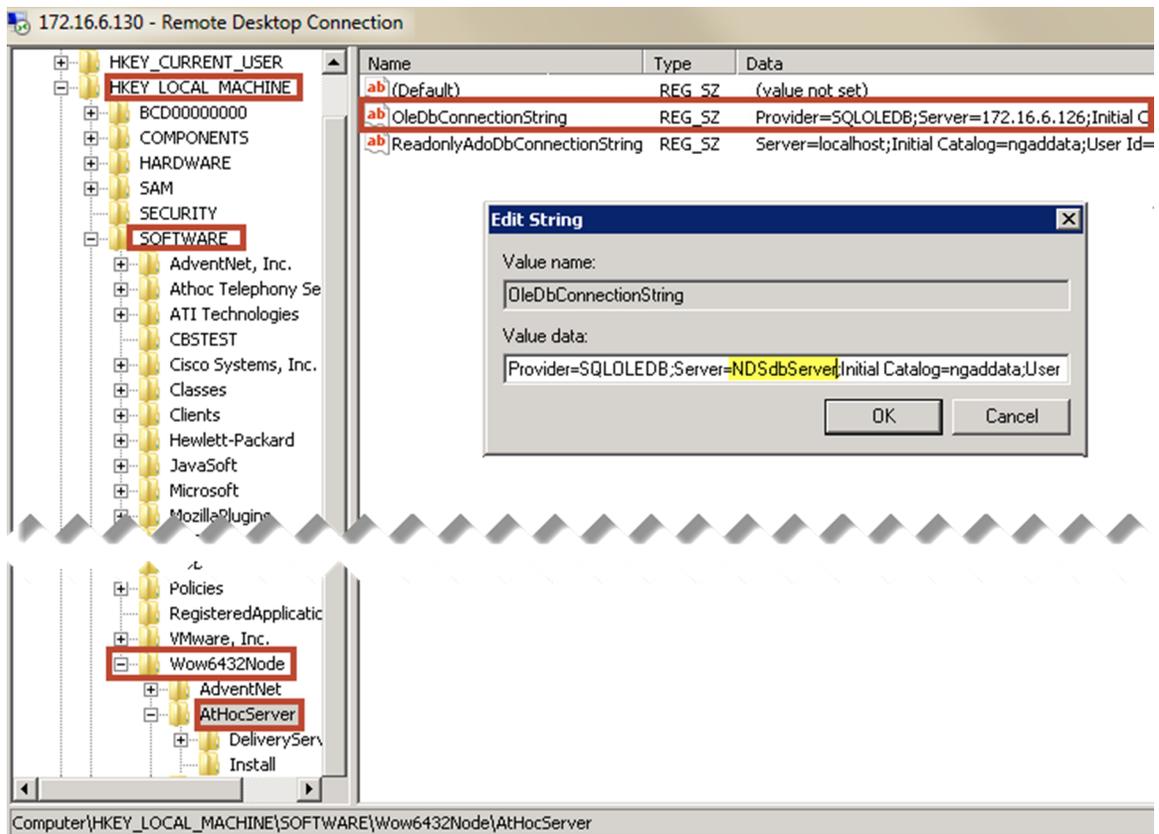
1. Navigate to the following folder: [AtHocENS]\DeliveryServer\web\Response.
2. Restart IIS after renaming the files.
3. In a web browser, open the following URL: <https://localhost/Response/R>.
4. Test the service by pasting the following link in a browser and adding the name of the server: [https://\[serverAddress\]/Response/R?messageId=XXX&taskId=YYY&code=Z](https://[serverAddress]/Response/R?messageId=XXX&taskId=YYY&code=Z)

A MessageID and TaskID missing error message is displayed in a browser.

Update the NDS database connection in the application server registry

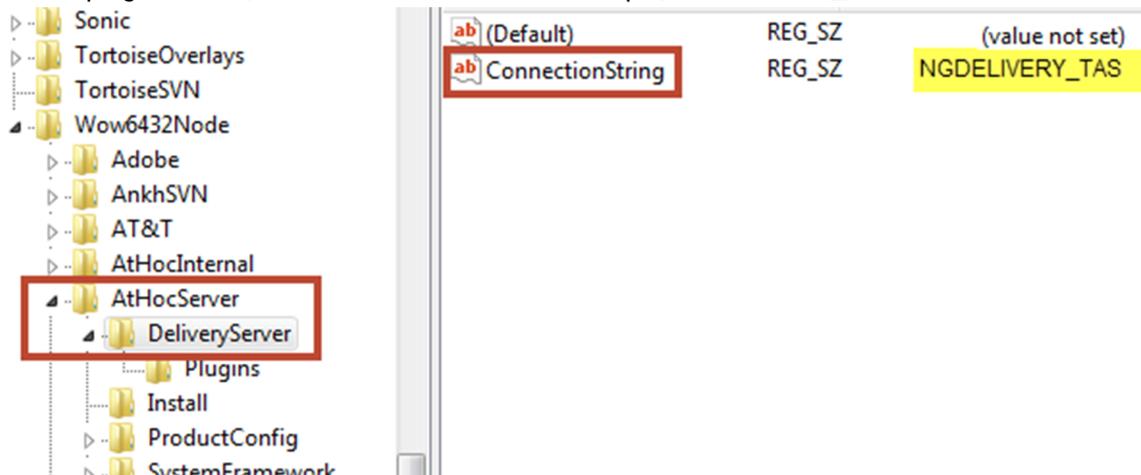
After you install each application server, update the NDS database connection in the registry on that server.

1. From the **Start** menu, type **REGEDIT**.
The registry opens.
2. (Standalone mode only) Expand HKEY_LOCAL_MACHINE>Software>Wow6432Node>AtHocServer.



3. Update the connections to the database server that have the NGDelivery and NGDiagnostics databases:

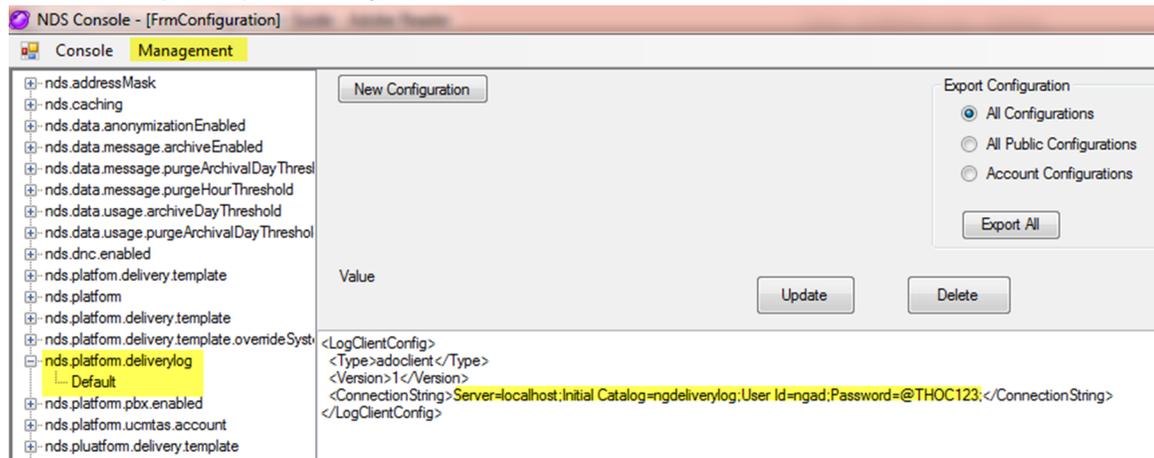
- a. Open **OleDbConnectionString**.
- b. Change the server value to the NDS database server and instance. In the same field, change the password value to the password of the NGAD user.
- c. Click **OK**.
- d. For the plug-ins, expand **AtHocServer** and select **DeliveryServer**.
- e. If you have customized the NGdelivery database name to include the plug-in device, select **ConnectionString** and change the value to `ngdelivery_<plug-in>`, where `<plug-in>` is the name of the plug-in device, such as TAS or OPM. For example, `NGDELIVERY_TAS`.



- f. Click **OK** to save your changes.

4. Configure NDS for the NGDeliveryLog database server:

- a. Navigate to **AthocENS > DeliveryServer > Tools > NDSConsole.**
- b. Open the NDS console and navigate to **Management > Configuration.**
- c. Open the following configuration key: `NDS.platform.deliverylog`.



- d. Change the server value to the NDS database server and instance to the database server you installed the NGDeliveryLog database on. In the same field, change the password value to the password of the NGAD user.
- e. Click **Update**.
- f. Run `AthocDeliveryService` from **Services**.

You have now completed the installation. To verify the installation, see [Verify the installation](#).

Install NDS components in combined mode

The following sections describe how to install NDS on the application server and the database server.

Deployment modes for NDS

There are two deployment modes for NDS.

- **Standalone mode:** This mode installs NDS on an application server without BlackBerry AtHoc.
- **Combined mode:** Use this mode when the BlackBerry AtHoc management system is also installed on the same application server. To learn about installing the BlackBerry AtHoc, see the [BlackBerry AtHoc Installation and Configuration Guide](#).

The following table describes the differences that are included with each deployment mode. It is important to plan the installation or upgrade knowing which components are included.

Component	Standalone mode	Combined with BlackBerry AtHoc
AtHocDeliveryService	Required	Required
Ngdelivery_<plug-in> Database	Required	Required
NgdeliveryAccount Database	Required	Required
NgdeliveryLog Database	Required	Required
NGDiagnostic Database	Required	Provided by BlackBerry AtHoc.

Choose the method you plan to use during the installation. The installation directories lead you through the installation and deployment, based on the approach you take.

Prepare the NDS installation file

Before installing, unzip and copy the installation files into a specified directory on the NDS server.

1. Locate the following file provided by your support or implementation representative: `AtHocDeliverServer_build.zip`
2. Navigate to the **Platform** folder, right-click the file, and open the properties to check if the file is blocked.
3. If the file is blocked, unblock the file and unzip it into a temporary directory.
4. Copy the `AtHocENS` folder to Program Files(x86) on each NDS application and database server.

Install the database servers

As an installer, you must have the following items:

- SQL Server sysadmin (SA) and Windows admin rights
- A password for the NGAD, the owner of the BlackBerry AtHoc “ng” databases
- Full control for the directory in which the database installation scripts are located. Right-click on the directory and open the properties to verify.

- Full control of the database directory folder that contains the .ldf, .mdf, and .ndf files. Right-click the directory and open the properties to verify.

For more information about installing the databases, see the `readme` files in each database folder.

Note: If the application server and the database server are on the same server, do not perform steps 1 and 2.

1. Log in to the BlackBerry AtHoc database server.
2. Copy the AtHocENS folder and subfolders to the Program Files folder, see [Prepare the NDS installation file](#).
3. Navigate to the AtHocENS folder.
4. Right-click the AtHocENS folder, click **Properties** > **Security** to check if you have the **Write** permission as an administrator and user.
5. Create a new **Database** folder.
6. Right-click the **Database** folder, click **Properties** > **Security** to check if you have the **Write** permission as an administrator and user.
7. Run the script on the BlackBerry AtHoc database server.
 - a. Navigate to the following folder: `<AtHocENS>\DeliveryServer\Installations\DatabaseServer`
 - b. Right-click the `OnPremiseDBInstallation.bat` file and click **Edit** to edit the following parameters in the installation script:

Parameter	Description
<code><databaseServerInstance></code>	The IP address and instance of the NDS server
<code><saPassword></code>	The system administrator password
<code><saName></code>	The system administrator account name.
<code><ngadPassword></code>	The password for the ng database administrator. If the ngad user has been created, this password is not used to override the existing ngad password.
<code><databaseDirectory></code>	The directory for MSSQL database, such as <code><AtHocENS>\Database</code> . Used only for new installations.
<code><ngdeliverydb></code>	<code>ngdelivery_<plug-in></code> where <code><plug-in></code> is the name of related plug-ins.

- c. Click **Save** to save the changes.
- d. Run the following script as an administrator: `OnPremiseDbInstallation.bat`
- e. After the script runs, go to the folder for each database and open `runsql.log` to check for any issues in the installation.

The following databases are installed using the `OnPremiseDbInstallation.bat` script:

- `ngdelivery`
- `ngaccount`
- `ngdiagnostic`
- `ngcommon`
- `ngdeliverylog`

Install the application servers

The following section describes how to install the application server. Complete the tasks for all application servers.

For more details about the required components for either mode, see [Deployment modes for NDS](#).

Prepare Windows PowerShell

When installing the NDS on the application server, use Windows PowerShell as an administrator.

To prepare Windows PowerShell on the `<OnPremiseDbInstallation.bat>` file, complete the following steps:

1. To verify that Windows Management Framework 3 (supporting PowerShell 3) is installed, do one of the following:
 - Open Windows PowerShell and type the following command: `Get-Host`
 - The returned version should be 3.0 or higher.
 - Go to Microsoft.com to download and install Windows Management Framework 3.0 or higher.
2. Ensure that the Windows PowerShell script is enabled and complete the following steps:
 - a. Run Windows PowerShell as an administrator.
 - b. Open the command prompt, run the `Get-ExecutionPolicy` command.
The returned value should be `RemoteSigned`.
 - c. If the value is not `RemoteSigned`, run the `Set-ExecutionPolicy RemoteSigned` command, click **Yes** to override and type `Y` to change the execution policy.

Install the application server in combined mode

These steps describe how to install the NDS on the same application server where BlackBerry AtHoc is already installed. Use this mode if you plan to send alerts through BlackBerry AtHoc.

Note: The `AtHocProcessor` service no longer hosts NDS. A new service called `AtHocDeliveryServer` hosts NDS.

To install the application server, complete the following steps for each application server:

1. Copy the `AtHocENS` folder and sub folders to the Program Files folder. See [Prepare the NDS installation file](#).
2. Navigate to the following folder: `<AtHocENS>\DeliveryServer\Installations\InstalledWithIWS` where `AtHocENS` is the root folder of the NDS server.
3. Use one of the following methods to launch the script:
 - From Windows Explorer, right-click the script: `Install_Combo.ps1` and select to run as administrator with PowerShell x64 bit.
 - From the Windows PowerShell command line, run `Install_Combo.ps1`.

Note: If you have not updated the Windows PowerShell security policy, see [Prepare Windows PowerShell](#).

The installation program runs.

4. Fill in the values for the prompts and press **Enter** to continue running the script.
5. Configure the UAP Web service:
 - a. Navigate to the following folder: `[AtHocENS]\DeliveryServer\web\AtHoc.NDS.UAP.WebService`.
 - b. Delete the `Web.config` file and rename `Web.config.ssl` to `Web.config`.

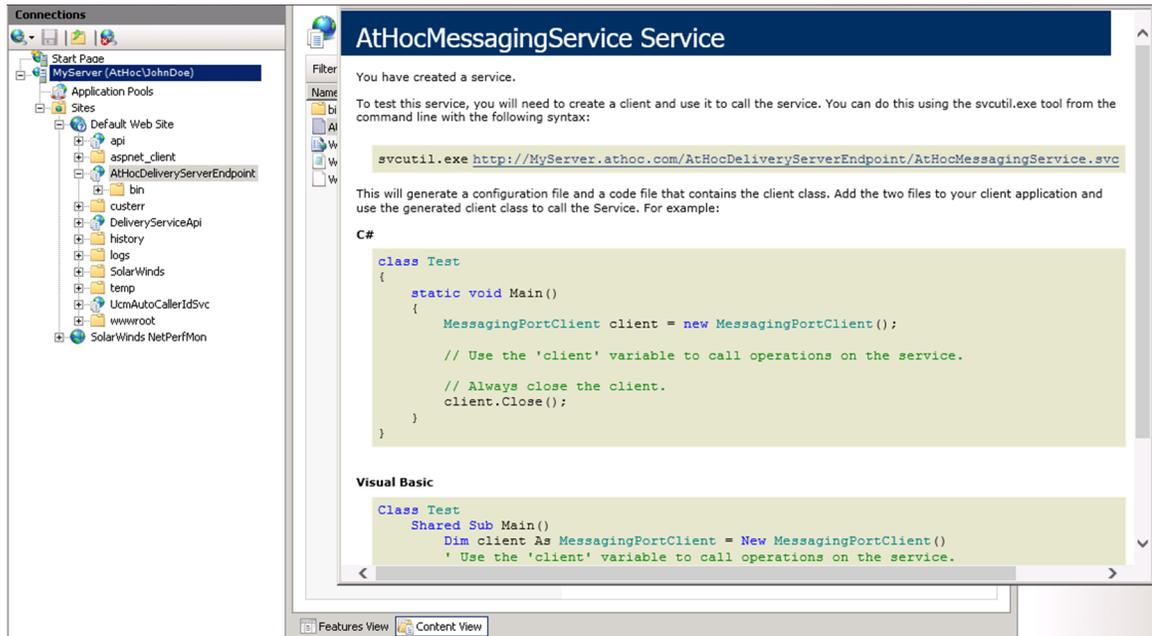
Note: Restart IIS after renaming the files.

- c. Open a Web browser and open the following URL: `https://localhost/AtHocDeliveryServerEndpoint/AtHocMessagingService.svc`.

A confirmation window displays a message that you have successfully created the `AtHocMessagingService` service.

- d. Test the service by pasting the following link in a browser and adding the name of the server: `https://[serverAddress]/AtHocDeliveryServerEndpoint/AtHocMessagingService.svc`

The following screen must appear:



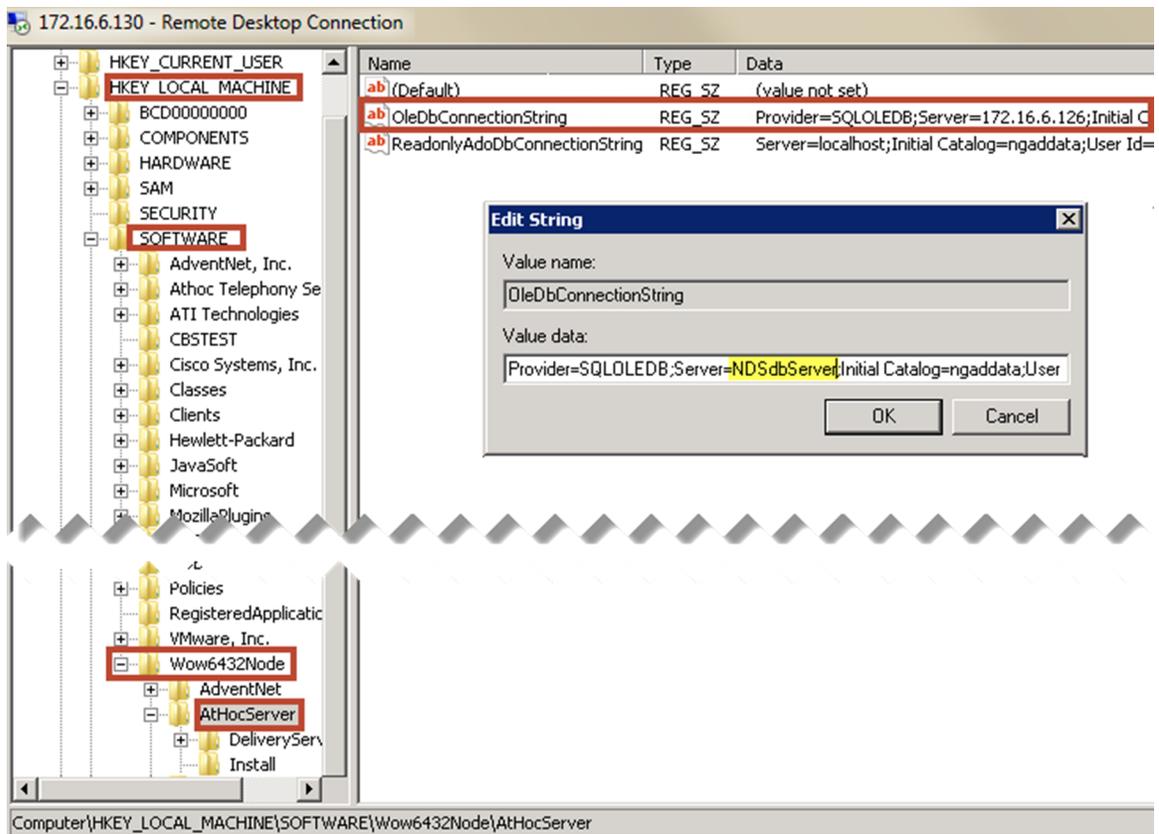
Update the NDS database connection in the application server registry

After you install each application server, update the NDS database connection in the registry on that server.

1. From the **Start** menu, type **REGEDIT**.

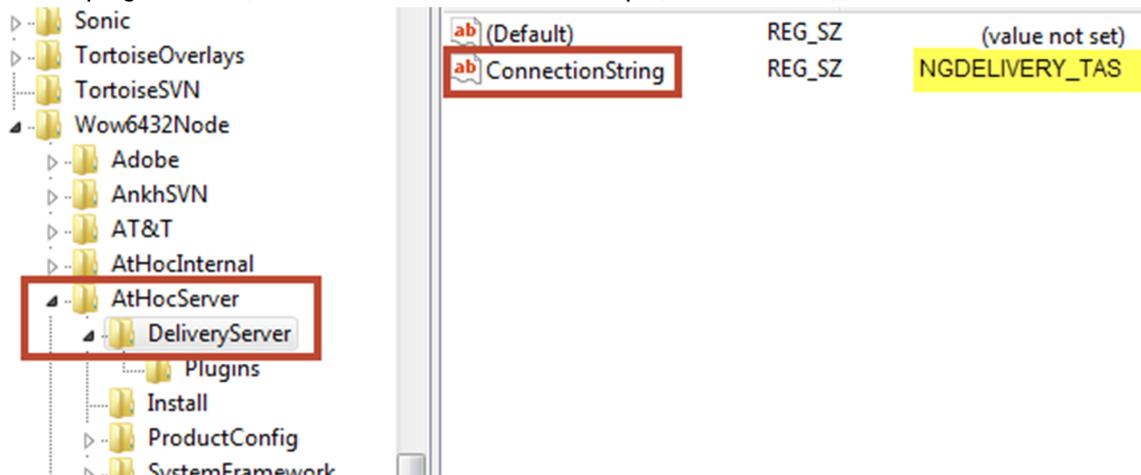
The registry opens.

2. (Standalone mode only) Expand `HKEY_LOCAL_MACHINE>Software>Wow6432Node>AtHocServer`.



3. Update the connections to the database server that have the NGDelivery and NGDiagnostics databases:

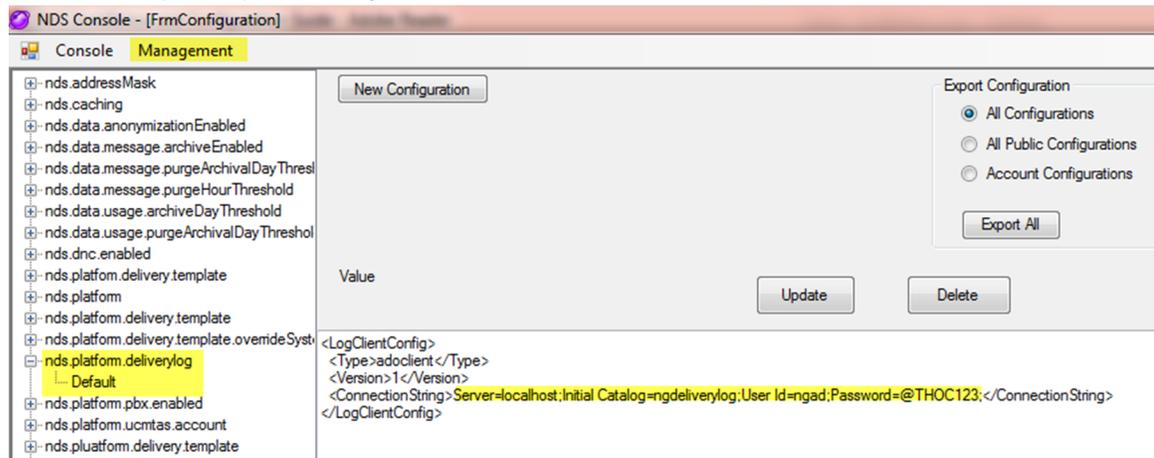
- a. Open **OleDbConnectionString**.
- b. Change the server value to the NDS database server and instance. In the same field, change the password value to the password of the NGAD user.
- c. Click **OK**.
- d. For the plug-ins, expand **AtHocServer** and select **DeliveryServer**.
- e. If you have customized the NGdelivery database name to include the plug-in device, select **ConnectionString** and change the value to `ngdelivery_<plug-in>`, where `<plug-in>` is the name of the plug-in device, such as TAS or OPM. For example, `NGDELIVERY_TAS`.



- f. Click **OK** to save your changes.

4. Configure NDS for the NGDeliveryLog database server:

- a. Navigate to **AthocENS > DeliveryServer > Tools > NDSConsole.**
- b. Open the NDS console and navigate to **Management > Configuration.**
- c. Open the following configuration key: `NDS.platform.deliverylog`.



- d. Change the server value to the NDS database server and instance to the database server you installed the NGDeliveryLog database on. In the same field, change the password value to the password of the NGAD user.
- e. Click **Update**.
- f. Run `AthocDeliveryService` from **Services**.

You have now completed the installation. To verify the installation, see [Verify the installation](#).

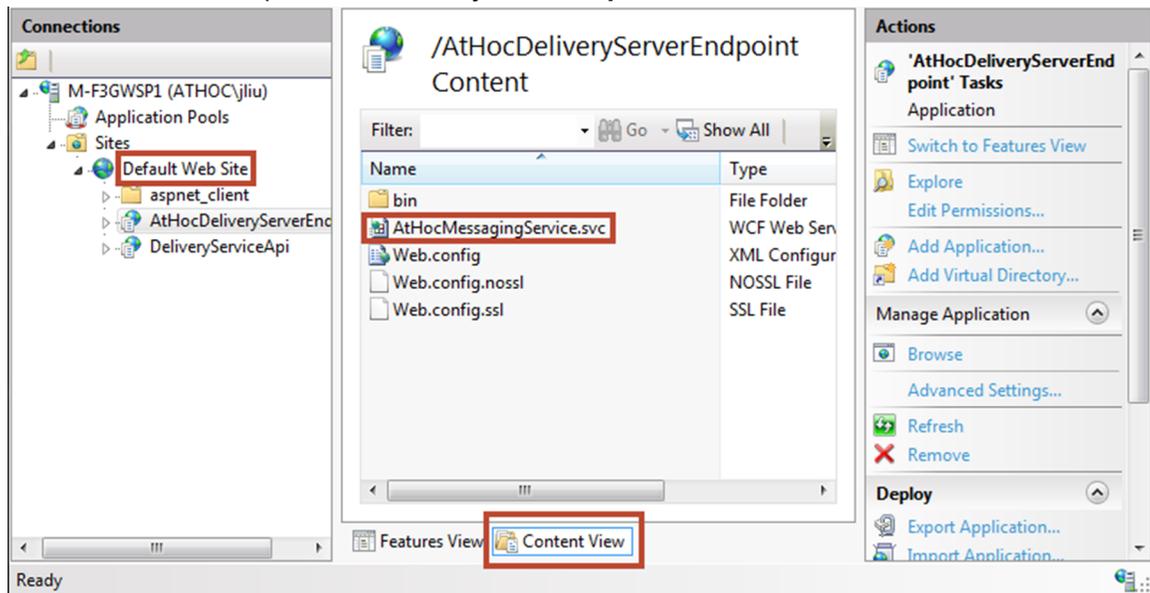
Verify the installation

You can use the following tasks to verify the installation and configuration of NDS.

Verify the application servers

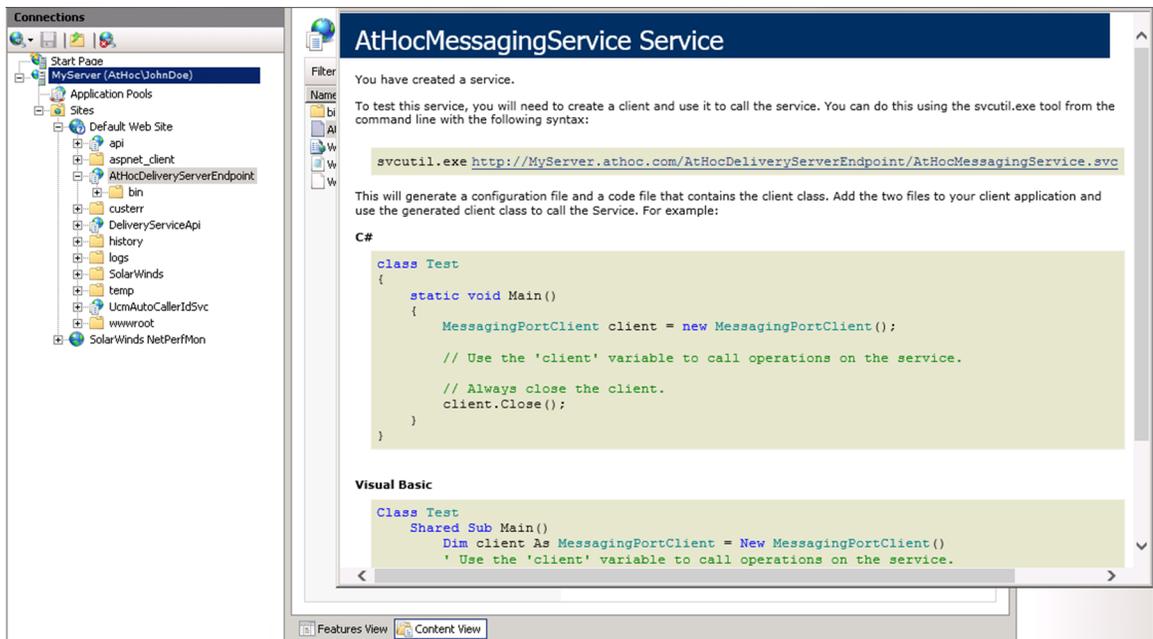
To verify each application server installation, complete the following steps:

1. Open Windows Services and check that the AtHocDeliveryService has started.
2. Check Internet Information Services (IIS):
 - a. Open IIS.
 - b. Verify that the Web site is running:
 1. Go to **Application Pools** and check that **AtHocDeliveryServerEndpoint** and **AtHoc.NDS.Uap** (for NDS V2.8.3 or higher) are started.
 2. Go to **Default Web Site**, open **AtHocDeliveryServerEndpoint**, and select **Content View**.



3. Right-click the **AtHocMessagingService.svc** and select **Browse**.

The following Web page loads without errors:



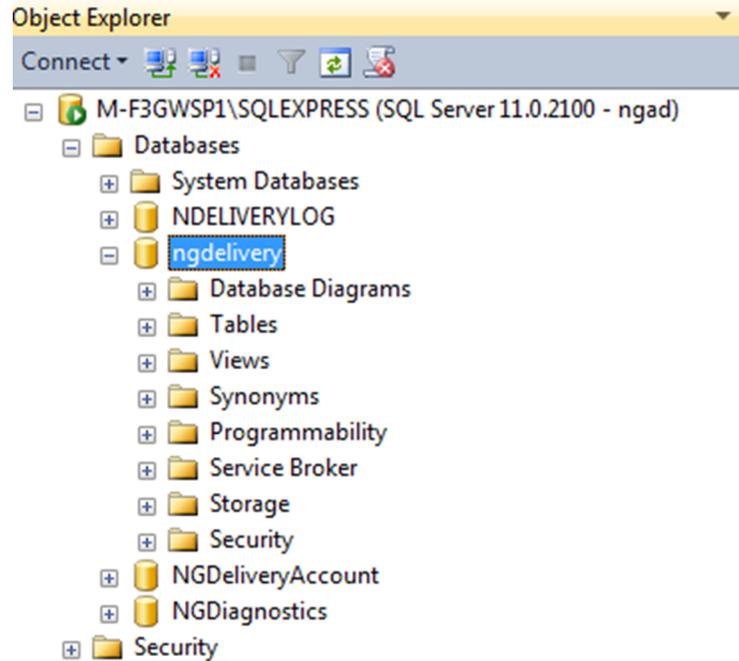
3. Navigate to **AtHocENS > DeliveryServer**, open the `AtHocEventViewer.exe` and check for errors and warnings.
4. Open the NDS console and go to the **Testing** tab.
5. Check for databases and devices in the panes on the right. Verify database and device entries.

Databases: NGDelivery_<plug-in>, and NGDiagnostics, where <plug-in> is the name of the plug-in the NGDelivery database is used for.

Devices: Based on your configuration, devices can include UCM TAS, OPM, BBME, MIR3, and SMS. **Devices:** Based on your configuration, devices can include UCM TAS, OPM, BBME, MIR3, and SMS.

Verify the database server

1. Log in to Microsoft SQL Server Management Studio as the NGAD user.
2. Verify that the NGDeliverylog, NGDelivery_<plug-in>, NGDeliveryAccount, and NGDiagnostics exist on the same database server.



3. Check the database directory and verify that there are files for the database installed on the server.
4. Open the `ngdelivery_<plugin_name>` database to verify that the Service Broker is enabled:
 - a. Select from the `dbo.AsyncSqlQuery` table.
 - b. In the query results, check the following values:
 - `LastRunOn` should be close to the current time
 - `LastRunOK` should be '1'

ID	ScheduledSql	JobCommName	FirstRunOn	LastRunOn	LastRunOK	IsR
1	408 EXEC usp_DlvTask_PostTaskExecution	PostTaskExecution	2015-04-16 15:46:55.887	NULL	0	1
2	409 EXEC usp_DeliveryTrack_AddTracking	AddTracking	2015-04-16 15:46:56.237	NULL	0	1
3	410 EXEC usp_DlvTask_SendTerminateMsgtoNDS	SendTerminateMsgtoNds	2015-04-16 15:46:56.243	NULL	0	1
4	411 EXEC usp_DlvTask_RestartCycleJob	RestartCycleJob	2015-04-16 15:46:56.250	NULL	0	1
5	412 exec usp_DlvTask_TerminateAlertandTask ",R'	TerminateDeliveryTask	2015-04-16 15:46:56.257	NULL	0	1
6	413 EXEC usp_DlvTask_ReleaseExpired	ReleaseExpiredTask	2015-04-16 15:46:56.263	NULL	0	1
7	414 EXEC usp_OperationAudit_AssignProperties	UpdateOperationAudit	2015-04-16 15:46:56.327	2015-09-30 17:20:32.280	1	1
8	415 EXEC usp_DlvTask_CreateNewTask	CreateNewTasks	2015-04-16 15:46:56.333	2015-09-30 17:21:16.453	1	1
9	416 EXEC usp_DlvTask_PostTaskExecution	PostTaskExecution	2015-04-16 15:46:57.520	2015-09-30 17:21:16.390	1	1
10	417 EXEC usp_DeliveryTrack_AddTracking	AddTracking	2015-04-16 15:46:57.530	2015-09-30 17:21:16.403	1	1
11	418 EXEC usp_DlvTask_SendTerminateMsgtoNDS	SendTerminateMsgtoNds	2015-04-16 15:46:57.540	2015-09-30 17:21:16.457	1	1
12	419 EXEC usp_DlvTask_RestartCycleJob	RestartCycleJob	2015-04-16 15:46:57.553	2015-09-30 17:21:16.460	1	1
13	420 exec usp_DlvTask_TerminateAlertandTask ",R'	TerminateDeliveryTask	2015-04-16 15:46:57.600	2015-09-30 17:21:16.460	1	1
14	421 EXEC usp_DlvTask_ReleaseExpired	ReleaseExpiredTask	2015-04-16 15:46:57.657	2015-09-30 17:20:47.990	1	1

5. If the service broker is not enabled, run the following query: `alter database RestoreDBName set enable_broker with rollback immediate`

Note: If the Service Broker does not start, run the following script to restore the database: `AtHocENS\DeliveryServer\Installations\support\Utils\restore SQL.sql`

Upgrade NDS to the current release

The following sections show how to upgrade from previous NDS versions to release 2.9.14. The upgrade uses the scripts provided in the installation sections of this guide, but there are some steps you should perform before upgrading, as described in the following sections.

The scripts that you run detect what version of NDS you have installed and perform the necessary upgrades.

Uninstall previous versions of the NDS application server

The following sections describes how to uninstall previous versions of NDS application server, which includes BlackBerry AtHoc management system and NDS.

Uninstall versions prior to 2.8.5

To uninstall NDS and BlackBerry AtHoc management system on the application server, complete the following steps:

1. (Standalone upgrade only) Uninstall the BlackBerry AtHoc management system if you are upgrading and plan to use the standalone mode:
 - a. Run the BlackBerry AtHoc management system uninstall program.
 - b. Uninstall the BlackBerry AtHoc management system application and database servers.
 1. Ensure all of the databases except `ngdelivery` are removed. If not, delete them manually.
 2. Delete all the stored procedures related to BlackBerry AtHoc in `system > MSDB`.
 3. Delete the `ngad` user.
 - c. Reboot the server.
 - d. Delete the following folders in `AtHocENS` directory:
 - `\CommonSiteData`
 - `\Logs`
 - `\ServerObjects`
 - `\wwwroot`
 - e. Uninstall NDS:
 1. Undeploy GAC
 - a. Navigate to the following directory: `C:\Program Files (x86)\AtHocENS\DeliveryServer\Installations\2_DeployGAC`
 - b. Right-click on the `undeployGAC.bat` file and select **Run as Administrator**.
 2. Remove Application Pools:
 - a. Open IIS and go to **IIS > Default site**.
 - b. In the **Application pools** remove **AtHocDeliveryServerEndpoint** and **AtHoc. NDS.Uap** (for NDS V2.8.3 or higher).
 3. In **IIS**, delete all applications under **Default Web Site**.
 4. Remove the NDS configuration for the `AtHocProcessor` service:
 - a. Navigate to the `AtHocENS/ServerObjects/Process` directory.
 - b. Open the `AtHocProcessor.config` file.
 - c. Remove the `DeliveryServer masterThread` section, as shown in the following image:

```

AtHocProcessorConfig - Notepad
File Edit Format View Help
<Name>Advanced Scheduling Agent</Name>
<sleepTime>15</sleepTime>
</masterThread>

<masterThread type="IWorker" strongName="AtHoc.Publishing, Version=1.0.0.0, Culture=neutral,
PublicKeyToken=a3c843e733da279f" className="AtHoc.Publishing.Management.AlertCoordinator">
  <Name>Alert Coordinator</Name>
  <ThreadCount>5</ThreadCount>
  <ThreadTimeout>120</ThreadTimeout>
  <DebugLevel>0</DebugLevel>
  <SleepTime>1000</SleepTime>
</masterThread>

<masterThread type="IWorker" strongName="AtHoc.Delivery, Version=1.0.0.0, Culture=neutral,
PublicKeyToken=ed7694774ffadc64" className="AtHoc.Delivery.Management.DeliveryCoordinator">
  <Name>Delivery Coordinator</Name>
  <ThreadCount>5</ThreadCount>
  <ThreadTimeout>120</ThreadTimeout>
  <DebugLevel>0</DebugLevel>
  <SleepTime>1000</SleepTime>
</masterThread>

<!-- PollAgent masterThread -->

<masterThread className="AtHoc.d911.Poll.D911PollAgent" strongName="AtHoc.d911.Poll, Version=1.0.0.0,
Culture=neutral. PublicKeyToken=e5d1d3ccbdd80fc9" type="IWorker" />

<!-- DeliveryServer masterThread -->
<!--
<masterThread className="AtHoc.NDS.InitPlatformworker"
strongName="AtHoc.NDS.Platform,Version=1.0.0.0,Culture=neutral,PublicKeyToken=9677562d0cb09f35" type="IWorker" />
-->

<!--
<masterThread type="IWorker" strongName="Strong.Namespace" className="Root.Assembly.ClassName">
  <Name>Advanced Scheduling Agent</Name>
  <maxChildThreads>2</maxChildThreads>
  <defaultThreadTimeout>120</defaultThreadTimeout>
  <sleepTime>10</sleepTime>
  <busySleepTime>1</busySleepTime>
  </masterThread>
  </!--

```

- d. Save your changes.
- f. Uninstall plug-ins:
 1. Stop all plug-in-related services, such as AtHocTelephonyService.
 2. Uninstall the TAS plug-in.
 - a. Navigate to the following directory: AtHocENS\DeliveryServer\Plugins\AtHocTelephonyService.
 - b. Right-click on undeploy.bat and run as administrator.
 - c. Take a backup of the ATS registry.
 - d. Navigate to AtHocENS\DeliveryServer, and delete the Plugins directory.
- g. Remove the AtHocENS folder.
- h. Reboot the server.

Uninstall version 2.8.5 of NDS or higher

To uninstall NDS and BlackBerry AtHoc management system on the application server, complete the following steps:

1. Stop AtHocDeliveryService.
2. Make a backup of the Windows registry entries for: [HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\AtHocServer].
3. Navigate to the following folder: C:\Program Files (x86)\AtHocENS\DeliveryServer\Installations
4. Complete one of the following tasks, depending on your configuration:
 - If NDS was installed in Standalone mode:
 - a. Remove the following Windows registry entries: [HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\AtHocServer]
 - b. Go to the Standalone_Server folder.
 - c. Right-click Uninstall.ps1 and click **Run with PowerShell**.

- If NDS was installed in Combined mode:
 - a. Go to the `Combo_Server` folder.
 - b. Right-click `Uninstall.ps1` and click **Run with PowerShell**.
5. Reboot the server.

Prepare for upgrade

Before upgrading, you need to prepare by backing up existing data and ensuring that you have proper permissions to perform the upgrade.

Important: When upgrading the BlackBerry AtHoc management system at the same time as NDS, perform the BlackBerry AtHoc management system upgrade before upgrading NDS.

1. To ensure you meet the hardware and software requirements, see [Verify installation prerequisites](#).
2. **Application and Database Servers:** Back up the following items on all application and database servers:
 - All databases
 - The `AtHocENS` folder on each server
3. **NDS versions prior to 2.8.5:** Uninstall the BlackBerry AtHoc management system and NDS on the application server.
4. **Database Servers:** Verify that the Microsoft SQL Server, agent, and browser services are set to automatic and running on the database servers.
5. **Application and Database Servers:** Copy the upgrade package on each server.
 - a. Locate following file provided by your support or implementation representative: `AtHocDeliverServer_build.zip`
 - b. Unzip `AtHocDeliverServer_build.zip` into a temporary folder.
6. **Application and Database Servers:** If the file is blocked, unblock the file and unzip into a temporary directory. For more information more about how to unblock the file, see [Prepare the NDS installation file](#).
7. **Database Servers:** As the installer, you must have the following permissions:
 - SQL Server sysadmin (SA) and Windows administration rights
 - A password for the "NGAD", the owner of the BlackBerry AtHoc "ng" databases
 - Full control for the directory in which the database installation scripts are located. Right-click on the directory and open the properties to verify.
 - Full control of the database directory folder that contains the `.ldf`, `.mdf`, and `.ndf` files. Right-click on the directory and open the properties to verify.

Upgrade the database server

The database upgrade requires that you run upgrade scripts on each database server.

For detailed information about the scripts and configuration of the database servers for Stand Alone and Combined, see [Install the database servers](#).

Upgrade the NDS application server to the current version

During an upgrade for an application server, you do a fresh installation of the NDS application server software. It is important to backup the existing version.

1. Backup the [AtHocENS]\DeliveryServer folder on the application server.
2. Open **Services** and stop the AtHocDeliveryService service.
3. Open **IIS > Application Pools** and stop AtHocDeliveryServerEndpoint and AtHoc.NDS.Uap (if upgrading from 2.8.3 or later).
4. Complete the installation steps by choosing one of the following installation types:
 - For detailed information about how to install a Standalone Application server, see [Install the application server in standalone mode](#).
 - For detailed information about how to install a Combined Application server, see [Install the application server in combined mode](#).
5. Open **Services** and restart the AtHocDeliveryService service.
6. Open **IIS > Application Pools** and restart AtHocDeliveryServerEndpoint and AtHoc.NDS.Uap (if upgrading from 2.8.3 or later).
7. When the upgrade completes, complete the verification steps. See [Verify the installation](#).
8. Repeat these steps for each application server.

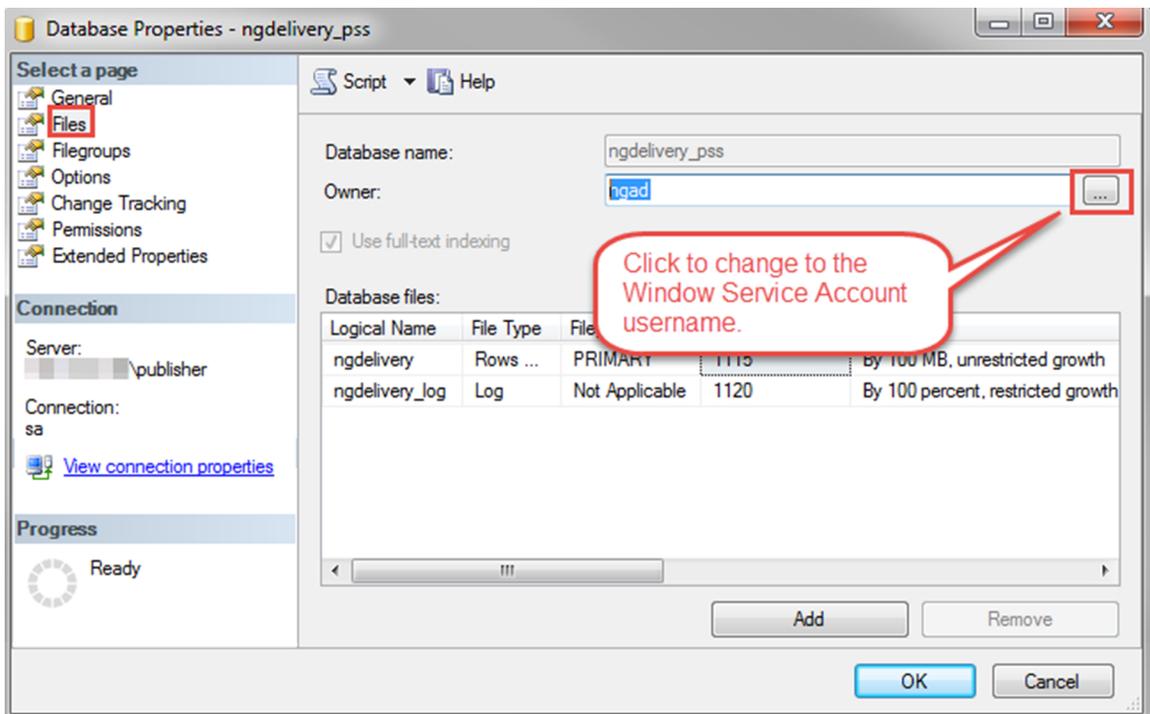
Upgrade the NDS database connection in the application server registry

For detailed information about how to upgrade the NDS database connection in the application server registry server for standalone and combined modes, see [Update the NDS database connection in the application server registry](#).

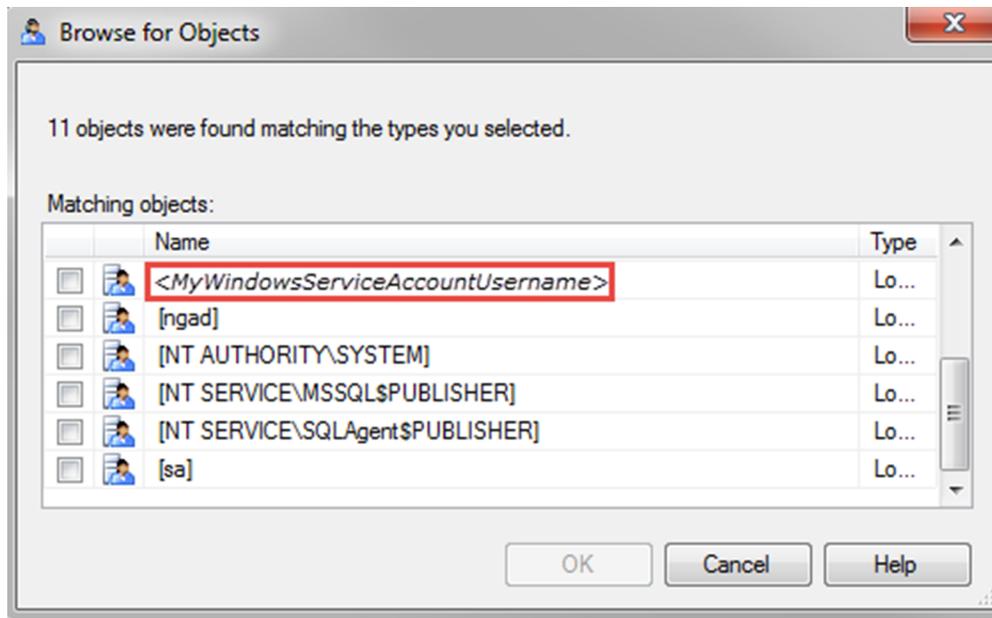
Configure Windows authentication

After you install NDS, you can configure NDS to use Windows authentication for SQL authentication.

1. Create a Windows service account with the following access and privileges:
 - Have SQL access and be the database owner of the three ngdelivery databases.
 - Be able to run the athocdelivery service on the NDS server.
 - Be able to run the IIS application pools on the NDS service (there should be two of them).
 - Have full access to the c:\windows\temp folder.
 - Have full access to the folders where the databases reside.
2. Change the owner of the databases from ngad to the Windows service account:
 - a. Open Microsoft SQL Server Management Studio.
 - b. Expand **Databases**.
 - c. For each ngdelivery database, right click and select **Properties**.
 - d. Click **Files** and click the browse icon to select the username of the Windows service account.



- e. Click **Browse**.
- f. Select the Windows service account username.



- g. Click **OK**.
3. Update the database connection string in the System Registry.
 - a. Open the Registry:
 1. Click **Start** and type `regedit`.
 2. Right-click on the icon and click **Run as administrator**.
 - b. In the Registry, navigate to `HKEY_LOCAL_MACHINE > SOFTWARE > Wow6432Node > AtHocServer`.
 - c. Under **AtHocServer**, change the values of `OleDbConnectionString`.
 - d. Delete the SQL login info: `User Id=ngad; Password=<ngadpassword>; Provider=SQLOLEDB; Server=<server\instance>; Initial Catalog=ngadata; User Id=ngad; Password=<ngadpassword>;`
 - e. Add the Windows authentication parameter: `Integrated Security=SSPI; Provider=SQLOLEDB; Server=<server\instance>; Initial Catalog=ngadata; Integrated Security=SSPI;`
 - f. Click **OK** and exit `Regedit`.
4. Optionally, for `AtHoc` authentication through Windows, modify the service login to use the domain account.
 - a. From the database server, click **Start** and open the **Control Panel**.
 - b. Click **System and Security > Administration Tools > Services**.
 - c. Right-click on **AtHocDeliveryService** and select **Properties**.
 - d. Select the **Log On** tab.

The default setup is "Local System Account".
 - e. To modify the account information for Microsoft SQL Server Windows Authentication, select **This Account**.
 - f. Fill in your Windows Service Account credentials and click **OK**.

Add plug-ins to the Available Resource list

After you install NDS all servers and plug-ins, you can activate the device plug-in for customer accounts.

1. On the BlackBerry AtHoc database server, edit the following script for each plug-in to add it to the NDS console account resources.
 - Replace `<NGDeliveryDBName>` with the `ngdelivery_plugin` database name. For example: `ngdelivery_tas`.
 - Replace `<DeviceName>` with the name of the plug-in device. Valid devices are SMS, email, UcmTas, and bbme.
2. Run the following script for each plug-in, to add the plug-in to the resource list for an account:

```
USE <NGDeliveryDBName>
DECLARE @deviceType NVARCHAR(50)
SELECT @deviceType='<DeviceName>'
IF NOT EXISTS (SELECT * FROM NGDeliveryAccount.dbo.DatacenterSiteDetail a
INNER JOIN ProductInfo b
ON a.SiteId=b.SiteId
WHERE a.DeviceType=@deviceType)
BEGIN
INSERT INTO NGDeliveryAccount.dbo.DatacenterSiteDetail([DataCenterId] ,
[SiteId] ,[DeviceType],[CreatedOn])
SELECT 1,siteid , @deviceType,GETUTCDATE()
FROM ProductInfo
END
```

3. Check that the 'ResourceType' in the DatacenterSiteDetail table in the ngdeliveryaccount database has CONCURRENT (for UcmTas) or RATE (for SMS, email, or bbme.) If no resource type is present, run the following SQL query to update it: SQL: Update [ngdeliveryaccount].[dbo].[DatacenterSiteDetail] set ResourceType = '[resource-type]' where DataCenterId = '[data-center-id]' and DeviceType = '[device-type]'
 - Valid values for [resource-type] are: CONCURRENT (for UcmTas), or RATE (for SMS, email, or bbme.)
 - Enter a valid data center ID for [datacenter-id].
 - Valid values for [device-type] are: SMS, email, UcmTas, or bbme.
4. In the NDS console, click **Management > Account > Select Customer account > Account Resource**.
5. On the **Account Resource** tab, on the row for the device you added in Step 3, select the **Support** and **IsPrimary** options.
6. Click **Save**.

For detailed information about installation and configuration of the OPM plug-in, see the [BlackBerry AtHoc OPM Installation and Configuration Guide](#).

For detailed information about installation and configuration of the SMS plug-in, see the [BlackBerry AtHoc Hosted SMS Plug-in for NDS Installation and Configuration Guide](#).

For detailed information about installation and configuration of the TAS plug-in, see the [BlackBerry AtHoc Telephony Alerting System User Guide](#).

For detailed information about installation and configuration of the BBME plug-in, see the [BBM Enterprise Alerts Installation and Administration Guide](#).

Monitor and maintain the NDS Farm – V2.8.5 or later

The following sections describe how to perform maintenance on the NDS farm, as well as monitor Microsoft SQL Server jobs and NDS services, resources, performance, and the delivery lifecycle.

SQL server agent monitoring and maintenance jobs

On each database server, there are jobs that manage the database data and provide monitoring information.

There are two database servers and each has related jobs for the databases that reside there:

- Primary database server: contains the `ngdelivery_<plug-in>` and `ngdiagnostics` databases.
- Logging database server: contains `ngdeliverylog` database.

The following tables summarize the jobs and what information that you can use to monitor the databases.

NDS Purge.Job

Purpose	Database server	Interval	Notes
Archives and purges history data for the <code>ngdelivery_<plug-in></code> and <code>ngdiagnostic</code> databases.	Primary	Nightly	—

TaskHistoryUpdate

Purpose	Database server	Interval	Notes
Updates the <code>deliverytaskid</code> and other data in the <code>taskHistory</code> table.	Logging	Every one minute	If this job stops, usage data will display incorrectly.

LogRealTimeDataPurgeJob

Purpose	Database server	Interval	Notes
Summarizes task history data in the <code>TaskSummary</code> table.	Logging	Nightly	If this job stops running, task history data is purged after 1 month.

LogHistoryDataPurgeJob

Purpose	Database server	Interval	Notes
Deletes real time data from the Message, Task, MessageLifeCycle, TaskLifeCycle, and AccessLog tables. Also deletes InboundEvent data older than 4 hours.	Logging	Every 4 hours	–

TaskSummaryDataPurgeJob

Purpose	Database server	Interval	Notes
Deletes task summary data that is older than 2 years.Default: DISABLED.	Logging	Manual	OnPremises Installations: Enable this job and change to 1500 the value of PURGE_TASKSUMMARY_THRESHOLD_IN_HOURS in the GLB_Config table.

Monitor NDS

This section lists the NDS services, resources, and performance data that you need to monitor. See the Microsoft Windows Server “Monitor Resource Usage (System Monitor)” guidelines at the Microsoft website.

Monitor the following services:

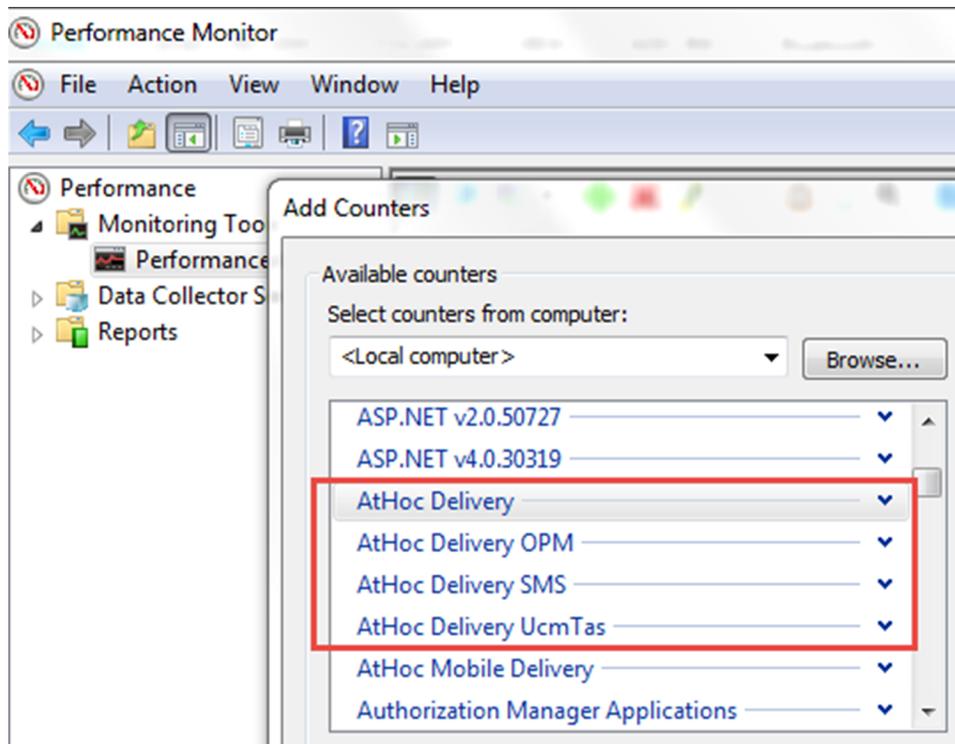
- IIS
- AtHocDeliveryService (Windows)
- Plug-in-related services such as ATS for TAS
- SQL Server (instance name)
- SQL Server browser
- SQL Server agent
- Third-party systems such as UCM

Monitor the following resources:

- CPU usage
- Memory usage
- Disk usage
- Network
- Load balancing

Monitor performance counters:

The NDS performance counters are in the AtHoc Delivery group.



- `TTSServicerunningState`: If TAS is hosted by NDS, indicates the running status of the text-to-speech (TTS) service. Values:
 - Running=1
 - Stopped=0; in this state, all calls will fail
- `Loop Alert Init/Sec`: Indicates how quickly alert messages are being processed.

Tip: The ideal value is 2. If the value is 0, there are performance issues.

 - If the value is 0 for more than 5 minutes, the NDS platform is not processing alert messages.
 - If the value is 0 for 1 minute, the system is slow. Check the other monitoring counters to identify other problems.
- `Loop Delivery Execution/sec`: Indicates whether the NDS platform is processing tasks.

Tip: The ideal value is 2. If the value is 0, there are processing issues.

 - If the value is 0 for more than 5 minutes, the NDS platform is not processing individual tasks.
 - If the value is 0 for 1 minute, the system is slow. Check the other monitoring counters to identify other problems.
- `NDS Delivery Lifecycle Monitoring`: Contact BlackBerry AtHoc customer support to set up this monitoring job. The life cycle monitor job provides status codes for each alert (task) delivered by NDS and the plug-ins.

Perform maintenance on the NDS Farm

Starting the Release 2.8.5, you can upgrade NDS for NDS plug-ins such as TAS, OPM, or SMS without stopping service. You can also stop alerts for all application servers in the NDS farm. NDS signals to the plug-in on each application server to stop processing new tasks. And then, one by one, you can upgrade or perform maintenance on each application server.

Stop individual application servers

1. Open the NDS console.
2. Click **Utilities**.
3. In the **NDS Maintenance** section, click **STOP this App Server**.

NDS and the installed plug-ins stop processing new tasks on the current server and finish processing all tasks.

Stop and start alerts from the NDS farm

To stop alerts for the NDS farm before shutting down NDS and plug-in services, complete the following steps:

1. Open the NDS console.
2. Click **Utilities**.
3. In the **NDS Maintenance** section, click **STOP incoming alerts for the NDS Farm**.

All NDS application servers start rejecting all incoming alert messages. However, report and terminate messages are still accepted.

Note: Wait until existing alerts are processed and tracking data is returned before you shut down all the NDS and plug-in services.

After you verify the upgrade, restart alerts for the NDS farm.

1. Open the NDS console.
2. Click **Utilities**.
3. In the **NDS Maintenance** section, click **START incoming alerts for the NDS Farm**.

Glossary

- **BlackBerry AtHoc management system:** The web-based interface, and its required components, used for configuring and managing alerts, users, devices, and settings for BlackBerry AtHoc alerting. Formerly known as IWSAlerts or the IWS management system.
- **BlackBerry AtHoc server:** The server on which the BlackBerry AtHoc management system and related tools are installed. Also called the AtHoc application server. Formerly known as IWS Server or just IWS.
- **NDS:** Notification Delivery Service. The delivery service that processes and delivers alert messages from the hosted services (plug-ins) and mobile alerting.
- **NDS application server:** A server that hosts the delivery plug-ins, such as TAS, OPM, and SMS. Called the “application server” in this guide.
- **NDS console:** The user interface for configuring and managing the NDS plug-ins, accounts, and settings.
- **NDS database server:** A server on which the NDS databases are located. Called the “database server” in this guide.
- **NDS farm:** The set of application servers managed by NDS.

BlackBerry AtHoc Customer Support Portal

BlackBerry AtHoc customers can obtain more information about BlackBerry AtHoc products or get answers to questions about their BlackBerry AtHoc systems through the Customer Support Portal:

<https://support.athoc.com>

The BlackBerry AtHoc Customer Support Portal also provides support via computer-based training, operator checklists, best practice resources, reference manuals, and user guides.

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