

BlackBerry AtHoc

Microsoft Lync Server 2013 Plug-In for NDS Configuration Guide

NDS Version 2.8.1, Lync Plug-In Version 2.8.1

2.8.1

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Getting started

The BlackBerry AtHoc Notification Delivery Service (NDS) is a dedicated server that processes and delivers alert messages from the NDS host services (plug-ins).

This guide describes the installation, configuration, and usage for the Microsoft Lync Server 2013 instant messaging systems.

Requirements

This section describes the hardware and software requirements you must have to use the Microsoft Lync Server plug-in.

Prerequisite

NDS version 2.8.1 must be installed with a NeoSpeech license.

Hardware and firmware

The following are the minimum hardware requirements for installing and configuring Microsoft Lync Server for BlackBerry AtHoc

- A minimum of Dual-Core Dual CPUs (2 Dual-Core 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
- 4 GB per server
- Dual, redundant Intel NICs and power supplies are recommended
- If using BroadCom NICs, be sure that the latest drivers are installed and disable the TCP Chimney feature as per the guidelines 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 disks depends on the hardware configuration.

Note: Limit SQL RAM usage to 60% of the total system RAM.

The installation procedure requires at least 20 GB free for data.

Software

The following are the minimum software requirements for installing and configuring Microsoft Lync Server for BlackBerry AtHoc:

- SQL Server Express 2008 R2
- Internet Information Services (IIS) 7.0
- .NET Framework 3.5 SP1 (the installer for .Net Framework 3.5 will install version 2.0.50727 of the Framework also)
- Unified Communications Managed API (UCMA) 3.0 runtime environment. Download the runtime environment from Microsoft at the following URL:

<https://www.microsoft.com/en-us/download/details.aspx?id=10566>

Microsoft

BlackBerry AtHoc supports Microsoft Lync Server using the following software versions:

- NDS 2.8.1
- Microsoft Lync Server release 6.1.8.85 R2 CP2 or later release
- Microsoft Lync Server 2010 or 2013. (Office Communicator Service (OCS) 2007 is not supported.)

BlackBerry AtHoc requires the following Microsoft Lync Server configuration:

- Create a Microsoft Lync Server account for the BlackBerry AtHoc system. Use a BlackBerry AtHoc identifiable username and name, such as `alertadmin` and `AtHoc Notification System`.
- Ensure the Microsoft Lync Server account can place Public Switched Telephone Network (PSTN) calls, which is required for enterprise voice.
- For callback purposes, ensure the account is assigned an internal and an external phone number to call in. Add these phone numbers in the `callback` fields of the Microsoft Lync Server plug-in configuration file. To learn more about editing the configuration file, see [Configure Lync authentication](#).

Configure the Microsoft Lync Server 2013 server plug-in

The following sections describe how to configure the Microsoft Lync Server plug-in for NDS. Use the NDS console to configure accounts and the plug-in parameters.

Open the NDS console

Use the BlackBerry AtHoc NDS console to manage the NDS.

Prerequisite: The NDS host services must be set up and you must have NDS administration privileges. As an AtHoc NDS administrator, open the NDS Console using the following server address:

```
PATH \\AtHocENS\DeliveryServer\Tools\NDSConsole
```

For more information on how to install and configure the NDS console, see the [BlackBerry AtHoc Notification Delivery Service Installation and Configuration Guide](#).

Configure the NeoSpeech audio parameters

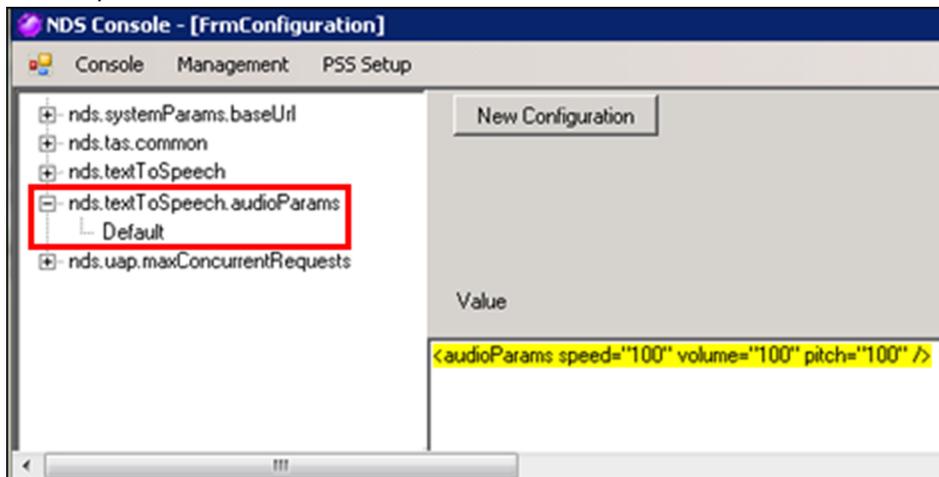
Third-party software providers, like NeoSpeech, provide text-to-speech capabilities for telephony alerts. NeoSpeech is a required application that provides text-to-speech functionality for audio files and must already be installed.

The NeoSpeech audio parameters control speech speed, volume, and pitch. The defaults are set to the highest quality at the account level.

An operator can slow the speech speed based on your organization's requirements.

To configure the parameters, complete the following steps:

1. In the NDS console, navigate to **Management > Configuration**.
2. In the left pane, click the `nds.textToSpeech.audioParams` line and then click **Default**. The New Configuration screen opens.



3. Optionally, customize the speed, volume, and pitch values by changing the values that appear in the text-entry field on the right side of the screen.
4. **Strongly Recommended:** Test the new values before sending out an alert.

Note: The operator must restart the BlackBerry AtHoc processor after making any changes in these parameters.

5. Click **Update**.

Manage organization accounts for Microsoft Lync Server 2013

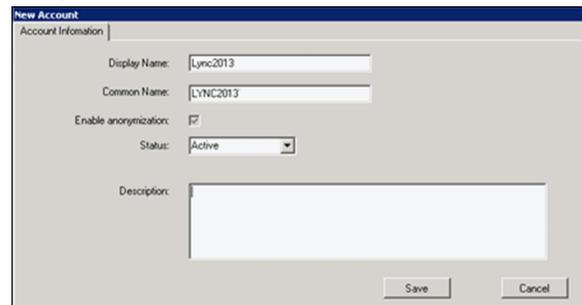
This section describes how to create the organization account and users for Microsoft Lync Server on the NDS server.

Create a new account

You must create a new organization account that will be associated with a user and will manage the Microsoft Lync Server settings.

1. In the NDS Console, navigate to **Management > Account**.
2. On the **Account Management** screen, click **New Account**.
3. On the **New Account** window, enter the **Display Name**, which is the name used when configuring the Microsoft Lync Server delivery gateway on BlackBerry AtHoc.
4. Keep the following defaults:
 - The value of Status must be active.
 - Enable anonymization must be checked.
5. Click **Save**.

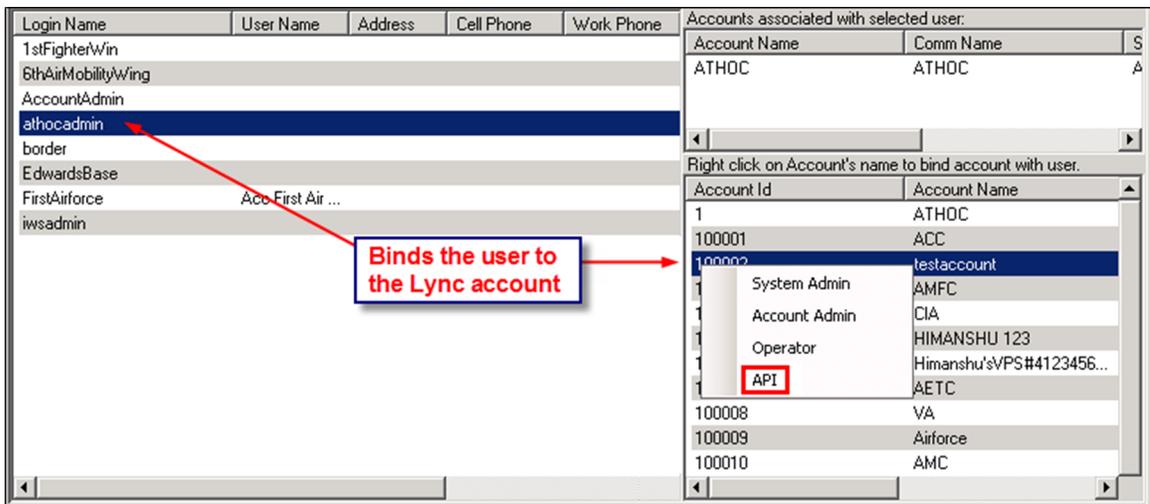
The following image shows the completed New Account screen:



Create a user

Create a user that will be associated with the account.

1. In the NDS Console, navigate to **Management > User**. The User Management window opens.
2. Click **New User**.
3. On the **New User** window, enter values for the **Login Name**, **Password**, and **Confirm Password** fields.
4. Click **Save**.
5. To associate the user with an account, complete the following steps:
 - a. Click to select the username.
 - b. Right-click an account name and select the **API** option.



The user is then associated with the Microsoft Lync Server account.

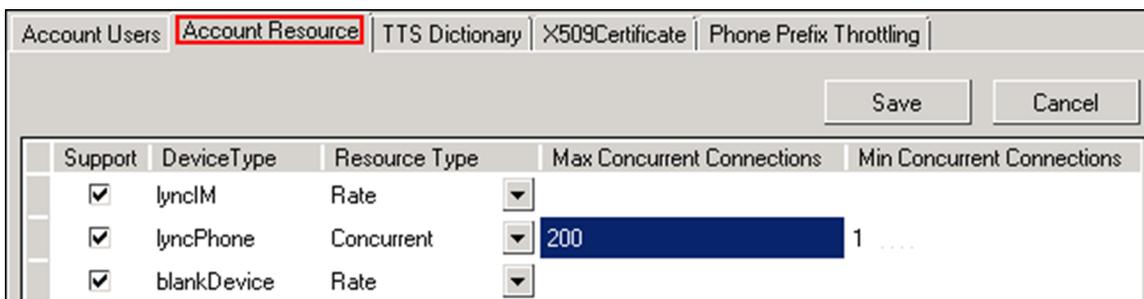
Set up minimum and maximum concurrent connections

You can configure resource support levels for each account by device type and resource type.

1. In the NDS console, navigate to **Management > Account**.
2. Highlight the account that you want to configure. The account configuration tabs open below.
3. Click **Support** for the LyncPhone device.
4. Enter values for the **Max Concurrent Connections** and **Min Concurrent Connections** fields.

Note: To ensure that the lines are available when required, you should add 1.25 of the total number of lines assigned to this account as the Max and Min concurrent connections values.

The image below shows how the Account Resource fields should look when you finish assigning account level resources.

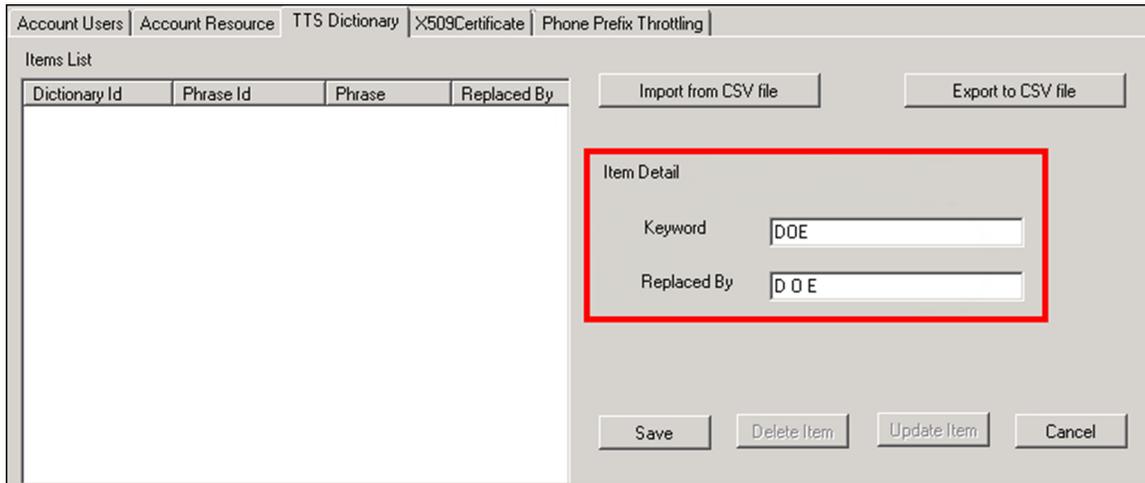


Configure NDS resources and set up the text to speech (TTS) dictionary

For key phrase and acronyms, it is useful to identify the correct sound for a term. For example, the acronym DOE would be pronounced “doh-e” rather than as three separate letters, “D” “O” and “E” when the text of a message is translated to speech for an alert placed from BlackBerry AtHoc to a telephone. You can remedy such an occurrence by completing the steps below for each phrase or acronym that requires a specific pronunciation.

1. In the NDS console, navigate to **Management > Account**.
2. On the **Account** screen, click the account number that requires a term clarification.
3. Select the **TTS Dictionary** tab for the account.
4. In the **Item Detail** field, enter the following information:

- a. The keyword as it appears in BlackBerry AtHoc.
- b. Each letter of the acronym with a space between each letter to ensure that the acronym is pronounced correctly in the voice alert.



5. Click **Save**.

Throttle PBX prefixes

Limit concurrent telephone calls to prevent PBX systems with a limited number of incoming telephone lines from being overwhelmed. This process is known as PBX throttling.

1. In the NDS console, navigate to **Management > Account**.
2. Highlight an account.
3. Click the **Phone Prefix Throttling** tab in the lower half of the screen.
4. In the **Item Detail** section, enter the following information:
 - For **Prefix**: Type "1", the area code and the prefix without spaces or dashes.
 - For **Line Limits**: Enter the number of lines to be used during an alert for that account.



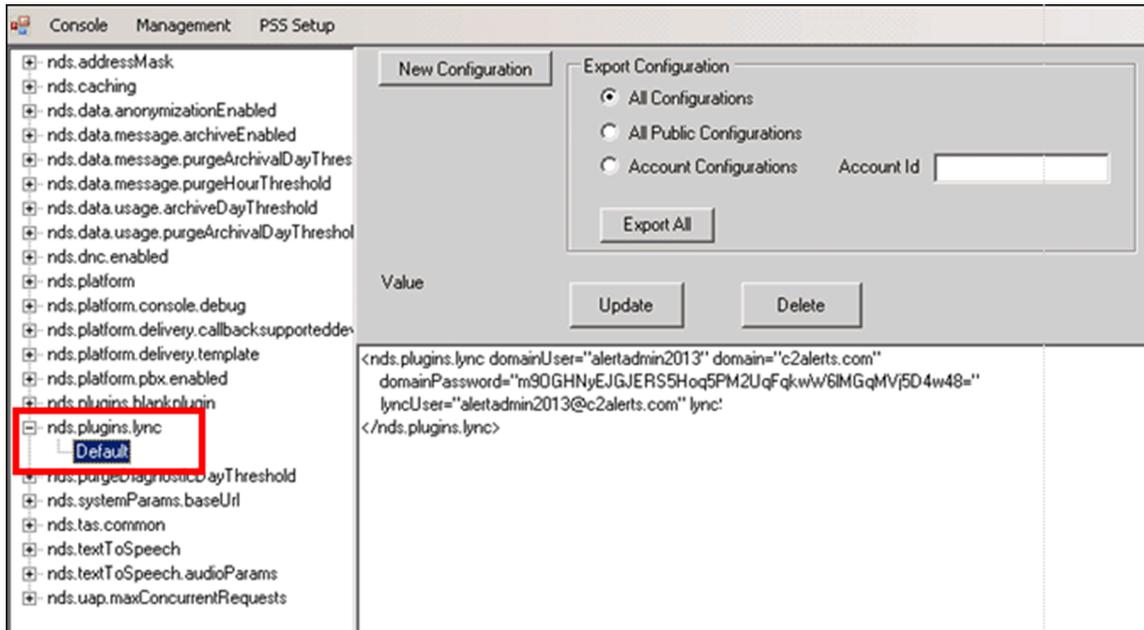
5. Click **Save**.

Configure the Microsoft Lync Server plug-in settings

This section identifies the parameters that you need to set for the Microsoft Lync Server, which includes parameter settings for network authentication.

The Lync plug-in works with Microsoft Lync Server to display alert messages through desktop instant messaging.

1. In the NDS console, navigate to **Management > Configuration**.
2. Click to expand `nds.plugins.lync` Click **Default**.



3. Modify the settings that appear in the field on the right.

Configure Lync authentication

You can configure Lync authentication by updating `nds.plugins.lync` using the NDS console.

To configure Lync authentication, complete the following steps:

1. In the NDS console, navigate to **Management > Configuration**.
2. Click to expand `nds.plugins.lync` Click **Default**.
3. Copy and paste the following code statements into the **Value** field:

```
<nds.plugins.lync domainUser="alertadmin" domain="c2alerts.com"
domainPassword="<ENCRYPTED_PASSWORD>" lyncUser="alertadmin@c2alerts.com"
lyncServer="devcs.c2alerts.com" lyncServerPort="5061"
maxImTasksPerExecution="500" maxVoiceTasksPerExecution="20">
</nds.plugins.lync>
```

4. Specify the values for the authentication parameters using the information in the following table. You should keep the default values as shown.

Lync network authentication configuration parameter	Description
domainUser	Valid user with administrative permissions on the Lync domain
domain	Domain name for Lync domain. Format: <mydomain.com>
domainPassword	Password for domainUser

Lync network authentication configuration parameter	Description
lyncUser	Lync login user. Format: <user@domain.com>
lyncServer change conditional coding back	Lync server name. Format <lync.domain.com>
lyncServerPort	Lync server port. The default is 5061.
maxImTasksPerExecution	Internal setting. Do not change.
maxVoiceTasksPerExecution	Internal setting. Do not change.

5. Click **Update**.

Verify Microsoft Lync Server 2013 settings

To activate the Lync plug-in, you need to have enough ports open between the NDS server and the end users. Because each Lync call requires two ports and there is a lot of overhead during call initiation, you might not be able to make more than 5 calls with 40 ports. It is recommended to use at least 1000 ports, although testing 45 concurrent calls with 200 ports was successful. This number of ports should also be enough for additional concurrent lines.

Two settings control the configuration of the ports: the Lync policy and the network settings.

Lync policy setting

The Lync policy setting controls the which ports and how many can be used.

The `ClientMediaPortRangeEnabled` flag controls whether there are restrictions for used ports.

- `ClientMediaPortRangeEnabled = false`: This mode specifies that there are no restrictions for used ports
- `ClientMediaPortRangeEnabled = true`: This mode requires that you enable enough ports for a mass communication device.

To view the Lync configuration, complete the following steps:

1. Open a command window and run as an administrator.
2. Enter the following command to view the Lync configuration: `Get-CsConferencingConfiguration`.

To enable the ports, set the value of `ClientAudioPortRange` to the recommended value of 1000:

1. Open a command window and run as an administrator.
2. Enter the following command to set the port range: `set-CsConferencingConfiguration -ClientAudioPortRange 1000`.

Network settings

The network restrictions (such as firewalls and routers) should support the Lync policy settings:

- If the value `ClientMediaPortRangeEnabled` is false, each port range value should be open for communication between the NDS machine and the end users.
- If the value `ClientMediaPortRangeEnabled` is true, the port range specified by [`ClientAudioPort`, `ClientAudioPortRange`] should be open for communication between NDS machine and the end users.

Note: Normally, the network settings support the Lync requirements. However, if you need to open more ports, you might need to make network changes.

Configure voicemail options

Configure voicemail options by updating the `nds.tas.common` plug-in from the NDS console.

1. In the NDS console, navigate to **Management > Configuration**.
2. Select `nds.tas.common`.
3. In the **Value** field, copy and paste the following code statements:

```
<nds.tas.common vmDetectionVoiceTimeOutMs="1500" callbackPhoneNumber="7000"
callbackExternalPhoneNumber="18003657000" callbackPinValidationMaxRetry="2"
callbackPhoneValidationMaxRetry="3" voiceMaxRetry="2"></nds.tas.common>
```

4. Specify the values for the voice parameters described in the following table. You should keep the default values as shown.

Lync network authentication configuration parameter	Description
<code>vmDetectionVoiceTimeOutMs</code>	Internal setting: do not change.
<code>callbackPhoneNumber</code>	Enter the internal extension (usually a 4 or 5 digit number) for the Lync user account. For example 7000.
<code>callbackExternalPhoneNumber</code>	Enter the external extension phone number for the Lync user account. For example: 1-800-555-7000.
<code>callbackPinValidationMaxRetry</code>	Internal setting: do not change.
<code>callbackPhoneValidationMaxRetry</code>	Internal setting: do not change.
<code>voiceMaxRetry</code>	Internal setting: do not change.

5. Click **Update**.

Configure extension dialing

To ensure successful extension dialing, complete the following steps to configure the `nds.plugin.ucmtas.extInstructions` plug-in from the NDS console:

1. In the NDS console, navigate to **Management > Configuration**.
2. Select `nds.plugin.ucmtas.extInstructions`.
3. In the **Value** field, copy and paste the following code statements:

```
<extInstructions>
<phoneNumber preExt=",,,,,,,,," postExt=",,,,,,,,,"
override="true"><yourmainphonenumber></phoneNumber>
</extInstructions>
```

Note: Each comma (,) specifies a unit of time between when the phone number is dialed and when the extension number is dialed. If you need more time, add more commas.

4. Fill in the phone number for your organization that is used with extension numbers, where `<yourmainphonenumber>` is a 10-digit phone number, such as 1-800-555-1212. If you have more than one

company number, such as for different regions, enter a separate line for each number. The following example shows multiple lines for phone numbers.

```
<extInstructions>
<phoneNumber preExt=",,,,,,,,,,,,," postExt=",,,,,,,,,,,,,"
  override="true"><yourmainphonenumber_EastCoast></phoneNumber>
<phoneNumber preExt=",,,,,,,,,,,,," postExt=",,,,,,,,,,,,,"
  override="true"><yourmainphonenumber_WestCoast></phoneNumber>
</extInstructions>
```

5. Click **Update**.

Update the NDS delivery template

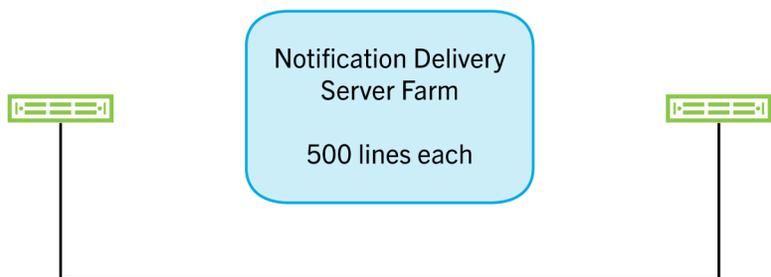
The delivery template specifies a script for delivering alerts to various types of devices, including Lync. Ensure that you have the latest delivery template by pasting the following template file into the `nds.platform.delivery.template` plug-in.

1. Navigate to the following directory in the NDS server file system: `..\Program Files (x86)\AtHocENS\DeliveryServer\Templates`.
2. Open and copy the contents of the following file: `template1.xml`.
3. In the NDS console, select **Management > Configuration**.
4. Select `nds.platform.delivery.template`.
5. In the **Value** field, paste the contents of the `template1.xml` file.
6. Click **Update**.

Set up NDS Lync resource pools

When getting started with NDS, you must first specify a resource pool. This section describes how to open the Resource Management screens and size a resource pool for an NDS system.

A resource pool can be a single Notification Delivery Server or a linked group of Notification Delivery Servers configured to work as a farm. The following illustration shows a farm configuration with 500 lines for each of the two servers. The farm configuration has a total of 1,000 lines and the farm counts as a system.



The resource pool sizing is applied at the system level NDS. A system level NDS can be a single NDS server or multiple NDS servers configured as a farm. To assign resource pool sizing at the system level, complete the following steps:

1. Open the **Management** tab.
2. Select **Resource** to open the Account Management Form.
3. Select **LyncPhone** to size the device type.
4. Add the pool size by calculating the number of lines in an NDS system and multiplying it by 1.25. For example, using the previous example, the farm counts as a single system with 1,000 lines so the pool size should be set up for 1,250 lines.

The pool size should be 1.25 of the total number of lines available at the farm level for each system.

5. Click **Save**.

Verify that the NDS process is running

To verify that the Lync plug-in is running as a separate process, complete the following steps:

1. Connect to the NDS server and start NDS.
2. Verify that the `LyncDeliveryServer` process is running.
3. For Windows, open Task Manager and check the `LyncDeliveryServer` process.
4. If the `LyncDeliveryServer` process is not running, do the following:
 - a. Start `LyncDeliveryServer` manually.
 - b. Accept the Operating System security warning.

Configure the Lync device delivery gateway in the BlackBerry AtHoc management system

This section describes how to register and enable a BlackBerry AtHoc server to publish alerts through NDS.

Note: This step is not required to perform the testing NDS steps described in the BlackBerry AtHoc *NDS Installation and Configuration Guide*.

Enable the Lync gateway

1. On the BlackBerry AtHoc server, navigate to the `<%AtHocENSHome%>\ServerObjects\Tools` folder and run the following .exe file: `AtHoc.Applications.Tools.InstallPackage.exe`.
2. Select **Microsoft Lync**.
3. Click **Enable**.
4. Close the window.

Register the NDS Lync device delivery gateways

Perform the following NDS device registration process for each organization, if you use more than one.

1. Open Internet Explorer and launch BlackBerry AtHoc management system.
2. In the navigation bar, click your username. Click **Change Organization**.
3. On the **Change Organization** window, click the name of the organization you want to perform the NDS device registration process for. Click **OK**. The system refreshes and displays the organization you selected.
4. In the navigation bar, click .
5. In the **Devices** section, click **Microsoft Lync Server**.
6. On the **Microsoft Lync Server** window, click **Copy default settings**.
7. In the **Notification Deliver Server address** field, replace the default text `<NDS-SERVER-ADDRESS>` with the NDS server address.
8. In the **Username** field, enter the Lync user that was created as described in [Create a user](#).
9. In the **Password** field, enter the user's Lync password.
10. Keep the **Debug Trace** field default value of **No** unless you are actively debugging.
11. Click **Save**.

Enable Lync devices in BlackBerry AtHoc

1. In the navigation bar, click .
2. In the **Devices** section, click **Devices**.
3. On the **Device Manager** screen, click **Microsoft Lync Messenger**.
4. On the **Microsoft Lync Messenger** screen, click **Edit**.
5. Scroll down the page to the **Delivery Gateways** field.
6. If **Microsoft Lync Messenger** is not displayed, select it from the **Add a Delivery Gateway** list.
7. In the **Microsoft Lync Messenger** row, click **Configure**. The configuration XML file appears.
8. The default configuration publishes through Lync IM (instant messaging), but you can modify the XML file to specify a different publishing device, for example Lync Phone.

The following table describes the configuration options:

Device type	Transport
lyncIM	other
lyncPhone	phone
phone device common name: <ul style="list-style-type: none">• homePhone• emergencyPhone• mobilePhone	phone

9. Click **Save**.

10. Click **Return to Device Manager**.

11. On the **Device Manager** page, select the check-box on the **Microsoft Lync Messenger** row.

12. Click **Enable**.

Create alerts for Lync devices

1. Open **BlackBerry AtHoc**.
2. In the navigation bar, click **Alerts > New Alert**.
3. On the **Select from Alert Templates** screen, click **Create a Blank Alert**.
4. In the **Content** section, complete the fields that are relevant to the alert you are creating.
5. In the **Target Users** section, select the targeting criteria you want to use for the alert.
6. Click **Select Personal Devices**. A list of all available personal devices appears, accompanied by statistics that reveal the total number of your selected users who can be reached by each device type.
7. Select **Microsoft Lync Messenger**.
8. Click **Options** in the top corner of the Personal Devices field. The Personal Devices Options screen opens, displaying separate tabs and separate options for each of the devices you selected for the alert.
9. Click **Microsoft Lync Messenger**.
10. When you are finished specifying device options, click **Apply**.
11. On the alert creation screen, complete the remaining sections.
12. Click **Review & Publish**.

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/customer-support-portal.html>

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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