How to Install and Configure Microsoft BizTalk 2013 R2 Accelerator for RosettaNet

Technical Whitepaper

Author: Sandro Pereira

Version: 1.0

This guide describes the process for installing and configuring Microsoft BizTalk Server 2013 R2 on a single computer (standalone machine) running Windows Server 2012. This information will help you plan the installation and configuration of BizTalk Server 2013, applications and components on which it depends.

Table of Contents

1 About the Author

Sandro Pereira

Currently working as a BizTalk consultant at DevScope (www.devscope.net). In the last few years has been working implementing integration scenarios and Cloud Provisioning at a major telecommunications service provider in Portugal. His main focus is on Integration Technologies where is been using .NET, BizTalk and SOAP/XML/XSLT since 2002.

He is an active member and moderator on the MSDN BizTalk Server Forums, TechNet Wiki author, Code Gallery contributor and was awarded Most Valuable Professional (MVP) for BizTalk Server by Microsoft since 2010 (https://mvp.support.microsoft.com/profile/Sandro.Pereira) and MCTS: BizTalk Server BizTalk Server 2006 and BizTalk Server 2010 certified.

He is also author of the Blog: http://sandroaspbiztalkblog.wordpress.com/, member of the BizTalk Brazil community: http://www.biztalkbrasil.com.br/, NetPonto community (http://netponto.org/), member of BizTalk Administrators community: http://www.biztalkadminsblogging.com, editor of the magazine "Programar" (http://www.revista-programar.info/?action=editions), public speaker and technical reviewer of "BizTalk 2010 Cookbook", Packt Publishing book and several BizTalk white papers.

You can contact Sandro at: Sandro-pereira@live.com.pt (Twitter: @sandro_asp).

2 About the Whitepaper

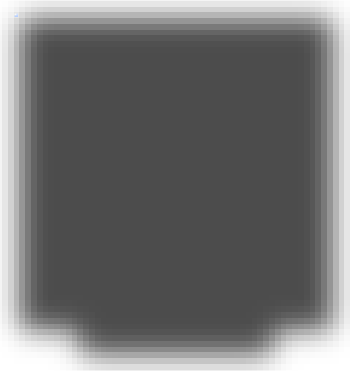
2.1 Paper Introduction

This article will explain in detail – a step-by-step guideline – how to install and configure Microsoft BizTalk 2013 R2 Accelerator for RosettaNet (BTARN) on a standalone environment running Windows Server 2012 R2 and BizTalk Server 2013 R2.

RosettaNet is a business protocol that enables enterprises to conduct business over the Internet. The RosettaNet Consortium (http://www.rosettanet.org) is an independent, non-profit consortium of major information technology, electronic component, and semiconductor manufacturing companies working to create and implement industry-wide, open process standards. These processes are designed to standardize the electronic business interfaces used between participating supply chain partners. The RosettaNet Implementation Framework (RNIF) specification is a guideline for applications that implement RosettaNet Partner Interface Processes (PIPs). These PIPs are standardized electronic business processes used between trading partners. You can find all the Framework specification and the list of PIPs available, as well the PIPs contract (DTD and documentation) in the RosettaNet Consortium website: http://www.rosettanet.org.

BTARN will extend the existing BizTalk Server capabilities allowing you to run RosettaNet Partner Interface Processes (PIPs) and by doing that, this will allow you to exchange RosettaNet documents with your business partners, by simple providing a set of orchestrations, schemas, tools and related helper assemblies. BTARN supports the RosettaNet Implementation Framework (RNIF) versions 1.1 and 2.0.01. However installing the accelerator can be difficult if you do not plan correctly for it.

This guide will provide you comprehensive guidelines that will help you plan the installation and configuration of BTARN.



2.2 Assumptions and out of scope

It will be assumed that all the BTARN software requirements already have been installed.

This guideline will use BizTalk Server 2013 R2 running over Windows Server 2012 R2 with all the latest critical Windows updates from Microsoft and latest Cumulative Updates for BizTalk Server installed.

3 Important considerations before you install the RosettaNet Accelerator

There are some important considerations or suggestions, since some of these operations are not mandatory, that we can and should set before starting the installation and configuration Microsoft BizTalk 2013 R2 Accelerator for RosettaNet (BTARN).

3.1 Software Requirements

The following table lists the software that BizTalk 2013 R2 Accelerator for RosettaNet (BTARN) requires to run correctly. BTARN has the same software and hardware requirements as BizTalk Server 2013 R2.

Software Required	Description	Required for/Information
Microsoft Windows	• Windows Server 2012 R2 • Windows Server 2012 • Windows 8.1 • Windows 7 SP1	
Microsoft BizTalk Server 2013 R2	• Enterprise Edition • Standard Edition • Developer Edition	
Internet Information Services (IIS)	The version that comes with the operating system. • IIS version 8.0 and 7.5 are supported.	
Microsoft Office	**OPTIONAL** Microsoft Office Excel 2013 or 2010. **BIZTALK SERVER 2013 R2 SUPPORTS ONLY 32-BIT VERSION OF MICROSOFT OFFICE.** (installed on client computers when using BAM)	Required by Business Activity Monitoring (BAM) to display a real-time view of business processes
Microsoft SQL Server	• Microsoft SQL Server 2014 • Microsoft SQL Server 2012 SP1	This is required for BTARN Runtime, BizTalk Server Runtime, EDI, and BAM
SQL Server Analysis Services		if using BAM aggregations
SQLXML 4.0 with Service Pack 1	SQLXML enables XML support for your SQL Server Database. It allows developers to bridge the gap between XML and relational data. You can	This is required for BizTalk Server Runtime, Administrative Tools, and BAM.

	create XML View of your existing relational data and work with it as if it was an XML file. **NOTE**: You don't need to worry about installing this because **REDISTRIBUTABLE CAB FILE** will install this for you if necessary.	
Windows Identity Foundation	**OPTIONAL** The official documentation mention that Microsoft Windows SharePoint Services is a requirement. However I think this is not correct/necessary. Until this date I don't see any connection between the accelerator and the SharePoint Service.	SharePoint Services adapter or SharePoint Services Online when used with SharePoint Services Client Side Object Model (CSOM). It is not needed when using the SharePoint Services Web Service, which is deprecated. Or when you don't want to use this feature.
Microsoft Visual Studio	**OPTIONAL** Visual Studio 2013	Provides a development environment for building BizTalk Server applications. Ultimate Edition is recommended, but Premium and Professional are also supported. This is required for BizTalk Server Developer Tools and SDK component

3.2 Things to be taken care

When you are planning to install Microsoft BizTalk 2013 R2 Accelerator for RosettaNet (BTARN), you need to be very careful with certain, documented and non-documented, notes or necessary configuration in your existing BizTalk environment. These are the notes in the official documentation:

- Both BTARN and BizTalk Server 2013 R2 require Microsoft .NET Framework 4.5 as software pre-requisite.
    - If you have multiple versions of .NET Framework installed on your computer, make sure that the BtarnAPP Web application is referencing .NET Framework 2.0. You can configure this by using the Internet Information Services (IIS) Manager.
    - **PERSONAL NOTE**: Despite the official documentation saying that the BtarnAPP Web application need to refer .NET Framework 2.0, what I noticed is that it will work properly in .NET 4.0.

- The BizTalk Host Instance Account and the BizTalk Isolated Host Instance Account should be the same. Otherwise, BTARN will not function correctly.
- BTARN allows you to add only individual service accounts, and not groups, to the BizTalk Server Administrators group or the BizTalk Application Users group.
- You need to create a Web Service extension for BTSHTTPReceive.dll, configuring the IIS isolation mode.
    - For more information, see the "404 Not found error when sending a HTTP request" entry in the "Troubleshooting: Issues and Resolutions" topic at http://go.microsoft.com/fwlink/?LinkId=188560. Also, see the "How to Configure IIS for an HTTP Receive Location" topic in BizTalk Server Help.
- Add your server (http://<server name>) to the Local Internet zone in the Internet Explorer security options.
- If a remote SQL instance using non default port is used for configuring BTARN, then the SQL Server Client Tools must be installed locally.
    - For details, see BizTalk Server Installation Guide for multicomputer environment at http://go.microsoft.com/fwlink/?LinkId=186857.
- A separate group must be used for role - BizTalk Administrator, BizTalk Host Users, and BizTalk Isolated Host Users during the configuration of BizTalk Server.
- BTARN does not support the use of alias created for SQL instance to configure the BTARN database.

Unfortunately for us, there are still plenty of notes or the necessity to perform additional settings in our environment so that the minimal conditions are guaranteed for BTARN be able to run properly:

- **Installation**
    - RosettaNet requires the IIS_WPG group (group provided by IIS 6.0 that provides the minimum set of user rights and permissions required to run an application) unfortunately for us this group doesn't exist anymore, so you need to create it manually. Otherwise, BTARN installation will fail.
- **Host Instances**
    - The accelerator requires both in-process and isolated host to be marked as "Authentication Trusted" and "32-bit only". Otherwise, BTARN installation will fail.
        - **VERY IMPORTANT**: The accelerator requires both in-process and isolated host to be marked as "Authentication Trusted" (this setting is off by default when you create a new host) and "32-bit only".
        - And the reason why in-process need to be also trusted is that the BizTalk Host Instance Account and the BizTalk Isolated Host Instance Account should be the same and you cannot use the same account for trusted and untrusted hosts. Otherwise it was only necessary to mark the isolated host as trusted.
    - The BizTalk Host Instance Account and the BizTalk Isolated Host Instance Account should be the same. Otherwise, BTARN will not work correctly.

        - If the service account set for the BTARN application pools is different from the Isolated Host account, BTARN will not be able to process incoming messages correctly. When the receive ".aspx" page calls the pipeline, the pipeline will not have access to the appropriate certificates. Therefore, it will not be able to decrypt the incoming message or validate the signature. It will also not be able to access the MessageBox database.
    - Do never use Full Qualify domain name in the Logon credentials. Otherwise, BTARN will not work correctly.
    - Make sure the BTARN in-process host is the default send handler of HTTP Adapter and the general Default Host in the group
        - **IMPORTANT**: Make sure the BTARN in-process host is the default send handler of the HTTP Adapter. When you create a Partner it will create two send ports and it will use the default send handler for the HTTP Adapter: If the BTARN in-process host is not the default handler, the engine will use the default one instead and then you need to stop the BTARN process, unbinding the send ports, reconfigure the send handler and only then start everything again, so this will induce a small shutting down in our environment.
        - When installing the accelerator, it will install all the assemblies into the default BizTalk Application, and will attempt to configure all orchestrations and ports to run in the first host it finds that is marked as "Authentication Trusted". To ensure everything is installed to the host instances you need to:
            - Temporarily make the trusted host instance as the default instance (not recommended).
            - Or if you want the assemblies to be in a different application than the default, create a new application in the BizTalk Administration Console and set it as the default during the installation.

- **BAM**
    - Microsoft provide a Tracking file with the activity definitions. However: you need to create your custom BAM views
        - BTARN supports enhanced tracking using BizTalk Activity Monitoring (BAM).
            - Right-click the BizTalk Accelerator for RosettaNet node and then click Properties.
            - In the Global Properties dialog box, select Enable BAM Tracking to enable tracking, or clear this option to disable it.
        - Microsoft provide a Tracking file with the activity definitions however:

- The tracking points are not customizable;
- Do not change activity definitions.
- You only can Manage BAM views and deployment.

- **Databases Maintenance**
  - BTARN database are not backed up by default
    - Fortunately for us, Microsoft provides two SQL Scripts that you need to run against this databases in other to extend the standard backup mechanisms but you also need to modify the adm_OtherBackupDatabases table to include a row for each of your custom databases.
      - C:\Program Files (x86)\Microsoft BizTalk Server 2013 R2\Schema
        - Backup_Setup_All_Procs.sql
        - Backup_Setup_All_Tables.sql
      - Also you need to modify the adm_OtherBackupDatabases table to include a row for each of your custom databases
  - There are no maintenance processes to clean up BTARN databases so you need to create these maintenance processes according to the legal requirements of your company/organization, be aware that:
    - BTARN databases can grow quickly because they contain the PIP XML that you are processing
    - They can affect the performance of your environment

4 Preparing your BizTalk Server 2013 R2 environment for BTARN

This may be the most important section in order for you to accomplish a successfully BTARN installation and configuration and at the same time preventing further additional problems. Again, the installation and configuration process is very simple, however be able to correctly configure the accelerator in order to work properly can be difficult if you do not plan correctly for it.

This part of the article will focus on how to prepare your existing BizTalk Server 2013 R2 environment for BTARN.

4.1 Create a new account to be associated with the BTARN hosts

As mention before the accelerator requires both BTARN in-process and BTARN isolated host to be marked as "Authentication Trusted" and "32-bit only“ and the account associated with these Host instances should be the same, otherwise, BTARN will not work correctly.

"Authentication Trusted" is off by default when you create a new host, or if you don't specify in the BizTalk Server configuration process that you want this setting enable. And BizTalk will not allow you to use the same user account for both trusted and untrusted hosts.

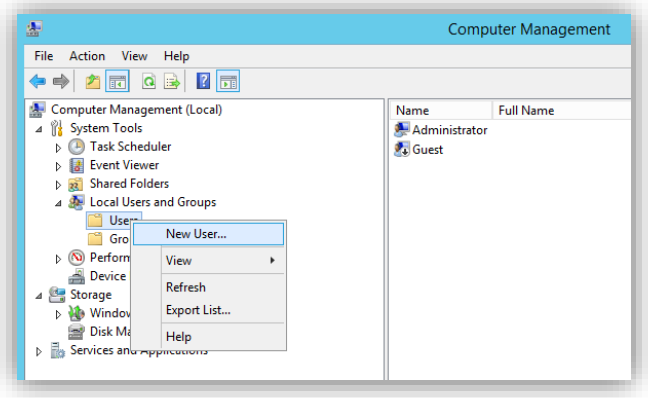
Also because, for security aspects, we don't want to have all our host instances marked as "Authentication Trusted" it is necessary for us to create:

- A new user account that will be associated to the trusted hosts.
- And a new user account (support account) that will help us in the switching host process from untrusted to trusted.

NOTE: Sometimes it is often easier/more desirable to create a new User Group with the same privileges of the "BizTalk Application Users" group (let's say: BTARN BizTalk Application Users) and a new user account that will be associated with this group to run all the BTARN processes.

To accomplished that we need to:

- Press the "Windows key" to switch to the Start screen, type "Computer Management" and click in "Computer Management" option from the Search menu
- On the left three of the "Computer Management" screen,, expand "System Tools → Local Users and Groups" and select "Users"
- Right click under "Users" folder, and then select "New User…"



In the "New User" dialog box, do the following:

- User name: Type the user name. For this guide let's assume "btsadmin"
- Full name: Optionally, type a full user name for this account.
- Description: Optionally, type a description for this account.
- Password: Type a password for the user.
- Confirm password: Confirm the password for the user.
- And leave only the "Password never expires" check box enabled

Note: Make sure that the user that you are creating (btsadmin) it has:

- The same privileges of the existent BizTalk Admin Account (in my case or in developer environments)
- It has the same privileges of the existent Account associated in the "BizTalk Application Users" group

Repeat the same steps to create another account for support, let´s call it "supportacc":

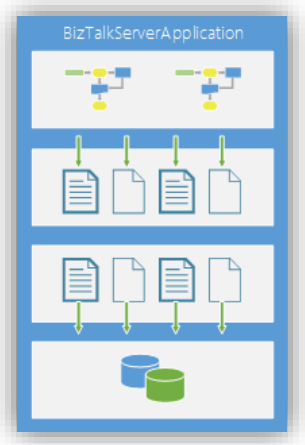
- This account will be deleted after the installation/configuration
- Normal user account, it doesn't requires any particular privileges

4.2 (Re)Configure BizTalk Host and Host Instances to support BTARN

BizTalk Server provides great flexibility for addressing high availability, because you can strategically dedicate logical hosts to run specific areas of functionality such as receiving messages, sending messages or processing orchestrations.

By default the BizTalk configuration will create two BizTalk Host and Host Instances:

- **BizTalkServerApplication**: This is the default Host and Host Instance created during configuration that will do all the work on the BizTalk Server, i.e. is the default send and receive handler for all installed adapters (other than HTTP, WCF (BasicHttp, CustomIsolated, WebHttp and WSHttp) and SOAP Receive Handlers), and is also used for processing orchestration and tracking.



- **BizTalkServerIsolatedHost**: The logical container for HTTP, WCF (BasicHttp, CustomIsolated, WebHttp and WSHttp) and SOAP Receive Handlers.

Although a single BizTalk Host can contain items that receive, send, and process messages, it is considered a best practice to create different hosts for each function to create security boundaries and for easier management and scalability. In particular, we recommend that you use different hosts for processing and for receive/send operations, and that you separate trusted and non-trusted items.

While there are benefits to creating additional host instances, there are also potential drawbacks if too many host instances are created.

- Each host instance is a Windows service (BTSNTSvc.exe), which generates additional load against the MessageBox database and consumes computer resources (such as CPU, memory, threads).

Regarding to BTARN installation and configuration process, it becomes more difficult to configure when we have multiple host and host instances created, compared with the default configuration (with only two BizTalk Host and Host Instances) and the reasons are:

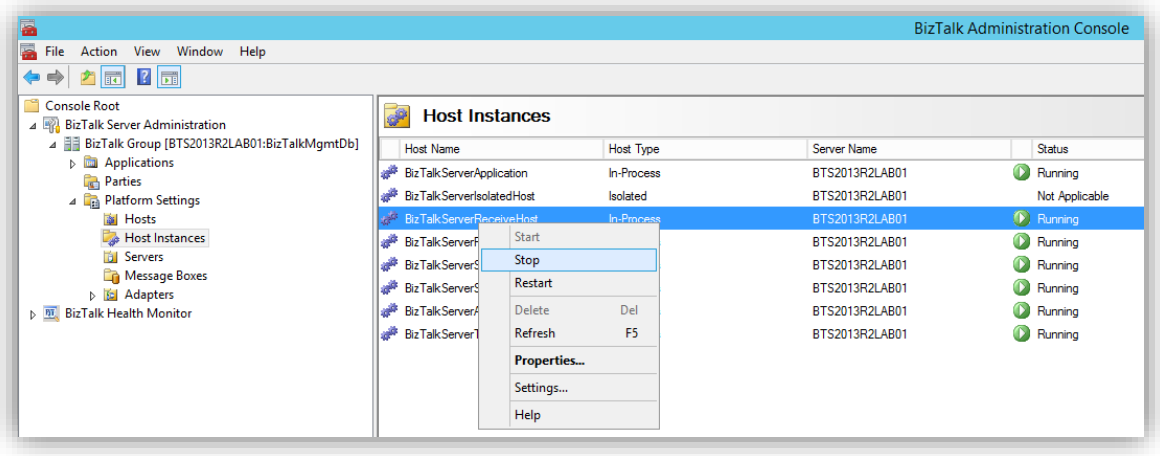
- The accelerator requires both in-process and isolated hosts that will run BTARN artifacts to be marked as "Authentication Trusted" (this setting is off by default when you create a new host), "32-bit only" and should run under the same service account.

To ensure everything is installed and configured properly we have different options:

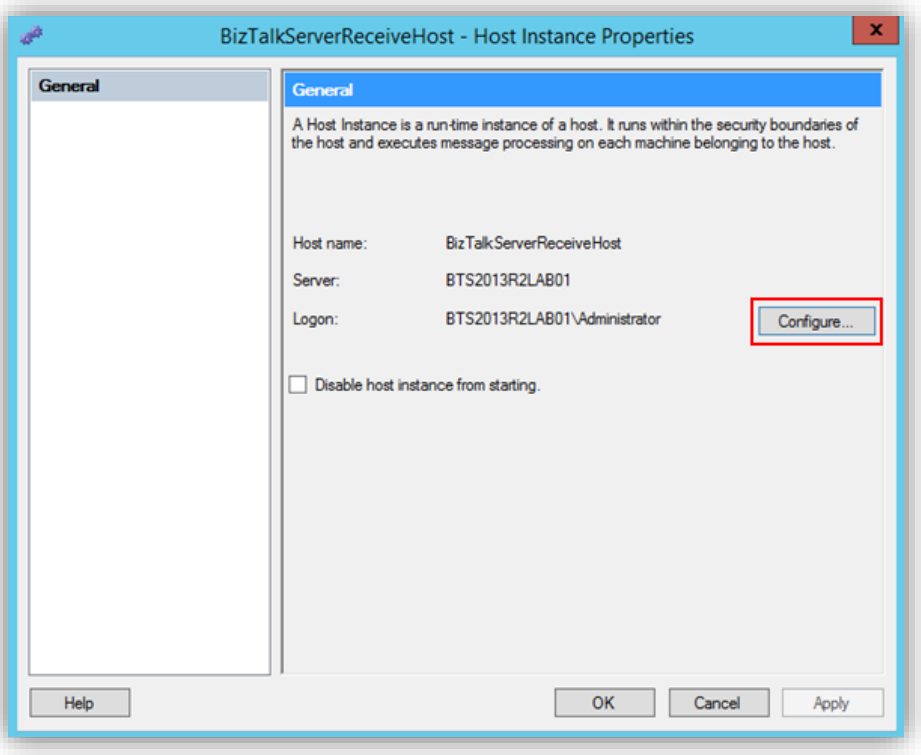
- Temporarily mark all the hosts as "Authentication Trusted" and the "32-bit only" host as the default host
    - Of course, this is not the recommended solution, but is the easier one.
- Or we need to properly configure the hosts and host instances to handle correctly BTARN.

Because I have all my environments, even my developer environments, with host separation according to some of the best practices described here: BizTalk Server Best Practices: Create and Configure BizTalk Server Host and Host Instances. I need to properly configure the hosts and host instances to handle correctly BTARN, to accomplish that we need to:

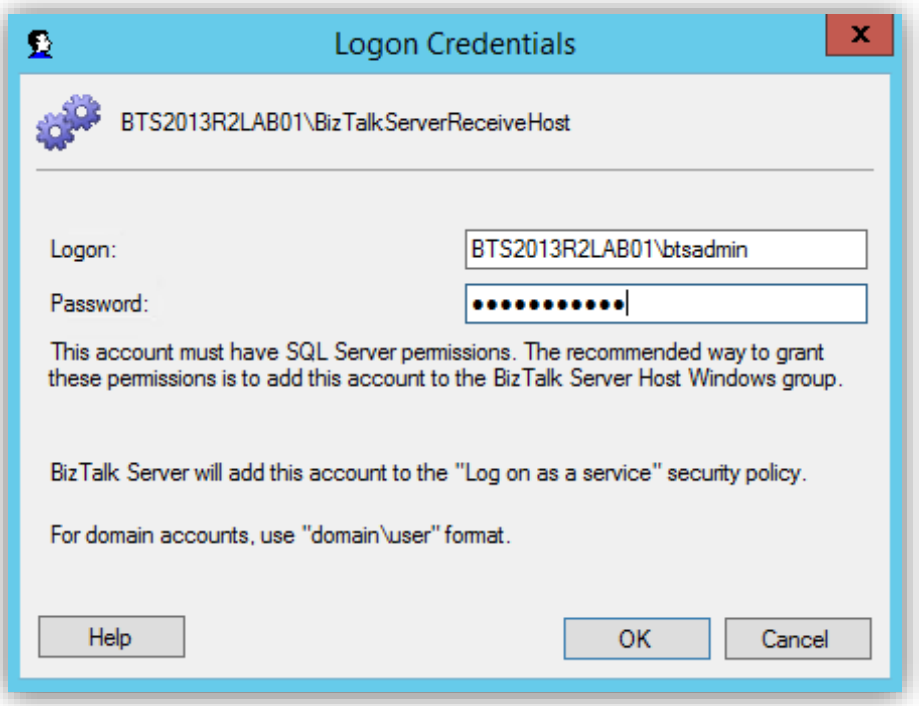
- Press the "Windows key" to switch to the Start screen, type "BizTalk Server" and click in "BizTalk Server Administration" option from the Search menu
- In the console tree, expand "BizTalk Server Administration", expand the "BizTalk group", click "Platform Settings", and then click "Host Instances".
- Now we need to change all the host instances, with the exception of "BizTalkServerApplication" and "BizTalkServerIsolatedHost" (these two will be running the BTARN artifacts), to run under this last user that we just created in the last section: "**btsadmin**"
    - Right-click in the host instance name, for example "BizTalkServerReceiveHost", and select "Stop"



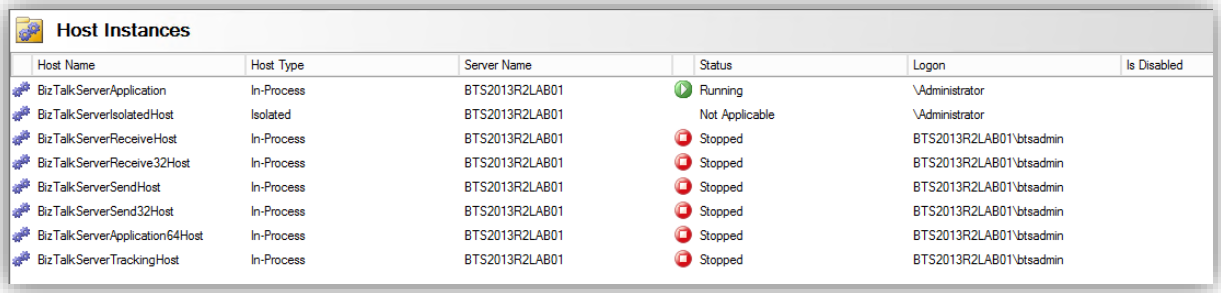
- In the details pane, right-click the host instance you want to modify, and then click "Properties", for example: "BizTalkServerReceiveHost"
- In the "Host Instance Properties" dialog box, click "Configure" to modify the service account information.



- Change the logon credentials to run under the "btsadmin" account



- Do the rest for all the host instances that you have with the exception of "BizTalkServerApplication" and "BizTalkServerIsolatedHost" host instances.



The next step is to configure the both BTARN in-process and isolated hosts to be marked as "Authentication Trusted" and "32-bit only" but because we still have two non-trusted host instances running with the same account that we need to mark as trusted and we cannot have the same account being used as "Authentication Trusted" and non "Authentication Trusted", we first need to provisionally change one of the host instance, to use the "supportacc" account, we can use for example the "BizTalkServerIsolatedHost" host instance –

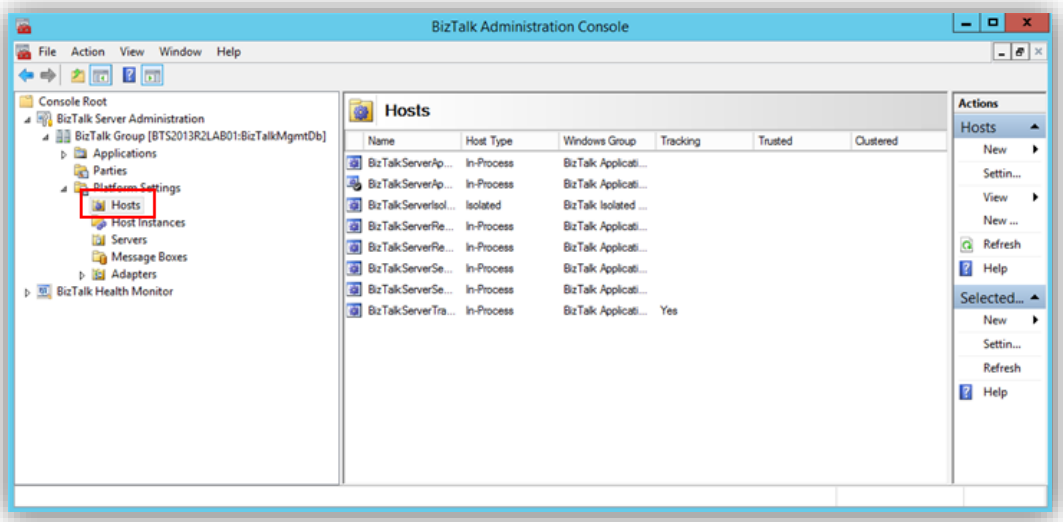
- Right-click in the "BizTalkServerIsolatedHost" name, and then click "Properties"
- In the "Host Instance Properties" dialog box, click "Configure" to modify the service account information.
    - Change the logon credentials to run under the "**supportacc**" account

Now we need to change the "BizTalkServerApplication" Host configuration and mark it as:

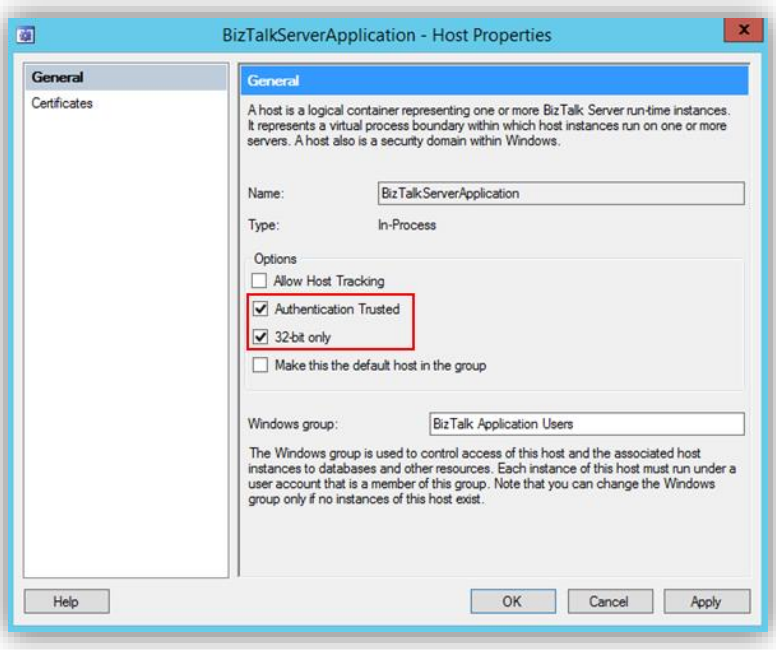
- "32-bit only" □ by default is already marked as 32-bit only
- And "Authentication Trusted"

To accomplish that we need to:

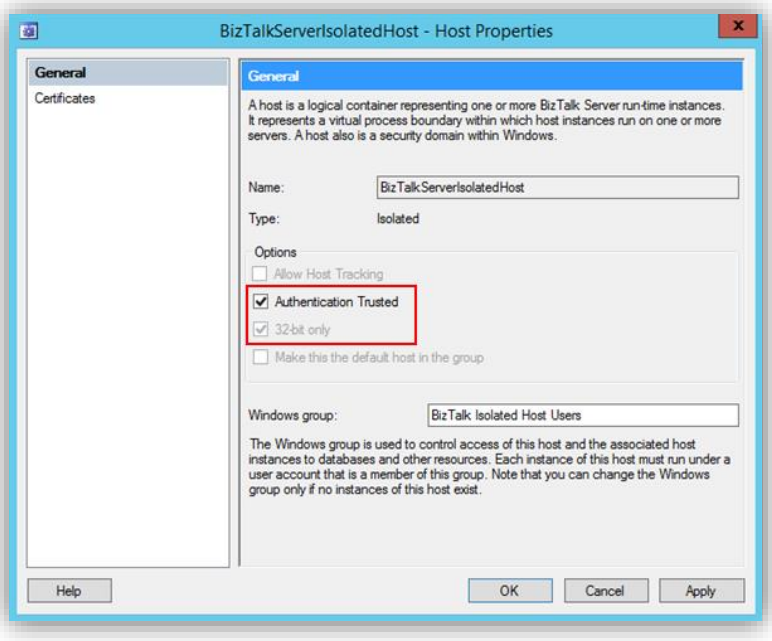
- In the BizTalk Server Administration console tree, under "Platform Settings", click "Hosts".



- In the "Hosts" pane, right-click the host that is not trusted, in this case BizTalkServerApplication", and then click Properties.
- In the "Host Properties" dialog box, on the "General" tab:
    - Verify if the "32-bit only" check box is selected, if not select the "32-bit only" check box
    - Verify if the "Authentication Trusted" check box is selected, if not select the "Authentication Trusted" check box
- And then click OK.

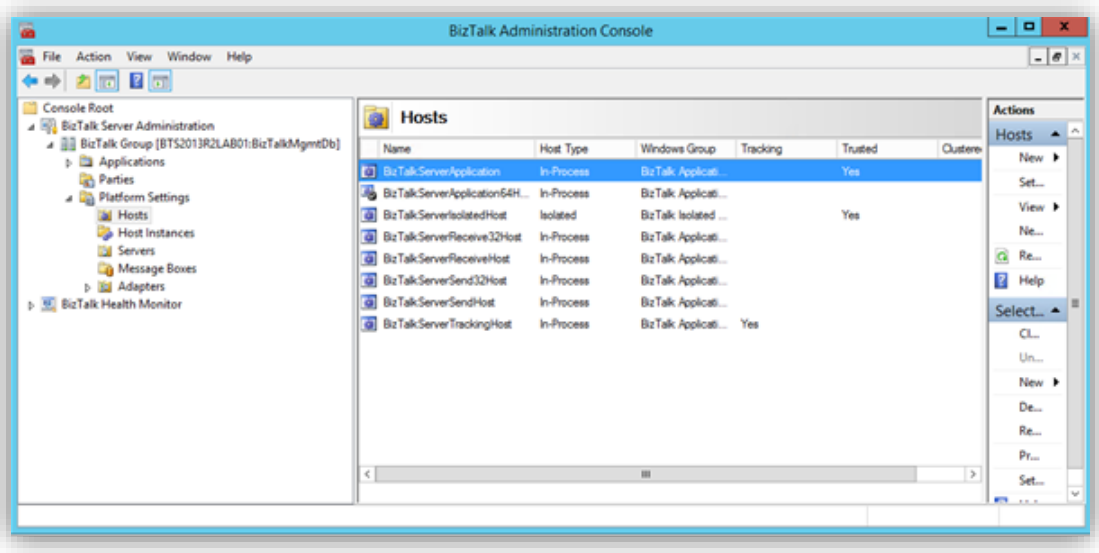


- Now do the exact same to the "BizTalkServerIsolatedHost" host



Because the BTARN BizTalk Host Instance Account and the BizTalk Isolated Host Instance Account should be the same we need to change the "BizTalkServerIsolatedHost" host instance logon account, which we momentarily configured to run under the "supportacc" account to be the same of the "BizTalkServerApplication" host instance: "Administrator".

- In the BizTalk Server Administration console tree, under "Platform Settings", click "Host Instances".
- Right-click in the "BizTalkServerIsolatedHost", and then click "Properties"
- In the "Host Instance Properties" dialog box, click "Configure" to modify the service account information.
    - Change the logon credentials to run under the "Administrator" account



Finally you should restart all the BizTalk Host instances services.

NOTE: Because we don't really want to run all our isolated processes under a trusted host instance, I recommend you to create a new Isolated Host and Host Instance that you should configured as non-"Authentication Trusted" and set to run under the "btsadmin" account (in this scenario). For that operation please check the following MSDN articles:

- How to Create a New Host
- How to Add a Host Instance

4.3 Configure the Default Host and Default Handlers

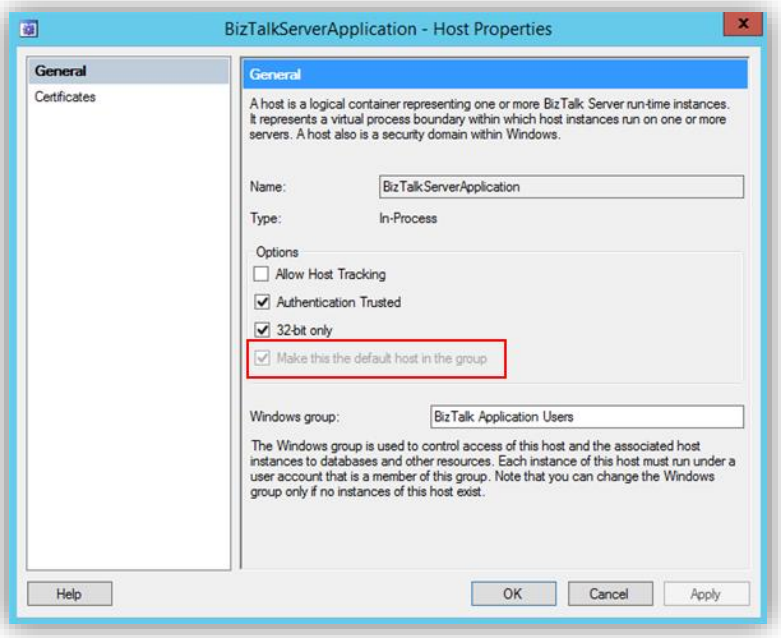
The last concern that you need to have regarding with BizTalk Host and Host instances are the:

- General Default Host in the group
- And the Default send handler of HTTP Adapter and SQL Adapter

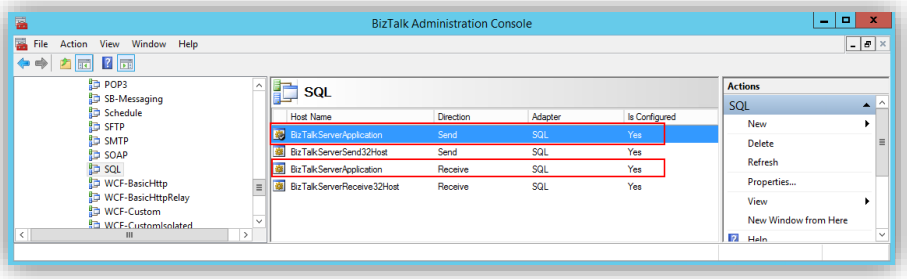
Again, as explained previously, when we are installing the RosettaNet Accelerator, the installer will install all the BTARN assemblies into the default BizTalk Application: "BizTalk Application 1", and will attempt to configure all the orchestrations and ports (receive and send) to **run not with the first host that it finds that is marked as "Authentication Trusted"** but INSTEAD WITH THE DEFAULT HOST AND HANDLERS THAT ARE CONFIGURED IN THE ENVIRONMENT.

To ensure that everything will be configured properly, or at least minimize some problems, with the BTARN configuration process you need to:

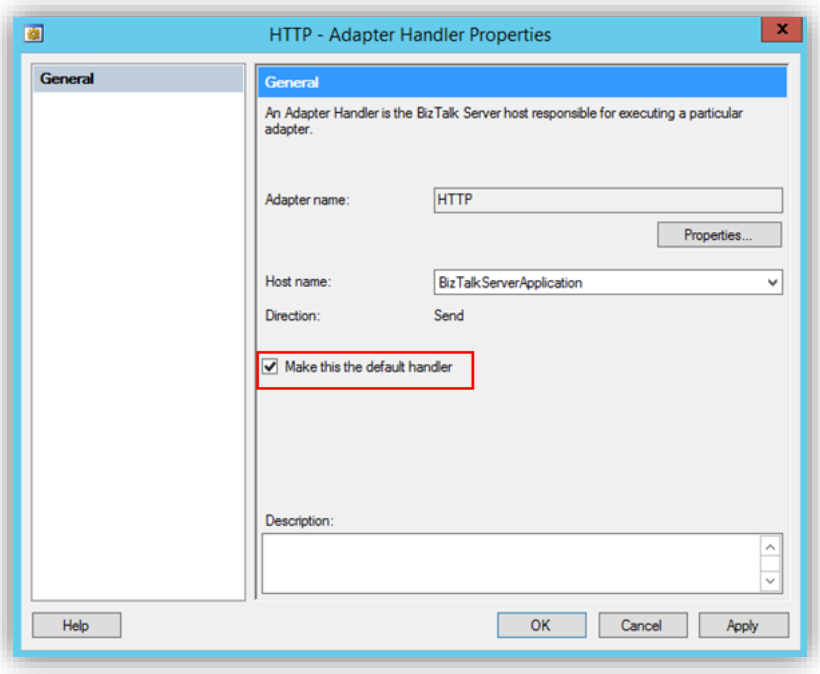
- Make sure the BTARN in-process host (BizTalkServerApplication) is the general Default Host in the group



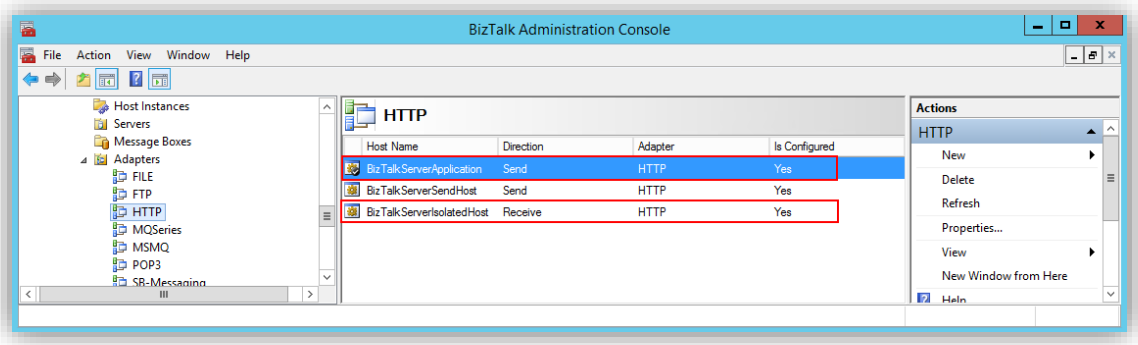
- Make sure the BTARN in-process host (BizTalkServerApplication) is the default send handler of the SQL Adapter (yes the old obsolete one – not the WCF-SQL) and it is also associated with the receive handler.



- Make sure the BTARN in-process host (BizTalkServerApplication) is the default send handler of the HTTP Adapter.



- And of course the BTARN isolated host (BizTalkServerIsolatedHost) is configured to be the receive handler of the HTTP Adapter.



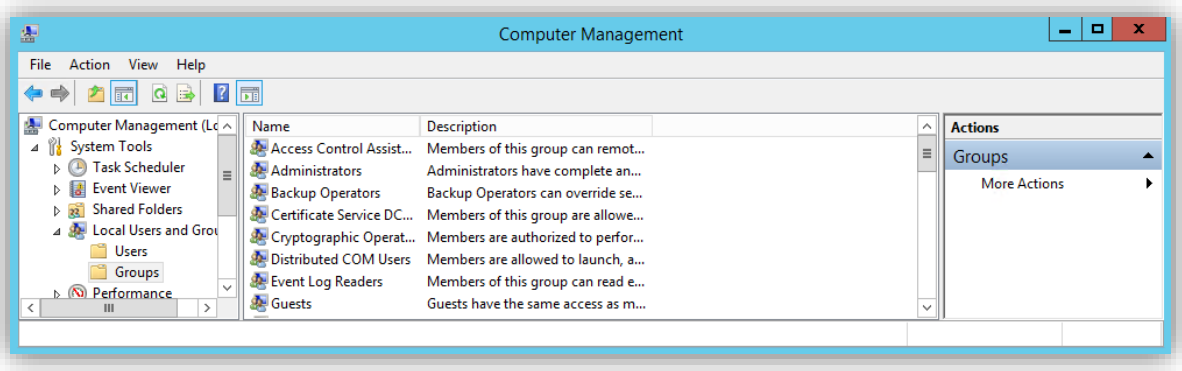
4.4 Create the IIS_WPG group

When configuring BTARN on Windows 8.1, Windows Server 2012, and Windows Server 2012 R2, you must create the IIS_WPG group manually. We need this because RosettaNet accelerator requires the IIS_WPG group (group provided by IIS 6.0 that provides the minimum set of user rights and permissions required to run an application) but unfortunately for us this group doesn't exist anymore in the SO listed above, so you need to create it manually. Otherwise, BTARN installation will fail.

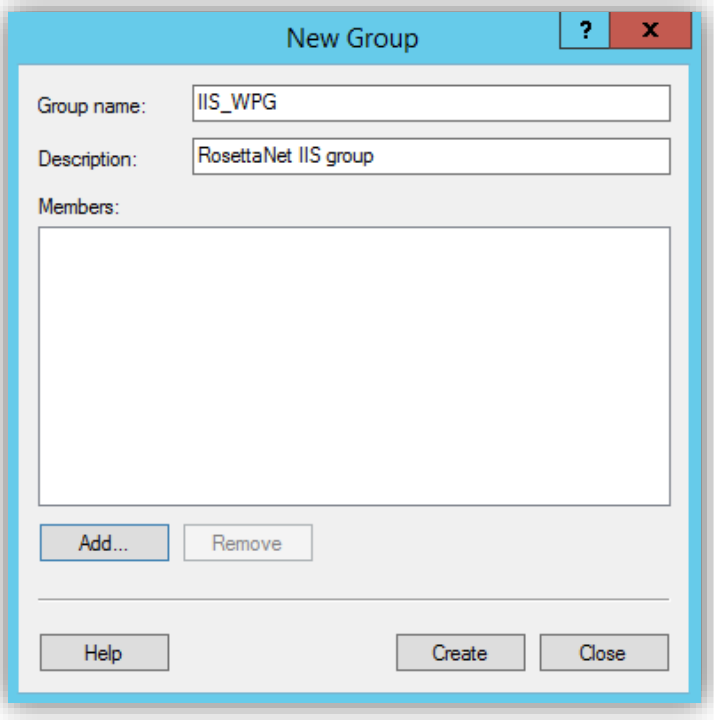
To accomplish that you need to:

- Press the "Windows key" to switch to the Start screen, type "Computer Management" and click in "Computer Management" option from the Search menu

- In the console tree, expand "System Tools", expand the "Local Users and Groups", and then click "Groups".



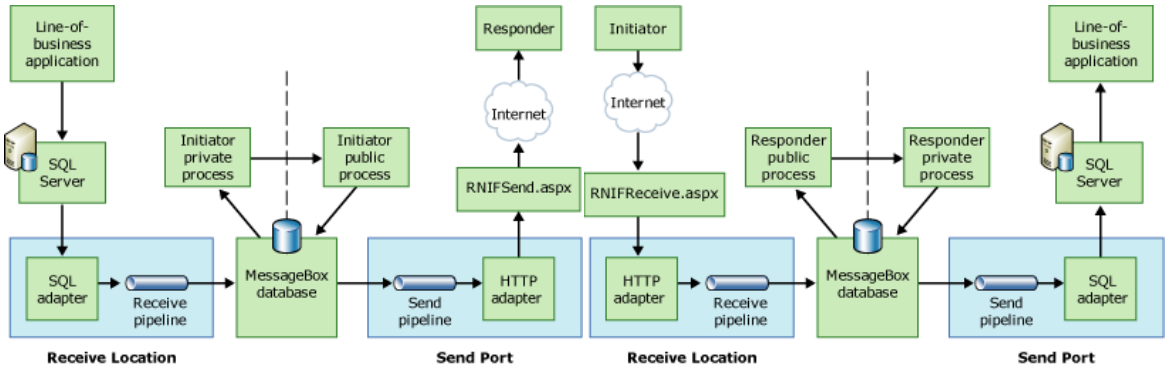
- Right click under "Groups" folder, and then select "New Group…"
- In the New Group dialog box, set the following parameters:
  - In Group name, type "IIS_WPG".
  - In Description, type "RosettaNet IIS group"



- Click "Create", and then click "Close"

4.5 Create a WebService extension for BTSHTTPReceive.dll

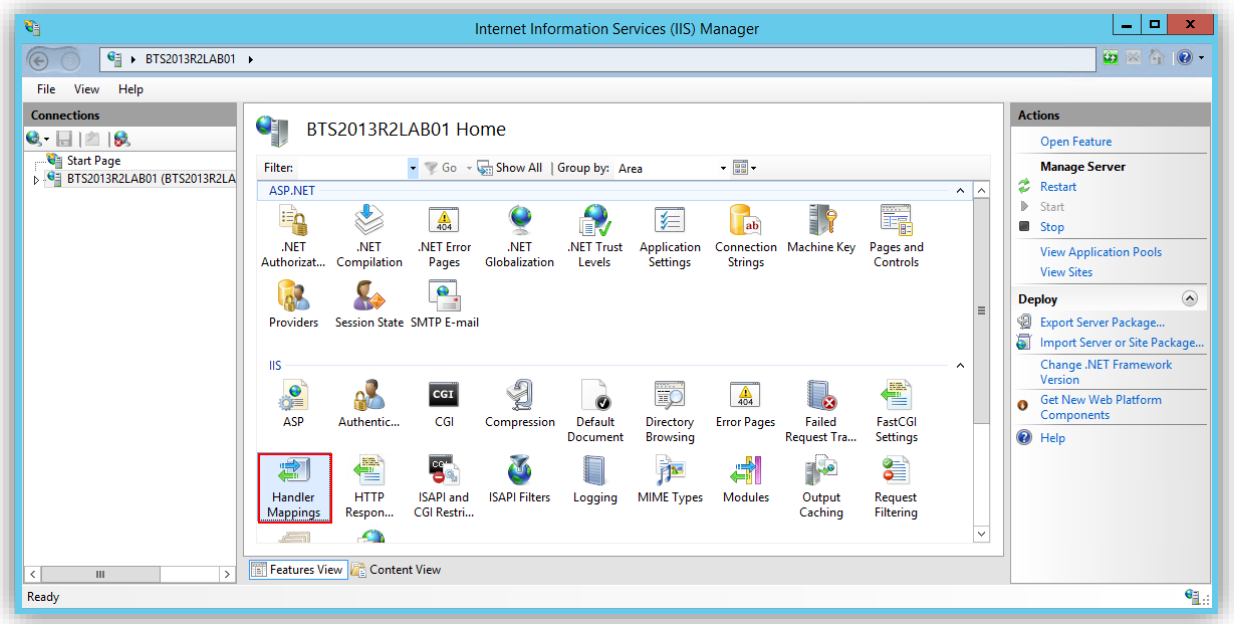
BTARN uses the HTTP adapter to send (left picture) or receive (right picture) PIPs to and from different partners:



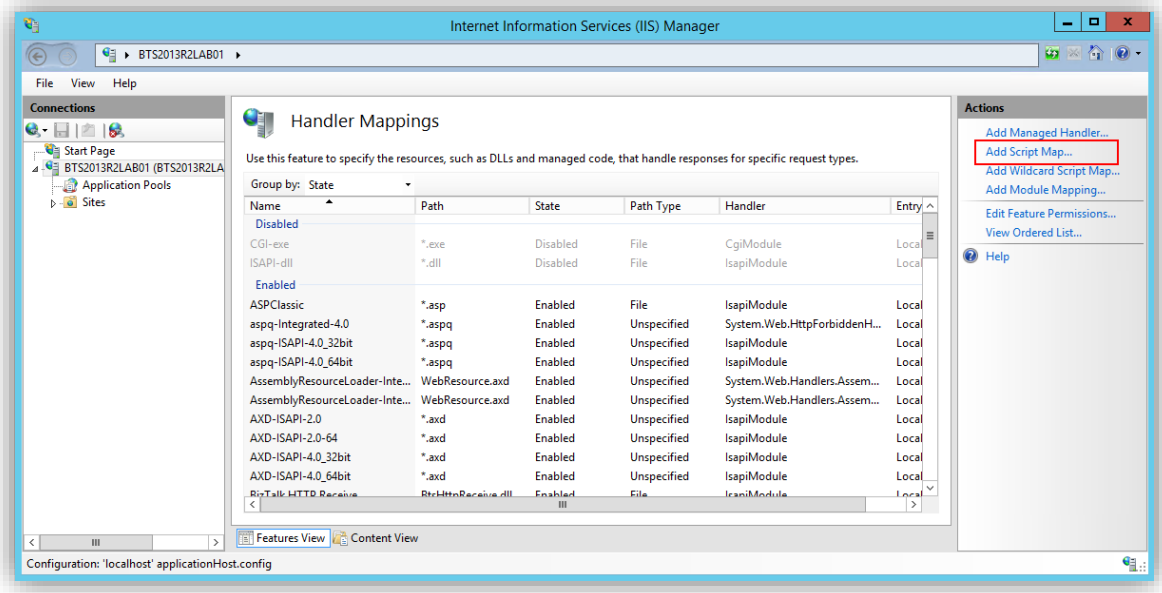
If the PIP process is asynchronous, each message transmission over the Internet occurs on a different HTTP connection. If the PIP is synchronous, each message transmission occurs on the same connection, which the HTTP adapter holds until the process is complete.

For that reason we need to create a WebService extension for the BTSHTTPReceive.dll and configure the IIS isolation mode. To accomplish that we need to:

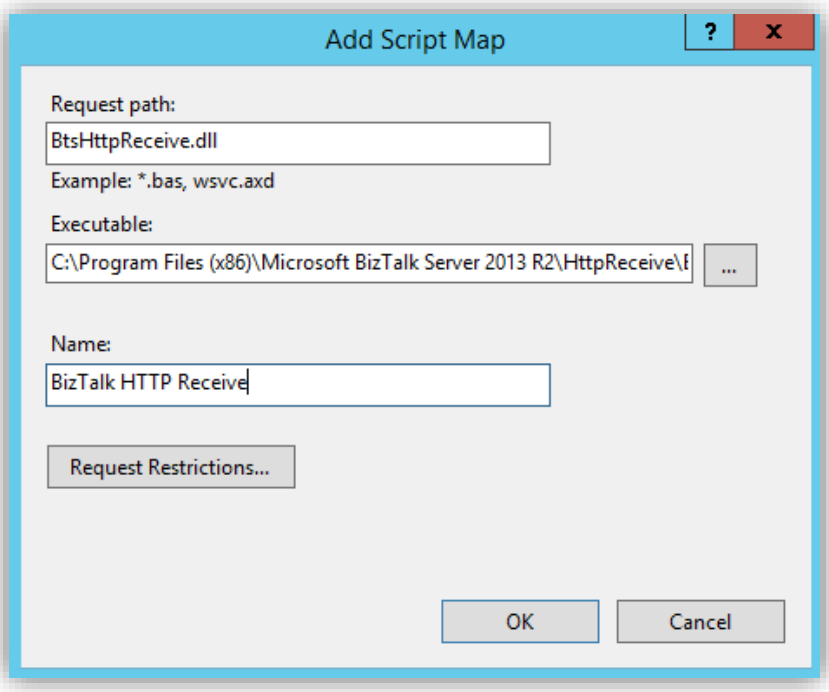
- Press the "Windows key" to switch to the Start screen, type "IIS" and click in "Internet Information Services (IIS) Manager" option from the Search menu
- In Internet "Information Services (IIS) Manager" screen, select the root Web server entry. In the "Features View", double-click "Handler Mappings"



- And then in the Actions pane, click "Add Script Map…"

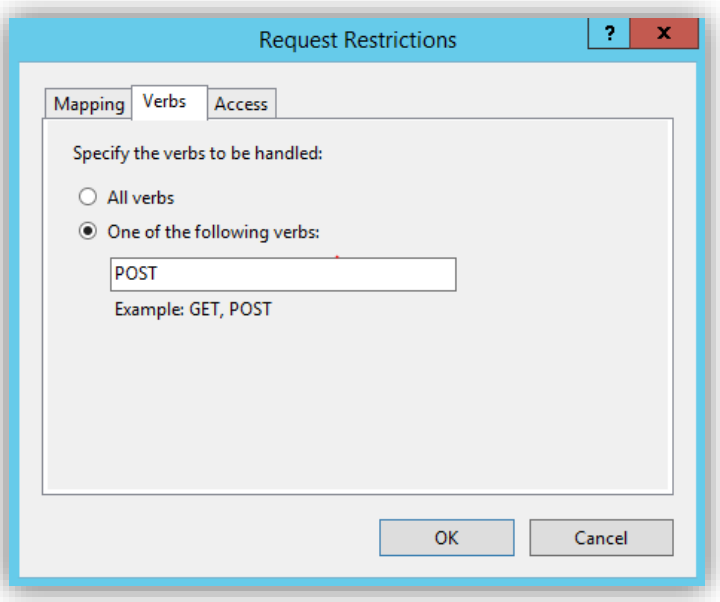


- In the "Add Script Map" dialog box, in the "Request path" field, type "BtsHttpReceive.dll"
    - In the "Executable" field, click the ellipsis (…) button and browse to "C:\Program Files (x86)\Microsoft BizTalk Server 2013 R2 \HttpReceive"
        - And select "BtsHttpReceive.dll" and then click "OK"
    - In the "Name" field, type "BizTalk HTTP Receive"

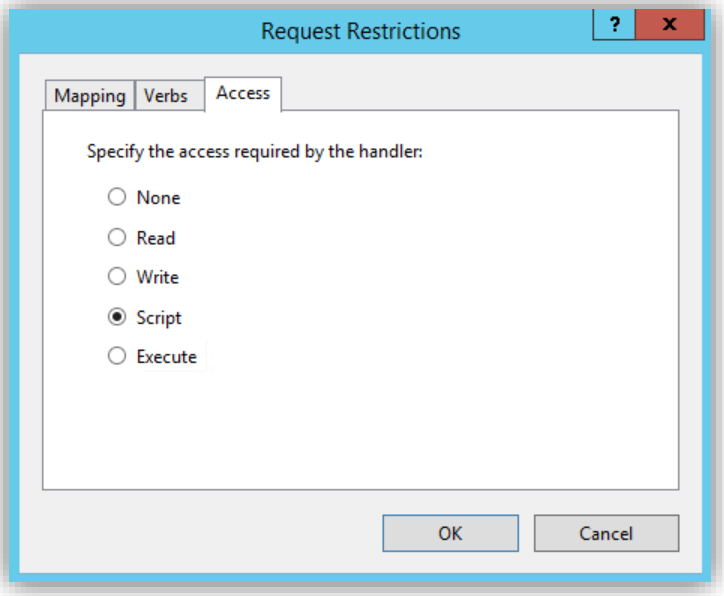


    - Then click "Request Restrictions"
    - In the "Request Restrictions" dialog box, click the "Verbs" tab and then select "One of the following verbs"
        - Enter "POST" as the verb

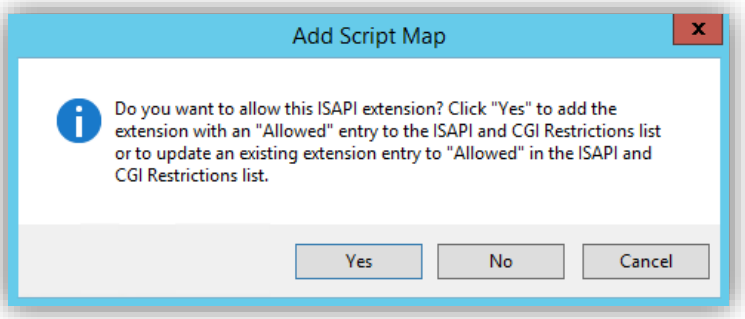
- On the "Access" tab, select "Script", and then click "OK".



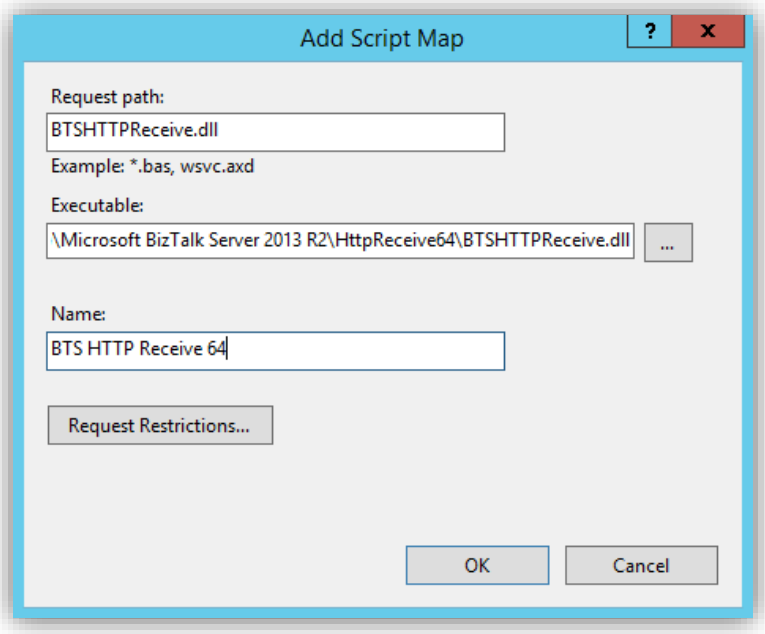
- On the "Access" tab, select "Script", and then click "OK".



- When prompted to allow the ISAPI extension, click "Yes".



- Do the exact same process this time using the "C:\Program Files (x86)\Microsoft BizTalk Server 2013 R2\HttpReceive64\BTSHTTPReceive.dll"



5 Install and configure Microsoft BizTalk 2013 R2 Accelerator for RosettaNet (BTARN)

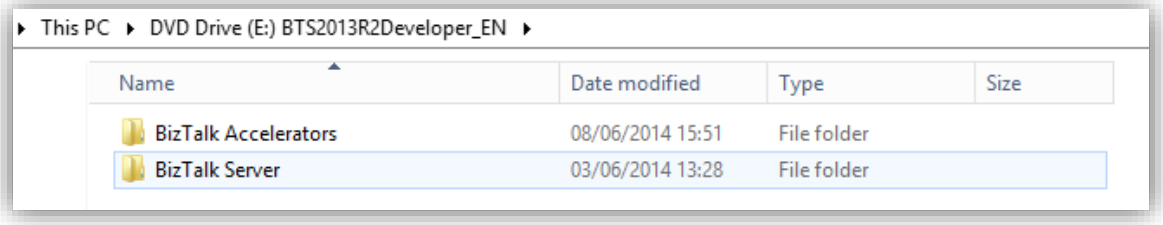
This part of the article will focus on installing and configuring Microsoft BizTalk 2013 R2 Accelerator for RosettaNet.

Make sure that you have installed all the prerequisites and prepared you environment for the RosettaNet accelerator.

5.1 Install Microsoft BizTalk 2013 R2 Accelerator for RosettaNet

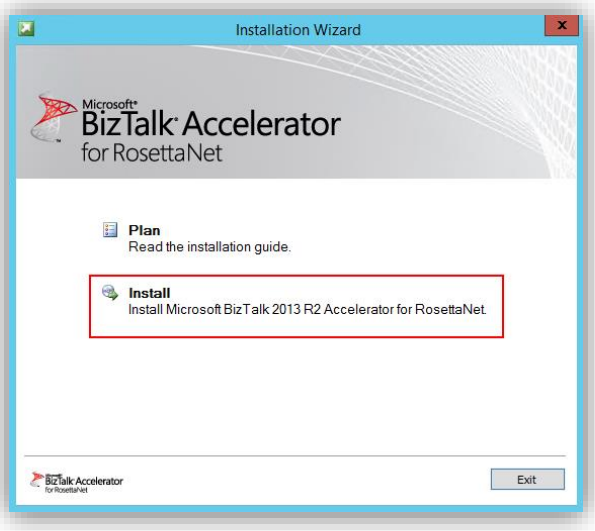
BizTalk Accelerator for RosettaNet is available in the BizTalk Server installation disk (ISO) under: "BizTalk Accelerators" folder.

- Access to "BizTalk Accelerators" folder in the BizTalk Server ISO, and then run the Setup.exe file

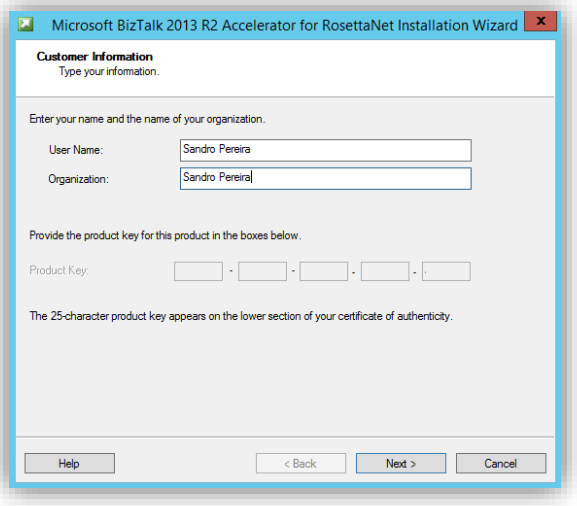


- On the Start page, click "Microsoft BizTalk 2013 R2 Accelerator for RosettaNet"

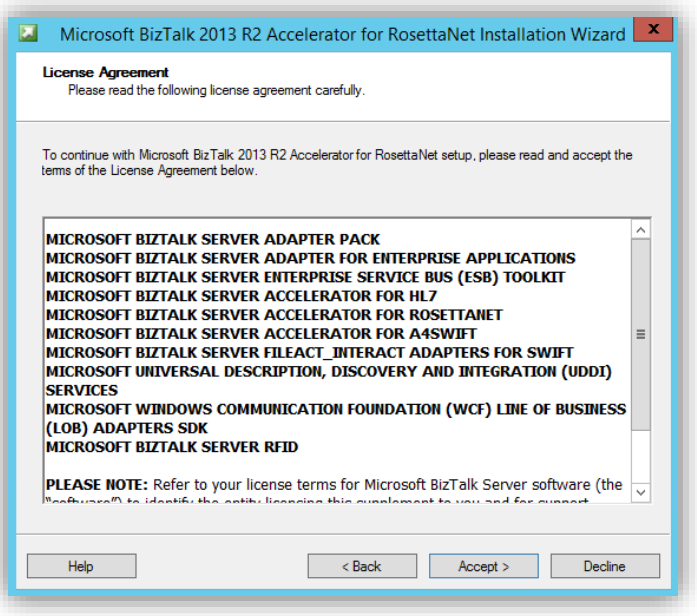
- On the "Installation Wizard" screen for Microsoft BizTalk Accelerator for RosettaNet, click "Install"



- On the "Customer Information" page, type your user name, organization, and the product key, and then click "Next"

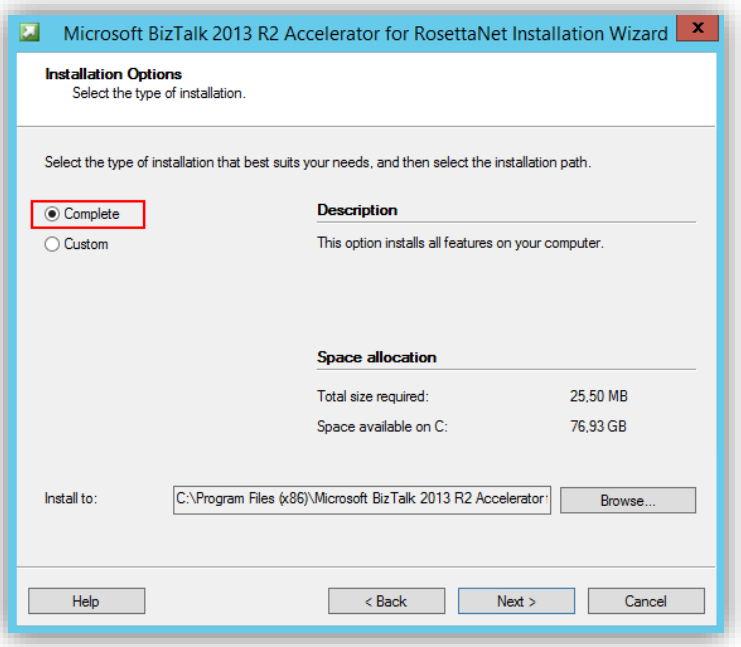


- On the License Agreement page, read the End User License Agreement, and then click Accept.

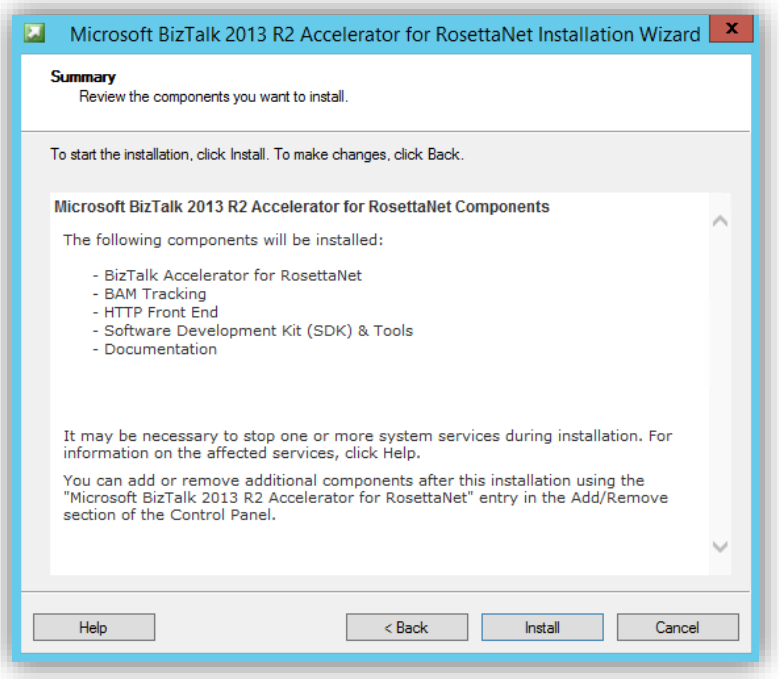


NOTE: If you do not accept the license agreement, you cannot continue with the installation.

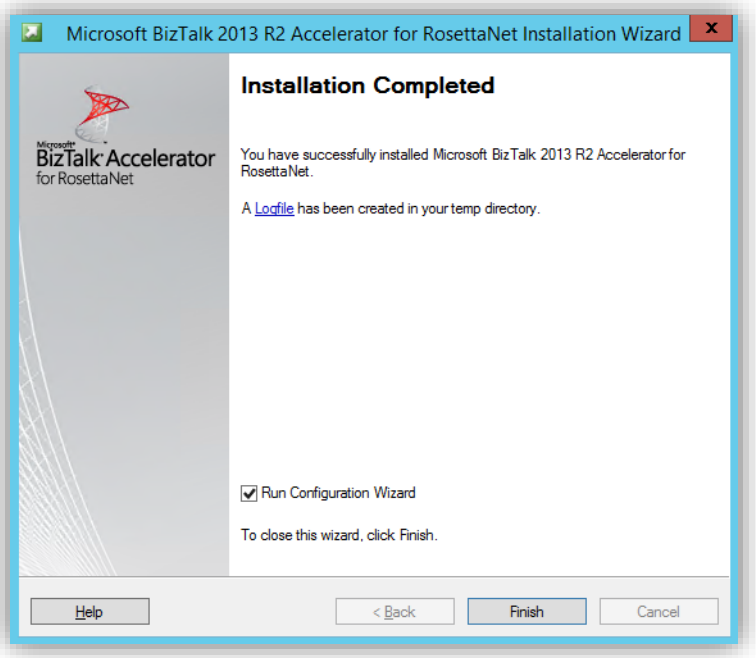
- On the "Installation Options" page, select "Complete" for a full installation and ensure the installation path is correct, and then click "Next".
    - Or if you wish so, you can also customize the features that you want to install or perform a partial installation by selecting the "Custom" option
        - **NOTE**: If you select Custom, select the components to install from the Custom Installation page. If you select to install SDK or Documentation components only, you must have .NET Framework 4.5 installed before running the setup program.



- On the "Summary" page, review the components you are installing, and then click "Install".
    - The Installation Progress screen displays the progress of the installation procedure.



- On the "Installation Completed" page, ensure the Run Configuration Wizard box is selected, and then click Finish.



- The BTARN Configuration Wizard opens. Next, you configure BTARN.

IMPORTANT

- If you perform a custom installation to install only the BTARN HTTP Front End feature, BTARN configuration may fail after setup is complete, displaying the error message "Failed to create object for feature: WebApp". If this occurs, you need to copy two files (Microsoft.VC80.ATL.manifest and atl80.dll) from a computer with BizTalk Server 2013 R2 installed on it, to the computer where you installed the BTARN HTTP Front End feature
- If Visual Studio 2012 is installed on the same computer as BizTalk Server, the source folder for the two files is <drive>:\Program Files\Microsoft Visual Studio 11.0\VC\redist\x86\Microsoft.VC100.ATL. If Visual Studio 2012 is not installed on the BizTalk server, the source folder for the two files on the BizTalk server is a folder under <drive>:\WINDOWS\WinSxS. The version of the files should be 8.0.50727.42. The destination folder on the computer where you have installed the HTTP Front End feature is the BTARN installation directory (by default, <drive>:\Program Files (x86)\Microsoft BizTalk 2013 R2 Accelerator for RosettaNet)
- After you have copied these files to the computer with the HTTP Front End feature installed, rerun Configuration.exe

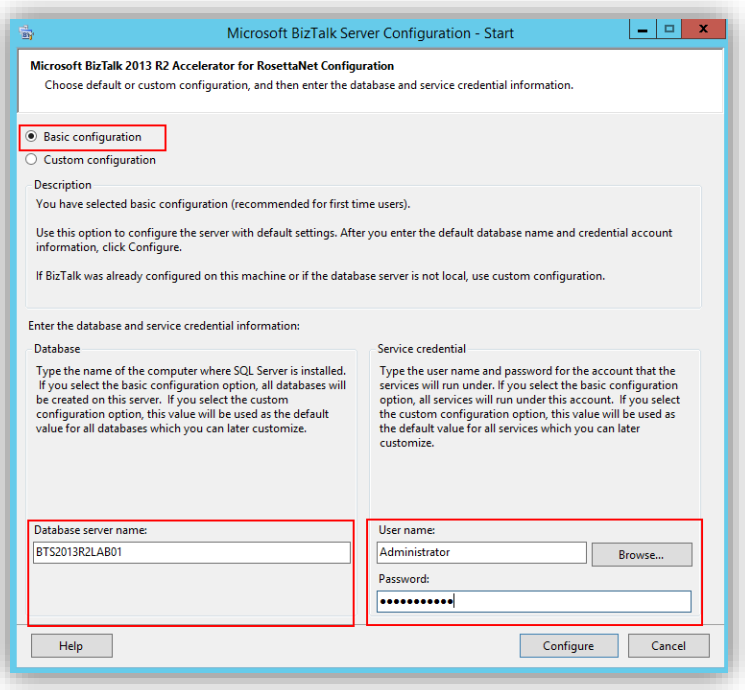
5.2 Configure Microsoft BizTalk 2013 R2 Accelerator for RosettaNet

NOTE: Before configuring BTARN, Make sure that you have installed all the prerequisites and prepared you environment for the RosettaNet accelerator. In specially:

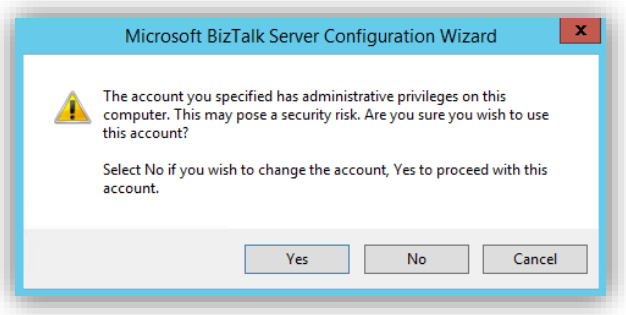
- Make sure you map .NET Framework 4.0 under Handler Mappings in IIS
- Also, when configuring BTARN on Windows 8.1, Windows Server 2012, and Windows Server 2012 R2, you must create the IIS_WPG group manually

To configure BTARN using Basic Configuration:

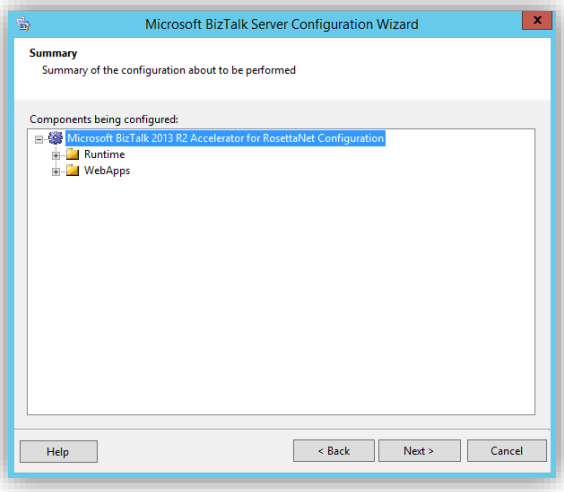
- Press the "Windows key" to switch to the Start screen, type "RosettaNet", right-click "BizTalk 2013 R2 Accelerator for RosettaNet Configuration" option from the Search menu, and then click Run as Administrator
- On the "Microsoft BizTalk 2013 R2 Accelerator for RosettaNet" Wizard page:
    - Select the "Basic configuration" option to configure the server with default settings
        - Or "Custom configuration" to configure the server using advanced configuration options.
    - In the "Database server name" text box under "Database" properties, verify that the server name displayed is correct.
    - In the "Service credential" properties, type the "User name" and "Password" for the account that the configure BTARN will run under.



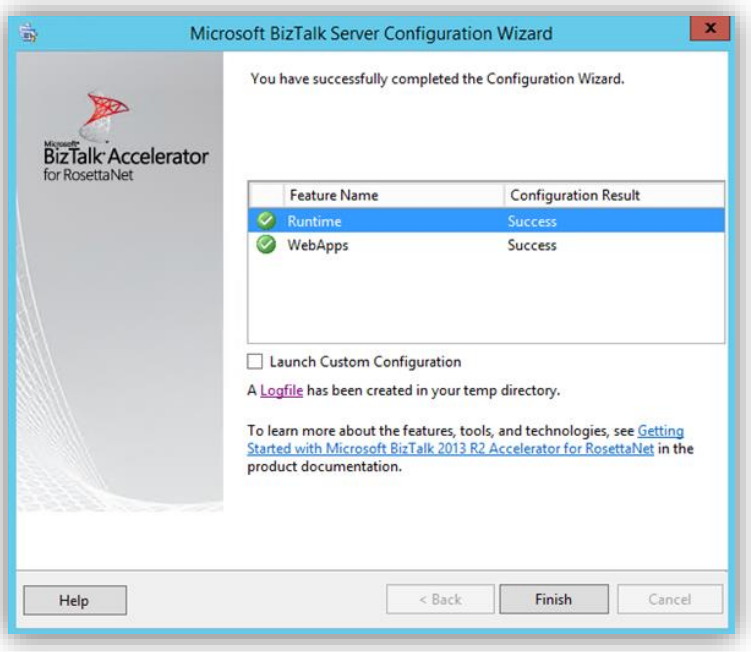
- Click "Configure"
- If your account has administrative privileges, click "Yes" to proceed with the configuration



- On the "Summary" page, review the components you are installing, and then click "Next".



- On the "Configuration Completed" page, click "Finish"



NOTE:

- If you selected Custom configuration in step 1, perform the following steps:
  - To configure the runtime, in the Microsoft BTRAN Configuration dialog box, click "Runtime" in the left pane:
    - In the right "Runtime" pane, click "Enable the Runtime feature on this computer"
    - To join an existing database group, clear "Do you want to create a new database group"
    - Select the appropriate Web server name, port number, data stores, Application Pool service account, and BizTalk HTTP Receive virtual folder
  - To configure the WebApps feature, in the Microsoft BTRAN Configuration dialog box, click "WebApps" in the left pane:
    - In the right "WebApps" pane, click "Enable the Runtime feature on this computer"
    - Enter the appropriate BizTalk Server name and port number, or select the defaults
    - Select the appropriate Web application virtual folder.
  - Click Apply Configuration

Note: BTARN configuration will fail if you use a special character in the name of any of the BTARN databases.

6 Additional Configurations of BizTalk 2013 R2 Accelerator for RosettaNet

This section provides detailed information about additional configurations of BizTalk 2013 R2 Accelerator for RosettaNet (BTARN) that you need to do before you start using it:

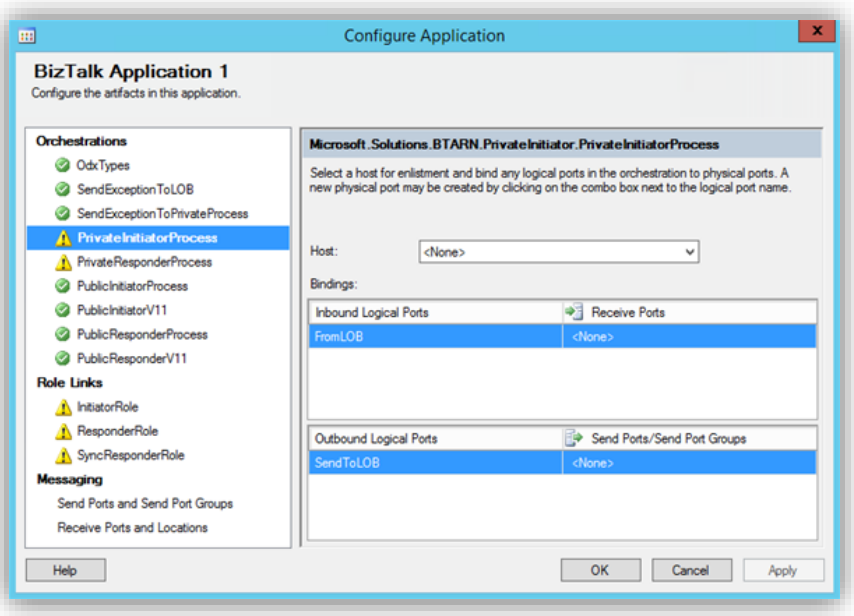
- Start BTARN orchestrations, send ports, and receive locations, manually. These do not start automatically when you install and configure BTARN.
    - **NOTE:** You need to start the "PrivateInitiator_To_LOB" and "PrivateResponder_To_LOB" send ports before you can start the "PrivateInitiatorProcess" and "PrivateResponderProcess" orchestrations.
- On computers where you have configured an Internet Information Services (IIS) virtual server with Secure Sockets Layer (SSL), you must configure the virtual server to accept the client certificate. For more information, see the "Step 4: Enabling Secure Sockets Layer in IIS" topic in the MSDN Double Action Tutorial.

6.1 To start BTARN orchestrations, send ports, and receive locations

- Start "BizTalk Server Administration" console as an administrator.
- In the "BizTalk Server Administration Console", in the left pane, expand "BizTalk Group", expand "Applications", and then expand "**BizTalk Application 1**".
- Click "Send Ports".
    - In the right pane, for each BTARN send port that is not started, right-click and then click "Start":
        - "PrivateInitiator_To_LOB" Static One-Way send port
        - "PrivateResponder_To_LOB" Static One-Way send port
- Click "Receive Locations".
    - In the right pane, for each BTARN receive location that is not started, right-click and then click "Enable".
        - "Async_Http_Receive" HTTP location
        - "Sync_Http_Receive" HTTP location
        - "LOB_To_PrivateInitiator" SQL location
        - "LOB_To_PrivateResponder" SQL location
- Click "Orchestrations".
    - In the right pane, for each BTARN orchestration that is not started, right-click and then click "Start"
        - Microsoft.Solutions.BTARN.CommonTypes.OdxTypes
        - Microsoft.Solutions.BTARN.CommonTypes.SendExceptionToLOB
        - Microsoft.Solutions.BTARN.CommonTypes.SendExceptionToPrivateProcess
        - Microsoft.Solutions.BTARN.PublicResponder.PublicResponderProcess
        - Microsoft.Solutions.BTARN.PublicResponder.PublicResponderV11
        - Microsoft.Solutions.BTARN.PublicInitiator.PublicInitiatorProcess
        - Microsoft.Solutions.BTARN.PublicInitiator.PublicInitiatorV11

- Microsoft.Solutions.BTARN.PrivateResponder.PrivateResponderProcess
- Microsoft.Solutions.BTARN.PrivateInitiator.PrivateInitiatorProcess

However, sometimes, from some strange unknown reasons, even if the installation/configuration end up successfully, some of the artifacts may not be properly created/deployed in your BizTalk environment, for example ports and/or bindings. This situation already happen to me twice in several installations.



In this particular problem, the reason was that, because the configuration process has their half dozens of failures/limitations/bugs, some of the binding files used by BTARN (generated by configuration/installation process) was configure to use the default host – that in my case it was incorrectly defined as "BizTalkServerApplication64Host", a non-BTARN host - in the receive and send ports. The problem was that this particular host is used only to process orchestrations and it is not associated with any BizTalk adapter.

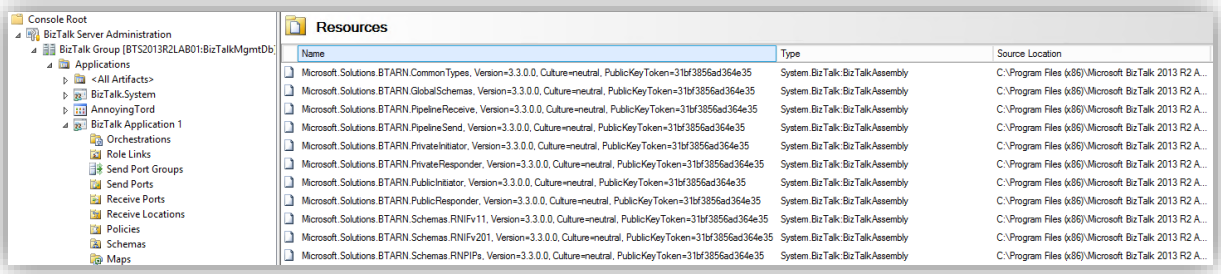
The solution in this situations is to understand the problem and manually fix. Fortunately for us Microsoft made available all the BTARN resources: DLL, source code, binding files and so on in the BTARN installation folder, which by default is:

- "C:\Program Files (x86)\Microsoft BizTalk 2013 R2 Accelerator for RosettaNet"

It is recommend to validate if all the resources are correctly deploy and configured in your BizTalk Server. I already face an issue where I found out after finish the installation/configuration process that none of the DLL's where deployed correctly in the environment:

- In the "BizTalk Server Administration Console", in the left pane, expand "BizTalk Group", expand "Applications", and then expand "BizTalk Application 1".
- Click "Resources" and you should find there 11 BTARN DLL's (otherwise you need to manually deploy the missing ones)

- Microsoft.Solutions.BTARN.CommonTypes.dll
- Microsoft.Solutions.BTARN.GlobalSchemas.dll
- Microsoft.Solutions.BTARN.PipelineReceive.dll
- Microsoft.Solutions.BTARN.PipelineSend.dll
- Microsoft.Solutions.BTARN.PrivateInitiator.dll
- Microsoft.Solutions.BTARN.PrivateResponder.dll
- Microsoft.Solutions.BTARN.PublicInitiator.dll
- Microsoft.Solutions.BTARN.PublicResponder.dll
- Microsoft.Solutions.BTARN.Schemas.RNIFv11.dll
- Microsoft.Solutions.BTARN.Schemas.RNIFv201.dll
- Microsoft.Solutions.BTARN.Schemas.RNPIPs.dll



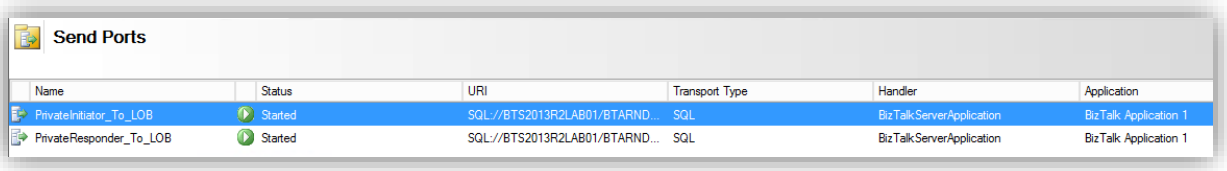
NOTE: You will find these DLL's in the BTARN installation folder under the "Bin" folder: "C:\Program Files (x86)\Microsoft BizTalk 2013 R2 Accelerator for RosettaNet\Bin"

- The second step is to fix and import the binding files
  - **NOTE:** You will find these Binding Files in the BTARN installation folder under the "Bin" folder.
  - **NOTE:** Before you import it you need to manually fix manually, that way the PREPARING YOUR BIZTALK SERVER 2013 R2 ENVIRONMENT FOR BTARN section is very important to avoid these type of problems after the installation and configuration process.

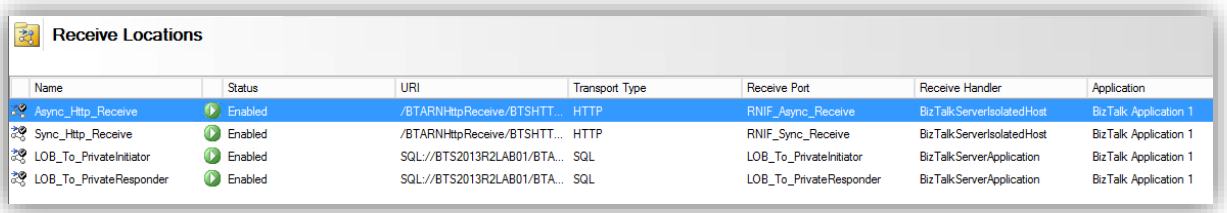
```
<Services>
        <Service Name="Microsoft.Solutions.BTARN.CommonTypes.OdxTypes">
                <Ports/>
                <Roles/>
                <Host Name="BizTalkServerApplication64Host" NTGroupName="BizTalk Application Users" Type="1"/>
        </Service>
        <Service Name="Microsoft.Solutions.BTARN.CommonTypes.SendExceptionToLOB">
                <Ports/>
                <Roles/>
                <Host Name="BizTalkServerApplication64Host" NTGroupName="BizTalk Application Users" Type="1"/>
        </Service>
        <Service Name="Microsoft.Solutions.BTARN.CommonTypes.SendExceptionToPrivateProcess">
                <Ports/>
                <Roles/>
                <Host Name="BizTalkServerApplication64Host" NTGroupName="BizTalk Application Users" Type="1"/>
        </Service>
</Services>
```

- In this case to solve the problem that you need to:
  - Right-click in the "BizTalk Application 1", and select the option "Import -> Bindings…" and import the following binding files that you will find in the BTARN Bin folder:
    - CommonTypesBinding
    - PrivateInitiatorBinding
    - PrivateResponderBinding

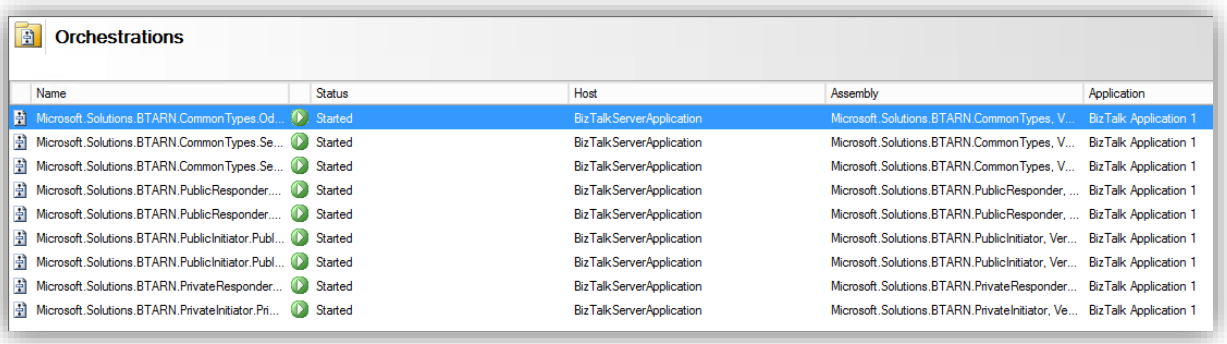
    - PublicInitiatorBinding
    - PublicResponderBinding
- The next step is to make sure that all the artifacts (orchestrations, send ports and receive locations) are associated with the BTARN hosts:
    - BizTalkServerApplication
    - BizTalkServerIsolatedHost
- Click "Send Ports" and check if the following BTARN send ports are running under the "BizTalkServerApplication" send handler, otherwise you should modify it.
    - "PrivateInitiator_To_LOB"
    - "PrivateResponder_To_LOB"



- Click "Receive Locations"
    - Check if the following BTARN receive location are running under the "BizTalkServerIsolatedHost" receive handler, otherwise you should modify it.
        - "Async_Http_Receive"
        - "Sync_Http_Receive"
    - And check if the following BTARN receive location are running under the "BizTalkServerApplication" receive handler, otherwise you should modify it.
        - "LOB_To_PrivateInitiator"
        - "LOB_To_PrivateResponder"



- Click "Orchestrations" and check if the following BTARN orchestrations are running under the "BizTalkServerApplication" host, otherwise you should modify it
    - Microsoft.Solutions.BTARN.CommonTypes.OdxTypes
    - Microsoft.Solutions.BTARN.CommonTypes.SendExceptionToLOB
    - Microsoft.Solutions.BTARN.CommonTypes.SendExceptionToPrivateProcess
    - Microsoft.Solutions.BTARN.PublicResponder.PublicResponderProcess
    - Microsoft.Solutions.BTARN.PublicResponder.PublicResponderV11
    - Microsoft.Solutions.BTARN.PublicInitiator.PublicInitiatorProcess
    - Microsoft.Solutions.BTARN.PublicInitiator.PublicInitiatorV11
    - Microsoft.Solutions.BTARN.PrivateResponder.PrivateResponderProcess
    - Microsoft.Solutions.BTARN.PrivateInitiator.PrivateInitiatorProcess



You should do all of this configuration, to prevent future problems, otherwise, sooner or later you will have problems with BTARN.

NOTE: The Official documentation specifies that should restart the BizTalk Server machine to apply any modifications made in configuration and permissions. Fortunately, you don't need that.

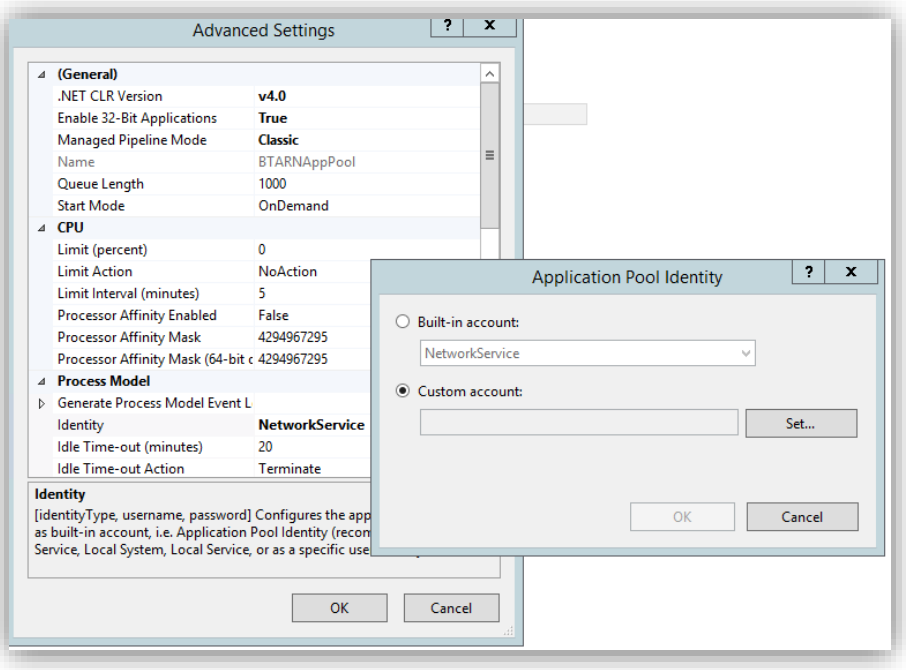
6.2 Configuring IIS Application Pool Identities

IIS supports running 32- and 64-bit web sites in separate application pools. Regarding to BTARN is very important to:

- Set the BTARN application pool to 32-bit mode
- The Identity used in the BTARN Application pools should be the same that we use in the BTARN BizTalk Host Instance Account and the BizTalk Isolated Host Instance Account. Otherwise, BTARN in some situations may not work correctly
    - If the service account set for the BTARN application pools is different from the Isolated Host account, BTARN will not be able to process incoming messages correctly. When the receive ".aspx page" calls the pipeline, the pipeline will not have access to the appropriate certificates. Therefore, it will not be able to decrypt the incoming message or validate the signature. It will also not be able to access the MessageBox database

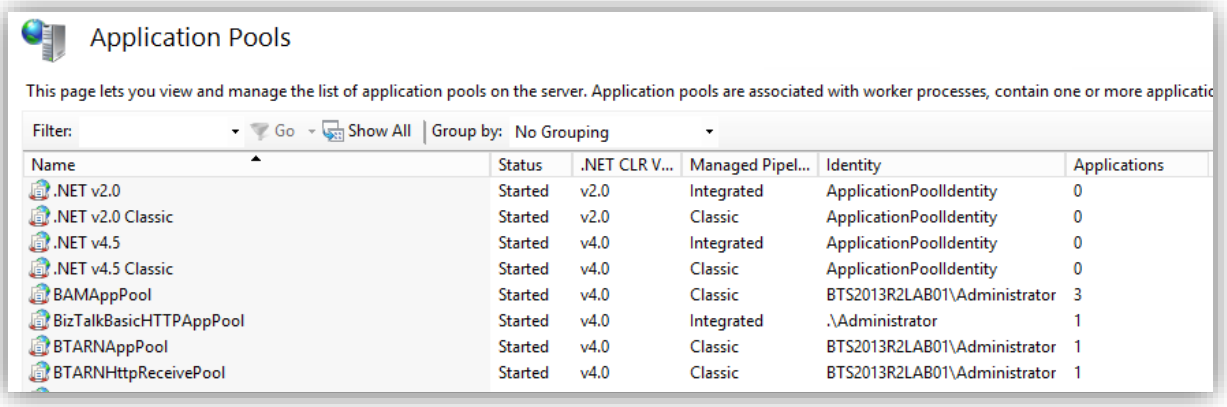
To change the Identity property of BATRN application pools you need to:

- Open the IIS Management Console
- On the left three in the "Internet information Services (IIS) Manager" console, click in "Application Pools" node underneath the machine node.
- Right-click the "BTARNAppPool" application pool and select "Advanced Settings..."
    - Select the "Identity" list item and click the ellipsis, the following dialog appears:



- Select the "Custom account" option and set the same service account used for the Isolated Host and Host instances

- Do the exact same steps for the "BTARNHttpReceivePool" application pool



7 Troubleshooting Your Installation

This section provides information about troubleshooting your BizTalk 2013 R2 Accelerator for RosettaNet (BTARN) installation.

7.1 Do not install SQL Server on the domain controller computer

If you install SQL Server on the same computer as your domain controller computer, it returns the following error message when it is trying to create the SQL send ports:

> *Error: Failed updating binding information.*
>
> *BindingException: Could not validate TransportTypeData or Address properties for Primary Transport of Send Port 'SendPort1'. Exception from HRESULT: 0x80131500.*
>
> *Error: Failed updating binding information.*
>
> *BindingException: Could not validate TransportTypeData or Address properties for Primary Transport of Send Port 'SendPort1'. Exception from HRESULT: 0x80131500*

IMPORTANT: Do not install SQL Server on the domain controller computer.

7.2 Service account for the application pools must be the same as the service account for the Isolated Host and Host instances

If the service account set for the BTARN application pools is different from the Isolated Host account, BTARN will not be able to process incoming messages correctly. When the receive .aspx page calls the pipeline, the pipeline will not have access to the appropriate certificates. Therefore, it will not be able to decrypt the incoming message or validate the signature. It will also not be able to access the MessageBox database.