BizTalk Server 2013 R2 Management Pack Guide

Microsoft Corporation

Published: Dec, 2014

Summary

The BizTalk Server 2013 R2 Management Pack for System Center Operations Manager 2012 is a new management pack. This guide includes a management pack overview, health roll up, and key monitoring scenarios for the BizTalk Server Management Pack for Operations Manager 2012.

Copyright

Information in this document, including URL and other Internet Web site references, is subject to change without notice. Unless otherwise noted, the companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted in examples herein are fictitious. No association with any real company, organization, product, domain name, e-mail address, logo, person, place, or event is intended or should be inferred. Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.

© 2013 Microsoft Corporation. All rights reserved.

Microsoft, and MS-DOS, Windows, Windows Server, and Active Directory are trademarks of the Microsoft group of companies. All other trademarks are property of their respective owners.

Contents

[BizTalk Server 2013 R2 Monitoring Management Pack Guide 5](#_Toc393095282)

[Document Version 5](#_Toc393095283)

[Revision History 5](#_Toc393095284)

[Introduction to the BizTalk Server 2013 R2 Monitoring Management Pack 5](#_Toc393095285)

[Getting the Latest Management Pack 5](#_Toc393095286)

[Where do I Start? 6](#_Toc393095287)

[What's New 6](#_Toc393095288)

[Supported Configurations 6](#_Toc393095289)

[Getting Started 6](#_Toc393095290)

[In this section 7](#_Toc393095291)

[Before You Import the Management Pack 7](#_Toc393095292)

[In this section 7](#_Toc393095293)

[Files in This Management Pack 8](#_Toc393095294)

[Recommended Additional Management Packs 8](#_Toc393095295)

[Import the BizTalk Server 2013 R2 Monitoring Management Pack 9](#_Toc393095296)

[Create a New Management Pack for Customizations 9](#_Toc393095297)

[Optional Configurations 10](#_Toc393095298)

[Security Considerations 11](#_Toc393095299)

[In this section 11](#_Toc393095300)

[Run As Profiles 11](#_Toc393095301)

[Low-Privilege Environments 12](#_Toc393095302)

[In this section 12](#_Toc393095303)

[Monitoring 13](#_Toc393095304)

[Discoveries 13](#_Toc393095305)

[Discovery of artifacts 13](#_Toc393095306)

[Understanding Management Pack Operations 14](#_Toc393095307)

[In this section 14](#_Toc393095308)

[Objects the Management Pack Discovers 14](#_Toc393095309)

[State Monitoring Definitions 16](#_Toc393095310)

[Viewing Information in the Operations Manager Console 17](#_Toc393095311)

[Application Views 17](#_Toc393095312)

[Application Artifacts Views 18](#_Toc393095313)

[Deployment Views 19](#_Toc393095314)

[BAM Component Views 20](#_Toc393095315)

[BAM Alerts 20](#_Toc393095316)

[Runtime Component Views 20](#_Toc393095317)

[How Health Rolls Up 21](#_Toc393095318)

[Health Roll Up for BizTalk Deployment 21](#_Toc393095319)

[Health Roll Up for BizTalk Application 24](#_Toc393095320)

[Key Monitoring Scenarios 26](#_Toc393095321)

[Troubleshooting 30](#_Toc393095322)

[In this section 31](#_Toc393095323)

[Known Issues 31](#_Toc393095324)

[Appendix: Monitors and Overrides for Management Packs 33](#_Toc393095325)

[In This Section 33](#_Toc393095326)

[Related Sections 33](#_Toc393095327)

[How to View Management Pack Details 33](#_Toc393095328)

[How to Display Monitors for a Management Pack 34](#_Toc393095329)

[How to Display Overrides for a Management Pack 34](#_Toc393095330)

[How to Display All Management Pack Rules 35](#_Toc393095331)

[How to Display Monitor Thresholds 35](#_Toc393095332)

[How to Display Performance Collection Rules 37](#_Toc393095333)

[Appendix: Scripts 39](#_Toc393095334)

# BizTalk Server 2013 R2 Monitoring Management Pack Guide

## Document Version

This guide was written based on the 7.0.2008.0 version of the BizTalk Server 2013 R2 Management Pack.

### Revision History

|  |  |
| --- | --- |
| Release Date | Changes |
| Jan 2015 | Initial Release |

# Introduction to the BizTalk Server 2013 R2 Monitoring Management Pack

The BizTalk Server Management Pack provides both proactive and reactive monitoring of BizTalk Server deployment, applications and its constituent artifacts. The monitoring provided by this management pack includes health monitoring, availability and configuration monitoring, performance data collection, and default thresholds. You can integrate the monitoring of BizTalk Server components into your service-oriented monitoring scenarios. This management pack is provided as a Web download.

In addition to health monitoring capabilities, this management pack includes dashboard views, such as application and deployment views that enable real-time diagnosis and resolution of detected issues. The BizTalk Server Management Pack provides for comprehensive monitoring of important BizTalk Server events and performance counters to provide a centralized management and monitoring experience for BizTalk Server deployment and applications.

## Getting the Latest Management Pack

[BizTalk Server Management Pack](http://www.microsoft.com/download/details.aspx?id=39617) (http://www.microsoft.com/download/details.aspx?id=39617)

## Where do I Start?

To start using the BizTalk Server Management Pack, you must first install System Center Operations Manager and then download and install the BizTalk Server management pack.

# What's New

The following features are new in this release of the BizTalk Server Management Pack:

 Updated discovery to handle a large amount of BizTalk Server artifacts

 Increased suppression on rules to show only the important messages

 Fixed the issue with the discovery of the installed BizTalk Server version

# Supported Configurations

Generally, the supported configurations for BizTalk Server Monitoring Management Pack are outlined in the following locations:

 [Operations Manager 2012 Supported Configurations](http://go.microsoft.com/fwlink/?LinkId=90676)

 [Microsoft Support Life-Cycle policy](http://go.microsoft.com/fwlink/?LinkId=123820)

BizTalk Server Monitoring Management Pack supports the following BizTalk Server versions and their associated locales.

|  |  |
| --- | --- |
| Versions | Supported |
| BizTalk Server 2013 R2 (English) | Yes |
| All other BizTalk versions and locales | No |

The BizTalk Server Management Pack for Operations Manager 2012 is designed to monitor only BizTalk Server 2013 R2.

Note

In BizTalk Server, Electronic Data Interchange (EDI) is a BizTalk application.

# Getting Started

This section describes the actions you should take before you import the management pack, any steps you should take after you import the management pack, and information about customizations.

## In this section

 [Before You Import the Management Pack](#z6e3c13dd613a4885a5d2ad3ee492ff25)

 [Import the BizTalk Server 2013 R2 Monitoring Management Pack](#zbee2bfe94eb046d48eee75182202080c)

 [Create a New Management Pack for Customizations](#z4ce1ffa057c741ceb45948c36522889e)

# Before You Import the Management Pack

As a best practice, you should import the Windows Server Management Pack for the operating system that you are using. Before you import the BizTalk Server Management Pack, take the following actions:

 Ensure that Operations Manager 2012 is installed.

 You must be a member of either the SCOM Administrators group or the SCOM Authors group. Local administrators on the SCOM Management Server have all the rights and permissions that are granted to the SCOM Administrators group.

 Set up your BizTalk Servers as managed computers in Operations Manager by deploying the SCOM agents on each BizTalk Server that you want to manage. The SCOM agent deployment involves the following tasks:

 Install the SCOM agent.

 Create a BizTalk SCOM agent account.

 Configure a Run As account. Add the Run As account to the following groups:

 BizTalk Groups.

 BizTalk Administrators.

 SSO Administrators.

 SSO Affiliate Administrators.

 Initiate monitoring.

 In Operation Manager Console, managed computers are in a healthy state.

 Configure any user accounts that have to be set up, such as any required Run As accounts or profiles. This management pack includes Run As profiles named “BizTalk Server Monitoring Account” and “BizTalk Server Discovery Account” to define specific credentials on a per-agent basis. You may have to use this Run As profile for some agents after you import the management pack.

## In this section

 [Files in This Management Pack](#z690bfac3ef0a49c9942c96bda2e24d09)

 [Recommended Additional Management Packs](#z6e2741f56b204ed786aed11e1039443a)

# Files in This Management Pack

To monitor BizTalk Server, you must first download the BizTalk Server Management Pack from [System Center Management Pack Catalog](http://www.microsoft.com/download/details.aspx?id=39617) (http://www.microsoft.com/download/details.aspx?id=39617). The BizTalk Server Management Pack includes the following files:

|  |  |  |
| --- | --- | --- |
| File name | Display name | Description |
| Microsoft.BizTalkServer2013R2.Library.mp | BizTalk Server Library | Contains generic classes, relationships and other management pack building blocks that are used by other management packs to provide monitoring for all BizTalk applications. |
| Microsoft.BizTalk.Server.2013R2.Monitoring.mp | BizTalk Server Monitoring | Contains monitors, rules and views that provide an extensible way to control all BizTalk applications. |
| Microsoft.BizTalk.Server.2013R2.Discovery.mp | BizTalk Server Discovery | Contains discoveries that are used for finding the various components of BizTalk applications. |

# Recommended Additional Management Packs

The following are the additional Management Packs for SCOM 2012 suggested for fully monitoring a BizTalk Server deployment:

 Microsoft Windows Base Operating System

 Microsoft Windows IIS

 Microsoft Windows Server Clusters (if clusters are used)

 Microsoft SQL Server

# Import the BizTalk Server 2013 R2 Monitoring Management Pack

For instructions about how to import a management pack, see How to Import a Management Pack in [Operations Manager 2007 R2/2012](http://go.microsoft.com/fwlink/?LinkId=142351) (http://go.microsoft.com/fwlink/?LinkId=142351). After the BizTalk Server Management Pack is imported, follow these procedures to finish your initial configuration:

To configure the management pack

|  |
| --- |
| 1. Create a new management pack in which you store overrides and other customizations.  2. To enable the Agent Proxy setting, follow these steps:  a. Open the Operations console and then click the Administration button.  b. In the Administrator pane, click Agent Managed.  c. Double-click an agent in the list.  d. On the Security tab, select Allow this agent to act as a proxy and discover managed objects on other computers.  e. Repeat steps 3 through 4 for each agent that is installed on a BizTalk Server. |

# Create a New Management Pack for Customizations

Most vendor management packs are sealed so that you cannot change any of the original settings in the management pack file. However, you can create customizations, such as overrides or new monitoring objects, and save them to a different management pack. By default, Operations Manager 2012 saves all customizations to the Default Management Pack. As a best practice, you should instead create a separate management pack for each sealed management pack that you want to customize.

Creating a new management pack for storing overrides has the following advantages:

It simplifies the process of exporting customizations that were created in your test and pre-production environments to your production environment. For example, instead of exporting the Default Management Pack that contains customizations from multiple management packs, you can export just the management pack that contains customizations of a single management pack.

You can delete the original management pack without first having to delete the Default Management Pack. A management pack that contains customizations depends on the original management pack. This dependency requires you to delete the management pack with customizations before you can delete the original management pack. If all of your customizations are saved to the Default Management Pack, you must delete the Default Management Pack before you can delete an original management pack.

It is easier to track and update customizations to individual management packs.

For more information about sealed and unsealed management packs, see [Management Pack Formats](http://go.microsoft.com/fwlink/?LinkID=198193) (http://go.microsoft.com/fwlink/?LinkId=198193). For more information about management pack customizations, see [Customizing Management Packs](http://go.microsoft.com/fwlink/?LinkID=198194) (http://go.microsoft.com/fwlink/?LinkID=198194).

# Optional Configurations

After you import the BizTalk Server Management Pack, the navigation pane of the Monitoring pane displays the object types that are discovered automatically. For a list of object types, see [Objects the Management Pack Discovers](#z291e8936b29947199f7eedc86f76fcbd) section. You can modify the default discovery configuration of objects discovered by the BizTalk Server Management Pack. You use the overrides feature of Operations Manager 2012 to change configuration settings.

For an object type that is not automatically discovered, you can enable setting for automatic discovery in the Authoring pane in the Operations Console.

To use an override to change the setting for automatic discovery

|  |
| --- |
| 1. In the Authoring pane, expand Management Pack Objects, and then click Object Discoveries.  2. On the Operations Manager toolbar, click Scope, and filter the objects that appear in the details pane to include only BizTalk Server objects.  3. In the details pane, click the object type you want to change the setting for.  4. On the Operations Manager toolbar, click Overrides, click Override the Object Discovery, and then click either For all objects of type: <name of object type>, For a group, For a specific object of type: <name of object type>, or For all objects of another type.  5. In the Override Properties dialog box, click the Override box for the Enabled parameter you want to change.  6. Under Management Pack, click New to create an unsealed version of the Management Pack, and then click OK.  After you change the override setting, the object type will be automatically discovered and will appear in the Monitoring pane under BizTalk Server.  For information about setting overrides, see [Overrides in Operations Manager 2007 R2/2012](http://go.microsoft.com/fwlink/?LinkId=86870) (http://go.microsoft.com/fwlink/?LinkId=86870). |

# Security Considerations

You may have to customize your management pack. Certain accounts cannot be run in a low-privilege environment or must have minimum permissions. For additional details about security considerations and configuring low-privilege accounts, refer to the Operations Manager 2007 R2/2012 Security Guide at <http://go.microsoft.com/fwlink/?LinkID=198196>.

## In this section

 [Run As Profiles](#z98ac0a0c91d84d12aa402ad2e29ec784)

 [Low-Privilege Environments](#zabdc45d0b63a4b6c80c41f8e87644cd9)

# Run As Profiles

When the BizTalk Server Core Library Management Pack is first imported, it creates two new Run As Profiles:

 BizTalk Server Discovery Account. This profile is associated with all discoveries of BizTalk Server role components.

 BizTalk Server Monitoring Account. This profile is associated with all monitors and tasks.

By default, all discoveries, monitors, and tasks defined in the BizTalk Server Management Packs default to using the accounts defined in the “Default Action Account” Run As Profile. If the default action account for a given system does not have the necessary permissions to discover or monitor BizTalk, then those systems can be bound to more specific credentials in the BizTalk Server Run As Profiles, which do have access to BizTalk Server.

The following are the generic steps to configure Run As Profiles for BizTalk Server:

To configure Run As profiles

|  |
| --- |
| 1. Identify the name(s) of the target computer(s) where the default action account has insufficient rights to monitor BizTalk Server.  2. For each system create or use an existing set of credentials that have at least the BizTalk Server privileges discussed in the [Low-Privilege Environments](#zabdc45d0b63a4b6c80c41f8e87644cd9) section of this management pack guide.  3. For each set of credentials identified in step 2, make sure that a corresponding Run As Account exists in the management group. Create the Run As Account if it is necessary.  4. Set up the mappings between the targets and the Run As Account(s) on the Run As Accounts tab of each of the Run As Profiles. |

# Low-Privilege Environments

Several workflows that are included with BizTalk Server Management Pack require elevated permissions to perform certain actions. BizTalk Server Management Pack enables you to perform basic monitoring functionalities in a low privilege environment. There are two Administrative Roles: the BizTalk Server Administrator, and the BizTalk Server Operator. The BizTalk Server Administrator is a high privilege role with access to configuration and tracking data. The BizTalk Server Administrator can perform all key administrative tasks such enlisting and starting artifacts. The BizTalk Server Operator is a low privilege role with access only to monitoring and troubleshooting actions. For more information, see [Minimum Security User Rights](http://technet.microsoft.com/library/aa559845(BTS.80).aspx).

Using BizTalk Server Management Pack:

 Members of the BizTalk Server Operators group can do the following:

 Monitor BizTalk Server for errors, query for suspended messages\instances, view configuration.

 Monitor BizTalk Server installations and artifacts.

 View service state and message flow.

 Start or stop applications and artifacts such as orchestrations, send ports or send port groups that are in an enlisted state.

 Enable or disable receive locations. The changes do not take effect until the next cache refresh interval of 60 seconds, which is the default. The cache refresh interval is set at the BizTalk Server group level.

 Members of the BizTalk Server Operators group cannot do the following:

 Modify the configuration for BizTalk Server.

 View message context properties classified as Personally Identifiable Information (PII) or message bodies.

 Modify the course of message routing, such as removing or adding new subscriptions to the running system, including the ability to publish messages into the BizTalk Server runtime.

Note

To perform all monitoring tasks provided by the Management Pack such as restarting BTSNTSvc.exe service, you must be a member of the local Administrators group on the BizTalk Servers.

## In this section

 [Monitoring](#z7effa38ff9f240b78d8bfa13cf94aa4f)

 [Discoveries](#z5350c4b3ecc5487ea75a16af090ffa06)

# Monitoring

By default, all BizTalk Server monitoring and tasks use the default action account when there is no specific Run As Account defined for the target in the Run As Profile of the BizTalk Server Monitoring Account. To configure a Run As Account with the minimum set of permissions that are required for BizTalk Server monitoring purposes, the following permissions are required:

 The account must be a member of the monitored computer’s built-in Administrators group and Performance Monitors Users group.

 The account must be a member of the SysAdmin role within the SQL instance or instances hosting the databases and jobs for the BizTalk group that is being monitored.

 For BizTalk Server monitoring purposes, the account must be a part of BizTalk Operators group.

 For running tasks through SCOM console, the account must be a part of BizTalk Application Users group.

 For performing administrative tasks, the account must be a part of BizTalk Administrator group.

# Discoveries

The BizTalk Server Management Pack provides a centralized management and monitoring experience for BizTalk Server related artifacts.

## Discovery of artifacts

With BizTalk Server Management Pack, the monitoring agents discover the artifacts from a single runtime machine. By default, the management pack discovers the artifacts on the first machine that is joined to the BizTalk group. However if you want plan to discover the artifacts on the machine of your choice then you must use the override feature to change the settings for automatic discovery. To use an override to change the setting for automatic discovery, see [Optional Configurations](#z3f4b0b512cad4cb5b6cd4db92bd199fa).

The actions and tasks that are carried from the SCOM Operations Console are unique to the artifacts that are discovered and monitored on all runtime machines. To see all the tasks the BizTalk Server Management Pack provides, click Tasks in the Monitoring pane of the Operations Manager 2012 Operations Console.

# Understanding Management Pack Operations

The following sections describe the objects that the BizTalk Server Management Pack discovers, state monitoring definitions, how health rolls up and key scenarios for monitoring your BizTalk Server environment.

## In this section

 [Objects the Management Pack Discovers](#z291e8936b29947199f7eedc86f76fcbd)

 [State Monitoring Definitions](#zaa2c82475e2546249f0dc7fe621ffba2)

 [Viewing Information in the Operations Manager Console](#z6acdf4254c364d89949381b33481fe6d)

 [How Health Rolls Up](#zc37644cd7d3c4e93ad56101043cfa685)

 [Key Monitoring Scenarios](#zfee90fd2fb85409f827e6ee3c8e13b4c)

# Objects the Management Pack Discovers

The BizTalk Server Management Pack discovers the object types described in the following table. For information about discovering objects, see the [Object Discoveries in Operations Manager 2012](http://go.microsoft.com/fwlink/?LinkId=108505) topic in Operations Manager 2012 online library (http://go.microsoft.com/fwlink/?LinkId=108505).

|  |  |  |
| --- | --- | --- |
| Name | Category | Object Type |
| BizTalkGroup | Logical entity | Application view objects |
| BizTalkHost | Logical entity | Application view objects |
| BizTalkApplication | Logical entity | Application view objects |
| ApplicationArtifact | Logical entity | Application view objects |
| HostedApplicationArtifact | Logical entity | Application view objects |
| ReceivePort | Application artifact | Application view objects |
| ReceiveLocation | Application artifact | Application view objects |
| Orchestration | Application artifact | Application view objects |
| SendPort | Application artifact | Application view objects |
| SendPortGroup | Application artifact | Application view objects |
| BizTalkGroupDeployment | System.Service | Deployment View objects |
| BizTalkInstallation | Windows.SoftwareInstallation | Deployment View objects |
| ServerRole | Windows.ComputerRole | Deployment View objects |
| BiztalkRuntimeRole | ServerRole | Deployment View objects |
| RulesEngineRole | BizTalkServerRole | Deployment View objects |
| BAMRole | Logical entity | Deployment View objects |
| BAMRuntime | Logical entity | Deployment View objects |
| BAMAnalysis | Logical entity | Deployment View objects |
| BAMAlerts | Logical entity | Deployment View objects |
| BAMPortal | Web site | Deployment View objects |
| BizTalkApplicationService | Windows.ApplicationComponent | Deployment View objects |
| BizTalkHostDeployment | Logical entity | Deployment View objects |

# State Monitoring Definitions

State monitoring helps answer the question of whether a monitored computer is healthy at a given time from the perspective of a particular application. System Center Operations Manager (SCOM) updates the status of different managed entities exposed to the user and presents the status as part of the state monitoring view.

To understand the BizTalk Server State Monitoring view, you must understand the concepts behind SCOM state monitoring. The following terminology is used to describe the key components of state monitoring:

 Role - A role that a server is performing in an environment as determined by service discovery. For example, the BizTalk run-time role encapsulates the runtime artifacts and instances in BizTalk Server.

 Component - A sub-role that is used as part of the health roll-up to measure the overall health of the server role. For example, the BAM alert component is used to generate alerts to indicate the status of overall health.

 Instance - A particular computer may host instance(s) of the server role.

In brief, the following are the important principles of SCOM state monitoring:

 Health of a computer group is derived from the health of the computers that are contained in the computer group.

 The status of the computer shows whether applications (referred as server roles) running on the computer are healthy, and the health is derived from the health of the hosted applications.

 At the application level (server role), the status of the server role is the overall status of all application instances of that server role. For example, health of one or more artifacts like orchestrations, receives locations, receives ports and so on affects the status and overall health of a BizTalk application.

 At the application instance level (server role instance), the health of the application instance is derived from the health of different areas of the application instance (known as components).

 SCOM alerts are associated with the health of a component. Status of a component is set to red, yellow, or green when alerts are triggered to indicate overall health.

 Health of a component contributes to the health of the server role.

In BizTalk Server:

 Each BizTalk Server is considered an instance of the BizTalk Server role.

 The BizTalk Server role in a computer will therefore be computed as a result of all events/activities of all the BizTalk Server processes in that computer.

The BizTalk Server Management Pack provides state monitoring for BizTalk Server artifacts which includes

 Application artifacts such as orchestrations. Messaging components such as receive ports, receive locations, and send ports.

 Deployment artifacts such as servers, host instances, SSO and so on.

The following table lists the three states that visually represent the health status of all BizTalk Server platform and application level artifacts. This provides the SCOM operator a high-level view of a multi-server deployment in order to focus on important problems quickly.

|  |  |  |  |
| --- | --- | --- | --- |
| Artifacts | Green | Yellow | Red |
| Application level artifacts | Are in a running state. | Less than 70% of the   instances are faulted. | More than 70% of the instances are faulted or have resulted in critical errors. |
| Deployment level artifacts | Are in a running state. | Not applicable | Are not in a running state or have stopped. |

# Viewing Information in the Operations Manager Console

Use the views provided with the BizTalk Server Management Pack to understand the current availability, configuration, health, and performance of your BizTalk Server environment. A view can contain a lengthy list of objects. To find a specific object or group of objects, you can use the Scope, Search, and Find buttons on the Operations Manager toolbar. For more information, see the How to Manage Monitoring Data Using Scope, Search, and Find topic in Operations Manager 2012 Help.

The following views are listed directly under BizTalk Server node in the Monitoring pane of the Operations Console.

 Application Views: A BizTalk administrator is interested in monitoring the state and health of various BizTalk Server artifacts and applications such as orchestrations send ports, receive locations, and so on.

 Deployment Views: An enterprise IT administrator is interested in monitoring the state and health of the various enterprise deployments the machines hosting the SQL Server databases, machines hosting the SSO service, host instance machines, IIS, network services, and so on.

## Application Views

Application views contain the elements described in the following table.

Elements

|  |  |
| --- | --- |
| View Name | Description |
| Application State View | This is a dashboard view that displays the health of a BizTalk application. The health of BizTalk application depends on the health of its constituent artifacts such as Orchestrations, Send Port Group, Send Port, Receive Port, and Receive Location. The Details View pane provides the properties of the hosted BizTalk application. |
| Group State View | This is a dashboard view that displays the health of a BizTalk group. The health of a BizTalk group depends on the health of BizTalk host and BizTalk applications. The Details View pane provides the properties of the BizTalk group. |
| Host State View | This is a dashboard view that displays the health of a BizTalk host. The health of a BizTalk host depends on the health of the instances of the hosted BizTalk applications. The Details View pane provides the properties of the BizTalk host. |

#### Application Artifacts Views

Application artifacts views contain the elements described in the following table.

Elements

|  |  |
| --- | --- |
| View Name | Description |
| Orchestrations State View | Displays the configuration and runtime state of Orchestration for the hosted application. |
| Receive Location State View | Displays the configuration and runtime state of Receive Location for the hosted application. |
| Receive Ports State View | Displays the configuration and runtime state of Receive Ports for the hosted application. |
| Send Port Groups State View | Displays the configuration and runtime state of Send Port Group for the hosted application. |
| Send Port State View | Displays the configuration and runtime state of Send Port for the hosted application. |

## Deployment Views

Deployment views contain the elements described in the following table.

Elements

|  |  |
| --- | --- |
| View Name | Description |
| Deployment State View | This is a dashboard view that displays the health of a BizTalk deployment group. The health of the BizTalk deployment group depends on the health of its constituent runtime server components such as BAM Role, Rule Engine Role, BizTalk Run-time Role and BizTalk Host. The Details View pane provides the properties of the BizTalk deployment group. |
| Hosts State View | This is a dashboard view that displays the health of a BizTalk host. The health of a BizTalk host depends on the health of the instances of the hosted BizTalk applications. The Details View pane provides the properties of the BizTalk host. |
| Rule Engine Role State View | This is a dashboard view that displays the health of a Rule Engine service that is running on the runtime servers. The Details View pane provides the properties of the runtime servers that have Rule Engine service installed. |
| Runtime Role State View | This is a dashboard view that displays the health of the runtime servers that have runtime rule engine service installed. The health of a BizTalk Run-time Role depends on the health of its components such as SSO Service, management database, message box database, SSO database and tracking database. The Details View pane provides the properties of the runtime servers. |

### BAM Component Views

Elements

|  |  |
| --- | --- |
| View Name | Description |
| BAM Alerts State View | Displays the state view of BizTalk BAM alerts component. |
| BAM Analysis State View | Displays the state view of BizTalk BAM analysis component. |
| BAM Performance View | The Legend pane displays the performance counter for BAM. |
| BAM Portal State View | Displays the state view of BAM portal. |
| BAM Run-time State View | Displays the state view of BAM run-time. |

#### BAM Alerts

Elements

|  |  |
| --- | --- |
| View Name | Description |
| BAM Alerts State View | Displays a list of BizTalk BAM alerts which is a notification service and generated when any of the critical services are unavailable. |

##### Runtime Component Views

Elements

|  |  |
| --- | --- |
| View Name | Description |
| Application Service State View | Displays the health of all host instances in a BizTalk group. |
| Message Box Performance State View | The Legend pane displays the performance counter for Message Box Tracking Data Size. |
| Messaging Adapters Performance View | The Legend pane displays the performance counter for MSMQ Receive Adapter Bytes Received. |
| Messaging Performance View | The Legend pane displays the performance counter for Active Receive Locations. |
| Orchestration Performance View | The Legend pane displays the performance counter for Runnable Orchestrations. |
| Server Resource Usage View | The Legend pane displays the performance counter for Physical Disk Percentage Idle Time. |

###### Runtime Alerts

Elements

|  |  |
| --- | --- |
| View Name | Description |
| Core Alerts View | Displays BizTalk core alerts. |
| Messaging Alerts View | Displays BizTalk messaging alerts. |

# How Health Rolls Up

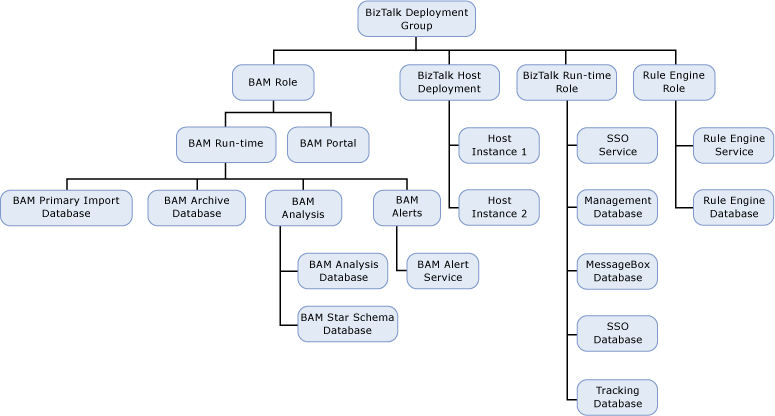
The BizTalk Server Management Pack categorizes the BizTalk Server deployment, applications and its constituent artifacts into a layer structure where the health of one layer can depend on the health of the lower level.

 BizTalk Deployment

 BizTalk Application

## Health Roll Up for BizTalk Deployment

The following diagram shows how the health states of BizTalk Server deployment rolls up in this management pack.



The following table describes the components displayed in BizTalk Server deployment workflow diagram.

|  |  |  |
| --- | --- | --- |
| Name | Description | Health |
| BizTalk Deployment Group | A group that contains multiple runtime servers with components such as runtime rule engine. | Health of this group depends on the availability of  **** BAM Role  **** BizTalk Host deployment  **** BizTalk Run-time Role  **** Rule Engine Rule |
| BAM Role | A server on which BAM component is installed. | Health of this depends on the BAM Run-time Role and BAM Portal. |
| BizTalk Host Deployment | A logical entity defining the runtime parameters or boundaries for the various application artifacts to run. Several instances of this (host instances) run as NT services on different runtime servers. | Health of this group depends on the availability of different instances of this host. |
| BizTalk Run-time Role | A server where BizTalk Run-time is installed. | Health of this group depends on the availability of  **** SSO Service  **** Management Database  **** MessageBox Database  **** SSO Database  **** Tracking Database |
| Rule Engine Role | A server which has rule engine installed. | Health of this group depends on the availability of Rule Engine Service and Rule Engine Database  **** Rule Engine Service  **** Rule Engine Database |
| BAM Run-time Role | A server on which BAM run-time component is installed. | The health of this depends on the availability of  **** BAM Primary Import Database  **** BAM Archive Database  **** BAM Analysis  **** BAM Alerts |
| BAM Portal | A Web Server which has BAM portal application installed and configured. | The health of this depends on the availability of BAM portal application. |
| Host Instance | A Windows NT service configured to run on BizTalk Run-time server. | The health of this is depends on the state of Windows NT service. |
| SSO Service | A Windows NT service for SSO. | The health of this is depends on the state of SSO service. |
| Management Database | A SQL Server that contains one or more BizTalk databases. | The health of this is depends on the availability of SQL Server database availability. |
| MessageBox Database | A SQL Server that contains one or more BizTalk MessageBox databases. | The health of this is depends on the availability of SQL Server database availability. |
| Rule Engine Service | A Rule Engine Service which is used to process BizTalk rules. | The health of this depends on the availability of Rule Engine Service. |
| Rule Engine Database | A SQL Server that contains one or more BizTalk Rule Engine databases. | The health of this is depends on the availability of SQL Server database availability. |
| BAM Primary Import Database | A SQL Server that contains BAM databases. | The health of this is depends on the availability of SQL Server database availability. |
| BAM Archive Database | A SQL Server database that contains archived data. | The health of this is depends on the availability of SQL Server database availability. |
| BAM Analysis | Contains both offline and online BAM analysis data. | The health of this is depends on the availability of BAM analysis data. |
| BAM Alerts | A SQL notification service. | The health of this is depends on the state of notification service. |
| BAM Alert Service | A SQL notification service. | The health of this is depends on the state of notification service. |
| BAM Analysis Database | A SQL Server database that contains both offline and online BAM analysis data. | The health of this is depends on the availability of SQL Server database availability. |
| BAM Star Schema database | Contains the staging table, and the measure and dimension tables. | The health of this is depends on the availability of SQL Server database availability. |
| Tracking Database | A SQL Server database that stores health monitoring data tracked by BizTalk Server tracking engine. | The health of this is depends on the availability of SQL Server database availability. |
| SSO Database | A SQL Server that hosts SSO database. | The health of this is depends on the availability of SQL Server database availability. |

## Health Roll Up for BizTalk Application

The following diagram shows how the health states of BizTalk application and its constituent artifacts rolls up in this management pack.



The following table describes the components displayed in BizTalk application workflow diagram.

|  |  |  |
| --- | --- | --- |
| Name | Description | Health |
| BizTalk Group | A group that contains application artifacts. All these artifacts are stored in a centralized database that is named as configuration database. These artifacts can be discovered from any of the runtime computers. | The health of this group depends on the availability of BizTalk Host and BizTalk applications. |
| Host | A logical entity defining the runtime parameters or boundaries for the various application artifacts to run. Several instances of this (host instances) run as NT services on different runtime servers. | The health of this group depends on the availability of different instance of this host. |
| Application | A group of BizTalk application artifacts such as Orchestrations, schemas, maps and pipelines. Messaging components such as send ports, receive locations and receive ports. Instances of these artifacts are run in host instance when a suitable message is received by the BizTalk Server. | The health of this depends on the  **** Configuration status of receive port  **** Runtime state of receive port  **** Configuration status of send port  **** Health of orchestration  **** Runtime state of orchestration |
| Receive Port | A BizTalk artifact that runs in a host instance. This runs when the BizTalk Server receives a message. Receive port contains one or more receive location. | The health of this depends on the configuration status and runtime state of receive port. |
| Receive Location | A BizTalk artifact that receives message from an external system. This uses an adapter with its associated endpoint to receive a message. | The health of this depends on the configuration status and runtime state of receive location. |
| Send Port | Sends the processed message to an external system. | The health of this depends on the configuration status and runtime state of send port. |
| Orchestration | Receives a message from receive port and processes the message. Orchestration is similar to workflow. | The health of this depends on the configuration status and runtime state of orchestration. |
| Send Port Group | A logical group of send ports that receives message from BizTalk message box and sends it to external systems. | The health of this group depends on the health of the send ports in this group. |

# Key Monitoring Scenarios

The BizTalk Server Management Pack for Operations Manager 2012 includes a number of key monitoring scenarios described in the table that follows.

BizTalk Server Monitoring Scenarios

|  |  |
| --- | --- |
| Scenario | Description |
| Suspended Message Alerts | Monitoring and resolving issues related to suspended messages are common operational tasks in a BizTalk Server environment. The BizTalk Server Management Pack enables you to monitor and troubleshoot suspended message events in a streamlined way. Two kinds of message suspension occur in BizTalk Server when you process messages: Inbound Message Suspension and Outbound Message Suspension.  For inbound messages, various kinds of processing failures or lack of subscription may cause a message to be suspended. Some transports can be configured to suspend the message or not suspend the message. For outbound messages, all processing failures will always lead to message suspension.  For inbound messages, alert rules for suspension are written per adapter. This approach provides more flexibility in handling message suspensions on the inbound side. You can add different response actions based on the adapter, such as notification. You can additionally customize the BizTalk Server Management Pack by creating custom rules. For outbound messages, all messages are always suspended on transmission time failure of any kind. |
| Alert Suppression Policy | Rules for suspended messages employ a different suppression policy than are generally applied for other rules. Alerts are suppressed based the Alert Name, Alert Source, and Computer and Domain.  For suppression based on Alert Source, the alert source for each suspended message rule also contains a parameter extracted from the suspended message event. This parameter is the URI on which the message was received or transmitted.  Errors that occur on the same URI are usually because of the same reason. Therefore, we recommend that you create a single alert for the same root cause even though multiple associated failure events exist. This enables you to have one alert and one root cause that makes it easier for you to correct problems when they occur. Streamlined alerts, based on URIs, reduce unnecessary alerts and facilitate efficient tracking of open issues. A new alert is created for a message suspension at a URI with no previous suspension alerts. |
| BAM Technical Assistance Alerts | Business Activity Monitoring (BAM) Portal users, known as business users, usually understand the business level indicators and business activities. They use BAM Portal to monitor aggregate indicators, complete in-process business transactions, or search for transactions with particular properties to investigate further. However, business users often do not understand the aspects of an issue at an IT infrastructure level. During investigation of a given transaction, the BAM Portal enables business users to request technical assistance from the IT Operations staff to investigate transactions at the IT infrastructure level.  The BAM Portal enables this hand-off from the business user through a Technical Assistance request. Requesting technical assistance creates an entry in the Application log in Event Viewer of the computer where the BAM Portal is hosted. This event contains details about the activity on which technical assistance is requested by the user and other important information, such as the Message Instance Identifier, Service Instance Identifier, and BizTalk Server group information.  The BizTalk Server Management Pack contains a rule to trigger an alert on detection of a BAM Technical Assistance event. The rule that creates this alert is “Error: BAM Technical Assistance Required.” A new alert is created for each request submitted from the BAM Portal. |
| BizTalk Message Boxes and Hosts | BizTalk Server Management Pack incorporates performance threshold rules that provide a comprehensive view of the health of the BizTalk MessageBox databases and queues. Two kinds of threshold rules are provided:  **** Rules that apply generically, that is, to all BizTalk Hosts, all BizTalk MessageBox databases.  **** Rules that are specific to a particular BizTalk Host or a MessageBox.  Generic rules monitor all the BizTalk Server Hosts or MessageBox databases based on a common threshold. For example, the rule “Monitor HostQ Size,” monitors the work queues of all BizTalk Server Hosts based on a common threshold. If three hosts exist, all their work queues are monitored by the same rule and alerts occur when any of the host work queues cross the common threshold.  BizTalk Server host-specific rules enable you to configure different thresholds for different hosts and MessageBox databases. For example, the rule "Monitor HostQ Size – BizTalkServerApplication" is a host-specific rule that monitors the work queue of the BizTalkServerApplication host. You do this by defining a specific Operations Manager provider for the particular performance counter instance and using that provider in the threshold rule.  Host\MessageBox-specific rules are provided as template rules to be used as a guide for creating rules that are applicable in your environment. Generic rules need to be configured with threshold values specific to your environment. BizTalk Host/MessageBox-specific rules need to be created based on the template rules and appropriate thresholds.  BizTalk Server incorporates self-throttling, which helps to prevent overloading based on various parameters. A temporary overload that causes throttling to occur is not an operationally significant event. Persistent throttling, however, is not expected in a stable environment and could indicate underlying problems at the infrastructure level. The BizTalk Server Management Pack provides proactive monitoring of such persistent throttling conditions with performance threshold monitors based on the following conditions:  **** BizTalk Server service process memory  **** Number of messages being processed  **** Number of threads in a BizTalk Server process  **** Size of the BizTalk database queues |
| Orchestration Failures | Monitoring for suspended orchestrations is another common scenario. Orchestrations can fail for many reasons that include orchestration engine problems, .NET Component failures, and program logic. It is important to enable an operator to determine the source of the problem quickly and to resume suspended orchestrations when fixed. |
| Service Monitoring | BizTalk Server requires that a number of services are running to operate correctly. The status of these services will be mapped to monitors for the classes representing the different BizTalk Services. |
| Application Monitoring | BizTalk Server introduced the concept of an application for grouping solution artifacts. Application monitoring detects effects of a failure at the application level. |

# Troubleshooting

There are a number of actions that you can take to troubleshoot BizTalk Server management pack issues:

 Ensure that Operations Manager is installed properly.

 Ensure that Operations Manager configuration settings are set properly.

 Verify that your import of the Management Pack is complete and successful.

 Ensure that all relevant entities are enabled, such as rules and monitors.

 Ensure that the computer groups are populated with the correct computers. You can use the Authoring mode Groups node in the console to perform this inspection.

 Ensure that all the SCOM agents are healthy.

 Ensure that the heartbeat interval is set properly and that the rules are propagated to the Operations Manager 2012 agent computer.

 Ensure that all performance counters are properly installed.

## In this section

 [Known Issues](#z709c19ea113849f88898c2d2c60c3923)

# Known Issues

The following table lists all the known issues with the BizTalk Server Management Pack for Operations Manager 2012.

|  |  |  |
| --- | --- | --- |
| Issue | Description | Resolution |
| Performance counter related errors and warnings after restart | You might see performance counter-related errors and warnings in the Operations Manager event log after agent restart. | The Management Pack recovers after the errors and resumes working. |
| Objects discovery related warnings in the Operations Manager event Log | When a discovery (including relationship discovery) fails to find an instance, a warning is written to the Operations Manager event log stating that null was returned by the discovery script. |  |
| Alerting in physical node in clustered environment is unreliable | There are two known issues associated with monitoring in clustered environments:  **** When a node changes from active to passive, the monitoring status of the node and associated artifacts may not be reflected correctly in the Operations Console.  **** In clustered environments, the Operations Manager creates a virtual node which may display duplicate status and alerts. | In clustered environments that contains active/passive nodes; rely on the monitoring information displayed in the virtual node only. This is because the virtual node always points to the physical node that is active at any point in time. |
| Relationships and Dependency monitors | The following are the known issues related to relationships and dependency monitors: This occurs mostly when the BizTalk Management Pack is re-imported on a given SCOM Server. The user is then required to see comment the previous state as given in the "Steps to Reproduce the Behavior" section.  **** Relationships between BizTalk artifacts are not discovered.  **** Dependency relationships are not displayed as expected.  **** Roll up of monitoring status does not occur.  **** Some dependency monitors are uninitialized even after relationship discovery. | The workarounds to address these issues are as follows:  **** Restart the Operations Manager Health Service on the BizTalk agent machine.   -OR-  **** Run the Flush Health Service State and Cache task. The steps to do this are as follows:  a. In the navigation tree, select Operations Manager Agent Agent Health State.  b. Select the computer that is running BizTalk Server under Agent State from Health Service Watcher.  c. Select the agent state under Agent State.  d. Click the Flush Health Service State and Cache task in the right-side panel.  e. In the Run Task - Flush Health Service State and Cache dialog box, click Run. |
| Displays wrong status of send ports and receive locations | When the SSO service is down, the BizTalk Server Management Pack does not show the correct status of send ports and receive locations. |  |

# Appendix: Monitors and Overrides for Management Packs

This section provides detailed procedures and scripts that allow you to display rules and other information about the management packs you import.

## In This Section

 [How to View Management Pack Details](#za7f02034900743279f004be60d21f65a)

 [How to Display Monitors for a Management Pack](#za7c4d2b39c0140f5b983bf29a3a5cacc)

 [How to Display Overrides for a Management Pack](#z8261a514b4c44e6bac3540a3e3e090e0)

 [How to Display All Management Pack Rules](#z7fdec55067134f5f8c04d9218bf2df3c)

 [How to Display Monitor Thresholds](#z88d88b15069149d9b1161a2ae95bead9)

 [How to Display Performance Collection Rules](#z546aa853c3724e26a1ed19294c658583)

## Related Sections

[Appendix: Scripts](#zb639432113c94b1db529eba3d53b33c4)

# How to View Management Pack Details

For information about a monitor and the associated override values, view the knowledge for the monitor.

To view knowledge for a monitor

|  |
| --- |
| 1. In the Operations Console, click the Authoring button.  2. Expand Management Pack Objects, and then click Monitors.  3. In the Monitors pane, expand the targets until you reach the monitor level. Alternatively, you can use the Search box to find a particular monitor.  4. Click the monitor, and in the Monitors pane, click View knowledge.  5. Click the Product Knowledge tab. |

# How to Display Monitors for a Management Pack

To display a list of outputs for a management pack's monitors and overrides using the Command Shell, use the following procedure.

To display monitors for a management pack

|  |
| --- |
| 1. In your management server, click Programs, and then click System Center.  2. Click Command Shell.  3. In the Command Shell, type the following command:  get-scommanagementpack –DisplayName “DisplayName” | get-scommonitor | export.csv filename  4. A .csv file is created. The .csv file can be opened in Microsoft Office Excel.  Note  In Excel, you may be required to specify that the .csv file is a text file.  For example, the following command retrieves data for the monitors associated with one of the core management packs:  get-scommanagementpack -DisplayName "BizTalk Server Monitoring" | Get-ScomMonitor | export-csv "c:\monitors.csv" |

# How to Display Overrides for a Management Pack

To display overrides for a management pack, use the following procedure.

To display overrides for a management pack

|  |
| --- |
| 1. In your management server, click Programs, and then click System Center.  2. Click Command Shell.  3. In the Command Shell, type the following command:  $mp = get-scommanagementpack -DisplayName "Operations Manager Internal Library"  $mp.GetOverrides()  4. A .csv file is created. The .csv file can be opened in Office Excel.  Note  In Office Excel, you may be required to specify that the .csv file is a text file.  For example, the following command displays the overrides for one of the core management packs:  $mp = get-scommanagementpack -DisplayName "Contoso.BizTalk.Overrides.mp" $mp.GetOverrides() |

# How to Display All Management Pack Rules

Use the following procedure to display a list of rules for the management packs that you imported. The list of rules can be viewed in Office Excel.

To display management pack rules

|  |
| --- |
| 1. In your management server, click Programs, and then click System Center.  2. Click Command Shell.  3. In the Command Shell, type the following command:  get-scommanagementpack -DisplayName "BizTalk Server Monitoring" | Get-SCOMRule | export-csv "c:\rules.csv"  4. A .csv file is created. You can open the .csv file in Office Excel.  Note  In Office Excel, you may be required to specify that the .csv file is a text file. |

# How to Display Monitor Thresholds

To display monitor thresholds, use the script described in this section. This script works for the majority of monitors. It creates a .csv file that includes the columns described in the following table, and can be viewed using Office Excel.

|  |  |
| --- | --- |
| Column | Description |
| Type | The type of objects the monitor is targeted. |
| DisplayName | The display name of the monitor. |
| Threshold | The threshold used by the monitor. |
| AlertOnState | Determines whether the monitor generates an alert when the state changes. |
| AutoResolveAlert | Determines whether the generated alert will be automatically resolved when the monitor state goes back to green. |
| AlertSeverity | The severity of the generated alert. |

To display monitor thresholds

|  |
| --- |
|  |

Run the following script to create the .csv file that displays the monitor thresholds:

function GetThreshold ([String] $configuration)

{

$config = [xml] ("<config>" + $configuration + "</config>")

$threshold = $config.Config.Threshold

if($threshold -eq $null)

{

$threshold = $config.Config.MemoryThreshold

}

if($threshold -eq $null)

{

$threshold = $config.Config.CPUPercentageThreshold

}

if($threshold -eq $null)

{

if($config.Config.Threshold1 -ne $null -and $config.Config.Threshold2 -ne $null)

{

$threshold = "first threshold is: " + $config.Config.Threshold1 + " second threshold is: " + $config.Config.Threshold2

}

}

if($threshold -eq $null)

{

if($config.Config.ThresholdWarnSec -ne $null -and $config.Config.ThresholdErrorSec -ne $null)

{

$threshold = "warning threshold is: " + $config.Config.ThresholdWarnSec + " error threshold is: " + $config.Config.ThresholdErrorSec

}

}

if($threshold -eq $null)

{

if($config.Config.LearningAndBaseliningSettings -ne $null)

{

$threshold = "no threshold (baseline monitor)"

}

}

return $threshold

}

#$perfMonitors = get-monitor -Criteria:"IsUnitMonitor=1 and Category='PerformanceHealth'"

$perfMonitors = Get-ScommanagementPack -DisplayName "BizTalk Server Monitoring" | get-scommonitor | where-object{$\_.XmlTag -eq "UnitMonitor" -and $\_.Category -eq "PerformanceHealth"}

$perfMonitors | select-object @{name="Target";expression={foreach-object {(Get-SCOMClass -Id:$\_.Target.Id).DisplayName}}},DisplayName, @{name="Threshold";expression={foreach-object {GetThreshold $\_.Configuration}}}, @{name="AlertOnState";expression={foreach-object {$\_.AlertSettings.AlertOnState}}}, @{name="AutoResolveAlert";expression={foreach-object {$\_.AlertSettings.AutoResolve}}}, @{name="AlertSeverity";expression={foreach-object {$\_.AlertSettings.AlertSeverity}}} | sort Target, DisplayName | export-csv "c:\monitor\_thresholds.csv"

# How to Display Performance Collection Rules

To display performance collection rules, use the script in this section. This script works for the majority of rules. It creates a .csv file that includes the columns listed in the following table, and can be viewed using Office Excel.

|  |  |
| --- | --- |
| Column | Description |
| WriteToDB or CollectionPerformanceData | Writes to the Operations Manager database. |
| WriteToDW or CollectPerfDataWarehouse | Writes to the data warehouse. |
| WC | Stores baseline data for a performance counter into the operational database. |

To display performance collection rules

|  |
| --- |
|  |

To display the performance collection rules in the management group, run the following script:

function GetPerfCounterName ([String] $configuration)

{

$config = [xml] ("<config>" + $configuration + "</config>")

return ($config.Config.ObjectName + "\" + $config.Config.CounterName)

}

function GetFrequency ([String] $configuration)

{

$config = [xml] ("<config>" + $configuration + "</config>")

$frequency = $config.Config.Frequency;

if($frequency -eq $null)

{

$frequency = $config.Config.IntervalSeconds;

}

return ($frequency)

}

function GetDisplayName($performanceRule)

{

if($performanceRule.DisplayName -eq $null)

{

return ($performanceRule.Name);

}

else

{

return ($performanceRule.DisplayName);

}

}

function GetWriteActionNames($performanceRule)

{

$writeActions = "";

foreach($writeAction in $performanceRule.WriteActionCollection)

{

$writeActions += " " + $writeAction.Name;

}

return ($writeActions);

}

$perf\_collection\_rules = Get-SCOMManagementPack -DisplayName "BizTalk Server Monitoring" | Get-SCOMRule | where-object{$\_.Category -eq "PerformanceCollection"}

$perf\_collection\_rules | select-object @{name="Type";expression={foreach-object {(Get-SCOMClass -id:$\_.Target.Id).DisplayName}}},@{name="RuleDisplayName";expression={foreach-object {GetDisplayName $\_}}} ,@{name="CounterName";expression={foreach-object {GetPerfCounterName $\_.DataSourceCollection[0].Configuration}}},@{name="Frequency";expression={foreach-object {GetFrequency $\_.DataSourceCollection[0].Configuration}}},@{name="WriteActions";expression={foreach-object {GetWriteActionNames $\_}}} | sort Type,RuleDisplayName,CounterName | export-csv "c:\perf\_collection\_rules.csv"

# Appendix: Scripts

The following scripts are included in this management pack.

|  |  |
| --- | --- |
| Script | Purpose |
| Microsoft.BizTalk.Server.2013.ArtifactsDiscovery.vbs | This script discovers application artifacts based on $Config/Option$ parameter. Options include  **** All send ports, send port groups in an application, their hosting relations to an application and 'send port group contains send port' relations.  **** All orchestrations in an application, their hosting relations to application.  **** All receive ports, receive locations in an application, their hosting relation' to an application and 'receive port contains receive location' relations. |
| Microsoft.BizTalk.Server.2013.ApplicationDiscovery.vbs | This script discovers the following:  **** All applications in a group and 'group hosts application' relations.  **** All hosts in a group and 'group hosts host' relations. |
| Microsoft.BizTalk.Server.2013.BAMAnalysisDiscovery.vbs | This script discovers BAM analysis and alerts components on a computer where BAM runtime component is discovered. |
| Microsoft.BizTalk.Server.2013.BAMPortalDiscovery.vbs | This script discovers BAM portal configured on a machine having IIS. This also discovers BAM role and the containment of BAM portal in it. |
| Microsoft.BizTalk.Server.2013.BAMRuntimeDiscovery.vbs | This script discovers BAM runtime component on a computer passed as parameter $Config/ComputerName$. If computer name is not passed then it discovers BAM on a runtime computer with lowest server ID in the management database. This also discovers BAM role and the containment of BAM runtime in it. |
| Microsoft.BizTalk.Server.2013.BizTalkApplicationServiceDiscovery.vbs | This script discovers all BizTalk application services on a computer along with its hosting relations with runtime role. |
| Microsoft.BizTalk.Server.2013.BizTalkGroupDiscovery.vbs | This script discovers BizTalk group on a computer passed as parameter $Config/ComputerName$. If computer name is not passed then it discovers group on a runtime computer with lowest server ID in the management database. |
| Microsoft.BizTalk.Server.2013.BizTalkRoleDiscovery.vbs | This script discovers the BizTalk server roles in a specified computer based on parameter. $Config/Option$. Options include the following:  BizTalk runtime role, BizTalk group deployment and containment of runtime in group deployment.  BizTalk rules engine role, BizTalk group deployment and containment of rules engine in group deployment. BAM role is always discovered with any of the options, and its containment in group deployment. |
| BizTalkAnalysisDatabaseMonitor.vbs | This script generates monitoring data for availability of SQL analysis database based on connectivity. The monitor states can be either success or error. |
| BizTalkArtifactConfigurationMonitor.vbs | This script generates monitoring data for BizTalk application artifact configuration. Each artifact will be in one of the three monitoring states success, warning and error. |
| BizTalkArtifactSuspendedInstancesMonitor.vbs | This script generates monitoring data for BizTalk application artifact runtime state based on number of suspended instances per artifact. Each artifact will be in one of the three monitoring states success, warning, and error. |
| BizTalkBAMPortalMonitor.vbs | This script generates monitoring data for availability of BAM portal. The monitor states can be either success or error. |
| BizTalkHostConfigurationMonitor.vbs | This script generates monitoring data for BizTalk host based on the availability of all its host instances (BTSNTSvc.exe). The monitor states can be either success (running >= success limit), warning (running >= warning limit and running < success limit) or error. |
| BizTalkDatabaseMonitor.vbs | This script generates monitoring data for availability of an SQL database based on connectivity. The monitor states can be either success or error. |
| BizTalkMultipleDatabaseMonitor.vbs | This script generates monitoring data for availability of a group of SQL databases as a single entity based on connectivity. Monitor states can be either error (primary database not available), warning (some non-primary databases not available) or success (all databases available). |
| BizTalkHostProbeAction.vbs | This script generates diagnostics data for BizTalk host based on the availability of all its host instances (BTSNTSvc.exe). For error and warning states it shows host instance that are not running. |
| Microsoft.BizTalk.Server.2013.HostAction.vbs | This script is used to Start/Stop a BizTalk Host. |
| Microsoft.BizTalk.Server.2013.OrchestrationAction.vbs | This script is used to Start/Stop an orchestration (BizTalk application artifact). |
| Microsoft.BizTalk.Server.2013.EnableReceiveLocation.vbs | This script is used to Enable/Disable a Receive Location (BizTalk application artifact). |
| Microsoft.BizTalk.Server.2013.SendPortAction.vbs | This script is used to Start/Stop a Send Port (BizTalk application artifact). |
| Microsoft.BizTalk.Server.2013.SendPortGroupAction.vbs | This script is used to Start/Stop a Send Port Group (BizTalk application artifact). |