SystemCenter2012R2Logo1.png

**Guide for System Center Management Pack for Windows Server 2012 and Windows Server 2012 R2 DHCP**

Microsoft Corporation

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The Operations Manager team encourages you to provide feedback on the management pack by providing a review on the management pack’s page in the [Management Pack Catalog](http://go.microsoft.com/fwlink/?LinkID=82105) (http://go.microsoft.com/fwlink/?LinkID=82105).

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# Introduction to the DHCP Management Pack

This guide describes the Windows Server 2012 and Windows Server 2012 R2 DHCP Management Pack for System Center, version 6.0.7299.0. The management pack is used to monitor the Dynamic Host Configuration Protocol (DHCP) server role of Windows Server 2012 and Windows Server 2012 R2.

# What's New – August 2016

The following bug has been fixed in the Management Pack:

* If the property scope id length of the failover server watcher class exceeded the max length, then Failover Server Watcher was not being discovered and hence could not monitor DHCP failover servers. The fix ensures that discovery is successful.
* In a DHCP server with multiple scopes, if two or more scopes have same name when the alert raise for one scope it automatically raises the alert for another same scope name. The fix ensures that alerts are sent only for generated scope.

# What's New – november 2015

The following bug has been fixed in the Management Pack:

* In a DHCP server with multiple scopes, if the first scope exceeds the threshold for minimum available addresses, alerts are sent for all scopes on the DHCP server even for the ones that don't violate the threshold. The fix ensures that alerts are sent only for the scope exceeding the threshold.

# What's New – September 2015

The following bug has been fixed in the Management Pack:

* The properties view of Failover Server Relationship does not display all the IP addresses, with this fix the properties view of Failover Server Relationship will display all IP addresses.

# What's New – August 2014

The Management Pack contains the following new features:

* Added Event 1044 to DHCPDatabase Integrity Monitor to Success State
* Changed Monitor "DHCP Back Up Database Error Monitor" to have criteria for Healthy or to be Rule Based (it is Manual Reset)
  + Disabled the Unit Monitor Microsoft.Windows.DHCPServer.Library.Database.UnitMonitor.BackupAndRestore.1
  + Adding 2 rules to cover Warning and Error events.
* Change Monitor "DHCP IPv4 Runtime DNS Registration Monitor" to have criteria for Healthy or to be Rule Based
  + Disabled the Unit Monitor ID: Microsoft.Windows.DHCPServer.Library.IPv4Runtime.UnitMonitor.DNSRegistration
* Monitor "DHCP IPv4 Runtime Authorization Needed Monitor" never returns to green state
  + Adding Event ID 1044 to Healthy State expression
* Add dependency monitor to DHCP 2012 R2 Servers group

# What's New – October 2013

The Management Pack contains the following new features:

Windows Server 2012 R2 supported.

For Windows Server 2012 R2, the consumption of the IP address range and the availability of DHCP service can be monitored.

# What's New – May 2013

The Management Pack contains the following new features:

All workflows are implemented using PowerShell to improve overall functionality for this Management Pack.

 Failover Relationships are now a supported configuration that is being discovered and monitored by the new 2012 Management Pack.

 Discovery and Monitoring of a DHCP Cluster installation.

 Scopes, super scopes utilization is being monitored based on events that provide 80% and 100% usage.

 Utilization of scopes based on policies, client packet drop and residual IP addresses range monitoring.

# Supported Configurations

The Management Pack for System Center supports primarily the DHCP server role of Microsoft Windows Server 2012 and 2012 R2, the DHCP clustered installation and the failover relationship feature.

| **Operating system** | **Standalone DHCP** | | **Clustered DHCP** | |
| --- | --- | --- | --- | --- |
|  | **(x64)** | **(x86)** | **(x64)** | **(x86)** |
| Microsoft Windows Server 2012 | X | NA | X | NA |
| Microsoft Windows Server 2012 R2 | X | NA | X | NA |

This management pack is supported to run in Operations Manager 2007 R2, System Center 2012 Operations Manager and System Center 2012 Operations Manager SP1.

# What this management pack monitors

The following tables list the elements of this management pack:

## Discoveries

| DISCOVERIES | Description | Method |
| --- | --- | --- |
| Microsoft.Windows.DHCPServer.2012.Server.Discovery | Discovers DHCP Server based on the installed DHCP feature. | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.ClusterServer.Discovery | Discovers DHCP Server based on the installed DHCP Failover Cluster feature. | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.Scopes.Discovery | Discovers DHCP IPV4 and IPV6 scopes | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.Database.Discovery | Discovers DHCP database | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.FailoverServerWatcher.Discovery | Discovers DHCP Failover relationships defined between Servers | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.R2.Server.Discovery | Discovers DHCP Server based on the installed DHCP feature. | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.R2.ClusterServer.Discovery | Discovers DHCP Server based on the installed DHCP Failover Cluster feature. | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.R2.Scopes.Discovery | Discovers DHCP IPV4 and IPV6 scopes | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.R2.Database.Discovery | Discovers DHCP database | PowerShell Script based |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.Discovery | Discovers DHCP Failover relationships defined between Servers | PowerShell Script based |

## Groups

| GROUPS | Description | Method |
| --- | --- | --- |
| Microsoft.Windows.DHCPServer.2012.Group.Servers | Populate with DHCP 2012 servers | Group Populator Module |
| Microsoft.Windows.DHCPServer.2012.Group.IPv4Scopes | Populate with DHCP 2012 IPV4 Scopes | Group Populator Module |
| Microsoft.Windows.DHCPServer.2012.Group.IPv6Scopes | Populate with DHCP 2012 IPV6 Scopes | Group Populator Module |
| Microsoft.Windows.DHCPServer.2012.FailoverServerWatchersGroup | Populate with DHCP 2012 Failover Server Relationships | Group Populator Module |
| Microsoft.Windows.DHCPServer.2012.R2.Group.Servers | Populate with DHCP 2012 R2 servers | Group Populator Module |
| Microsoft.Windows.DHCPServer.2012.R2.Group.IPv4Scopes | Populate with DHCP 2012 R2 IPV4 Scopes | Group Populator Module |
| Microsoft.Windows.DHCPServer.2012.R2.Group.IPv6Scopes | Populate with DHCP 2012 R2 IPV6 Scopes | Group Populator Module |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatchersGroup | Populate with DHCP 2012 R2 Failover Server Relationships | Group Populator Module |
| Microsoft.Windows.DHCPServer.2012.R2.Group.Superscopes | Populate with DHCP 2012 R2 Super Scopes | Group Populator DS |

## Classes

| CLASSES | Purpose | Notes |
| --- | --- | --- |
| Microsoft.Windows.DHCPServer.2012.Server | The class represents the DHCP server service and its functional state. | The base class is a Windows Computer Role. |
| Microsoft.Windows.DHCPServer.2012.IPv4Scope | The class represents the DHCP IPV4 scopes defined in a DHCP 2012 server and its functional state. | The base class is Windows Application component. |
| Microsoft.Windows.DHCPServer.2012.IPv6Scope | The class represents the DHCP IPV6 scopes defined in a DHCP 2012 server and its functional state. | The base class is Windows Application component. |
| Microsoft.Windows.DHCPServer.2012.IPv6Runtime | This class represents an IPV6 installation that is defined in the DHCP 2012 Server, and its Role functional state. | The base class is Windows Application component. |
| Microsoft.Windows.DHCPServer.2012.FailoverServerWatcher | This class represents a Failover Server relationship defined in a DHCP 2012 Server and its functional state | This base class is system perspective |
| Microsoft.Windows.DHCPServer.2012.R2.Server | The class represents the DHCP server service and its functional state. | The base class is a Windows Computer Role. |
| Microsoft.Windows.DHCPServer.2012.R2.IPv4Scope | The class represents the DHCP IPV4 scopes defined in a DHCP 2012 R2 server and its functional state. | The base class is Windows Application component. |
| Microsoft.Windows.DHCPServer.2012.R2.IPv6Scope | The class represents the DHCP IPV6 scopes defined in a DHCP 2012 R2 server and its functional state. | The base class is Windows Application component. |
| Microsoft.Windows.DHCPServer.2012.R2.IPv6Runtime | This class represents an IPV6 installation that is defined in the DHCP 2012 R2 Server, and its Role functional state. | The base class is Windows Application component. |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher | This class represents a Failover Server relationship defined in a DHCP 2012 R2 Server and its functional state | This base class is system perspective |

## Monitors

| MONITORS | Condition Detected | Troubleshooting |
| --- | --- | --- |
| Microsoft.Windows.DHCPServer.Library.  Database.UnitMonitor.BackupAndRestore.1  (Defined in DHCP Library) | Detects failure of DHCP system’s restoration of the database | Repair the database and restore from a known good backup. |
| Microsoft.Windows.DHCPServer.Library.  Database.UnitMonitor.BackupAndRestore.2  (Defined in DHCP Library) | DHCP failed to find and back up the database | Create a valid backup path and restore the database |
| Microsoft.Windows.DHCPServer.Library.  Database.UnitMonitor.DBIntegrity  (Defined in DHCP Library) | DHCP has detected inconsistencies in the Jet database | Repair database and restore from a known good backup |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.ActiveDirectory  (Defined in DHCP Library) | DHCP cannot contact the domain because the directory service or domain controller is unavailable. | Fix any network connectivity problems between the DHCP server and domain controller |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.Backup  (Defined in DHCP Library) | DHCP was unable to restore the server registry configuration. | Give SYSTEM read/write permissions to the backup/restore directory |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.Communications  (Defined in DHCP Library) | DHCP could not find the domain to which it is joined. | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.GeneralAvailability.1  (Defined in DHCP Library) | DHCP has encountered an exception to the DLL callout. | Restart the DHCP Server service |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.GeneralAvailability.2  (Defined in DHCP Library) | DHCP is unavailable because it cannot find the domain, load its DLLs, or gain authorization. | Authorize the DHCP server |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.GeneralAvailability.3  (Defined in DHCP Library) | DHCP is unavailable because it cannot find the domain, load its DLLs, or gain authorization. | Assign execute rights to the DLL |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.LeaseIssuance  (Defined in DHCP Library) | DHCP was unable to ping the client before leasing an IP address. | Reconfigure reservations or exclusion ranges |
| Microsoft.Windows.DHCPServer.Library.  Database.UnitMonitor.DatabaseCorrupt  (Defined in DHCP Library) | DHCP failed to initialize one of its components. | Restore the DHCP database from a known good backup |
| Microsoft.Windows.DHCPServer.2012.  IPv6Runtime.InitializationFailed  (Defined in DHCP 2012) | DHCP service failed to initialize. The server cannot initialize until it has a static IPv6 address configured and proper configuration parameters. | Restart the DHCP Server service |
| Microsoft.Windows.DHCPServer.2012.  IPv6Runtime.UnitMonitor.ScopeFull  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity. If the scope becomes full, the DHCP server cannot lease additional IP addresses. | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.  IPv6Runtime.InitializationFailed  (Defined in DHCP 2012 R2) | DHCP service failed to initialize. The server cannot initialize until it has a static IPv6 address configured and proper configuration parameters. | Restart the DHCP Server service |
| Microsoft.Windows.DHCPServer.2012.R2.  IPv6Runtime.UnitMonitor.ScopeFull  (Defined in DHCP 2012 R2) | DHCP has determined that a scope is nearing capacity. If the scope becomes full, the DHCP server cannot lease additional IP addresses. | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.UnitMonitor.BOOTPScopeFull  (Defined in DHCP Library) | DHCP has determined that there are no IP addresses available for BOOTP clients in the scope. | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.UnitMonitor.LeaseAvailability.2  (Defined in DHCP Library) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.Library.  Database.UnitMonitor.Migration.1  (Defined in DHCP Library) | DHCP has determined that the database being used in this migration is incompatible with the DHCP version you are using. | Re-create the DHCP database export and retry the import |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.BOOTPFileConfig  (Defined in DHCP Library) | DHCP was unable to read the BOOTP file table from the registry. | Create or add entries to the BOOTP table |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.DHCPServiceBoundToStaticIP  (Defined in DHCP Library) | DHCP has no static IP address and cannot service clients until one is configured. | Configure a static address for the DHCP server |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.DNSRegistration  (Defined in DHCP Library) | DHCP failed to impersonate the credentials necessary for DNS registrations and dynamic DNS updates. | Configure impersonation credentials for dynamic updates |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.GroupConfig  (Defined in DHCP Library) | DHCP was unable to find or create the DHCP Users group or the DHCP Administrators local group. | Restart the DHCP Server service |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.ServiceInitialization.1  (Defined in DHCP Library) | The DHCP service failed to initialize. The server cannot initialize until it has a static IP address configured and proper configuration parameter | Restart the DHCP Server service |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.ServiceInitialization.2  (Defined in DHCP Library) | The DHCP service failed to initialize. The server cannot initialize until it has a static IP address configured and proper configuration parameters. | Configure a static IP address for the DHCP server |
| Microsoft.Windows.DHCPServer.2012.  IPv6Runtime.UnitMonitor.StaticIPAssigned  (Defined in DHCP 2012) | DHCP failed to initialize one of its components. | Configure a static IP address for the DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.  IPv6Runtime.UnitMonitor.StaticIPAssigned  (Defined in DHCP 2012 R2) | DHCP failed to initialize one of its components. | Configure a static IP address for the DHCP server |
| Microsoft.Windows.DHCPServer.Library.Server.UnitMonitor.DependentServiceHealth  (Defined in DHCP Library) | DHCP cannot initialize because one or more services that it depends on failed. | Disable the Winsock Proxy client on the DHCP server  Restart the DHCP Server service |
| Microsoft.Windows.DHCPServer.Library.  UnitMonitor.DHCPServiceRunning  (Defined in DHCP Library) | DHCP failed to initialize one of its components | Restart the DHCP Server service |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.UnitMonitor.OrphanedEntry  (Defined in DHCP Library) | DHCP has orphaned database entries due to the deletion of a class or an option definition. | Reconcile the DHCP scope |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.UnitMonitor.UnknownScopeOption  (Defined in DHCP Library) | DHCP received an unknown option from a client. | Configure DHCP options on the server to match the client |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.Auditing.1  (Defined in DHCP Library) | DHCP has determined that the audit log cannot be written to because it is full or cannot be accessed. | Edit audit log path |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.Auditing.2  (Defined in DHCP Library) | DHCP has determined that the audit log cannot be written to because it is full or cannot be accessed. | Edit audit log path  Remove old audit log files or increase the maximum audit log size.  Give the DHCP service account permissions to audit log files and folders. |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.Auditing.3  (Defined in DHCP Library) | DHCP has determined that the audit log cannot be written to because it is full or cannot be accessed. | Give the DHCP service account permissions to audit log files and folders |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.AuthorizationAndConflicts  (Defined in DHCP Library) | DHCP has determined that the server is unauthorized to lease to clients on the domain or that there is a conflict with another authorized DHCP server in the workgroup. | Authorize the DHCP server or remove other active DHCP servers |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.RogueDetection.1  (Defined in DHCP Library) | DHCP has detected another DHCP server on the network. | Authorize the DHCP server |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.UnitMonitor.RogueDetection.2  (Defined in DHCP Library) | DHCP cannot authorize the server. The server must be authorized in Active Directory Domain Services. | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.  IPv6Runtime.UnitMonitor.Auditing  (Defined in DHCP 2012) | DHCPv6 has determined that the audit log cannot be written to because it is full or cannot be accessed. | Remove old audit log files or increase the maximum audit log size |
| Microsoft.Windows.DHCPServer.2012.Scope.  IPV4.FreeScopeAddresses.Percentage.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.Scope.  IPV4.FreeScopeAddresses.Quantity.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.Scope.  IPV6.FreeScopeAddresses.Percentage.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.Scope.  IPV6.FreeScopeAddresses.Quantity.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.FailoverServerWatcher.UnitMonitor.State  (Defined in DHCP 2012) | The reported state of the DHCP Failover Relationship Server changed to Not Healthy | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.FailoverServerWatcher.UnitMonitor.OutOfTimeSync  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server to synchronize it | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.FailoverServerWatcher.UnitMonitor.ErrorCommunicationWithfailoverPartnerServer  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.FailoverServerWatcher.UnitMonitor.LostCommunicationWithfailoverPartnerServer  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.Scopes.UnitMonitor.UtilizationByScope  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.ScopesAndSuperScopes.UnitMonitor.Utilization  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.Policy.  UnitMonitor.IPAddressRange80Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.Policy.  UnitMonitor.IPAddressRange100Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.Policy.  UnitMonitor.ClientPackDrop100Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.Policy.  UnitMonitor.ResidualIPAddressRange80Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.Policy.  UnitMonitor.ResidualIPAddressRange100Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.  IPv6Runtime.UnitMonitor.Auditing  (Defined in DHCP 2012) | DHCPv6 has determined that the audit log cannot be written to because it is full or cannot be accessed. | Remove old audit log files or increase the maximum audit log size |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV4.FreeScopeAddresses.Percentage.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV4.FreeScopeAddresses.Quantity.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV6.FreeScopeAddresses.Percentage.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV6.FreeScopeAddresses.Quantity.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.UnitMonitor.State  (Defined in DHCP 2012) | The reported state of the DHCP Failover Relationship Server changed to Not Healthy | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.UnitMonitor.OutOfTimeSync  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server to synchronize it | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.UnitMonitor.ErrorCommunicationWithfailoverPartnerServer  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.UnitMonitor.LostCommunicationWithfailoverPartnerServer  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.R2.Scopes.UnitMonitor.UtilizationByScope  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.ScopesAndSuperScopes.UnitMonitor.Utilization  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.Policy.  UnitMonitor.IPAddressRange80Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.Policy.  UnitMonitor.IPAddressRange100Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.Policy.  UnitMonitor.ClientPackDrop100Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.Policy.  UnitMonitor.ResidualIPAddressRange80Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
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| Microsoft.Windows.DHCPServer.2012.R2.  IPv6Runtime.UnitMonitor.Auditing  (Defined in DHCP 2012) | DHCPv6 has determined that the audit log cannot be written to because it is full or cannot be accessed. | Remove old audit log files or increase the maximum audit log size |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV4.FreeScopeAddresses.Percentage.Monitor  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
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| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.UnitMonitor.State  (Defined in DHCP 2012) | The reported state of the DHCP Failover Relationship Server changed to Not Healthy | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.UnitMonitor.OutOfTimeSync  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server to synchronize it | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.UnitMonitor.ErrorCommunicationWithfailoverPartnerServer  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.R2.FailoverServerWatcher.UnitMonitor.LostCommunicationWithfailoverPartnerServer  (Defined in DHCP 2012) | The DHCP Failover Relationship Server was unable to ping the Partner Server | Identify and fix any network connectivity problems |
| Microsoft.Windows.DHCPServer.2012.R2.Scopes.UnitMonitor.UtilizationByScope  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.ScopesAndSuperScopes.UnitMonitor.Utilization  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.Policy.  UnitMonitor.IPAddressRange80Full  (Defined in DHCP 2012) | DHCP has determined that a scope is nearing capacity | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |
| Microsoft.Windows.DHCPServer.2012.R2.SuperScope.IPV4.AddressesAvailable.Percentage.Monitor | The percentage of free addresses for the specified super scope fall below the defined threshold. | Extend DHCP scopes, reduce lease times, or decrease cleanup interval |

## Collection Rules

| COLLECTION RULES | Purpose |
| --- | --- |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.BackupPathFail  (Defined in DHCP Library) | DHCP database backup |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.CleanupComplete  (Defined in DHCP Library) | DHCP database cleanup completed. |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.CleanupStarted  (Defined in DHCP Library) | DHCP database cleanup started. |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.ConversionInProgress  (Defined in DHCP Library) | DHCP database conversion in progress |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.ConversionRequired  (Defined in DHCP Library) | DHCP database conversion is required |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.DatabaseBackupFail  (Defined in DHCP Library) | Database backup failed |
| Microsoft.Windows.DHCPServer.Database.  Collect.DBCleanup  (Defined in DHCP Library) | DHCP database cleanup |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.DBLoadFail  (Defined in DHCP Library) | Failure in loading of database |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.DBPathFail  (Defined in DHCP Library) | Failure in database path |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.InitFail  (Defined in DHCP Library) | Database initialization failure |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.JetErrors  (Defined in DHCP Library) | Jet database errors |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.JetWarnings  (Defined in DHCP Library) | Jet database warnings |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.RestoreCompleted  (Defined in DHCP Library) | Database restoration completed |
| Microsoft.Windows.DHCPServer.Library.  Database.Collect.RestoreFailed  (Defined in DHCP Library) | Database restoration failure |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.AuditLogAppendFailed  (Defined in DHCP Library) | DHCP audit log append failure |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.AuditLogInitFailed  (Defined in DHCP Library) | DHCP audit log initialization failure |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.AuditLogMoveFailed  (Defined in DHCP Library) | DHCP audit log move failure |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.AuthorizedAndStarted  (Defined in DHCP Library) | DHCP server service is authorized and started |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.BadAuditPath  (Defined in DHCP Library) | DHCP is unable to access the audit file path |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.BOOTPFileFailed  (Defined in DHCP Library) | DHCP cannot read the DHCP BOOTP file table from the registry |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.CalloutLoadException  (Defined in DHCP Library) | The installed callout dll file causes an exception |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.CalloutLoadFailed  (Defined in DHCP Library) | DHCP fails to load a callout dll |
| Microsoft.Windows.DHCPServer.IPv4Runtime.Collect.CalloutLoadSuccess  (Defined in DHCP Library) | Callout dll is loaded successfully |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.ClientCleanup  (Defined in DHCP Library) | error occurs on cleaning up pending client records |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.ConfigBackup  (Defined in DHCP Library) | error occurs backing up the registry |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DHCPLocalGroupFailed  (Defined in DHCP Library) | DHCP cannot create or read the DHCP local users group |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DomainAuthorized  (Defined in DHCP Library) | DHCP is authorized in the domain |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DomainAuthorizedAndStarted  (Defined in DHCP Library) | DHCP is authorized in the domain and is servicing clients |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DomainError  (Defined in DHCP Library) | DHCP cannot locate the domain |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DomainNotAuthorized  (Defined in DHCP Library) | DHCP is not authorized in the domain |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DomainUnauthorized  (Defined in DHCP Library) | DHCP is not authorized in the domain |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DomainUnchecked  (Defined in DHCP Library) | DHCP has not determined domain authorization |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DomainUpgraded  (Defined in DHCP Library) | DHCP was recently upgraded and domain authorized to start |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DSFailed  (Defined in DHCP Library) | DHCP could not contact a domain controller |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.DynamicAddress  (Defined in DHCP Library) | DHCP detects a dynamic IP address |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.GlobalBOOTPFileName  Failed  (Defined in DHCP Library) | DHCP failed to read the global BOOTP filename from the registry |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.InitFailed  (Defined in DHCP Library) | DHCP fails to initialize its configuration parameter |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.InterfaceNotificationFailed  (Defined in DHCP Library) | DHCP detects an interface notification problem |
| Microsoft.Windows.DHCPServer.IPv4Runtime.Collect.NetworkFailure  (Defined in DHCP Library) | Network failure |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.OtherServer  (Defined in DHCP Library) | DHCP workgroup server detects a domain server |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.PingFailed  (Defined in DHCP Library) | DHCP was unable to ping for a new address |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.RegistryRestoreFailed  (Defined in DHCP Library) | Error occurs while restoring the DHCP registry configuration |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.RogueServerDetected  (Defined in DHCP Library) | DHCP detects an unauthorized DHCP server on the same network |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.Upgraded  (Defined in DHCP Library) | DHCP was recently upgraded and authorized to start |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.Collect.WinsockFailed  (Defined in DHCP Library) | Winsock initialization fails |
| Microsoft.Windows.DHCPServer.Library  .IPv4Runtime.CollectCalloutFailed  (Defined in DHCP Library) | Exception occurs on calling out to the installed callout dll file |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.CollectNotAuthorized  (Defined in DHCP Library) | DHCP server is not authorized to start |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.CollectUnauthorized  (Defined in DHCP Library) | DHCP is unauthorized |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.CollectWrongDNSCreds  (Defined in DHCP Library) | DHCP cannot use the credentials provided for DNS registrations |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.NoCredsOnDC  (Defined in DHCP Library) | DHCP is running on a domain controller but does not have specific credentials for registering DNS information |
| Microsoft.Windows.DHCPServer.Library.  IPv4Runtime.SBSOtherServer  (Defined in DHCP Library) | SBS DHCP server detects another DHCP server |
| Microsoft.Windows.DHCPServer.Library.Rule.  CollectPerformanceData  (Defined in DHCP Library) | Collects all DHCP Performance Data |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.DDNSUpdateRequest  (Defined in DHCP Library) | DDNS update is requested |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.DDNSUpdateSuccess  (Defined in DHCP Library) | DDNS update successfully completes |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.DHCPNotBoundToStaticIPAddress  (Defined in DHCP Library) | DHCP service is not servicing any clients because none of the active network interfaces have statically configured IP addresses, or there are no active interfaces. |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.InitDataFailed  (Defined in DHCP Library) | DHCP is unable to initialize its global parameters |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.InitRegistryFailed  (Defined in DHCP Library) | DHCP server failed to initialize its registry parameters |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.RegistrationFailure  (Defined in DHCP Library) | DHCP service could not register with the Service Controller |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.RPCFail  (Defined in DHCP Library) | DHCP server failed to start as a RPC server |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.ScriptTraceEvents  (Defined in DHCP Library) | DHCP server script based events |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.WinsockFailed  (Defined in DHCP Library) | DHCP server failed to initialize its Winsock data |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.AcksPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Acks Per Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.ActiveQueueLength  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Active Queue Length |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.ConflictCheckQueue  Length  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Conflict Check Queue Length |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.DeclinesPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Declines / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.DiscoversPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Discovers / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.DuplicatesDroppedPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Duplicates Dropped / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.InformsPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Informs / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.MillisecondsPerPacketAvg  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Average Milliseconds / Packet |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.NacksPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Nacks / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.OffersPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Offers / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.PacketsExpiredPer  Second  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Packets Expired / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.PacketsReceivedPer  Second  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Packets Received / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.ReleasesPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Releases / Second |
| Microsoft.Windows.DHCPServer.Library.Server.PerformanceCollection.RequestsPerSecond  (Defined in DHCP Library) | DHCP server performance monitor - DHCP Requests / Second |
| Microsoft.Windows.DHCPServer.Library.Server.Collect.DHCPInitialized  (Defined in DHCP Library) | DHCP server service Initialization |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.Collect.LeaseDeclined  (Defined in DHCP Library) | Lease declined |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.Collect.LowAddressWarning  (Defined in DHCP Library) | IPv4 scopes that are running low on available leases |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.Collect.NACKIssued  (Defined in DHCP Library) | IPv4 NACK Issued |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.Collect.ScopeFull  (Defined in DHCP Library) | IPv4 scopes that are out of available leases |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.Collect.UnknownOption  (Defined in DHCP Library) | IPv4 DHCP client requests that contained a request for an unknown DHCP option |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.CollectBOOTPFull  (Defined in DHCP Library) | IPv4 BOOTP requests that could not be filled due to lack of available addresses |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.CollectLeaseRelease  (Defined in DHCP Library) | Released IPv4 leases |
| Microsoft.Windows.DHCPServer.Library.  IPv4Scope.CollectOrphanedEntriesDeleted  (Defined in DHCP Library) | orphaned entries deleted in the configuration due to the deletion of a class or option definition |
| Microsoft.Windows.DHCPServer.2012.Scope.  IPV4.CollectFreeScopeAddresses  (Defined in DHCP 2012) | Collects IPV4 Free Scope Addresses |
| Microsoft.Windows.DHCPServer.2012.Scope.  IPV6.CollectFreeScopeAddresses  (Defined in DHCP 2012) | Collects IPV6 Free Scope Addresses |
| Microsoft.Windows.DHCPServer.2012.Scope.  IPV4.CollectScopeAddressesInUse  (Defined in DHCP 2012) | Collects IPV4 Scope Addresses In Use |
| Microsoft.Windows.DHCPServer.2012.Scope.  IPV6.CollectScopeAddressesInUse  (Defined in DHCP 2012) | Collects IPV6 Scope Addresses In Use |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV4.CollectFreeScopeAddresses  (Defined in DHCP 2012 R2) | Collects IPV4 Free Scope Addresses |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV6.CollectFreeScopeAddresses  (Defined in DHCP 2012 R2) | Collects IPV6 Free Scope Addresses |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV4.CollectScopeAddressesInUse  (Defined in DHCP 2012 R2) | Collects IPV4 Scope Addresses In Use |
| Microsoft.Windows.DHCPServer.2012.R2.Scope.  IPV6.CollectScopeAddressesInUse  (Defined in DHCP 2012 R2) | Collects IPV6 Scope Addresses In Use |
| Microsoft.Windows.DHCPServer.2012.R2.SuperScope.IPV4.CollectFreeAddresses | Collect IPV4 Free Super Scope Addresses |
| Microsoft.Windows.DHCPServer.2012.R2.SuperScope.IPV4.CollectAddressesInUse | Collect IPV4 Super Scope Addresses In Use |
| Microsoft.Windows.DHCPServer.2012.R2.Policy.FailOver.PacketDrop | Packet dropped because of Client ID hash mismatch or standby |

| Tasks | Purpose |
| --- | --- |
| Microsoft.Windows.DHCPServer.2012.R2.Tasks.TestIPV4Scope | Test IPV4 Scope |
| Microsoft.Windows.DHCPServer.2012.R2.Tasks.TestIPV6Scope | Test IPV6 Scope |

| VIEWS | Purpose |
| --- | --- |
| Microsoft.Windows.DHCPServer.2012.View.  Alert.AllActiveAlerts | To view all the active alerts of Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Event.AllEvents | To view all the events of Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  State.ServerHealth | To view the health state of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.AllPerformanceCounters | To view all the performance counters of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.ActiveQueueLength | To view all the IPv4 active queue length performance counters of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.ConflictCheckQueueLength | To view all the IPv4 conflict check queue length performance counters of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.AverageMillisecondsPerPacket | To view all the IPv4 average milliseconds per packet performance counters of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.DeclinesPerSecond | To view all the IPv4 declines per second performance counters of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.DiscoversPerSecond | To view all the IPv4 discovers per second performance counters of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.NACKsPerSecond | To view all the IPv4 NACKs per second performance counters of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  DatabaseEvents | To view all the Database events of Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Event.AllScriptTraceEvents | To view all the script trace events of Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  IPv4RuntimeEvents | To view all the IPV4 Runtime events of Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  IPv6RuntimeEvents | To view all the IPV6 Runtime events of Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.ScopeAddressesInUse | To view Scope Addresses in Use performance counters collected data of the Windows Server 2012 DHCP server |
| Microsoft.Windows.DHCPServer.2012.View.  Performance.ScopeFreeAddresses | To view Free Scope Addresses performance counters collected data of the Windows Server 2012 DHCP servers |
| Microsoft.Windows.DHCPServer.2012.View.  State.ScopeHealth | To view the health state of the Windows Server 2012 DHCP Scopes |
| Microsoft.Windows.DHCPServer.2012.View.  State.ComponentHealth | To view the health state of the Windows Server 2012 DHCP Components |
| Microsoft.Windows.DHCPServer.2012.View.  State.FailoverServerWatcher | To view the health state of the Windows Server 2012 DHCP Failover Server Relationships |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Alert.AllActiveAlerts | To view all the active alerts of Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Event.AllEvents | To view all the events of Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  State.ServerHealth | To view the health state of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.AllPerformanceCounters | To view all the performance counters of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.ActiveQueueLength | To view all the IPv4 active queue length performance counters of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.ConflictCheckQueueLength | To view all the IPv4 conflict check queue length performance counters of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.AverageMillisecondsPerPacket | To view all the IPv4 average milliseconds per packet performance counters of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.DeclinesPerSecond | To view all the IPv4 declines per second performance counters of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.DiscoversPerSecond | To view all the IPv4 discovers per second performance counters of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.NACKsPerSecond | To view all the IPv4 NACKs per second performance counters of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  DatabaseEvents | To view all the Database events of Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Event.AllScriptTraceEvents | To view all the script trace events of Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  IPv4RuntimeEvents | To view all the IPV4 Runtime events of Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  IPv6RuntimeEvents | To view all the IPV6 Runtime events of Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.ScopeAddressesInUse | To view Scope Addresses in Use performance counters collected data of the Windows Server 2012 R2 DHCP server |
| Microsoft.Windows.DHCPServer.2012.R2.View.  Performance.ScopeFreeAddresses | To view Free Scope Addresses performance counters collected data of the Windows Server 2012 R2 DHCP servers |
| Microsoft.Windows.DHCPServer.2012.R2.View.  State.ScopeHealth | To view the health state of the Windows Server 2012 R2 DHCP Scopes |
| Microsoft.Windows.DHCPServer.2012.R2.View.  State.ComponentHealth | To view the health state of the Windows Server 2012 R2 DHCP Components |
| Microsoft.Windows.DHCPServer.2012.R2.View.  State.FailoverServerWatcher | To view the health state of the Windows Server 2012 R2 DHCP Failover Server Relationships |
| Microsoft.Windows.DHCPServer.2012.R2.View.State.SusperScopeHealth | To view the health state of the 2012 R2 DHCP Super Scope |

# Recommended Additional Management Packs

If you have a clustered DHCP deployment, you will need to download the Cluster Management Pack along with the DHCP Management Pack. The Cluster Management Pack provides both proactive and reactive monitoring of your Windows Server 2003, Windows Server 2008 R2, Windows Server 2012, and Windows Server 2012 R2 cluster deployments. It monitors cluster services components such as nodes, networks, resources, and resource groups, and reports problems that can cause downtime or poor performance.

# Security Considerations

You may need to customize your management pack. Certain accounts cannot be run in a low-privilege environment or must have minimum permissions.

# Low-Privilege Environments

The Windows Server DHCP Management Pack includes a Run As profile called DHCP Action Account. This profile can be assigned to a user-defined action account to support running in low-privileged environments.

The action account must have the following permissions:

 Registry Read permission

 Full access to HKLM\CurrentControlSet\Services\DHCPServer\Performance key and all subkeys

 Event log Read permission

 Member of the DHCP Users or DHCP Administrators group (located in local Security Accounts Manager (SAM) or Active Directory Domain Services (AD DS) depending on whether the managed node is domain joined or not)

 Server Operator (if you want to be able to start / stop DHCP service)

 Able to create temporary files in the service account temp directory

# Windows Server DHCP Management Pack Discovery

The Windows Server DHCP Management Pack for Operation Manager 2012 discovers the object types described in the following table. Not all of the objects are automatically discovered. Use overrides to discover those that are not discovered automatically.

For information about discovering objects, see [Object Discoveries in Operations Manager 20](http://go.microsoft.com/fwlink/?LinkId=108505)12.

| **Category** | **Object Type** | **Discovered Automatically** |
| --- | --- | --- |
| Windows Server 2012 DHCP Server role | DHCP server service | Yes |
| Windows Server 2012 R2 DHCP Server role | DHCP server service | Yes |

Use the following procedure to enable automatic discovery.

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 then filter the objects that appear in the details pane to include only DHCP objects.  3. In the Operations Manager toolbar, use the Scope button to filter the list of objects, and then click Microsoft.Windows.DHCPServer.2012.Server.Discovery for Windows Server 2012 or Microsoft.Windows.DHCPServer.2012.R2.Server.Discovery for Windows Server 2012 R2. In the Authoring pane, expand Management Pack Objects, and then click Object Discoveries.  4. On the Operations Manager toolbar, click Overrides; click Override the Object Discovery, and then click For all objects of class: Windows Server.  5. In the Overrides Properties dialog box, click the Override box for the Enabled parameter.  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.

# Classes

The following diagram show the classes defined in this management pack.

Legend:

OpsMgr Built-in Class

DHCP Server Class

Derived from

Microsoft.Windows.Server.Computer

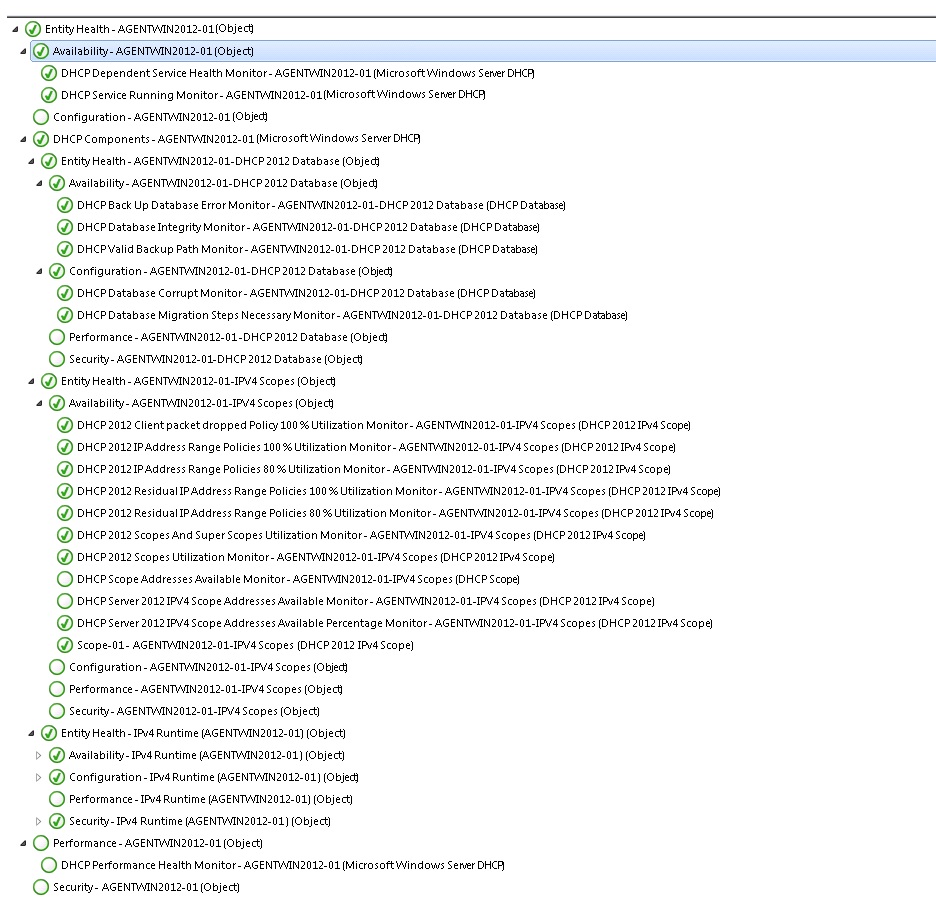
Microsoft.Windows.DHCPServer.2012.Server

Microsoft.Windows.DHCPServer.2012.R2.Server

# How Health Rolls Up

The following diagram shows how the health states of components roll up in this management pack.

For example (Windows Server 2012):



As per the above example: Since the “Unable to establish AD authorization” monitor is unhealthy/critical that is with the error. The container containing that monitor which is “Availability” is as well unhealthy/critical and so on that is the next higher level container is unhealthy/critical as captured above.

Following is the list of monitors and their health states in the Management Pack:

|  |
| --- |
| DHCP 2012 Server: |
|  |
| DHCP Database: |
|  |
| DHCP IPV4 Runtime: |
|  |
| DHCP IPV6 Runtime: |
|  |
| DHCP IPV4 Scope: |
|  |
| DHCP IPV6 Scope: |
|  |
| DHCP Failover Server Relationships: |
|  |

# Key Monitoring Scenarios

The Windows Server DHCP Management Pack for System Center Operations Manager 2012 includes a number of key monitoring scenarios that are configurable.

| **Scenario** | **Description** |
| --- | --- |
| DHCP Server Health | This server-centric view monitors the health, availability, security, and configuration of all DHCP components. This view also rolls up status through the use of aggregate monitors.   Is this DHCP server functioning?   Do all DHCP scopes have sufficient remaining IP addresses to hand out? |
| DHCP Service Health | This service-wide view monitors the health, availability, security, and configuration of all DHCP components and rolls up status through the use of aggregate monitors.   Are all my DHCP servers currently healthy across the enterprise? |
| DHCP Core Component Health | Is DHCP ready to serve clients?   The DHCP service is running.   It is bound to all defined network cards.   It is authorized properly in the Active Directory service. |
| DHCP Database Health | Are the DHCP databases healthy?   Able to load all scope and Super scopes.   Enough disk space available for database use.   Database is not corrupted. |
| DHCP Security Health (Windows Server 2012) |  Are any security-related issues occurring?   Is the DHCP service performing secure updates to the Domain Name System (DNS)?   Does the DHCP server detects any rogue servers? |
| DHCP Security Health (Windows Server 2012 R2) |  Are any security-related issues occurring?   Is the DHCP service performing secure updates to the Domain Name System (DNS)?   Does the DHCP server detects any rogue servers? |
| DHCP Performance Health |  Are the DHCP server queues healthy?   Are the DHCP servers responding to all queries in a timely manner? |
| DHCP Configuration Changes |  Detects any configuration changes. Optional ability to alert on changes.   Configuration reports show any inconsistent settings across the enterprise so that users can correlate those inconsistencies to service-related issues. |
| DHCP Performance Counter Collection | Provides the ability to chart and report on historical performance. |
| DHCP Policies | Are the defined policies for Scopes healthy? |
| DHCP Cluster and Failover Server Relationships | Are the partner server communication is up?  Are the clustered nodes are running healthy? |

Links

The following links connect you to information about common tasks that are associated with System Center management packs:

System Center 2012 - Operations Manager

 [Management Pack Life Cycle](http://go.microsoft.com/fwlink/p/?LinkID=232986)

 [How to Import a Management Pack](http://go.microsoft.com/fwlink/p/?LinkID=219431)

 [Tuning Monitoring by Using Targeting and Overrides](http://go.microsoft.com/fwlink/p/?LinkID=217065)

 [How to Create a Run As Account](http://go.microsoft.com/fwlink/p/?LinkId=232988)

 [How to Export a Management Pack](http://go.microsoft.com/fwlink/p/?LinkId=232990)

 [How to Remove a Management Pack](http://go.microsoft.com/fwlink/p/?LinkId=232991)

Operations Manager 2007 R2

 [Administering the Management Pack Life Cycle](http://go.microsoft.com/fwlink/?LinkId=211463)

 [How to Import a Management Pack in Operations Manager 2007](http://go.microsoft.com/fwlink/?LinkID=142351)

 [How to Monitor Using Overrides](http://go.microsoft.com/fwlink/?LinkID=117777)

 [How to Create a Run As Account in Operations Manager 2007](http://go.microsoft.com/fwlink/?LinkID=165410)

 [How to Modify an Existing Run As Profile](http://go.microsoft.com/fwlink/?LinkID=165412)

 [How to Export Management Pack Customizations](http://go.microsoft.com/fwlink/?LinkId=209940)

 [How to Remove a Management Pack](http://go.microsoft.com/fwlink/?LinkId=209941)

For questions about Operations Manager and management packs, see the [System Center Operations Manager community forum](http://go.microsoft.com/fwlink/?LinkID=179635).

A useful resource is the [System Center Operations Manager Unleashed blog](http://go.microsoft.com/fwlink/?LinkId=246391), which contains “By Example” posts for specific management packs.

For additional information about Operations Manager, see the [System Center 2012 - Operations Manager Survival Guide](http://go.microsoft.com/fwlink/?LinkId=246383) and [Operations Manager 2007 Management Pack and Report Authoring Resources](http://go.microsoft.com/fwlink/?LinkId=246388)

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