

# IPAM

SERVER 2012R2

Dashboard

- Local Server
- All Servers
- File and Storage Services >
- IIS
- Remote Access

WELCOME TO SERVER MANAGER

QUICK START

1 Configure this local server

2 [Add roles and features](#)

3 Add other servers to manage

4 Create a server group

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 3 | Server groups: 1 | Servers total: 1

File and Storage Services 1

- 1 Manageability
- Events
- Performance
- BPA results

IIS 1

- 1 Manageability
- Events
- Services
- Performance
- BPA results



The screenshot shows the Windows Server Manager interface. At the top, the title bar reads 'Server Manager - Dashboard'. Below the title bar is a navigation pane on the left with the following items: Dashboard (selected), Local Server, All Servers, File and Storage Services, IIS, and Remote Access. The main area displays 'WELCOME TO SERVER MANAGER' and a progress bar. A modal window titled 'Add Roles and Features Wizard' is open, showing the 'Before you begin' step. The wizard's progress bar is partially filled. The 'Before you begin' step is selected in the left-hand navigation of the wizard, with other steps including Installation Type, Server Selection, Server Roles, Features, Confirmation, and Results. The main content of the wizard explains that it helps install roles, role services, or features, and lists prerequisites for continuing: a strong Administrator password, network settings, and security updates. A 'Skip this page by default' checkbox is at the bottom, and 'Previous' and 'Next' buttons are at the bottom right.

Server Manager - Dashboard

Dashboard

Local Server

All Servers

File and Storage Services

IIS

Remote Access

WELCOME TO SERVER MANAGER

### Add Roles and Features Wizard

## Before you begin

**Before you begin**

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

This wizard helps you install roles, role services, or features. You determine which features to install based on the computing needs of your organization, such as hosting a website.

To remove roles, role services, or features:  
Start the [Remove Roles and Features Wizard](#)

Before you continue, verify that the following tasks have been completed:

- The Administrator account has a strong password
- Network settings, such as static IP addresses, are configured
- The most current security updates from Windows Update are installed

If you must verify that any of the preceding prerequisites have been completed, complete the steps, and then run the wizard again.

To continue, click **Next**.

Skip this page by default

< Previous    **Next** >



## Add Roles and Features Wizard



# Select features

DESTINATION SERVER  
WIN-E630K0E1QHE.server2012.com

Before You Begin

Installation Type

Server Selection

Server Roles

**Features**

Confirmation

Results

Select one or more features to install on the selected server.

### Features

<input checked="" type="checkbox"/> .NET Framework 4.5 Features (Not Installed)	^
<input type="checkbox"/> Background Intelligent Transfer Service (BITS)	
<input type="checkbox"/> BitLocker Drive Encryption	
<input type="checkbox"/> BitLocker Network Unlock	
<input checked="" type="checkbox"/> BranchCache (Installed)	
<input checked="" type="checkbox"/> Client for NFS (Installed)	
<input type="checkbox"/> Data Center Bridging	
<input type="checkbox"/> Direct Play	
<input type="checkbox"/> Enhanced Storage	
<input type="checkbox"/> Failover Clustering	
<input checked="" type="checkbox"/> Group Policy Management (Installed)	
<input checked="" type="checkbox"/> IIS Hostable Web Core (Installed)	
<input checked="" type="checkbox"/> Ink and Handwriting Services (Installed)	
<input type="checkbox"/> Internet Printing Client	
<input checked="" type="checkbox"/> IP Address Management (IPAM) Server (Installed)	v

### Description

**IP Address Management (IPAM) Server**  
Server provides a central framework for managing your IP address space and corresponding infrastructure servers such as DHCP and DNS. IPAM supports automated discovery of infrastructure servers in an Active Directory forest. IPAM allows you to manage your dynamic and static IPv4 and IPv6 address space, tracks IP address utilization trends, and supports monitoring and management of DNS and DHCP services on your network.

< Previous

Next >

Install

Cancel

- Dashboard
- Local Server
- All Servers
- File and Storage Services
- IIS
- Remote Access

WELCOME TO SERVER MANAGER

### Add Roles and Features Wizard

## Confirm installation selections

- Before You Begin
- Installation Type
- Server Selection
- Server Roles
- Features
- Confirmation**
- Results

To install the following roles, role services, or features on selected server, click Install.

Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on this page if they have been selected automatically. If you do not want to install these optional features, uncheck their check boxes.

**.NET Framework 4.5 Features**

- ASP.NET 4.5
- WCF Services
- TCP Activation

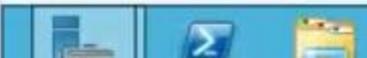
**IP Address Management (IPAM) Server**

**Remote Server Administration Tools**

- Feature Administration Tools
- IP Address Management (IPAM) Client

**Role Administration Tools**

- DHCP Server Tools



Server Manager Dashboard

WELCOME TO SERVER MANAGER

**1** Configure this local server

**2** Add roles and features

**3** Add other servers to manage

**4** Create a server group

QUICK START

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 4 | Server groups: 1 | Servers total: 1

Role	Count
File and Storage Services	1
IIS	1

File and Storage Services

- 1 Manageability
- Events
- Performance
- BPA results

IIS

- 1 Manageability
- Events
- Services
- Performance
- BPA results

8/2/2012 6:42 PM

8/2/2012 6:42 PM

## Server Manager &gt; IPAM &gt; OVERVIEW



## OVERVIEW

## IPAM SERVER TASKS

## QUICK START

1 Connect to IPAM server

4 Start server disc

2 Provision the IPAM server

5 Select or add se

3 Configure server discovery

6 Retrieve data fro

## ACTIONS

## LEARN MORE

## MANAGED NETWORK



IPAM Server Name: Not selected



Managed Domains:

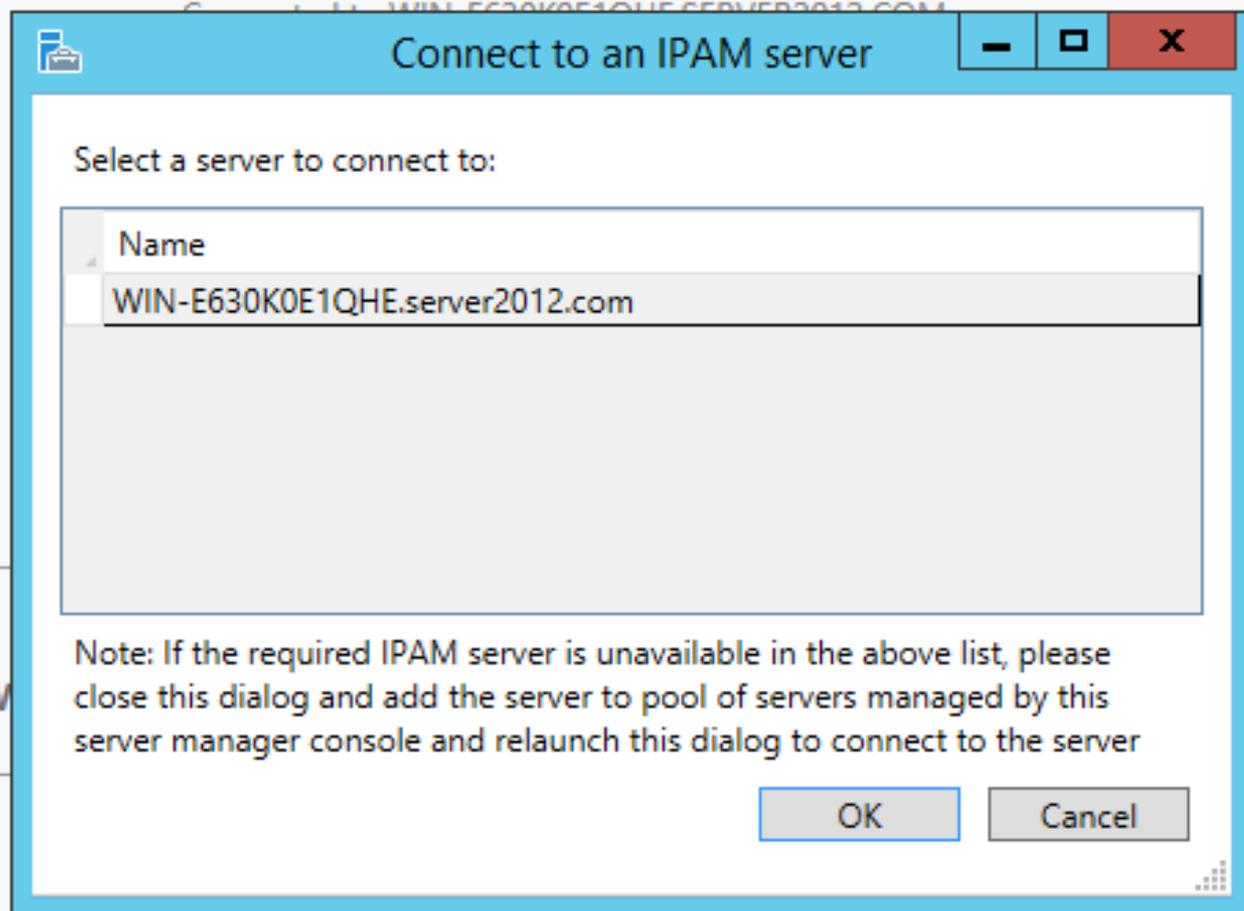


## CONFIG



1 Connect to IPAM server

4 Start server dis



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## OVERVIEW

## QUICK START

## ACTIONS

## LEARN MORE

## 1 Connect to IPAM server

Connected to LON-SVR2.Adatum.com  
Connected as ADATUM\Administrator

2 Provision the IPAM server

## 3 Configure server discovery

## 4 Start server discovery

## 5 Select or add servers to manage

## 6 Retrieve data from managed servers

## MANAGED NETWORK



IPAM Server Name: lon-svr2.adatum.com



Managed Domains:



## CONFIGURATION SUMMARY

IPAM Communication



## Before you begin

### Before you begin

Select provisioning method

Summary

Completion

IP Address Management (IPAM) provides a centralized management, monitoring, and auditing platform for IP address space and corresponding infrastructure servers on your network. IPAM provides this functionality by accessing the following Windows servers:

- DHCP Server
- DNS Server
- Network Policy Server (NPS)
- Active Directory Domain Controller (DC)

You can choose these servers to be managed or unmanaged by IPAM. Managed servers must be configured with access settings that allow IPAM to remotely manage, monitor or audit them. You can either configure these settings manually on each server, or IPAM can provision managed servers automatically using Group Policy Objects (GPOs).

This wizard allows you to choose the manual or Group Policy based provisioning method to configure required access settings on the managed servers.

IPAM database and custom IPAM security groups will be created on this server, as part of provisioning. Access rights will be assigned to the database and IPAM tasks and folders.

 The managed server provisioning method cannot be changed after completing this wizard.

[Learn more about IP address management](#)

## Configure database

Before you begin

Configure database

Select provisioning method

Summary

Completion

IPAM can be configured to store data in a Windows Internal Database or in a Microsoft SQL Server database. To use SQL, the database server must be running SQL Server 2008 R2 or later.

Specify the type of IPAM database:

Windows Internal Database (WID)

\* Enter the location where IPAM will store the database and log files:

Microsoft SQL Server

\* Server name:

\* Database name:

\* Port:

Create a new schema

**i** The database can be migrated from WID to SQL, or its settings modified using Move-IpamDatabase and Set-IpamDatabase Windows PowerShell cmdlets for IPAM Server.

[Learn more about the IPAM database](#)

# Select provisioning method

Before you begin

Select provisioning method

Summary

Completion

Managed servers must be configured with settings that allow IPAM to access remote management functions and event information.

[Learn more about access provisioning on managed servers](#)

Select a provisioning method for managed servers:

Manual

The manual provisioning method requires that you configure the required network shares, security groups, and firewall rules manually on each managed server.

Group Policy Based

The Group Policy based provisioning method requires Group Policy Objects (GPO) to be created in each domain that you manage with this IPAM server. IPAM will automatically configure settings on managed servers by adding the server to appropriate GPO. This can be especially useful in a large network with many managed servers. GPOs that you create must follow naming conventions used by IPAM, however you can customize the GPO name with a prefix of your choice. GPO name prefix, should be unique for each IPAM instance running in an AD forest.

GPO name prefix:

**i** Create the GPOs in each IPAM managed domain using the IPAM powershell cmdlet 'Invoke-IpamGpoProvisioning'.

# Summary

Before you begin

Select provisioning method

Summary

Completion

## Confirm the Settings

You have selected the Group Policy based provisioning method to configure required access settings on the managed servers. These settings will be applied on managed servers using the following GPOs:

- IPAM\_DHCP for DHCP servers
- IPAM\_DNS for DNS servers.
- IPAM\_DC\_NPS for domain controllers and NPS servers.

**i** Create the GPOs in each IPAM managed domain using the IPAM powershell cmdlet 'Invoke-IpamGpoProvisioning'.

[Learn more about group policy based provisioning.](#)

IPAM provisioning wizard will also:

- Create IPAM security groups.
- Create IPAM database and configure access.
- Configure access to IPAM tasks and folders.

Click Apply to confirm these settings.

**w** The managed server provisioning method cannot be changed after completing this wizard.

OVER

## Completion

Before you begin

Select provisioning method

Summary

Completion

Provisioning in progress...



< Previous

Next >

Close

Cancel

# Completion

Before you begin

Select provisioning method

Summary

Completion

## IPAM provisioning completed successfully

The following settings were successfully provisioned:

- Group Policy based provisioning method is used to configure required access settings on the managed servers. These settings will be applied on managed servers using the following GPOs:
  - IPAM\_DHCP for DHCP servers
  - IPAM\_DNS for DNS servers.
  - IPAM\_DC\_NPS for domain controllers and NPS servers.
- IPAM security groups created.
- IPAM database created and access configured.
- Access to IPAM tasks and folders configured.

### Next steps:

Create the GPOs in each IPAM managed domain using the IPAM powershell cmdlet 'Invoke-IpamGpoProvisioning'. Domain Administrator privileges will be required to create the GPOs. [Learn more about group policy based provisioning.](#)

## OVERVIEW

SERVER INVENTO...

IP ADDRESS SPACE

IP Address Blocks

IP Address Irve...

IP Address Ran...

MONITOR AND...

DNS and DHCP...

DHCP Scopes

DNS Zone Moni...

Server Groups

EVENT CATALOG

## QUICK START

## ACTIONS

## LEARN MORE

## 1 Connect to IPAM server

Connected to LON-SVR2.Adatum.com  
 Connected as ADATUM\Administrator

## 2 Provision the IPAM server

Completed on Saturday, September 7, 2013

3 Configure server discovery

Domains selected

Select domains for automated IPAM discovery

## 4 Start server discovery

## 5 Select or add servers to m

## 6 Retrieve data from mana

## MANAGED NETWORK



IPAM Server Name: lon-svr2.adatum.com



Managed Domains:



## CONFIGURATION SU

- Access Provisioning
- IPAM Scheduled T
- IPAM Security Gro
- IPAM Communica
- Learn more about IPAM



## Configure Server Discovery



Select domains to discover:

Select the server roles to discover:

Domain	Domain controller	DHCP server	DNS server
--------	-------------------	-------------	------------

Select the domain that we want to add to the discovery scope from the drop down box and click **Add**

**i** For Group Policy based provisioning, create the GPOs for each domain in the list using the Windows PowerShell cmdlet "Invoke-IpamGpoProvisioning" on IPAM server.

[Learn more about Group Policy based provisioning.](#)

Details of server discovery schedule

Next scheduled run time: 23/10/2013 17:25:34

**!** Discovery schedule can be changed by editing \Microsoft\Windows\IPAM \ServerDiscovery located in the Task Scheduler on the IPAM server with administrator privileges.

Select the server roles to discover:

Domain	Domain controller	DHCP server	DNS server
(root domain) Adatum.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

check the types of roles to discover

Remove

**i** For Group Policy based provisioning create the GPOs for each domain in the list using the Windows PowerShell cmdlet "Invoke-IpamGpoProvisioning" on IPAM server

[Learn more about group policy based provisioning.](#)

Details of server discovery schedule

Next scheduled run time: 9/8/2013 6:45:50 PM



Discovery schedule can be changed by editing \Microsoft\Windows\IPAM\Server\Discovery located in the Task Scheduler on the IPAM Server with administrative privileges

OK

Cancel



Managed Domains:





- SERVER INVENTO...
- IP ADDRESS SPACE
  - IP Address Blocks
  - IP Address Inve...
  - IP Address Ran...
- MONITOR AND...
  - DNS and DHCP...
  - DHCP Scopes
  - DNS Zone Moni...
  - Server Groups
- EVENT CATALOG

QUICK START

ACTIONS

LEARN MORE

1 Connect to IPAM server

Connected to LON-SVR2.Adatum.com  
Connected as ADATUM\Administrator

2 Provision the IPAM server

Completed on Saturday, September 7, 2013

3 Configure server discovery

Domains selected - 1

4 Start

Select step 4 for the discovery

5 Select

6 Return

MANAGED NETWORK



IPAM Server Name: lon-svr2.adatum.com

Managed Domains: adatum.com



OVERVIEW

SERVER INVENTO...

IP ADDRESS SPACE

IP Address Blocks

IP Address Inve...

IP Address Ran...

MONITOR AND...

DNS and DHCP...

DHCP Scopes

DNS Zone Moni...

Server Groups

EVENT CATALOG

## Please wait for the completion

g in the Task Scheduler. Please wait for their completion.

[More...](#) ✕

IPAM server

JPPORTSERVER.WIDGETLLC.INTERNAL  
IDGETLLC\administrator

4 Start server discovery

IPAM server

wednesday, October 22, 2014

5 Select or add servers to manage and verify IPAM access

server discovery

d - 1

6 Retrieve data from managed servers

### CONFIGURATION SUMMARY

supportserver.widgetllc.internal

widgetllc.internal

- Access Provisioning Method
- IPAM Scheduled Tasks
- IPAM Security Groups
- IPAM Communication Settings
- Learn more about IPAM provisioning

# Overview Task Details and Notifications

All Tasks | 1 total

Status	Task Name	Stage	Message	Action	Notifications
	IPAM ServerDiscovery task	Running			0

Status	Notification	Time Stamp
--------	--------------	------------

## Overview Task Details and Notifications

All Tasks | 1 total

Status	Task Name	Stage	Message	Action	Notifications
	IPAM ServerDiscovery task	Comple...	Discovered servers are based on: 10/22/2014 6...		0



Status	Notification	Time Stamp



SERVER INVENTO...

IP ADDRESS SPACE

IP Address Blocks

IP Address Inve...

IP Address Ran...

MONITOR AND...

DNS and DHCP...

DHCP Scopes

DNS Zone Moni...

Server Groups

EVENT CATALOG

3 6:46:44 PM. Next data collection is on: 9/8/2013 6:45:50 PM. Please refresh to update the view.

## IPAM server

lon-svr2.Adatum.com  
JATUM\Administrator

4 Start server discovery

## The IPAM server

Saturday, September 7, 2013

5 [Select or add servers to manage and](#)

## server discovery

d - 1

6 Retrieve data from managed servers

## CONFIGURATION SUMMARY

lon-svr2.adatum.com

adatum.com

- Access Provisioning Method
- IPAM Scheduled Tasks
- IPAM Security Groups
- IPAM Communication Settings
- Learn more about IPAM provisioning

## SERVER INVENTO...

## IP ADDRESS SPACE

IP Address Blocks

IP Address Inve...

IP Address Ran...

## MONITOR AND...

DNS and DHCP...

DHCP Scopes

DNS Zone Moni...

Server Groups

## EVENT CATALOG



## IPv4

Managed Serv... ▶

Unmanaged S... ▶

## IPv6

Managed Serv... ▶

Unmanaged S... ▶

Filter



Recommended Action	Manageability Status	IPAM Access Status	Server Name
Set Manageability Status	Unspecified	Blocked	lon-svr1
Set Manageability Status	Unspecified	Blocked	lon-dc1

**Set Manageability Status** with a warning sign. And showing up as Blocked. We now need to unblock the server so that it can be managed.

**Right Click** the server and select **Edit Server**.

## Details View

lon-dc1

Details

```
PS C:\Users\administrator.ADATUM> Invoke-IpamGpoProvisioning -Domain Adatum.com -GpoPrefixName Svr2. adatum.com
```

Invoke-IpamGpoProvisioning -Domain contoso.com  
-GpoPrefixName IPAM -IpamServerFqdn ipam.contoso.com  
-DomainController orange-dc.contoso.com

```
Provisioning IPAM ...  
Validating parameters ...
```

Confirm

The Invoke-IPAMGpoProvisioning cmdlet creates and links three Group Policy Objects in the domain, for provisioning IPAM access settings on the servers that are managed by IPAM. The cmdlet also creates a domain wide DNS ACL to enable read access for IPAM. The value of GpoPrefixName must be the same as the value of GpoPrefixName used in the IPAM provisioning wizard when selecting the option of Group Policy Based provisioning. Do you want to perform this action?

[Y] Yes [N] No [S] Suspend [?] Help (default is "Y"): y

## SERVER I

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Server

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IPv4

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IPv6

Mana

Unma

## Add or Edit Server

Provide server details and other custom field mapping details:

## Basic configurations

Field	Value
* Server name (FQDN)	lon-dc1.adatum.com <span>Verify</span>
* IP address	172.16.0.10, 131.107.0.1
* Server type	<input checked="" type="checkbox"/> DC <input checked="" type="checkbox"/> DNS server <input checked="" type="checkbox"/> DHCP server <input type="checkbox"/> NPS server
Manageability status	Managed
Owner	
Description	

## Custom Configurations

OK

Cancel

## SERVER INVENTO...

## IP ADDRESS SPACE

IP Address Blocks

IP Address Inve...

IP Address Ran...

## MONITOR AND...

DNS and DHCP...

DHCP Scopes

DNS Zone Moni...

Server Groups

## EVENT CATALOG



## IPv4

Managed Serv... ▶

Unmanaged S... ▶

## IPv6

Managed Serv... ▶

Unmanaged S... ▶

Filter



Recommended Action	Manageability Status	IPAM Access Status	Server Name
Set Manageability Status	Unspecified	Blocked	lon-svr1
Unblock IPAM Access	Managed	Blocked	lon-dc1

## Details View

lon-svr1

Details

\$0.01 Web Hosting

```

Administrator: Command Prompt - gpupdate /force
/CreatesDirectoryPartition -- Create a directory partition
/DeleteDirectoryPartition -- Delete a directory partition
/EnlistDirectoryPartition -- Add DNS server to partition replication scope
/UnenlistDirectoryPartition -- Remove DNS server from replication scope
/CreateBuiltinDirectoryPartitions -- Create built-in partitions
/ExportSettings -- Output settings to DnsSettings.txt in the DNS se
ver database directory
/OfflineSign -- Offline signing zone files, including key genera
tion/deletion
/EnumTrustPoints -- Display active refresh information for all trust
points
/ActiveRefreshAllTrustPoints -- Perform an active refresh on all trust points
/RetrieveRootTrustAnchors -- Retrieve root trust anchors via HTTPS

<Command Parameters>:
DnsCmd <CommandName> /? -- For help info on specific Command

In future versions of Windows, Microsoft might remove dnscmd.exe.

If you currently use dnscmd.exe to configure and manage the DNS server,
Microsoft recommends that you transition to Windows PowerShell.

To view a list of commands for DNS server management, type
"Get-Command -Module DnsServer" at the Windows PowerShell prompt. Additional
information about Windows PowerShell commands for DNS is available at
http://go.microsoft.com/fwlink/?LinkId=217627.

C:\Users\Administrator>dnscmd lon-dci /config /enableglobalnamesupport 1
Registry property enableglobalnamesupport successfully reset.
Command completed successfully.

C:\Users\Administrator>dnscmd lon-dci /Zoneadd GlobalNames /DsPrimary /SP /force
DNS Server lon-dci created zone GlobalNames!
Command completed successfully.

C:\Users\Administrator>gpupdate /force
Updating policy...

```

## SERVER INVENTO...

## IP ADDRESS SPACE

IP Address Blocks

IP Address Inve...

IP Address Ran...

## MONITOR AND...

DNS and DHCP...

DHCP Scopes

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Server Groups

## EVENT CATALOG



IPv4

Managed Serv... ▶

Unmanaged S... ▶

IPv6

Managed Serv... ▶

Unmanaged S... ▶

Discovered servers are based on: 9/7/2013 7:07:54 PM. Next data collection is on: 9/7/2013 7:07:54 PM.

Filter



Recommended Action

Manageability Status

IPAM Access Status

Server Name



IPAM Access Unblocked Managed



UnManaged

lon-dc1



Set Manageability Status Unspecified



Blo

Edit Server...

Retrieve All Server Data

Refresh Server Access Status

Delete



## Details View

lon-dc1

Details

\$0.01 Web Hosting

SERVER INVENTO...

IP ADDRESS SPACE

IP Address Blocks

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g in the Task Scheduler. Please wait for their completion.

## IPAM server

ION-SVR2.Adatum.com  
 \ADMINISTRATOR

4 Start server discovery

## 1e IPAM server

aturday, September 7, 2013

5 Select or add servers to manage and

## server discovery

d - 1

6 Retrieve data from managed servers

## CONFIGURATION SUMMARY

ion-svr2.adatum.com

adatum.com

-  Access Provisioning Method
-  IPAM Scheduled Tasks
-  IPAM Security Groups
-  IPAM Communication Settings
-  Learn more about IPAM provisioning



