

System Planning, Deployment, and Best Practices

ZENworks® Mobile Management 2.7.x

March 2013

Novell.

Legal Notices

Novell, Inc., makes no representations or warranties with respect to the contents or use of this documentation, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc., reserves the right to revise this publication and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes.

Further, Novell, Inc., makes no representations or warranties with respect to any software, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc., reserves the right to make changes to any and all parts of Novell software, at any time, without any obligation to notify any person or entity of such changes.

Any products or technical information provided under this Agreement may be subject to U.S. export controls and the trade laws of other countries. You agree to comply with all export control regulations and to obtain any required licenses or classification to export, re-export or import deliverables. You agree not to export or re-export to entities on the current U.S. export exclusion lists or to any embargoed or terrorist countries as specified in the U.S. export laws. You agree to not use deliverables for prohibited nuclear, missile, or chemical biological weaponry end uses. See the [Novell International Trade Services Web page \(http://www.novell.com/info/exports/\)](http://www.novell.com/info/exports/) for more information on exporting Novell software. Novell assumes no responsibility for your failure to obtain any necessary export approvals.

Copyright © 2012-13 Novell, Inc. All rights reserved. No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of the publisher.

Novell, Inc.
1800 South Novell Place
Provo, UT 84606
U.S.A.
www.novell.com

Online Documentation: To access the latest online documentation for this and other Novell products, see the [Novell Documentation Web page \(http://www.novell.com/documentation/\)](http://www.novell.com/documentation/).

Novell Trademarks

For Novell trademarks, see [the Novell Trademark and Service Mark list \(http://www.novell.com/company/legal/trademarks/tmlist.html\)](http://www.novell.com/company/legal/trademarks/tmlist.html).

Third-Party Materials

All third-party trademarks are the property of their respective owners.

Contents

About This Guide	5
1 The Goal: Total Management, Zero Effort	7
2 Performing Pre-Design Activities	9
2.1 Performing a Business Assessment	9
2.2 Performing a Technical Assessment	9
2.3 Developing a High-Level Design	10
2.4 Developing Documentation	10
2.5 Outputs from Pre-Design Activities	11
3 Achieving Scale with ZENworks Mobile Management	13
3.1 Architecture	13
3.2 SQL Database Recommendations.	14
3.3 Hardware Recommendations.	15
3.4 Adjusting Pool Threads	15
3.5 Setting Up a Web Garden	16
3.5.1 Recommendations.	16
3.5.2 Setting Up a Web Garden in IIS 6	16
3.5.3 Setting Up a Web Garden in IIS 7	18
4 Achieving High Availability	21
4.1 Configuring Network Load Balancing and an SQL Server Failover Cluster.	21
4.2 Installing ZENworks Mobile Management in a Network Load Balanced Environment.	22
5 Managing ZENworks Mobile Management Certificates	23
6 Using the Apple Push Notification Service (APNs)	25
6.1 Benefits of an APNs Certificate	25
6.2 Requirements.	26
6.3 Obtaining an APNs Certificate	26
7 Using ActiveSync	27
7.1 Novell GroupWise DataSync Servers	27
7.1.1 Systems Using SSL.	27
7.1.2 Systems Not Using SSL	27
7.2 Exchange ActiveSync Servers.	28
7.3 FirstClass Servers	28
7.3.1 Systems Using SSL.	29
7.3.2 Systems Not Using SSL	29

8	Verifying Port Requirements and Port Connections	31
8.1	Port Requirements	31
8.2	Port Connection Tests	31
9	Cleaning Up the Database	33
9.1	Database Tables	33
9.2	Adding a Database Task	34
9.3	Task Parameters: Best Practices and Recommendations.	36
9.3.1	Database Tables	36
9.3.2	Recommended Cleanup Task Parameters for 1000-Device Systems.	37
9.3.3	Recommended Cleanup Task Parameters for Systems With More Than 1000 Devices	38
9.4	Managing Database Tasks	39
10	Moving the Database	41
10.1	Before You Begin	41
10.2	Setting Up the New Database Server	41
10.3	Moving the Database	42
10.4	Completing and Verifying the Move	45
10.5	Additional Steps	46

About This Guide

The *System Planning, Deployment, and Best Practices* guide describes the issues you need to consider when designing a Novell ZENworks Mobile Management solution and deploying it across an enterprise environment. This guide is not meant to replace the other online resources that Novell provides to customers and partners, but to supplement that material so that you have a better understanding of certain design-related topics and requirements. The information in this guide is organized as follows:

- ♦ Chapter 1, “The Goal: Total Management, Zero Effort,” on page 7
- ♦ Chapter 2, “Performing Pre-Design Activities,” on page 9
- ♦ Chapter 3, “Achieving Scale with ZENworks Mobile Management,” on page 13
- ♦ Chapter 4, “Achieving High Availability,” on page 21
- ♦ Chapter 5, “Managing ZENworks Mobile Management Certificates,” on page 23
- ♦ Chapter 6, “Using the Apple Push Notification Service (APNs),” on page 25
- ♦ Chapter 7, “Using ActiveSync,” on page 27
- ♦ Chapter 8, “Verifying Port Requirements and Port Connections,” on page 31
- ♦ Chapter 9, “Cleaning Up the Database,” on page 33
- ♦ Chapter 10, “Moving the Database,” on page 41

Audience

This guide is intended for ZENworks administrators who have responsibility for the ZENworks Mobile Management system.

Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation.

Additional Documentation

ZENworks Mobile Management is supported by other documentation that you can use to learn about and implement the product. For additional documentation, see the [ZENworks Mobile Management 2.6 documentation Web site \(http://www.novell.com/documentation/zenworksmobile26\)](http://www.novell.com/documentation/zenworksmobile26).

1 The Goal: Total Management, Zero Effort

Over the last decade, Novell ZENworks has provided the gold standard for centralized configuration and management of network Windows endpoints in today's complex, heterogeneous corporate networks.

With the release of ZENworks Mobile Management, Novell is embracing the industry push to mobility. ZENworks Mobile Management gives enterprise customers a way to manage and secure the large and diverse set of mobile devices their workforce uses every day—including those not owned by the corporation.

With ZENworks Mobile Management, users can work on the devices of their choice, boosting “anywhere, anytime, anything” productivity. At the same time, IT can protect enterprise assets against both security threats and licensing liabilities—managing and securing any mobile device in the workforce, with minimal impact to the overhead.

2 Performing Pre-Design Activities

A firm understanding of the organization's business and technical requirements and the existing infrastructure components that will take part in the ZENworks Mobile Management system is the first step in developing a solid design that meets the organization's immediate and future needs.

IMPORTANT: Throughout this document, we refer to the need for proper documentation. Documentation is of the utmost importance as a complete and accurate reference to the system you have designed and built. As individuals transition in and out of the IT organization, the design documents help new employees learn the infrastructure they support, including techniques, policies, and design decisions. Documentation is also a good reference for others inside the organization who might not be involved in the day-to-day management of the ZENworks Mobile Management environment, but who are involved in managing other projects that might have an impact on the ZENworks Mobile Management environment, including dependencies.

The following activities should be performed during the pre-design phase of implementing ZENworks Mobile Management:

- ♦ [Section 2.1, "Performing a Business Assessment," on page 9](#)
- ♦ [Section 2.2, "Performing a Technical Assessment," on page 9](#)
- ♦ [Section 2.3, "Developing a High-Level Design," on page 10](#)
- ♦ [Section 2.4, "Developing Documentation," on page 10](#)
- ♦ [Section 2.5, "Outputs from Pre-Design Activities," on page 11](#)

2.1 Performing a Business Assessment

Your first need is a detailed business assessment. If you do not have a solid understanding of what your business needs or desires, you cannot design a solution to meet business needs.

The best way to handle this is through a set of informal workshops, which include a high-level introduction to the technology, what it does, how the departments and end users benefit, and possibly a short demonstration of the product. The three main reasons you hold these workshops are to inform departments of what you are doing, get their buy-in, and get their feedback in the form of technical requirements. The meetings should sufficiently inform department members so they begin to give you feedback about how they will leverage the system.

2.2 Performing a Technical Assessment

Your next need is for a technical assessment to review what you already have, identify what you need, and document your requirements.

It is important to note that the technical assessment should be performed at the same time as the business assessment. The two assessments should take no longer than a week to perform, depending on the size and complexity of the organization and its infrastructure.

The two main outputs from a technical assessment are documentation on your findings, along with a set of tasks that you need to perform. Information that you should gather includes the following:

- ♦ Which mobile device platforms must be supported?
- ♦ Are devices solely corporate owned?
- ♦ Are users permitted to use their own mobile devices to access corporate data?
- ♦ How many users must be supported by the proposed solution?
- ♦ Are there any compliance requirements concerning mobile security?
- ♦ What mobile applications are currently being used or access by users today? This typically includes e-mail, but there might be other applications that required managed access.

2.3 Developing a High-Level Design

After you have completed gathering data to use when building the design of the infrastructure, you can then develop a high-level design. It is important at this point to understand what the infrastructure is going to look like, so documenting your high-level thoughts and plans is critical to the success of the project.

Developing a high-level design consists of building two main outputs:

- ♦ **Assessment document:** A high-level design document outlines the general placement of services across the company's infrastructure. High-level design should include the following information:
 - ♦ Number of ZENworks Mobile Management servers required
 - ♦ Placement of ZENworks Mobile Management servers
 - ♦ Placement of the ZENworks Mobile Management database (on the ZENworks Mobile Management server or on a standalone server)
 - ♦ Configuration of network services, such as DNS (forward/reverse lookup), DHCP, and so forth
 - ♦ Utilization of network infrastructure, such as L4 switches to front the ZENworks Mobile Management servers
- ♦ **High-level graphical design document:** As a supplement to the assessment document, you should also develop a graphical representation of the infrastructure. This diagram should reflect exactly what you have described in the document, and it should be at a high enough level so that everyone can see what the infrastructure is going to look like after the ZENworks Mobile Management deployment is complete.

2.4 Developing Documentation

It is important to develop your documentation and then discuss it with all parties that have an interest in the success of the project. Discussing the findings and recommendations in detail is important to the success of this phase of the project and the success of the more detailed design phase.

After you have conducted meetings to discuss the findings and recommendations, there will be items in the high-level design that must be modified or changed. This is normal. Ensure that you capture the changes and include them in documents you created during this phase so that you have accurate information throughout the life cycle of the project. The information in these documents will be leveraged during the design phase, so it needs to be complete and accurate.

2.5 Outputs from Pre-Design Activities

There are two main outputs (or deliverables) from your pre-design activities:

- ♦ **Assessment document:** This document highlights all of your findings from the business and technical assessments that you perform. The document is the foundation for performing your design activities, and it needs to be kept up-to-date. The document includes information such as:
 - ♦ Requirements gathered during meetings and workshops with department leaders and others inside the organization that will have an influence on the services ZENworks Mobile Management will deliver.
 - ♦ A detailed summary of your technical findings, and what needs to change in order to support ZENworks Mobile Management in the infrastructure. Suggestions should include best practices and detailed recommendations to resolve any known issues.
 - ♦ High-level design information, including general placement of services and other infrastructure components.
- ♦ **High-level graphical design diagram:** This diagram is used to visually understand what the infrastructure will look like after the deployment is complete. This is a foundational document, and it should be further refined during the design phase of your project.

3 Achieving Scale with ZENworks Mobile Management

The following sections provide information and recommendations for scaling your ZENworks Mobile Management system to meet your organization's needs:

- ♦ [Section 3.1, "Architecture," on page 13](#)
- ♦ [Section 3.2, "SQL Database Recommendations," on page 14](#)
- ♦ [Section 3.3, "Hardware Recommendations," on page 15](#)
- ♦ [Section 3.4, "Adjusting Pool Threads," on page 15](#)
- ♦ [Section 3.5, "Setting Up a Web Garden," on page 16](#)

3.1 Architecture

The ZENworks Mobile Management system is made up of an SQL database component and a Web/HTTP component. Both components can be installed on a single server.

The system can also be configured with multiple Web servers for a network load balanced setup. With this configuration, you can install the SQL component and first instance of the Web/HTTP component on one server and install the second instance of the Web/HTTP component on a second server.

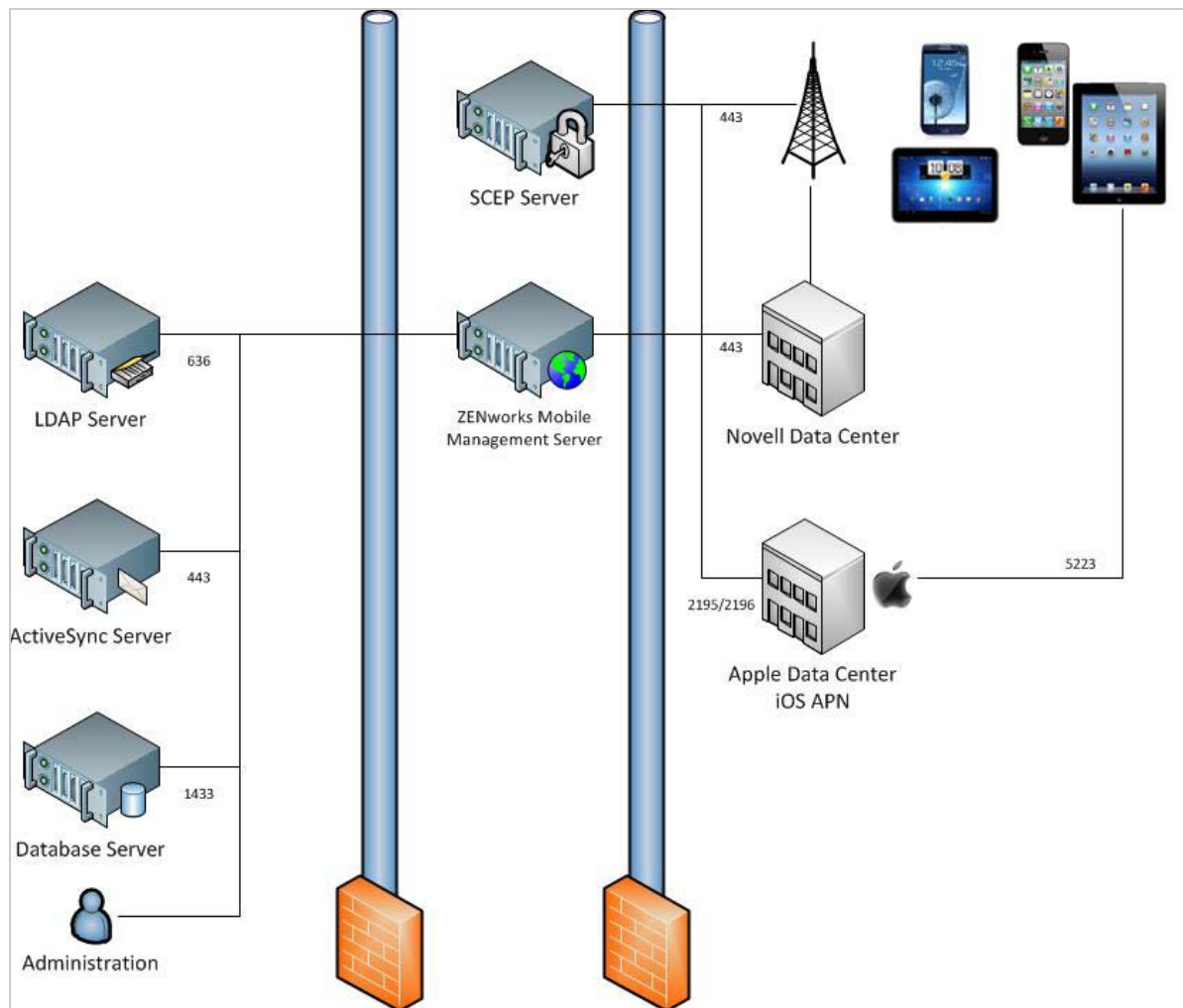
Table 3-1 *System Requirements*

	Processor (CPU)	Memory	Disk Space	Number of Devices Supported per Server
Minimum-requirement server	Single-core 1.60 GHz	1 GB RAM	40 GB HD	300 devices
Mid-range server	Quad-core 2.13 GHz	4 GB RAM	80 GB HD	2000 devices
High-end Ssrver	Dual quad-core 2.80 GHz	8 GB RAM	160 GB HD	4000 devices

Increasing RAM on these configurations can allow for additional devices. For example, you can increase the RAM on a single-core machine to 2 GB and be able to accommodate several hundred more devices than indicated in the minimum requirements in the preceding table. However, as the number of devices continues to grow, you might experience processing limitations and you will eventually need increased processing power (number of cores). Each system's configuration is unique and should be monitored carefully to maintain an acceptable level of performance.

The following figure provides an example of a two-server configuration. The Database Server hosts the SQL database component and the ZENworks Mobile Management server hosts the Web/HTTP component.

Figure 3-1 On-premise 10,000 Device Architecture



3.2 SQL Database Recommendations

The ZENworks Mobile Management system is not SQL intensive; however, it is always good practice to monitor SQL usage. Improvements to SQL performance can usually be accomplished by adding RAM.

You need 1 GB RAM per 2000 devices for the machine on which the SQL component resides.

3.3 Hardware Recommendations

The following list provides the suggested architectural details for the Web and database components of ZENworks Mobile Management for a 10,000 device system:

- ♦ **Web/HTTP component:** One physical server with the following configuration:
 - ♦ Windows 2008 Enterprise Server R2 SP1 (64-bit)
 - ♦ 24 GB RAM
 - ♦ 2 quad-core CPUs with hyper-threading enabled
 - ♦ 150 GB hard drive space (recommended mirrored configuration)
 - ♦ 32 worker processes
- ♦ **Database Component:** One physical server with the following configuration:
 - ♦ Windows 2008 Enterprise Server R2 SP1 (64-bit)
 - ♦ SQL Server 2008 R2 Advanced / Enterprise
 - ♦ 12 GB RAM (8 GB allocated to the SQL Server)
 - ♦ 2 quad-core CPUs with hyper-threading enabled
 - ♦ 300 GB hard drive space (recommended RAID-5 configuration)

3.4 Adjusting Pool Threads

If the system will host more than 125 devices, adjusting the PoolThreadLimit setting of Microsoft Internet Information Services (IIS) is highly recommended.

The value of this registry key should be configured to 2 times the total number of devices. For example, if there are 2000 devices on the system, you should adjust this setting to 4000.

If the system is configured with multiple Web servers for a network load balanced setup, you should adjust this setting on every server where a ZENworks Mobile Management component is installed. The value should be the same on every server.

- 1 Navigate through the Windows registry to find the following setting:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\InetInfo\Parameters
```

- 2 Select the PoolThreadLimit registry key and adjust the value.

3.5 Setting Up a Web Garden

A Web Garden is a server configuration where multiple processes run on a single Web server. This is accomplished by activating the Web Garden feature in Microsoft IIS, version 6 or 7. By default, an application pool in IIS runs in a single process on the server. However, there is an option to increase the Maximum Worker Processes to a greater value. The result is that the server runs multiple processes, which improves system performance.

If you have configured your system with multiple Web servers for a network load balanced setup, the Web Garden feature (*Maximum Worker Processes*) should be adjusted on all servers running the ZENworks Mobile Management Web/HTTP component.

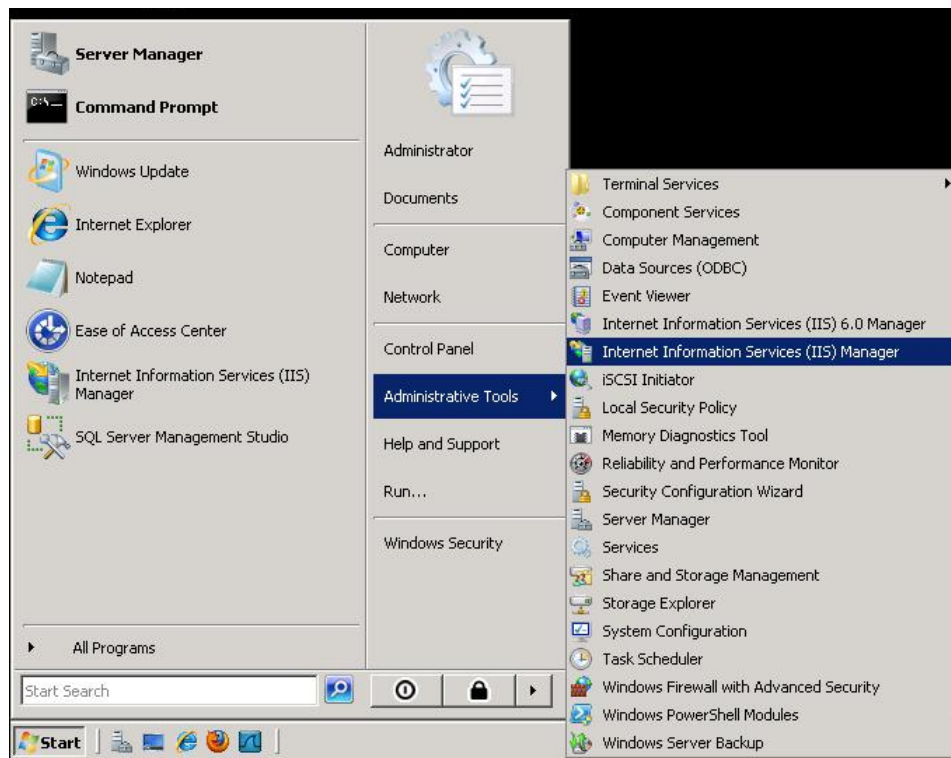
- ♦ [Section 3.5.1, “Recommendations,” on page 16](#)
- ♦ [Section 3.5.2, “Setting Up a Web Garden in IIS 6,” on page 16](#)
- ♦ [Section 3.5.3, “Setting Up a Web Garden in IIS 7,” on page 18](#)

3.5.1 Recommendations

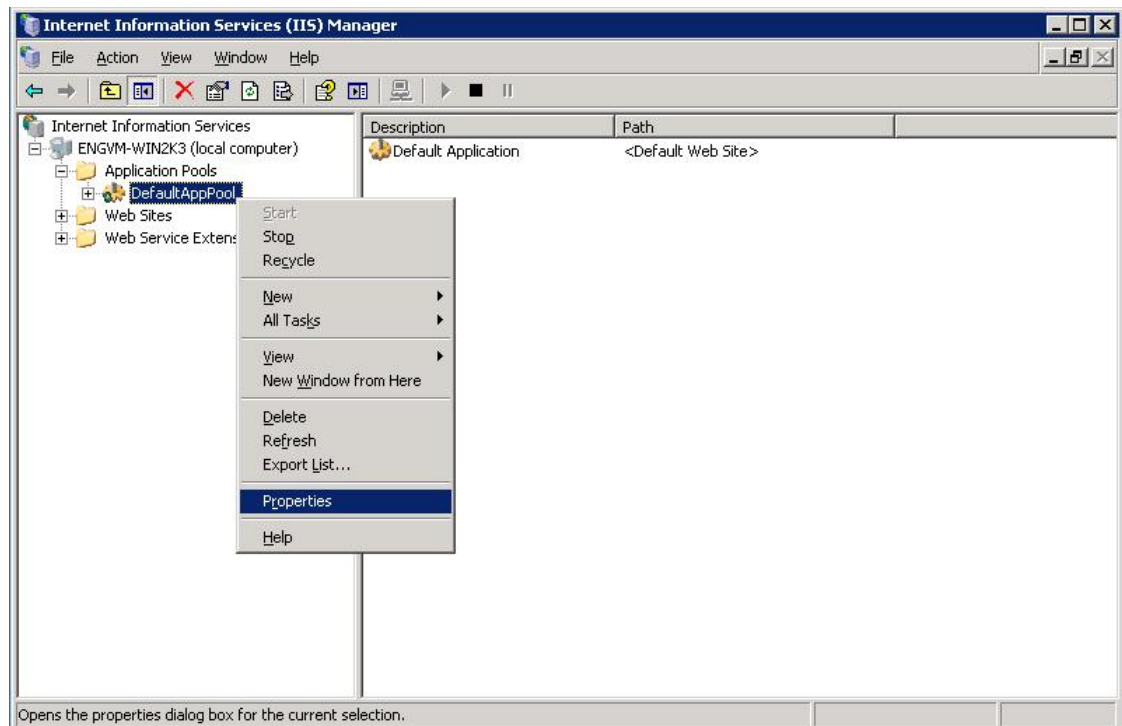
- ♦ Use one worker process per core
 - ♦ **Single-core:** Leave the *Worker Processes* setting at 1.
 - ♦ **Quad-core:** Increase the *Worker Processes* to 4.
 - ♦ **Dual quad-core:** Increase the *Worker Processes* to 8.
- ♦ Increasing the number of *Worker Processes* to more than 2 per core results in a reduction in performance.

3.5.2 Setting Up a Web Garden in IIS 6

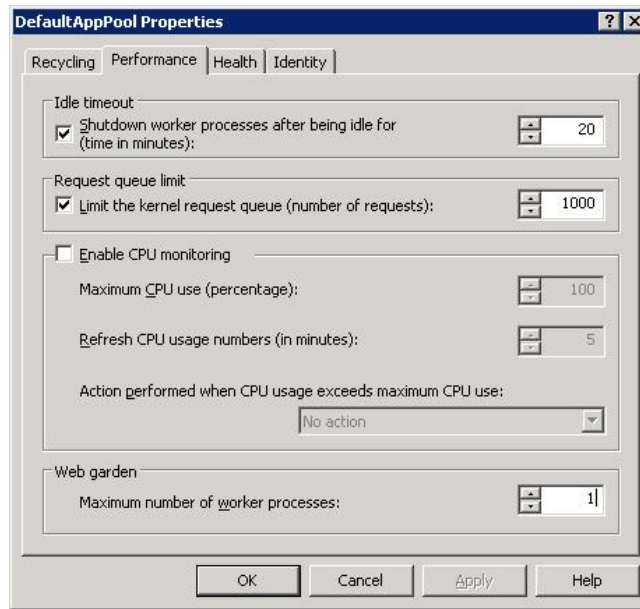
- 1 Open *Internet Information Services Manager*, located under *Administrative Tools* in the *Start* menu.



- 2 In the left menu, expand the server and select *Application Pools*.
- 3 Expand *Application Pools* and select *DefaultAppPool*.
- 4 Right-click *DefaultAppPool* and select *Properties*.



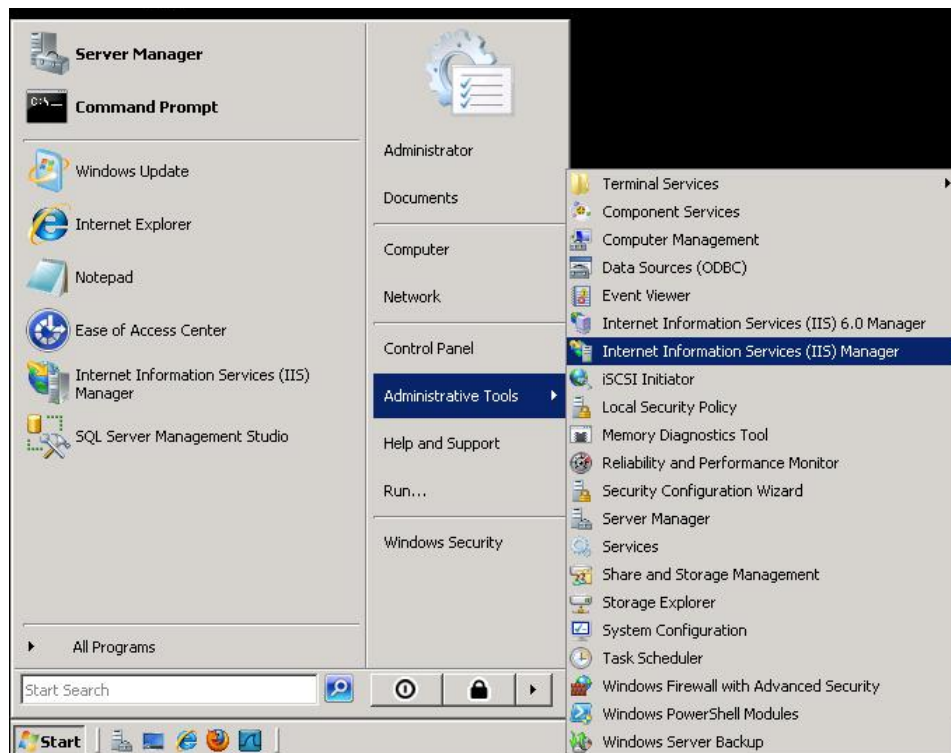
- 5 Select the *Performance* tab.



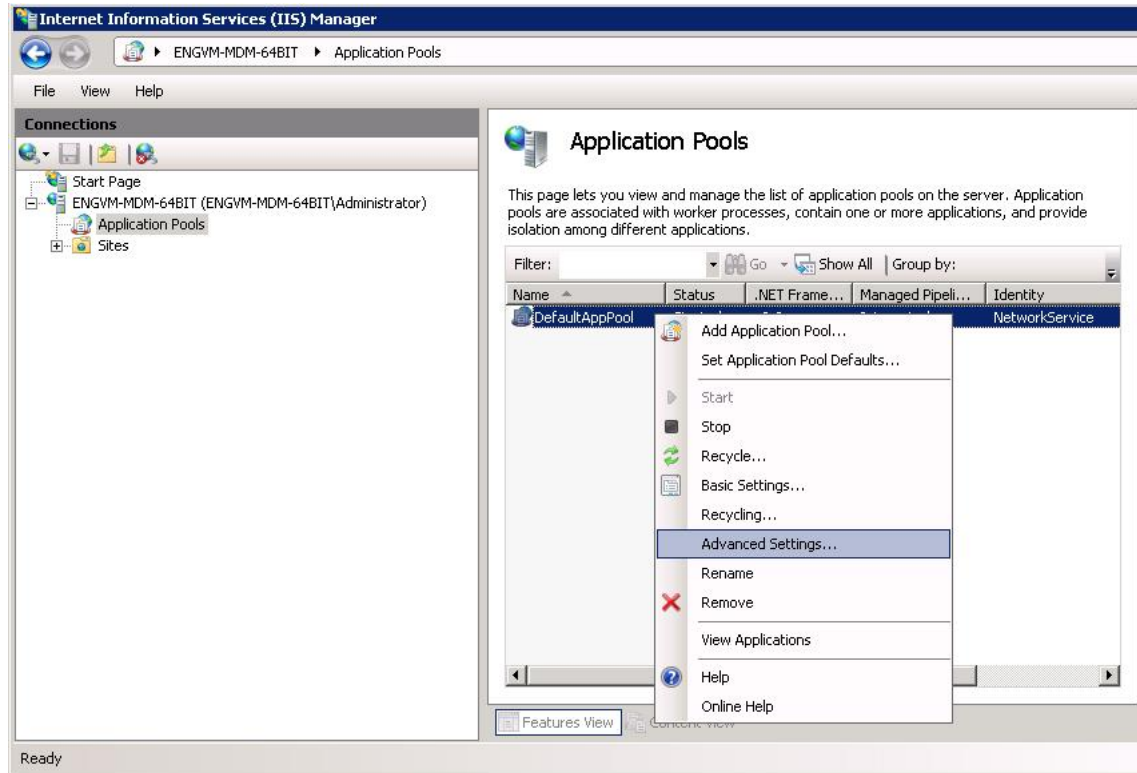
- 6 Under the *Web garden* section, adjust the *Maximum number of worker processes* to a value greater than 1 (see [Section 3.5.1, “Recommendations,”](#) on page 16). The value should remain at 1 for a non-Web Garden setup or on single-core machines.

3.5.3 Setting Up a Web Garden in IIS 7

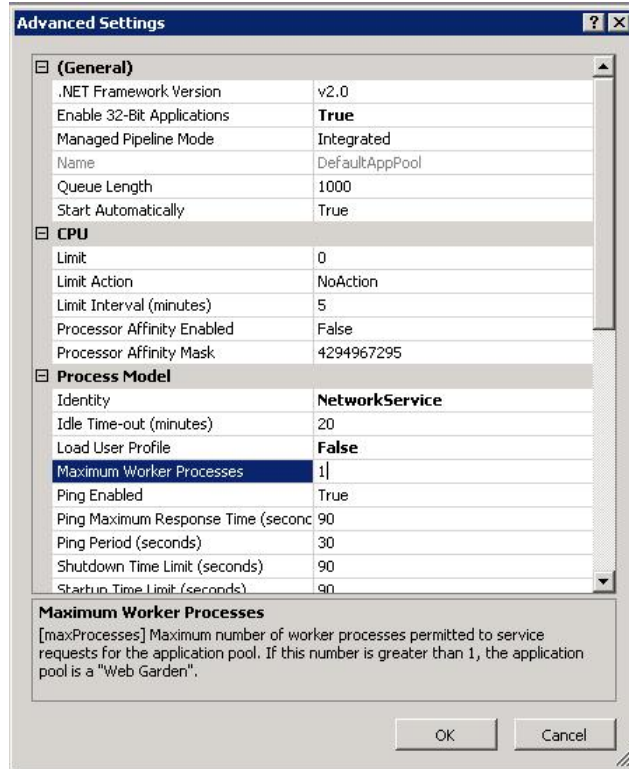
- 1 Open *Internet Information Services Manager*, located under *Administrative Tools* in the *Start* menu.



- 2 In the left menu, expand the server and select *Application Pools*.
- 3 In the *Application Pools* section, select *DefaultAppPool*.
- 4 Right click *DefaultAppPool* and select *Advanced Settings*.



- 5 Under the *Process Model* section, adjust the *Maximum Worker Processes* to a value greater than 1 (see [Section 3.5.1, “Recommendations,”](#) on page 16). The value should remain at 1 for a non-Web Garden setup or on single-core machines.



4 Achieving High Availability

You should consider *network load balancing* and *SQL Server failover cluster* setups to prevent or limit disruption if a component fails. Although it is not required that you use both setups, Novell recommends that you implement both to achieve a true high availability environment.

- ♦ [Section 4.1, “Configuring Network Load Balancing and an SQL Server Failover Cluster,” on page 21](#)
- ♦ [Section 4.2, “Installing ZENworks Mobile Management in a Network Load Balanced Environment,” on page 22](#)

4.1 Configuring Network Load Balancing and an SQL Server Failover Cluster

If you are planning to configure a highly available ZENworks Mobile Management setup with network load balancing and SQL Server failover clusters, refer to the links below. Network load balancing and SQL Server failover clusters should be configured before the ZENworks Mobile Management installation.

- ♦ [Configuring network load balancing in Windows Server 2003 \(http://support.microsoft.com/kb/323437\)](http://support.microsoft.com/kb/323437)
- ♦ [Configuring network load balancing in Windows Server 2008 or 2008 R2 \(http://technet.microsoft.com/en-us/library/cc754833%28WS.10%29.aspx\)](http://technet.microsoft.com/en-us/library/cc754833%28WS.10%29.aspx)
- ♦ [Configuring SQL Server failover cluster in Microsoft SQL Server 2008 \(http://msdn.microsoft.com/en-us/library/ms179530%28v=SQL.100%29.aspx\)](http://msdn.microsoft.com/en-us/library/ms179530%28v=SQL.100%29.aspx)
- ♦ [Configuring SQL Server failover cluster in Microsoft SQL Server 2008 R2 \(http://msdn.microsoft.com/en-us/library/ms179530%28v=SQL.105%29.aspx\)](http://msdn.microsoft.com/en-us/library/ms179530%28v=SQL.105%29.aspx)

Important Considerations

If you have configured your system with multiple Web servers for network load balancing, be aware of the following considerations:

- ♦ If you implement a Web Garden, the feature should be adjusted on all servers running the ZENworks Mobile Management Web/HTTP component.
- ♦ When you upgrade ZENworks Mobile Management, all Web/HTTP server boxes must be updated to the same version.

4.2 Installing ZENworks Mobile Management in a Network Load Balanced Environment

If you are configuring servers for a network load balanced setup, there are some specifics you must adhere to during the ZENworks Mobile Management installation. You will essentially be installing the ZENworks Mobile Management Web/HTTP component on two servers. The process is as follows:

- 1 Install the ZENworks Mobile Management database component.
 - ♦ When you define the location of the database, use the fully qualified DNS name or IP address of the server.
 - ♦ Do not select the (*local*) option for the server address.
- 2 Install the ZENworks Mobile Management Web/HTTP component to the first server.
 - ♦ Use the fully qualified DNS name or IP address of the SQL server.
 - ♦ During the installation, a key file named `MDM.ini` is created. The `MDM.ini` file contains an encrypted *ConnectionString* that includes the SQL server location.
- 3 Install the ZENworks Mobile Management Web/HTTP component to additional servers.
 - ♦ Use the fully qualified DNS name or IP address of the SQL server.
 - ♦ Copy the `MDM.ini` file, located in the install directory, from the first Web/HTTP component server you installed.
 - ♦ Paste the copy into the same directory of any subsequent Web/HTTP component server and overwrite the original.
 - ♦ After you have overwritten the `MDM.ini` file on a ZENworks Mobile Management Web/HTTP server, reset IIS on the server for the changes to take effect.

These steps are necessary because the *ConnectionString* that is stored inside the ZENworks Mobile Management database must be correctly referred to in all `MDM.ini` files that exist on ZENworks Mobile Management Web/HTTP component servers. The copy and paste process is necessary because the *ConnectionString* is encrypted with random characters during each subsequent ZENworks Mobile Management Web/HTTP component installation, so even though the data contained within the encrypted string is the same, the encrypted strings themselves are not the same.

5 Managing ZENworks Mobile Management Certificates

Each server that hosts the ZENworks Mobile Management Web/HTTP component needs a signed certificate based on the DNS name that mobile devices will use to access the ZENworks Mobile Management service. It is important that this DNS name is known up front so that the certificates can be signed and injected into the Microsoft IIS server binding configuration.

It is essential that all devices trust the certificate authority that is used to sign the ZENworks Mobile Management server certificate. The easiest way to achieve this is to use a globally trusted certificate authority such as VeriSign or Thawte to sign the server certificate.

If you use a certificate authority that is not trusted, the certificate must be downloaded and trusted manually on each device before the ZENworks Mobile Management agent can be enrolled.

6 Using the Apple Push Notification Service (APNs)

Apple Push Notification Service (APNs) is a highly secure and efficient system for communicating with iOS devices over-the-air. Each device establishes an accredited and encrypted IP connection with the service. The provider, such as your ZENworks Mobile Management server, connects with and sends its notification to the APNs, which pushes the notification to the target device.

An APNs certificate is required to use the Apple Push Notification Service. This section explains the process of obtaining the APNs certificate from Apple. There are various methods of generating the APNs certificate. This section guides you through generating the certificate by using Microsoft Windows Internet Information Services (IIS) Manager, version 6 or 7.

- ♦ [Section 6.1, “Benefits of an APNs Certificate,” on page 25](#)
- ♦ [Section 6.2, “Requirements,” on page 26](#)
- ♦ [Section 6.3, “Obtaining an APNs Certificate,” on page 26](#)

6.1 Benefits of an APNs Certificate

The APNs certificate allows you to use the built-in MDM protocol of Apple iOS devices. ZENworks Mobile Management uses the Apple Push Notification service to send notifications to the iOS device requesting information. Data is not sent through the APNs server; only the notifications are sent. The device responds directly to the ZENworks Mobile Management server.

Some of the additional functionality available with the Apple MDM protocol includes:

- ♦ Devices support Selective Wipe, Lock Device, and Clear Passcode
- ♦ Full Wipe and Lock Device commands are applied immediately
- ♦ You can record and access installed applications on devices
- ♦ You can record and access installed configuration profiles on devices
- ♦ You can access additional device statistics
- ♦ Configuration profile updates require no user interaction
- ♦ Support for enterprise (In-house) apps
- ♦ You can manage mobile apps
- ♦ You can manage VPP (Redemption) codes

6.2 Requirements

- ♦ An Apple ID. You should not use a personal Apple ID. Instead, you should create a separate corporate Apple ID for ZENworks Mobile Management. Associate the Apple ID with an email account that will remain with your company, not an email account that belongs to an individual in the company.
- ♦ Windows Server 2003 or 2008 (you will need administrator permissions).

6.3 Obtaining an APNs Certificate

A summary of the process is below. Please refer to the [Generating an Apple Push Notification Service Certificate](#) guide for detailed instructions.

- 1 Create a certificate signing request (CSR).
- 2 Upload the CSR to the ZENworks Mobile Management Certificate Portal.
- 3 Upload the intermediate certificate (the signed CSR) to the Apple Push Certificates Portal. Apple issues the certificate.
- 4 Download the signed certificate from the Apple Push Certificates Portal and complete the certificate request in IIS.
- 5 Export the certificate to a file and upload it to the ZENworks Mobile Management server.

7 Using ActiveSync

Best practices regarding the ActiveSync server in the ZENworks Mobile Management environment include configuring ActiveSync so that users who are not enrolled through ZENworks Mobile Management are blocked from accessing the ActiveSync server. This forces users with devices not running the ZENworks Mobile Management application to enroll against the ZENworks Mobile Management server, which allows you to manage all devices through ZENworks Mobile Management.

Procedures for implementing these best practices are outlined below for GroupWise, Exchange, and FirstClass servers.

For those servers not listed below, administrators can create a firewall policy that blocks users from the ActiveSync server. This also blocks users from Web access. If you choose not to block access, you should closely monitor the traffic coming through the ActiveSync server.

You should implement this configuration after you have installed the ZENworks Mobile Management system and given users ample time to enroll through the ZENworks Mobile Management server. Users who have not enrolled through ZENworks Mobile Management by the set deadline are then blocked from the ActiveSync server.

- ♦ [Section 7.1, “Novell GroupWise DataSync Servers,” on page 27](#)
- ♦ [Section 7.2, “Exchange ActiveSync Servers,” on page 28](#)
- ♦ [Section 7.3, “FirstClass Servers,” on page 28](#)

7.1 Novell GroupWise DataSync Servers

The tasks you must complete depend on whether or not the system is using SSL:

- ♦ [Section 7.1.1, “Systems Using SSL,” on page 27](#)
- ♦ [Section 7.1.2, “Systems Not Using SSL,” on page 27](#)

7.1.1 Systems Using SSL

Create a firewall policy that blocks incoming traffic to your GroupWise DataSync server over TCP Port 443. Include an exception to allow traffic from the ZENworks Mobile Management server by specifying the IP address of the ZENworks Mobile Management server.

7.1.2 Systems Not Using SSL

Create a firewall policy that blocks incoming traffic to your GroupWise DataSync server over TCP Port 80. Include an exception to allow traffic from the ZENworks Mobile Management server by specifying the IP address of the ZENworks Mobile Management server.

7.2 Exchange ActiveSync Servers

- 1 Launch the IIS Manager on your Microsoft Exchange Server:
 - ♦ **Windows Server 2003 (IIS 6.0):** Click the *Start* menu > *Settings* > *Control Panel* > *Administrative Tools* > *Internet Information Services (IIS) Manager*.
 - ♦ **Windows Server 2008 (IIS 7.0):** Click the *Start* menu > *Administrative Tools* > *Internet Information Services (IIS) Manager*.
- 2 Expand your Web site:
 - ♦ **Windows Server 2003 (IIS 6.0):** Click the + symbol next to *Default Website*.
 - ♦ **Windows Server 2008 (IIS 7.0):** Click the + symbol next to *Default Website*.
- 3 Select the IIS Application for Microsoft Exchange ActiveSync:
 - ♦ **Windows Server 2003 (IIS 6.0):** Navigate through the Default Website and select *Microsoft-Server-ActiveSync*.
 - ♦ **Windows Server 2008 (IIS 7.0):** Navigate through the Default Website and select *Microsoft-Server-ActiveSync*.
- 4 Open the security properties for the IIS application and navigate to *IP Address and Domain Restrictions*:
 - ♦ **Windows Server 2003 (IIS 6.0):** Right-click the application and select *Properties*. Select the *Directory Security* tab and click the *Edit* button under *IP Address and Domain Restrictions*.
 - ♦ **Windows Server 2008 (IIS 7.0):** With the *Microsoft-Server-ActiveSync* application selected, double-click *IP Address and Domain Restrictions*.
- 5 Set a default rule to deny all traffic over the ActiveSync Protocol. Then add the exceptions or computers (that is, the ZENworks Mobile Management server) that you want to allow to communicate with the Microsoft-Server-ActiveSync application:
 - ♦ **Windows Server 2003 (IIS 6.0):** Select the dot next to *Denied Access* to configure the application so that *By Default, all computers will be denied access. Except the following*. Then, click the *Add* button and specify the IP address of the ZENworks Mobile Management server. ZENworks Mobile Management On-Demand users should contact Novell Technical Support for the range of IP addresses to be entered here.
 - ♦ **Windows Server 2008 (IIS 7.0):** Click *Edit Feature Settings*. When you are prompted to configure the access for unspecified clients, configure this setting to deny the traffic and then click *OK*. Then, click *Add Allow Entry*. At the prompt, specify the IP address for the ZENworks Mobile Management server. ZENworks Mobile Management On-Demand users should contact Novell Technical Support for the range of IP addresses to be entered here.

7.3 FirstClass Servers

The tasks you must complete depend on whether or not the system is using SSL:

- ♦ [Section 7.3.1, "Systems Using SSL," on page 29](#)
- ♦ [Section 7.3.2, "Systems Not Using SSL," on page 29](#)

7.3.1 Systems Using SSL

ActiveSync devices communicate with the server through port 443 for HTTPS Web Services. You need to create a firewall policy to block all devices except those enrolled through ZENworks Mobile Management. However, so that you do not block PC Webmail users, you must first change the number of the TCP port that FirstClass uses for Webmail access over SSL.

- 1 Log into the FirstClass Administration Panel.
- 2 Double-click the *Internet Services* icon to access the Web Services configuration for this server.
- 3 Double-click the *Advanced Web & File* icon to modify the port configuration for the FirstClass Web Services.
- 4 By default, FirstClass uses TCP port 443 for Webmail access over SSL. Change this port to a unique, non-standard number, such as 8443, so that PC Webmail users are not blocked when you create the firewall policy that blocks port 443.
- 5 Create a firewall policy that blocks incoming traffic to your FirstClass Server over TCP Port 443. Include an exception to allow traffic from the ZENworks Mobile Management server by specifying the IP address of the ZENworks Mobile Management server. ZENworks Mobile Management On-Demand users should contact Novell Technical Support for the range of IP addresses that should be entered for the exception.

7.3.2 Systems Not Using SSL

ActiveSync devices communicate with the server using port 80 for HTTP Web Services. By default, FirstClass uses TCP port 8080 for Webmail access over HTTP. Because PC Webmail users use a different port number than devices, creating a firewall policy to block non-ZENworks Mobile Management devices does not affect PC Webmail users.

For systems not using SSL, the only step is to create a firewall policy that selectively blocks the port (80) through which devices connect.

- 1 Create a firewall policy that blocks incoming traffic to your FirstClass Server over TCP port 80. Include an exception to allow traffic from the ZENworks Mobile Management server by entering the IP address of the ZENworks Mobile Management server. ZENworks Mobile Management On-Demand users should contact Novell Technical Support for the range of IP addresses that should be entered for the exception.

8 Verifying Port Requirements and Port Connections

This section provides the port requirements for ZENworks Mobile Management integration into your environment. It also provides connection tests that you should perform before you begin the installation.

- ♦ [Section 8.1, “Port Requirements,” on page 31](#)
- ♦ [Section 8.2, “Port Connection Tests,” on page 31](#)

8.1 Port Requirements

Port numbers listed below are well-known default TCP port numbers. They might be different within your network.

Source	Destination	Port	Service
Devices	Web/HTTP	443	HTTPS
Web/HTTP	www.zmmupdate.novell.com	443	HTTPS
Web/HTTP	SQL DB	1433	ODBC-SQL
Web/HTTP	LDAP	636*	LDAPS
	SMTP server	465	SMTPS
Web/HTTP	ActiveSync Server	443	HTTPS
Web/HTTP	Apple Data Center Server	2195 and 2196*	HTTPS

* Not required unless you are using this feature

8.2 Port Connection Tests

Perform the following connection tests. If you do not get a *Connect Failed* message for a test, the port is open.

From	To	Command
Any device	ZENworks Mobile Management Web Server (port 443)	telnet <Web Server DNS> 443
ZENworks Mobile Management Web Server	Internet (port 443)	https://zmmupdate.novell.com

From	To	Command
ZENworks Mobile Management Web Server	LDAP Server (port 636)	telnet <LDAP Server IP> 636
ZENworks Mobile Management Web Server	SQL Server (port 1433)	telnet <Database Server IP> 1433
ZENworks Mobile Management Web Server	SMTP Server (port 465)	telnet <SMTP Server IP> 465
ZENworks Mobile Management Web Server	Apple Data Center (2195/2196)	telnet gateway.push.apple. com 2195 telnet gateway.push.apple.com 2196

9 Cleaning Up the Database

When devices make a connection to the ZENworks Mobile Management server, information regarding those connections is logged in the database and stored for potential troubleshooting purposes.

The amount of information that is logged depends upon several factors such as the number of users on the ZENworks Mobile Management server, the type of traffic being sent back and forth, the amount of logging taking place, and the frequency of device connection intervals. Over time, this information can build up in the database.

Administrators can use the Database Task Scheduler to set cleanup jobs to run at regular intervals in order to clear excess data and maintain optimal database performance.

- ♦ [Section 9.1, “Database Tables,” on page 33](#)
- ♦ [Section 9.2, “Adding a Database Task,” on page 34](#)
- ♦ [Section 9.3, “Task Parameters: Best Practices and Recommendations,” on page 36](#)
- ♦ [Section 9.4, “Managing Database Tasks,” on page 39](#)

9.1 Database Tables

The ZENworks Mobile Management database tables that can experience a rapid buildup of data are listed in the grid below. You can use the Database Task Scheduler to configure a cleanup task for each of these tables to maintain optimal database performance.

At the initial installation of the ZENworks Mobile Management server software, database cleanup tasks are enabled with recommended default parameters for a 1000-device system. Administrators of larger systems should adjust the task parameters according to the recommendations listed in the best practices guidelines in this document.

Tasks can be added, edited, or removed through the scheduler. You can also manually initiate a task so that it bypasses the frequency interval and runs immediately.

You can also use the task scheduler to schedule a customized SQL script to run at a regular interval.

Table Name	Description	Data Source
AirProxyLogs	Contains device sync logs.	User
APNTracking	Contains iOS APN request logs.	User
DatabaseTaskSchedulerLogs	Contains the database task scheduler traffic; records all tasks that executed successfully or that gave an error.	System
DataUsageLogs	Contains device traffic information.	User
DeviceLocations	Contains device location data.	User

Table Name	Description	Data Source
DeviceLogs	Contains logs retrieved from the device when device logging is enabled.	User
DeviceStatistics	Contains general device information.	User
ErrorChainLogs	Contains detailed error messages when an APN command isn't executed successfully.	User
iOSDeviceInformation	Contains specific device information related to an iOS device.	User
iOSDeviceNetworkInformation	Contains an iOS device's hardware address, phone number, SIM card and cellular information.	User
iOSInstalledApplications	Contains information about apps installed on an iOS device.	User
iOSInstalledCertificates	Contains information about all the certificates installed on an iOS device.	User
iOSInstalledConfigurationProfiles	Contains information about various configuration profiles installed on the iOS devices. It references two other tables, so deleting information from this table also deletes data from the iOSProfileSignerCertificates and iOSInstalledConfigurationProfilePayloads tables.	User
iOSMDMSyncLogs	Contains iOS APN traffic logs.	User
iOSSecurityInfo	Contains iOS device security information, such as encryption capabilities and whether the device is passcode protected.	
LicensingLogs	Contains server licensing logs.	System
MailMessageLogs	Logs records when a group email is sent from the dashboard.	System
MDMSyncLogs	Contains ZENworks Mobile Management device app logs.	User
PhoneLog	Contains device phone logs.	User
TextMessageLog	Contains device text message logs.	User
Warnings	Contains server and device warning logs.	System

9.2 Adding a Database Task

Administrators can access the Database Task Scheduler through the System view of the ZENworks Mobile Management dashboard. You must have full administrative login credentials.

In the ZENworks Mobile Management dashboard:

- 1 Select *System > System Administration > Database Task Scheduler*.
- 2 Select the *Task Type*:
 - ♦ Choose *Standard* to schedule a cleanup job for one of the database tables listed in the *Table Name* drop-down list.

The screenshot shows the 'Add Database Task' dialog box. The 'Task Type' is set to 'Standard' (selected with a radio button). The 'Task Name' field is empty. The 'Table Name' is selected from a dropdown menu showing 'Select One...'. The 'Cleanup Records Older Than' field is empty. The 'Cleanup Parameter Unit' is set to 'Days' (selected with a radio button). The 'Maximum # Of Records to Hold' field is empty. The 'Frequency' field is empty. The 'Frequency Unit' is set to 'Days' (selected with a radio button). The 'Enabled' checkbox is checked. The 'Stored Procedure' field is empty. A 'Finish' button is at the bottom right.

- ♦ Choose *Custom* to schedule a stored procedure or SQL script.

The screenshot shows the 'Add Database Task' dialog box. The 'Task Type' is set to 'Custom' (selected with a radio button). The 'Task Name' field is empty. The 'Table Name' is selected from a dropdown menu showing 'Select One...'. The 'Cleanup Records Older Than' field is empty. The 'Cleanup Parameter Unit' is set to 'Days' (selected with a radio button). The 'Maximum # Of Records to Hold' field is empty. The 'Frequency' field is empty. The 'Frequency Unit' is set to 'Days' (selected with a radio button). The 'Enabled' checkbox is checked. The 'Stored Procedure' field is empty. A 'Finish' button is at the bottom right.

- 3 Specify a task name. If you are creating a Custom task, skip to [Step 7](#).
- 4 Select the database table name from the drop-down list.
- 5 In the *Cleanup Records Older Than* and *Cleanup Parameter Unit* fields, specify a number and select *Days*, *Hours*, or *Minutes*.
This sets the maximum age for stored records. For example, if you enter 7 Days, the task deletes records older than 7 days each time it runs.
- 6 Specify the maximum number of records to hold.
This limits the number of records to store in the database table. If the task is configured to keep 7 days of information, but the records exceed the maximum, the oldest records are deleted until the maximum is reached. Valid entries are 0 through 999,999,999.
- 7 In the *Frequency* and *Frequency Unit* fields, specify a number and select *Days*, *Hours*, or *Minutes*.
This sets how often the task runs. For example, if you specify 1 Days, the task runs every day.
- 8 Select the *Enabled* box to activate the task.
- 9 If you are creating a Custom task, specify the name of the stored procedure. Verify that you have entered the name correctly.

If the Database Task grids shows that a custom task has not run, it is likely that the name of the stored procedure was entered incorrectly. Click the *Run Database Task* button and verify the *Last Runtime* field in the grid to test the stored procedure.

10 Click *Finish* to save the task.

9.3 Task Parameters: Best Practices and Recommendations

The best practices and recommendations for database cleanup task parameters are made with the assumption that systems have been configured according to the hardware requirements for scaling outlined in the *System Performance: Sizing and Tuning* guide.

- ♦ [Section 9.3.1, “Database Tables,” on page 36](#)
- ♦ [Section 9.3.2, “Recommended Cleanup Task Parameters for 1000-Device Systems,” on page 37](#)
- ♦ [Section 9.3.3, “Recommended Cleanup Task Parameters for Systems With More Than 1000 Devices,” on page 38](#)

9.3.1 Database Tables

The following sections provide information about database tables. This information can help you as you configure cleanup tasks to best meet the needs of your environment:

- ♦ [“Tables That Do Not Store Historical Data” on page 36](#)
- ♦ [“DeviceLocations Table” on page 37](#)
- ♦ [“iOSInstalledConfigurationProfiles Table” on page 37](#)

Tables That Do Not Store Historical Data

Because of rapid data accumulation, several tables in the database are configured, by default, to retain only the data from the last synchronization cycle of each device. The most recent values continuously replace data stored from the previous synchronization of each device. Historical data is not maintained. Tables that retain only the most recent values are:

- ♦ DeviceStatistics
- ♦ iOSDeviceInformation
- ♦ iOSDeviceNetworkInformation
- ♦ iOSInstalledApplications
- ♦ iOSInstalledCertificates
- ♦ iOSInstalledConfigurationProfiles (and tables it references)
- ♦ iOSSecurityInfo

If your organization wants to maintain historical data instead of only most recent values for these tables, you can run a script to remove these constraints and implement the recommended job parameters. If you elect to maintain historical data for these tables, you might need to reevaluate and scale your hardware configuration to accommodate the additional data.

NOTE: You should not keep historical data for these tables if you are using Microsoft SQL Express.

DeviceLocations Table

The DeviceLocations table can also accumulate data quickly when organizations elect to track device locations. If historical location data is not a necessity, this table can also be configured to store only data from the last synchronization cycle of each device. Currently, this is accomplished with a database script.

iOSInstalledConfigurationProfiles Table

The iOSInstalledConfigurationProfiles table references two other tables: iOSProfileSignerCertificates and iOSInstalledConfigurationProfilePayloads.

When information is deleted from iOSInstalledConfigurationProfiles, it is also deleted from these two tables. When only the most recent values are stored for iOSInstalledConfigurationProfiles, only recent values are stored for these two tables.

9.3.2 Recommended Cleanup Task Parameters for 1000-Device Systems

The following table provides the recommended cleanup task parameters for a system accommodating 1,000 devices.

Database tables designated with an asterisk (*) have default cleanup parameters that prevent user data from accumulating. Only data from users' last synchronization is stored. However, you can enable historical data collection for these tables by running a database script.

Database Table	Clean Up Records Older Than	Frequency	Maximum Number of Records to Hold (default parameters)	Maximum Number of Records to Hold (with history enabled)	Approximate Records per Device
AiProxyLogs	30 days	Daily	1,800,000	1,800,000	1,800
APNTracking	60 days	Daily	10,000,000	10,000,000	10,000
DatabaseTaskSchedulerLogs	30 days	Daily	300,000	300,000	System data is not affected by the number of devices
DataUsageLogs	30 days	Daily	100,000,000	100,000,000	100,000
DeviceLocations*	180 days	Daily	1,000	6,000,000	1 or 6,000
DeviceLogs	365 days	Daily	50	50,000	50
DeviceStatistics*	30 days	Daily	1,000	1,000,000	1 or 1,000
ErrorChainLogs	30 days	Daily	100	100,000	100
iOSDeviceInformation*	30 days	Daily	1,000	1,000,000	1,000
iOSDeviceNetworkInformation*	30 days	Daily	1,000	1,000,000	1,000
iOSInstalledApplications*	30 days	Daily	1 for every installed app on a device x 1000 devices	60,000,000	1 for every installed app on a device or 60,000

Database Table	Clean Up Records Older Than	Frequency	Maximum Number of Records to Hold (default parameters)	Maximum Number of Records to Hold (with history enabled)	Approximate Records per Device
iOSInstalledCertificates*	180 days	Daily	1 for every installed app on a device x 1000 devices	12,000,000	1 for every installed app on a device or 12,000
iOSInstalledConfiguration Profiles*	180 days	Daily	~6,000	36,000,000	~6 or 36,000
iOSInstalledConfiguration ProfilePayloads*	180 Days	Daily	~6,000	36,000,000	~6 or 36,000
iOSMDMSyncLogs	30 days	Daily	10,000	10,000,000	10,000
iOSSecurityInfo*	30 days	Daily	1,000	1,000,000	1 or 1,000
LicensingLogs	365 days	Daily	System data is not affected by the number of devices	500	System data is not affected by the number of devices
MailMessageLogs	365 days	Daily	500	500,000	500
MDMSyncLogs	30 days	Daily	1,000	1,000,000	1,000
PhoneLog	365 days	Daily	4,000	4,000,000	4,000
TextMessageLog	365 days	Daily	20,000	20,000,000	20,000
Warnings	30 days	Daily	250	250,000	250

9.3.3 Recommended Cleanup Task Parameters for Systems With More Than 1000 Devices

For systems accommodating more than 1,000 devices, the *Maximum # of Records to Hold* recommendations provided in [Section 9.3.2, “Recommended Cleanup Task Parameters for 1000-Device Systems,” on page 37](#) should be multiplied to arrive at a figure that accommodates multiples of one thousand devices. You can enter values up to 999,999,999.

For example, maximum records for the DataUsageLogs table should be configured as follows:

DataUsageLogs Table	Maximum Number of Records to Hold	Approximate Records per Device
1,000 Device System	100,000,000	100,000
5,000 Device System	500,000,000 (5 x 100,000,000)	100,000
10,000 Device System	999,999,999 - <i>enforced maximum</i> (10 x 100,000,000)	99,999

Likewise, the maximum records for the AirProxyLogs table should be configured as follows:

AirProxyLogs Table	Maximum Number of Records to Hold	Approximate Records per Device
1,000 Device System	1,800,000	2,000
5,000 Device System	9,000,000 (5 x 1,800,000)	2,000
10,000 Device System	18,000,000 (10 x 1,800,000)	2,000

9.4 Managing Database Tasks

Database tasks can be added, edited, or removed through the scheduler. You can also manually initiate a task so that it bypasses the frequency interval and runs immediately.

In the ZENworks Mobile Management dashboard:

- 1 Access the Database Task Scheduler by selecting *System Management > System Administration > Database Task Scheduler*.

The screenshot displays the 'Database Task Scheduler' window. On the left is a navigation pane with 'System Management' expanded, showing 'Database Task Scheduler' as the selected option. The main area contains a table of tasks and a configuration form for the 'DataUsageLogs' task.

Task Name	Table Name	Cleanup Re	Cleanup Param	Maximum # Of	Frequency	Frequency Unit	Enabled	Last Run Time
AirProxyLogs	AirProxyLogs	30	Days	2000000	1	Days	True	05/14
DatabaseTaskScheduler	DatabaseTaskScheduler	30	Days	2000000	1	Days	True	05/12
DataUsageLogs	DataUsageLogs	30	Days	9999999	1	Days	True	05/12
DeviceLogs	DeviceLogs	365	Days	50000	1	Days	True	05/12
ErrorChainLogs	ErrorChainLogs	30	Days	9999999	1	Days	True	05/12
IOSMDMSyncLogs	IOSMDMSyncLogs	30	Days	9999999	1	Days	True	05/12
LicensingLogs	LicensingLogs	365	Days	50000	1	Days	True	05/12

Configuration form for 'DataUsageLogs':

- Task Name: DataUsageLogs
- Table Name: DataUsageLogs
- Cleanup Records Older Than: 30
- Cleanup Parameter Unit: Days (selected)
- Maximum # Of Records to Hold: 9999999
- Frequency: 1
- Frequency Unit: Days (selected)
- Enabled: ☒
- Last Run Time: 05/12/2012 11:32 AM (-04:00 GMT)
- Next Run Time: 05/15/2012 8:07 AM (-04:00 GMT)

The Database Task Scheduler displays a grid of the standard and custom tasks that have been configured.

- 2 Manage the tasks as needed:

- ◆ Click *Add Database Task* to create a new task.
- ◆ Select a task from the grid, then click *Remove Database Task* to delete the task.
- ◆ Select a task from the grid, then click *Run Database Task* to run the task immediately. If a database task fails to run, check the DatabaseTaskSchedulerLogs database table for errors.
- ◆ Select a task from the grid, edit its parameters, then click *Save Changes*.

10 Moving the Database

Complete the tasks in the following sections to move the database:

- ♦ [Section 10.1, “Before You Begin,” on page 41](#)
- ♦ [Section 10.2, “Setting Up the New Database Server,” on page 41](#)
- ♦ [Section 10.3, “Moving the Database,” on page 42](#)
- ♦ [Section 10.4, “Completing and Verifying the Move,” on page 45](#)
- ♦ [Section 10.5, “Additional Steps,” on page 46](#)

10.1 Before You Begin

Back up the database on the original server.

If you will also be moving the ZENworks Mobile Management Web/HTTP component, back up the `MDM.ini` file on the Web/HTTP server. This file is found under the ZENworks Mobile Management directory. The default location is `C:\Program Files\Novell\ZENworks\mobile`.

10.2 Setting Up the New Database Server

- 1 Fully install the ZENworks Mobile Management server software to the new server.

In order to perform updates on the new server, both the ZENworks Mobile Management Web/HTTP component and the SQL database component must be installed.

- 2 Use the ZENworks Mobile Management Update Manager to patch the new system to the same version as the original system.

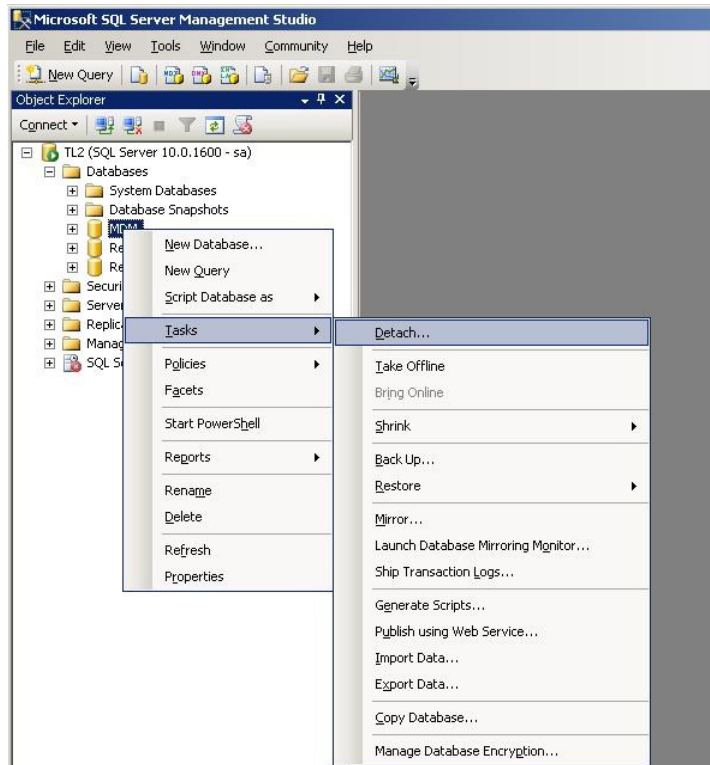
Both systems must be patched to the same version to successfully complete the database move.

- 3 If you are moving only the SQL database component and leaving the Web/HTTP component installed on the original machine, remove the Web/HTTP component from the new server after the Update Manager has patched the system.

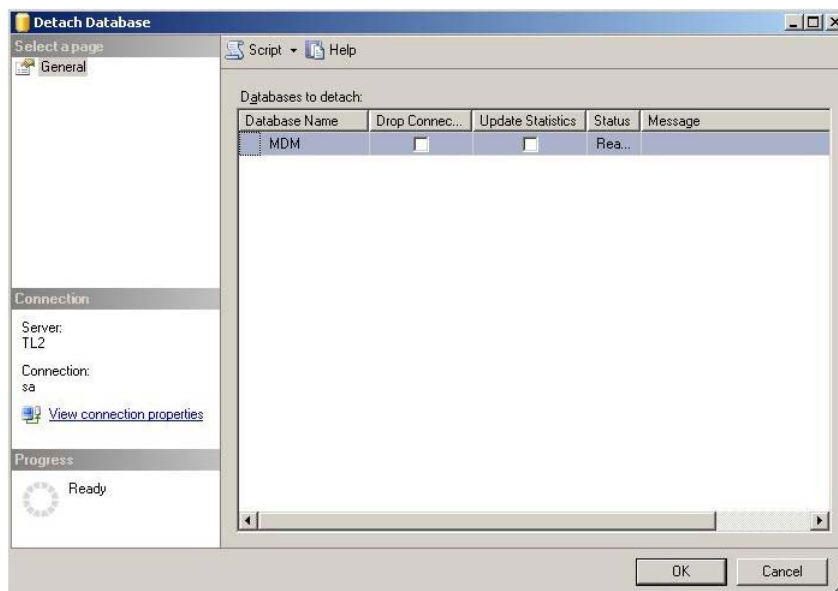
The remaining Web/HTTP component, wherever it is housed, points to the new SQL component location and facilitates any future updates.

10.3 Moving the Database

- 1 Stop IIS on the server where the Web/HTTP component resides.
- 2 Detach the database from the new server:
 - 2a Right-click the MDM database and select *Tasks > Detach*.

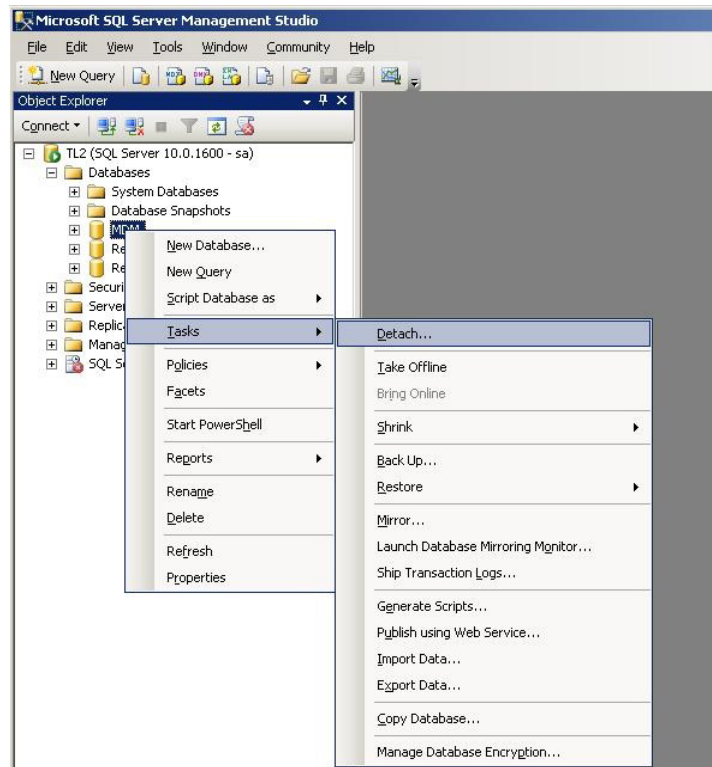


- 2b Select *OK* at the next screen to finish detaching the database.

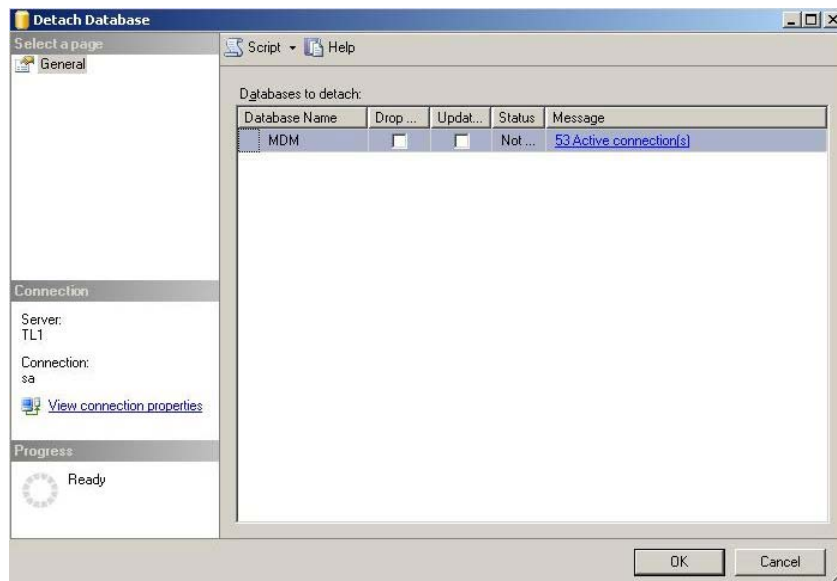


3 Detach the database from the original server:

3a Right-click the MDM database and select *Tasks > Detach*.

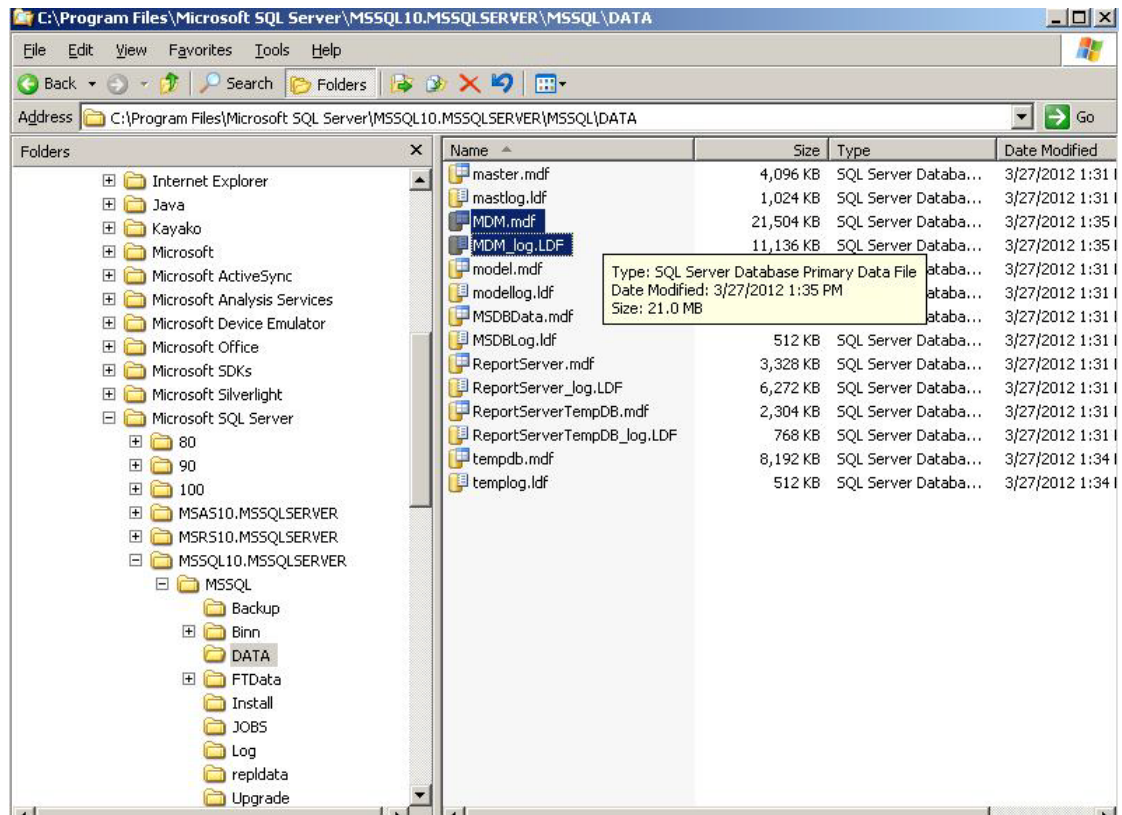


3b Select *OK* at the next screen to finish detaching the database.



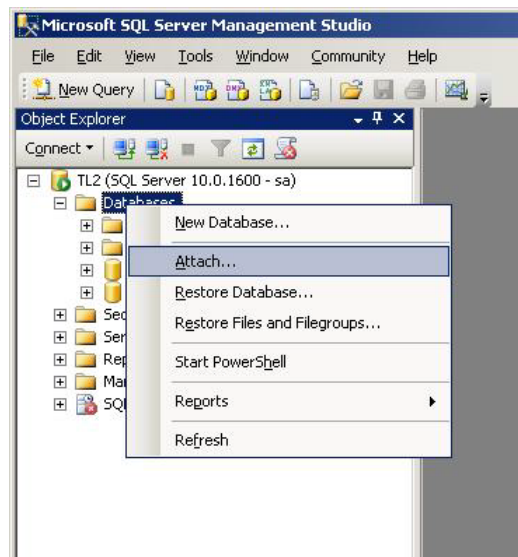
- 4 Move the MDM.mdf and MDM_log.ldf files from the original server to the new server:

The default directory is C:\Program Files\Microsoft SQL Server\MSSQL10.MSSQLSERVER\MSSQL\DATA.



- 5 Attach the database to the new server:

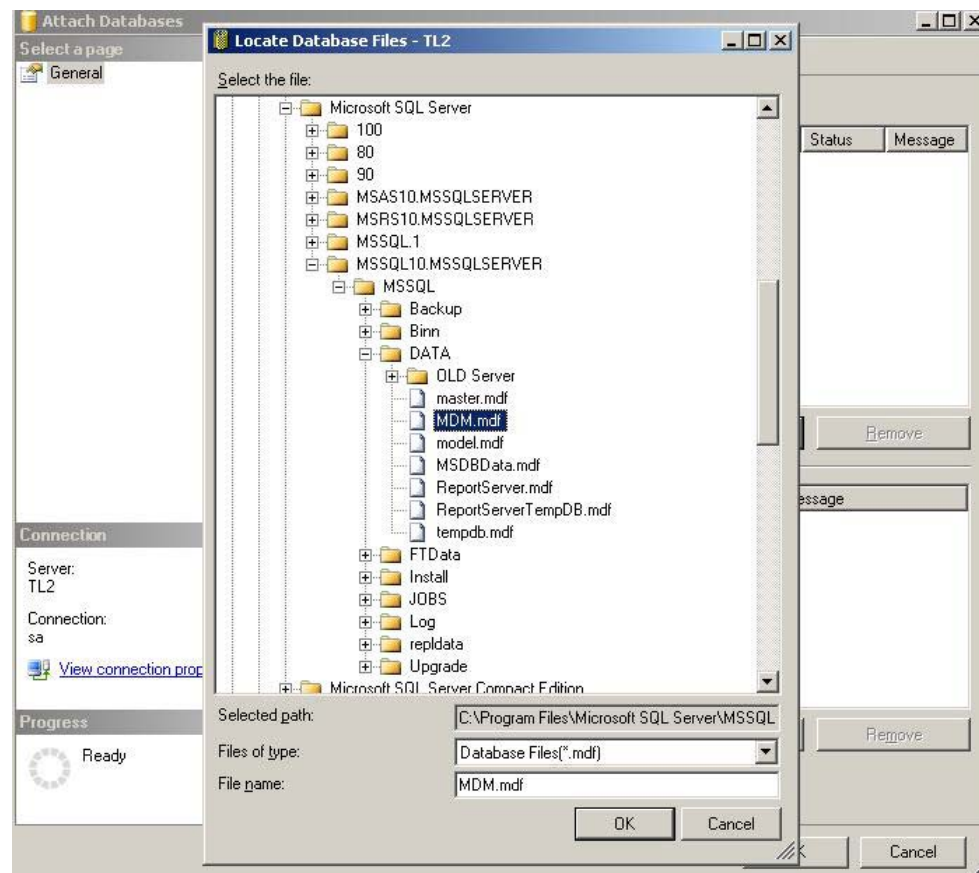
5a Right-click *Database* and select *Attach*.



5b In the Attach Databases dialog box, select *Add* to add the database to the server.

5c Locate the MDM.mdf file that you copied from the original server.

The default directory is: C:\Program Files\Microsoft SQL Server\MSSQL10.MSSQLSERVER\MSSQL\DATA.



- 5d Select OK to finish attaching the database.
- 6 If you are also moving the Web/HTTP component, you need to copy the MDM.ini file from the original system to the new system.
- 7 Update the MDM.ini file to point to the new SQL Server regardless of whether the Web/HTTP component remains on the original server or is moved to a new server. Contact Novell Technical Support for assistance in updating this file.

10.4 Completing and Verifying the Move

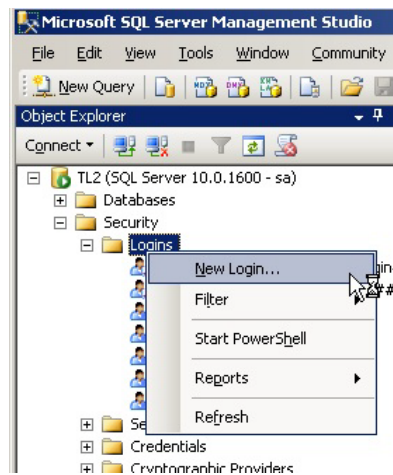
- 1 Start IIS on the Web server.
- 2 Perform an ODBC test from the Web server to ensure a successful connection to the database server.
- 3 Verify the new setup by logging into the ZENworks Mobile Management Dashboard and ensuring that devices are actively synchronizing.

10.5 Additional Steps

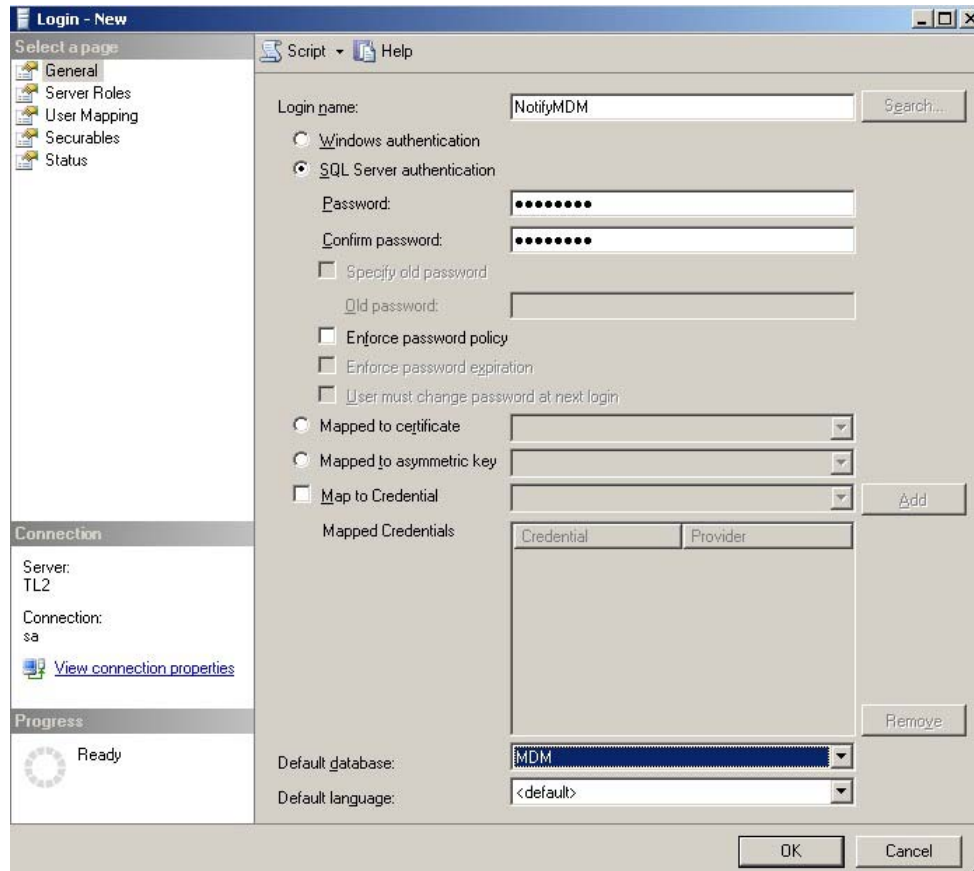
If you experience issues after completing the steps to move the database, you might need to remove and re-create the ZENworks Mobile Management user within SQL.

In the SQL Server Management Studio:

- 1 Delete the ZENworks Mobile Management user.
- 2 Re-create the ZENworks Mobile Management user:
 - 2a Right-click *Logins*, then select *New Login*.



2b Select *SQL Server Authentication* and set the password.

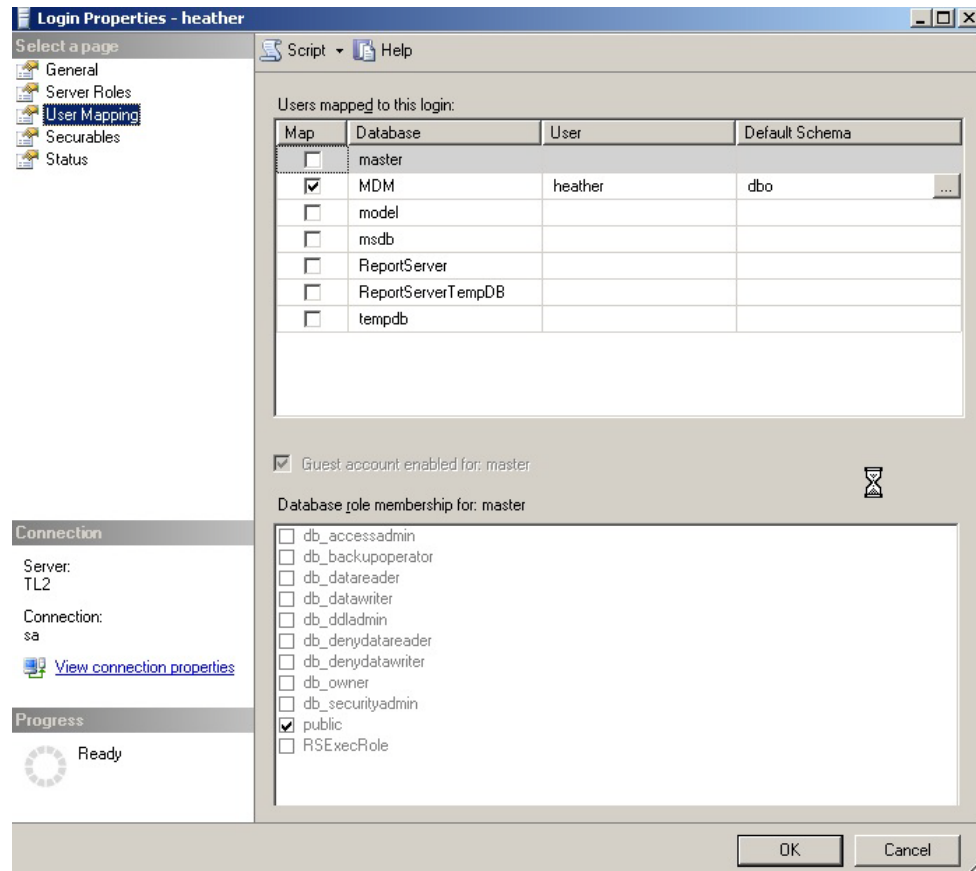


NOTE: If you do not remember the credentials you used previously, you can create a new user. Creating a new user requires you to update the username and password within the MDM.ini file. Contact Novell Technical Support for assistance in updating the file.

2c Deselect the *Enforce password policy* option so it does not change.

2d Set the *Default Database* to MDM.

2e Click *User Mapping*, then verify that *MDM* is selected.



2f Click *OK* when finished.