

Distributing ZENworks Mobile Management for iOS as an Enterprise Application

ZENworks® Mobile Management 2.9.x

August 2014

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 © 2012-14 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 Why Distribute an Enterprise App?	7
2 Prerequisites	9
3 Creating an Enterprise App	11
4 Distributing an Enterprise App	15
5 Renewing the Distribution Certificate	17
6 Renewing the Provisioning Profile	19
6.1 Obtaining a New Provisioning Profile.....	19
6.2 Distributing the New Profile	19

About This Guide

The *Distributing ZENworks Mobile Management as an iOS Enterprise Application* guide helps you set up the ZENworks Mobile Management device application to be distributed to iOS devices from your enterprise environment rather than the App Store. The information in this guide is organized as follows:

- ◆ Chapter 1, “Why Distribute an Enterprise App?,” on page 7
- ◆ Chapter 2, “Prerequisites,” on page 9
- ◆ Chapter 3, “Creating an Enterprise App,” on page 11
- ◆ Chapter 4, “Distributing an Enterprise App,” on page 15
- ◆ Chapter 5, “Renewing the Distribution Certificate,” on page 17
- ◆ Chapter 6, “Renewing the Provisioning Profile,” on page 19

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 Full Disk Encryption is supported by other documentation (in both PDF and HTML formats) that you can use to learn about and implement the product. For additional documentation, see the [ZENworks Mobile Management 2.9 documentation Web site \(http://www.novell.com/documentation/zenworksmobile29\)](http://www.novell.com/documentation/zenworksmobile29).

1 Why Distribute an Enterprise App?

The ZENworks Mobile Management application for iOS devices is available in the Apple App Store. In accordance with Apple privacy regulations, however, App Store applications do not permit background processing to initiate a connection to a server for the purpose of tracking statistics. Thus, the ZENworks Mobile Management application obtained from the App Store requires iOS users to initiate synchronization of user/device statistics and location data by opening the application at least once a day.

Since Enterprise (proprietary, in-house) applications do not fall under the same privacy regulations as App Store applications, you can opt to distribute the ZENworks Mobile Management application for iOS devices as an Enterprise app. Applications distributed in this manner can run on a device in the background without user interaction. Synchronization of user/device statistics and location data occurs automatically at a frequency determined by the device connection schedule.

Distribution Options

Novell hosts an Enterprise app that you can distribute to your users. It is located on the [Novell ZENworks Mobile Management application site \(https://zmmupdate.novell.com/apps/\)](https://zmmupdate.novell.com/apps/). Any of your organization's mobile management users can access this site to install the application.

If you have security restrictions or other requirements that are not met by using the Novell-hosted Enterprise app, you can create and distribute your own Enterprise app. This requires that your organization maintain an annual Apple iOS Developer Enterprise Program (iDEP) membership. Novell will work with organizations who want to pursue this solution. If you have questions not covered in this documentation, please contact Novell Technical Support.

Tips for Using the Application Hosted in the App Store

If you choose not to distribute the device application as an Enterprise app, you should do the following to ensure the most effective use of the App Store application:

- ◆ Instruct users to initiate the synchronization of user/device statistics and location data by opening the ZENworks Mobile Management app daily and allowing it to complete a synchronization cycle.
- ◆ If you use the Compliance Manager to restrict devices that do not make ZENworks Mobile Management connections or update location data, you might want to set the parameters for certain restrictions more liberally for iOS devices. This prevents iOS users from being easily restricted because of infrequent ZENworks Mobile Management connections or location data updates. Configure the following *Device Platform Restrictions* settings for iOS devices accordingly:
 - ◆ *Restrict user ZENworks connections*
 - ◆ *Restrict if location not updated*
 - ◆ *Restrict if policy out of date*

2 Prerequisites

Before you can create a ZENworks Mobile Management for iOS Enterprise app, you must complete the following prerequisites:

- Have an Apple Enterprise Developer account.

For information about obtaining an account, see the [iOS Developer Enterprise Program site \(https://developer.apple.com/programs/ios/enterprise/\)](https://developer.apple.com/programs/ios/enterprise/).

- Have a Macintosh machine with Xcode and the iOS 5.0 SDK installed.

You create your Enterprise app by modifying and rebuilding the Enterprise app provided in the ZENworks Mobile Management iOS Enterprise App Toolkit. The Enterprise app is built with the iOS 5.0 SDK and must be modified and rebuilt with that same SDK.

- Download the [ZENworks Mobile Management 2.9.1 iOS Enterprise App Toolkit \(https://download.novell.com/Download?buildid=qGkzgoBZDXg~\)](https://download.novell.com/Download?buildid=qGkzgoBZDXg~).

- Extract the toolkit (ZMM iOS Enterprise App Toolkit v2.9.1.zip) to a location on the Macintosh machine. The files extracted from the toolkit are:

- ◆ ZENworks.ipa
- ◆ ZMM.html
- ◆ ZMM.plist

3 Creating an Enterprise App

Novell hosts an Enterprise app that you can distribute to your users. It is located on the [Novell ZENworks Mobile Management application site \(https://zmmupdate.novell.com/apps/\)](https://zmmupdate.novell.com/apps/). Any of your organization's mobile management users can access this site to install the application.

If you have security restrictions or other requirements that are not met by using the Novell-hosted Enterprise app, you can create your own Enterprise app. This requires that your organization maintain an annual Apple iOS Developer Enterprise Program (iDEP) membership.

To create your own Enterprise app:

- 1 Make sure you have completed all prerequisites.
For details, see [Chapter 2, "Prerequisites,"](#) on page 9.
- 2 Create an App ID for your Enterprise app.
For help, see the [App Distribution Guide \(http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html\)](http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html) in the iOS Developer Library.
- 3 Create a Distribution Provisioning Profile.
For help, see the [App Distribution Guide \(http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html\)](http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html) in the iOS Developer Library.
- 4 Create a Distribution Certificate and add the certificate and private key to your Macintosh machine's keychain.
For help, see the [App Distribution Guide \(http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html\)](http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html) in the iOS Developer Library.
- 5 On the Macintosh machine, open a Terminal window.
- 6 Run the following command to unzip the `ZENworks.ipa` file:

```
unzip ZENworks.ipa
```

The `ZENworks.ipa` file is the Enterprise app. The file is included in the ZENworks Mobile Management iOS Enterprise App Toolkit that you should have download as part of the [prerequisites](#).

Unzipping the file creates a `Payload` directory that contains the Enterprise app.

- 7 Add your App ID to the `Info.plist` file. To do so:
 - 7a Change to the `Payload/ZENworks Mobile Management.app` directory.
 - 7b Run the following command to add your App ID to the `Info.plist` file:

```
/usr/libexec/PlistBuddy -c "Set :CFBundleIdentifier AppID" Info.plist
```

An App ID has two parts: the bundle seed ID and the bundle ID search string. If the App ID is `Y8HG65H76G.com.Novell.ZENworksMobileManagement`, the bundle seed ID is `Y8HG65H76G` and the bundle ID search string is `com.Novell.ZENworksMobileManagement`.

Use only your bundle ID search string for the *AppID* in the above command. Using the example App ID, the command would be:

```
/usr/libexec/PlistBuddy -c "Set :CFBundleIdentifier
com.Novell.ZENworksMobileManagement" Info.plist
```

7c Run the following command to convert the Info.plist file back to binary format:

```
/usr/bin/plutil -convert binary1 -o Info.plist Info.plist
```

8 Copy your Distribution Provisioning Profile to the Payload/ZENworks Mobile Management.app directory as embedded.mobileprovision. To do so:

8a Change to the Payload/ZENworks Mobile Management.app directory.

8b Run the following command:

```
cp path_to_your_provisioning_file embedded.mobileprovision
```

Replace *path_to_your_provisioning_file* with the path to your Distribution Provisioning Profile.

9 Code sign the Enterprise app. To do so:

9a Change to the Payload/ZENworks Mobile Management.app directory.

9b Run the following command to see the identity of the Distribution Certificate:

```
security find-identity -v -p codesigning
```

Take note of the Distribution Certificate identity.

9c Run the following command to code sign the application:

```
/usr/bin/codesign -f -s "dist_cert_identity" --resource-
rules=ResourceRules.plist "ZENworks Mobile Management"
```

Replace *dist_cert_identity* with the identity of your Distribution Certificate. For example:

```
/usr/bin/codesign -f -s "iPhone Distribution: Novell, Inc." --resource-
rules=ResourceRules.plist "ZENworks Mobile Management"
```

9d Enter the keychain password when prompted for it.

When signing is complete, a *Replacing invalid existing signature message* is displayed. Or, if you've signed the application more than once, a *Replacing existing signature message* is displayed.

10 Create the Enterprise app. To do so:

10a Change to the Payload directory.

10b Run the following command:

```
/usr/bin/xcrun -sdk "iphoneos5.0" PackageApplication -v "ZENworks Mobile
Management.app" -o "path_for_outputted_ZENworks.ipa_file" --embed
"path_to_your_provisioning_file"
```

Replace *path_for_outputted_ZENworks.ipa_file* and *path_to_your_provisioning_file* with the appropriate paths. All paths must be full paths; relative paths are not supported. For example:

```
/usr/bin/xcrun -sdk "iphoneos5.0" PackageApplication -v "ZENworks Mobile
Management.app" -o "/users/admin/desktop/ZENworks.ipa" --embed "/users/
admin/desktop/source/zenworksmobilemanagement.mobileprovision"
```

In the above example, the /users/admin/desktop/ZENworks.ipa file is your new Enterprise app.

11 Run the following command to validate the new Enterprise app:

```
codesign -dvvv "ZENworks Mobile Management.app"
```

The output should be similar to the following output:

```
Executable=/Users/build/ZMM_20120709/Enterprise/Payload/ZENworks Mobile  
Management.app/ZENworks Mobile Management  
Identifier=com.Novell.ZENworksMobileManagement  
Format=bundle with Mach-O universal (armv6 armv7)  
CodeDirectory v=20100 size=2212 flags=0x0(none) hashes=103+3 location=embedded  
Hash type=sha1 size=20  
CDHash=0bff00c9015fd75435d8ae2bffb318e03ef259a  
Signature size=4299  
Authority=iPhone Distribution: Novell Inc  
Authority=Apple Worldwide Developer Relations Certification Authority  
Authority=Apple Root CA  
Signed Time=Jul 12, 2012 11:04:53 AM  
Info.plist entries=34  
Sealed Resources rules=3 files=65  
Internal requirements count=1 size=336
```

Make sure that the Identifier is the one you entered in [Step 7](#) and that the Authority entry contains your Distribution Certificate identity.

4 Distributing an Enterprise App

Novell hosts an Enterprise app that you can distribute to your users. It is located on the [Novell ZENworks Mobile Management application site \(https://zmmupdate.novell.com/apps/\)](https://zmmupdate.novell.com/apps/). Any of your organization's mobile management users can access this site to install the application.

If you have created your own Enterprise app (see [Chapter 3, "Creating an Enterprise App," on page 11](#)), you need to distribute the Enterprise app by making it available on one of your organization's secure Web sites and then providing the URL to your users.

1 Collect the following three files:

- ♦ `ZENworks.ipa`: This is the Enterprise app created in [Chapter 3, "Creating an Enterprise App," on page 11](#).
- ♦ `ZMM.plist`: A text file that contains information that an iOS device needs to install the Enterprise app. You should have extracted the file from the ZENworks Mobile Management iOS Enterprise App Toolkit file (`ZMM iOS Enterprise App Toolkit v2.9.1.zip`) as part of the [prerequisites](#).
- ♦ `ZMM.html`: A simple html file that you can use as the Web page that users hit to download the Enterprise app. It contains a link to the `ZMM.plist` file. You should have extracted the file from the ZENworks Mobile Management iOS Enterprise App Toolkit file (`ZMM iOS Enterprise App Toolkit v2.9.1.zip`) as part of the [prerequisites](#).

If you don't want to use the `ZMM.html` file as the download page for your users, you can simply add the `ZMM.plist` link (shown in the `ZMM.html` file) to the Web page you want to use.

2 Modify the URL in the `ZMM.html` file to point to where the `ZMM.plist` file is hosted. For example:

```
<a href="itms-services://?action=download-manifest&url=http://www.novell.com/mobilemanagement/ZMM.plist">Install App</a>
```

Or, if you have embedded the link in another Web page rather than the `ZMM.html` file, modify the URL in that page.

3 Modify the `ZMM.plist` file:

- 3a** Change the URL in the following section to point to where your `ZENworks.ipa` file is hosted. For example:

```
<key>url</key>  
<string>http://www.novell.com/mobilemanagement/ZENworks.ipa</string>
```

- 3b** Change the bundle identifier in the following section to the identifier used when creating your Enterprise app. For example:

```
<key>bundle-identifier</key>  
<string>com.Novell.ZENworksMobileManagement</string>
```

If you have forgotten your identifier, see [Step 11 on page 12](#) for information about how to validate the Enterprise app to see the identifier.

- 3c** Verify that the bundle version matches the current application version. The application version for this release is 2.9.1. For example:

```
<key>bundle-version</key>  
  <string>2.9.1</string>
```

- 4** Post the three files to the appropriate locations on your Web server.
- 5** Access the `ZMM.html` file from an iOS device and install the application to test the process.

5 Renewing the Distribution Certificate

In order to distribute the Enterprise app, you must maintain an annual membership in the Apple iOS Developer Enterprise Program (iDEP).

In addition, you must renew your distribution certificate every three years. An expired certificate prevents you from distributing updates to the Enterprise app.

You should keep track of the expiration date because there is no automatic renewal notification as the date approaches.

Before your certificate expires, complete the following steps to renew it:

- 1 Log in to the [Apple iOS Dev Center \(https://developer.apple.com/devcenter/ios/index.action\)](https://developer.apple.com/devcenter/ios/index.action).
- 2 Click *Certificates, Identifiers, & Profiles* in the right navigation panel.
- 3 Follow the same procedure you used to initially create your distribution certificate and provisioning profile.
For help, see the [App Distribution Guide \(http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html\)](http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html) in the iOS Developer Library.
- 4 Download the renewed distribution certificate and provisioning profile.
- 5 When you receive an updated `ZENworks.ipa` file from which you want to create a new Enterprise app, use the renewed distribution certificate and provisioning profile. For instructions, see [Chapter 3, “Creating an Enterprise App,” on page 11](#).

6 Renewing the Provisioning Profile

An Enterprise application's provisioning profile expires yearly. This is true for both the Novell-issued Enterprise application and any in-house Enterprise application that you create.

For the Enterprise application on your user's iOS devices to continue functioning after the profile's expiration date, you must distribute a new provisioning profile to your iOS devices. The following sections provide instructions for doing so:

- ♦ [Section 6.1, "Obtaining a New Provisioning Profile,"](#) on page 19
- ♦ [Section 6.2, "Distributing the New Profile,"](#) on page 19

6.1 Obtaining a New Provisioning Profile

Use the appropriate method to obtain your new provisioning profile:

- ♦ **Novell Enterprise Application:** Download the new provisioning file from the [Novell ZENworks Mobile Management application site \(https://zmmupdate.novell.com/apps/iosprovision.html\)](https://zmmupdate.novell.com/apps/iosprovision.html).
- ♦ **In-House Enterprise Application:** Using your Apple iOS Developer Enterprise Program (iDEP) membership, update your current provisioning profile and download the new profile. For help, see the [App Distribution Guide \(http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html\)](http://developer.apple.com/library/ios/#documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html) in the iOS Developer Library.

6.2 Distributing the New Profile

- 1 Log in to the ZENworks Mobile Management dashboard.
- 2 Click *Organization > iOS Corporate Resources > Provisioning Profiles*.
- 3 Click *Add New Provisioning Profile* to display the Add New Provisioning Profile Wizard.
- 4 Provide the following information:

Display Name: Specify a name to identify the provisioning profile in the dashboard.

Provisioning Profile: Click Upload, then select the new provisioning profile.

Apply to Organization: Select this check box to apply the profile to all users in the organization.

Expiration (iOS 6+): By default, the provisioning profile includes an internal expiration date after which the Enterprise app will no longer function. On iOS 6 and newer devices, you can use this setting to expire and remove the profile sooner than the internal expiration date. The options are:

- ♦ *Never:* The profile expires and is removed only after its internal expiration date. This is the default.

- ♦ *On Date (UTC)*: The profile expires and is removed on the specified date.
- ♦ *After Interval*: The profile is removed after the specified number of days.

5 Click *Finish* to save the profile.

The next time a user's mobile device contacts the ZENworks Mobile Management server, the device's profile is updated to the new profile. If desired, you can instruct users to delete the old profile from their mobile device settings.

6 Wait a few days to ensure that the new provisioning profile is applied to devices, then delete the old provisioning profile (if one exists) from the list.

Deleting the old provisioning profile from the list causes the profile to be removed from users' devices. Users can also delete the profile themselves through the device settings.