Quest® Migration Manager for Active Directory 8.14

# Cached Credentials Utility

# Administrator Guide

Migration Manager for Active Directory Cached Credentials Utility Administrator Guide
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# Overview

One of the main goals for Migration Manager for Active Directory is to provide a seamless migration for your company while allowing employees (hereafter referred to as users) to maintain uninterrupted access to all their resources, regardless of whether the resources are being processed. The resource processing is performed to grant users migrated to the target domain the same privileges as they had in the source domain. For the vast majority of users, all the steps required to process resources properly are described in the *Migration Manager for Active Directory – Resource Processing Guide*.

However, for users that rarely work in the company's office, you may need to alter traditional migration process. Such remote users connect to the enterprise network through VPN from their laptops (or personal computers). The biggest challenge is to update and change the domain membership of remote users' computers while maintaining access to the enterprise network.

The Cached Credentials Utility (CCU) takes this challenge. The utility captures the users' credentials for the target domain, caches them while the user is logged on to the source domain and makes those credentials available once the user's computer changes domain membership. Steps required to configure the utility, deploy it and instruct end-users how to use it are described in this guide.

Additionally the CCU launches *Vmover* utility which is a part of Migration Manager for Active Directory to perform re-permissioning. This happens right before a laptop is moved to the target domain.

# Terminology

Throughout this guide, the following terms are used:

**Remote user** is a user that usually works outside the company's office.

**Remote computer** is a personal computer or a laptop the remote user uses to connect to the enterprise network through VPN.

**Administrator** is a person who configures the CCU installation package, deploys it to remote computers and instructs remote users how to use the utility.

# Getting Started

The CCU files are located on the Migration Manager installation CD in the *\QMMAD\Cached Credentials Utility* subfolder.

The following files reside at that location:

- **setup.msi** — CCU installation package to deploy on remote users' computers. For details, see Configuring CCU Installation Package.

- **cachecredconf.exe** — Utility that encrypts credentials of the account that will be used to move computers to the target domain.

- **update_msi.cmd** — Command file that is used to configure and generate the Setup.msi installation package. For details on adjustable parameters, see Technical Reference: Utility Configuration Parameters.

- **update_msi.js** — Auxiliary script used by update_msi.cmd.

- **cachecred.text.ini** — File containing localized message and caption descriptions that CCU will use. For details, see Providing Multilanguage Support.

The main part of CCU is a service which is meant to be installed on remote users' computers. The **setup.msi** installation package for this service must be configured according to your enterprise configuration and then deployed on remote users' computers.

# Supported Operating Systems

The Cached Credentials Utility is designed to be used in conjunction with Resource Updating Manager and compatible with all operating systems listed in the Resource Updating Manager Processed Platforms.

# How It Works

## *Problem Description*

Remote users that are working outside the enterprise office have to log on to their laptops or personal computers before they can connect to the enterprise network using VPN. To log the user on, user's credentials from the local cache are used. Once user's laptop or computer is moved to the target domain, he or she cannot log on to the laptop, because user's credentials in the target domain haven't been cached on the computer yet.

## *Solution*

The Cache Credentials Utility (CCU) provides a solution for that problem by caching the user credentials for the target domain, while the user is logged on to the source domain via VPN. The main part of the CCU is a service which is deployed to the remote users' computers. It is installed from a specifically pre-configured CCU installation package.

The general workflow for using the CCU is as follows:

1. The administrator (You in this case) configures the CCU installation package according to the enterprise environment specifics and sets the date when processing of the remote computers must be started. After configuration is completed, a CCU installation package with all specified settings will be generated.

2. After that administrator deploys the CCU installation package to remote users' computers and provides instructions how to use the utility.

3. The CCU service starts on a remote computer on date specified on step 1. If currently logged on user is found in a specified Migration Manager for Active Directory migration mapping file (vmover.ini file) he or she will be asked to enter password of the corresponding target user.

4. The utility checks whether the password is correct and if so the service will cache the target credentials in the registry of the corresponding remote computer.

5. After that, the utility will launch *Vmover* utility to process resources using the specified *vmover.ini* file.

6. On the last step, the remote computer is moved to the target domain by the Vmover utility.

! **CAUTION: Due to the specifics of working with cached credentials, the user's remote computer will need to be restarted twice after utility finishes processing. After that, CCU will be automatically removed except its log file.**

# Configuring CCU Installation Package

In this section you will adjust the Cached Credentials Utility settings according to your enterprise configuration and generate the corresponding CCU installation package that later will be deployed to remote users' computers.

For that, take the following steps:

1. From the command prompt, run **the cachecredconf.exe** utility with the `-encrypt` key to encrypt an account to be used to move remote computers to target domain:

```
cachecredconf.exe -encrypt "Domain\Username;Password"
```

> **i** | **IMPORTANT:** This account must have sufficient privileges to move computers to the target domain.

The value of the above output should be copied to the **JOIN_CRED** field on step 2.

2. Using a text editor of your choice, open **update_msi.cmd** file and change the following fields according to your needs:

- **MOVE_DATE** — The date in the *YYYY-MM-DD* format that defines when to move the remote users' computers to the target domain
- **TRG_DOMAIN** — NETBIOS name of target domain controller.
- **TRG_DOMAIN_DNS** — FQDN name of target domain controller.
- **MAP_FILE** — Full path to network share with read only access to **Everyone** where **vmover.ini** and **vmover.exe** files are located. For details, see Preparing Vmover Files.
- **JOIN_CRED** — Hash string obtained on step 1 that contains encrypted credentials of the account that will be used to move computers to the target domain.
- **DELETE_TARGET_PROFILE** - This parameter determines whether the solution must delete target user profile (if it exists). If the target profile is not presented, the Vmover utility will bind source user profile to the target user. By default, the profile is deleted (parameter value is 1).

> **i** | **TIP:** To get descriptions of all adjustable parameters in the **update_msi.cmd** file, see Technical Reference: Utility Configuration Parameters.

3. Once done editing the above file, save the changes and double click on it to generate the updated **setup.msi** file. When generation completes, follow the instructions provided in the Deploying the Utility.

*See also:*

Preparing Vmover Files
Providing Multilanguage Support

# Preparing Vmover Files

The utility uses the *Vmover* utility and its configuration file *vmover.ini* to perform resource processing. The vmover.ini file contains instructions for the Vmover utility and all the user and group mappings between source and target domains.

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The vmover.exe and vmover.ini files must be placed on the network share with **Everyone** having **Read** access rights. The path to this share is specified in the **MAP_FILE** parameter during configuration of the CCU installation package.

> **!** **CAUTION:** **Do not grant Write permissions on the network share where Vmover files will be located to anyone except for administrators responsible for performing migration.**

If you want to process both 32-bit and 64-bit computers, you will also need to create a vmover.cmd command file and place it on that network share.

### Locating the vmover.exe

The **vmover.exe** file is part of Migration Manager for Active Directory. You can find the **vmover.exe** file on a computer where Migration Manager is installed in the *%ProgramFiles%\Common Files\Aelita Shared\Migration Tools\Resource Updating\Agent* folder

> **i** **NOTE:** If the computer runs 64-bit version of Windows, replace *%ProgramFiles%* with *%ProgramFiles (x86)%*.

Copy the vmover.exe file to the network share specified above. Also create the *x64* folder on that share and copy the 64-bit version of vmover.exe located in the *x64* subfolder there.

### Exporting the vmover.ini

To export a new vmover.ini file from the Resource Updating Manager console and copy it to the network share, take the following steps:

1. In the Resource Updating Manager console, add all remote computers to a new collection.
2. Right-click on the collection and choose **Create Task | Processing**.
3. In the **Create Processing Task** wizard, specify the processing settings. Do not start the task.
4. Click on the **Tasks** tab in the right pane.
5. Right-click on the newly created task and select **Export Settings to File**.
6. Save the INI file in the desired location as *vmover.ini*.
7. Open the INI file in any text editor and verify that the settings are accurate and the file contains the desired objects only.
8. Finally, copy the vmover.ini file to the network share specified above.

> **!** **CAUTION:** **If new users or groups are migrated after the file is exported, a vmover.ini file needs to be re-exported in order to contain the new users or groups.**

### Creating the vmover.cmd

If you want to process both 32-bit and 64-bit computers, create a file named vmover.cmd on the same network share as where *vmover.ini*, *vmover.exe* and *x64\vmover.exe* files reside.

The vmover.cmd file should have the following content:

```
if "%ProgramFiles(x86)%"=="" goto execute

copy /y \\server\share\x64\vmover.exe %0\..\vmover.exe

:execute

%0\..\vmover.exe /c /ini=%1 /statefile=%2 /log=%2\..\vmover.log

del %0
```

Where *\\server\share* should be replaced with actual full path to the network share with Vmover files.

# Providing Multilanguage Support

The Cached Credentials Utility can be configured to allow user to choose language of the user interface. To specify text of messages and captions in different languages edit the *cachecred.text.ini* file. This file must be placed in the same location as Vmover files (for details, see Preparing Vmover Files).

**i** | **NOTE:** If the cachecred.text.ini file is not presented, the utility uses predefined messages and captions.

The cachecred.text.ini file contains sections with language identifiers and corresponding captions and messages. User will be prompted to choose language in the **Choose language** listbox right after installation of the CCU service on his or her computer.

**i** | **TIP:** If the file contains only one section the prompt will not appear.

For example the following fragment of file sets caption in English and Japanese:

```
[English]

event.check.caption = Cached Credentials Utility

[Japanese]

event.check.caption = キャッシュラップトップクレデンシャルユーティリティ
```

### *What can be changed*

The following messages and captions can be changed according to your needs:

```
[English]

event.check.caption = Cached Credentials Utility

event.check.message = Specify target user password to begin processing.

event.check.prompt = Password:

event.process.caption = Cached Credentials Utility

event.process.message = Resources are being processed ($step/13)\r\n$type -
$count\r\nPlease wait.

event.failed.caption = Cached Credentials Utility

event.failed.message = Resource processing completed with errors,\r\nCheck the log
file for details.\r\nWould you like to continue migration
anyway?\r\n=================================\r\n$result

event.success.caption = Cached Credentials Utility

event.success.message = Resource processing
complete.\r\n=================================\r\n$result

event.move.failed.caption = Cached Credentials Utility
```

```
event.move.failed.message = Failed to move computer to the target domain.\r\nFor
details see log files.\r\n%USERPROFILE%\Application Data\Quest
Software\CacheCred\cachecredui.log\r\n%ALLUSERSPROFILE%\Application Data\Quest
Software\CacheCred\cachecredsvc.log
```

```
reboot.join.message = Your computer will be now moved to the target domain, and
then restarted.
```

```
reboot.restore.message = Your computer is finalizing the migration process.
```

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# Deploying the Utility

The *setup.msi* configured on the previous step with all necessary settings needs to be deployed on remote users' computers. The way of deployment may vary depending on organizational factors and is not in the scope of this guide.

As a general recommendation, it is suggested to deploy the CCU installation package on users's computers in silent mode using any appropriate software deployment technology such as Group Policy.

> **i** | **NOTE:** To deploy CCU on a remote user's computer it is necessary to have administrative rights on that computer.

# Understanding User's Task

The CCU service deployed on remote user's computer starts on a date specified as the **MOVE_DATE** during configuration of the *setup.msi* package. The user must take the last steps so that the move of his or her computer to the target domain is completed.

The remote user's workflow is described below:

1.  On a date specified in the setup.msi, CCU starts on a user's computer.

2.  A dialog box prompting the user for the password appears.

3.  User must specify his or her password to the target domain and click **OK**.

4.  Then the user have to wait several minutes for the utility to complete its resource processing task. No further user interaction is required.

5.  After the resource processing completes, the system will be restarted twice.

**i** | **NOTE:** If user's current system runs slow, the second restart may take a couple of minutes.

# Troubleshooting: Check the Logs

If you experience any problems with the utility, check the logs. The utility will create the following two log files on remote computers:

- *%USERPROFILE%\Application Data\Quest Software\CacheCred\cachecredui.log*
- *%ALLUSERSPROFILE%\Application Data\Quest Software\CacheCred\cachecredsvc.log*

CCU also creates Vmover log files on network shares specified by the **SUCCESS_REPORT** and **ERROR_ REPORT** parameters. Note that the **Write** permission must be granted to **Everyone** for those network shares. For details, see corresponding parameter description in Technical Reference: Utility Configuration Parameters

### *Enabling extended logging*

If you need increase the logging level for a specific computer, take the following steps:

1. Open the **cachecred.ini** located at *%Program Files%\Quest\Cached Credentials Utility* or *%Program Files(x86)%\Quest\Cached Credentials Utility* with any text editor.

2. Change the following field values:
   ```
   svc.log.verbose = 5
   ui.log.verbose = 5
   ```

3. Save the changes and then restart the service.

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# Technical Reference: Utility Configuration Parameters

The following section describes configuration parameters that can be adjusted for the CCU installation package. For details on configuring them, see Configuring CCU Installation Package

These configuration parameters are defined in the *update_msi.cmd* file included as a part of the utility.

The parameters are divided into required parameters and optional parameters:

Required Parameters
Optional Parameters

# Required Parameters

- **MOVE_DATE** — The date in YYYY-MM-DD format that defines when to move the remote users's computers to the target domain.

- **TRG_DOMAIN** — NETBIOS name of target domain controller.

- **TRG_DOMAIN_DNS** — FQDN name of target domain controller.

- **MAP_FILE** — Full path to network share with read only access to **Everyone** where **vmover.ini** and **vmover.exe** files are located. For details, see Preparing Vmover Files

- **JOIN_CRED** — String containing encrypted credentials of the account that will be used to move computers to the target domain. This string is the output string of the **cachecredconf.exe** utility. For details, see step 1 of Configuring CCU Installation Package.

# Optional Parameters

- **DELETE_TARGET_PROFILE** {0|**1**} — Determines whether the solution must delete target user profile in case it exists. If the target profile does not exist, the Vmover utility will bind source user profile to the target user. By default, the profile is deleted.

- **PREPROC_ENABLE** {0|**1**} — Defines whether resources will be processed by Vmover (default value is 1). By default, processing is turned on.

- **TARGET_OU** — Specifies distinguish name of the OU to be used to create target computer accounts.

- **MOVE_ENABLE** {0|**1**} — Defines whether station will be moved to the target domain. By default, computer is moved.

- **SUCCESS_REPORT** — Full path to network share with write permission to **Everyone** where to save Vmover logs upon successful processing. File name may contain environment variables $COMPUTER and $STAMP (computer name and time stamp in the YYYYMMDDHHmmss format).
SamplePath: *\\cddom5dc\vmover_results\errors\$COMPUTER.$STAMP.txt*
Created log file: *\\cddom5dc\vmover_results\errors\CDDOM5SRV1.20121019165042.txt*

- **ERROR_REPORT** —Full path to network share with write permission to **Everyone** where to save Vmover logs generated on computers where any errors appeared during re-permissioning.

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**IMPORTANT:** Because every user will have write permissions on network shares specified by the **SUCCESS_REPORT** and **ERROR_REPORT** parameters, avoid using the same share as specified by the **MAP_FILE** parameter.

## *Changing default messages and captions*

To change messages and captions you can alter the following parameters or edit the *cachecred.text.ini* file, as described in the Providing Multilanguage Support.

The following messages and captions can be overridden:

- **CHECK_MESSAGE** — This message appears at the very beginning of processing. End user is requested to specify password of the target user to be cached. Default value is *Specify target user password to begin processing*".

- **PROCESS_MESSAGE** — Message that appears during resource processing. The default value is *Resources are being processed, please wait.\r\n====================================\r\n*.

- **SUCCESS_MESSAGE** — Message that appears after processing of resources is completed by Vmover, and right before CCU starts to move computer to target domain. By default, it is *Resource processing was completed*.

- **REBOOT_JOIN_TIMEOUT** — Restart timeout after computer is moved to the target domain (by default, 60 seconds).

- **REBOOT_JOIN_MESSAGE** — Message that appears before computer is moved to the target domain and restarted. The default value is *Your computer will be now moved to the target domain, and then restarted*.

- **MOVE_FAILED_MESSAGE** — Message that appears if CCU fails to move the computer to the target domain. Default value is *Failed to move computer to the target domain.\r\nFor details see log files.\r\n%USERPROFILE%\Application Data\Quest Software\CacheCred\cachecredui.log\r\n%ALLUSERSPROFILE%\Application Data\Quest Software\CacheCred\cachecredsvc.log*.

- **CAPTION** — General title for all windows. Default value is *Cached Credentials Utility*.

- **CHECK_CAPTION** — Title of the first window.

- **PROCESS_CAPTION** — Title of the process message window.

- **SUCCESS_CAPTION** — Caption of the window which appears after processing of resources is completed by Vmover, and right before CCU starts to move computer to target domain.

- **MOVE_FAILED_CAPTION** — Caption of the window which appears if CCU fails to move the computer to the target domain.

**TIP:** To start a new line you can use `\r\n` in the above messages.

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# About us

Quest provides software solutions for the rapidly-changing world of enterprise IT. We help simplify the challenges caused by data explosion, cloud expansion, hybrid datacenters, security threats, and regulatory requirements. We are a global provider to 130,000 companies across 100 countries, including 95% of the Fortune 500 and 90% of the Global 1000. Since 1987, we have built a portfolio of solutions that now includes database management, data protection, identity and access management, Microsoft platform management, and unified endpoint management. With Quest, organizations spend less time on IT administration and more time on business innovation. For more information, visit www.quest.com.

# Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at https://support.quest.com.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to-videos
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product