Release Note
RM Unify AD Sync v3 for CC4

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About this Release Note

This Release Note is written for network administrators who are installing and setting up RM Unify AD Sync v3 on a Community Connect 4 (CC4) network for the first time, or upgrading an existing installation of RM Unify AD Sync.

Do not use this Release Note if you want to install or upgrade RM Unify AD Sync on a standard Windows Server network without Community Connect network management tools, or on a CC3 network; use *Release Note: RM Unify AD Sync for Windows Server networks* instead.

About RM Unify AD Sync

What it does

RM Unify is a single sign-on system, application library and management system for Cloud services. Basic subscriptions are free, but in order to use RM Unify AD Sync your school must have an RM Unify Premium or RM SafetyNet User-Based Filtering subscription.

RM Unify AD Sync lets you synchronise your local school network user accounts with RM Unify, to ensure that students and school staff can access 'cloud' services with the same username and password that they use on the local school computers.

The RM Unify AD Sync Service monitors changes in the local Microsoft® Active Directory (AD) including password changes. When students, teachers or other users join your school, their network accounts can be automatically synchronised to data held in RM Unify. If a network account then changes, for example a student changes name, these changes will be synchronised up to RM Unify. When the time comes to delete user accounts, these will automatically be removed from RM Unify.

Components

You need to install two components to the product. These can be installed in different ways.

RM Unify AD Sync Service

This is installed on a single server. It searches the AD for changes to user accounts. This information, together with any password changes, is used to update its user database, which is synchronised up to RM Unify on the cloud.

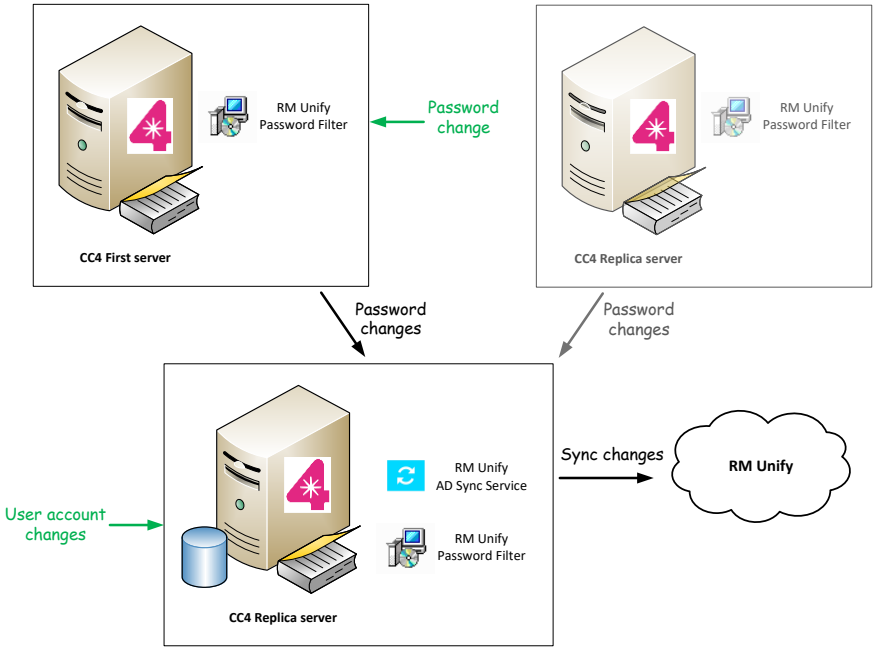
RM Unify Password Filter

This must be installed on all domain controllers (DCs) on the network, to capture any changes in users' passwords.

Example installations

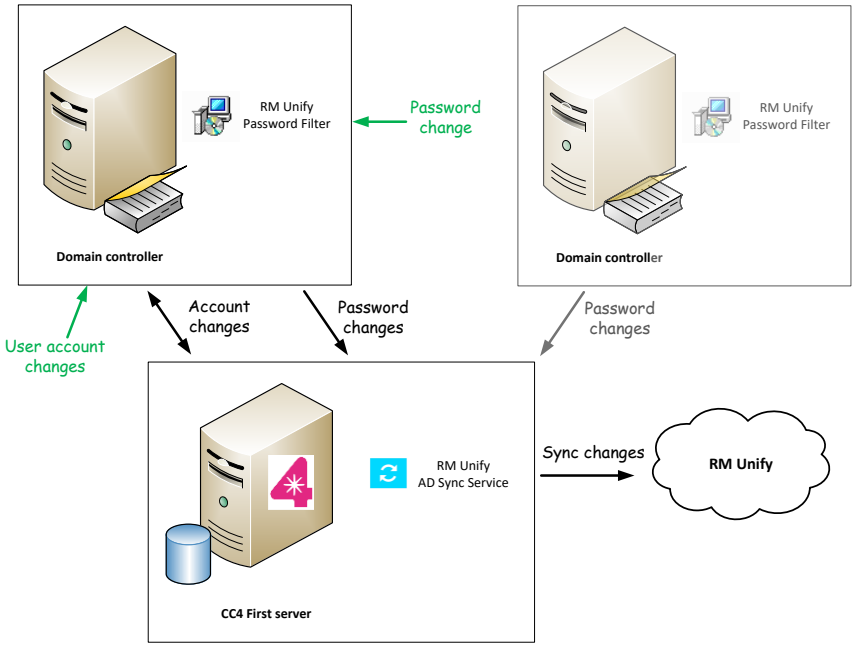
On a standard CC4 multi-server network, we recommend that you install RM Unify AD Sync Service on a CC4 Replica DC. RM Unify Password Filter is installed on all DCs including the First server.

Standard CC4 network



(If you have a single-server network, all components are installed on the CC4 First server.)

CC4 Matrix environment



In a CC4 Matrix environment – for example a network that has moved to CC4 via TEN (Tools for Existing Networks) – we recommend that you install the RM Unify AD Sync Service on the CC4 First server. RM Unify Password Filter is installed on all domain controllers – which does **not** include the CC4 First server in a CC4 Matrix environment.

Some important considerations

Data protection

The RM Unify AD Sync Service will connect to RM Unify from your local network and will transfer the following identity information to RM Unify:

- Active Directory objectGUID
- User credentials (Username and RSA-encrypted password)
- Name details (First name, Surname and Display Name)
- Role (Student, Teacher, Non-Teacher, Governor, Other)
- User account status.

Optionally, the following identity information can be transferred to RM Unify:

- Year of entry
- Email address.

RM Unify is hosted in the European Economic Area (EEA).

Please ensure that this data transfer is agreed with your local school Data Controller (usually the Headteacher).

Initial password synchronisation

To ensure that your users have synchronised passwords between the local network and RM Unify, after the installation you will need to force all your users to change their network passwords. This can be done by setting all user accounts to require a password change at the next logon.

This is because RM Unify AD Sync Service can only detect a user's password when it is changed, as Microsoft Active Directory stores all passwords in a non-reversible encrypted form. A user will not be able to log onto RM Unify until they have changed their password on the local network and this has been automatically synchronised to RM Unify.

If you are upgrading AD Sync, it is not necessary to force users to change their passwords.

Requirements

Both components of RM Unify AD Sync have several important prerequisites, although many servers will already meet these requirements. You must verify that all these are present before installing or upgrading RM Unify AD Sync.

For instructions, see ‘Appendix V: Installing prerequisites’.

Note If you do need to install prerequisites, please note that some of them require a **server reboot**. Please allow adequate time!

RM Unify AD Sync Service requirements

RM Unify AD Sync Service can be installed on a server that meets the following requirements:

- Operating system: WS 2008 R2, WS 2012 R2 or WS 2016

  Note Installation of the RM Unify AD Sync Service is not supported on WS 2008 R2 Server Core and WS 2012 Server Core.

- .NET Framework v3.5 SP1
  For instructions to check for its presence or install it, see ‘Installing .NET Framework version 3.5 SP1’.

- To reduce network traffic we recommend that you install RM Unify Sync Service on a domain controller, except in CC4 Matrix environments.

RM Unify Password Filter requirements

RM Unify Password Filter should be installed on all AD domain controllers in your network. Each DC must meet the following requirements:

- Operating system: Windows Server (WS) 2008, WS 2008 R2 Server Core, WS 2012, WS 2012 R2, WS 2012 Server Core or WS 2016.

- .NET Framework v3.5 SP1
  For instructions to check for its presence or install it, see ‘Installing .NET Framework version 3.5 SP1’.

- The appropriate version of **Microsoft Visual C++ 2010 Redistributable Package** for your server:

- *WS 2008 32-bit*
  Microsoft Visual C++ 2010 Redistributable Package (x86)

- *WS 2008 64-bit, WS 2008 R2 64-bit, WS 2012, WS 2012 R2, WS 2016*
  Microsoft Visual C++ 2010 Redistributable Package (x64)

For instructions to check for its presence or install it, see ‘Appendix V: Installing prerequisites’.

Installation scenarios

New install	V1 upgrade	V2 upgrade
•	•	•

The steps required to prepare for and complete the installation of RM Unify AD Sync v3 depend on whether you need to:

- Make a fresh installation of RM Unify AD Sync,
- Upgrade from of RM Unify AD Sync v2, or
- Upgrade from RM Unify AD Sync v1.

If you aren't sure what version of AD Sync is currently installed, see 'Appendix I: Identifying your current version of RM Unify AD Sync' for instructions.

Pre-installation tasks

Check which of the following tasks applies to you, and complete them in sequence.

A. Reboot your domain controllers

New install	V1 upgrade	V2 upgrade
•	•	•

We strongly recommend that you reboot your CC4 First server and then each of your domain controllers, one after the other. This will ensure that any pending software updates and configuration changes take place before you install RM Unify AD Sync, avoiding simultaneous updates that could interfere with the installation.

B. Remove RM Unify Password Filter

New install	V1 upgrade	V2 upgrade
	•	•

If you are upgrading RM Unify AD Sync from either v1 or v2, uninstall RM Unify Password Filter before you install AD Sync v3.

For full instructions, see 'Appendix III: Removing RM Unify Password Filter'.

C. Remove any version of AD Sync earlier than v2

New install	V1 upgrade	V2 upgrade
	•	

If you are upgrading RM Unify AD Sync from v1, you must uninstall RM Unify AD Sync Service before installing v3.

If you want to continue using the same user roles and proxy settings, then before you uninstall the old version of AD Sync we recommend that you save a copy of the **RM.Networks.IdentityManagement.Service.exe.config** file, for reference during the installation of version 3.

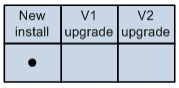
Notes

When you uninstall AD Sync version 1, user changes stop being uploaded to RM Unify. User changes will resume when you complete the configuration of version 3.

When you uninstall RM Unify Password Filter, password changes stop being captured. The capture of password changes will resume when you finish installing the new version of RM Unify Password Filter.

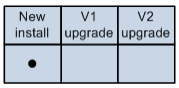
For full instructions, see ‘Appendix IV: Removing AD Sync Service v1’.

D. Choose your AD Sync server



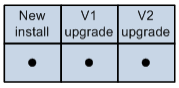
We do not recommend installing RM Unify AD Sync on your CC4 First server, unless it is the only server on your network or unless you have a CC4 Matrix environment. Otherwise, try to balance the traffic across your network by installing it on a Replica DC. You can also install it on a server that is not a DC, for example a member server, but this will increase the network traffic required for communication with Active Directory.

E. Ensure prerequisite software is installed



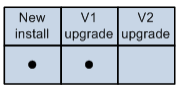
Find out in advance whether your servers meet all the ‘Requirements’ on page 6 before the day of installation, and refer to the appropriate instructions to see whether a server reboot is required and get an idea of the time required. Ensure all the prerequisite software is installed before you install or upgrade RM Unify AD Sync.

F. Back up your servers



RM Unify AD Sync will make changes to your server and Active Directory. Ensure that before installing this software you have an up-to-date backup of all your network servers, including System State.

G. Create CC4 security groups for users and admins



Follow the instructions below if you want to create Active Directory (AD) groups to control which users get access to RM Unify. These will provide useful filters if the Organisational Unit (OU) containers in your AD contain different types of user, or users from different establishments.

If you are upgrading RM Unify AD Sync from v2, you can skip this task.

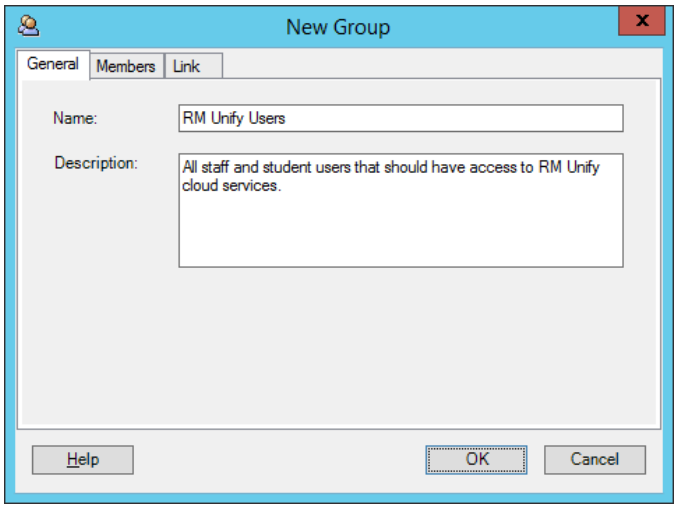
Note If you are upgrading from version 1.*x* of AD Sync, you **might not** have created the RM Unify Admins group yet.

For a single-site installation, create an RM Unify Users group and an RM Unify Admins group. For a multi-site installation, create two groups for each school (e.g., for a school with site code ABC, ‘RM Unify Users-ABC’ and ‘RM Unify Admins-ABC’).

1. Log on to the RM Management Console as a System Administrator.

2. In the left-hand pane, right click Security Groups and choose New Group.

3. On the General tab, enter the name **RM Unify Users** and enter a suitable description. Do not add any members at this stage.



4. Click OK to add the group.

5. Repeat steps 2–4 to create a group called **RM Unify Admins**.

H. Gather the required network information

New install	V1 upgrade	V2 upgrade
•	•	

If you are making a fresh installation of RM Unify AD Sync or upgrading from v1, you will need to have information about your network, either to enter manually or to confirm values that have been detected automatically. If you are upgrading RM Unify AD Sync from v2, you can skip this task.

Make a note of the following:

- The AD Domain Controller server name that will be used for identifying user changes.
  Where RM Unify AD Sync is being installed on a DC, use the local server name.

- Your proxy server or ISA server address and port number (if applicable).

> **Note** If your proxy server requires authentication (for example, a Microsoft ISA server), you will need to add an exception to ensure that your RM Unify AD Sync server is able to access **https://api.platform.rmunify.com/** anonymously. For instructions please refer to the supplier's documentation for your proxy server.

- The name of the CC4 group or groups that will be used to control access to RM Unify, created in task G above ('RM Unify Users').

- If you have a multi-site network that includes more than one establishment, you will need to provide details of the AD Organisational Units on which user searches will be based (see 'Appendix VI: Additional network information required for multi-site networks').

If, following the upgrade instructions, you have saved a copy of the **RM.Networks.IdentityManagement.Service.exe.config** file (see page 7), this will contain the required server name and proxy information.

Installing RM Unify AD Sync

To install or upgrade RM Unify AD Sync, check which of the following tasks applies to you, and complete them in sequence:

1. Install the RM Unify AD Sync Service

New install	V1 upgrade	V2 upgrade
•	•	•

This task is for all new installations and upgrades.
Please ensure you have completed all the 'Pre-installation tasks' that apply to you.

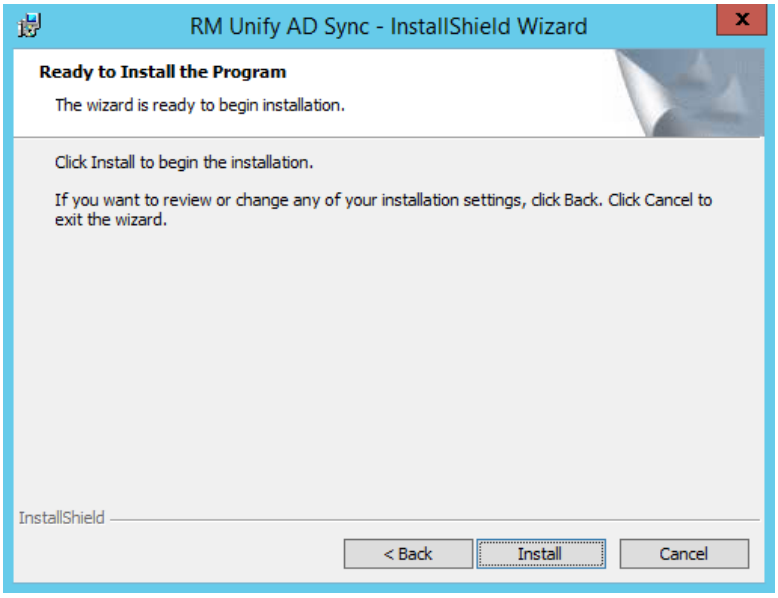
1. At the server you have chosen as the RM Unify AD Sync server, log on as the Windows administrator user (not as a CC4 system administrator).

2. Browse to the location where you extracted the files from the RM_Unify_AD_Sync_v3.zip download file. If the extracted files are not on this server, copy them to a convenient local folder.

3. Double-click the file **RM Unify AD Sync.msi** to launch the RM Unify Sync Service InstallShield Wizard.

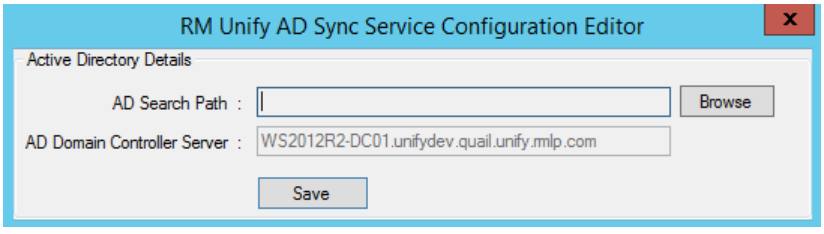
4. At the Welcome screen, click Next.

5. Accept the License Agreement and click Next.

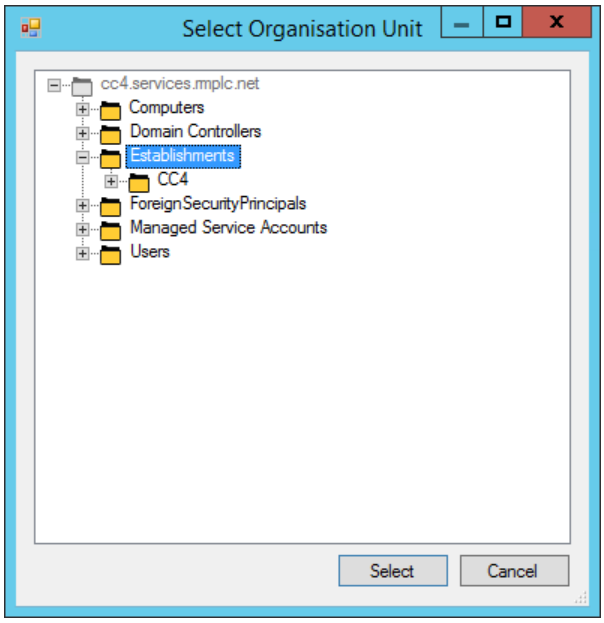


6. Click Install.

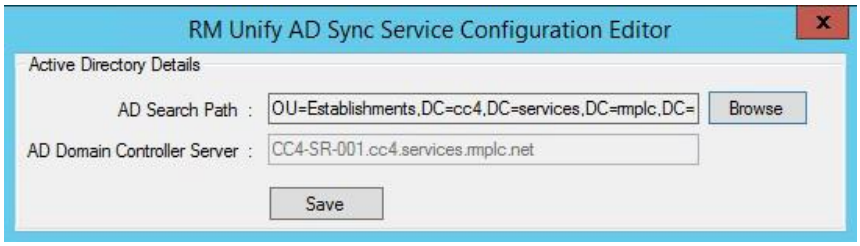
   - If you are upgrading from v2, go to step 9.
   - If you are installing AD Sync for the first time or upgrading from v1, the configuration Editor window is displayed.



7. You need to enter the base Organisational Unit that includes all the school network users who need accounts in RM Unify.
   Click Browse and then select the appropriate OU:



8. Click Select and then Save.



9. When the installation is complete, click Finish.

The RM Unify AD Sync Service has now been installed (or upgraded) and the service user **identitysyncservice** created.

2. Run the configuration tool for the first time

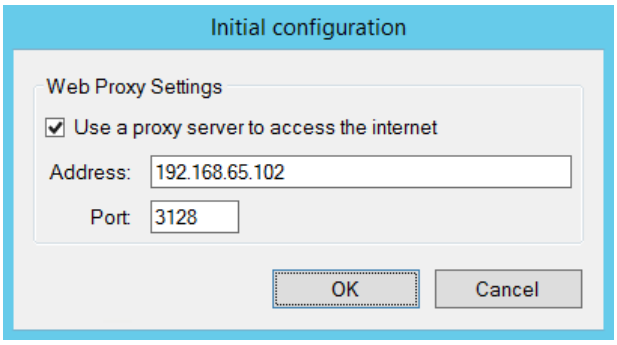
New install	V1 upgrade	V2 upgrade
•	•	

This task is for new installations and upgrades from v1, but **not** for upgrades from v2.

When you run the configuration tool for the first time, it will create the RM Unify AD Sync database and start the RM Unify AD Sync Service. This database is retained when you upgrade from v2 to v3.

1. From the Windows Start menu choose RM, RM Unify AD Sync, RM Unify AD Sync Config Tool.
   An RM Unify AD Sync Configuration Editor window is displayed.

2. In the 'Initial configuration' window, enter your proxy server details if required.

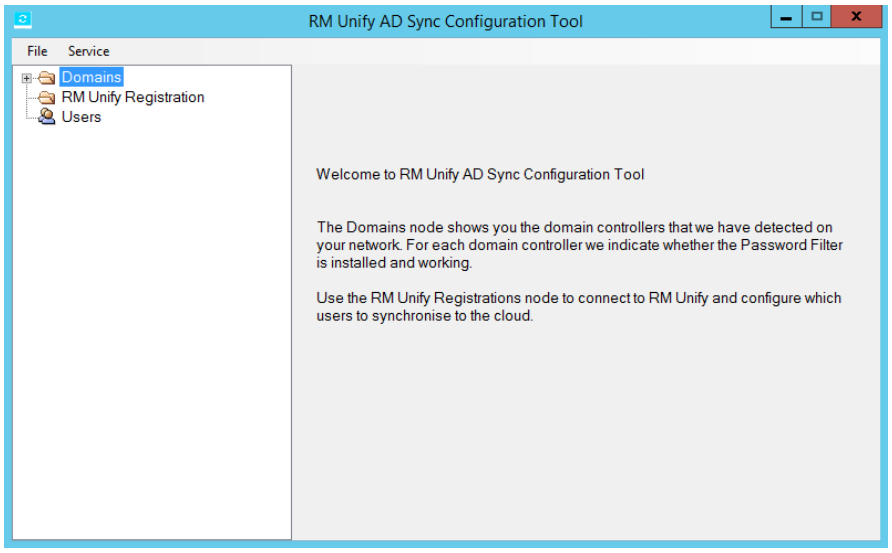


Note If you use a transparent proxy (such as SmoothWall®), it may need to be configured so that a non-transparent version is available for use with the RM Unify AD Sync Service. For instructions, please refer to your proxy documentation.

3. Click OK to start the RM Unify AD Sync Service.
   A message is displayed while it configures the database (this normally takes up a minute).

Note If the database configuration is taking excessive time, check the log files (in the LogFiles folder under the installation folder) for any error messages.

When the database configuration is complete, the RM Unify AD Sync Configuration Tool is displayed.



The next task is to register your RM Unify AD Sync Service with RM Unify. Leave the configuration tool open while you do this.

3. Register your school network with RM Unify

New install	V1 upgrade	V2 upgrade
•	•	

This task is for new installations and upgrades from v1, but **not** for upgrades from v2.

RM Unify provides a registration process that allows you to connect your instance of RM Unify AD Sync to the RM Unify Provisioning service. If you're upgrading from v1 you will need to generate a new code and re-register.

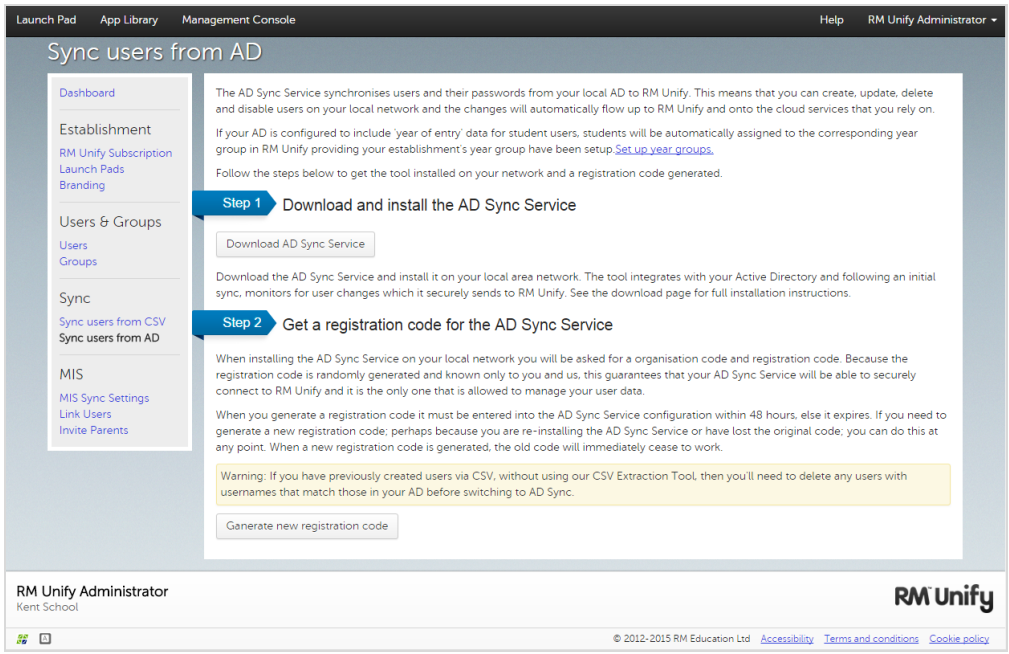
► To register your RM Unify AD Sync service with the RM Unify service

1. Log on to RM Unify as an RM Unify Administrator user.

> **Note** If you are configuring AD Sync for a multi-site AD (where several school establishments share the same AD), log in as the RM Unify administrator for the parent establishment. Your parent establishment will have been created by RM and is used to administer your cluster of schools. We will advise you which is your parent establishment when we send you the sign in credentials for all of your RM Unify establishments. Please contact RM Cloud Support if you are not sure which is your parent establishment.

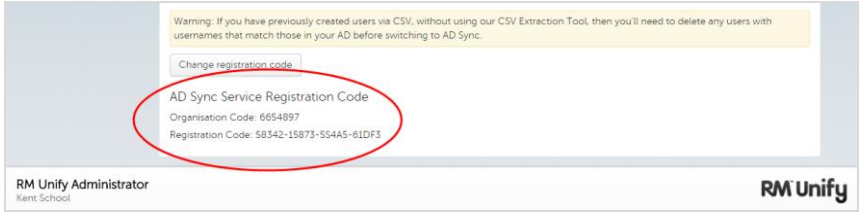
2. In the top menu select Management Console.

3. In the left pane click 'Sync users from AD'.



4. Click Generate New Registration Code (new installations) or Change Key (upgrades).

   A registration code is displayed, with the format
   XXXXX-XXXXX-XXXXX-XXXXX
   where *X* is a letter or number.



5. You will need to enter this registration code and your organisation code in the AD Sync Configuration Tool, as follows.
   Leave this window open, so you can copy and paste the values.
   Alternatively, make a note of both codes.

6. Log on to your RM Unify AD Sync server as a domain Administrator (not a CC4 system administrator).

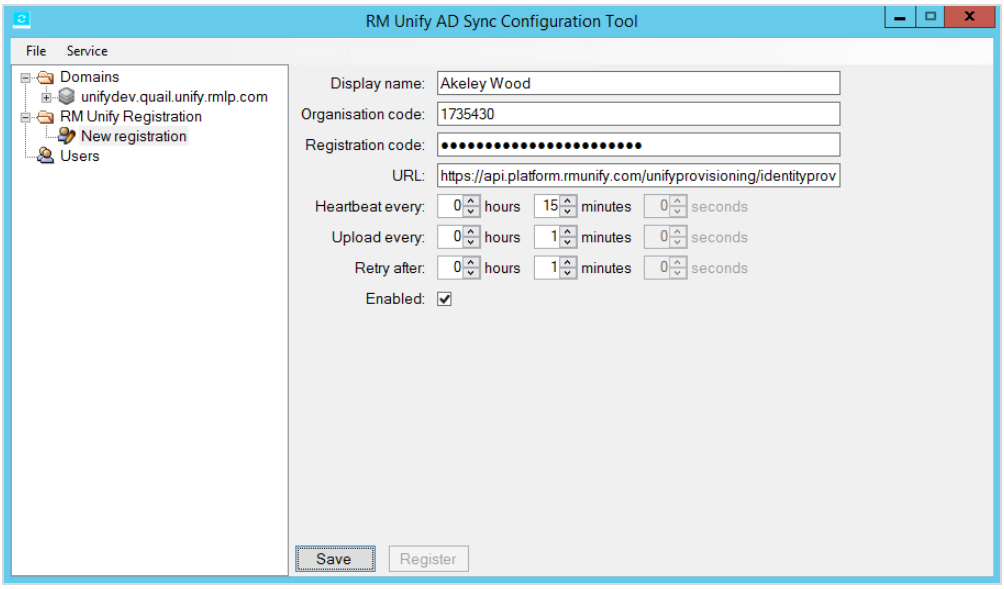
7. Return to the RM Unify AD Sync Configuration Tool.

   In the left-hand pane of the configuration tool, select 'RM Unify registrations', right-click and choose 'New registration'.

8. Enter the required values for registration:

- Enter a Display name to identify this registration.
  We recommend using the organisation's display name.

- Enter your Organisation code, and the Registration code including dashes.
  You can copy and paste these from RM Unify if the window is still open.



Note If you have a multi-site installation where several school establishments share the same AD, you only need to register once, using the parent establishment. Once that has been successfully registered, this tool will automatically display all child schools with Premium subscriptions that are linked to the parent.

9. Ensure the Enabled check box is ticked; then click Save and then Register.

10. At the 'successful registration' message, click OK.
    (If registration was not successful, check the log files for any error messages. You can find these in LogFiles under the installation folder).

When the registration process is complete, your establishment is displayed (and any child schools if applicable) in the tree under the new RM Unify registration.

The next task is to configure your establishment(s).

4. Configure an establishment

New install	V1 upgrade	V2 upgrade
•	•	

This task is for new installations and upgrades from v1, but **not** for upgrades from v2.

You need to configure these three aspects of your establishment:

- Each establishment can configure one or more AD filters, to specify which users should be uploaded to RM Unify. You may find it helpful to start with two filters, one for RM Unify Users and one for RM Unify Admins.

  Each filter consists of a container in the Active Directory and an optional group.

  - If no group is specified, all users in the container will be uploaded to RM Unify.
  - If a group is specified – e.g. RM Unify Users, if you are registering a single site – only those users that are in both the container and the group will be uploaded.

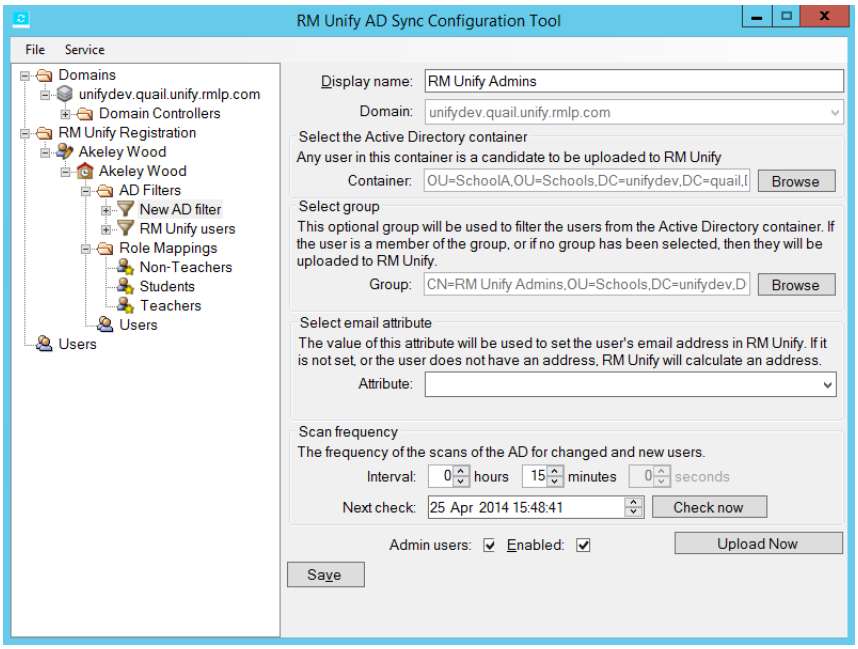
Note In this version of AD Sync, users need not be 'direct' members of the specified group: they can be in a sub-group.

- Each establishment also needs a set of role mappings, to specify the role of each user in RM Unify. If a user is not assigned any role in RM Unify, they will not be uploaded.
- If the 'Year of Entry' used by your establishment is not the year that the student entered the education system, this can cause third-party applications to assign users to the wrong year group. RM Unify AD Sync lets you apply a year of entry offset to avoid such issues.

These settings are configured in the RM Unify AD Sync Configuration Tool.

► **To configure an establishment**

1. In the left-hand tree, select the establishment you want to configure.
2. In the right-hand pane, confirm that the Enabled check box is ticked and click Save.
3. In the left-hand tree, right-click the establishment and choose 'New AD filter'.



4. Configure the values as follows, to specify a set of required users:

   - Enter a Display name to identify this AD filter.

   - Under ‘Select the Active Directory container’, enter the distinguished name of the AD OU that contains the users. Alternatively, click the Browse button to locate and select the container you require.

   - Under ‘Select group’, click Browse to locate and select the group that contains the users, e.g. RM Unify Users.
     You created this group in pre-installation task G (see page 8).
     If no group is required, leave the group text box blank.

   - RM Unify can be linked to a cloud email service, as with Office 365 or Google Apps.
     If you want to manage your user email addresses in your AD, then under ‘Select email attribute’, select or enter the name of the source attribute (e.g., ‘mail’).

Note By configuring the ‘Select mail attribute’ value in the Configuration Tool, you are instructing RM Unify to use the email address stored in that attribute. If your AD contains an incorrect email address for a user, that user will not be able to log into their Office 365 or Google Apps cloud email service.

If you don’t want to configure the ‘Select mail attribute’ setting, leave it blank. RM Unify will then provision your cloud email address using the format
<AD account name>@<cloud email domain>.

   - If these users should be admin users in RM Unify, tick the ‘Admin users’ check box.

Note All admin users must also be assigned to a role, using role mappings.

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5. When you have finished, click Save.

6. Repeat steps 3–5 to add additional AD filters as required, to specify all the users that must be uploaded.
   A user may match more than one AD filter (see following Note).

7. Verify that your AD filters are listed in the appropriate order.

Note Users are uploaded using the first AD filter they match (provided they have been mapped to an RM Unify role in the establishment). Filters are applied in their list order. The list order is applied across the establishment.

If you need to change the order of any AD filters, click the AD Filters node of the establishment and use the up/down buttons to re-order the filters as required.

The next step is to configure appropriate User Role Mapping rules for your network. You can enable a set of default mapping rules, and also add, edit and delete mapping rules as required.

About User Role Mappings

RM Unify supports five user roles for automated provisioning:

- Students
- Teaching Staff
- Non-Teaching Staff
- Governor
- Other

CC4 networks support additional user types, for example System Administrators and Associates. You can map multiple local roles to a single RM Unify role. For example, you might choose to map Associate user types to the RM Unify Non-Teaching Staff role, instead of using the default mapping to 'Other' (see 'Appendix VII: Default CC4 user role mappings').

RM Unify AD Sync provides three methods to map the user accounts in your network to these RM Unify user roles. The default method for CC4 networks is Profile Path. Users are mapped to RM Unify roles by looking for the Windows share name string in the user's profile path. This works well for CC4 networks, which use specific share names for different user types (for example, 'RMStudentProfiles'). For other mapping options see 'Appendix VIII: Alternative mapping types'.

8. If you want to use the default CC4 role mappings, select the establishment in the left-hand tree, right-click and choose 'Add default CC4 role mappings'.

   The default CC4 role mappings are added. You can view them by expanding the Role Mappings node.

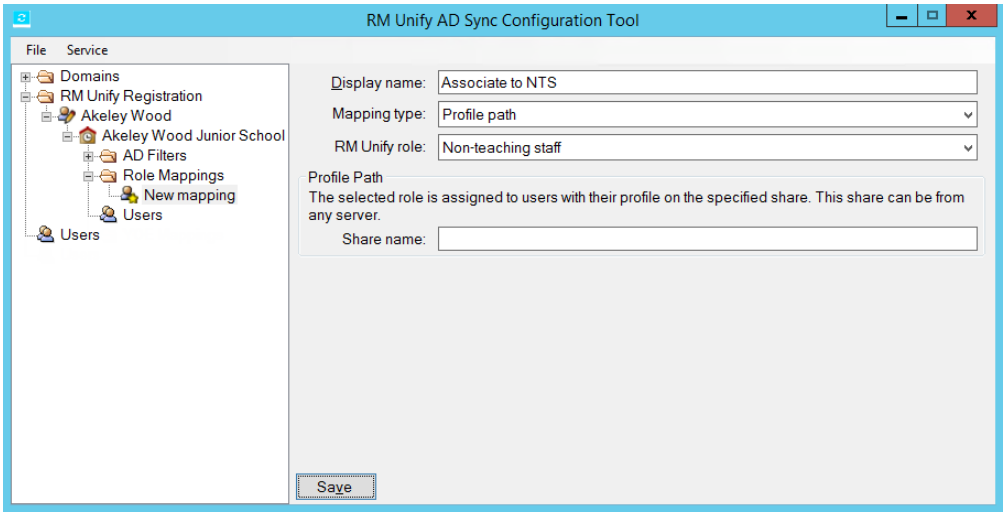
   Users are uploaded automatically the next time the AD is checked.

Note The initial upload can take up 30 min (based on 1500 users). Subsequent updates are faster, with password updates being sent every minute.

The default mappings may be all you need.

If you need to edit a mapping, select it in the left-hand tree, and then edit the settings as required in the right-hand pane. You can even change the type of mapping if required; for details see 'Appendix VIII: Alternative mapping types'.

9. If you need to add a mapping rule, select the establishment in the left-hand tree, right-click and choose 'New role mapping'.



Configure the mapping rule as follows:

- **Display name**: Enter a name to identify this mapping.
- **Mapping type**: The default for CC4 networks is Profile Path.
  (For information about other methods, see Appendix VIII: Alternative mapping types.)
- **RM Unify role**: From the drop-down list, choose the role you are mapping to.
- Supply any additional information required for your chosen Mapping type. For Profile Path, enter the Profile Path share name to search for (e.g., 'RMAssociateProfiles').

When you have finished, click Save.

10. Repeat step 9 to add additional user role mapping rules as required. A user may match more than one mapping rule (see Note below).

11. Verify that your mapping rules are listed in the appropriate order.

Note Users are mapped by the first mapping rule they match. Mapping rules are applied in their list order. The list order is applied across the establishment.

If you need to change the order of any mapping rules, click the ‘Role mappings’ node of the establishment and use the up/down buttons to re-order the rules as required.

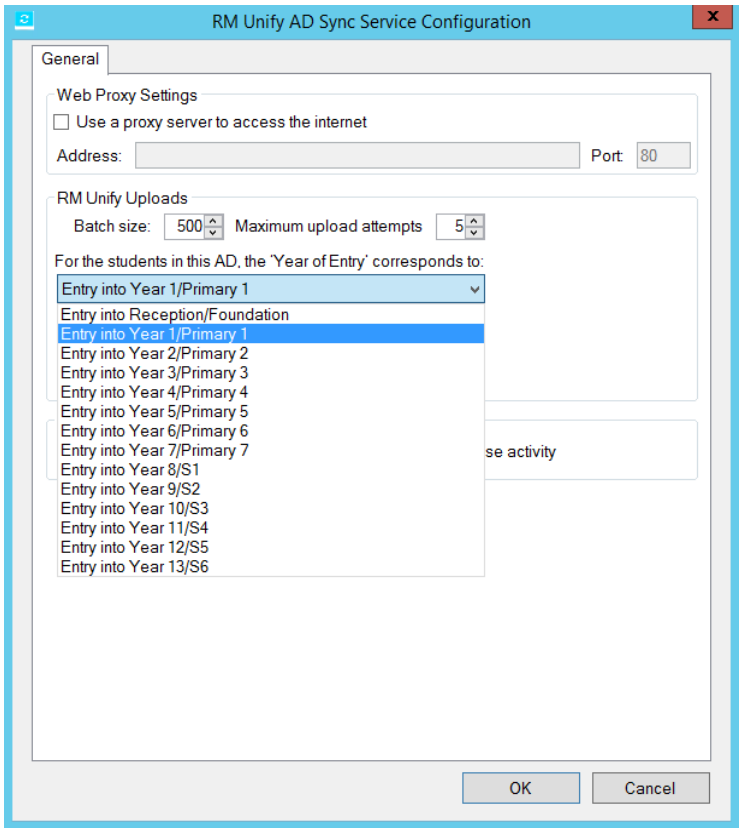
12. If you have other establishments to configure, repeat steps1–11 as required.

The final step in configuring your establishment is to apply a Year of Entry offset if required.

Year of Entry is also mapped automatically from CC4, and you can use this property to specify a year-appropriate Launch Pad and RM Unify Apps selection for student users. However different schools start at different points in a student’s educational career – Year 1, Year 5, Year 7, Year 12, etc. If the Year of Entry used by your establishment is not the year that the student entered the education system, you can apply an offset to correct for this, as follows:

13. From the Service menu choose Settings.
    The RM Unify AD Sync Service Configuration window is displayed.

14. Under RM Unify Uploads, click the ‘For students in this AD, the ‘Year of Entry’ corresponds to:’ down-arrow, and choose the appropriate year.



15. Click OK.

16 Close the RM Unify AD Sync Configuration Tool.

5. Install RM Unify Password Filter

New install	V1 upgrade	V2 upgrade
•	•	•

This task is for **all** new installations and upgrades.

The RM Unify Password Filter is provided in two versions, for 64-bit and 32-bit servers. It should be installed on all domain controllers (DCs), and this involves a server reboot.

Note Ensure you deploy the correct version for your server. On a 64-bit server only the 64-bit version will work.

If you are not sure whether a DC is 64-bit or 32-bit, see 'Appendix I: Identifying your current version of RM Unify AD Sync'.

Ensure you have completed the 'Pre-installation tasks' on all the DCs.

► **To install RM Unify Password Filter**

Note As detailed below, the installation procedure differs slightly on Server Core editions of Windows Server, where there is no graphical user interface.

1. Log on to a DC as the domain Administrator user (not as a CC4 system administrator).

2. Browse to the folder where you extracted the files from the RM_Unify_AD_Sync_v3.zip download file.

   (Alternatively, on Server Core you can locate the folder by changing directories at the command prompt.)

   If the extracted files are not on this server, copy them to a convenient local folder.

3. Locate the appropriate MSI file for your server OS version:

- *64-bit OS versions*

  Password Filter\64bit\RM Unify Password Filter 64bit.msi

- *32-bit OS versions*

  Password Filter\32bit\RM Unify Password Filter 32bit.msi

4. To start the installation, double-click the appropriate MSI.

   (On Server Core, do this by entering **msiexec /I RM_Unify_Password_Filter_<*version*>.msi** at the command prompt.)

   An InstallShield Wizard is displayed.

5. Click Next, click Install, and then click Finish.

6. When the installation is complete, click Yes to restart the server.

   (On Server Core, do this by entering **shutdown /r /t 0** at the command prompt.)

7. When the reboot is complete, log on as the domain Administrator.

8. When the logon is complete, log off.

   (On Server Core, do this by entering **logoff** at the command prompt.)

9. Repeat steps 1–8 for any other DCs on your network, if applicable. You can deploy to more than one server at a time if desired.

6. Force a password change at next logon

New install	V1 upgrade	V2 upgrade
•		

This task is for new installations only.

To ensure network users' passwords are synchronised with RM Unify, the password must be changed. You can do this conveniently in the RMMC by setting the user accounts to force a password change at the next logon.

Note Forcing a password change at next logon will not work if the user tries to access the network remotely via RM Portico, RM Connector or RM EasyLink. If any of these products is part of your network, users will need to reset their password on a CC4 network computer before they can use remote access.

We recommend that you do this in batches of users, as it may generate questions and requests from your users.

1. Log on as a member of the System Administrators User Type.

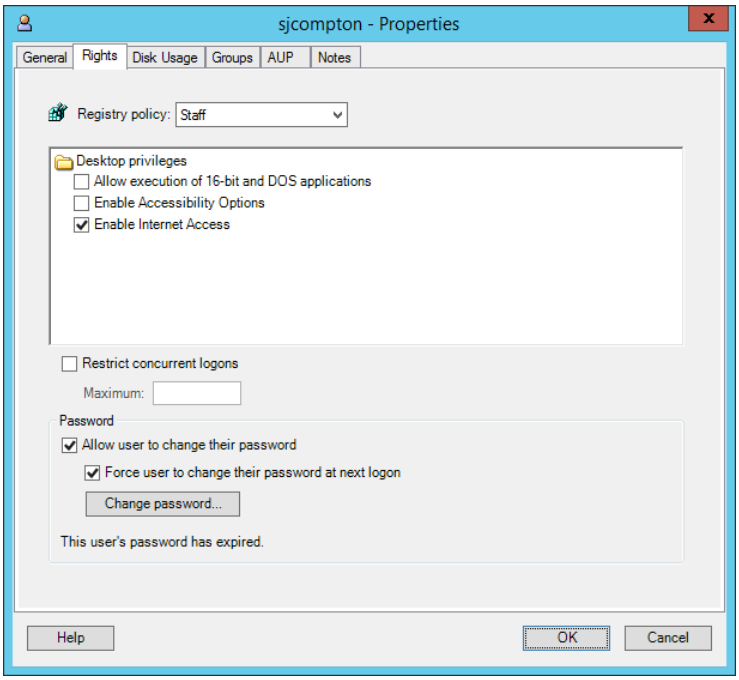
2. Open the RM Management Console.

3. In the left-hand pane, expand Users.

4. Select the user account(s) for which you want to force a password change at next logon.

5. Right-click on the selected users and choose Properties.

6. On the Rights tab, tick 'Force user to change their password at next logon'.



7. Click OK to apply the change.

This completes the installation and setup of RM Unify AD Sync on your CC4 network. Verify that users in each CC4 User Type can successfully log on to RM Unify with their new password.

Changing your AD Sync configuration

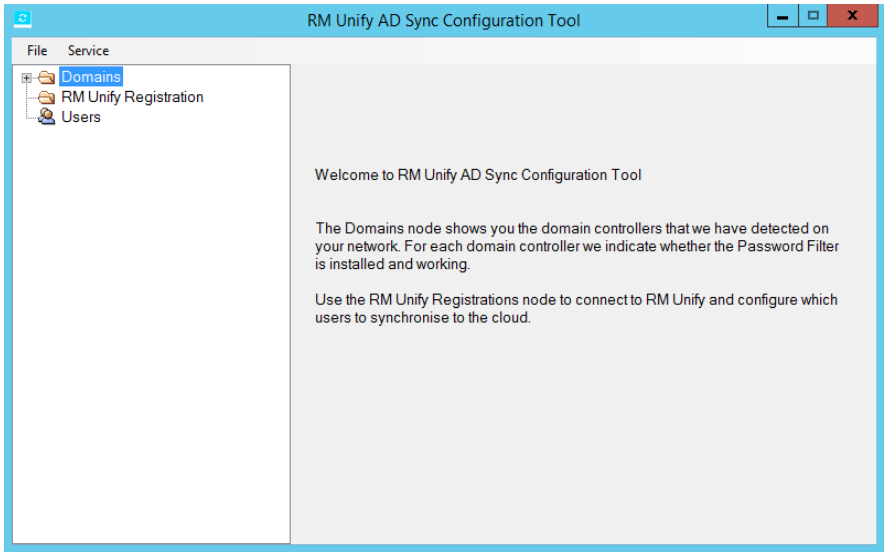
You can make changes to your AD Sync configuration at any time, using the RM Unify AD Sync Configuration Tool.

1. To open the RM Unify AD Sync Config Tool, do one of the following:

   - From the Windows Start screen (WS 2012, 2012 R2, 2016) start typing **RM Unify AD Sync Config Tool** and choose the correct application from the suggestions displayed.

   - From the Windows Start menu choose RM, RM Unify AD Sync, RM Unify AD Sync Config Tool.

The RM Unify AD Sync Configuration Tool is displayed.



From this console you can:

- Modify any of the existing AD filters or role mappings.

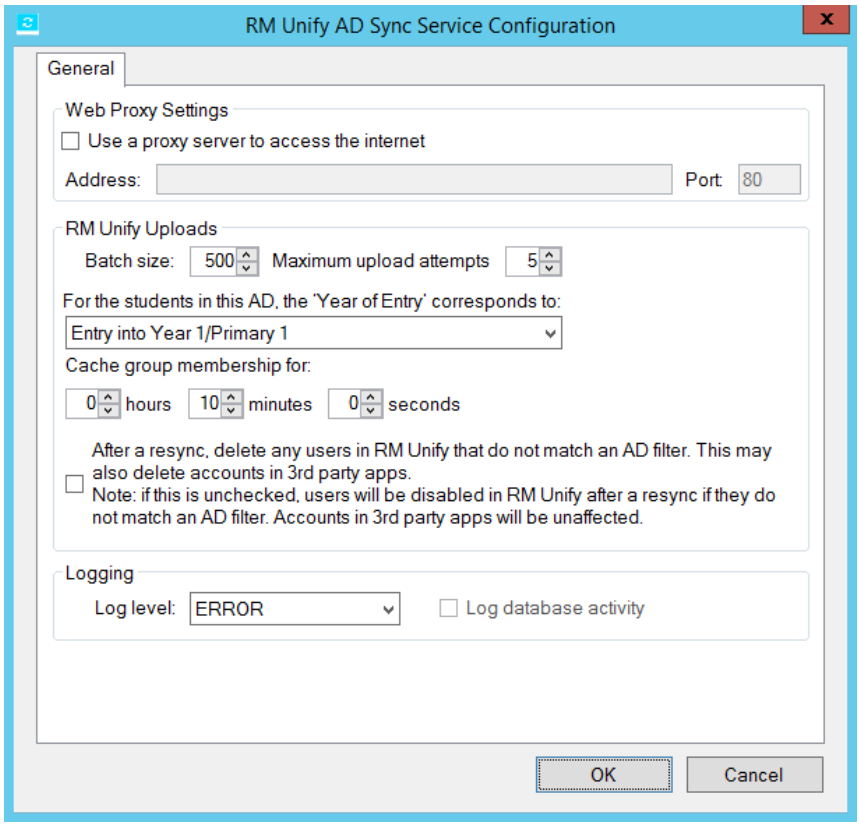
- Add an additional establishment to synchronise to RM Unify, configuring new AD filters and role mappings.

- Temporarily disable any AD Filters.

- Remove any AD filters or role mappings that are no longer required.

- ‘Resync’ an establishment, re-sending all users for a given school up to RM Unify.

From the File menu, if you choose Service and then Settings, the Settings window is displayed.



From this dialogue you can:

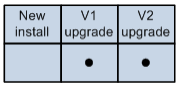
- Set a 'year of entry' offset, to ensure that AD Sync maps your CC4 students to the correct school year group.
- Change the proxy server details that were previously entered.
- Modify the frequency at which group membership is queried and cached.

  By default, AD Sync queries and caches Active Directory group membership every 10 min, which is appropriate for most single-site networks. However on large multi-site networks this may cause a reduction in available resources on the domain controller. If that happens on your network, we recommend you increase the group cache expiry time to anything up to an hour. A disadvantage of this change will be that new users and changes to existing users are uploaded slightly less frequently.

- Modify the Resync behaviour so that it deletes any users in RM Unify that do not match an AD filter. Note that this may delete accounts in third-party apps.

  By default this feature is disabled, so that any RM Unify users that do not match an AD filter are disabled but not deleted, and their accounts in third-party apps are unaffected.

Appendix I: Identifying your current version of RM Unify AD Sync



Because the upgrade procedures for v1 and v2 of RM Unify AD Sync are not the same, it's important to know which version is currently installed on your network.

On a server where RM Unify AD Sync is currently installed:

1. Open Windows Explorer and browse to **C:\Program Files (x86)\RM\RM Unify AD Sync**

- If there is **no** RM Unify AD Sync folder, but there is a folder called **RM Unify AD Sync Service**, then AD Sync v1 is installed.

2. In the RM Unify AD Sync folder, use Notepad to open the file **RM.Networks.IdentityManagement.config** and check the line that begins **<add key="DBVersion"**

- If the full line is **<add key="DBVersion" value="2"** then AD Sync v2 is installed.

- If the full line is **<add key="DBVersion" value="3"** then AD Sync v3 is installed.

Appendix II: Identifying 32- and 64-bit Windows servers

This guidance is based on this Microsoft resource:
http://support.microsoft.com/kb/827218

Windows Server 2003

1. From the Start menu click Run.

2. Type **sysdm.cpl** and click OK.

3. Click the General tab.
   The operating system is displayed under System, as follows:

- *64-bit*
  Windows Server 2003 Standard x64 Edition

- *32-bit*
  Windows Server 2003 Standard Edition.

Windows Server 2008

If 'Windows Server 2008 R2' is displayed on the logon screen, the operating system is 64-bit. Otherwise:

1. Log on as Administrator.

2. From the Start menu choose Control Panel, System and Security.

3. Choose System.
   The operating system is displayed in the System area as follows:

- *64-bit*
  System Type is '64-bit Operating System'

- *32-bit*
  System Type is '32-bit Operating System'.

Windows Server 2008 Server Core Edition

If Windows Server 2008 R2 is displayed on the logon screen, the operating system is 64-bit. (All CC4 Matrix Domain Controllers and CC4.3 Servers are 64-bit). Otherwise:

1. Log on as Administrator.

2. Type **systeminfo | findstr "System Type:"**

- *64-bit*
  System Type is 'x64-based PC'

- *32-bit*
  Identifier registry value is 'x86 Family'.

Windows Server 2012 and later

The operating system is 64-bit.

Appendix III: Removing RM Unify Password Filter

New install	V1 upgrade	V2 upgrade
	•	•

If you are upgrading AD Sync from either v1 or v2, you need to uninstall the previous version of RM Unify Password Filter from your DCs before installing AD Sync v3.

► **To remove RM Unify Password Filter**

1. Log on to a domain controller server. Ensure that the RM Management Console is closed.
2. From the Start menu, choose Control Panel, and then choose 'Programs and Features'.
3. Follow the appropriate steps for your server OS.
   - *Windows Server 2008 R2, 2012 R2, 2016:*
     Choose 'Programs and Features'.
     From the list of programs, locate **RM Unify Password Filter**, right-click and choose Uninstall.
   - *Windows Server 2003:*
     Choose 'Add or Remove Programs'.
     From the list of programs select **RM Unify Password Filter**, and click the Remove button.

Note You might find that RM Unify Password Filter and RM Unify AD Sync Service are not shown in the list of programs. This can occur if you are not using the account that was used for the original installation. If it happens, please refer to Knowledge Library article TEC4669762 for instructions.

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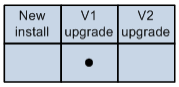
4. Follow the prompts to uninstall the program.
5. Reboot the server to complete the uninstallation.
6. At each of your other domain controllers, repeat steps 1–5 to remove RM Unify Password Filter.

Appendix IV: Removing AD Sync Service v1



If you are upgrading AD Sync from v1, you need to uninstall the previous version of RM Unify AD Sync Service before installing AD Sync v3.

If you want to re-use your existing proxy settings and role mappings, it's a good idea to save a copy of the **RM.Networks.IdentityManagement.Service.exe.config** file before uninstalling the RM Unify AD Sync Service, for use as a reference when you install version 3.

▶ **To copy the config file**

1. Log on to your RM Unify AD Sync Service server as a system administrator.
2. Browse to **C:\Program Files (x86)\RM\RM Unify AD Sync Service**
3. Copy **RM.Networks.IdentityManagement.Service.exe.config** and save the copy in a convenient location for reference.

▶ **To remove RM Unify AD Sync Service v1**

1. Log on to your RM Unify AD Sync Service server as a system administrator. Ensure that the RM Management Console is closed.
2. From the Start menu or screen, choose Control Panel, and then choose 'Programs and Features'.
3. Follow the appropriate steps for your server OS.
   - *Windows Server 2008 R2, 2012 R2, 2016:*
     Choose 'Programs and Features'.
     From the list of programs, locate **RM Unify AD Sync Service**, right-click and choose Uninstall.
   - *Windows Server 2003:*
     Choose 'Add or Remove Programs'.
     From the list of programs select **RM Unify AD Sync Service**, and click the Remove button.

   Note If RM Unify AD Sync Service is not shown in the list of programs, please refer to Knowledge Library article TEC4669762 for instructions.

4. Follow the prompts to uninstall the program.
5. Check whether the folder **C:\Program Files (x86)\RM\RM Unify AD Sync Service** has been removed by the uninstallation. If it is still present, delete it.

Appendix V: Installing prerequisites

Note To install the prerequisite software you should allow at least 2h, if all the following components are needed.

Installing .NET Framework version 3.5 SP1

Note Depending on your current version of .NET Framework, a server reboot may be required.

Windows Server (WS) 2003

1. Confirm whether .NET Framework version 3.5 SP 1 is installed.
   - If your server is a CC4 SR2 Server then .NET Framework 3.5 SP 1 is installed by default.
   - Otherwise:
   i. From the Start menu open Control Panel.
   ii. Choose Add or Remove Programs.
   iii. Check the list of installed programs for 'Microsoft .Net Framework 3.5 SP1'.
2. If required, install .NET Framework version 3.5 SP1:
   i. Download the latest version of .NET Framework version 3.5 SP1.
   ii. Follow the instructions at this URL: https://www.microsoft.com/en-gb/download/details.aspx?id=22
   iii. Repeat step 1 above to confirm the component has installed successfully.

Windows Server (WS) 2008 R2

1. Confirm whether .NET Framework version 3.5 SP1 is installed.

- If your server is a CC4 Server then .NET Framework 3.5 SP 1 is installed by default.
- Otherwise:

i. Run PowerShell by clicking the PowerShell icon on the Taskbar. Alternatively, on WS 2008 R2 Server Core, type **powershell** in the Command Prompt window and press Enter.

ii. Type **import-module servermanager** and press Enter.

iii. Type
Get-WindowsFeature -Name NET-Framework-Core | fl Installed
and press Enter.

The display will indicate whether or not the component is installed.

2. If required, install .NET Framework version 3.5 SP1:

    i. Type
    Add-WindowsFeature -Name NET-Framework-Core
    and press Enter.

    ii. Repeat step 1 above to confirm the component has installed successfully.

Windows Server (WS) 2012 R2 and later

1. Confirm whether .NET Framework version 3.5 SP1 is installed.

- If your server is a CC4 Server then .NET Framework 3.5 SP 1 is installed by default.

- Otherwise:

    i. Run PowerShell by clicking the PowerShell icon on the Taskbar. Alternatively, on WS 2012 Server Core type **powershell** in the Command Prompt window and press Enter.

    ii. Type
    Get-WindowsFeature -Name NET-Framework-Core | fl Installed
    and press Enter.

    The display will indicate whether or not the component is installed.

2. If required, install .NET Framework version 3.5 SP1 as follows. You will need the original WS 2012 installation media. For the following example this is assumed to be in drive E:

    i. Type
    Install-WindowsFeature -Name NET-Framework-Core -source E:\sources\sxs

    ii. Repeat step 1 above to confirm the component has installed successfully.

Installing Microsoft Visual C++ 2010 Redistributable

The instructions vary depending on whether the server is running a 32-bit or 64-bit operating system (see ‘Appendix I: Identifying your current version of RM Unify AD Sync’).

32-bit operating systems (WS 2003/2008 32-bit)

1. Confirm whether Microsoft Visual C++ 2010 Redistributable (x86) is installed:

    i. Open a Command Prompt window.

    ii. Type
    C:
    and press Enter.

    iii. Type **cd %SYSTEMROOT%\system32** and press Enter.

iv. Type **dir /b msvcr100.dll** and press Enter.

If the file is found, this command returns a single line of output with the same filename. This indicates that the Microsoft Visual C++ 2010 Redistributable (x86) package is installed.

If the command returns “File Not Found”, the Microsoft Visual C++ 2010 Redistributable (x86) package is not installed.

2. If required, install Microsoft Visual C++ 2010 Redistributable (x86):

i. Download the latest version of Microsoft Visual C++ 2010 SP1 Redistributable (x86).

ii. Follow the instructions at this URL: http://www.microsoft.com/en-gb/download/details.aspx?id=8328

iii. Run vcredist_x86.exe to perform the installation.

iv. Repeat step 1 above to confirm the component has installed successfully.

64-bit operating systems (WS 2008 R2 / WS 2012 / WS 2016)

1. Confirm whether Microsoft Visual C++ 2010 Redistributable (x64) is installed:

i. Open a Command Prompt window.

ii. Type **C:** and press Enter.

iii. Type
cd %SYSTEMROOT%\system32
and press Enter.

iv. Type
dir /b msvcr100.dll
and press Enter.

If the file is found, this command returns a single line of output with the same filename. This indicates that the Microsoft Visual C++ 2010 Redistributable (x64) package is installed.

If the command returns “File Not Found”, the Microsoft Visual C++ 2010 Redistributable (x64) package is not installed.

2. If required, install Microsoft Visual C++ 2010 Redistributable (x64):

i. Download the latest version of Microsoft Visual C++ 2010 SP1 Redistributable (x64).

ii. Follow the instructions at this URL: http://www.microsoft.com/en-gb/download/details.aspx?id=13523

iii. Run vcredist_x64.exe to perform the installation.

iv. Repeat step 1 above to confirm the component has installed successfully.

Appendix VI: Additional network information required for multi-site networks

AD Organisational Units

If you have a multi-site network that includes more than one establishment, you will need to provide details of the AD Organisational Units that will be the base for all user searches in each establishment. (User changes outside of this structure will be ignored.).

This will typically be in the following form:

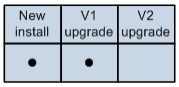
OU=<*Site Code*>, OU=Establishments,
DC=<*SCHOOLNAME*>,DC=internal

where <*Site Code*> is the 3-character school code displayed in the RM Management Console, and <*SCHOOLNAME*> is the short version of the School's name – usually the school AD Domain Name.

AD group membership caching

AD Sync queries and caches Active Directory group membership every 10 minutes, but on large sites this may cause a reduction in available resources on the domain controller. If this happens on your network, we recommend you increase the group cache expiry to anything up to an hour (see 'Changing your AD Sync configuration' on page 24). A disadvantage of lengthening the cache expiry is that new users and changes to existing users are uploaded slightly less frequently.

Appendix VII: Default CC4 user role mappings



The default role mappings from CC4 to RM Unify are:

CC4 User Type	Profile Path	RM Unify Role
Students	RMStudentProfiles	Student
Non-Teaching Staff	RMNonTeacherProfiles	Non-Teacher
Teaching Staff	RMTeacherProfiles	Teacher
Associates	RMAssociateProfiles	Other
System Administrators	RMSysAdminProfiles	Non-Teacher

Note You can provide multiple rules for a specific RM Unify role. In the case of a conflict, the first matching role is used.

See ‘About User Role Mappings’ on page 18.

Appendix VIII: Alternative mapping types

New install	V1 upgrade	V2 upgrade
•	•	

RM Unify AD Sync provides three alternative methods of mapping user accounts in your network to these RM Unify user roles: Profile Path, Organisational Unit and Group Membership.

Note For CC4 networks we recommend using Profile Path mapping.

Profile Path

This method uses the AD User 'Profile Path' attribute. It detects the Windows share name used in the user's profile path and compares it with the string provided.

This method is suitable for CC4 networks and other Windows Server networks that use specific share names for different user types.

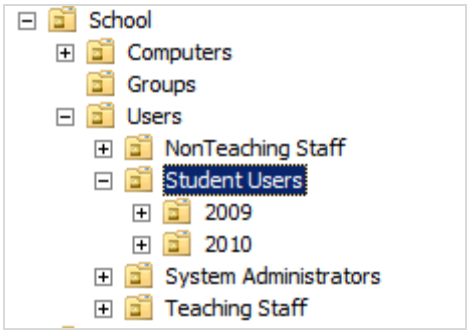
For example, student user profiles in CC4 networks are all accessed through a common share name of 'RMStudentProfiles', so the Profile Path rule would be to match the string "RMStudentProfiles".

Organisational Unit

This method uses your Organisational Unit (OU) structure within Active Directory. If your establishment has an AD structure that differentiates user types by OU location, this is an appropriate mapping method for you.

The string will match against any OU that appears in the path of a user account.

For example, if the OU structure is:



the common OU for all Students is 'Student Users', which includes users in all subordinate OUs. In this case the Organisational Unit rule would be to match the string "Student Users".

In the same example, for Non-Teachers you would set the Organisational Unit to match the string "NonTeaching Staff".

Group Membership

This method maps users by AD group membership.

This method should be used if the other methods above cannot be implemented in your network – for example, if you have a flat AD OU structure and fixed profile paths for all users. You can use either your existing user groups, or create new groups specifically for RM Unify. The Group Membership rule would be used to match a string that equals the group name.

Note The RM Unify AD Sync Service checks for user account and user role changes every 15 minutes. Note that if you use the Group Membership method, this checking is slower and may require more processing than with other methods