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User's Guide

# Upgrading EA Projects

Procedures and Troubleshooting

1.0



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# Introduction

This short paper details the processes and issues connected with the upgrading of Enterprise Architect projects to new versions. Sparx Systems from time to time will make changes to the EA model structure - this is to accommodate new features and to store more information about existing elements. The Enterprise Architect project file is a Microsoft JET database - which can be read in MS Access 97, 200 and XP - if you wish to explore the project file structure - use one of these products to open the file.

## In This Chapter

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## Typographical Conventions

Before you start using this guide, it is important to understand the terms and typographical conventions used in the documentation.

For more information on specialised terms used in the documentation, see the Glossary at the end of this document.

The following kinds of formatting in the text identify special information.

<u>Formatting convention</u>	<u>Type of Information</u>
Triangular Bullet(➤)	Step-by-step procedures. You can follow these instructions to complete a specific task.
<b>Special Bold</b>	Items you must select, such as menu options, command buttons, or items in a list.
<i>Emphasis</i>	Use to emphasise the importance of a point or for variable expressions such as parameters.
CAPITALS	Names of keys on the keyboard. for example, SHIFT, CTRL, or ALT.

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**Formatting convention**

KEY+KEY

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**Type of Information**

Key combinations for which the user must press and hold down one key and then press another, for example, CTRL+P, or ALT+F4.

# The Upgrade Process

When Enterprise Architect opens a project file, it first checks what the version of that file is. This is stored in the `usys_system` table in a record with a 'Property' value of 'Version'. If the version is too low for the current executable version of EA, then the upgrade process is invoked.

Because Replicated projects must be handled differently to ordinary projects a check is made to determine if the current project is a replica - and if it is a further check is made to determine if it is the Design Master. See the section on upgrading Replicas for more information on replicas and design masters.

If it is a standard .EAP file (non-replica) then EA will run thru a series of checks to see if required patches have been made to a model or not. If not, then some DDL is execute to modify the project structure. Typically this is things like creating new tables, adding columns to tables, modifying indexes etc. In some (rare) instances, data is modified to make EA compatible with new functionality, rules or structures.

Typically the update should only take a few seconds - and then the project can be opened in the new version of EA.

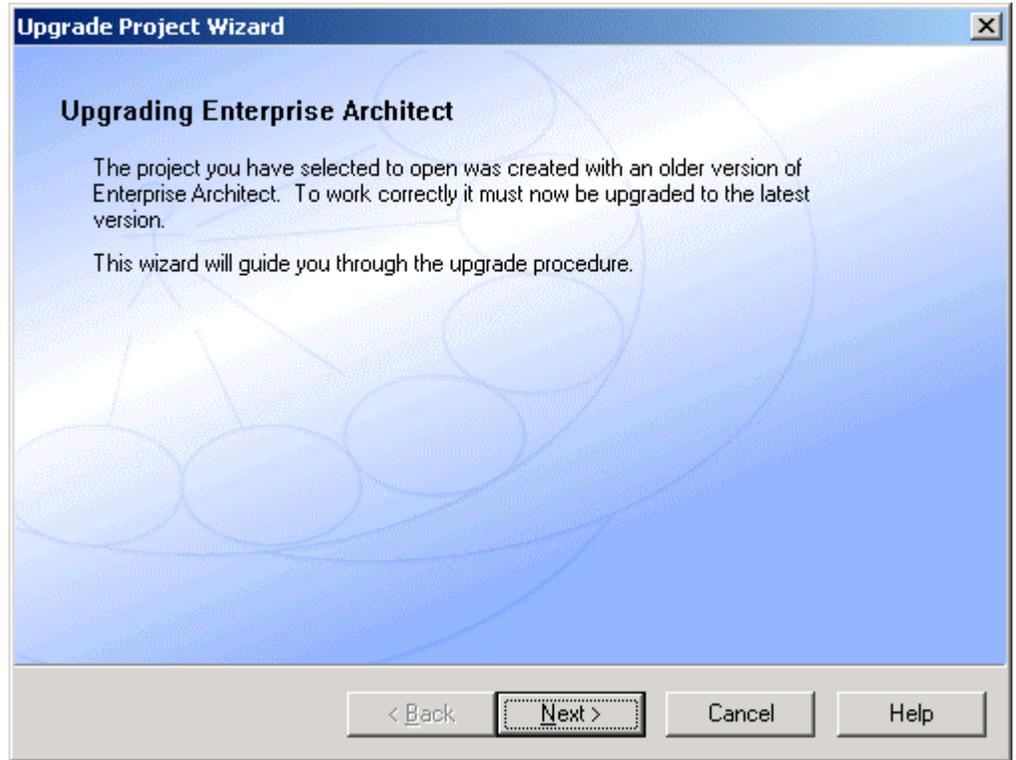
Note that after a project has been upgraded, it cannot be opened in previous versions of EA - you must use the new version of EA from that point on.

Also note that the project file is backed up prior to any changes being made. It is recommended that you also make a backup, just for complete protection.

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# The Upgrade Wizard

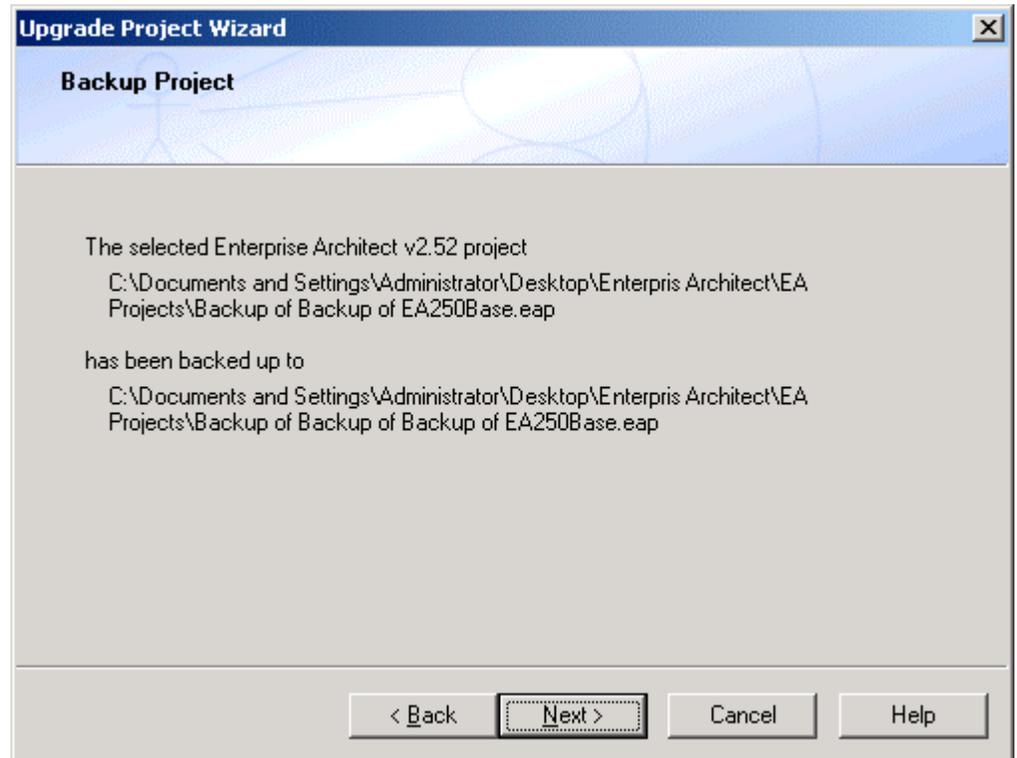
The Upgrade Wizard will guide you thru the process of updating your project file. When EA detects a project requires updating, this wizard will activate.



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## Project is backed up

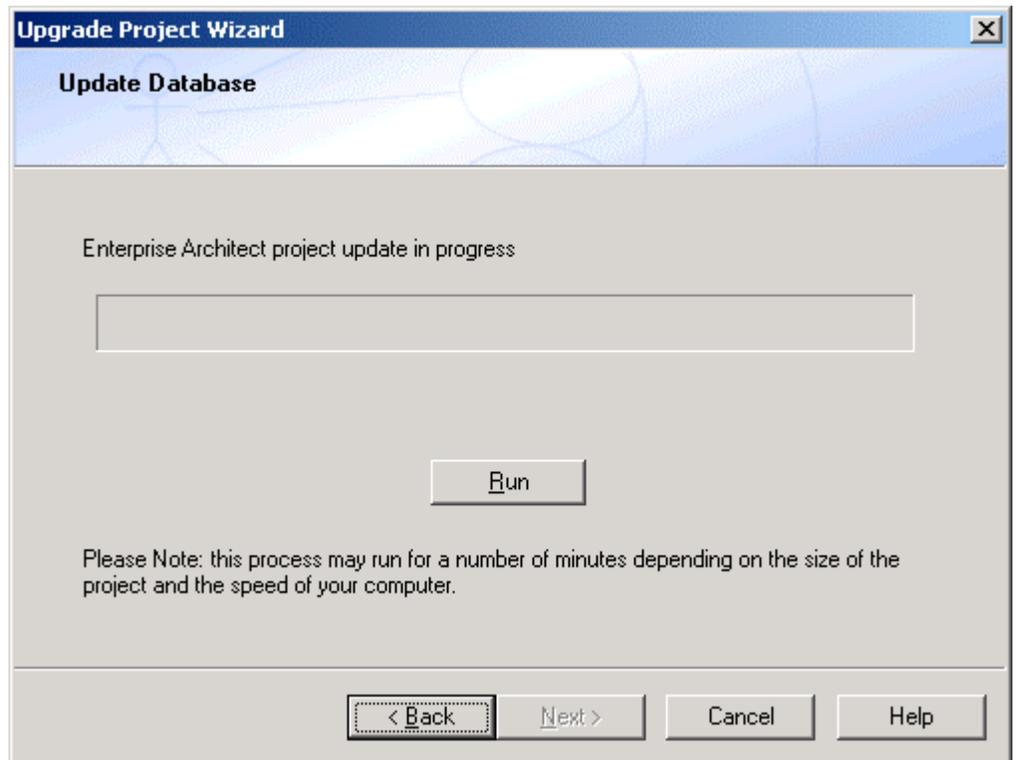
The first action EA takes is to back up your file. this is typically named 'Backup of <filename>' and will be placed in the same directory as the original. EA displays the name of the original and the name of the backup - check these are OK before continuing.



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# Start the Upgrade

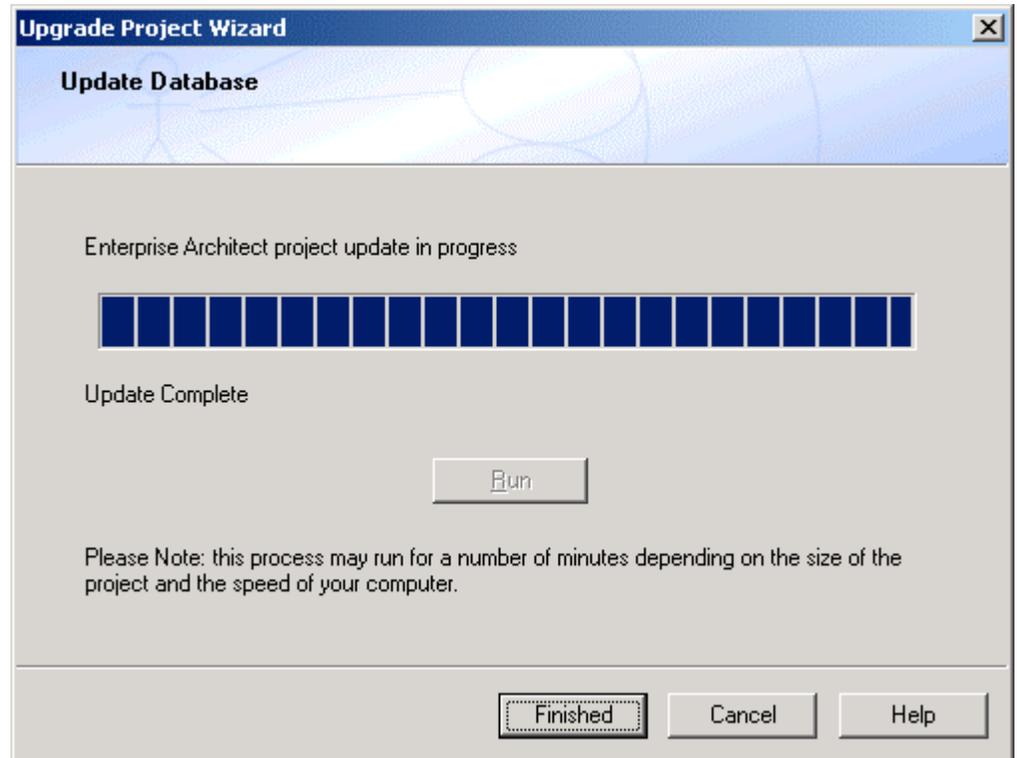
The next screen is the start of the upgrade process proper. Press the 'Run' button to begin applying changes to your model. Typically this will only take a few seconds - although it is possible a future upgrade may take a little longer if data is manipulated as well as database design. As the update continues the progress meter will be updated to reflect the %complete status.



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# Upgrade Complete

Once the process completes you will be advised of that status and the progress meter should be filled. Press the finished button to proceed with the opening of the now upgraded model.



Replication is a very useful tool for managing distributed development and other scenarios. However it also introduces some complexities when it comes to upgrading. This is because the Replication Engine that is part of MS JET requires there to be only one (1) Design Master in a replica set, and for the Design Master to be in a fixed location.

Note: You cannot update a member of a replica set that is not the Design Master, nor can you update a Design Master that is not in its fixed location. See the following section for more details.

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# Design Masters and Replica Sets

A Design Master is the first member of the replica set you create. Once created, other replicas may be created out of the Design Master, but they all point back to the original Master as the 'Schema Master'. This original master is the only member of the set which can have design changes made to it by a user or other application - like EA.

Once a change is made to a Design Master - the next time a synchronization is done with a replica, the design changes are propagated thru to the replica, so that is now up to date with the Master again. As you synchronize with each member of the set, the design changes are copied to another member of the set, until all members are updated as well.

➤ *There are two typical approaches to updating the replica set:*

## 1. Upgrade all replicas

- Before updating a Design Master you synchronize all replicas with the Design Master to get the latest information. Once this is done:
- Upgrade the Design Master in the usual fashion using EA;
- Repeat the synchronization of all replicas with the Master to distribute the changes

## 2. Upgrade Design Master and re-create replicas

- Before updating a Design Master you synchronize all replicas with the Design Master to get the latest information. Once this is done:
- Upgrade the Design Master in the usual fashion using EA;
- Recreate all the required replicas and distribute to staff - overwriting the old replicas.

# Propagating Changes

Because Replication is a complex process with certain rigidly enforced rules, it is more likely that you will strike a problem when upgrading an EA project than with a normal project.

This section describes the typical errors that occur and how to get around them.

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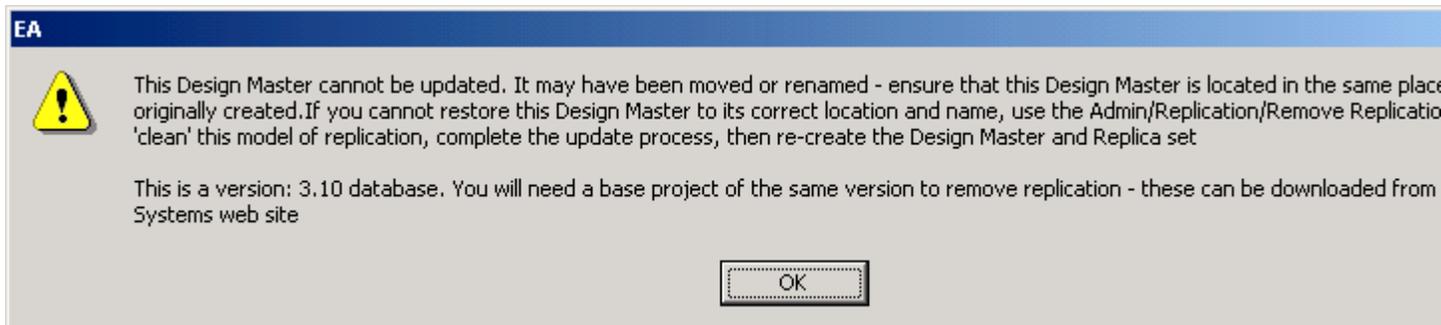
# Invalid Design Master

The Design Master is the heart of the Replica Set. There are therefore certain rules which apply to it that may impact your attempt to upgrade to the latest version.

1. Make sure you are trying to update the Design Master and not a replica. It is important to keep track of which model file is the Design Master and which are the created replicas;

2. The Design Master MUST be located in a fixed location and updated in that location ... so if you originally created a Design Master called foo.eap at c:\projects\foo.eap - then when you attempt to upgrade that Design Master, you MUST be updating a project named c:\projects\foo.eap. Do not move or rename the project and then attempt to update - this will cause errors.

If EA detects you are trying to update a Design Master - but the replication engine prevents any changes being made, the following message box will appear. The likely cause is that you have moved the Design Master at some time and now it refuses to accept the design changes. If you know where the model was originally created, the move it back to there and try again.



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Also see the section on Removing Replication and on Using MS Access to recover a Design Master

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# Use MS Access to recover a Design Master

Microsoft Access 97 has some built in tools for working with Replication. In particular it has a utility to convert a Replica to a Design Master.

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WARNING: If you convert a replica to a design master, it would be best to recreate new replicas to distribute, rather than working with the old ones. NEVER allow there to be 2 Design Master's in a replica set!

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➤ *To convert a Replica to a Design Master:*

- 1 Open MS Access 97;
- 2 Open the .EAP file you wish to update in MS Access;
- 3 Go to the Tools\Replication\Recover Design Master menu item
- 4 Follow the prompts - making sure you carefully read the warning at each stage.

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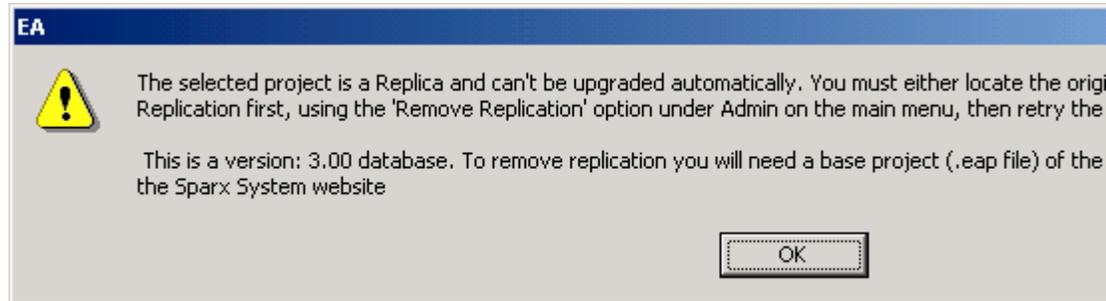
Note: Once you have created the Design Master it should not be moved - so create it in a shared location where it will be permanently located.

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# A Replica

If you attempt to upgrade a replica you will get the following error.



There are 3 possible remedies:

- 1 Remove Replication from this model file and upgrade as normal - then recreate the design master and replicas. (do NOT attempt to synchronize with members of the old replica set)
- 2 Locate the Design Master and upgrade that - propagating changes as described elsewhere
- 3 Use MS Access to convert the replica to the Design Master

Read about each alternative and decide what is the best in your situation.

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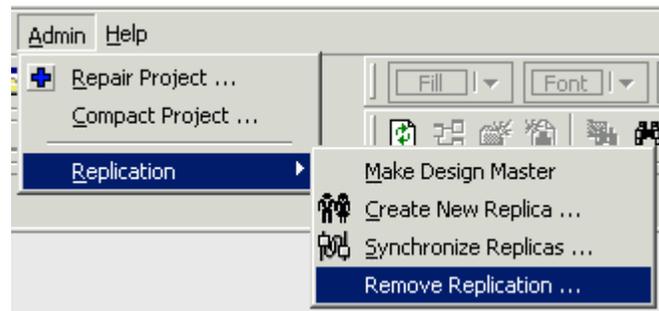
# Removing Replication

One of the best ways to deal with replication upgrade issues is to completely remove the replication features - then upgrade as normal and convert the resultant model back into a Design Master, from which more replicas can be created.

➤ *To remove replication:*

- 1 Open EA - bypassing the loading of any file by pressing Cancel when asked to open a project

**2** Select the Admin/Replication/Remove Replication Menu option



**3** Follow the Wizard prompts to remove replication

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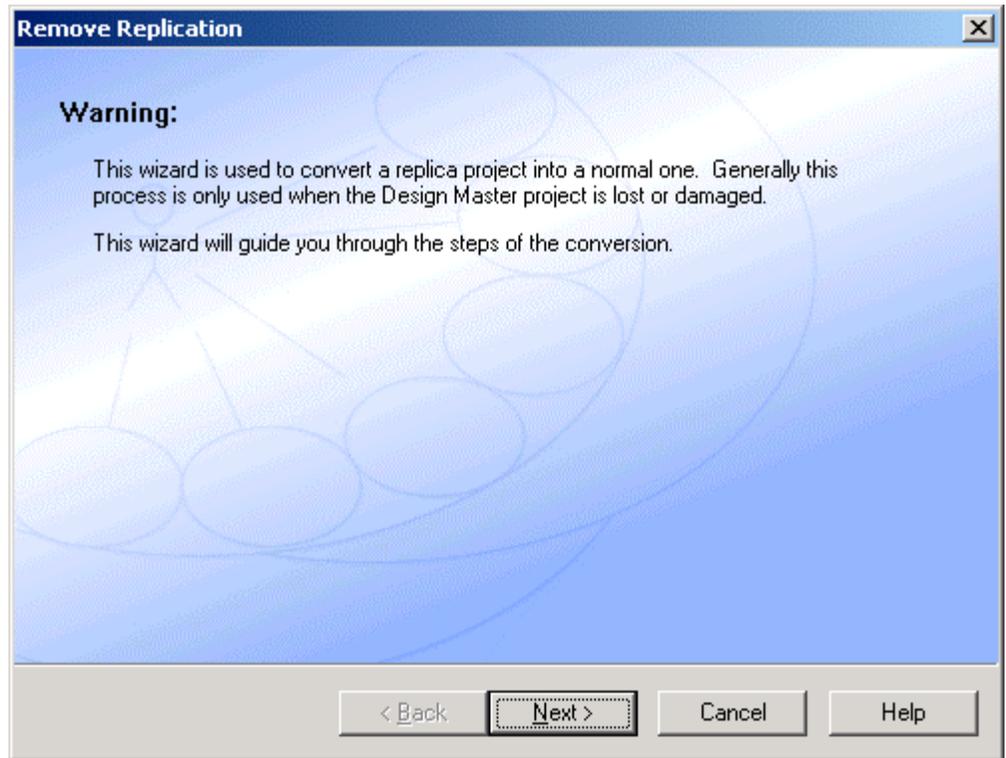
Note: Once complete you may recreate the Design Master and Replica Set

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# The Remove Replication Wizard

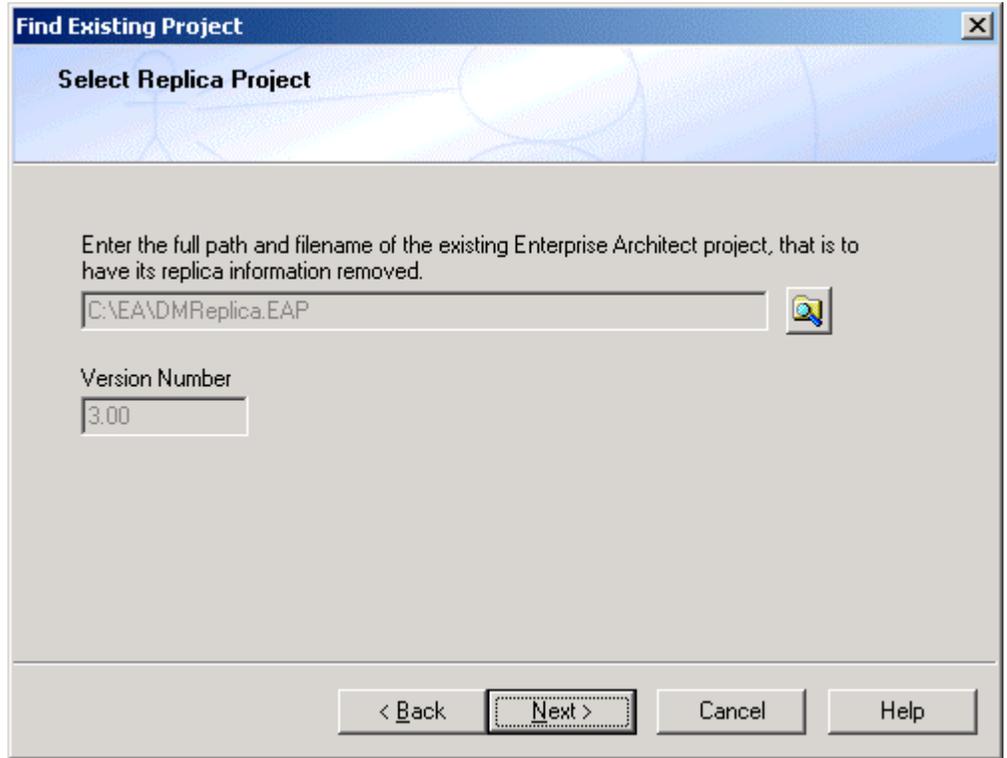
## Page 1

The Wizard displays an information page first Press Next to continue



## Page 2

The first thing you need to do is select the Replica you wish to process. Press the browse button to open a file dialog and find the required EA project file - note the version number that appears in the section under the filename. It is essential you have a non-replica model file based on this version to complete the update process. Sparx Systems provide these to registered users if required - check out the Sparx website for details . Then press Next...

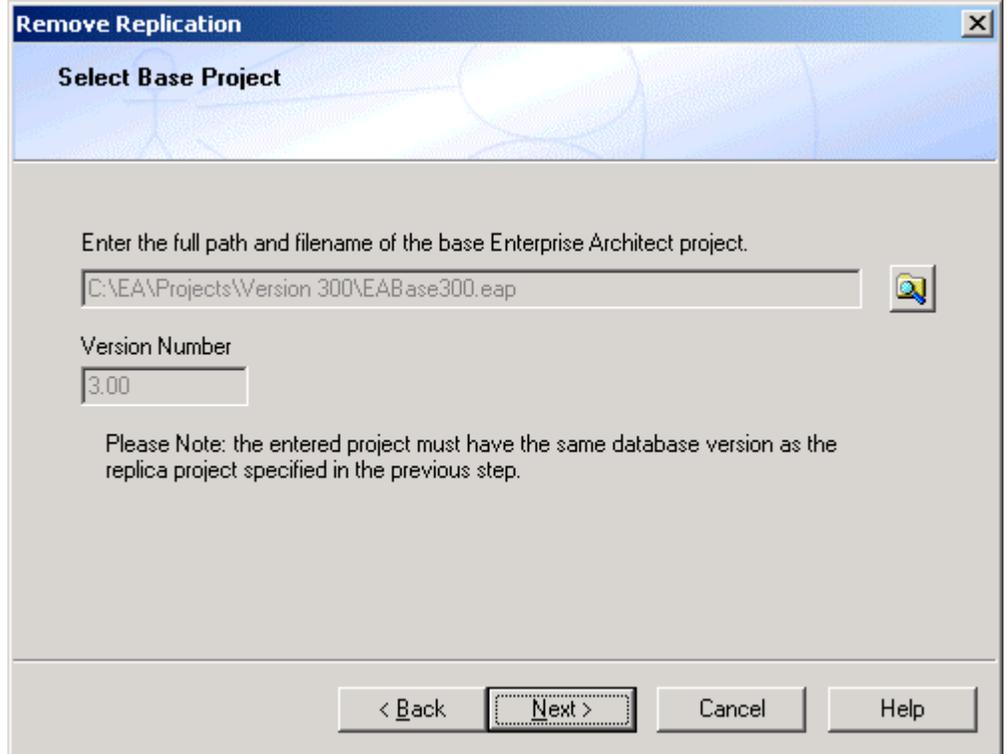


The screenshot shows a dialog box titled "Find Existing Project" with a close button (X) in the top right corner. The main heading is "Select Replica Project". Below this, there is a text instruction: "Enter the full path and filename of the existing Enterprise Architect project, that is to have its replica information removed." A text input field contains the path "C:\EA\DM\Replica.EAP" and has a browse button (magnifying glass icon) to its right. Below the path field, there is a label "Version Number" and a text input field containing "3.00". At the bottom of the dialog, there are four buttons: "< Back", "Next >" (which is highlighted with a dashed border), "Cancel", and "Help".

## Page 3

The next step is to find a matching base project which will be used to restore the original model structure before replication was applied. Sparx Systems make these available to registered users - check out the Registered User Page for details.

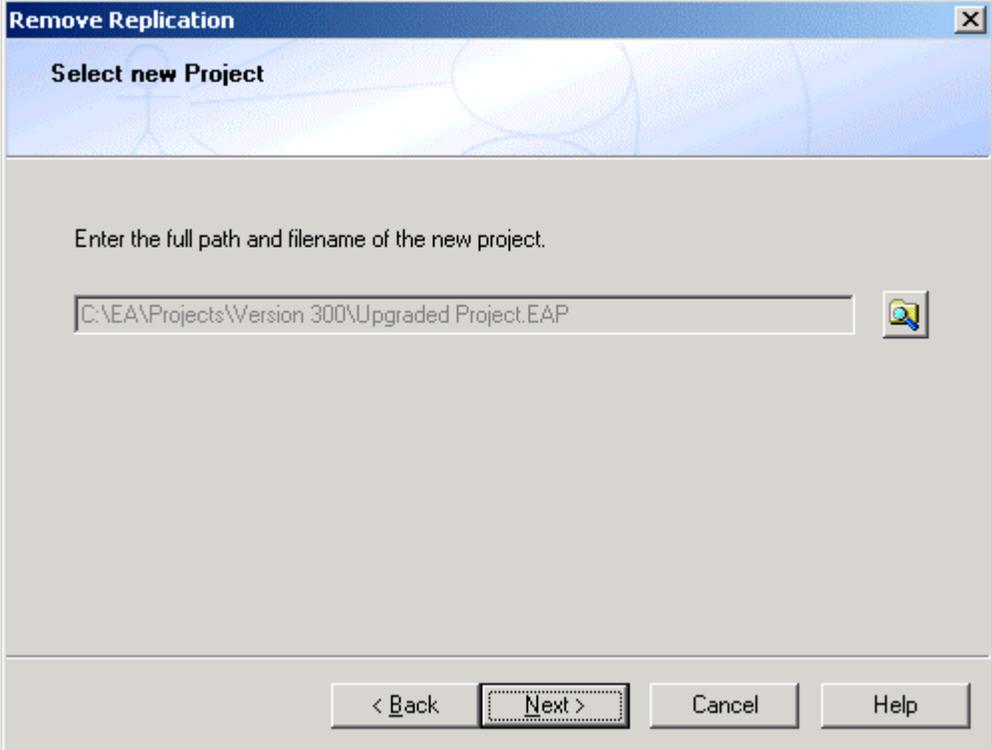
Once you have selected your Base Project and it has the same version number, press Next to continue



The screenshot shows a Windows-style dialog box titled "Remove Replication" with a close button (X) in the top right corner. The main heading is "Select Base Project". Below this, there is a text prompt: "Enter the full path and filename of the base Enterprise Architect project." A text input field contains the path "C:\EA\Projects\Version 300\EABase300.eap" and has a search icon to its right. Below the path field is a "Version Number" label and a text input field containing "3.00". A note at the bottom of the dialog reads: "Please Note: the entered project must have the same database version as the replica project specified in the previous step." At the bottom of the dialog, there are four buttons: "< Back", "Next >" (which is highlighted with a dashed border), "Cancel", and "Help".

## Page 4

Now select a filename for the new project file - then Press Next ...

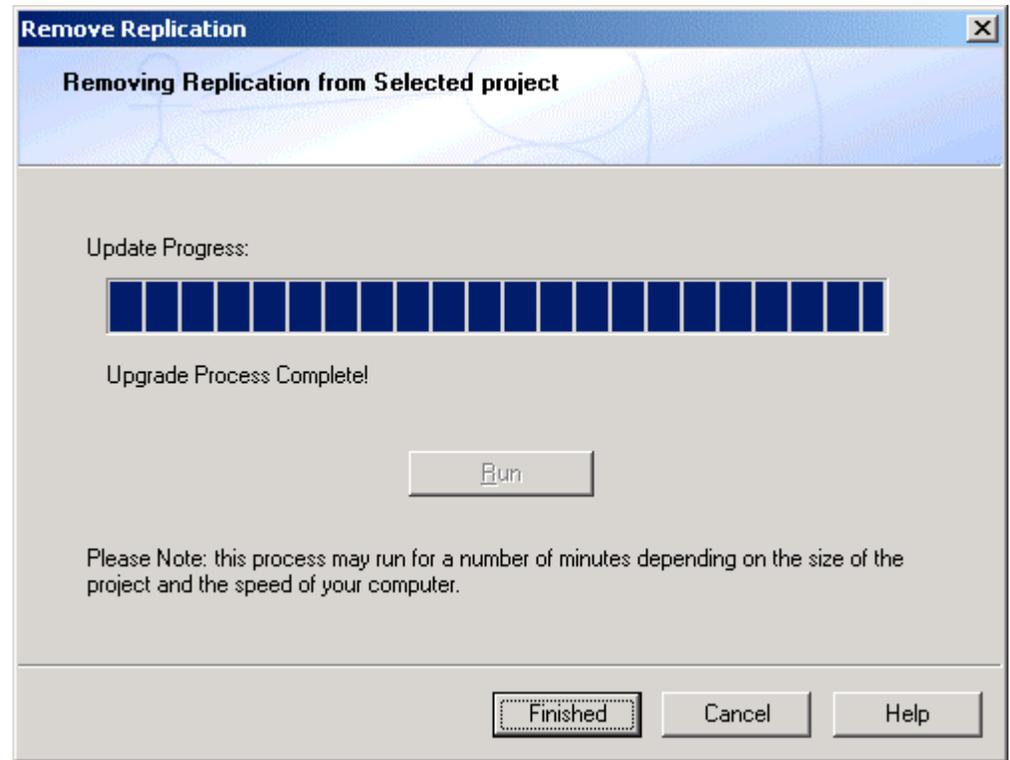


The screenshot shows a Windows-style dialog box titled "Remove Replication". The main heading is "Select new Project". Below this, there is a text prompt: "Enter the full path and filename of the new project." A text input field contains the path "C:\EA\Projects\Version 300\Upgraded Project.EAP". To the right of the input field is a magnifying glass icon. At the bottom of the dialog, there are four buttons: "< Back", "Next >", "Cancel", and "Help". The "Next >" button is highlighted with a dashed border.

## Page 5

Press Run to start the removal of replication. EA will first clear out the Base project and then copy all data from the replica to the new model file - ignoring all the replication columns and information. The result is a clean EA model with no replication information.

The update may take a few minutes and you will be kept informed of progress along the way.



## Typical Problems

Apart from the replication issues discussed, there are few things that can go wrong. If an error occurs, make sure:

- 1 No-one else has the project open
- 2 The project is not on a read-only disk or other wise marked read-only

3. The project has not been updated to MS Access 2000 or XP format by an Office application

4. The model was previously OK and did not need to be repaired or compacted.

If all else fails, contact Sparx Systems directly at [support@sparxsystems.com.au](mailto:support@sparxsystems.com.au) for assistance (note assistance is only available to registered users)

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