

*Ansys GRANTA MI 2021 R1*

# **GRANTA MI**

## **Record Version Control**

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## Contents

<b>1</b>	<b><i>Introduction</i></b> .....	<b>4</b>
1.1	How user privileges are referred to in this document .....	4
<b>2</b>	<b><i>Record version control</i></b> .....	<b>6</b>
2.1	Items in the database to which version control is applied .....	6
2.2	Items tracked by version control for a record.....	6
2.3	Version states .....	6
2.4	Version information .....	7
2.5	Operations on version-controlled records .....	8
2.6	Record Life Cycle .....	9
2.7	Operations not tracked by version control for a record .....	17
2.8	User privileges for viewing and editing operations.....	18
<b>3</b>	<b><i>Data versioning</i></b> .....	<b>20</b>
3.1	Version states .....	20
3.2	Life cycle information .....	20
<b>4</b>	<b><i>Enabling version control for a table</i></b> .....	<b>21</b>
<b>5</b>	<b><i>Working with version-controlled records in MI:Viewer</i></b> .....	<b>23</b>
5.1	Version control information in the Contents tree.....	23
5.2	Searching version-controlled tables .....	24
5.3	Viewing a record’s version history .....	25
5.4	Changing a record’s version state .....	26
5.5	Comparing, plotting and exporting versioned records .....	26
5.6	Making bulk version control status changes (Bulk Edit tool) .....	27
5.7	Viewing version control information on datasheets.....	28
5.8	Editing version-controlled records .....	30
<b>6</b>	<b><i>Working with version-controlled records in MI:Explore</i></b> .....	<b>31</b>
<b>7</b>	<b><i>Working with version-controlled records in MI:Toolbox</i></b> .....	<b>32</b>
7.1	Contents tree.....	32
7.2	Importing data into version-controlled tables .....	33
7.3	Transforming data in version-controlled tables .....	37
7.4	Exporting data from version-controlled tables .....	37

# 1 Introduction

The retention of old data is crucial to many businesses, in particular those where safety is crucial and they are governed by external bodies. Aerospace and the medical device industry are prime examples, these businesses may have products in the field for many years. If a failure occurs within a products' lifetime, then it is crucial for the investigating engineers to have access to the data which was used during the design of the product, even if that data has been superseded many times.

## 1.1 How user privileges are referred to in this document

In this document, unless explicitly stated otherwise, 'read users' refers to users who *only* have read privileges for the database. 'Write users' refers to all users who have write or greater privileges for the database.

In a few places, it has been necessary to distinguish between users with write or greater privileges, that is, between users who are members of the Write, Power User, Grant, and Admin security groups.

Read or write privileges to a database are granted by user membership of a GRANTA MI system security group (see [Table 1](#)), and a database security group, if database security groups have been set for a database (see [Table 2](#)). (Database security groups are optional.)

For the purposes of this document, it does not matter whether privileges have been granted by a system or database security group.

*Table 1. If database security groups have not been set for a database*

User Privileges	Member of System Security Group
Read only	Read
Write or greater	Any one of Write, Power User, Grant or Admin

*Table 2. If database security groups have been set for a database*

User Privileges	Member of Database Security Group	Member of System Security Group
Read only	Read	Any one of Read, Write, Power User, Grant or Admin
Write or greater	Any one of Write, Power User, Grant or Admin	Any one of Read, Write, Power User, Grant or Admin

## 1.2 User assistance for GRANTA MI

User assistance for GRANTA MI can be accessed in a number of different ways.

### Help for application users

User help for GRANTA MI applications and tools, providing procedural information on how to use the features within the application, is installed along with the software and can be accessed from the Help menu.

### Reference documentation on the MI:Server or MI:Toolbox host

Reference documentation aimed at IT Administrators, Granta System Admins and Data Administrators, and people importing/exporting data, is installed in a Documentation folder on the MI:Server host server during product installation, typically :

C:\Program Files\Granta\GRANTA MI\Server\Documentation

PDF documentation for the MI:Toolbox exporter, importer, and transformer plug-ins is installed in a *Documentation* subfolder within each plug-in, for example:

C:\Program Files\Granta\GRANTA MI\Toolbox\plugins\Exporters\Excel\Documentation

### Reference documentation in MI:Viewer

GRANTA MI reference documentation is also copied to a Documentation folder in the MI:Viewer web site during product installation and can then be accessed by all MI:Viewer users from the application Help menu.

### Documentation on the Granta Support website

Documentation for GRANTA MI can be downloaded from the *Documentation library* on the [GRANTA MI Support site](#) (sign-in is required).

### Online training video archive

Videos of web-based GRANTA MI monthly training sessions, covering a range of technical topics and best practices for administrators, are available in the Training Archive on the [GRANTA MI Support site](#) (sign-in is required).

## 1.3 Your feedback

We welcome your feedback on Granta help and documentation; please email your comments to: [granta-docs@ansys.com](mailto:granta-docs@ansys.com)

For technical or product-related queries, please contact [Granta Technical Support](#).

## 2 Record version control

### 2.1 Items in the database to which version control is applied

Version control is enabled on individual tables in a database and applies to the records and data in that table. Version control does not apply to changes to the database schema (e.g. adding an attribute to the database), access control schema, subsets, or layouts.

### 2.2 Items tracked by version control for a record

For a record, edits to the following items are tracked by version control:

- Record properties, including Full name, Short name, Short code, Color, Record type, Embedded media display in Read Mode
- Record data, including metadata, and quality ratings

For a record, edits to the following items are not tracked by version control (see Section 2.7 for more information):

- Access control settings
- Data links
- Record links (and their link notes)

### 2.3 Version states

Once version control has been enabled for a table, each record in the table has a version control 'state', one of *Released*, *Unreleased*, *Superseded*, or *Withdrawn*.

Note that all the version control actions are also dependent on the access control settings on the record, e.g. a user with read privileges may still not be able to view a *Released* record if they do not have the access control permissions to do so.

#### 2.3.1 Released

- This is the 'approved' version of the record seen by read users.
- The record can be seen by write users when in Read Mode.
- The record is fixed, that is, it cannot be edited by any user.

#### 2.3.2 Unreleased

- This is the 'unapproved' version of the record, unseen by read users.
- The record can be seen by write users when in Edit Mode.
- The record is editable, write users can change the record or its data.
  - If the properties or data of an unreleased record are changed, then these changes will overwrite the existing values in the unreleased record.
  - Data can be deleted from an unreleased record.

### 2.3.3 Superseded

- This is a released version of the record that has been ‘superseded’ by a later released version.
- The record can be seen by all users if the current state of the record is released.
- The record can only be seen by write users if the current state of the record is ‘withdrawn’.
- The record is fixed, that is, it cannot be edited by any user.

### 2.3.4 Withdrawn

- This is a released version of the record that has been ‘withdrawn’ from use, it is unseen by read users.
- The record can be seen by write users when in Edit Mode, provided they have set a user option.
- The record is fixed, that is, it cannot be edited by any user.

### 2.3.5 Unversioned

If version control has not been enabled for a table, all records in the table are in the state ‘unversioned’. This state is not displayed. All records behave as if they are in the unreleased state, but are visible to all users.

## 2.4 Version information

There is some additional information that will be stored in the database with records and data as a result of version control.

### 2.4.1 Version Number

Each record in the database will have a version number. When the record is created it is given a version number of 1. Each time a new unreleased instance of the record is created, the version number is incremented.

### 2.4.2 Date of Operation & User Login

Whenever the version control state of a record changes, the date of the change and the login of the user who made the change are stored. As some operations result in multiple state changes, some dates will be identical. For example, after a ‘release’ operation, the date of release of the new version and the date the old version was superseded will be identical.

### 2.4.3 Version Notes

Whenever the version control state of a record changes, the user making the change can enter some explanatory text. The presence of this text is optional.

### 2.4.4 Change Notes

Each time a record or its data is edited, the user making the change can enter some explanatory text. The presence of this text is optional.

## 2.5 Operations on version-controlled records

### 2.5.1 Create New Version

For *Released* records:

- Creates an *Unreleased* record.
- Copies released record data into the unreleased record.
- Increments version number by 1.
- Allows editing of the unreleased record.

For new records:

- Adds an *Unreleased* record.
- Version number is set to 1.
- Allows editing of the unreleased record.

### 2.5.2 Release (for *Unreleased* records)

- Changes version state to *Released*.
- Does not increment version number.
- Fixes record in the database.
- Changes version state of previous released record (if it exists) to *Superseded*.
- When a folder or a generic record is released, the user will be offered the option to release all of its descendant records.
- For a record to be released, all its parent records must also be released. This will happen automatically when the record is released.

### 2.5.3 Revert (for *Unreleased* records)

- Removes *Unreleased* record from the database.
- Similar to “delete” in tables with no version control.
- When a folder or a generic record is reverted, the user will be offered the option to revert all of its descendant records.

### 2.5.4 Withdraw (for *Released* records)

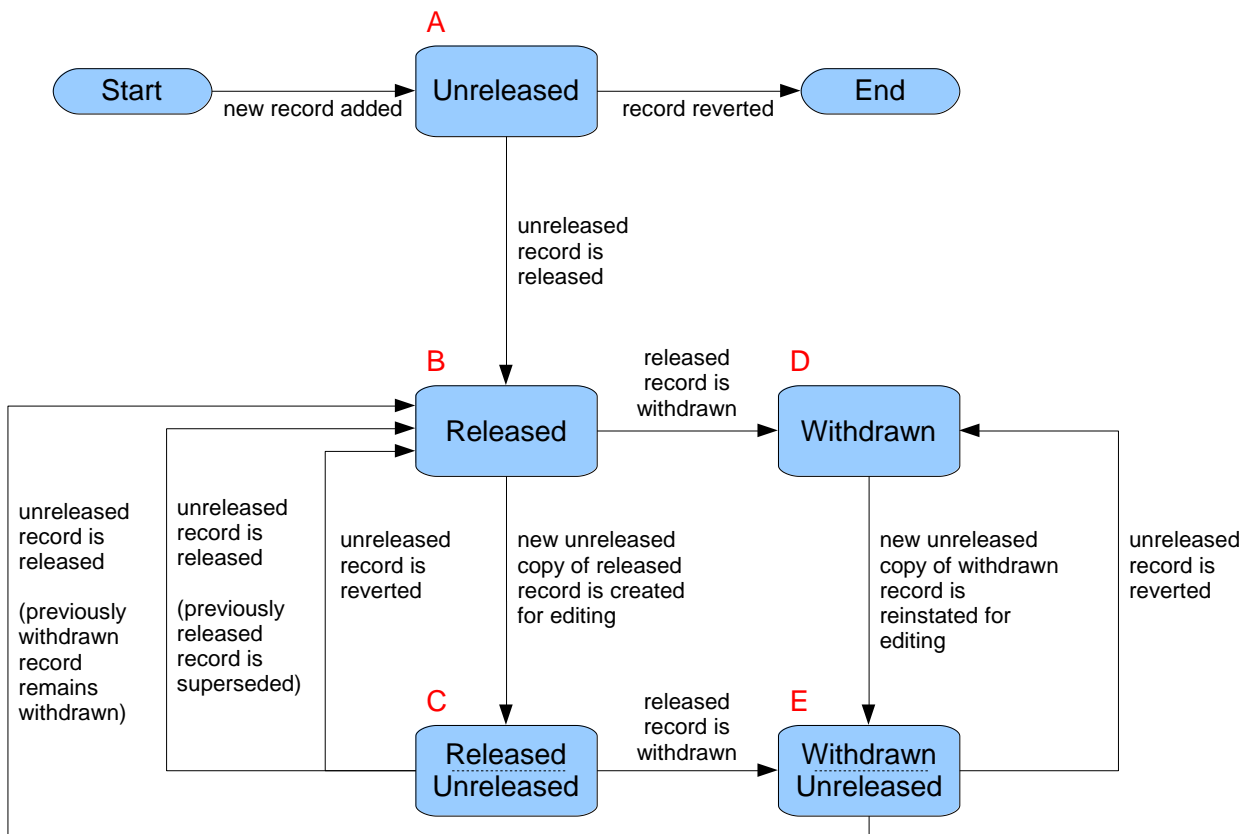
- Changes version state of record to *Withdrawn*.
- When a folder or a generic record is withdrawn, all of its descendant records are withdrawn automatically.

### 2.5.5 Reinstate (for *Withdrawn* records)

- Creates an *Unreleased* record.
- Copies withdrawn record data into the unreleased record.
- Increments version number by 1.



## 2.6 Record Life Cycle



**A** is a new unreleased record. It cannot be seen by read users, but can be edited by write users.

**B** is a released record. All users see the same version.

**C** is a record that has been released, and then a new unreleased version has been created for editing. Read users see the released version. Write users see the unreleased version in Edit Mode (for editing) and the released version in Read Mode.

**D** is a record that has been released, but is now withdrawn. Read users cannot see the record. Write users can see the record, but cannot edit it.

**E** is a record that has been withdrawn, and then a new unreleased version has been reinstated for editing. Read users cannot see the record. Write users can edit the record.

## 2.6.1 Life cycle walkthrough





Record visible to all users	
Record visible to WRITE users	
Record visible to READ users	
Record editable for WRITE users	

Figure 1. Key for the figures in this section

### Adding a new record

When a new record is added to the database, it is given the version number of “1” and it is unreleased. The record in this state is not visible to read users. The unreleased record can be seen and edited by write users.



Figure 2. The operation ‘Add new record’ creates a new unreleased record with a version number of 1

### Editing an unreleased record

Write users can edit the data within the unreleased record (including metadata), or the record properties. When these changes are committed to the database they overwrite the existing values in the same way as it does in a non-version-controlled record. If a datum is deleted from the record, it is deleted from the database. The version number of the record does not change.

### Releasing a record

The state of the record changes from unreleased to released. All the data within the record, including metadata is also released. The record data at the time of the release is 'fixed' in the database. The version number is not incremented. The released record is visible to all users, but it cannot be edited.

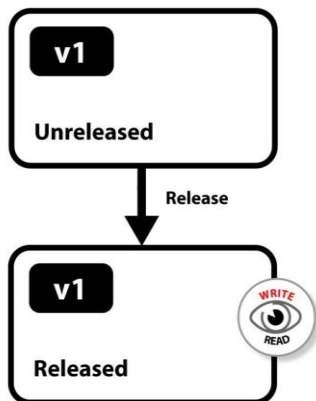


Figure 3. The operation 'Release record' creates a released version of the record with the same version number. See Figure 1 for the key.

### Creating a new version

In order to edit the data in a released record, a new version of the record must be created. This is an unreleased record with a version number incremented by 1. The data in the new version is initially a copy of the released record. The unreleased version is not visible to read users. The data in the unreleased version can be seen and edited by write users.

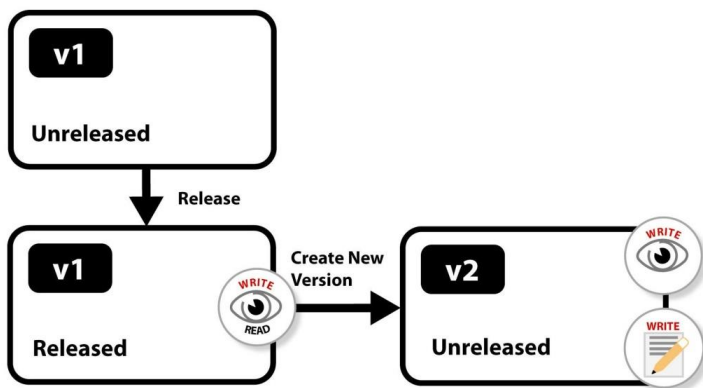


Figure 4. The operation 'Create New Version' creates an unreleased version of the record with a version number of 2. See Figure 1 for the key.

### Superseding a previously released version

When the latest unreleased version of a record is released, the state of the previous released version is changed to superseded. The version number of superseded version is not incremented. The superseded version is visible to all users via the version history (while there is a released version of the record). The superseded record cannot be edited.

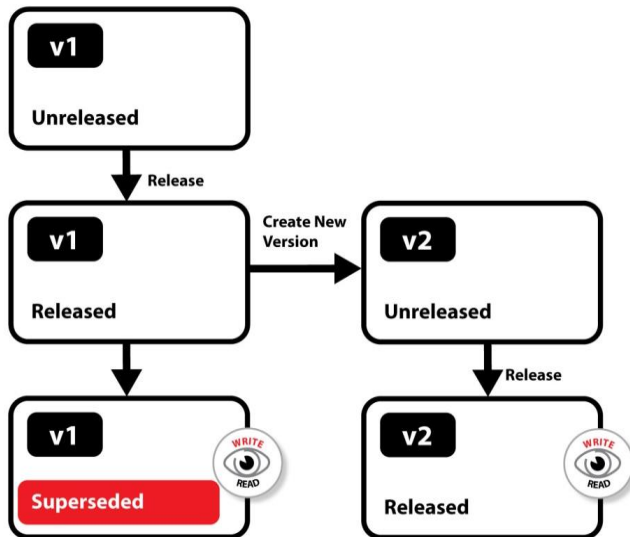


Figure 5. The operation 'Release record' creates a released version of the record with the same version number [v2] and changes the state of the [v1] released record to 'Superseded'. See Figure 1 for the key.

### Reverting an unreleased record

Revert applies to an unreleased record. It deletes the unreleased record from the database.

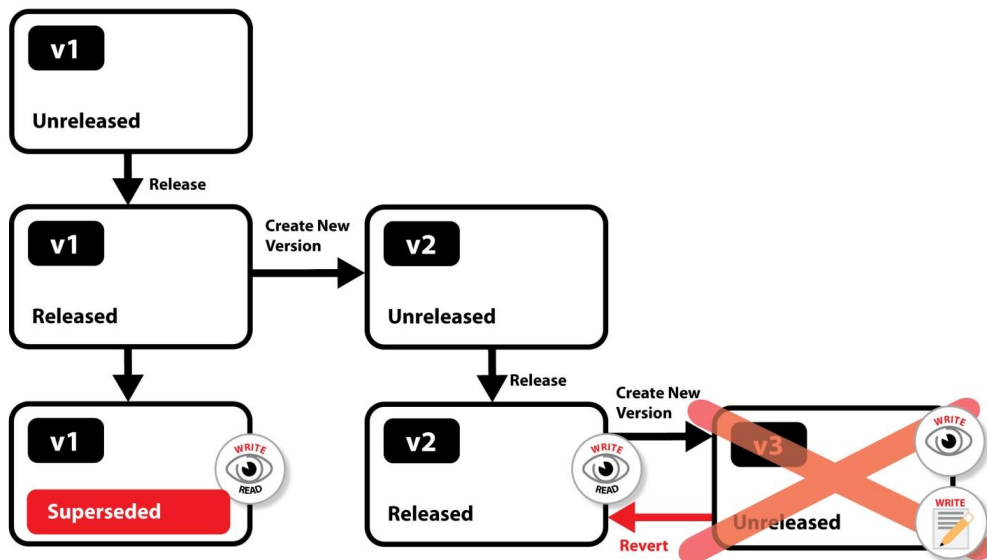


Figure 6. The operation 'Revert record' deleted the unreleased version [v3] from the database, so that the released record [v2] becomes the latest version. See Figure 1 for the key.

### Withdrawing a released record

Withdraw applies to a released record. The state of the record changes from released to withdrawn. The version number is not incremented. The withdrawn version and any superseded versions are visible to write users in Edit mode (provided that **Show withdrawn records** is selected in MI:Viewer Settings), but cannot be edited. The withdrawn version and any superseded versions are not visible to read users.

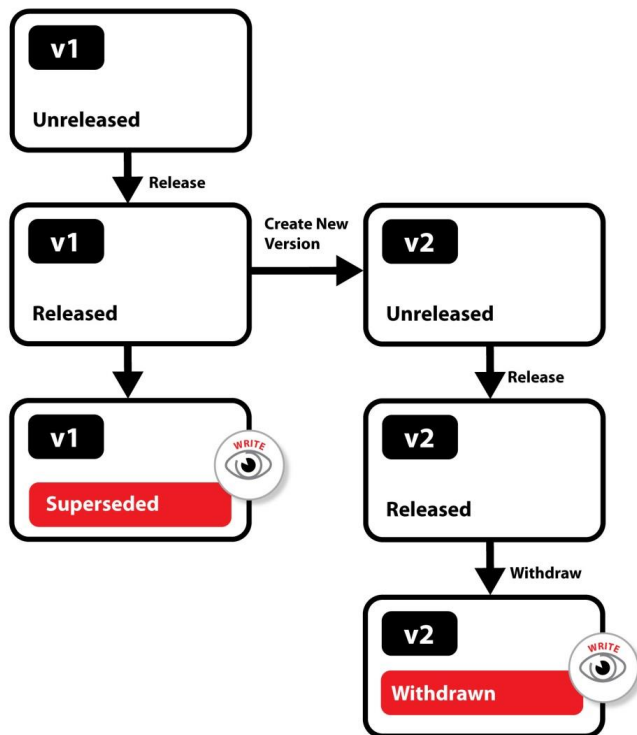


Figure 7. The operation 'Withdraw record' removes the released record [v2] from use. The version number of the record does not change. See [Figure 1](#) for the key.

## Reinstating a withdrawn record

Reinstating applies to a withdrawn record. It creates a new unreleased version of the record, with the version number incremented by 1. The data in the new version is initially a copy of the withdrawn record.

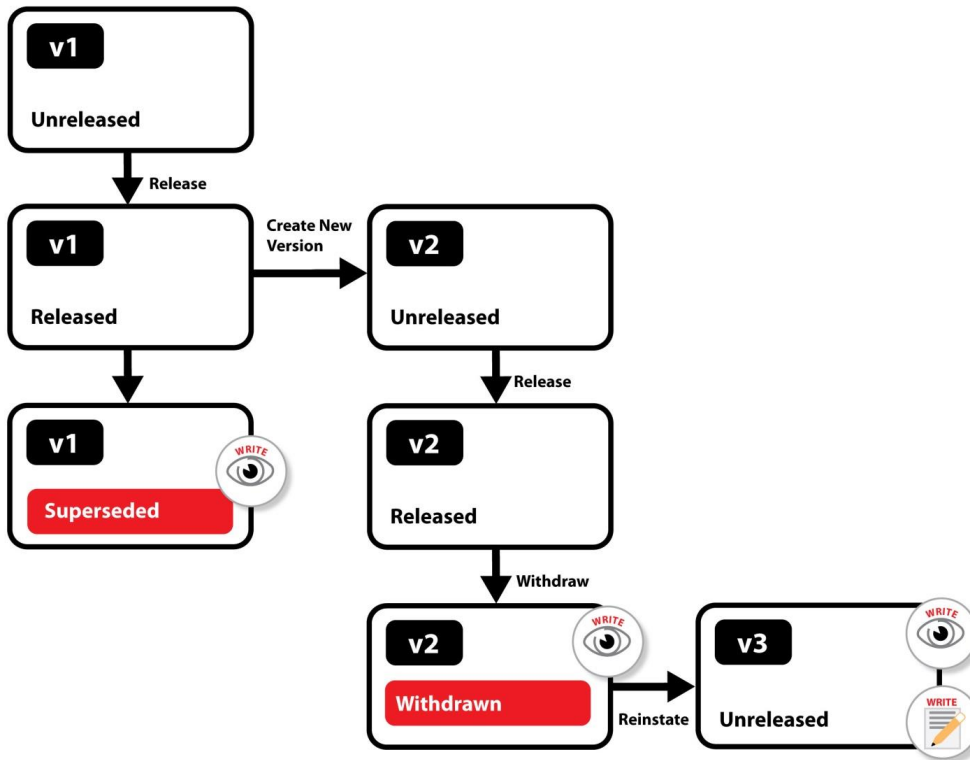


Figure 8. The operation 'Reinstate record' creates a new unreleased version [v3] of the withdrawn record. See Figure 1 for the key.

### Releasing a previously withdrawn record

The state of the record changes from unreleased to released. All users can see the released version.

The superseded version becomes visible again to read users. Read users can also see that a withdrawn version existed, but cannot see any information about it.

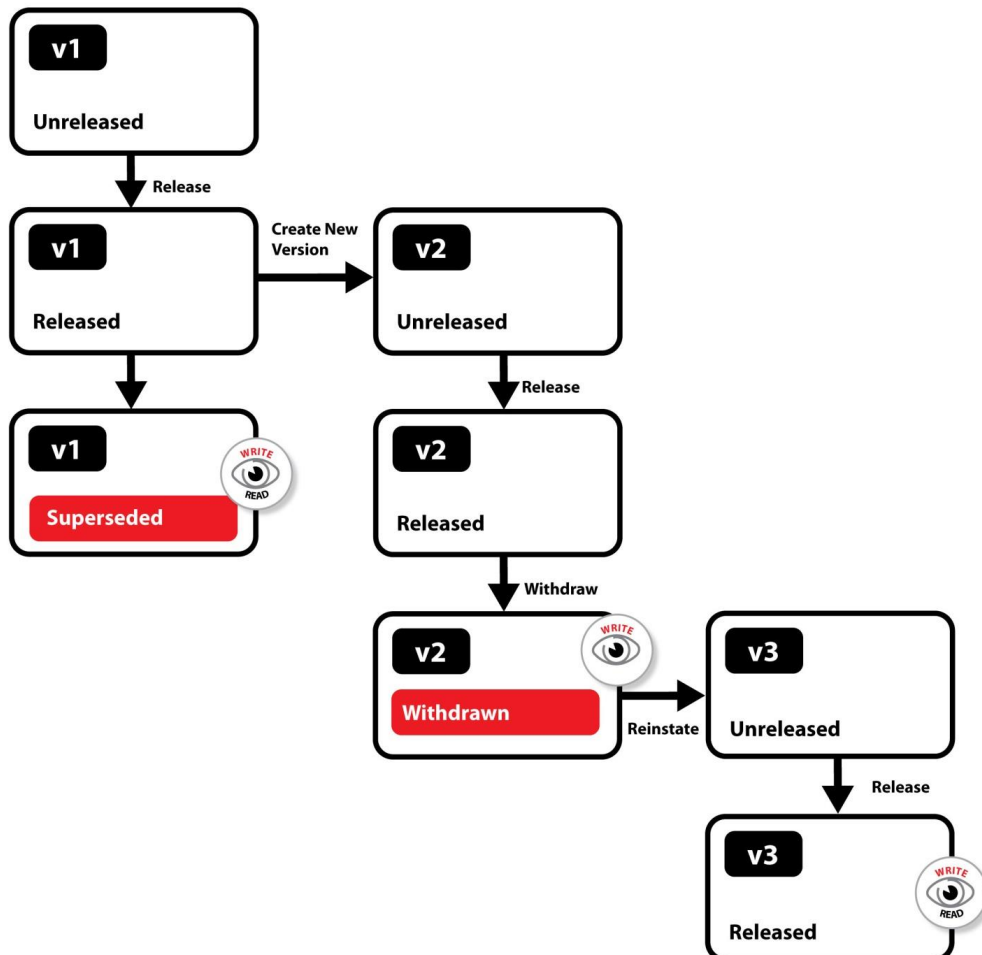


Figure 9. The operation 'Release record' creates a released version of the record with the same version number. See Figure 1 for the key.



## 2.7 Operations not tracked by version control for a record

### 2.7.1 Moving and copying records

Moving or copying records does not change the version control state of a record.

Write users can move or copy unreleased, released, and withdrawn records. No change notes are recorded with this action.

### 2.7.2 Adding records to/removing them from subsets

Adding or removing a record from a subset does not change the version control state of a record. No change notes are recorded with this action.

### 2.7.3 Editing record access control settings

Access control settings are independent of the version state of a record.

Access control settings of a record or data in all version states of record can be edited by users with sufficient privileges. These settings apply to the version of the record being edited.

When a record has its access control settings changed, they will overwrite the existing access control settings. Therefore previous settings will be lost.

### 2.7.4 Editing data links

Data links are independent of the version state of a record.

Data links of released and unreleased records can be edited.

An issue for the user to note is that deleting a piece of data with data links in an unreleased record also deletes the data links. This also affects any previously released versions. If the user subsequently enters a new value, the data links are *not* restored.

### 2.7.5 Editing record links

Record links are independent of the version state of a record.

Static record links or link notes of released and unreleased records can be edited.

## 2.8 User privileges for viewing and editing operations

In this section, it is necessary to distinguish between users with write or greater privileges, that is, between users who are members of the Write, Power User, Grant and Admin security groups.

### A Read user can

- view and export released and superseded records

### A Write user can

- view and export released, superseded, unreleased, and withdrawn records
- edit unreleased data
- create an unreleased version of a record (includes creating a record through importing)
- reinstate or withdraw a record

### A Power User can

- view and export released, superseded, unreleased, and withdrawn records
- edit unreleased data
- create an unreleased version of a record (includes creating a record through importing)
- reinstate or withdraw a record
- release a record

### A Grant user can

- view and export released, superseded, unreleased, and withdrawn records
- edit unreleased data
- edit access control settings
- create an unreleased version of a record (includes creating a record through importing)
- reinstate or withdraw a record
- release a record

### An Admin user can

- view and export released, superseded, unreleased, and withdrawn records
- edit unreleased data
- edit access control settings
- create an unreleased version of a record (includes creating a record through importing)
- reinstate or withdraw a record
- release a record

Table 3. Summary of user viewing and editing operations

User Role	Version Control State			
	Unreleased	Released	Superseded	Withdrawn
<b>Read</b>	Cannot view	Can view	Can view	Cannot view
<b>Write</b>	Can view Can edit Can revert	Can view Can create new unreleased version to edit Can withdraw	Can view	Can view Can reinstate (creates new unreleased version)
<b>Power User</b>	Can view Can edit Can revert Can release	Can view Can create new, unreleased version to edit Can withdraw	Can view	Can view Can reinstate (creates new unreleased version)
<b>Grant</b>	Can view Can edit Can revert Can release Can edit AC settings	Can view Can create new unreleased version to edit Can withdraw Can edit AC settings	Can view	Can view Can reinstate (creates new unreleased version)
<b>Admin</b>	Can view Can edit Can revert Can release Can edit AC settings	Can view Can create new unreleased version to edit Can withdraw Can edit AC settings	Can view	Can view Can reinstate (creates new unreleased version)

## Notes:

- 'AC' refers to access control
- All the above actions are also dependent on the access control settings on the record, e.g. a user with read privileges may still not be able to view a Released record if they do not have the access control permissions to do so.

## 3 Data versioning

Attribute data values in versioned records have an explicit version number. Metadata values also have a version number. The attribute data version is not separate from record version, it can be considered a sub-feature.

The version number of the data value is incremented if the value has been changed since the previous release of the record.

Between different versions of a record, the data for any specific attribute may be unchanged, and thus the same version of the data may be shared by multiple record versions.

*Example:* a record with eight different versions, might have only three versions of data for an attribute:

Record version	1	2	3	4	5	6	7	8
Data version	1			2		3		

The data version number may lag behind the record version number. It will never be greater than the record version number.

### 3.1 Version states

Attribute data values do not have a version state.

### 3.2 Life cycle information

#### Adding a new record

When the data is created it is given a version number of 1.

#### Editing an unreleased record

The data version number in an unreleased record is only incremented once, the first time the data is changed. After that, the data may be edited multiple times without incrementing the version number with every subsequent edit.

Editing the metadata for an attribute does not affect the version number of the attribute data, only that of the metadata.

#### Releasing a record

When the record is released, the value for that data version is fixed. The data version number is not incremented.

#### Moving and copying the record

Moving a record within the record tree will not change the data version numbers.

If a record is copied, the data version numbers of the new record are set to 1.

## 4 Enabling version control for a table

Record version control is enabled for tables in a GRANTA MI database within the MI:Admin application.

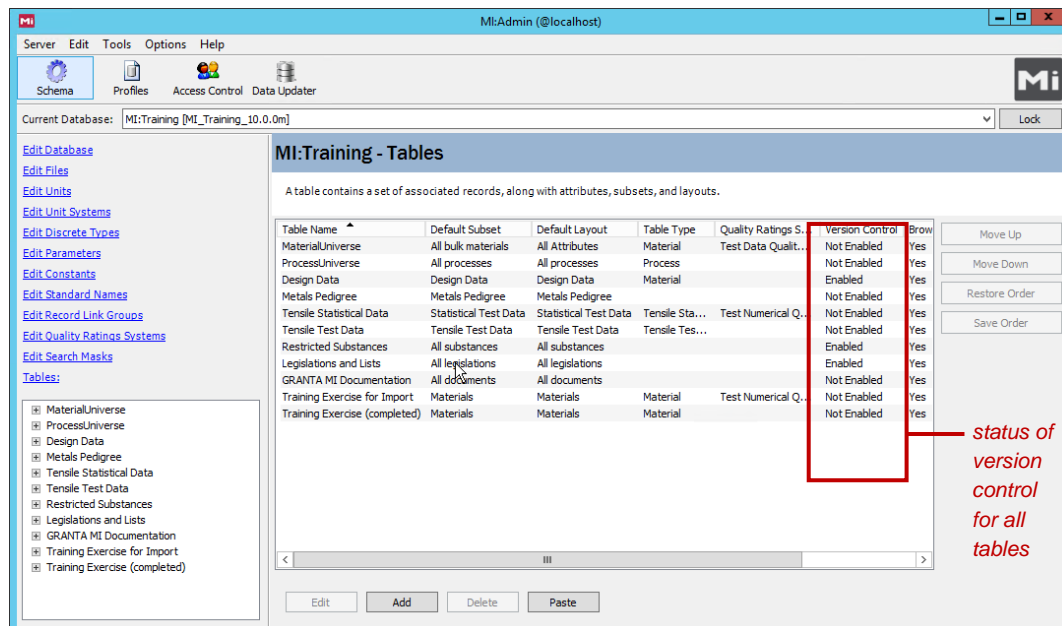


Figure 10. Version control for Tables in the MI:Training database

To enable version control on a table, click **Enable** on the Edit Table page:

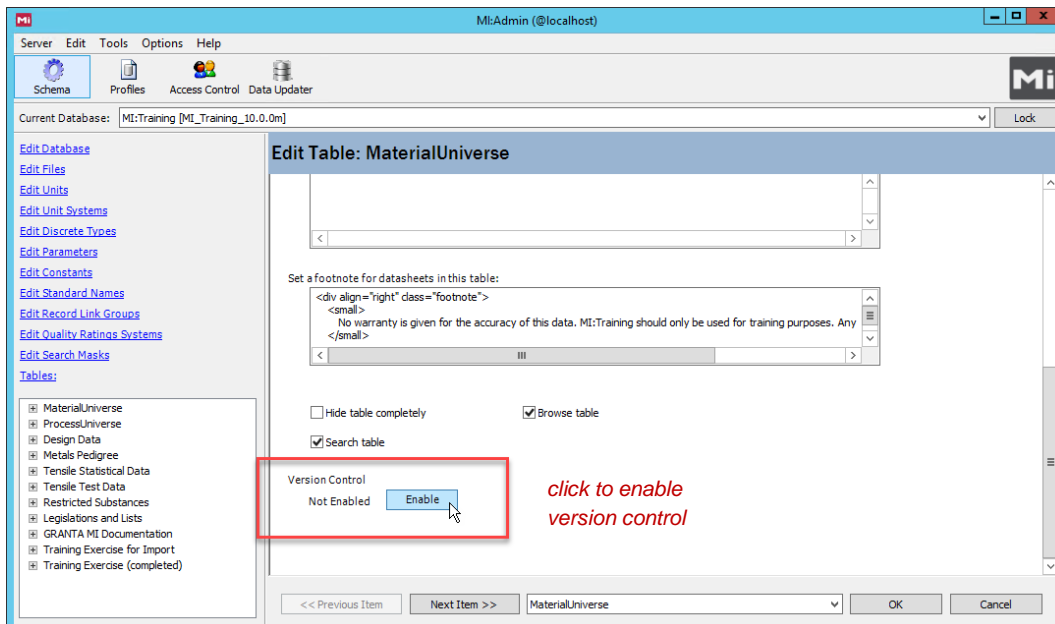


Figure 11. Record version control for a table is enabled and disabled on the Edit Table page

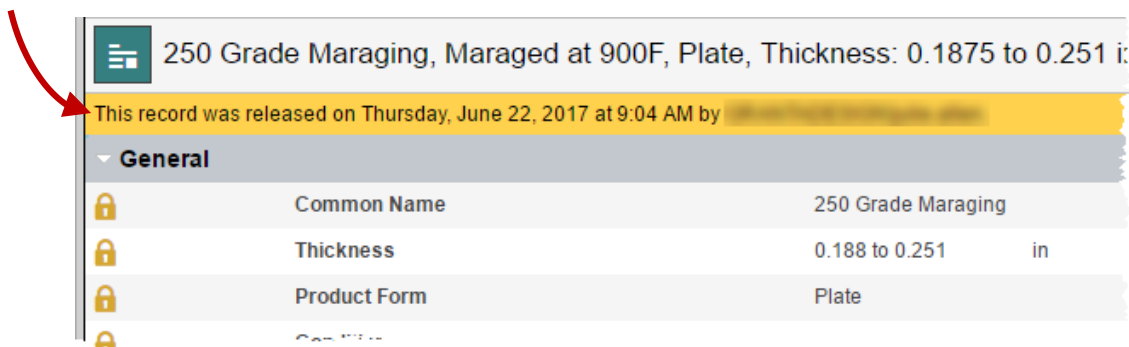
Once enabled, record version control cannot be disabled. A version-controlled table cannot be deleted.

When version control is enabled, you will be able to turn on *version control signatures* for MI:Viewer users, allowing users to see version information for version-controlled records and data:

Version control signatures turned on in MI:Admin



Version control signature visible on a datasheet in MI:Viewer



## 5 Working with version-controlled records in MI:Viewer

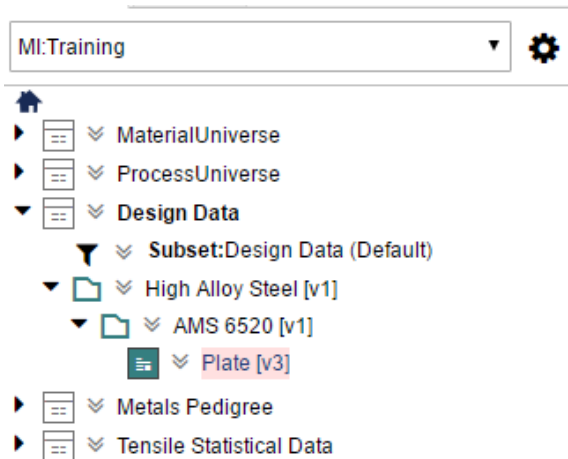
### 5.1 Version control information in the Contents tree

The name of a table with version control enabled is displayed in bold in the contents tree. The version number of the record is shown in square brackets after the record name e.g. “[v3]”

- In Read Mode, only released records are visible on the Contents tree (see Figure 12a).
- In Edit Mode, the latest version of the record is shown on the Contents tree. This will be the unreleased record, if present, otherwise the released record (see Figure 12b). The state of an Unreleased record is displayed e.g. “[v2 Unreleased]”.

The ability to show withdrawn records on the Contents tree in Edit Mode is a user option on the Settings page. The state of a Withdrawn record is displayed e.g. ~~[v3 Withdrawn]~~.

(a) Read Mode : only released records shown



(b) Edit Mode : unreleased and Withdrawn record are visible

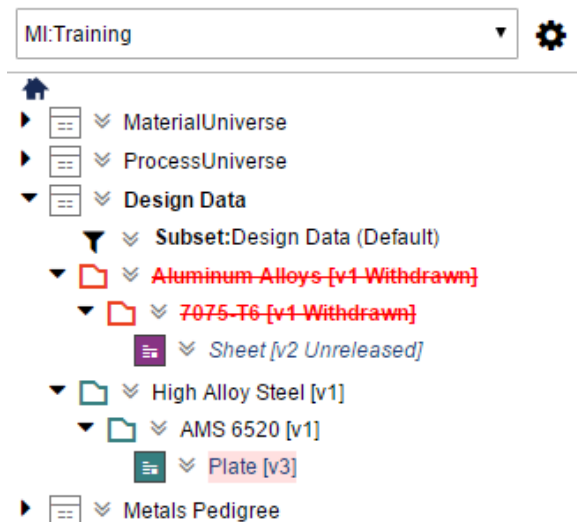


Figure 12. Version control enabled for the Design Data table, MI:Training database

You can click on the record name to see the datasheet for the specified version.

## 5.2 Searching version-controlled tables

In Read Mode, only released records and data will be searchable.

In Edit Mode, both released and unreleased records and data will be searchable, with the following additional rules:

- If a result is found in both the released and unreleased versions of the same record, only the unreleased version will be listed in the results.
- If both released and unreleased versions of the same record exist and a result is found in the released but not the unreleased version, the overall effect will be that the record is not listed in the results (i.e., there is no result in the latest version).
- If both released and unreleased versions of the same record exist and a result is found in the unreleased version, the unreleased version will be listed in the results.

Withdrawn and superseded records will not appear in the results list for a text search.

Withdrawn records automatically fail 'search on attribute' criteria.

As in non-version-controlled tables, a record must be in the current subset to be eligible for search.

Records in the search results list can be added to the report record list in Edit Mode.

### 5.2.1 Searching by version status (Record Filter)

The record filter is used to find records in a particular table and version control state. It can also confine a search to specific dates. The tool is accessible to users from the **Search** page (**Tools > Record filter**).

- In Read Mode, records in the Released and Superseded state may be filtered.
- In Edit Mode, records in the Unreleased, Released, Superseded, and Withdrawn state may be filtered.
- The results from the filter can be added to the record list.

*Example:* results of searching for Released records in the Design Data table that were released after 4th March 2012 :

The screenshot displays the 'Record Filter' tool interface. On the left, the 'Search Criteria' section shows the filtering table as 'Design Data' and the search criteria as 'For folders, generic records, records in the Released state. Released On or After 4/3/2012'. A 'Refine' button is visible. The main area, titled 'Record Filter Results', shows 'Showing 1 result' and a single record: '250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v3]'. The interface includes navigation icons at the top and a 'View Results' link on the left sidebar.



### 5.3 Viewing a record's version history

To view the version history of a record, edit the record and click **View version history** in the Version Control panel.

Version information about the current and previous versions of the record is shown e.g. the date on which a version was released, its name at that time, and the accompanying change notes (see Figure 13).

250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v4 Unrelease...	
Note: Times are displayed using your current time zone's offset from UTC (+01:00).	
<a href="#">Add all versions to list</a> <a href="#">Copy all versions to clipboard</a>	
<b>Version 4 Unreleased</b>	250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v4 Unreleased] Created Granta Design 38, Date : Thursday, June 22, 2017 at 9:38 AM Revision : 194852
<b>Version 3 Released</b>	250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v3] Created Granta Design 38, Date : Thursday, March 29, 2012 at 10:39 AM Revision : 193786 Released Granta Design 38, Date : Thursday, June 22, 2017 at 9:04 AM Revision : 194848 Last modified Granta Design 38, Date : Thursday, June 22, 2017 at 9:38 AM Revision : 194852
<b>Version 2 Superseded</b>	250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v2 Superseded] Created Granta Design 38, Date : Thursday, March 29, 2012 at 10:36 AM Revision : 193783 Released Granta Design 38, Date : Thursday, March 29, 2012 at 10:38 AM Revision : 193785 Superseded Granta Design 38, Date : Thursday, June 22, 2017 at 9:04 AM Revision : 194848
<b>Version 1 Superseded</b>	250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v1 Superseded] Created Granta Design 1, Date : Wednesday, January 27, 2010 at 2:53 PM Revision : 1 Released Granta Design 23, Date : Thursday, November 24, 2011 at 8:33 PM Revision : 193626 records released by Record Manipulator Superseded Granta Design 38, Date : Thursday, March 29, 2012 at 10:38 AM Revision : 193785

Figure 13. The Version History page for an Unreleased record, as seen by a write user. A read user would not see the information about the unreleased record.

From this page, users with the requisite permissions can view the datasheets of previous versions, and add versions to the Record List.

## 5.4 Changing a record's version state

Version control operations relevant for the current state of the record are accessed by editing the record. For example, this unreleased record includes options to release or revert this version (in the Version Control panel)

The screenshot shows the '250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v4 Unreleased]' record page. It is divided into four main sections:

- Properties:**
  - Short Name: Plate
  - Created: ACMECORP\matthew.sands, Date: Thursday, June 22, 2017 at 9:38 AM
  - Revision: 194852
  - Record GUID: 9c12a122-c7a1-495c-a05f-73abb4f01b4
  - Record History GUID: 5b1df472-a92e-4317-b9a8-e1672335bc2e
- Manage:**
  - Move this record
  - Copy this record
  - Add/remove this record to/from a subset
- Edit:**
  - Edit properties
  - Edit data
  - Edit links
  - Edit properties, data, and links
- Version Control:**
  - View version history
  - Release this record
  - Revert this record

(To change the version state of multiple records at the same time, you can add all of the relevant records to the Record List and then use the Bulk Edit tool to change their version; see Section 5.6.)

## 5.5 Comparing, plotting and exporting versioned records

In Read Mode, records in the *Released* and *Superseded* state can be added to the record list on the Reports page

In Edit Mode, records in the *Unreleased*, *Released*, *Superseded*, and *Withdrawn* state can be added to the record list, for example:

The screenshot shows the 'Reports' page. On the left, there is a 'Record List' with the following records:

- MI: Training
- Design Data (4 records shown)
- 250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v1 Superseded]
- 250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v2 Withdrawn]
- 250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v3]
- 250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v4 Unreleased]

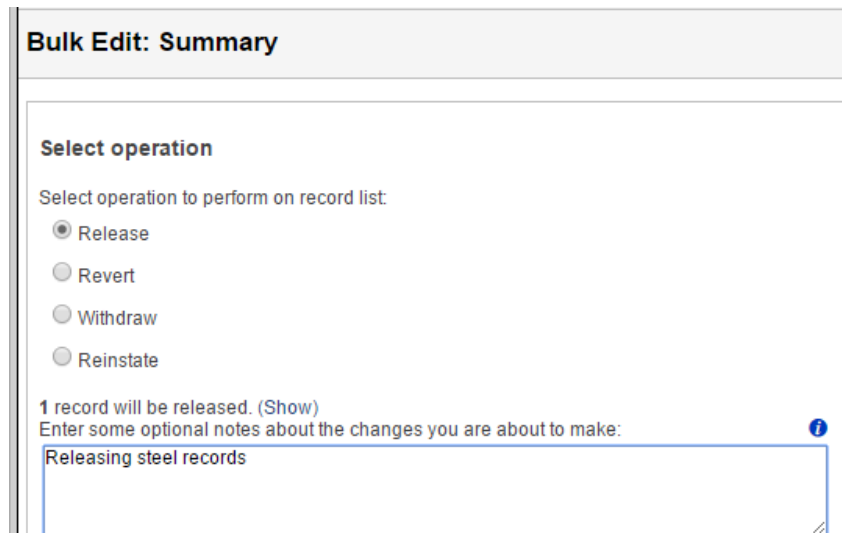
At the bottom of the list are buttons for 'Clear List', 'Copy To Clipboard', and 'Paste From Clipboard'. On the right, there is a 'Perform an operation on the records in your list' section with the following options:

- Comparison Table
- Comparison Chart
- X-Y Chart
- Export
- Bulk Edit: Version Control

Below this is a 'Run Reports' section with the message: 'There are no reports available for the records in your list.'

## 5.6 Making bulk version control status changes (Bulk Edit tool)

When the Record List include version-controlled records, a **Bulk Edit** tool will appear on the Reports page allowing Edit users to change the version control state of the records in the Record List in a single operation, for example, to release or withdraw all records:



**Bulk Edit: Summary**

**Select operation**

Select operation to perform on record list:

- Release
- Revert
- Withdraw
- Reinstate

1 record will be released. (Show)

Enter some optional notes about the changes you are about to make: i

Releasing steel records

Notes entered here will be added to all of the records.

## 5.7 Viewing version control information on datasheets

The version number of the record is displayed after the record name, for example, [v3] in this example:

250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v3]		
<b>General</b>		
Common Name	250 Grade Maraging	
Thickness	0.188 to 0.251	in
Product Form	Plate	
Condition	Maraged at 900F	

The state is also displayed for Unreleased (e.g. [v4 Unreleased]), Superseded e.g. [v2 Superseded], and Withdrawn (e.g. [v1 Withdrawn]) records.


For superseded and withdrawn records, the state and its date are also highlighted below the record name:







250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S		
<b>This record version has been superseded: Thursday, June 22, 2017 at 9:04 AM</b>		
Common Name	AMS 6520, 250 Grade Maraging	
Thickness	0.188 to 0.251	in
Product Form	Plate	
Condition	Maraged at 900F	
Statistical Basis	S basis	

<del>250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v2 Withdrawn]</del>		
<b>This record version has been withdrawn: Tuesday, November 7, 2017 at 11:42 AM</b>		
Common Name	AMS 6520, 250 Grade Maraging	
Thickness	0.188 to 0.251	in
Product Form	Plate	









For released records, if the version control signature has been enabled (see Section 4), the date that the record was released and the user name of the person who released it are displayed in a bar below the record name in the data view:

250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v3]		
This record was released on Thursday, June 22, 2017 at 9:04 AM by [User Name]		
<b>Data [v1]</b>		
Density	0.286	lb/in <sup>3</sup>


When viewing a datasheet for an unreleased record, the Data Changed  icon indicates data values that differ from the released record, showing what data will be released by releasing the record:

250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v4 Unreleased]		
<b>General</b>		
	Common Name	250 Grade Maraging
	Thickness	 0.188 to 0.26 in
	Product Form	Plate
	Condition	Maraged at 900F
	Statistics	S basis

If there is no previous released version, or if the previous version is withdrawn, all data will be flagged as changed:

Aluminum alloys, 7075-T6, Sheet [v2 Unreleased]		
<b>General</b>		
	Thickness	 0.008 to 0.012 in
	Product Form	 Sheet
	Condition	 T6
<b>Physical &amp; Electrical</b>		
	Density	 0.101 lb/in <sup>3</sup>

Version information for the data in a datasheet can be viewed: on the datasheet **View** menu, click **Version Information**.

250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v3]	
<b>Record Versions</b>	
<ul style="list-style-type: none"> <li>250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v1 Superseded]</li> <li>250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v2 Superseded]</li> <li> 250 Grade Maraging, Maraged at 900F, Plate, Thickness: 0.1875 to 0.251 in, AMS 6520, S basis [v3]</li> </ul>	
Click on a heading to show/hide the section. <span style="float: right;">Sections: Show   Hide</span>	
<b>General</b>	
<b>Common Name</b>	<a href="#">View Data</a>
Data version:	3
Created on record version:	3
Created	Granta Design 38, Date : Thursday, March 29, 2012 at 10:40 AM Revision : 193787
Released	GRANTADESIGN\julie.allen, Date : Thursday, June 22, 2017 at 9:04 AM Revision : 194848
<b>Thickness</b> <span style="float: right;"><a href="#">View Data</a></span>	
Data version:	1
Created on record version:	1
Created	Granta Design 1, Date : Wednesday, January 27, 2010 at 2:53 PM Revision : 1
Released	Granta Design 23, Date : Thursday, November 24, 2011 at 8:33 PM Revision : 193626 records released by Record Manipulator
<b>Product Form</b> <span style="float: right;"><a href="#">View Data</a></span>	
Data version:	1
Created on record version:	1
Created	Granta Design 1, Date : Wednesday, January 27, 2010 at 2:53 PM Revision : 1

## 5.8 *Editing version-controlled records*

In Released records, status record links, data links, and access control settings can all be edited by users with the requisite permissions without creating a new unreleased version of the record. The access control settings of superseded and withdrawn records can also be edited.

To edit data values, a new, unreleased version of the record must be created.

## 6 Working with version-controlled records in MI:Explore

Record version control information is not exposed in MI:Explore, and users only ever see the released version of records in version-controlled tables.

Note that when a version-controlled record is edited in MI:Explore:

- **A new version is created and released.** Because of this, MI:Explore users who need to edit version-controlled records need to be a member of the GRANTA MI *Power User* system security role. If an MI:Explore user does not have sufficient privileges to be able to release records (i.e. they are not members of the *Power User* role, or higher), the record will be updated and the new record version created, but it cannot be released, and so the user will see an error.
- **Any existing, unreleased versions of the record will be deleted.** You should be aware of this if users may be editing the same version-controlled data in MI:Viewer and MI:Explore.

## 7 Working with version-controlled records in MI:Toolbox

### 7.1 Contents tree

When the open database contains version-controlled tables, the record tree in MI:Toolbox displays record version control information. Version control options and the user's privileges determine which records are displayed on the tree.

#### 7.1.1 Version control information on the contents tree

For databases with version-controlled tables, version control information for the records is displayed in the MI:Toolbox contents tree. This corresponds to the information displayed in the MI:Viewer tree.

The version control information is displayed within square brackets after the record name. The version control number is always given e.g. [v1]. The version control state is given for unreleased records and withdrawn records e.g. [v3 Unreleased]. Withdrawn records are shown with a strike through the record name.

#### 7.1.2 Version control options

The version control options apply to the Contents tree, and are displayed below the tree pane (see [Figure 14](#)). They are only available for databases that contain version controlled tables and are available to write users only; read users do not see the options, and are only shown released records.

- **Show Latest Records** displays the unreleased record if it exists, otherwise it shows the released record.
- **Show Released Records** displays only released records.
- **Show Withdrawn Records** is only available in the 'Show Latest Records' mode.

The tree updates dynamically when the options are changed.

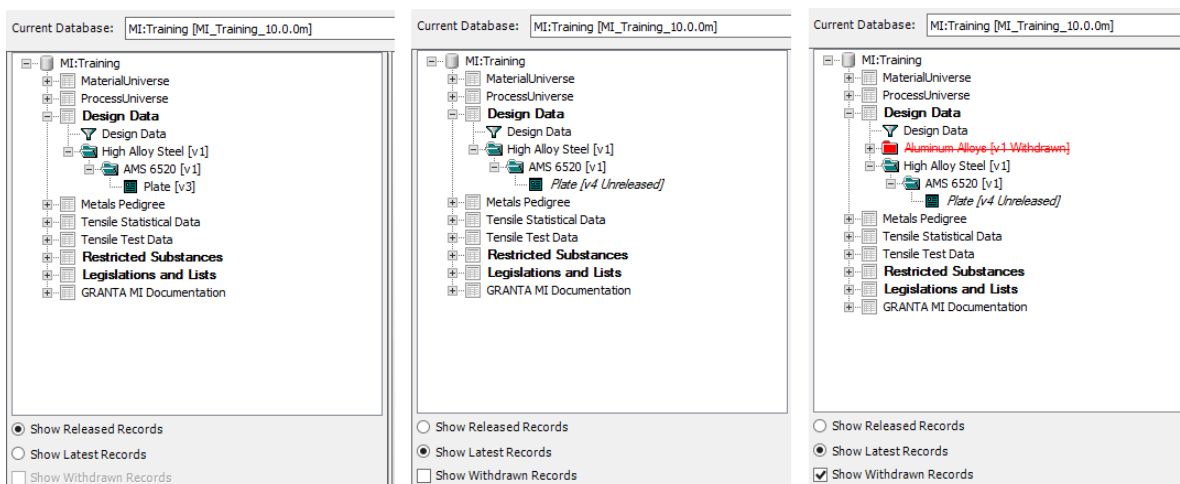


Figure 14. MI:Toolbox version control information on the contents tree

Note that the records visible on the tree are those in the current subset.



## 7.2 Importing data into version-controlled tables

The Excel Importer, Text Importer and Bulk Data Importer Toolbox plug-ins are available to Write users. When records are imported into a version-controlled table, they create new, unreleased records. If a record of the same name already exists in the destination folder in the database, the Importer offers resolution options on how to deal with the incoming data. The options are Replace, Replace Data, Merge, Append, Rename and Do Not Import. (Note that the Merge and Append options are not available in the Bulk Data Importer.)

**Table 4** describes the different record states and the following tables describe how each of the resolution options work for different record states. Note that in all instances, the imported data is always unreleased.

Table 4. Version control record states

Record state	Description
Released	The existing record is Released only. There is no corresponding Unreleased version of the record or its data.
Released, Unreleased	There are both Released and Unreleased versions of the existing record.
Unreleased	The existing record is Unreleased only. There is no corresponding Released version of the record or its data (this may be because the record is new and has no previous version history, or because the most recent entry in the record's version history is Withdrawn).
Withdrawn	The existing record is Withdrawn.

When replacing a version-controlled record, the new record will retain the version history of the previous record.

### 7.2.1 Effect of using the 'Replace' record name conflict resolution option

Initial state	Result
Released [vN]	The existing released record is withdrawn. A new unreleased record [vN+1] is created with no data, then the incoming data is added to the record.
Released [vN] and Unreleased [vN+1]	The existing unreleased record is reverted and the existing released record is withdrawn. A new unreleased record [vN+1] is created with no data, then the incoming data is added to the record.
Unreleased [v1]	The existing unreleased record is reverted and a new unreleased record [v1] is created with no data, then the incoming data is added to the record.
Withdrawn [vN]	A new unreleased record [vN+1] is created with no data, then the incoming data is added to the record.

### 7.2.2 Effect of using the 'Replace Data' record name conflict resolution option

Initial state	Result
Released [vN]	<p>A new unreleased record [vN+1] is created which inherits the data values from the released record.</p> <p>The incoming data then overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>
Released [vN] and Unreleased [vN+1]	<p>The existing unreleased record is kept.</p> <p>The incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>
Unreleased [v1]	<p>The existing unreleased record is kept.</p> <p>The incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>
Withdrawn [vN]	<p>A new unreleased record is [vN+1] created which inherits the data values from the released record.</p> <p>The incoming data then overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>

### 7.2.3 Effect of using the 'Merge' record name conflict resolution option

Initial state	Result
Released [vN]	<p>A new unreleased record [vN+1] is created which inherits the data values from the released record.</p> <p>If the data type does support merging, incoming data is merged with existing data.</p> <p>If the data type does not support merging, incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>
Released [vN] and Unreleased [vN+1]	<p>The existing unreleased record is kept.</p> <p>If the data type does support merging, incoming data is merged with existing data.</p> <p>If the data type does not support merging, incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>

Initial state	Result
Unreleased [v1]	<p>The existing unreleased record is kept.</p> <p>If the data type does support merging, incoming data is merged with existing data.</p> <p>If the data type does not support merging, incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>
Withdrawn [vN]	<p>A new unreleased record [vN+1] is created which inherits the data values from the released record.</p> <p>If the data type does support merging, incoming data is merged with existing data.</p> <p>If the data type does not support merging, incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>

#### 7.2.4 Effect of using the 'Append' record name conflict resolution option

Initial state	Result
Released [vN]	<p>A new unreleased record [vN+1] is created which inherits the data values from the released record.</p> <p>If the data type does support appending, incoming data is appended to existing data.</p> <p>If the data type does not support appending, incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>
Released [vN] and Unreleased [vN+1]	<p>The existing unreleased record is kept.</p> <p>If the data type does support appending, incoming data is appended to existing data.</p> <p>If the data type does not support appending, incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>
Unreleased [v1]	<p>The existing unreleased record is kept.</p> <p>If the data type does support appending, incoming data is appended to existing data.</p>

Initial state	Result
	<p>If the data type does not support appending, incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>
Withdrawn [vN]	<p>A new unreleased record [vN+1] is created which inherits the data values from the released record.</p> <p>If the data type does support appending, incoming data is appended to existing data.</p> <p>If the data type does not support appending, incoming data overwrites the existing data.</p> <p>Those values that are not overwritten are kept.</p>

### 7.2.5 Effect of using the 'Rename' record name conflict resolution option

Initial state	Result
Released [vN]	Specify a new name and add a new unreleased record [v1].
Released [vN] and Unreleased [vN+1]	Specify a new name and add a new unreleased record [v1].
Unreleased [v1]	Specify a new name and add a new unreleased record [v1].
Withdrawn [vN]	Specify a new name and add a new unreleased record [v1].

### 7.2.6 Effect of using the 'Do Not Import' record name conflict resolution option

Initial state	Result
Released [vN]	The incoming data is not imported.
Released [vN] and Unreleased [vN+1]	The incoming data is not imported.
Unreleased [v1]	The incoming data is not imported.
Withdrawn [vN]	The incoming data is not imported.

For more information on supported data types for merging and appending, see the MI:Toolbox help, the *Excel Importer Reference Guide*, or the *Text Importer Reference Guide*, located in the *Documentation* subfolder under the plugin installation folder.

### 7.3 *Transforming data in version-controlled tables*

The Record Manipulator Toolbox plug-in is available to Write users.

When data is changed, the new data will be written to the unreleased record. If an unreleased record does not exist, it will be created by the plug-in.

For the Record Manipulator plug-in, it is necessary to distinguish between users with write or greater privileges.

- Write users may revert Unreleased records and withdraw Released records.
- Power User, Grant, and Admin users may revert or release Unreleased records, and withdraw Released records.

### 7.4 *Exporting data from version-controlled tables*

The Excel Exporter Toolbox plug-in is available to Write and Read users.

- Read users may only export Released records.
- Write users may export Unreleased, Released, and Withdrawn records.