



## Multi-user Change Tracking

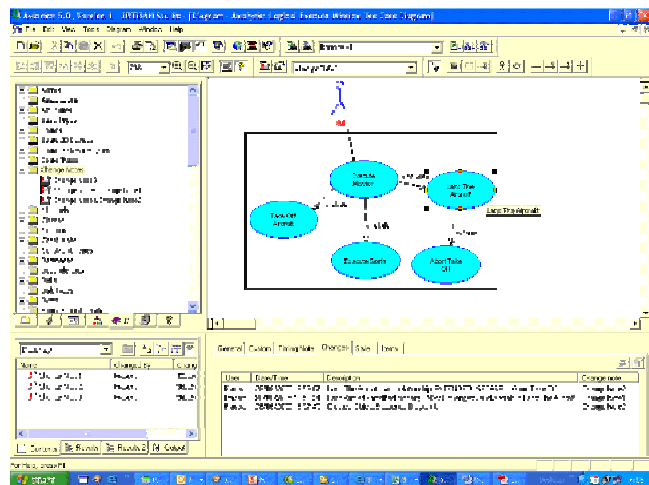
### Features:

- ✓ **Automatically tracks changes**, as users make them.
- ✓ **Groups changes together**, for review and audit.
- ✓ **Lists affected items**, ideal for review purposes.
- ✓ **Baselining and checkpointing** with internal/external CM.
- ✓ **Open and flexible**, to match your process needs.

Almost all large projects and almost certainly all safety or mission-critical systems require an auditable process to be followed. Not only do you have to “say what you do” and “do what you say” you must be able to “prove it” with quality records and project artifacts. It is this proof of adherence to a process that forms the backbone of verification-based audits such as CMMI® and quality accreditations including TickIT and ISO 15504 (SPICE).

Multi-user Change Tracking extends ARTiSAN Studio’s powerful client-server repository in support of a quality-assured process. Based on the understanding that models are complex pieces of interwoven data, changes are automatically tracked on each model element, rather than an artificial granularity imposed by an external tool. Individual developers can see a historical record of changes on each model element, enhancing collaboration in a multi-user environment. Changes are grouped against “Change Notes” to directly support review and audit processes.

For your organization it means you can grow models extremely fast, avoiding the integration overheads of branching and merging models. This is especially important for systems engineers and high-level design work. It concentrates on the problem “How do I collect historical information in support of adherence to a process?”, rather than the traditional paradigm of “How do I isolate my developers using a CM tool?”. Of course, a CM tool can still be used where it’s needed, and particularly for things like baselining models and component sharing.



Facilities highly-monitored, multi-user working, without requiring developers to learn a complex external CM tool.

### BENEFITS

#### Eases your review and audit processes

Reviewers and developers can navigate the list of changes for review purposes. Enables creation of change records from stored data.

#### Aids multi-user collaboration

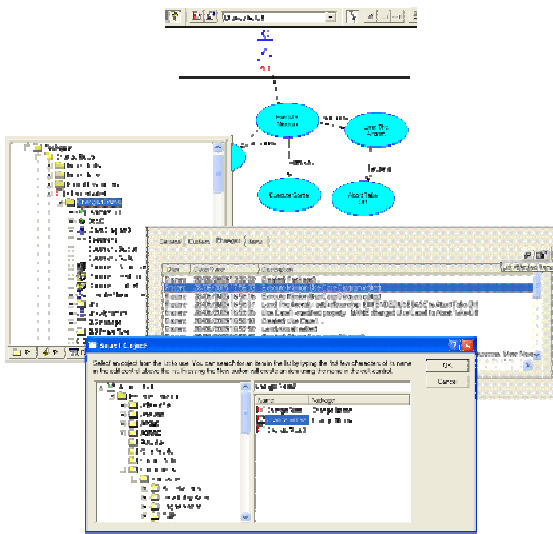
All items in the model have their own change history. If something changes and you’re interested to know the source and rationale, the evidence is there.

#### Faster time-to-market for mission-critical systems

Facilitates fully tracked multi-user working, without requiring developers to learn a complex external CM tool. Lets your developers concentrate on modeling!

#### Integrates with your existing processes/tools

Using standard UML profiles it can be extended to suit your process work-flow, for example a review status, or data for synchronization with an external tracking tool.



Changes are automatically tracked by the tool and available for each model element.

## FEATURES

### Automatically tracks changes

The change tracking facility needs to be enabled or disabled by the model or repository owner. This is an obvious security mechanism to prevent ordinary developers from circumventing the process.

Once enabled, all changes made manually by developers are tracked automatically by the tool using a new metatype called a *change*. A change corresponds to a transaction on the model and in some cases may affect more than one model element, for example deleting a class from the model may affect both the class and the diagrams it is on. Since transactions are also tied to the Undo stack, undoing a change will remove the record of its occurrence.

Each change records a summary of a transaction. The summary includes amongst other things the author, the time, and an auto-generated description field. Using the object-relationship repository, ARTiSAN Studio is also able to link the change with all the affected items in the model.

### Groups changes together into change notes

Change notes provide a mechanism for grouping changes together. When change tracking is enabled all users need to either create or select a *change note*, to gain write access to the model.

To assist the user in understanding what change note they are working on a *change tracking toolbar* is displayed in the Graphical User Interface when change tracking is enabled. The change tracking toolbar has a pull-down list of previously selected change notes. This list eases the user in switching between multiple tasks, and is persisted between sessions.

The description field for a change note provides a rich text field for recording a summary of the work, and is ideal for review and audit purposes.

### Lists affected items

When reviewing work one of the most useful things to know is what model elements have been affected in the course of working on a change note. The list of 'touched' items is provided by ARTiSAN Studio in the Relationships pane of the Explorer window.

For a reviewer this means that they can navigate a browsable list of changed elements for the purpose of certifying model changes. This is an important time saver when reviewing a complex model. Using this list the reviewer can double click to open the model elements affected by a change note.

### Baselining and checkpointing

Change notes can be internally versioned, or checked into CM and labeled as part of a baseline, just like any other item. This is often important for creating quality records for audit purposes downstream.

Often a user may wish to checkpoint a model, or part thereof, at the start and completion of a review so they can reference the baseline on a review record.

### Open and flexible

Use of change tracking is open and flexible to your project needs. Commonly a single change note will relate to a single configuration change request by a single user.

You can also extend change notes like any other model element using stereotypes and tag definitions, for example to add a review status for the changes, or to store data for synchronization with an external change management tool.

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- ✓ Requires ARTiSAN Studio plus CM license.
- ✓ Add UML stereotypes and tags, e.g. to store information for synchronization with an external change management tool or the review status of a set of changes.



## About ARTiSAN Software Tools

ARTiSAN is the leading supplier of collaborative modeling tools for requirements analysis, specification, design and development of complex applications. The company provides standards-based, multi-user tool support from architectural frameworks through systems design to software implementation. ARTiSAN offers products, services and a process for systems and software modeling to accelerate the development of next-generation real-time systems while ensuring that they always meet requirements. ARTiSAN enables engineering teams to visualize, design and validate systems before building them, and simplifies implementation with code generation and software reuse. Winner of the 2005 SD Times 100 award in the Modeling category for bringing UML and SysML to real-time embedded systems, ARTiSAN offers the most advanced tools for complex applications development.

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