Continuous Engineering EcoSystem Day - 28 may 2019

BranchManager for DOORS

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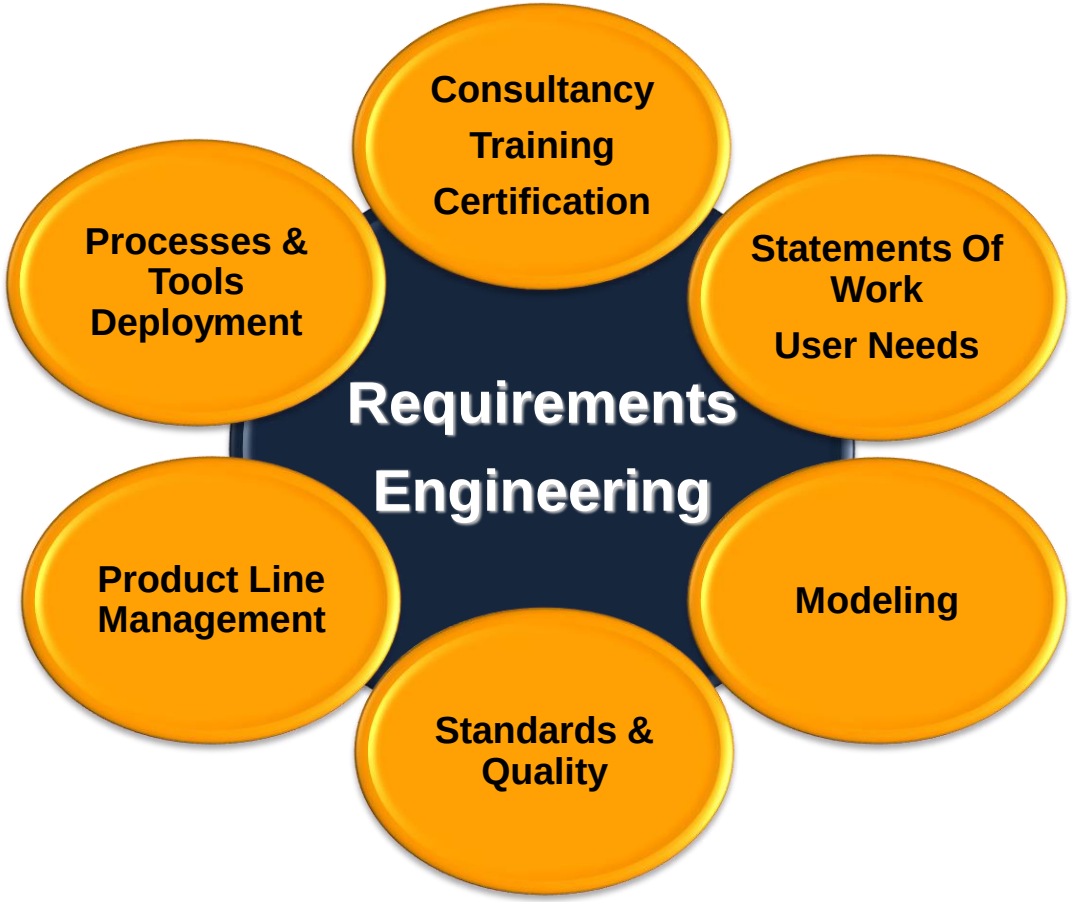
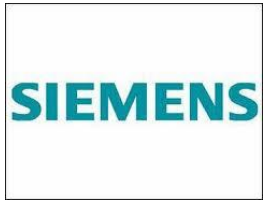
COMPLIANCE Technologies

- Founded in 2004
- Expertise in Requirements Engineering, and also System & Software Engineering about processes, methods and Tools (DOORS, CLM, Reqtify, Polarion, Enterprise Architect, etc.)
- Control and Improvement of **compliance** and **quality** for **Complex Systems** and **Information Systems**
- **IREB Member and Recognized Training Provider**



Customers

the way to new energy



COMPLIANCE TECHNOLOGIES

Branch Manager for DOORS

BranchManager Overview

IT-QBase LifeCycle Management

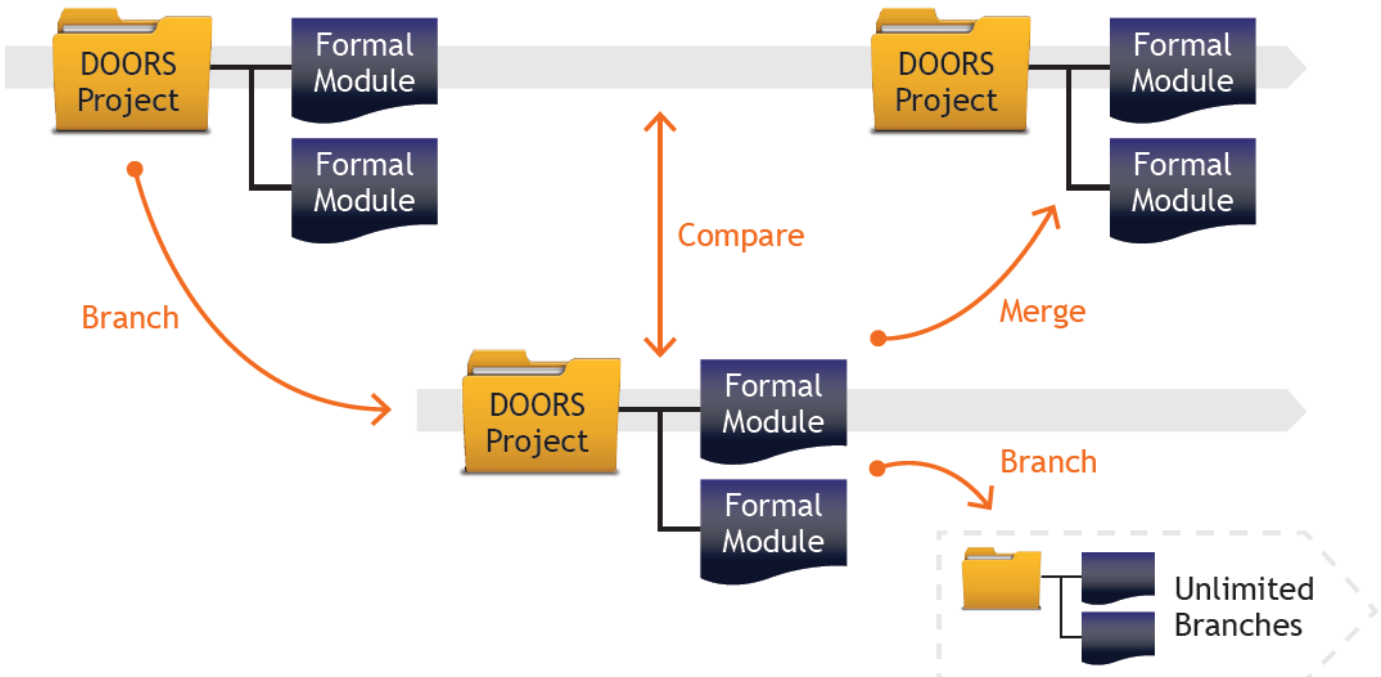
COMPLIANCE TECHNOLOGIES

Overview

- Provide Stream management to Rational DOORS
  - Challenge: Manage similar requirements set across many projects
    - Provide the ability to compare formal modules with differences in content and structure
    - Provide the ability to branch sets of modules as a new stream of requirement
    - Provide the ability to merge changes across branches

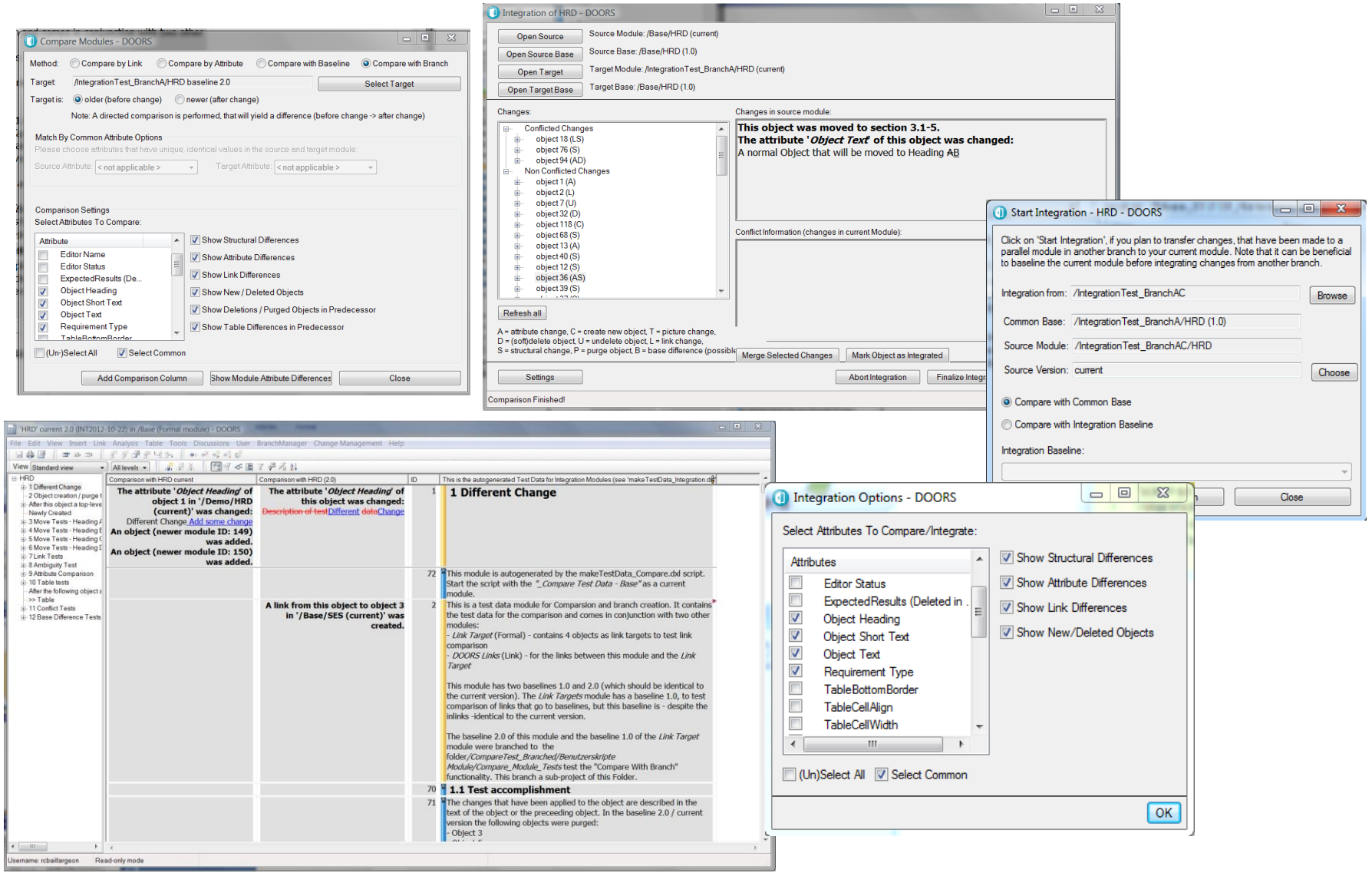
BranchManager for DOORS Usage

- *Product Line Engineering*
- *Maintenance Streams*
- *Requirements Library*
- *Personal Sandbox*
- *…*



COMPLIANCE TECHNOLOGIES

Branch/Compare/Merge



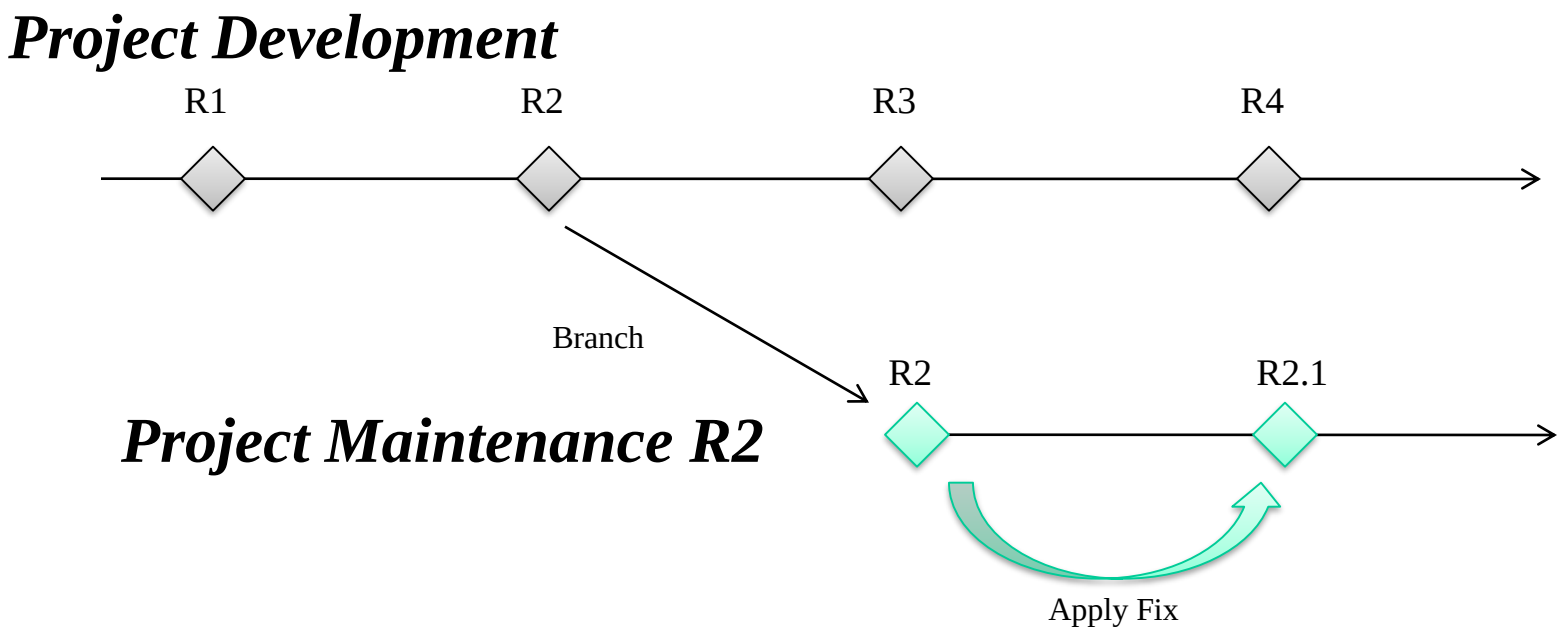
COMPLIANCE TECHNOLOGIES

Branch Manager for DOORS

BranchManager Usage Patterns

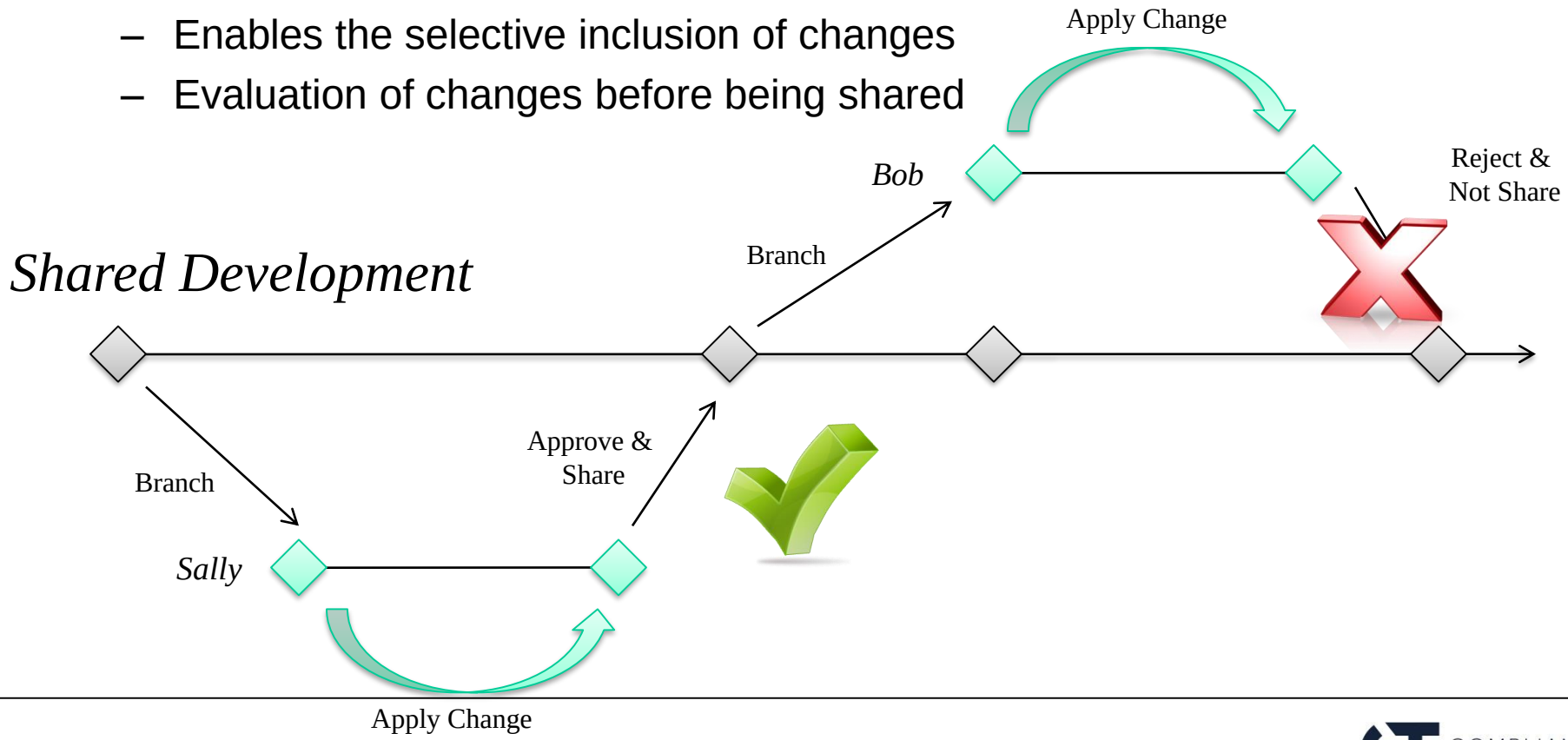
Pattern - Maintenance Branch

- What
  - Branch off the main development to support released product
- Why
  - Enable a clear separation of current development and released and maintained assets



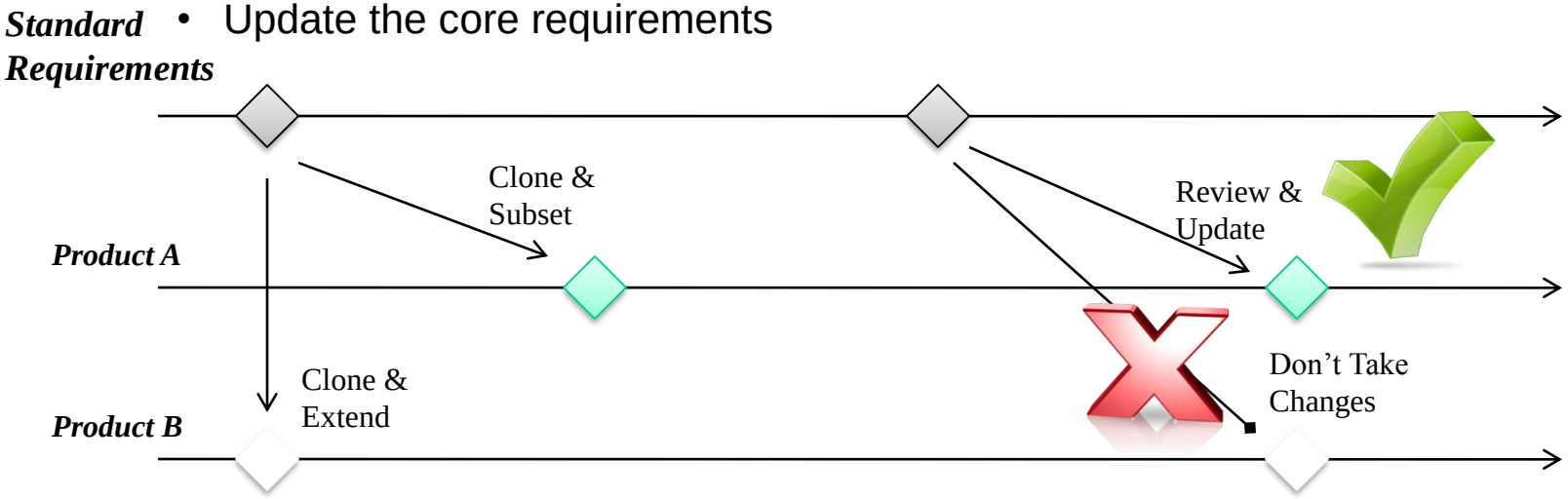
Pattern - Personal Sandbox & Change Evaluation

- What
  - Branch off the main development to individual development
- Why
  - Enable a clear separation of current approved content
  - Enables simultaneous development without conflict
  - Enables the selective inclusion of changes
  - Evaluation of changes before being shared



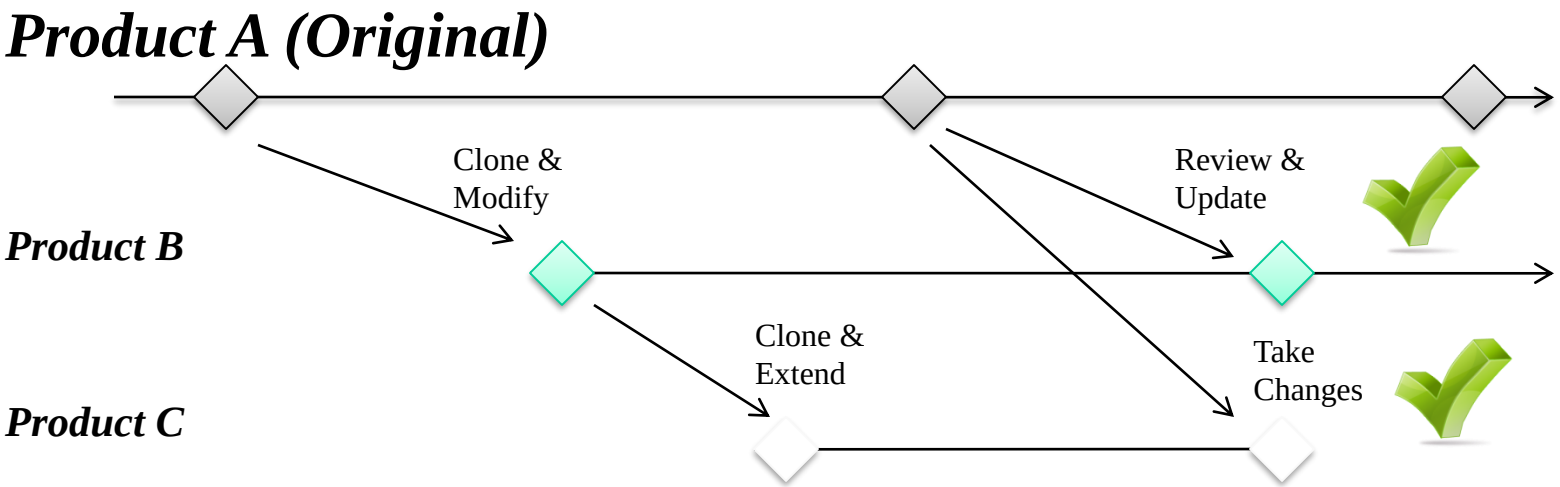
Pattern - Shared Requirements

- What
  - Baseline set of requirements set over an entire product base. Boilerplate requirements, baseline capabilities, “platform” requirements.
- Why
  - Common sets of requirements are common across multiple products
    - Subset & extend requirements
    - Identify changes and merge updates from the common set.
    - Update the core requirements



Pattern - Derivative Product

- What
  - Creation of a new product as a subset or extension of an existing product
- Why
  - Allows rapid creation of a new product
  - Still enables sharing across products



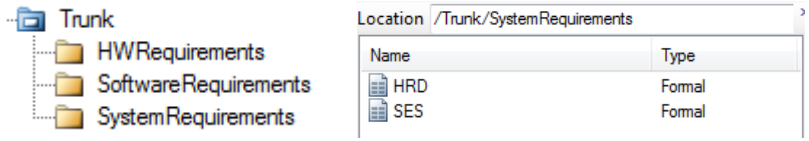
Branch Manager for DOORS

BranchManager Solution

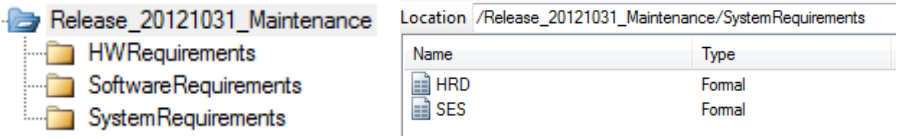
BranchManager Solution

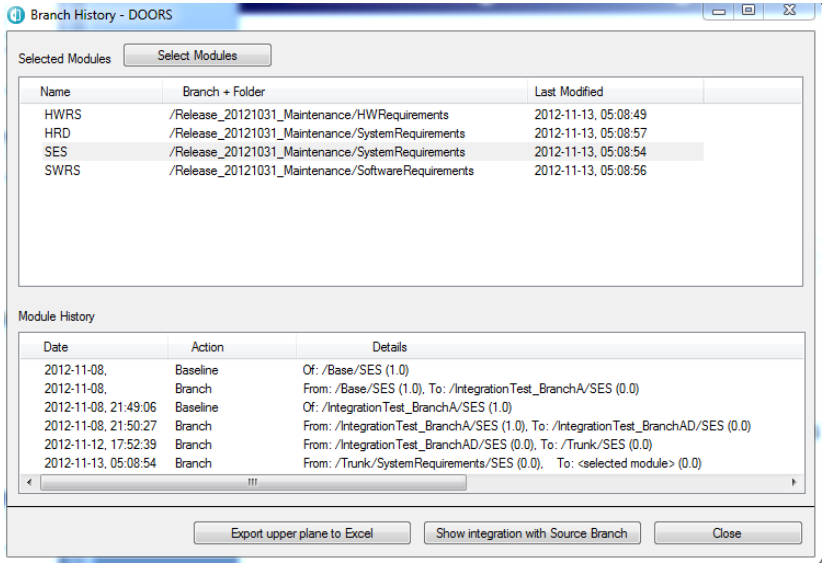
- DOORS® Projects become Branches
  - Containerizes concepts and naturally contributes
- Object Relationships captured in Metadata
  - Available in tooling to enhance functionality to the user
- Comparison Technology presented in DXL layout
  - Provides view flexibility and efficient update performance
- Three way merge solution for “pull-basis”
  - Common parent eases change assessment and merge choices
- Quick merge
  - Enables update to multiple streams at once

BranchManager - Branching

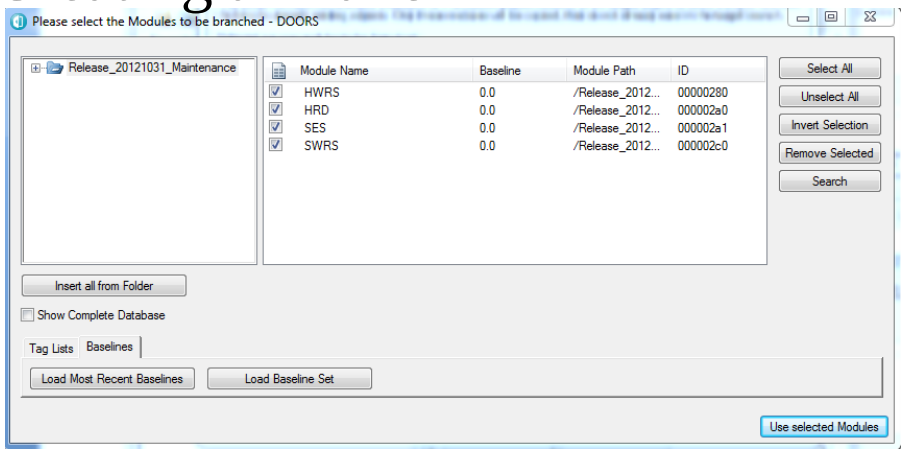


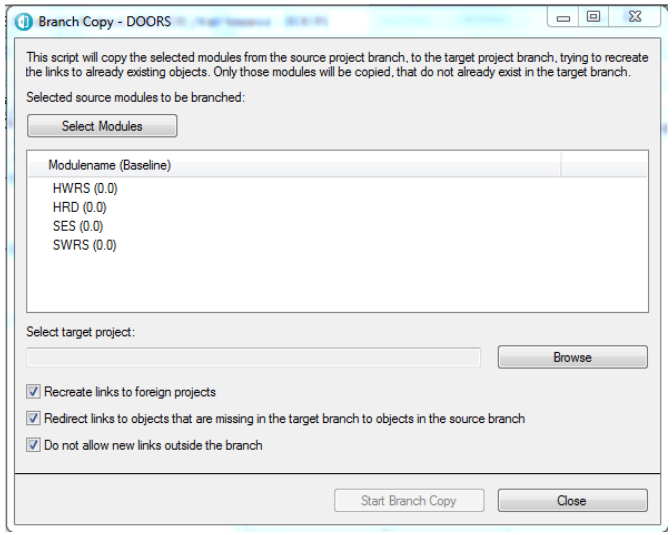
Branch Replicates
Structure and Content





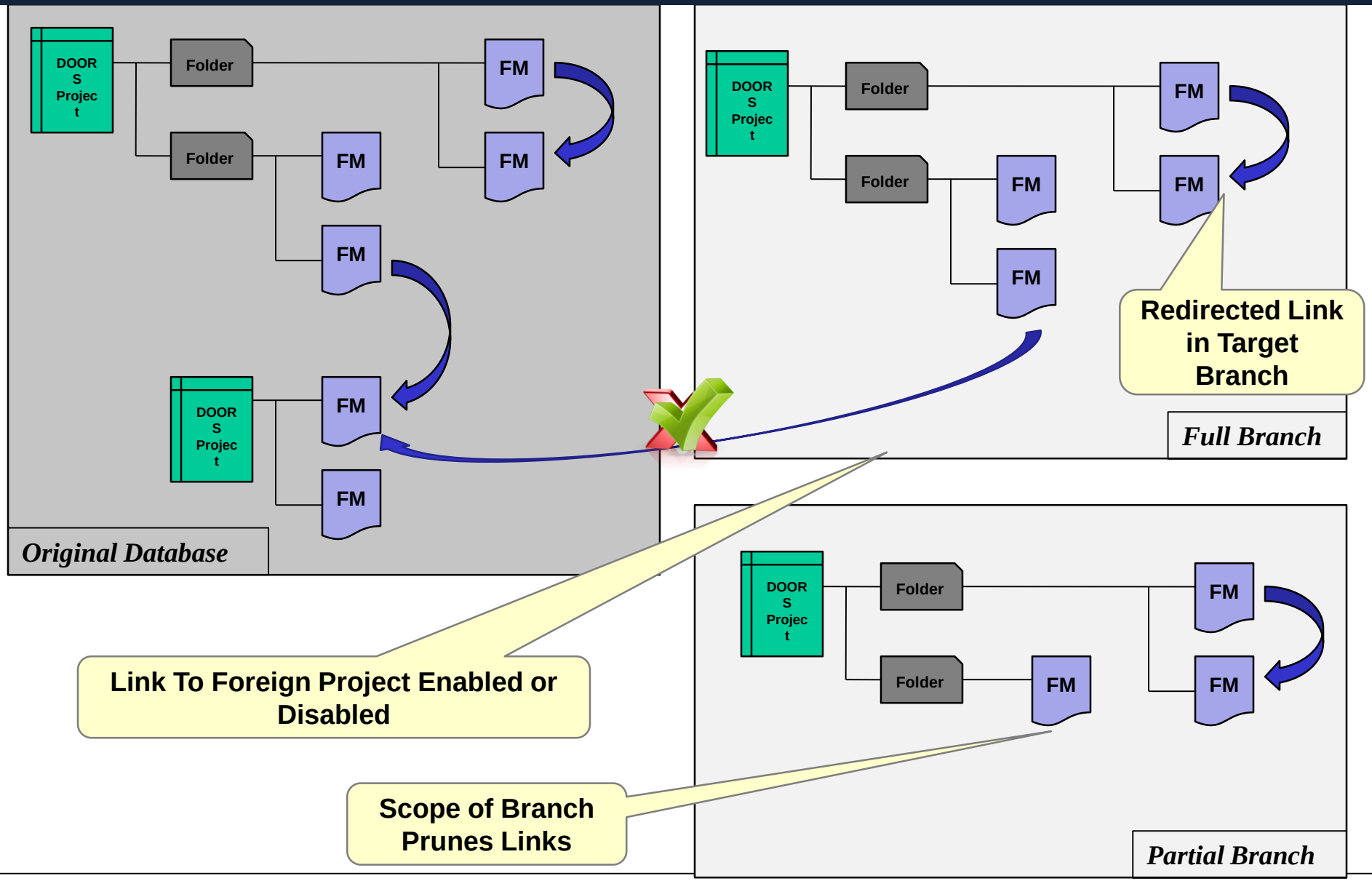
Creating a Branch





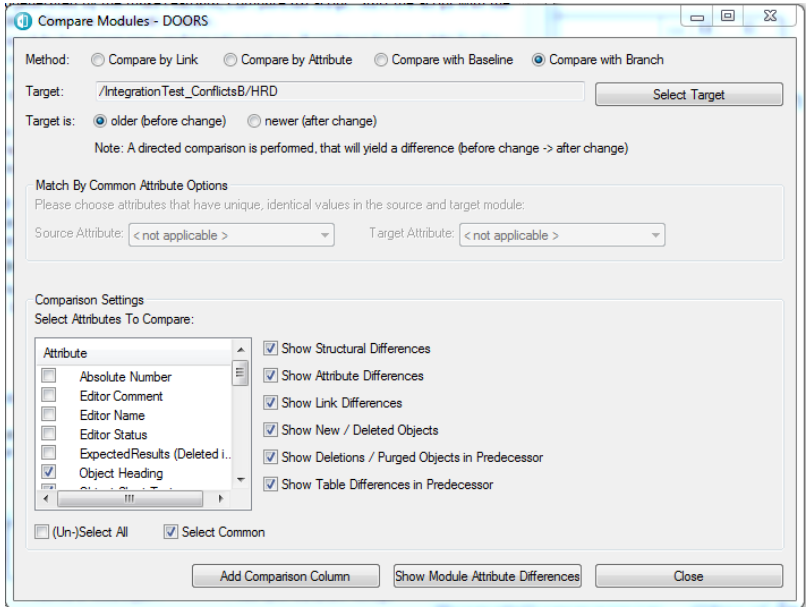
COMPLIANCE TECHNOLOGIES

BranchManager - Branching Link Management



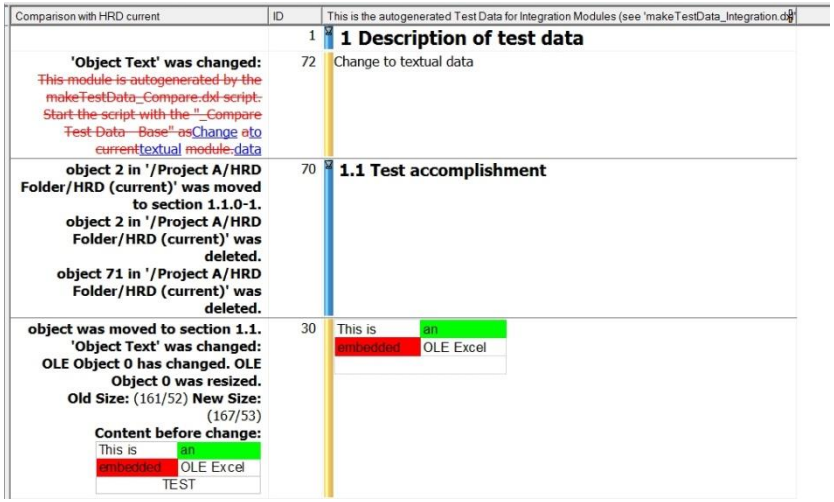
COMPLIANCE TECHNOLOGIES

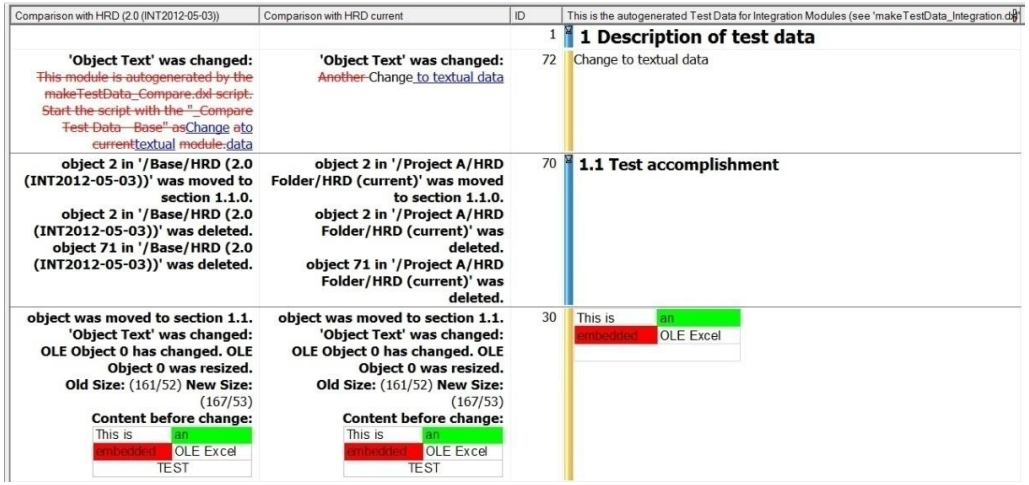
BranchManager - Comparison



Detected Changes

- ❑*Modification/Deletion/Addition*
- ❑*Textual Attributes*
- ❑*OLE Attributes*
- ❑*Images*
- ❑*DOORS Tables*
- ❑*Link Changes*
- ❑*Object Movement*



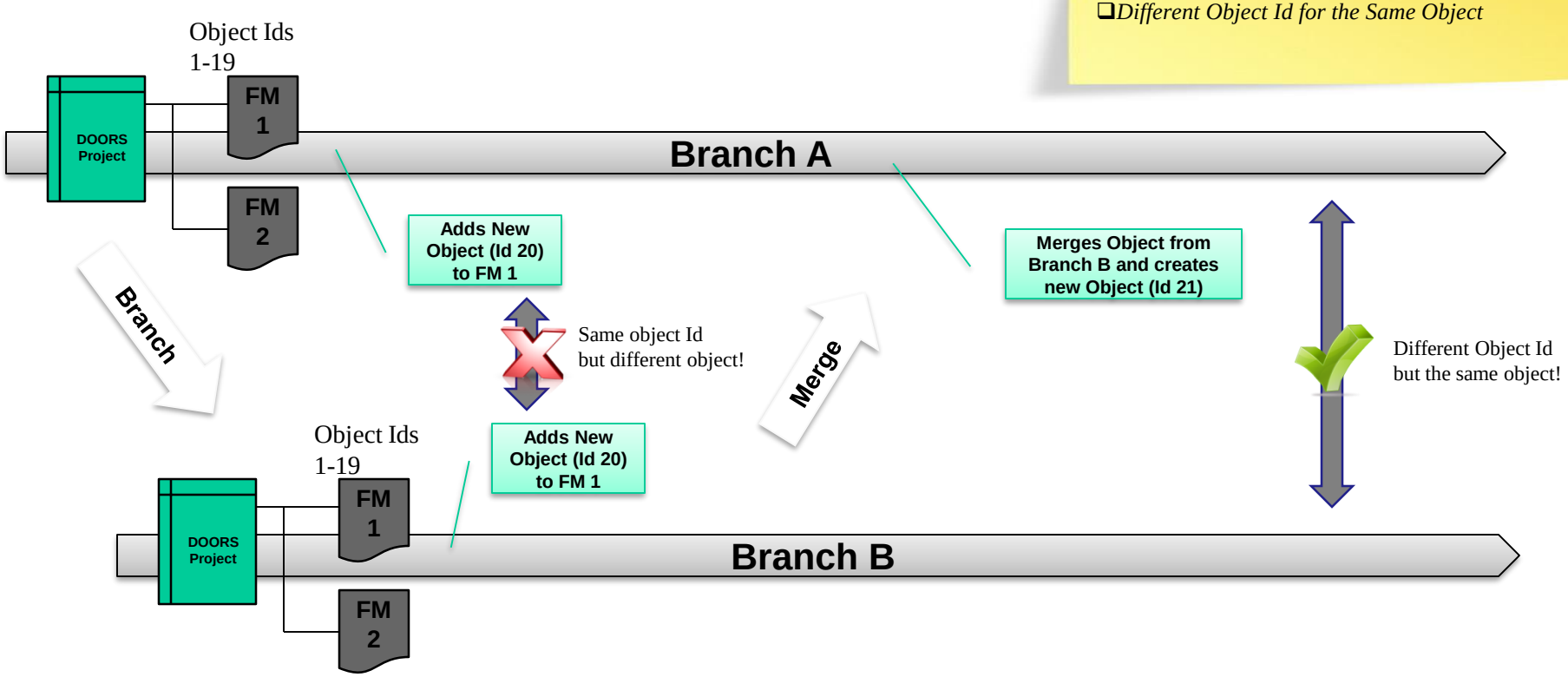


COMPLIANCE TECHNOLOGIES

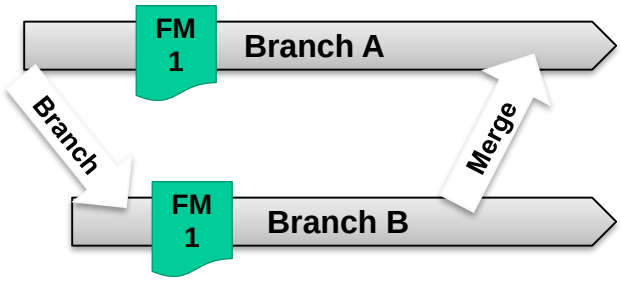
BranchManager – Comparison / Object Identification

Why Object Ids alone don't work

- ❑*Not globally unique*
- ❑*No knowledge on branches*
- ❑*Same Object Id for different objects*
- ❑*Different Object Id for the Same Object*

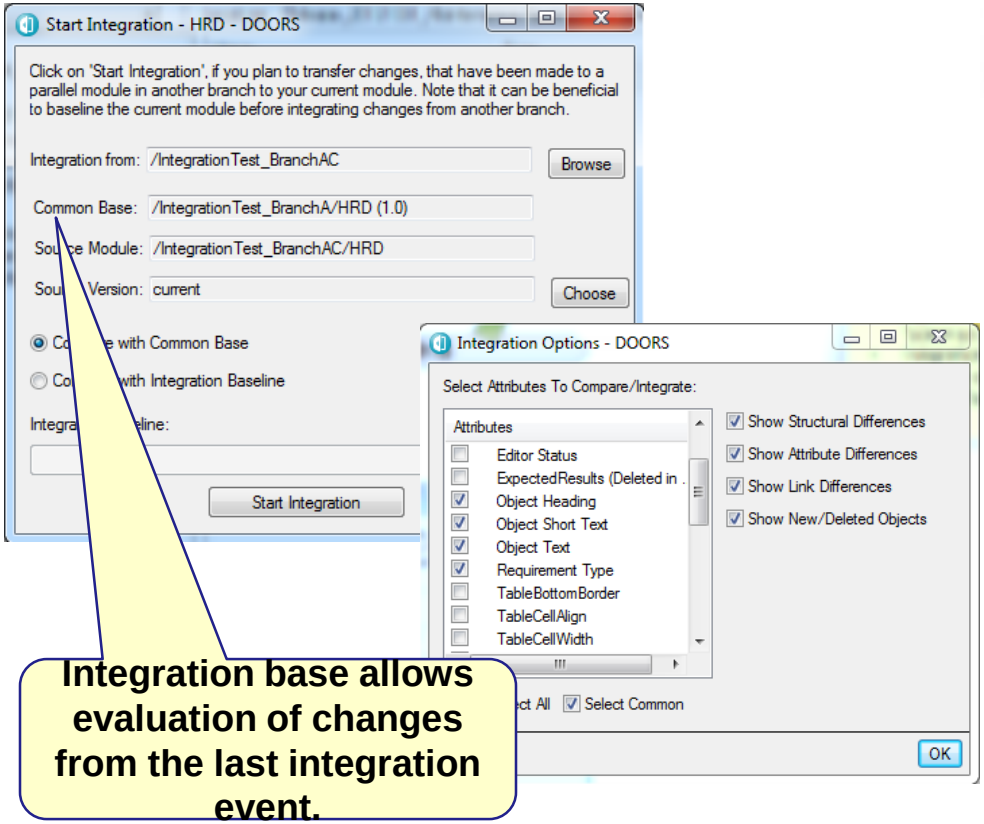


BranchManager - Merge Integration

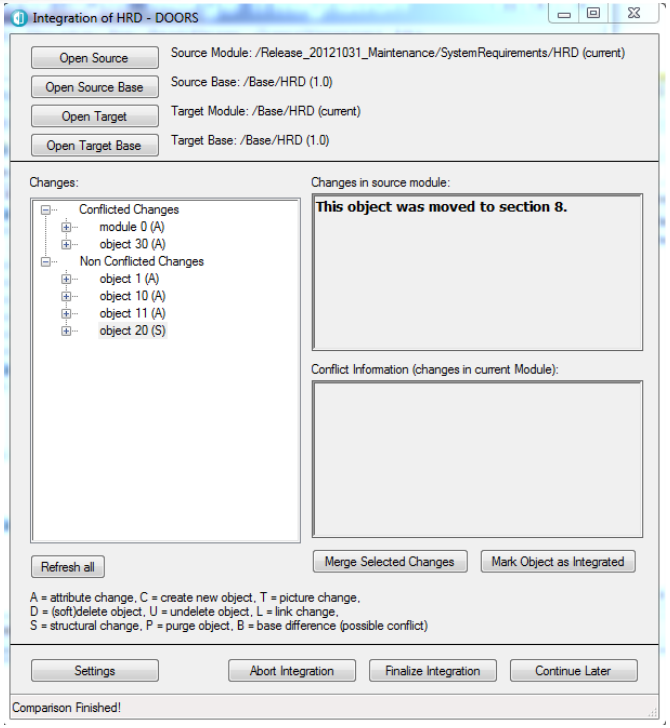


BranchManager Integration

- *Three-way merge using common parent*
- *"Pull-Based" One-to-One Merge Solution*
- *Automatic Conflict Detection*
- *Applies in any direction for modules with a "common parent"*
- *Integration Baseline supports merging only changes since last integration event*
- *Forces Baselines for consistent references*

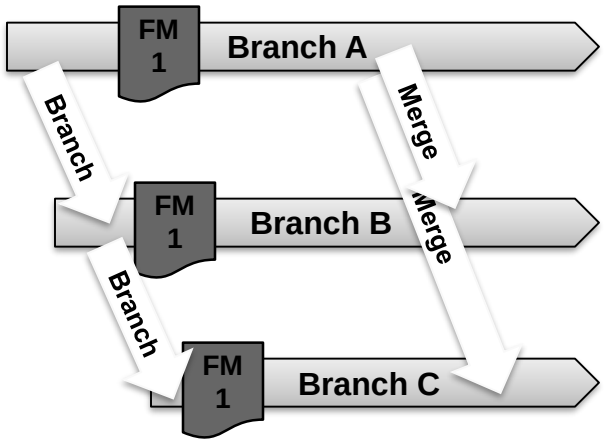


Integration base allows evaluation of changes from the last integration event.



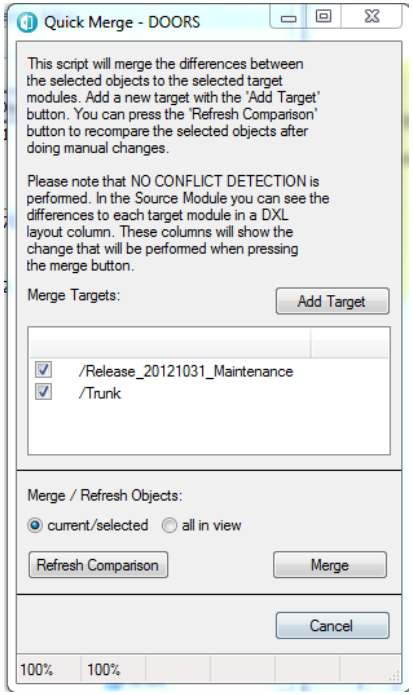
COMPLIANCE TECHNOLOGIES

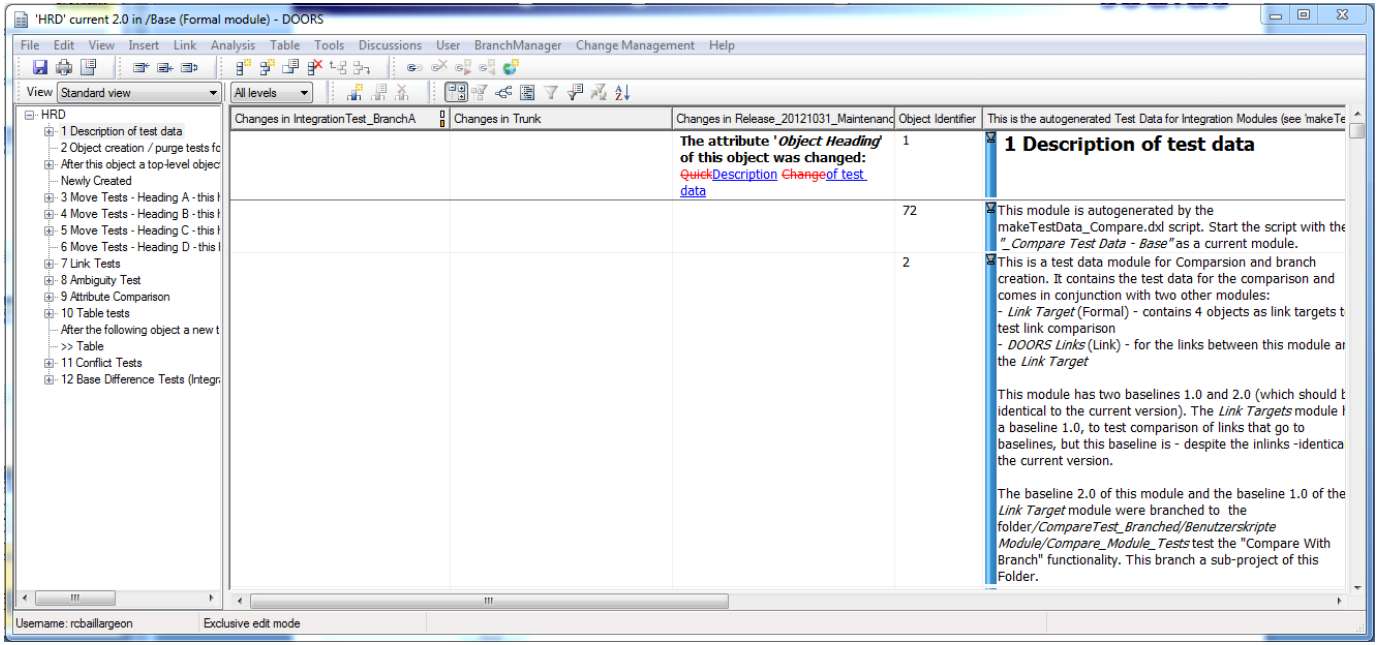
BranchManager - Merge / QuickMerge



BranchManager QuickMerge

- *"Push-Based" One-to-Many Merge Solution*
- *No Conflict Detection*
- *Applies for modules with a "common parent"*
- *Interactive Merge Solution*
- *Dynamic Evaluation*





COMPLIANCE TECHNOLOGIES

Conclusion

- BranchManager Provides Core Needed Capabilities
  - Reuse for reduced investment and higher quality
  - Gatekeeping for quality controls and reviews
  - Cloning for rapid new derivative products, yet still linked
- Flexible Adoption
  - Applicable to many user scenarios
  - Strong foundation resolving major challenges of configuration management in DOORS
  - Configurable to an organization's specific practices
- Contacts
  - IT-Qbase for Licences and Support (http://it-qbase.eu)
  - COMPLIANCE Technologies for Demonstrations, Training and Consultancy (www.compliance-technologies.com)