USE OF BASELINES

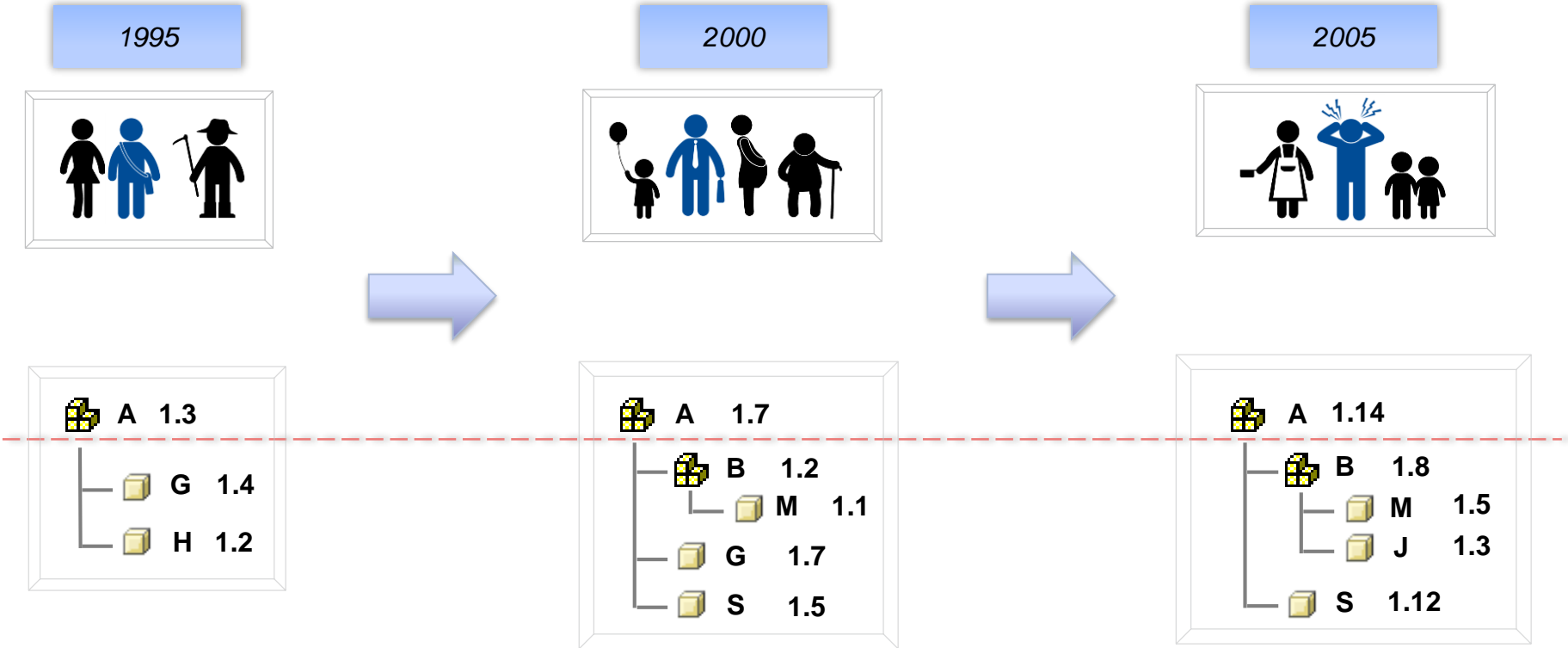**Definition, reasons and examples**

Agenda

- Introduction

- Principles and reasons for use

- Examples

- Advanced features

- Using Baselines

- Baseline Views

GOALS:

- What is a Baseline and how does it work

- Why and how to use Baselines

- How to create and work with Baselines

- Using related Windchill features

BASELINES – Introduction

WHAT IS A BASELINE?

A Windchill object containing a snapshot of defined objects and their status in a specific moment:

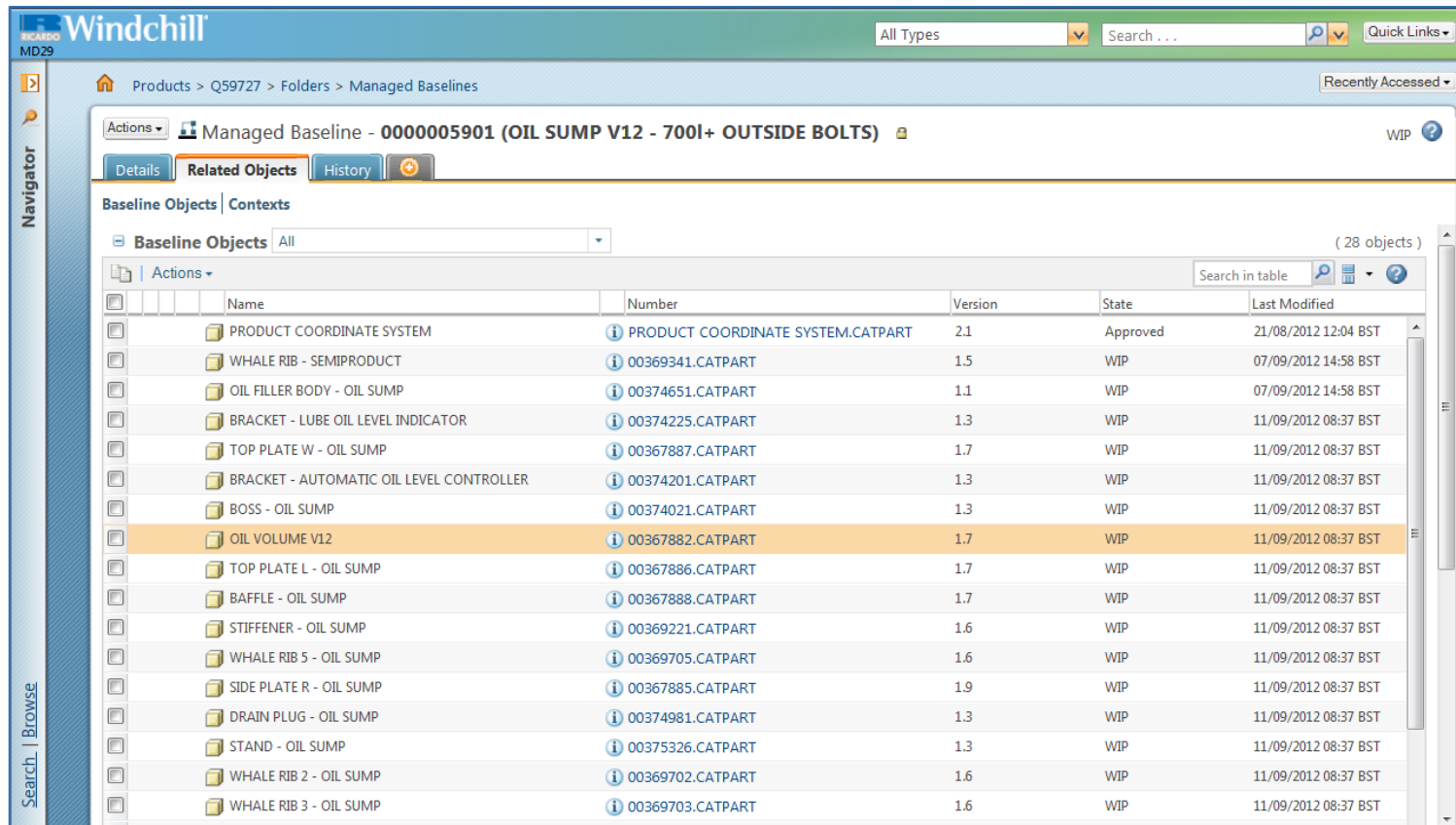| 1995	2000	2005

A   1.3

├─ G   1.4

└─ H   1.2

A   1.7

├─ B   1.2

│ └─ M   1.1

├─ G   1.7

└─ S   1.5

A   1.14

├─ B   1.8

│ ├─ M   1.5

│ └─ J   1.3

└─ S   1.12

> A Managed Baseline is essentially a snapshot of an evolving collection of Product data objects

Introduction – Principles & Reasons – Examples – Advanced Features

BASELINES – Functionality

HOW DOES IT WORK?

Every time a Managed Baseline is created in Windchill, it contains the following information:

1. Static list of objects

2. One specific version of each object in the list

WHY TO USE BASELINES?

There are two main reasons why Managed Baselines are used:

1. **EVENT**

Capturing the status of data in relation to key events – Client review, Analysis, Project milestone etc.

- This may be an 'Ad-Hoc' collection of data, containing only information directly related to the event

2. **PRODUCT HISTORY**

Showing what a product structure looked like and the associated documents at a point in time

- Contains structured data

- Captures the entire Product or a branch of a Product down to bottom (generated from 'Latest')

BASELINES – Important Facts

PROPER IDENTIFICATION

NUMBER : *(Required)* Generated automatically, must be unique within Windchill database

NAME : *(Required)* Providing descriptive information of purpose of the Baseline

DESCRIPTION : *(Optional)* May include additional information or better description of purpose or reason for creation of the Baseline.

VALID OBJECT TYPES

Baselines can contain the following types of Windchill objects:

- *Windchill Parts*
  - *Documents*
    - *CAD Documents*

- Problem Reports
  - Change Requests
    - Change Notices
      - Variances

BASELINES – Creation

ADDING OBJECTS

1. **Start by creating an empty Baseline first**

From within a Product or Library folder, click:

- **Actions** *(pull-down) →* **New** *→* **New Baseline**

    Select items to add then collect more related items.

2. **Start by selecting objects to be included in a Baseline**

- *I.* **Select Object(s) to be added**

    - *A.* *One or multiple objects from a* **Folder** *('Latest')*

    - *B.* *One or multiple objects from a* **Search result** *(likely 'Latest')*
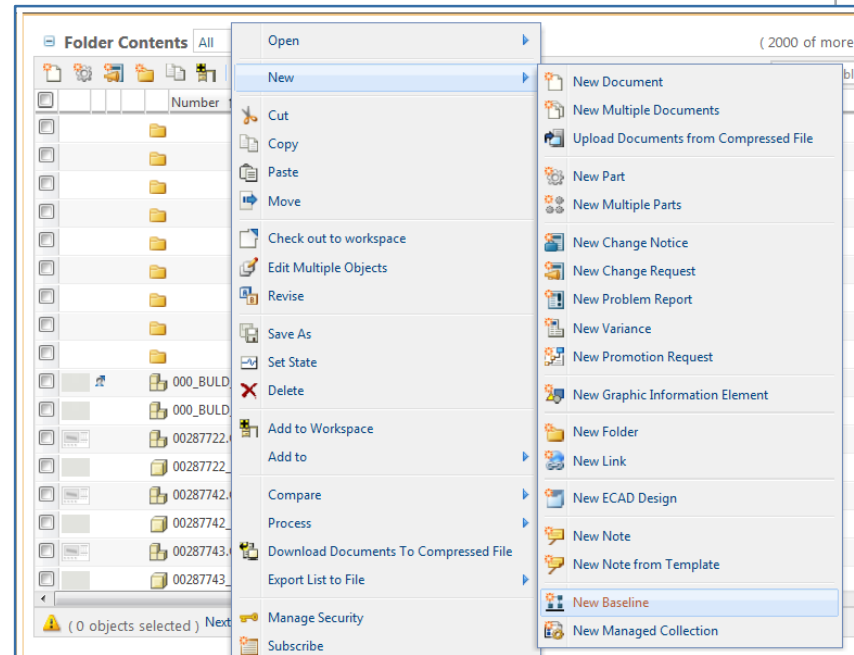
    - *C.* *From a single* **Object's Information page** *(any version)*

If **A** *or* **B,** *select with tick on row first, then click:*

- **Actions** *(pull-down) →* **Add To** *→* **Add to Baseline**

Then, select already existing Baseline or create a new one on the fly
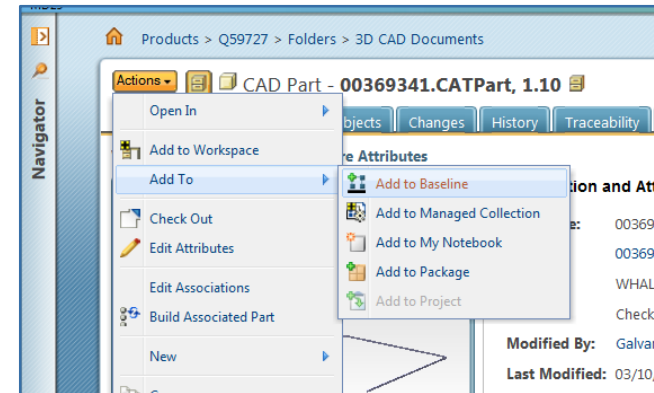
For a detailed tutorial on creating and using baselines, check out the following WIKI page:
http://jira.stc.ricplc.com:8090/display/WCU/Create+a+Baseline

BASELINES – Good To Know

IMPORTANT FACTS

1. *NO FILES INCLUDED*

   Managed Baselines **never** contain any data content (files), only links to existing versions of Windchill objects. Hence baselines have a small filesize.

2. *SINGLE OBJECT VERSION*

   Only one version of each object can exist in a Baseline. However, you can have multiple Baselines, each containing a different (or same) version of this object.

3. *NO VERSIONS OR REVISIONS*

   Baselines do not have Revisions or Versions of their own, therefore cannot be 'Checked Out' or 'Revised'.

4. *LIFECYCLES PRESENT (but not really used)*

   Baselines have a lifecycle template assigned, but there are no workflows associated. Only manual 'Set State' changes a state. Ricardo currently doesn't use Lifecycles for Baselines.

BASELINES – Further Modifications

EDITING BASELINES

Existing Baselines can be modified. Users have a possibility to:
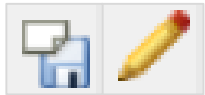
1. Change the *NAME, NUMBER or DESCRIPTION* attribute of a Baseline
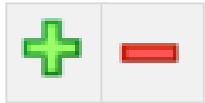
2. Add or Remove objects

3. Replace objects already in a Baseline with another version of the same object

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WARNING:

Usually there is no reason to edit existing Baselines. Make sure that the Baseline will still serve its purpose after you change it (e.g. Is it still representing the previous product configuration?)

*If you have a need to edit Baselines beyond the initial creation process then consider using 'Managed Collections' instead (see later slides). A Baseline should represent a '**Static**' collection of data, not the evolving one.*

BASELINES – Further Modifications

ADVANCED BASELINE FEATURES

LOCKED

Every team member with access to a Baseline can lock it. Performing this action makes the Baseline read-only and private. Only a user who locked it is allowed to unlock it or make changes.

PRIMARY OBJECT

Baselines can have a single object marked as '*Primary Object*' ('➡' icon). When the Baseline contains a snapshot of structured Product data this should always be the top level CAD assembly.
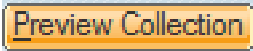
PROTECTED

Turned On by default. Objects in 'Protected' Baselines cannot be deleted or purged from the system unless they are first removed from the Baseline itself. However, Ricardo does not currently have a policy of purging or deleting any data from Windchill.

BASELINES – an alternative called 'Managed Collections'

RICARDO

MANAGED COLLECTIONS

The Managed Collection is another, similar type of Windchill object. It is a more suitable solution when the contents of a Baseline need to be updated after it has been created.

- Specify 'Initially Selected' objects and choose a config specification to generate its contents

- Contents of a 'Managed Collection' can be updated on demand by the 'Refresh' button to re-apply the configuration again on the 'Initially Selected' objects

- Not intended for static snapshots but for **dynamic** cohesive sets that change and evolve in time

- Can include more object types than Baselines and nest other 'Managed Collections' thus allow creation of complex collections

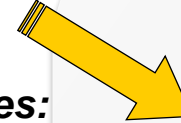- Don't forget to click Preview Collection   and verify the contents before submitting, the first table only shows 'Initially Selected' objects !!
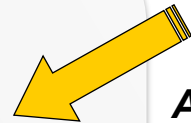
BASELINES – Comparison to Managed Collections

BASELINES   vs   MANAGED COLLECTIONS

Available Features:

BASELINES			MANAGED COLLECTIONS
✔	🔒	*'Locked'*	✖
✔	🛡	*'Protected'*	✖
✖	🔄	*Refresh*	✔
✖	▤	*Nesting*	✔
✔	📋	*Primary Object*	✖

Typical Use:

Creating static snapshots of structures and relevant documentation, usually related to an event or point in time. Each snapshot is captured in a separate Baseline object.

Typical Use:

Applying specific configuration settings onto initially selected objects like top level assembly etc. Config can be re-applied several times to automatically update versions of the collected objects.

BASELINES – Practical Use

USING A BASELINE AS A CONFIGURATION SPECIFICATION:

Often a Baseline is used to collect other objects based on a defined configuration. The main two reasons are:

1. Collecting Dependent Objects

    a)   Add to Workspace

    b)   Add to Package

    c)   Checkout

    d)   Add to Managed Collection

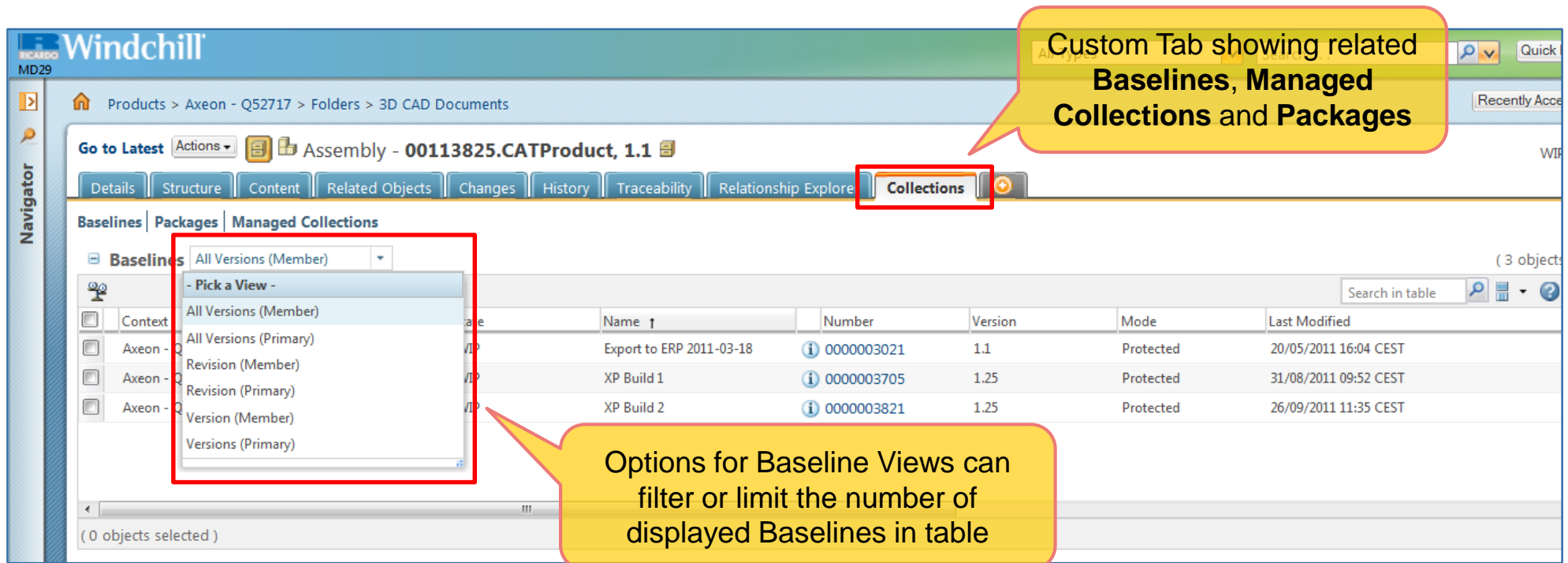**2. BOM reporting**

    a)   View

    b)   Compare with latest

    c)   Incremental release to MBOM

BASELINES – Practical Use

BASELINE VIEWS

From any object's Information Page, you can display whether this object is included in a Baseline by selecting the '*Collections'* Tab in the table options.

You can be very specific or quite vague when finding related Baselines. The 'BASELINES View' table can have a very big influence on the number of related Baselines which are displayed (up to 6 view options for comparison).

Custom Tab showing related **Baselines**, **Managed Collections** and **Packages**

Options for Baseline Views can filter or limit the number of displayed Baselines in table
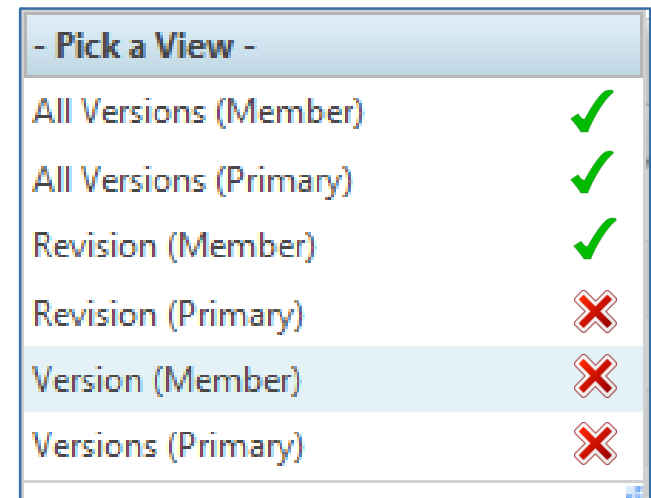
BASELINES – Practical Use

BASELINE VIEWS

Following options are available for selecting Baseline Views:

- *MEMBER* (suffix) – Only show Baselines that include the currently viewed object

- *PRIMARY* (suffix) – Only show Baselines where the currently viewed object is marked as '**Primary Object**'

- *All Versions* – Show Baselines that contain any **Iteration** across all **Revisions** of currently viewed object

- *Revision* – Show Baselines that contain any **Version** of currently viewed object's **Revision**

- *Version* – Show Baselines containing exactly the same **Version** of currently viewed object

Existing BASELINES   **WINDCHILL Commonspace**

X 1.37   X 1.28

X 2.13   ?

- Pick a View -	
All Versions (Member)	✔
All Versions (Primary)	✔
Revision (Member)	✔
Revision (Primary)	✘
Version (Member)	✘
Versions (Primary)	✘

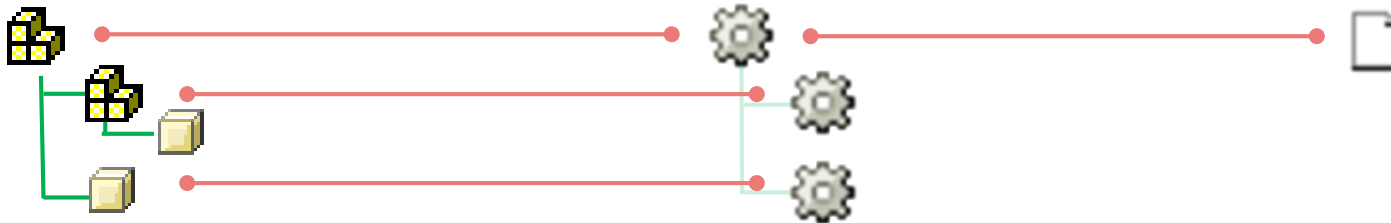# BASELINES – COLLECTING OBJECTS

Using the 'COLLECTOR' feature

- *Collecting definition & rules*

- *Types of configuration specifications*

- *Types of objects and their available configuration specifications*

- *Using EXCLUDE, INCLUDE and REMOVE buttons*

BASELINES – COLLECTING OBJECTS

RICARDO

COLLECTION AND ITS RULES

Collectors can be used whenever there is a requirement to find and automatically include linked or related objects to the current selection. Rather than searching for each object individually, the collecting mechanism can retrieve multiple objects simultaneously.

Usually collecting is used for:

- • Objects that are part of Product structure - e.g. components of selected assembly
- • Objects that are associated by links (but not structure) – e.g. drawings, models, sheets etc.

Collecting is part of many Windchill actions like:

- *Adding to Workspace*
- *Change Process*
- *Promoting documents & models*
- *Adding to Baselines*
- *many more…*

BASELINES – COLLECTING OBJECTS
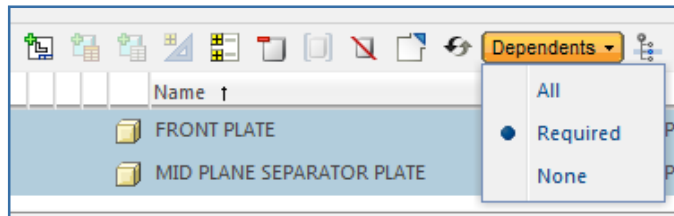
GATHERING OTHER OBJECT TYPES

Depending on the type of object initially selected, click the icon of other types to find and collect associated objects – Windchill Parts, CAD Documents, Change Objects etc.
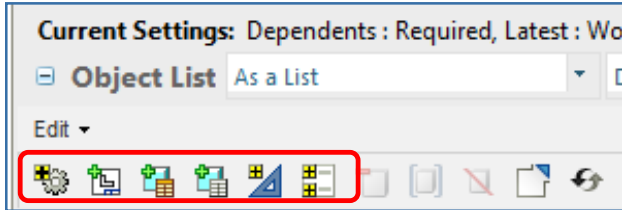
DEPENDENCY

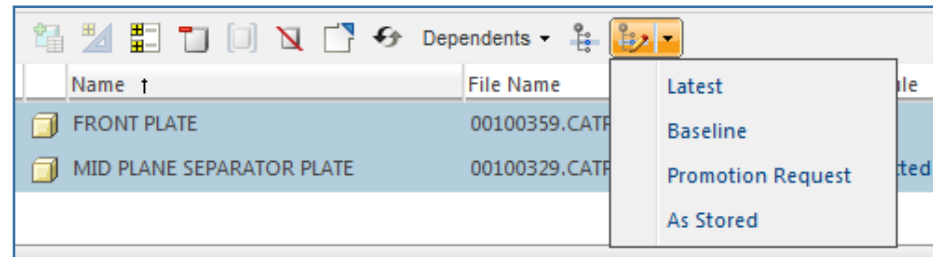Choose which types of dependents to the initially selected object will be included:

- *All*
- *Required*
- *None*

CONFIGURATION

Set the criteria to find the right version of dependent objects to the initially selected one. The configuration options may vary for each object type selected:

- *Latest*
- *Baseline*
- *Effectivity (⚙ only)*
- *Promotion Request*
- *As Stored (only)*

BASELINES – COLLECTING OBJECTS

BASIC vs ADVANCED MODE

Some collectors (e.g. **Add to Workspace**) allow you to choose between two modes:

• **BASIC mode** – Only apply the criteria like configuration specification without displaying the list of objects

• **ADVANCED mode** – Specify collection rules in more detail and manually update the list of objects so you can subsequently collect more objects
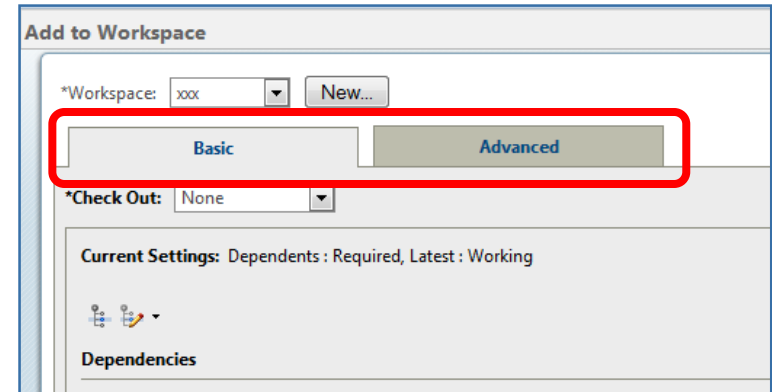
MODIFYING THE LIST OF ALREADY COLLECTED OBJECTS

When collecting objects, sometimes you might want to modify the list to add or remove other objects (even without any association to the ones in the list). You can use the following table buttons:

REMOVE – this button completely removes selected objects from the list

INCLUDE – this button will include the selected objects in the collection

EXCLUDE – this button will remove the selected objects from the collection

RESET – Discard all changes to the list and revert back to the initially collected objects