PDM-Broker Concepts

Competence Unit EDM/G

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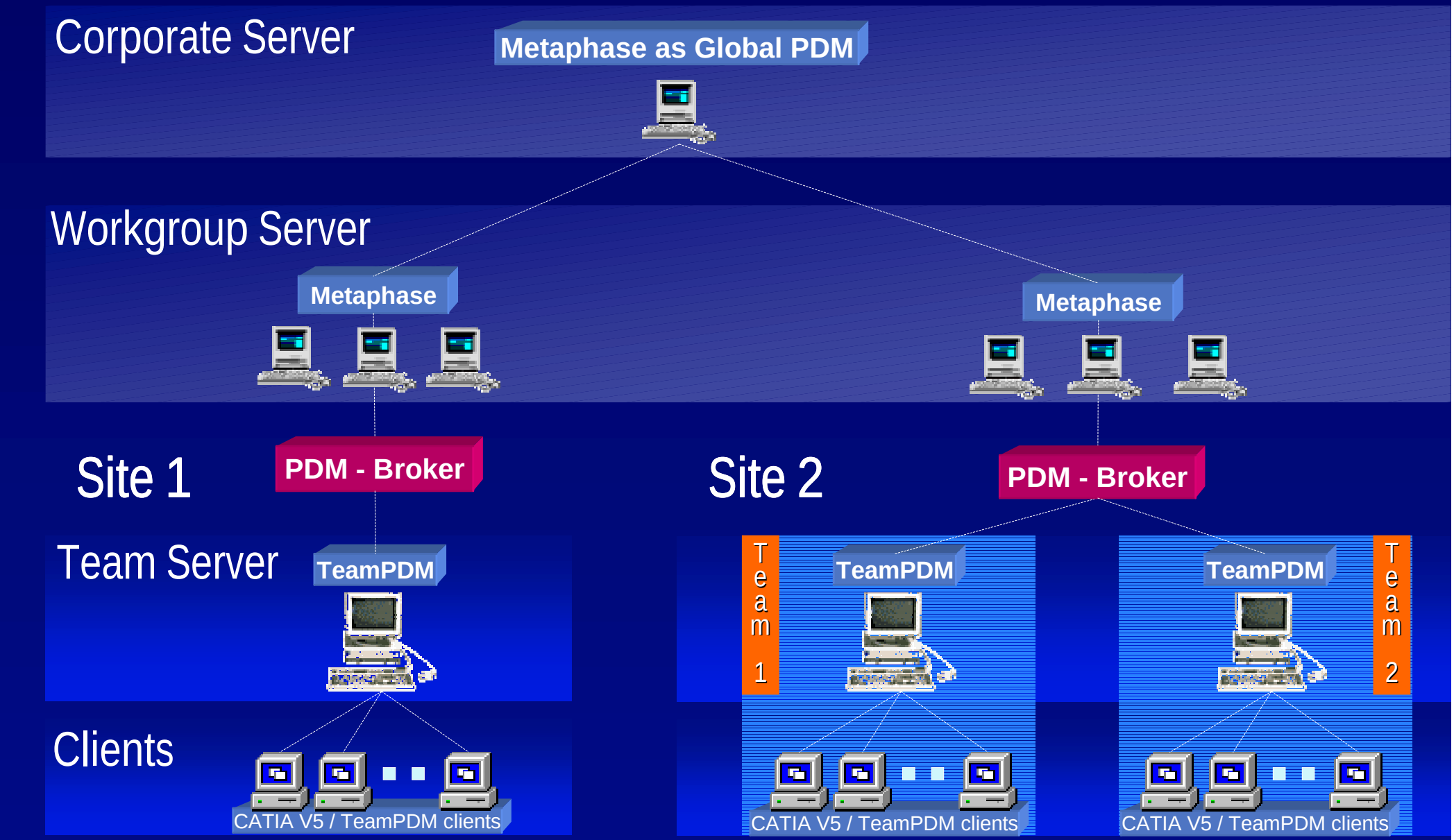
Global concept



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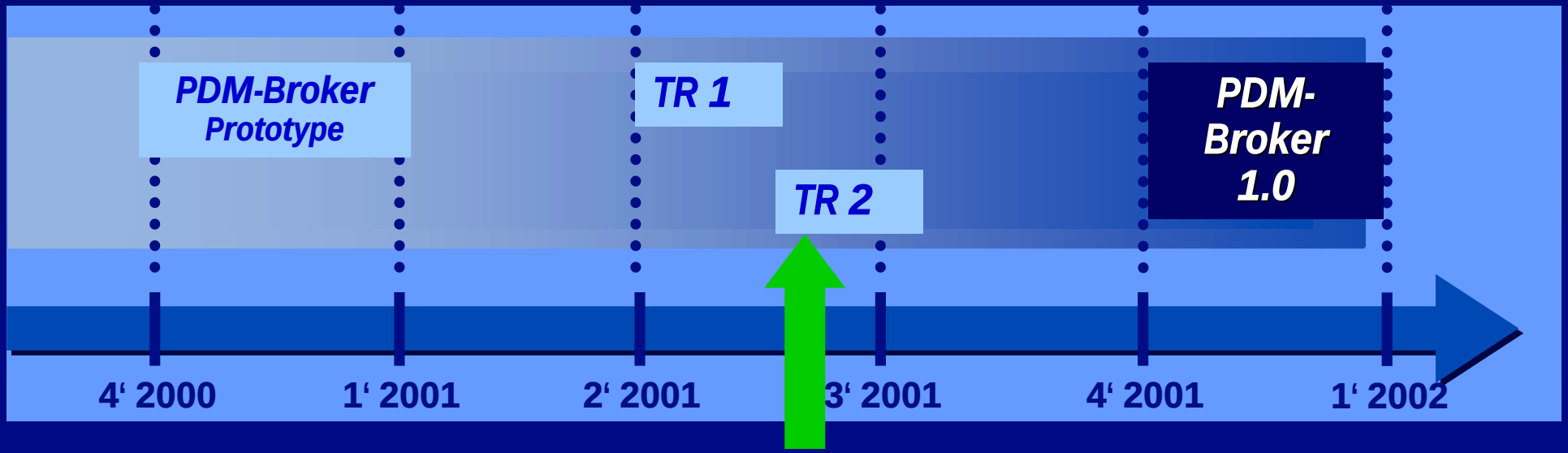
Main goals

- Transfer and management of assemblies and parts
  - automatically triggered by the PDM-System
  - manually triggered by the user
- Object locking in different systems (=> scenario)
  - one object is editable only in one system at a time,
  - but is viewable in multiple systems
- Customer defined mapping for the different data models
  - data model specification in Express
  - mapping specification in Express X
- Support of global and local data management
  - Metaphase as PDM-System for the global engineering data management
  - CATIA TeamPDM as Team PDM-System for the development process
    - CATIA V5 Assemblies and Parts
    - other Integration's available: e.g. AutoCAD, ProE, Inventor, SolidWorks, SolidEdge
- Support of further PDM-Systems by use of a flexible adapter concept

Release plan

- Test Release TR1 and TR2
  - local machine installation
  - CATIA-V5.R6 (CATIA-TeamPDM) support
  - Metaphase 3.2 support
  - Data mapping engine
  - TR1: support for standard Metaphase data model
  - TR2: support for customised Metaphase data model
- Release 1.0
  - TR2 features
  - multi-user-environment
  - full server-client architecture
  - more flexible configuration tools

=> define customers requirements for future Releases



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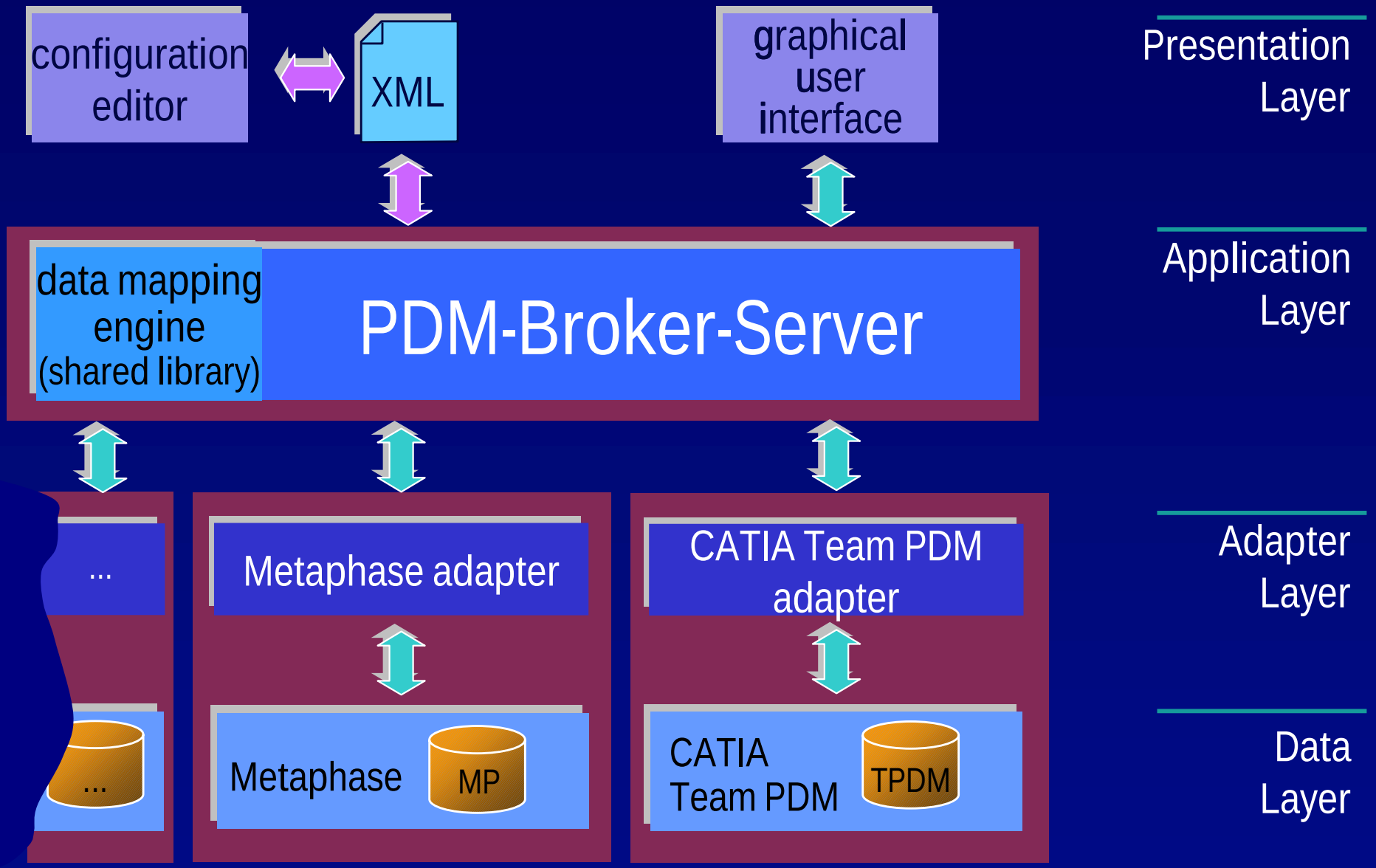
CMI User day 2001

Architecture overview



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Data Mapping (example)

```
-- real entity name = 'CATIA Part'
ENTITY CATIA_BLANK_Part
  SUBTYPE OF (CATIA) ;
  CN_DEFINITION : OPTIONAL STRING(121);
  CN_NOMENCLATURE : OPTIONAL STRING(121);
  CN_DESCRIPTIONREF : OPTIONAL
STRING(256);
  CN_SOURCE : OPTIONAL STRING(21);
  CN_MATERIAL : OPTIONAL STRING(21);
END_ENTITY;
```

CATIA Team PDM Schema

CATIA Part

ID
PartNumber
Nomenclature
Description
FileName
...

Mapping Schema

Mapping definition

```
SCHEMA_MAP SmarTeam_To_Metaphase_MappingSchema;

REFERENCE FROM SmarTeam_Schema AS SOURCE;
REFERENCE FROM Metaphase_Schema AS TARGET;

-- map CATIA_PART from SmarTeam to Metaphase --
MAP CATIA_PART AS
  MP_Cmponent : Cmponent;
  MP_DesDoc   : DesDoc;
  MP_pOCatPrt : pOCatPrt;
FROM
  ST_CATIA_BLANK_Part : CATIA_BLANK_Part;
```

```
ENTITY Part
  ABSTRACT SUPERTYPE OF (ONEOF (GenAssm,GenCmpt))
    SUBTYPE OF (StrBIApc);
      MakeBuyIndicator    : OPTIONAL STRING (12);
      Nomenclature        : STRING (30);
      PartNumber          : STRING (15);
      StdPartIndicator    : BOOLEAN;
      StdPartIndicator    : OPTIONAL BOOLEAN;
END_ENTITY; -- Part

ENTITY GenCmpt
  ABSTRACT SUPERTYPE OF (ONEOF (Cmponent))
  SUBTYPE OF (Part);
END_ENTITY; -- GenCmpt

ENTITY Cmponent
  SUBTYPE OF (GenCmpt);
END_ENTITY; -- Cmponent
```

Metaphase Schema

Cmponent

PartNumber
Nomenclature
...

...

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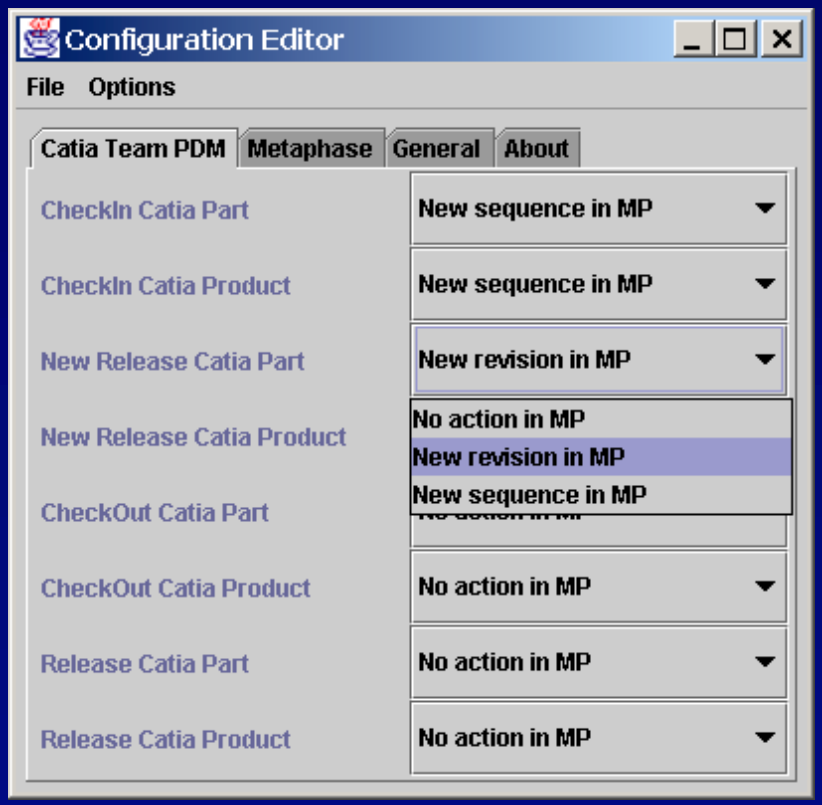
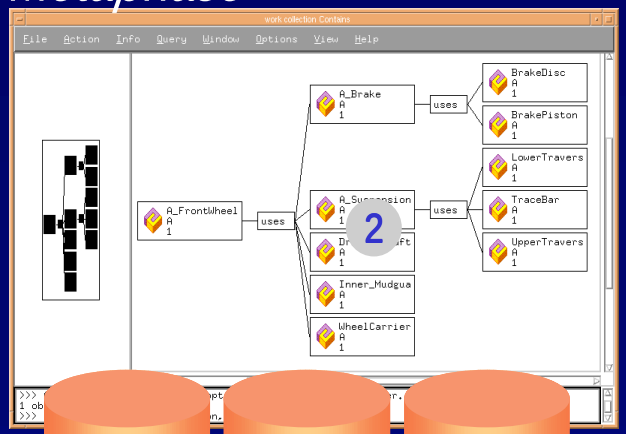
Configuration



- Behaviour for automatic transfers
  - all events which are supported by the system types
  - in CATIA Team PDM : e.g.
    - check in
    - check out
    - release
    - new release
- Behaviour for manual transfers
- Other configuration
  - system definition
  - data model definition

Scenario1: Manual transfer of assembly structures from CATIA TeamPDM to Metaphase

Metaphase



CATIA V5 & TeamPDM

2 PDM-Broker 2

User Work-location | Vault | Broker Work-location

Assem. 1 — Part 2, Part 3

Broker Work-location | Vault | User Work-location

Assem. 1 — Part 2, Part 3

1. Search existing assembly structure in CATIA Team PDM
2. Transfer existing assembly structure Information manual to Metaphase

⇨ Assembly structure is visible in Metaphase

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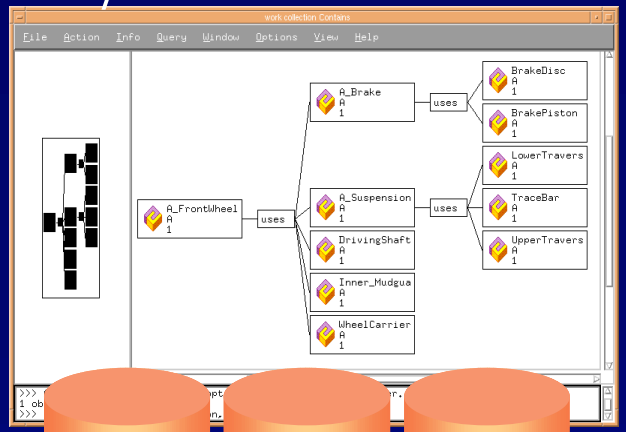
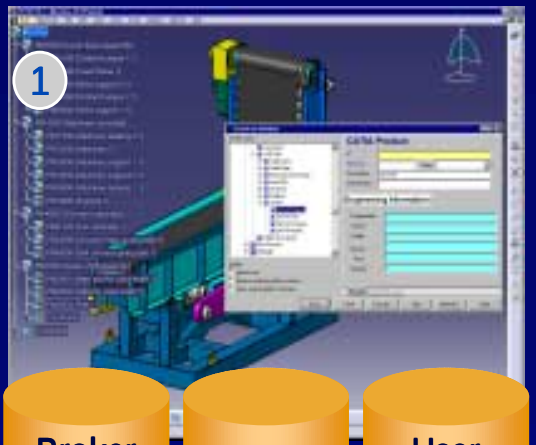
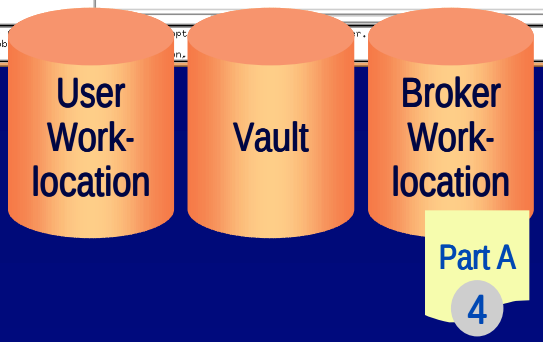
Scenario2: Automatic synchronisation when a “check in” in CATIA TeamPDM is performed

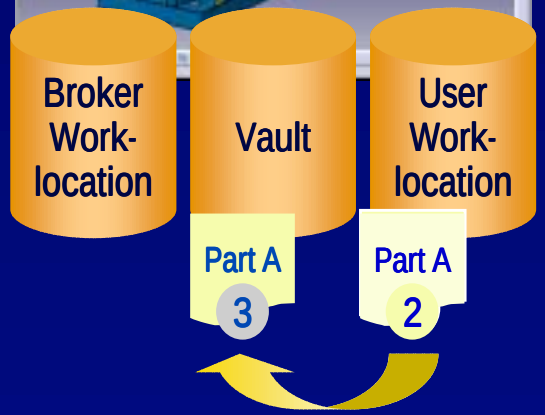
Metaphase



CATIA V5 & TeamPDM







1. Create new part in CATIA
2. Register new part in CATIA Team PDM
3. Check in new part in CATIA Team PDM
4. Automatic synchronisation of the new part to Metaphase

⇨Part is editable in CATIA Team PDM and is visible in Metaphase

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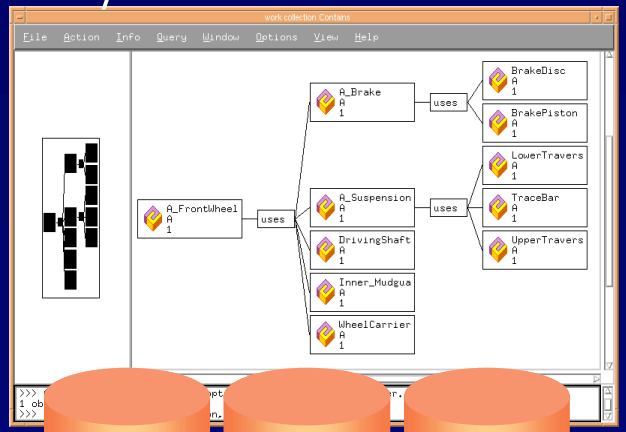
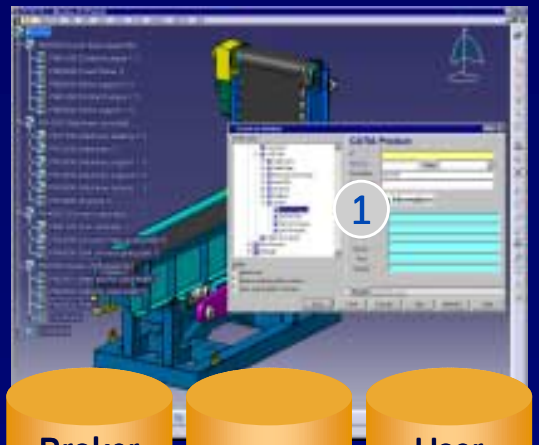
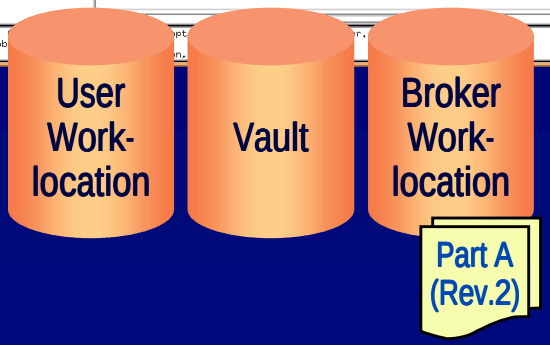
Scenario3: Automatic synchronisation when a “new release” in CATIA TeamPDM is performed

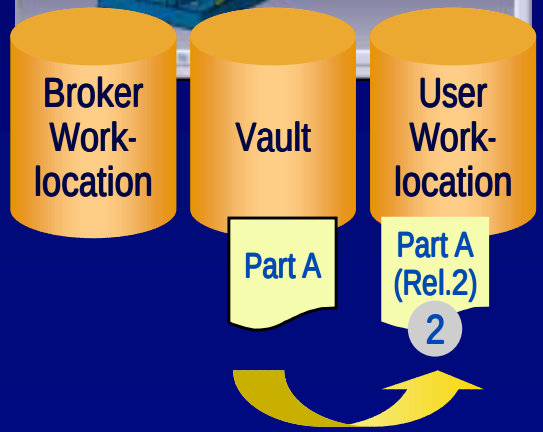
Metaphase



CATIA V5 & TeamPDM







1. Freeze Part in CATIA Team PDM with „Release“
2. Create a new Revision in CATIA Team PDM with „New Release“
3. Automatic synchronisation of the new revision to Metaphase

⇨ New revision of the part is editable in CATIA Team PDM and is visible in Metaphase

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Questions?