ASUG

PLM and the SAP
Document Management System

Linx-as

SAP Partner

- **Introduction**

- **Document Management and SAP PLM**

- **DMS User Interface**

- **Workflow Overview**

- **Demo**

- **Q&A**

Introduction

At Linx-AS, we help customers get the most out of their investment in enterprise technology.

Our success lies in fully understanding the people and processes that drive your business. Only then can we apply our in-depth technical knowledge to design and deliver the right solution.

From streamlining product development to improving corporate sustainability to giving your users access to SAP when, where, and how they want it—we make SAP run like you've never seen.

- **SAP Consulting for Product Lifecycle Management (PLM)**
- **SAP Consulting for Environment, Health & Safety Management (EHSM)**
- **SAP User Experience (UEx) Consulting**
- **Software Innovations**

Innovation Management

Portfolio Management

NPDI Project Management

Product Development
- **Recipe Development, Engineering/CAD/Visualization**
- **Packaging Engineering**
- **Label/Artwork Management**
- **Quality Testing**
- **Vendor Collaboration**
- **Document Management**
- **Product Structure Synchronization**

Commercialized Product

Lifecycle PDM

Integrated Compliance

- **Product Safety & Stewardship** • **Regulation Management**
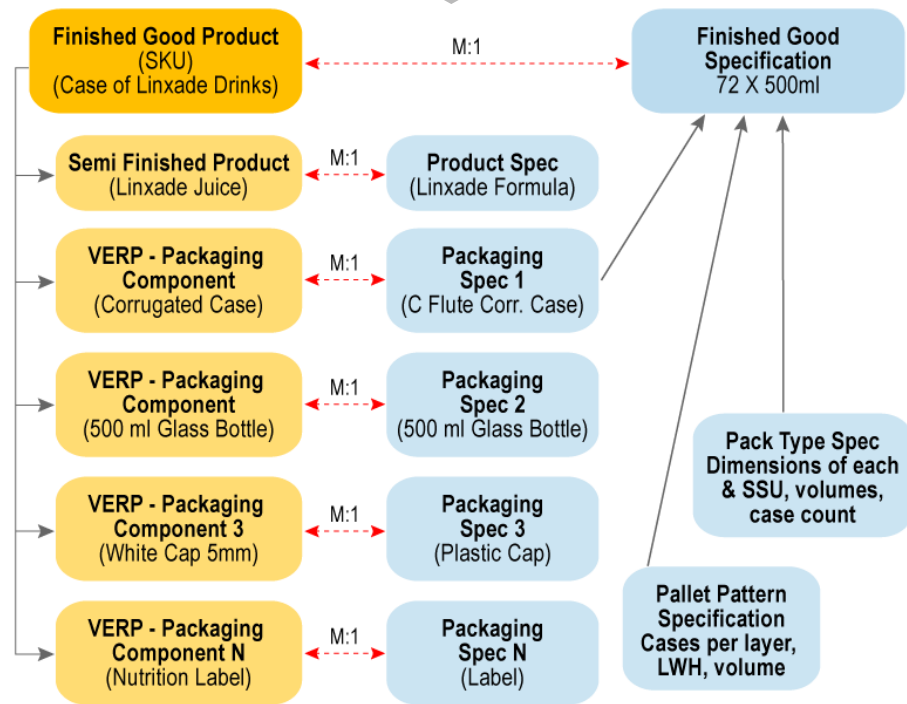- **Logistics Integration**

- **Document Management System in SAP**

- **Cross-application component available for all SAP clients as part of core ERP or PLM instances**

- **Very instrumental in any PLM Implementation—both discrete and process PLM applications.**

- **Frequently overlooked as a mature Electronic Document Management System (EDMS) that can meet the requirements for SAP and even non-SAP specific processes**

- **For successful PLM programs, document security, control, and versioning play a critical role.**

- **PLM Implementation projects frequently calls for integration between PLM and external EDMS systems like SharePoint, FileNet, and Documentum without realizing the power of SAP DMS (and its natural integration with many SAP functional areas)**
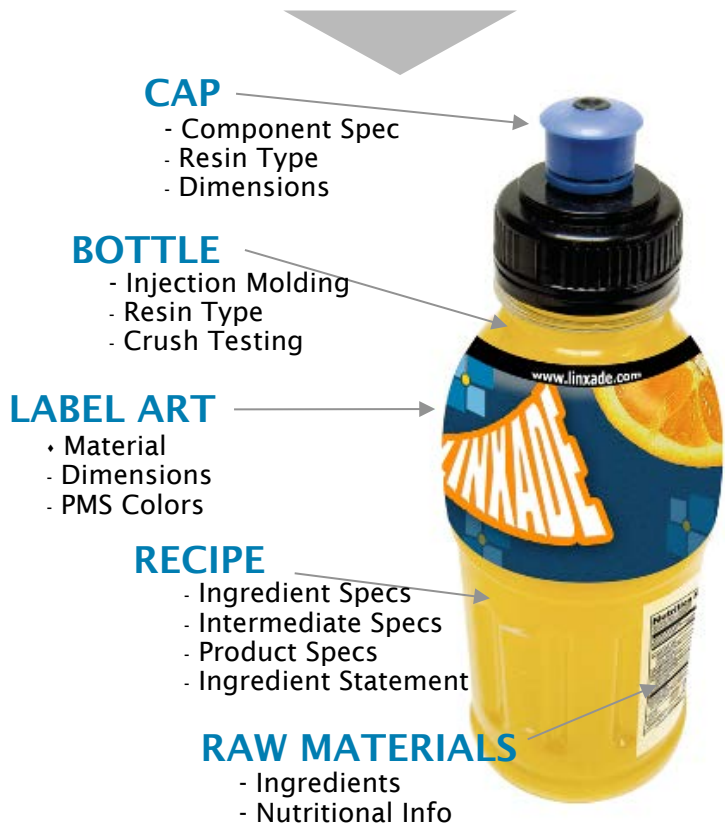
- **SAP DMS is 21CFR Part 11 certified**

The role of DMS in PLM

HOW THE CONSUMER SEES A PRODUCT

CAP
- Component Spec
- Resin Type
- Dimensions

BOTTLE
- Injection Molding
- Resin Type
- Crush Testing

LABEL ART
• Material
- Dimensions
- PMS Colors

RECIPE
- Ingredient Specs
- Intermediate Specs
- Product Specs
- Ingredient Statement

RAW MATERIALS
- Ingredients
- Nutritional Info

HOW SAP SEES A PRODUCT

Finished Good Product (SKU) (Case of Linxade Drinks) — M:1 — **Finished Good Specification** 72 X 500ml

Semi Finished Product (Linxade Juice) — M:1 — **Product Spec** (Linxade Formula)

VERP - Packaging Component (Corrugated Case) — M:1 — **Packaging Spec 1** (C Flute Corr. Case)

VERP - Packaging Component (500 ml Glass Bottle) — M:1 — **Packaging Spec 2** (500 ml Glass Bottle)

VERP - Packaging Component 3 (White Cap 5mm) — M:1 — **Packaging Spec 3** (Plastic Cap)

VERP - Packaging Component N (Nutrition Label) — M:1 — **Packaging Spec N** (Label)

Pack Type Spec Dimensions of each & SSU, volumes, case count

Pallet Pattern Specification Cases per layer, LWH, volume

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HOW SAP SEES A PRODUCT

Finished Good Specification
72 X 500ml

Product Spec
(Linxade Formula)

Packaging Spec 1
(C Flute Corr. Case)

Packaging Spec 2
(500 ml Glass Bottle)

Packaging Spec 3
(Plastic Cap)

Packaging Spec N
(Label)

Pallet Pattern Specification
Cases per layer, LWH, volume

Engineering Drawing
"2D CAD"

Engineering Drawing
"3D CAD"

Engineering Drawing
"2D CAD"

General Documents
- Quality Documents
- Delivery Instructions
- Test Results
- Stability Test Results
- Etc.

Artwork Graphics
"EPS"

DieLine File
"JPG"

Pallet Pattern Image Generated by Packaging Modeling Tool (TOPS or CAPE)

Product class	mountain bike
Product family	All-Terrain Mountain Bike
Product variants	Model BL All-Terrain X* Series (Configurable)
	Model BL All-Terrain X250 (Configured)
	Model BL All-Terrain X350 (Configured)
Product views	frame, dress-up
Product items	functional components such as frame, gearshift, wheels, brakes
Product item variants	aluminum frame, 10-speed gearshift, alloy wheels, hydraulic brakes
Product assemblies	
Materials	steel wheel, alloy wheel
Documents	CAD models, specifications

Document management solution for structured business and technical documents

- **Comprehensive EDMS Solution**
  - Versions and Revision Management
  - Approval and Change Management
  - Workflow
  - Distribution (cFolders or Email)
  - Check In/Out
  - Full Text Retrieval (Enterprise Search)
  - Various User Interfaces

- **Logistics/Process Integration**
  - Product Structures
  - Project Management
  - Logistics

- **Open Interfaces**
  - CAD Integration
  - MS Office Integration

Document Management in SAP
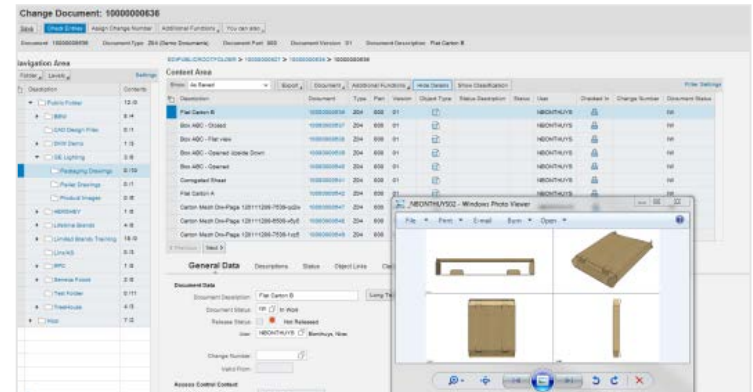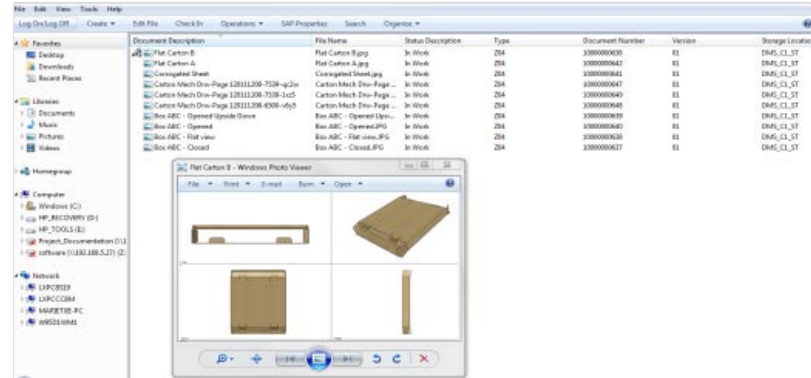
Manage Various Document Types

Used to manage all document types within SAP in a controlled environment:

- Procedures
- Design Drawings
- Artwork/Labels
- Video Instructions

- Product Certificates
- Specification Documents (Created by/ from Specification data base)
- SIP/SOP

Application Types

Manage any Windows-based document type:

- MS Office Applications
- Artwork like Adobe Illustrator, EPS, etc.
- CAD Applications (2D & 3D)

- Images like JPG, TIFF, GIFF
- PDF renditions
- Etc.

Integrated Viewer and Redlining

Lightweight Visual Enterprise Viewer allows viewing, redlining and markup of multiple application formats including:

- 2D and 3D CAD Models

- JPEG, TIFF, GIF

SAP Terminology

- ## Document Info Records
  - Master record in the SAP System that contains the meta data (administrative) and control data for all documents in DMS

- ## Originals
  - The "real information," what is actually being stored e.g. Excel files MSWORD file etc.

- ## Application
  - Programs for editing or displaying digitally stored originals such as a CAD applications, graphical images and textual content.

- ## Content Server
  - Secure Storage area where original files can be stored in a separate content server(s) and cache server(s) in a distributed configuration if required

Object Links between DMS and PLM/ERP Objects

By Document Type
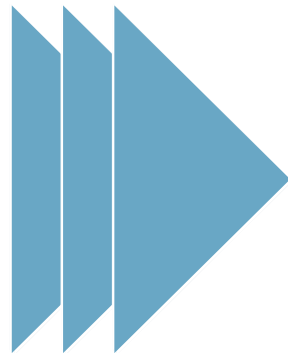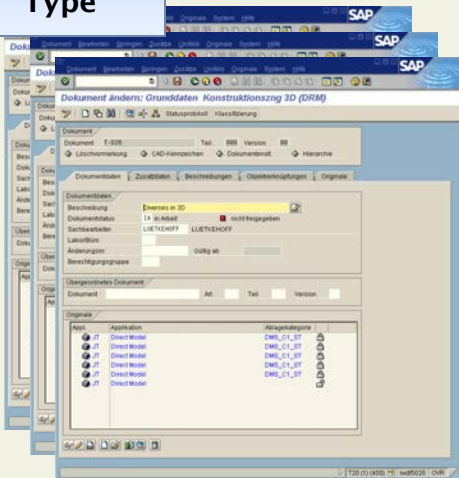
SAP objects

- Material Master
- Specifications and Recipes
- Functional location
- Vendor Master
- Document Info Records
- WBS element
- Production resource
- QM info record
- QM inspection method
- Change number
- Network operation
- Production order
- Customer Master
- Sales receipt item
- Etc.

- ◻ n:m links (can be restricted)
- ◻ Additional functions can be hidden
- ◻ Deletion lock
- ◻ Bi-directional Navigation

Document Status Network

- **Manage life cycle of documents using status management**
- **Status networks unique by document type**
- **Status protects the document against any changes if required**
- **Status can be set manually or controlled via Workflow**
- **All status changes on documents are logged by the system (Audit Log)**
- **Upon approval of a document, the document is generally released for all users with appropriate authorizations**
- **Support Digital Signatures by Document Type and Status - triggered by status change or Workflow**
- **Authorizations defined by document type, status and other attributes**
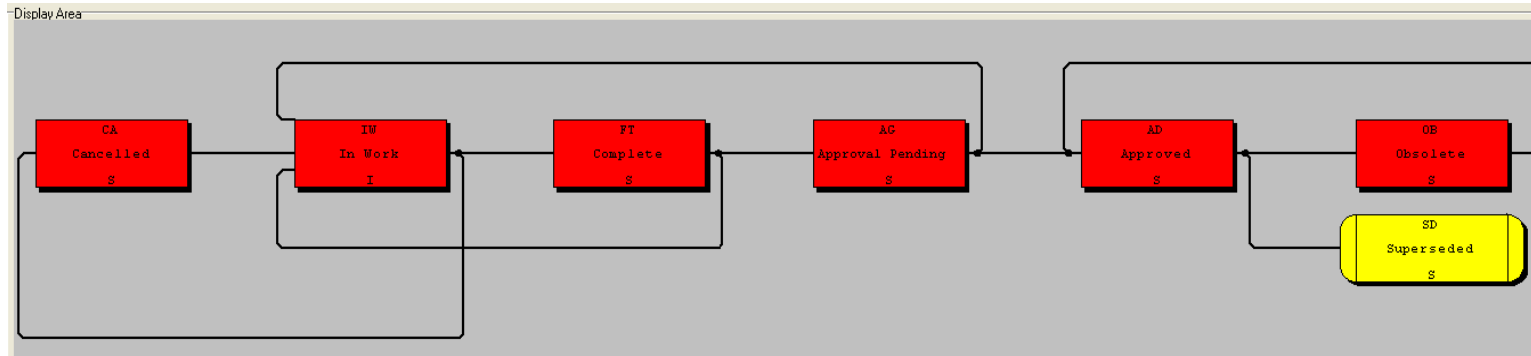
Enterprise Search

- **Enterprise Search enabled for many PLM and non PLM objects:**
  - Documents
  - Specifications
  - Recipes
  - Material Masters
  - BOMs
  - Projects
  - Etc.
- **DMS**
  - Searching on all standard fields, custom fields (Classification) and also document content (Textual content)

Security

- ## ABAP Security
  - Allows the setup of access to groups of documents based on Document Type and/or Document Status, Authorization Group as well as object link type
  - Typically a SAP Security Group function and not accessible to DMS users and/or DMS administrators

- ## ACL (Access Control List)
  - Allows document specific security setup (as well as folders) by DMS Administrator; Write, Read, Create, Delete and None (No Access)
  - Accessible in SAPGUI, WEBUI and EasyDMS
  - Can be setup and adjusted by document/folder by the administrator of the document and/or folder

- ## ACM (Access Control Management)
  - Individual documents (in conjunction with other PLM objects) can be restricted for access to groups of users for purpose of working on joint projects (Refer to next slide)

Access Control Management (ACM)

Company

External

Partici-pants

Julia

Ralph

Enhanced authorization controls

Dan

Roles

Product Manager

Designer

Access

Project A

Project B

Company Security Access Controls

Flexibility: Flexible supplier integration, on-boarding, and collaboration

Intranet

Firewall

Internet

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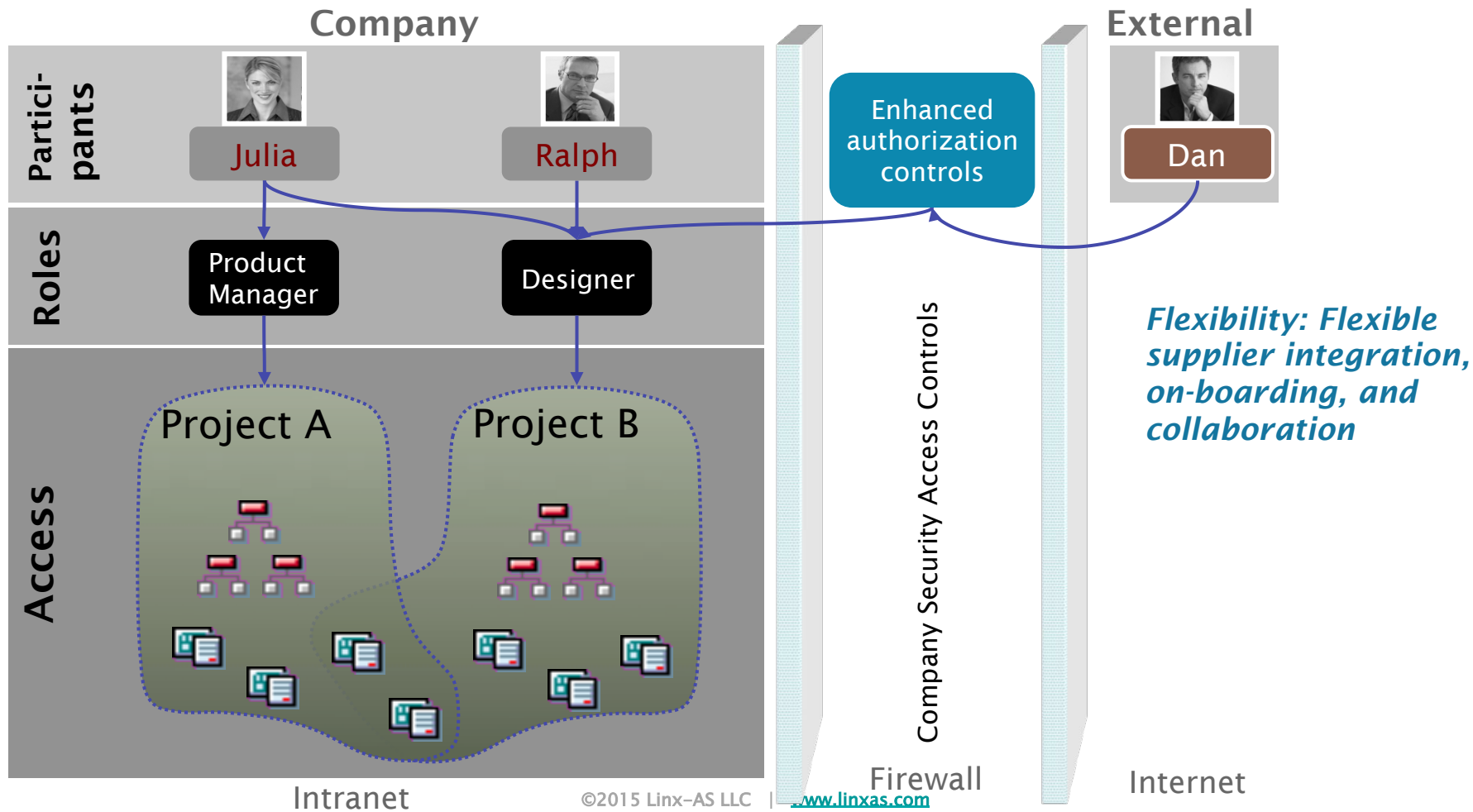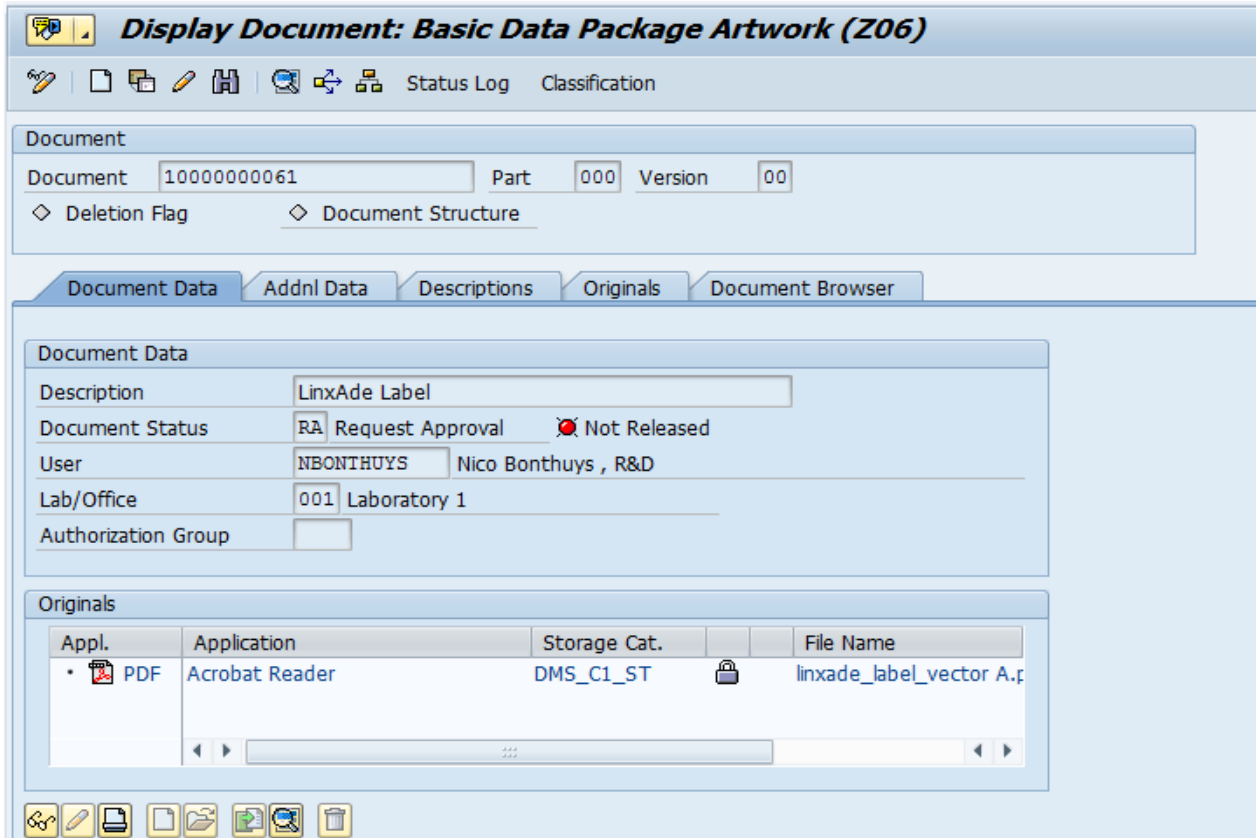
Office Integration

- **Supports embedding of SAP DMS meta data attributes into MS Office documents**
  - Typically used for MSWORD and MSEXCEL applications
  - Support all standard DMS meta data
  - Support DMS classification (custom) data

- **Technology Used**
  - OLE2- Enabled desktop applications like MS Word or MS Excel:
    - LINK-SERV (Link Server Technology)
    - FORM_INF (File Properties Technology)

- **DMS User Interfaces**

- **SAP GUI**
- **SAP EasyDMS**
- **WEBUI SAP NetWeaver Business Client (NWBC)**
- **SAP Engineering Control Center**

SAP GUI

- **SAP DMS was available via the traditional SAPGUI since very early SAP releases (as far back as release 3.1)**

- **Majority of the DMS functionality is available using the SAPGUI**

- **SAPGUI still supported on latest EhP7**

- **Typically preferred by users that spends the majority of their time on SAP Logistics (SAPGUI)**

SAP EasyDMS
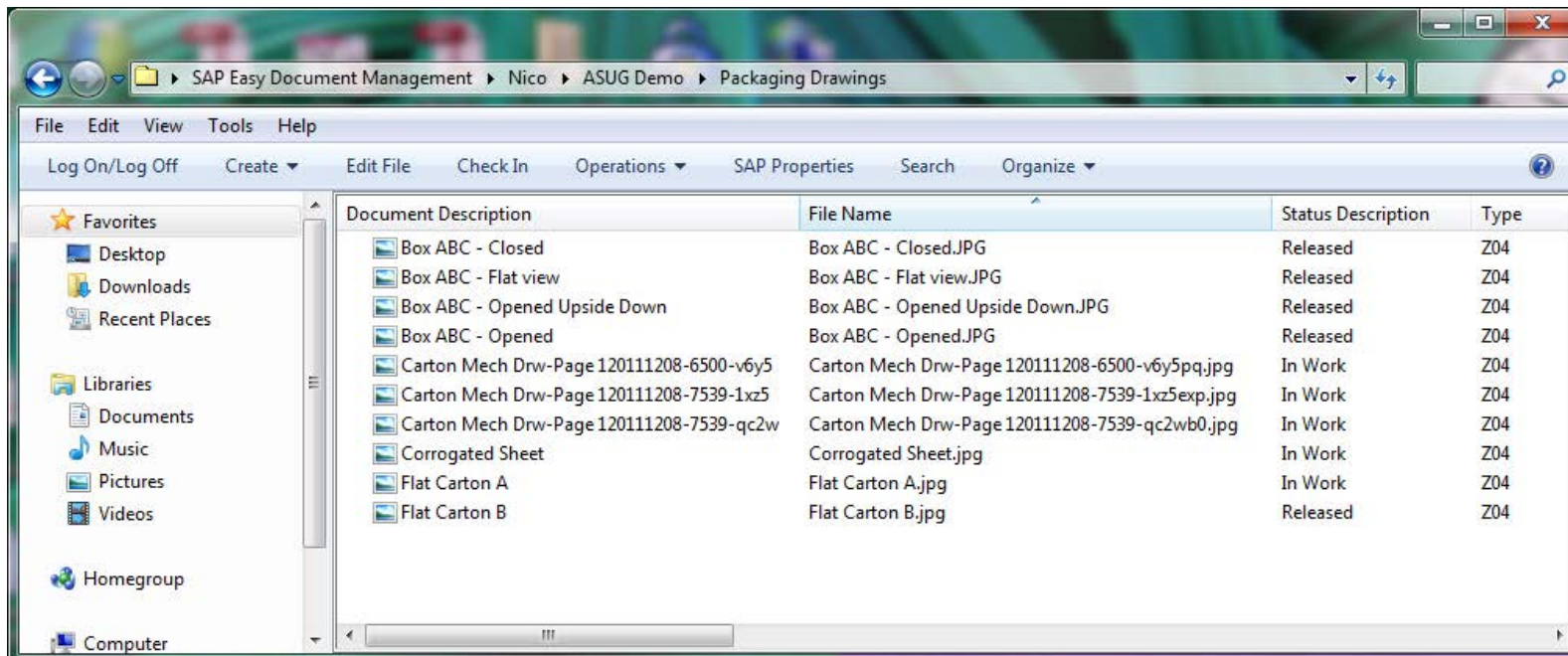
- **Based on MS Explorer but connects to SAP DMS via SAP user login**
- **Supports drag and drop from email and file folders to EasyDMS**
- **Typically for roles that do not use SAP on a regular basis but need to access or store documents in SAP DMS**

- **Available via NWBC for HTML, NWBC or Portals**

- **Support all DMS functionality with additional functionality e.g. Document Browser**

- **Additional functionality introduced; mass downloads, mass copy, favorites, etc.**

- **Typically for roles in R&D, Packaging & Design Engineering etc.**

SAP's Authoring Tool Integration Strategy
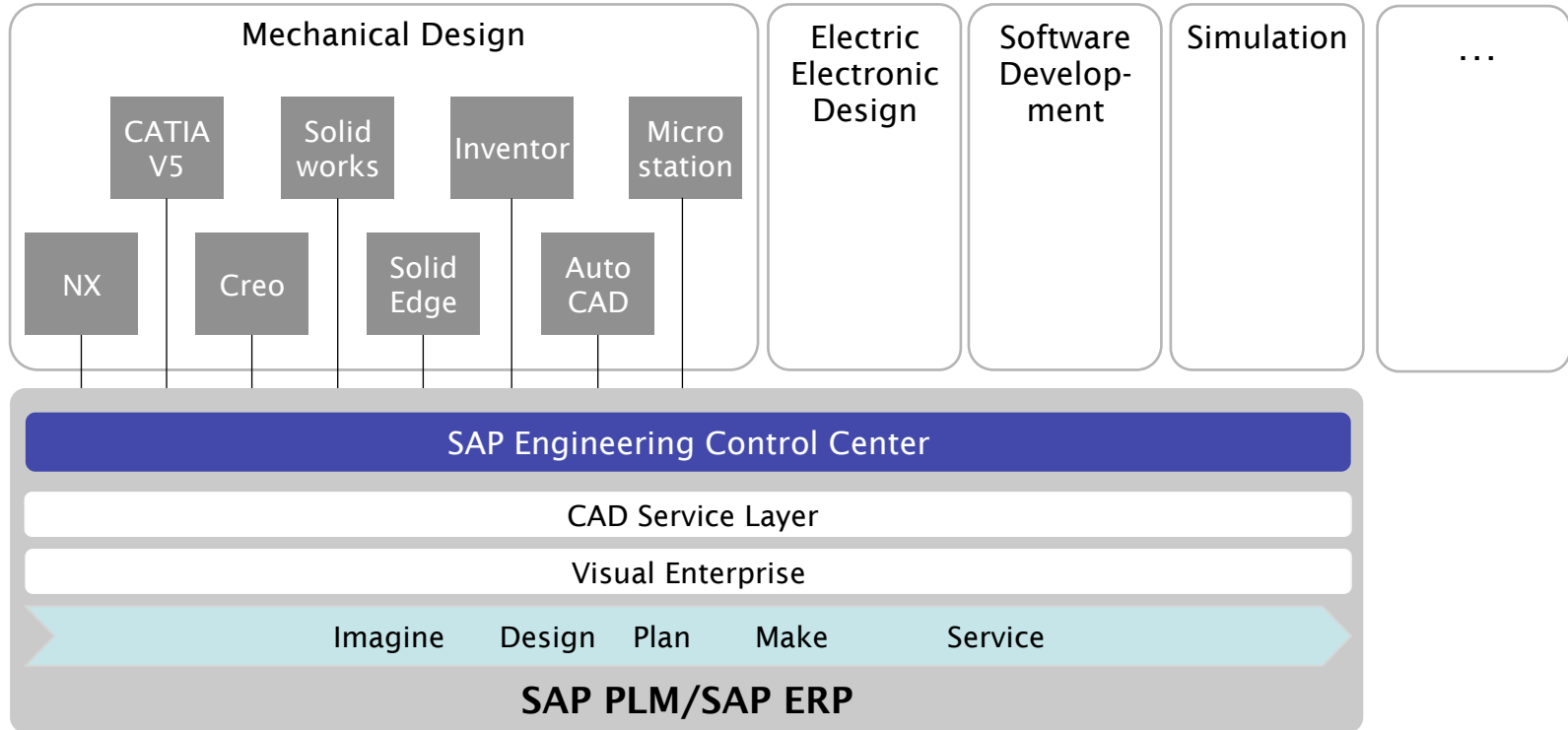
SAP Tool Integration Strategy (Overview)
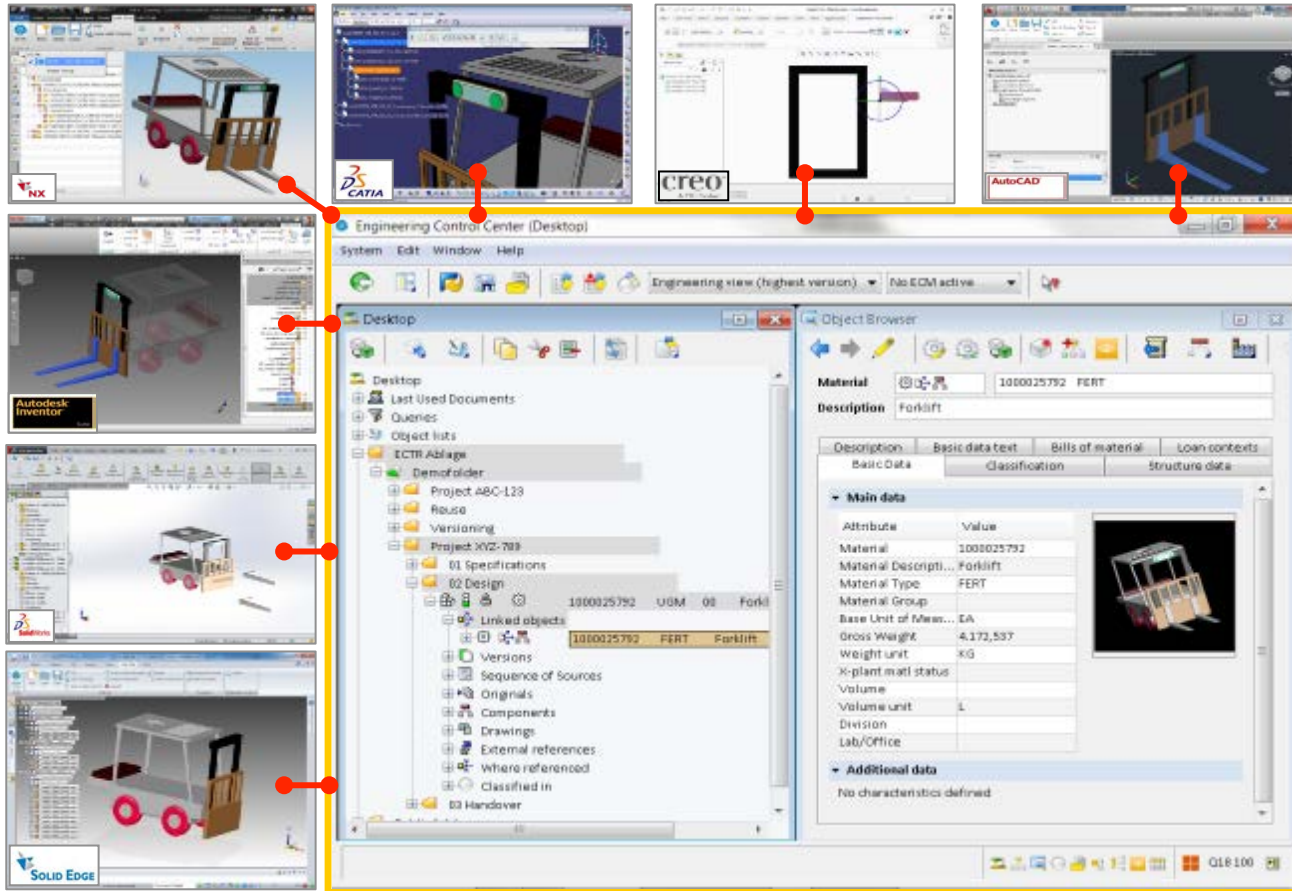
- **Efficiency in engineering**

- **Transparency with holistic product description**

- **Reduced operating costs**

- **DMS Workflow**

- **SAP offers different options for executing Workflows, which can be used to support:**
  - Notifications to route DMS documents to various users/departments (Informal Notifications) for display purposes only
  - Workflow notifications to users to maintain meta data or original content on a document (Collaborative Design Workflow)
  - Workflows to users to review/approve a DMS document (Approval Workflows)

- **The complexity of the business requirements will drive the type of DMS workflow solution; Options are:**
  1. Process Routes which are ad-hoc workflows/notifications associated with a DMS documents and other PLM objects like Change Records
  2. Advanced SAP Business Workflow solution to develop more complex and powerful workflow processes to support more complex Collaborative Design and Approvals

Option 1 : Process Routes (Ad Hoc Workflow)

- **Process Routes Embedded ad-hoc workflow functionality of many SAP PLM objects**

- **Define individual ad hoc workflows or load from workflow templates as an end user**

- **Notifies recipient of task to complete**

- **Users can be added in parallel or sequentially**

- **New Process Routes can be defined by users and do not require a technical resource**

Workflow Accelerator
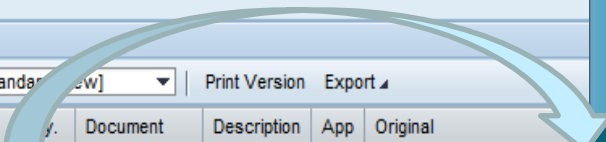
Demo

- **SAP GUI with Office Integration**
- **SAP EasyDMS with Drag and Drop**
- **WEBUI (With Enterprise Search)**
- **Enterprise Visualization ****
- **SAP Engineering Control Center**
    - **ECTR User Interface**
    - **CAD Integration**

Sustainable Product Innovation with SAP PLM

Solutions for Discrete Manufacturers

Thursday, June 18, 1:00 PM ET

Register at www.linxas.com/plm/

Linx-as™

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