OpenPlant Modeler

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OpenPlant is

- OpenPlant is... Our flagship plant design product.
- OpenPlant applications are based on ISO 15926 for interoperability
- OpenPlant applications are designed for the distributed world
- OpenPlant applications let engineers collaborate in an open environment
- OpenPlant applications leverage Bentley’s proven platform technology
## Business Needs ...

<table>
<thead>
<tr>
<th>REDUCE COSTS</th>
<th>Globally sourced, reuse designs</th>
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<tbody>
<tr>
<td>SHORTEN SCHEDULES</td>
<td>Improve productivity, schedule, better planning</td>
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<tr>
<td>IMPROVE OPERATIONS</td>
<td>Faster turnaround, handover, document updates</td>
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## Software requirements ...
Distributed work, affordable pricing, meet today’s AND future needs
Challenges

• Smarter project execution within a distributed world
• Protecting your investment in a trained workforce
• Improve productivity
• Protecting your significant investment in PDS Catalogs and Specifications
• “Fit for purpose” handover
• Usefulness in operations
Data-centric Design

- Project team collaboration platform
- Centrally managed, easily distributed
  - Configure based on project needs
  - Easily collaborate with others
  - Component-level access control
  - Offline modeling
- Resource loading
  - Maximise utilisation in each office
OpenPlant Modeler System Architecture

ProjectWise & ModelServer Environment

- Component storage
- Document storage
- Managed Workspace

Components -> Files -> Configuration

OpenPlant Modeler Application

WorkStation

Local DGN file
OpenPlant and ProjectWise is a Project Team Collaboration Platform for the Design of Capital Projects

Fabricator using OpenPlant Isometrics Manager

Sub-contractor using OpenPlant Passport

OpenPlant Modeler

ProjectWise Integration Server

OpenPlant Modeler

Sub-contractor using OpenPlant Passport

ProjectWise V8i

Engineering Project Collaboration Platform

Built on ISO 15926
Demo – Data-centric Design

- Distributed component based design
  - Check-in, check-out
- Offline use of design data
Trained Workforce

- Reduced training costs
- Leverages MicroStation core capabilities
  - Built on MicroStation, the same platform that PDS uses
- Availability of trained contractors
- Flexible training options
  - Bentley LEARN
Demo – Leverage MicroStation Skills

- Familiar CAD platform
  - User interface
  - Levels
  - References
  - Task based design
Ease of Use

• Faster, more intuitive modeling
  – Task-focused menus
  – Single user interface
  – Intelligent rules-based modeling

• Easier to visualise
  – Rendered mode
  – Dynamic sectioning

• Component-based design
  – Tree navigation and presentation of information in familiar format

• Improved interrogation
  – Re-work rather than re-model
Demo – Improve Productivity

- Equipment design
  - Parametric equipment
  - Nozzle manager

- Piping design
  - Pipe routing
  - Automatic fittings
  - Pipeline manager
Existing Catalogues and Specifications

- **Re-use**
  - Native use of existing catalogues and specifications
    - PDS
    - PlantSpace
    - AutoPLANT
Re-use
Existing Catalogues and Specifications

• Re-use
  – Native use of existing catalogues and specifications
    • PDS
    • PlantSpace
    • AutoPLANT

• Convert
  – Multiple specifications from other systems

• Manage
  – Standard spec management interface
Convert and Manage
Project Control

- Project team collaboration platform
- Inherent workshare and collaboration
  - Simplified joint ventures and workshare administration
- Managed content
  - Component and document-based
  - Manage design review and co-ordinated task management
- Project reporting
  - Visual design statusing
  - Single reporting engine across multiple applications
Demo – Centralised Project Management

• Design management
• Isometric production and management
• Project reporting
• Progress tracking
OpenPlant

✓ Smarter project execution within a distributed world
✓ Protecting your investment in a trained workforce
✓ Improve productivity
✓ Protecting your significant investment in PDS Catalogs and Specifications
✓ “Fit for purpose” handover
✓ Usefulness in operations
Thank you

Coffee break
Technology Deep Dive
Topics

• Using i-models with OpenPlant
  – Publishing i-model from OpenPlant Modeler
  – Markups in ProjectWise Navigator
  – Show markups
  – Referencing other i-models

• Dynamic Views and drawing production

• PDx Dynamic Review Service

• Administering OpenPlant
  – Managing Schemas, Class Editor
  – Specification Generator

• ProjectWise Integration and Managed workspaces
Bentley OpenPlant Design Technology

OpenPlant Applications
- PowerPID

OpenPlant Applications
- Modeler
  - Piping
  - Equipment
  - HVAC/Tray
  - Pipe Supports
- Isometric Mgmt
- Reporting
- Stress Interface

AutoPLANT
- P&ID
- Piping
- Equipment
- Raceways
- Isometrics

PlantSpace
- P&ID
- Piping
- Equipment
- Raceways
- HVAC
- Isometrics

Other Bentley Applications
- PDx Manager

Other Applications
- ERP

OpenPlant Services

OpenPlant Servers

OpenPlant Schema
(ISO 15926)

ProjectWise Integration Server
OpenPlant Interoperable Environment
i-models: Publish for Purpose

Precise  Provenance  Portable  Self-Describing

- Clash Resolution
- Dynamic Review
- Material Estimating
- Structural Analysis
- Schedule Optimization
ProjectWise Collaboration Technology

- ProjectWise V8i is software for connecting people and information across distributed teams and is used by architects and engineers to manage, find, and share content.

Globally Sourced, Loosely Coupled
ProjectWise Collaboration Technology

- ProjectWise V8i is software for connecting people and information across distributed teams and is used by architects and engineers to manage, find, and share content
  - Caching servers for fast file access and reduced rework
  - CAD standards management for improved data quality
  - Reference file management for easy collaboration
  - Integrated project framework for managing a portfolio of projects
  - Desktop application integration
  - Online fully managed solutions for "hands-free" administration
OpenPlant ModelServer

- OpenPlant ModelServer V8i is the first plant design server software to effectively and productively manage both files and components
  - Project team collaboration platform
    - Complete project control
  - Centrally managed, easily distributed
    - Configure based on project needs
    - Easily collaborate with others
    - Component-level access control
    - Offline modeling
  - Global working
    - Maximise utilisation in each office
OpenPlant Modeler

- Desktop modeling application
- Based on latest MicroStation and ProjectWise V8i engine
  - Uses latest features of MicroStation
  - Dynamic views
  - Managed workspace
    - Specs, catalogs, schema..
- Designed to support multiple work practices
  - i.e. Offline, remote, distributed, etc.
ProjectWise is the Component and Document Store

OpenPlant ModelServer manages each application client request, providing check-in/out, security, etc.

OpenPlant modeler works on the client machine, stores local reference data (catalogs) as well as ability to save local files.
OpenPlant Modeler

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OpenPlant Modeler

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OpenPlant Modeler Demo

- Using OpenPlant ModelServer
- Check-in / Check-out
- Modeling equipment and piping
- Pipeline manager and isosheets
Generating Deliverables
OpenPlant Isometrics Manager

- OpenPlant Isometrics Manager V8i is the first software to extract intelligent isometric information from multiple design systems, automatically and in real time.
OpenPlant Isometrics Manager

• OpenPlant Isometrics Manager V8i is the first software to extract intelligent isometric information from multiple design systems, automatically and in real time
  – Improve Isometric quality and consistency
  – Meet requirements of several isometrics styles
  – Version control
  – Global distribution to engineering, fabrication and construction team
  – Based on Open Data Model, data can be shared with other applications
  – Single application will create Isometrics from multiple sources
  – Reporting on isometric production for billing purposes
OpenPlant Isometrics - demo
OpenPlant drawing production

• Creating dynamic views and composing a drawing

• Managing drawings in ProjectWise
  – Drawing attributes, Drawing numbering
  – Titleblock integration

• PDF creation

• i-models
Generating Deliverables

Model Server

Components

References

File based models

Snapshot

Orthographic Drawings

Issue

Publish

- Self contained
- Password Protected
- Expiration date
- Optimized
- Immutable
OpenPlant Reporting

- OpenPlant Reporting V8i is a free module that allows reports to be generated from checked out components or from the OpenPlant ModelServer V8i repository.
OpenPlant Reporting

- OpenPlant Reporting V8i is a free module that allows reports to be generated from checked out components or from the OpenPlant ModelServer V8i repository
  - Custom reports can be easily created and stored, using Excel or Crystal Reports as the reporting format
OpenPlant Interoperable Environment

- OpenPlant PowerPID
- OpenPlant Modeler
- OpenPlant Isometrics Manager
- OpenPlant Reporting
- OpenPlant ModelServer
- PDS Projects with PDx Dynamic Review
- PDMS Projects (NorConsult)
- 3rd Party iRING (ISO 15926)
- Bentley Application
- Civil Process Structural
- ProjectWise Integration Server

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