Bentleyuser.dk ÅRSMØDE 2011
Vejle, 14.+15.11.2011

Bentley Plant Update

Carsten Gerke
Senior Sales Director
Bentley Plant EMEA

Bentley
Sustaining Infrastructure

- General
- Federated approach
- OpenPlant

Bentley Plant – What's new

- New acquisitions
  - SACS – for Offshore calculations
  - FormSys – for Offshore calculations
  - Pointools – for point cloud data management
- New products
  - Bentley Raceway and Cable Management – now released -> see presentation tomorrow
  - ProjectWise Transmittal Server - and Transmittal Services including Microsoft Azure based
  - New/expanded agreement with Adobe and Bluebeam on pdf markup
  - Bentley HVAC as an OpenPlant module -> see presentation tomorrow
- New licensing
  - Portfolio balancing
- New Services
  - Early Acces Programs institutionalized

Plant Design is Communication

Plant Design – Communication

- Two areas:
  1. Data exchange within a specific discipline across multiple companies / geographies – distributed engineering
  2. Data exchange between various disciplines on one job

  Implicit: data handover between project phases

  exchange or interoperability?

Owner/operator issue

- What data do I need to operate efficiently
  - What documents
    - schematics
    - isometrics
    - Protocols
    - ...
  - models
    - 3D models?
  - What data for
    - Maintanance systems
    - Inspection systems
    - ...

Owner/operator issue

- What requirements do I put into the contracts with respect to handover
  - structure
    - Avoid efforts
    - Avoid mistakes
  - quality
    - completeness
    - consistency

Contractor issue

- Turn-Key
  - This is putting the main owner/operator problem onto the EPC shoulders
- In any case
  - Am I ‚free' or do I need to fulfill requirements with respect to handover

Traditional solutions

- Rigid requirements by defining the systems to be used throughout the whole supply chain
- Clearly definied interface between varios software solutions
- Agreement to use the lowest denominator

Experiences with traditional approaches

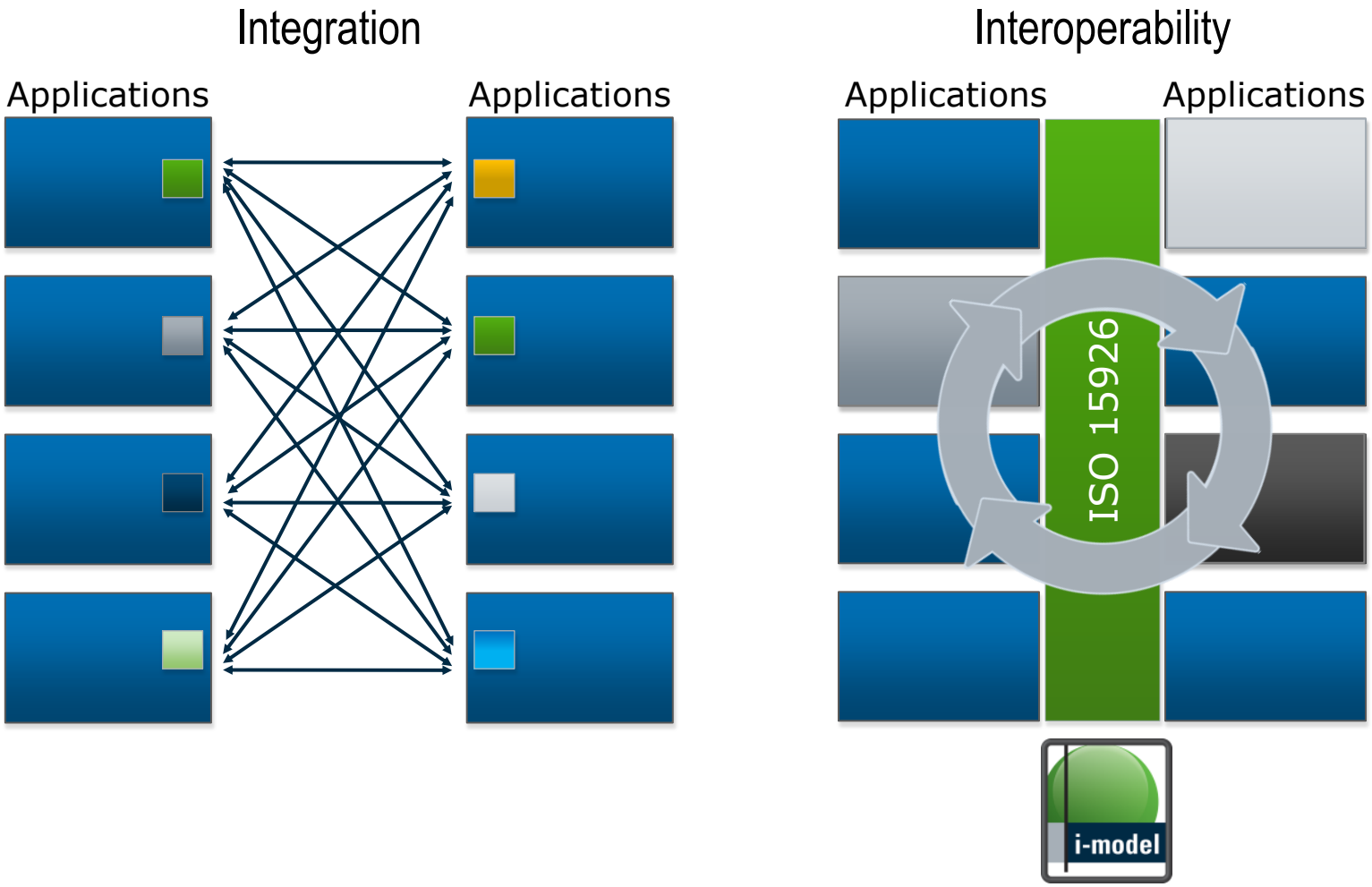
- Monolithic systems
  - Proprietary
  - Not only the system has to be the same but as well the configuration
  - Possible in controlled small environment, globally virtually impossible
  - Contractors have to run x different systems
  - Potentially dependency are created that are not necessarily desired
  - Can one data model descibe the world

Experiences with traditional approaches

- Individual interfaces
  - proprietary
  - High maintanence
  - High complexity if multiple systems are used
  - Responsibility for the interface
- Lowest denominator
  - De facto standards (dgn, dwg, pdf, xls)
  - is data reusable throughout the lifecycle?
  - No partnership – handover as little data as possible and as hard to reuse as possible
  - Project might be lean but costs for start-up/operations increases

Integration and Interoperability

Key it once and connect or merge my information with your information

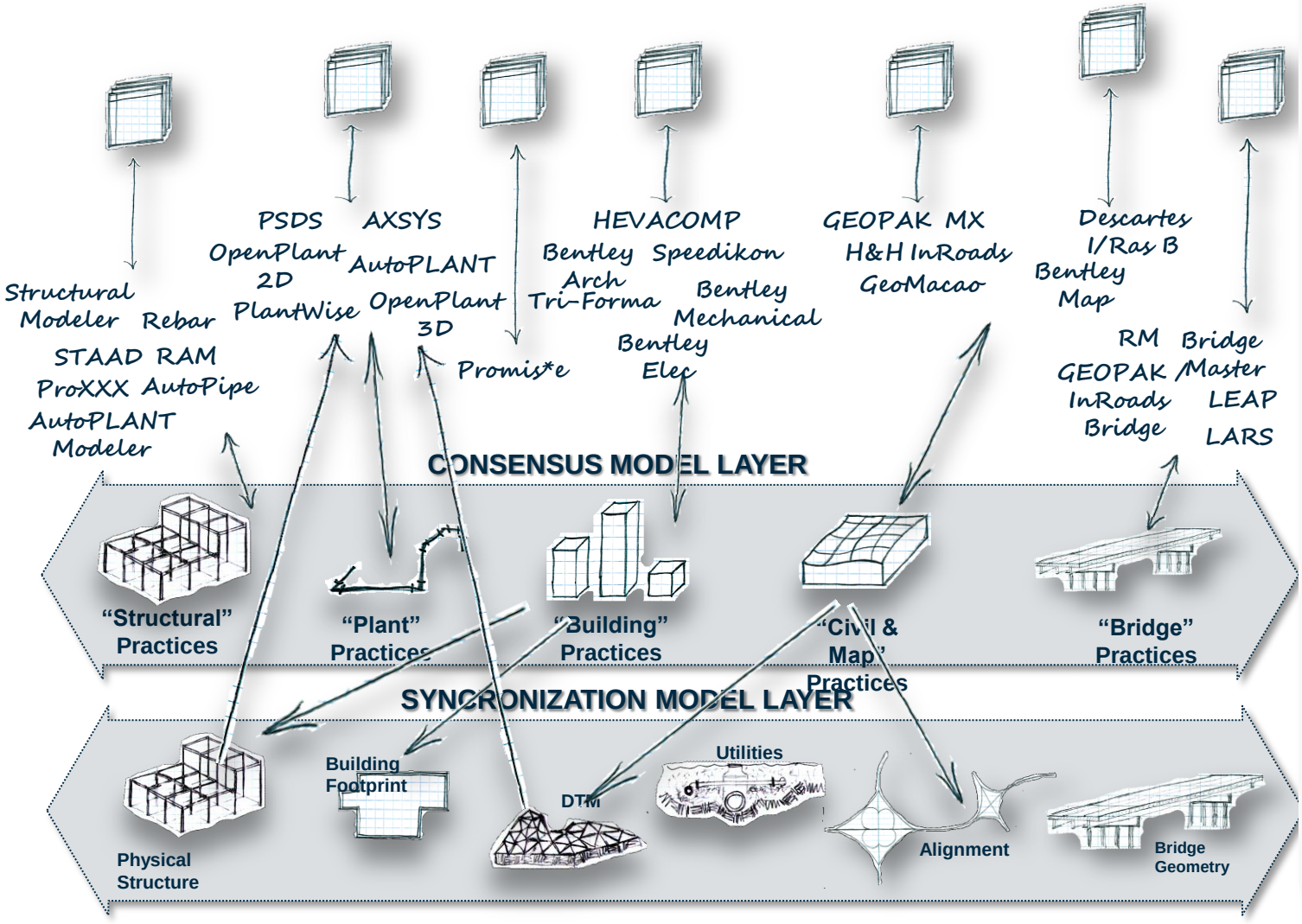


Engineering and Design Application Integration

- Engineering and design is
  - Complex
  - Focused on specialties/disciplines
  - Iterative in nature
  - Distributed with literally thousands of participants
- Considering the above, Bentley has addressed integration by binding like minded specialties/disciplines into “practices” that make use of shared data through a schema/database referred to as a consensus model

Model Synchronization

Sharing Consensus Models



Manage Change

Lots of Change

Less Change

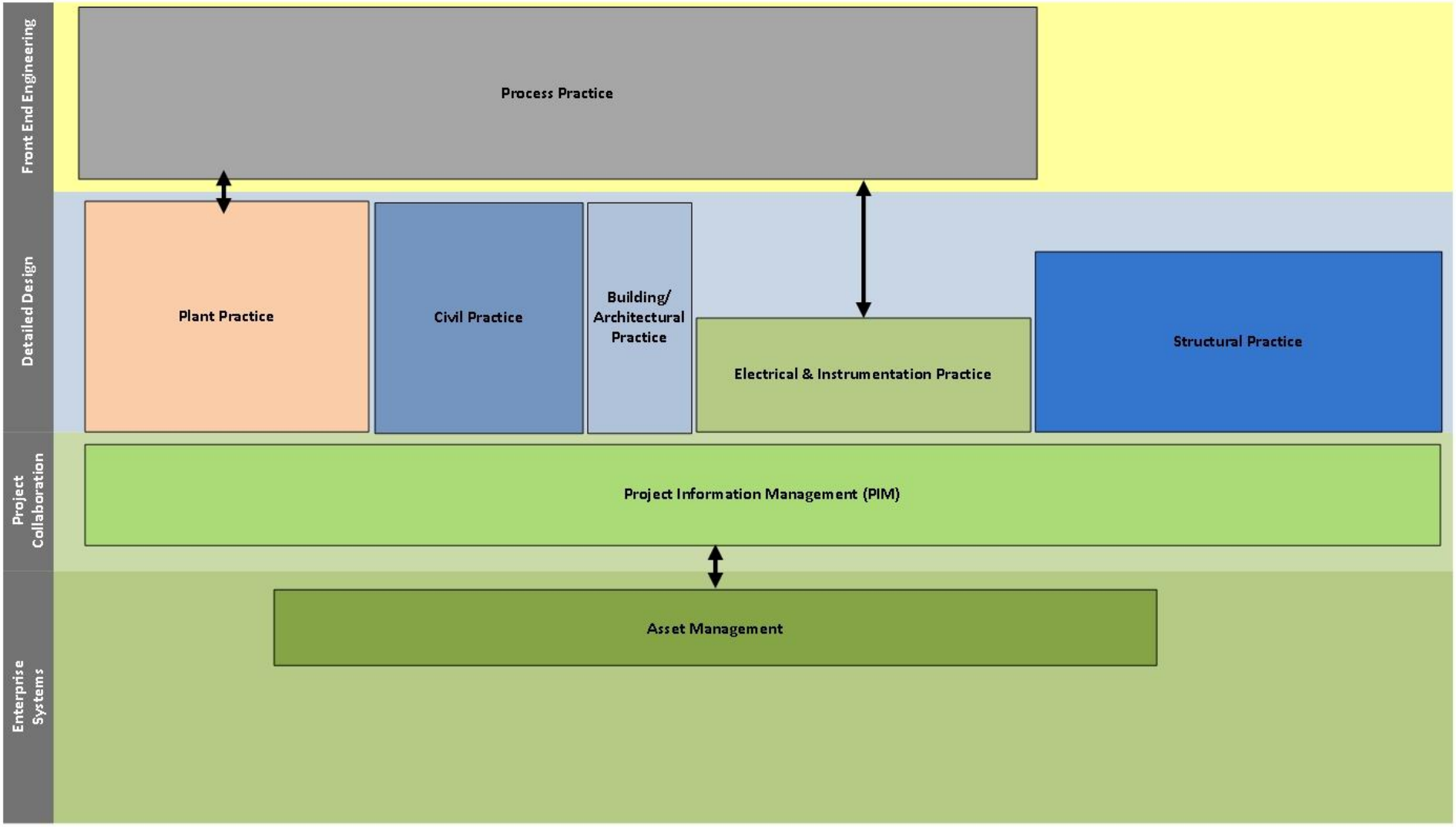
Little change

Bentley Sustaining Infrastructure

Bentley
Sustaining Infrastructure

Bentley Process Manufacturing Solution
System Architecture Diagram

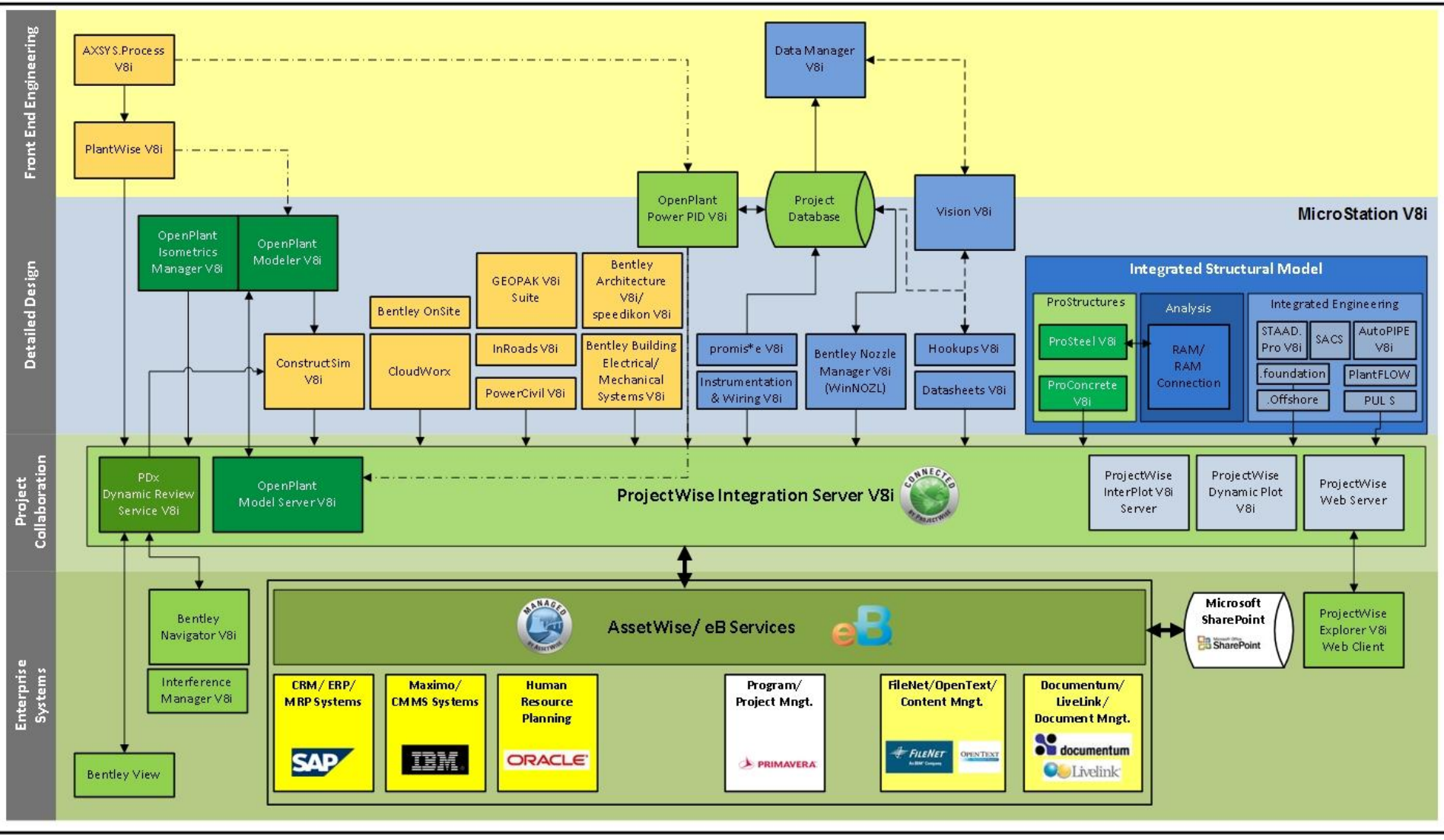
v1 3 July 2011



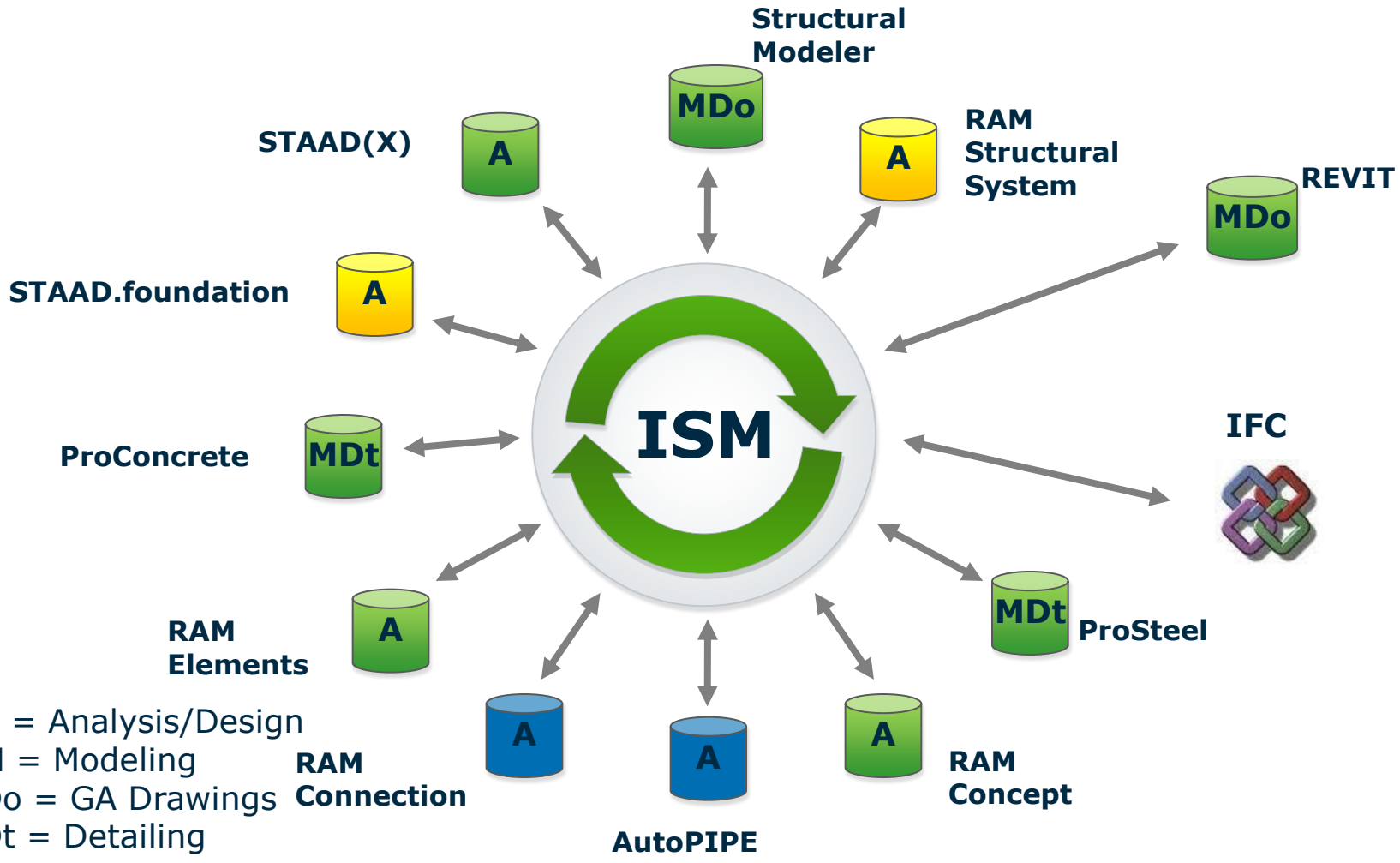
Bentley
Sustaining Infrastructure

Bentley Process Manufacturing Solution
System Architecture Diagram

v1 3 July 2011



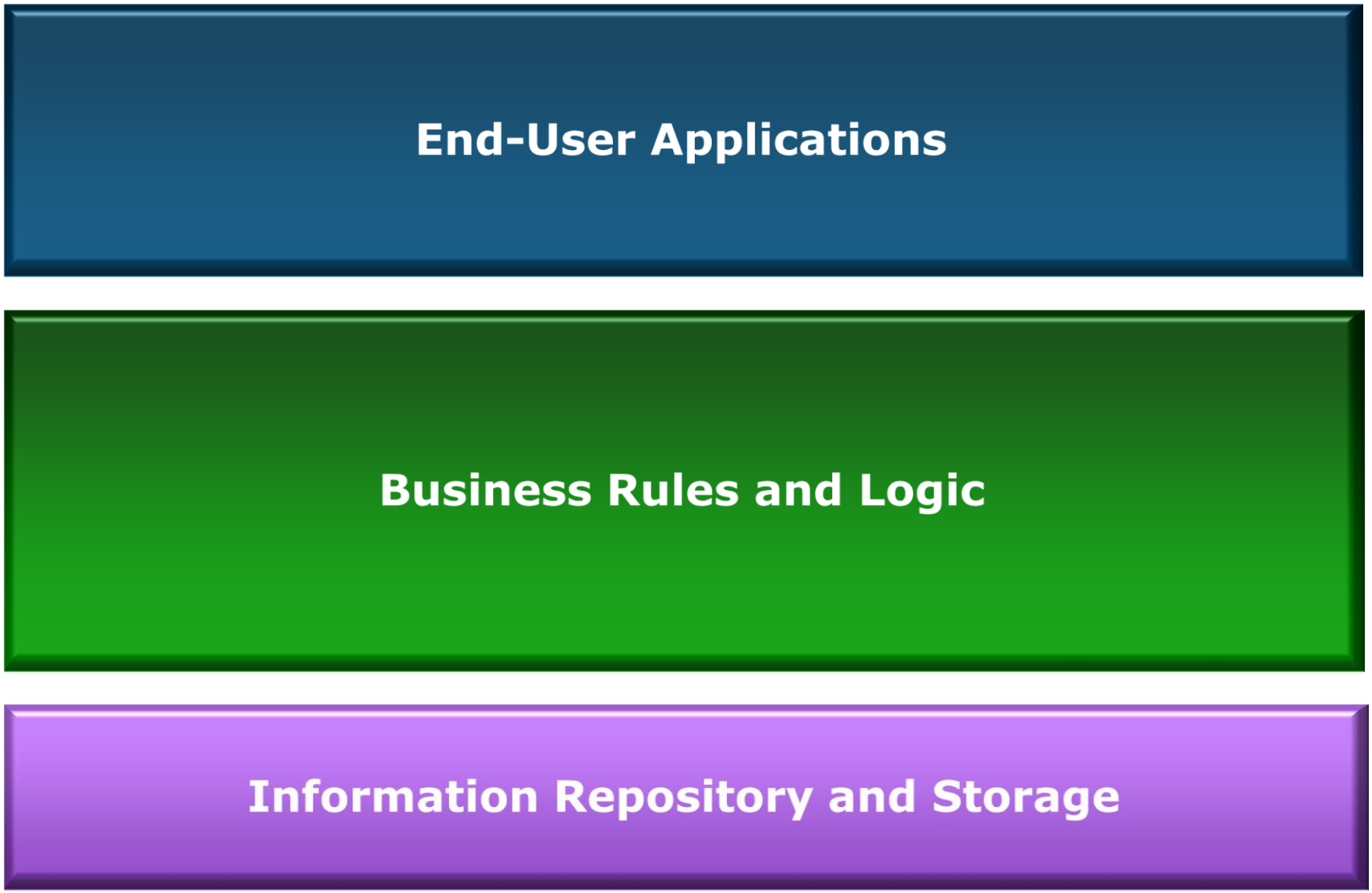
Structural Practice
Workflow Agnostic Approach



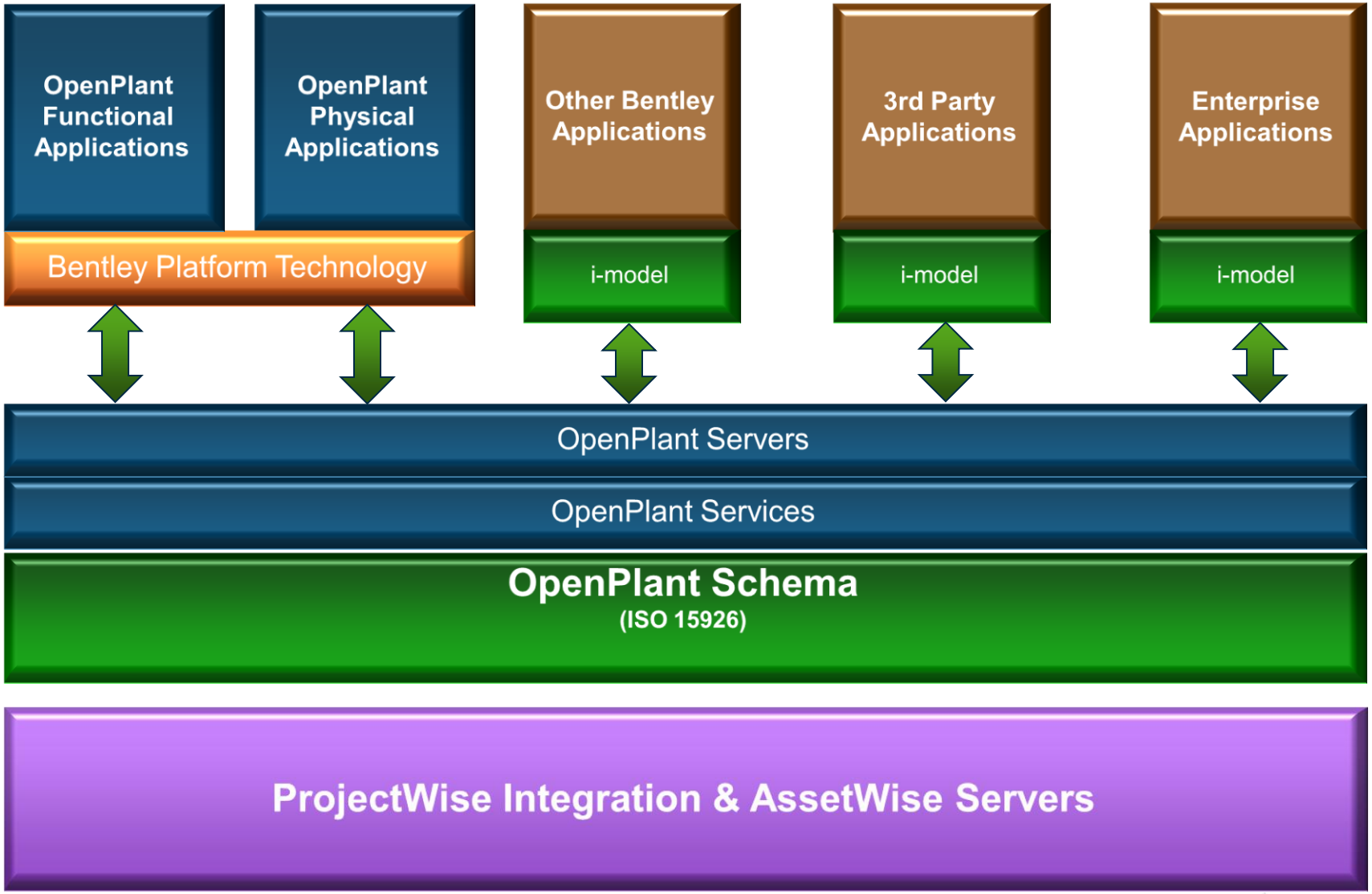
OpenPlant

Bentley
Sustaining Infrastructure

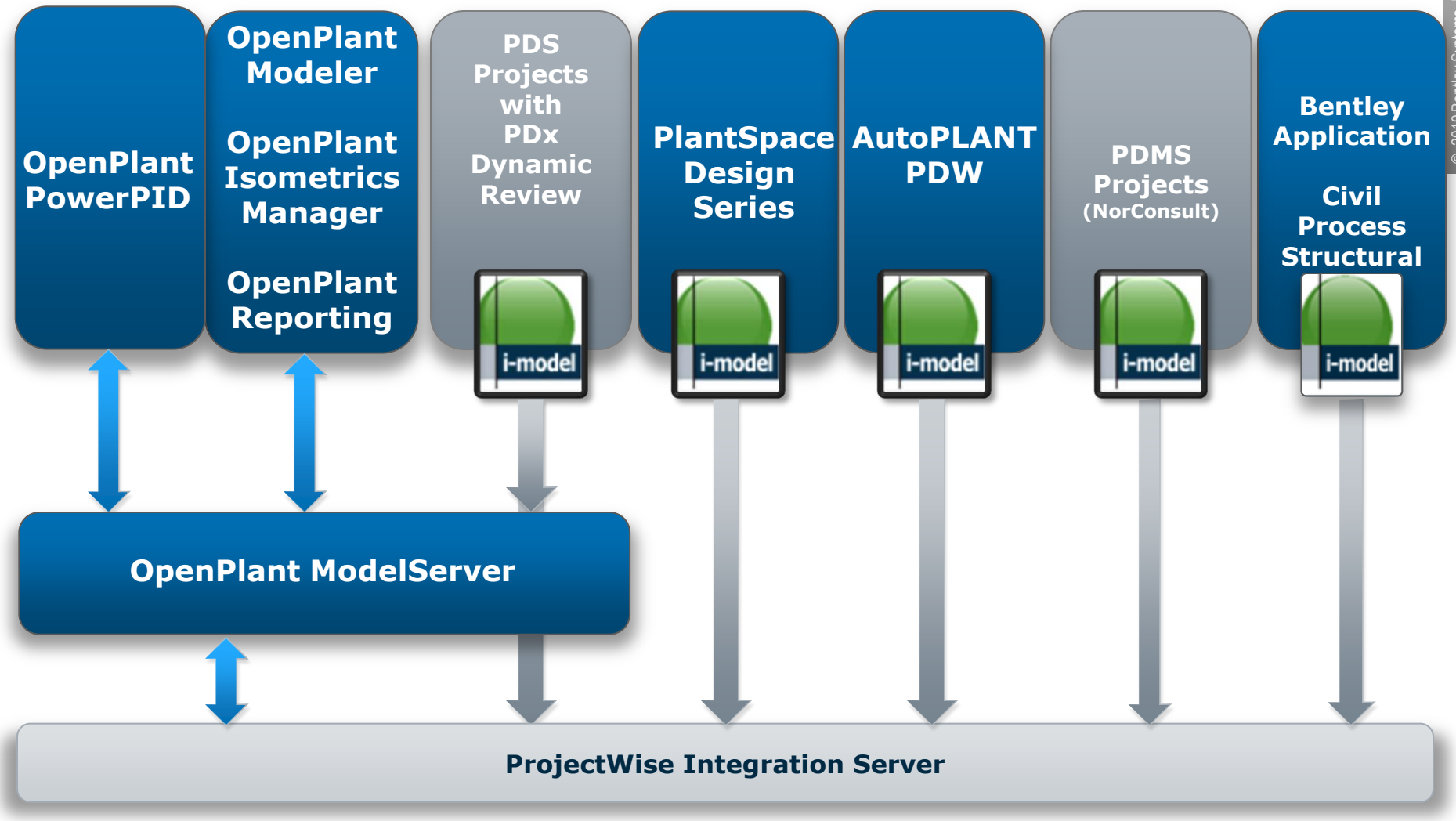
Bentley OpenPlant - A Three Tier Approach



Bentley OpenPlant Technology

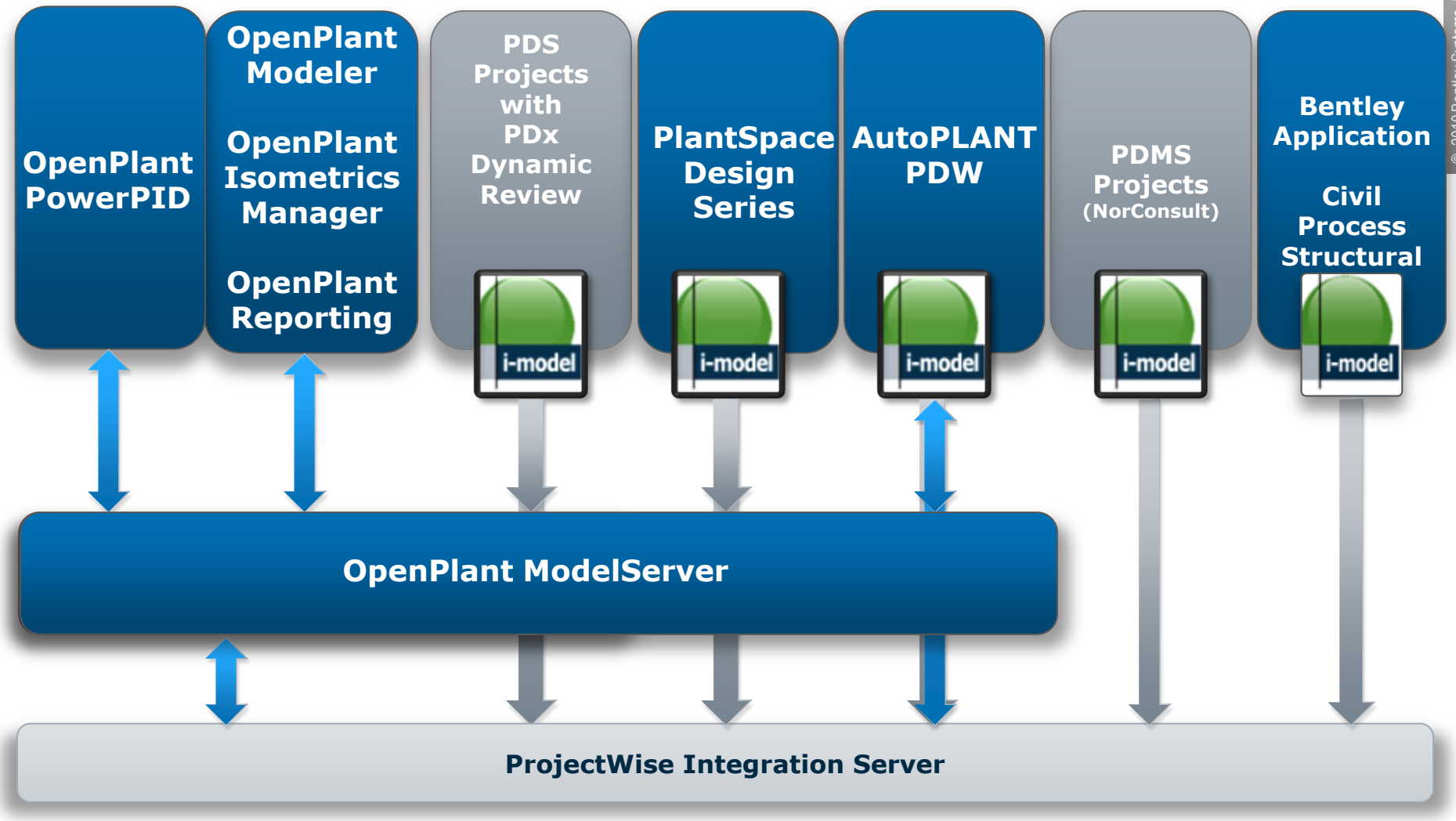


OpenPlant Interoperable Environment

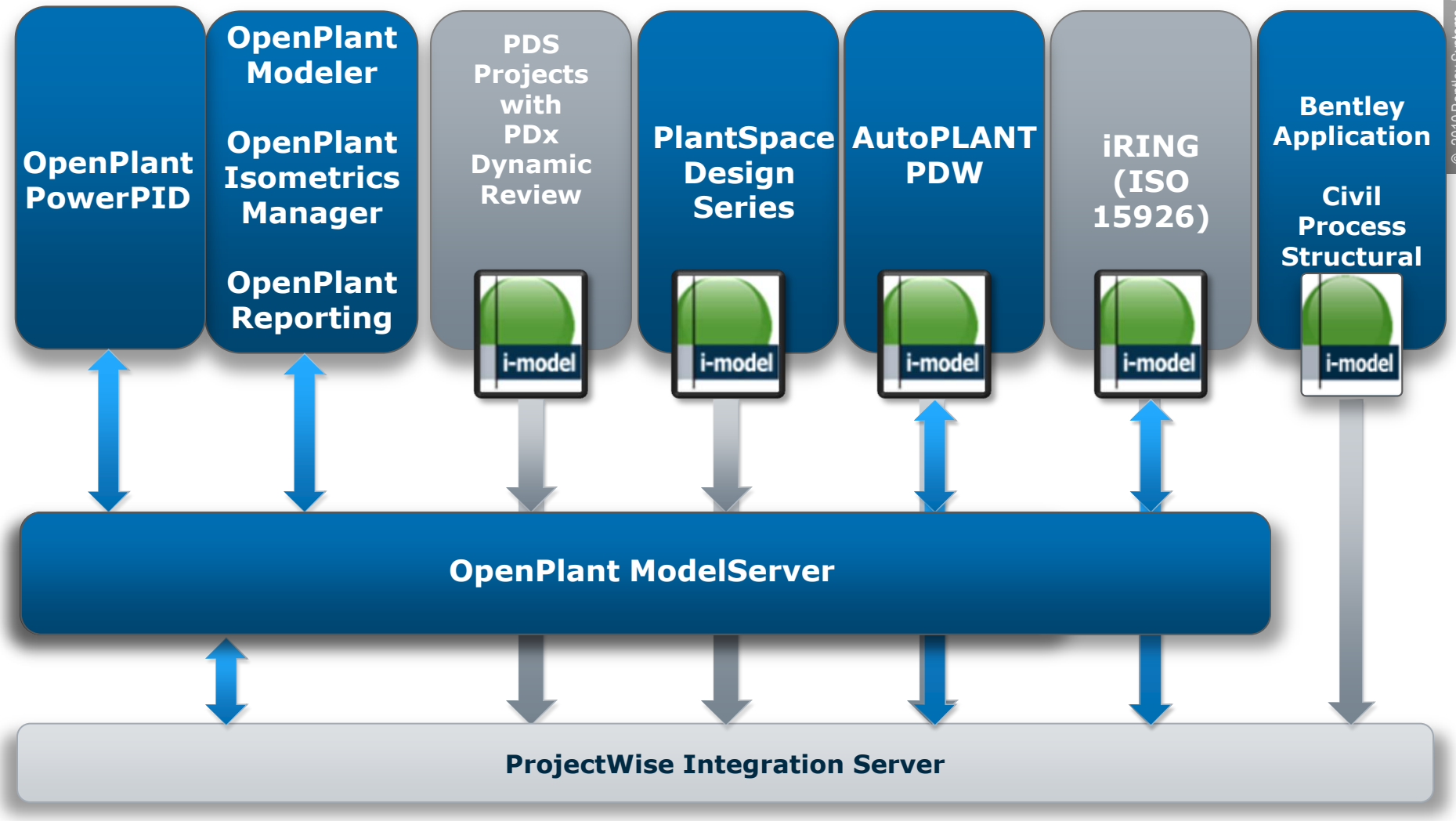


Bentley Sustaining Infrastructure

OpenPlant Interoperable Environment



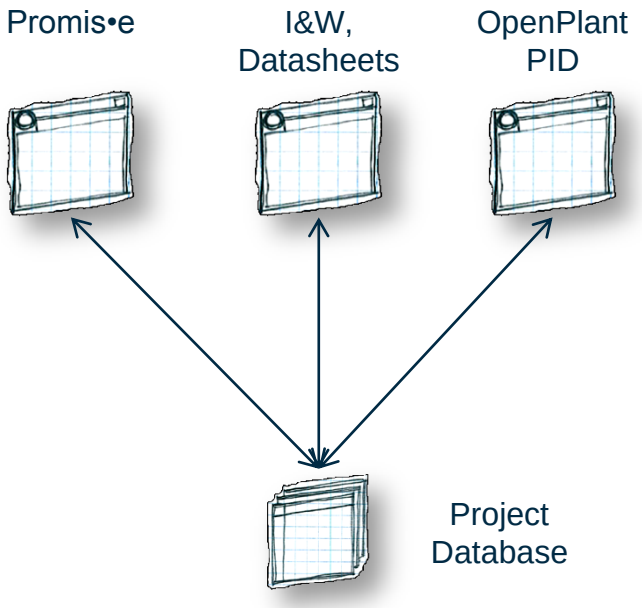
OpenPlant Interoperable Environment

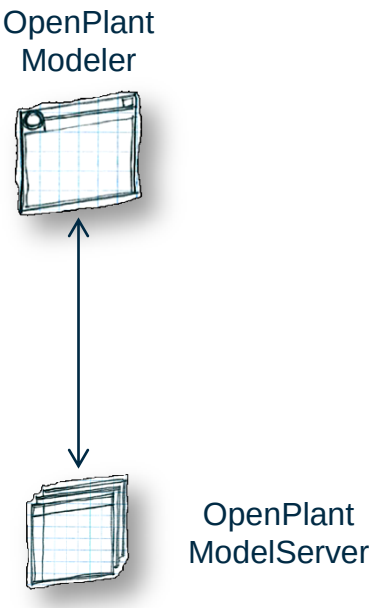


Bentley Sustaining Infrastructure

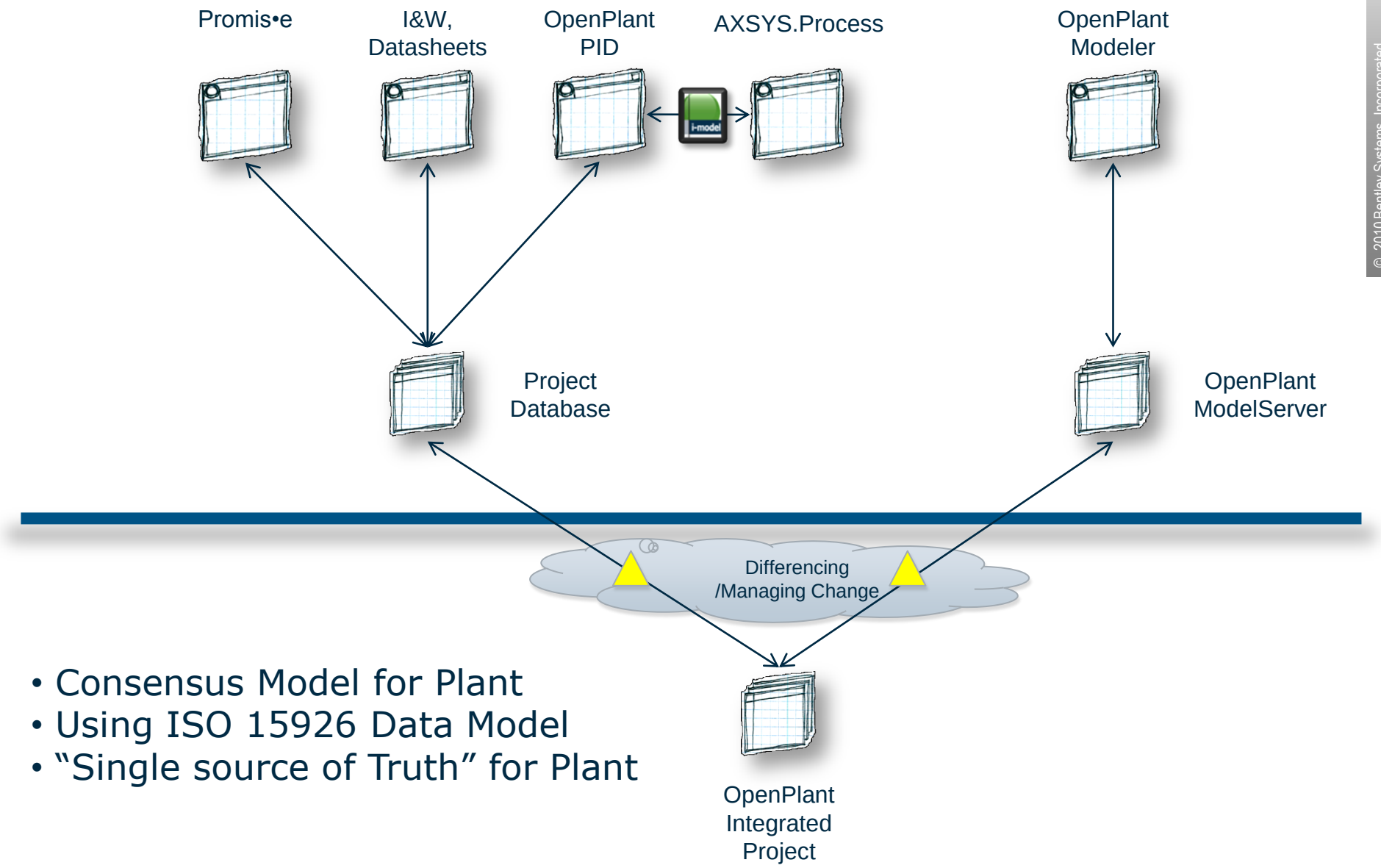
Consensus Models
An OpenPlant Example

Bentley
Sustaining Infrastructure

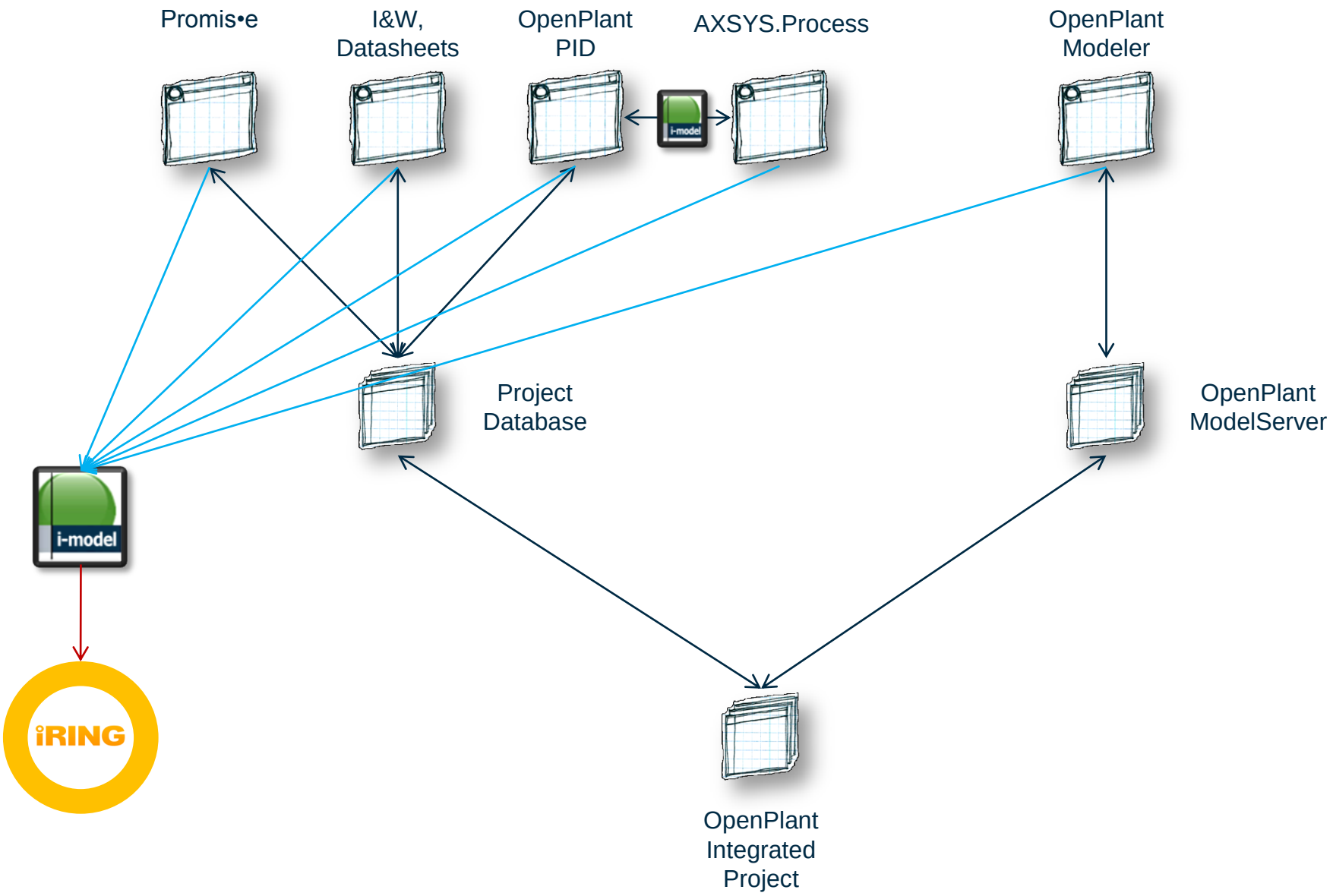


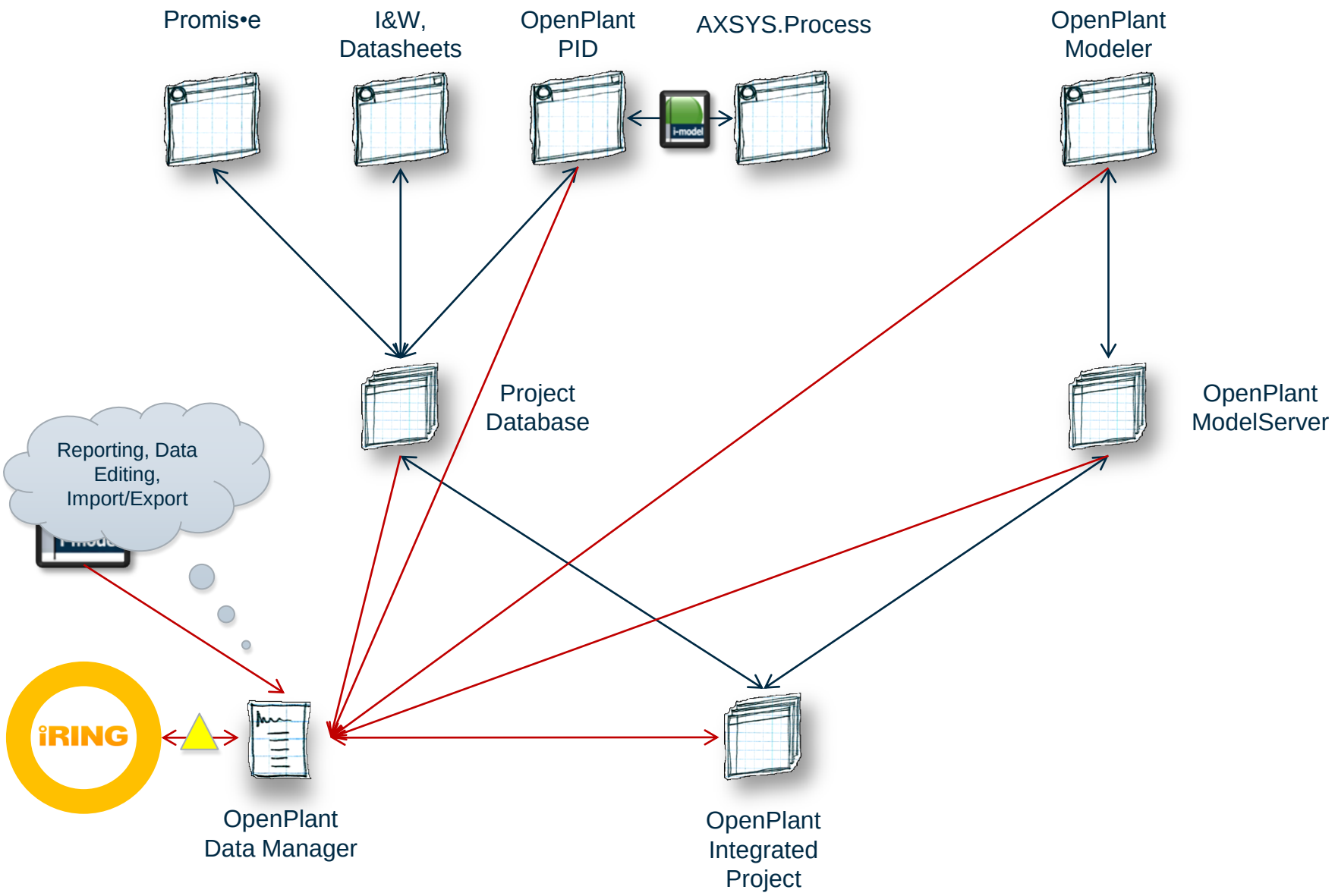


Today



- Consensus Model for Plant
- Using ISO 15926 Data Model
- "Single source of Truth" for Plant





FEED Functional E&I Physical

AXSYS.Process

OpenPlant PID

Promis•e

I&W, Datasheets,

OpenPlant Modeler

OpenPlant Data Sheets

OpenPlant Data Manager

Sync. Models

Structural, Geo, Civil, Building, etc

iRING

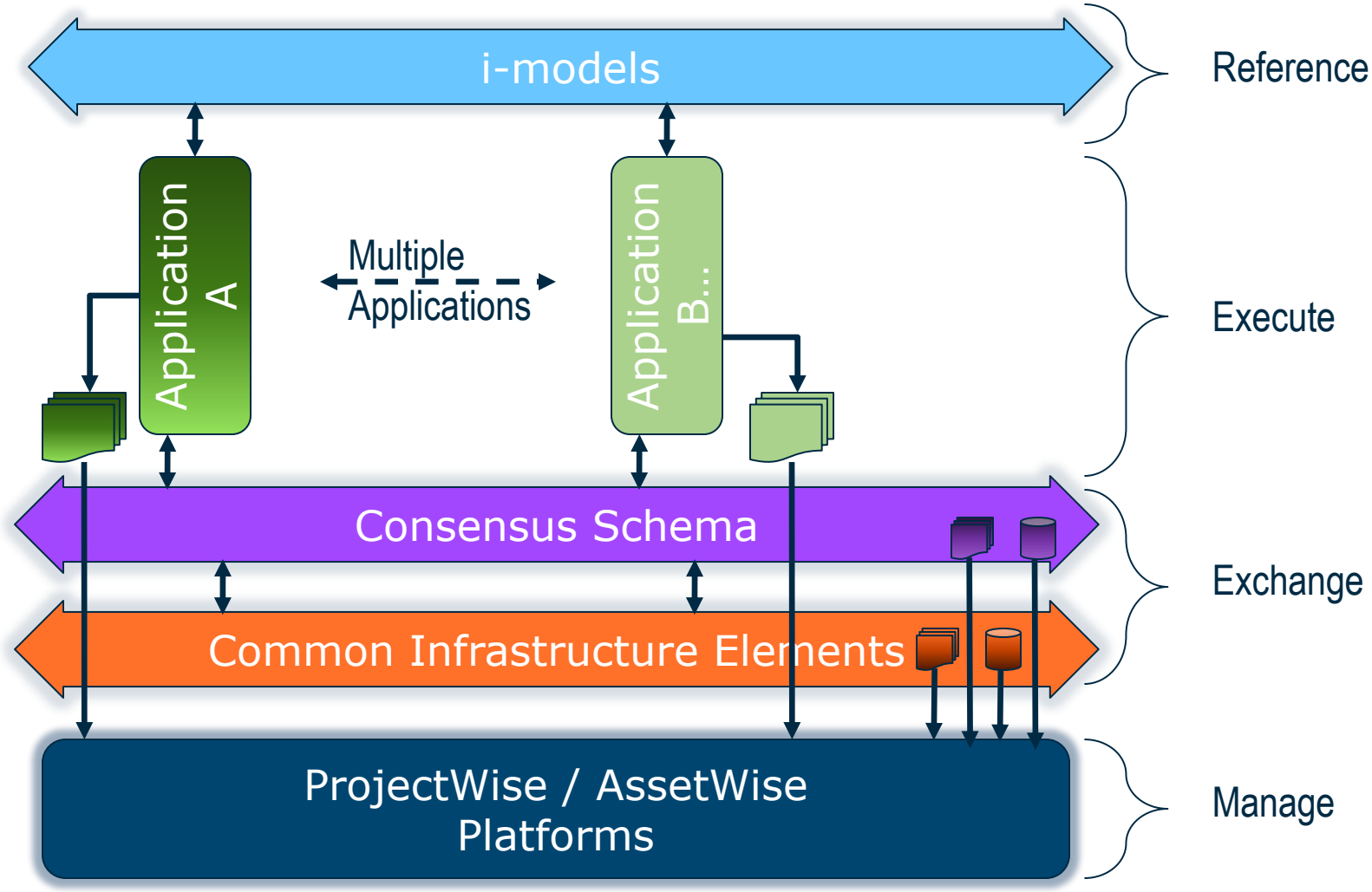
OpenPlant Integrated Project

Notification Server

Late 2012 or early 2013

Bentley Sustaining Infrastructure

Federated Architecture



OpenPlant – where do we stand today

- Jan 2010
  - Usability lab in Munich
- April 2010
  - Early Access Program (controlled beta)
    - Power/Food/Chemical
    - Europe and US
- August 2010
  - Product release of OpenPlant Modelserver, OpenPlant Modeler and OpenPlant Isometric Manager
- September 2011
  - OpenPlant EarlyAdopters Roundtable Munich
- October 2011 -> see presentation tomorrow
  - OpenPlant PID SS4 is available
  - OpenPlant SS3 is available

OpenPlant – short term future

- Q1 2012
  - Refresh releases for OpenPlant 2D and 3D
- Q2 2012
  - Major releases for OpenPlant – counting will be harmonized to SELECTseries 5

OpenPlant – Migration path for existing users

(note: These offers are valid 2010 and 2011 and are subject to change)

- ProjectWise
  - Special offer for quick-starting ProjectWise
- OpenPlant ModelServer
  - Under SELECT ***one*** OpenPlant ModelServer will be granted
  - SELECT fees apply
- OpenPlant Modeler
  - Max (Bentley Piping; AP/PS Equipment) = # of OpenPlant Modeler
  - SELECT fees apply
- OpenPlant Isometrics Manager
  - Isoextractor licenses will be swaped 1:1 (new SELECT will be applied)
  - If Isogen is used then for every 5 seats of Bentley Piping with Isogen 1 license of OpenPlant Isometric Manager will be granted (SELECT fees apply)

Q&A

Bentley
Sustaining Infrastructure