



ACE 2011 International

How to Think about Integrations

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Agenda



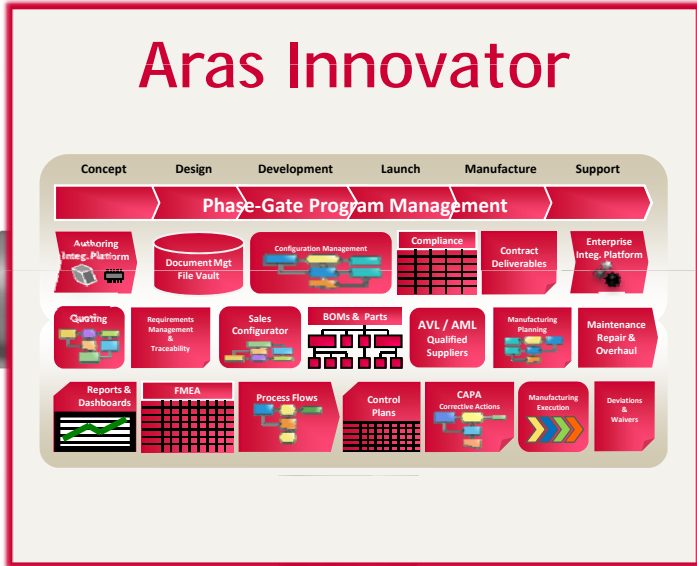
- ▶ **Integration Landscape**
- ▶ **Aras Integration Technologies**
- ▶ **Example Integration Scenario**
- ▶ **Aras Integration Platform Capabilities**
- ▶ **Integration Offerings**
- ▶ **Where to go for Help**

Integration Landscape



Authoring Systems

MCAD
EDA
Electrical Software
Firmware
MS-Office
Desktop Publishing
Graphic Design
Simulation
CAM
CAPP
Digital Factory
Ideation
Requirements Mgt.



Enterprise Systems

ERP
CRM

 Legacy ERP Systems

PLM / PDM
Sales Configurator
Collaboration
Costing
Compliance
PDM Legacy / Other Solutions
 Other Legacy Systems

Aras Integration Technologies



▶ **We will be reviewing the following technologies:**

1. Flat File Integration
2. AML-lite Integration
3. WSDL Integration
4. EAI/ESB Integration
5. IOM API Integration
6. Federation Integration

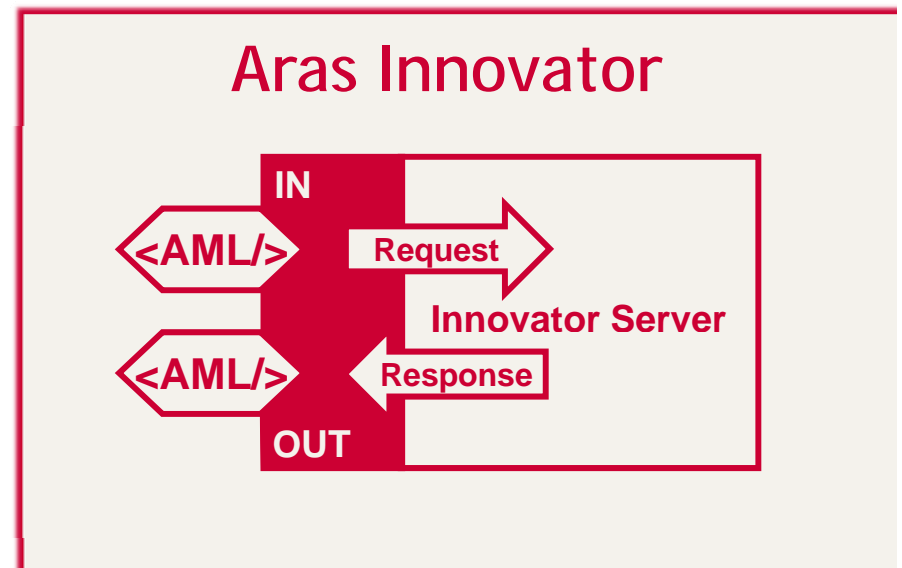
▶ **These are roughly in order of capability and effort to implement**



It's Always AML...



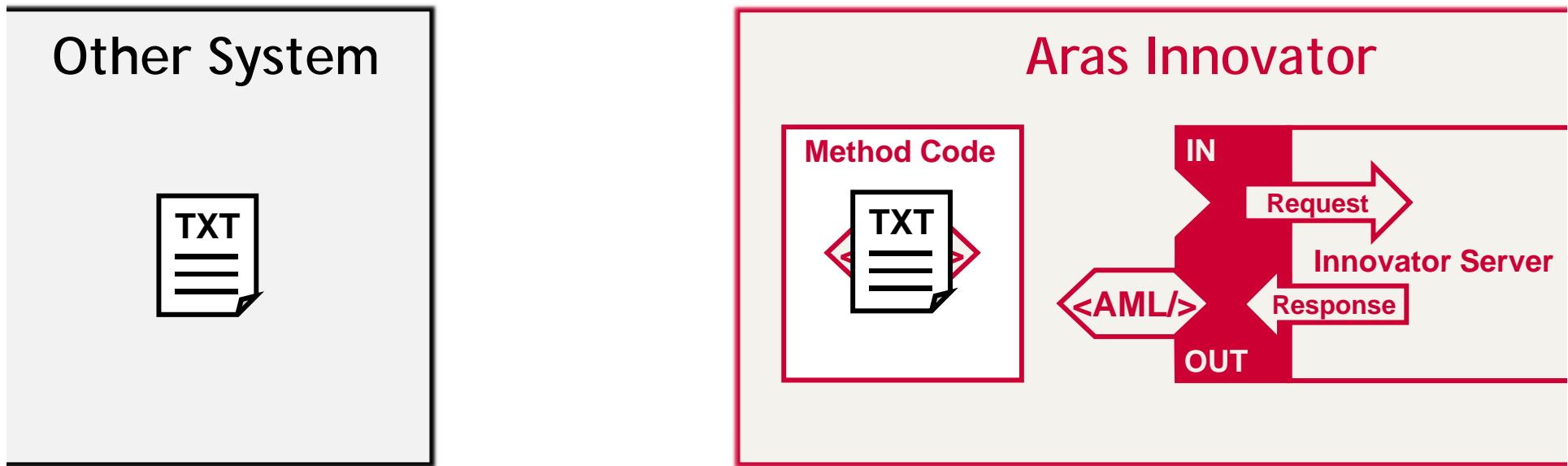
- ▶ Every integration method is fundamentally AML input and output behind the scenes



Flat File Integration



- ▶ Use method code in Innovator to convert flat file to AML, or vice versa
- ▶ Can be client or server side



Flat File

AML-lite

WSDL

EAI/ESB

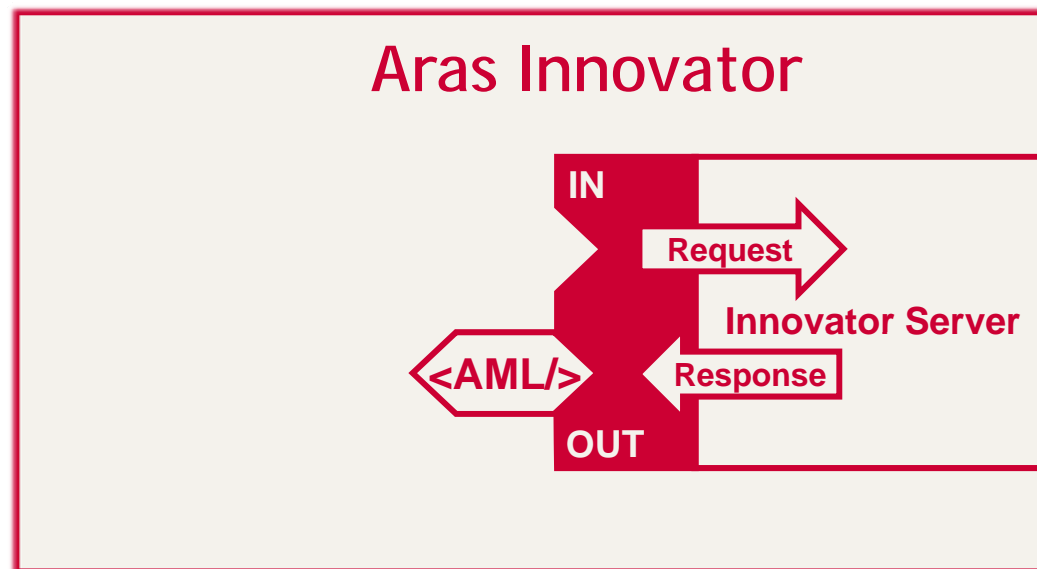
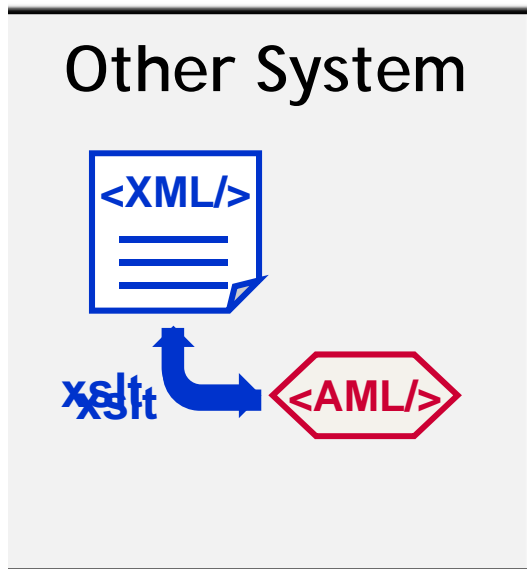
IOM API

Federation

AML-lite Integration



- ▶ If the system can produce or consume XML, then transform it to AML using xslt, and communicate directly with the Innovator server



Flat File

AML-lite

WSDL

EAI/ESB

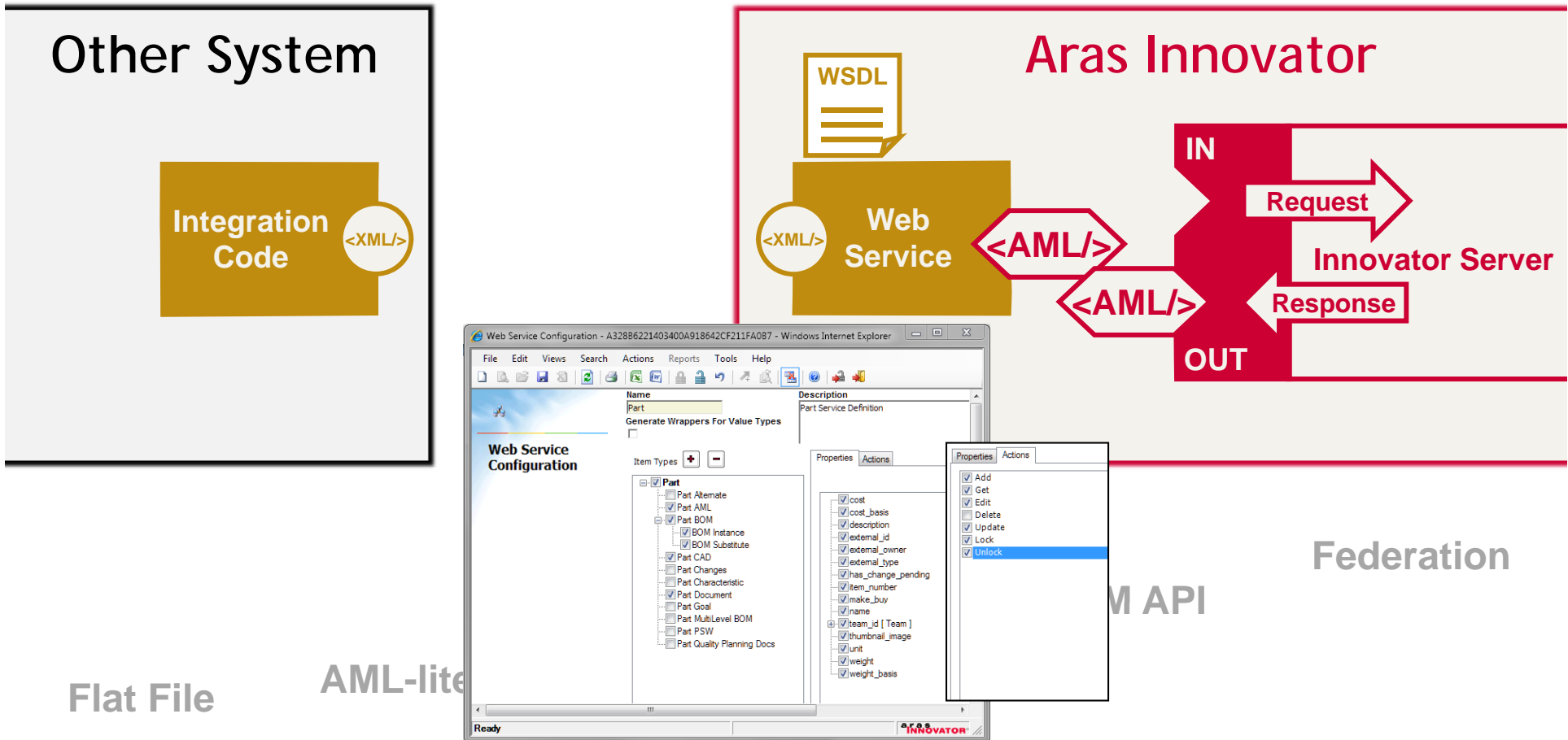
IOM API

Federation

WSDL Integration



- ▶ You can create web services for Aras items and expose through WSDL
- ▶ Specific item properties and actions must be defined, and remain static



Flat File

AML-lite

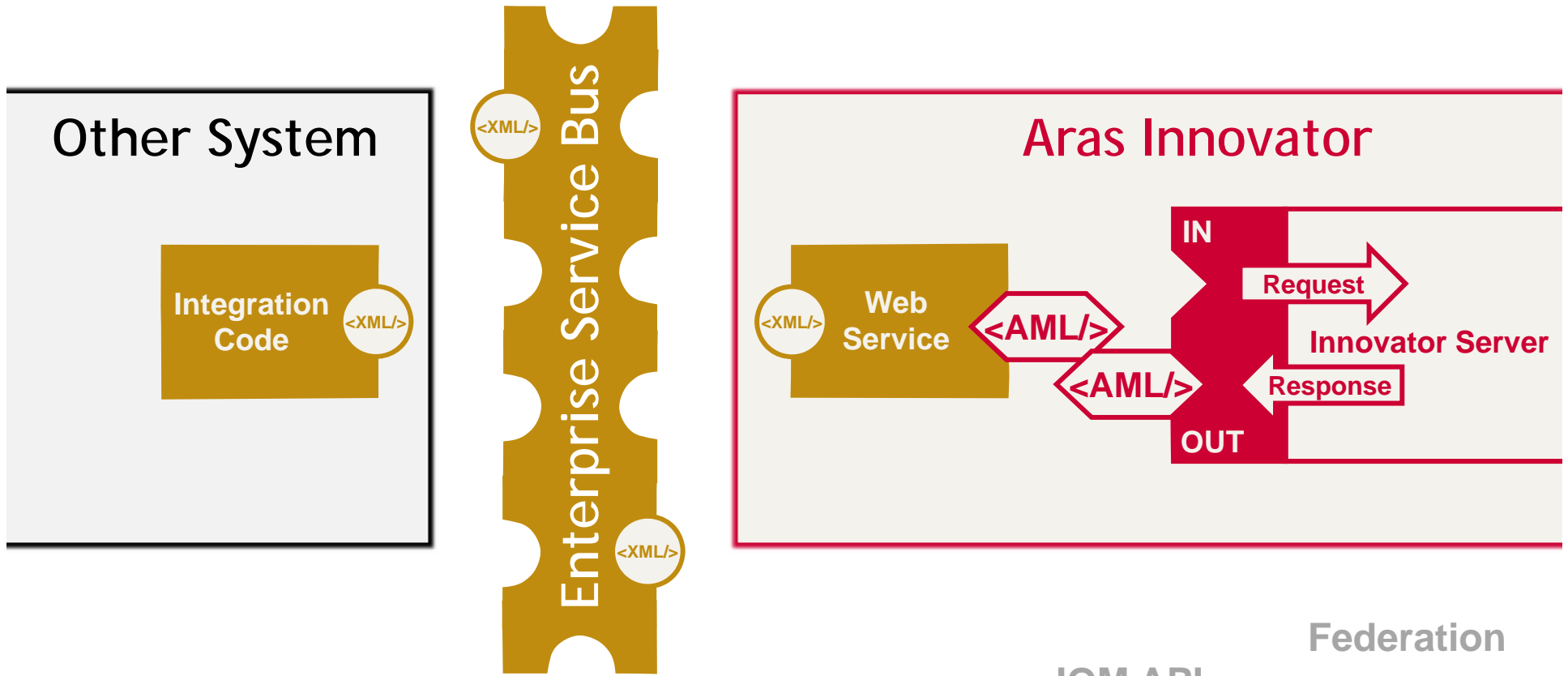
API

Federation

EAI/ESB Integration



- ▶ You can create web services for Aras items and expose through WSDL
- ▶ Specific item properties and actions must be defined, and remain static



Flat File

AML-lite

WSDL

EAI/ESB

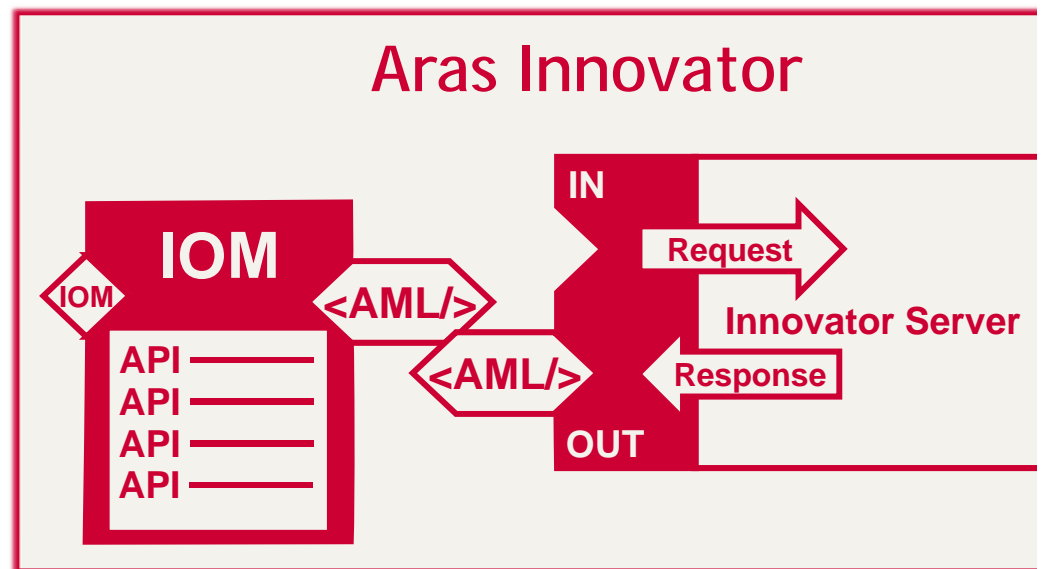
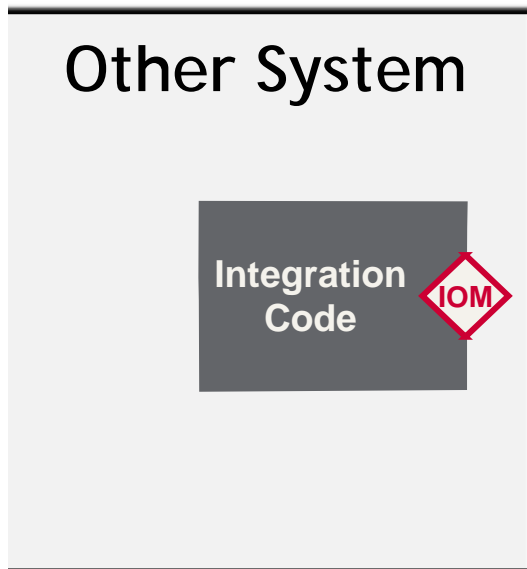
IOM API

Federation

IOM API Integration



- ▶ IOM is the Aras Innovator API
- ▶ It has full access to all item types, plus special platform calls like CheckoutManager, plus convenience functions



Federation

IOM API

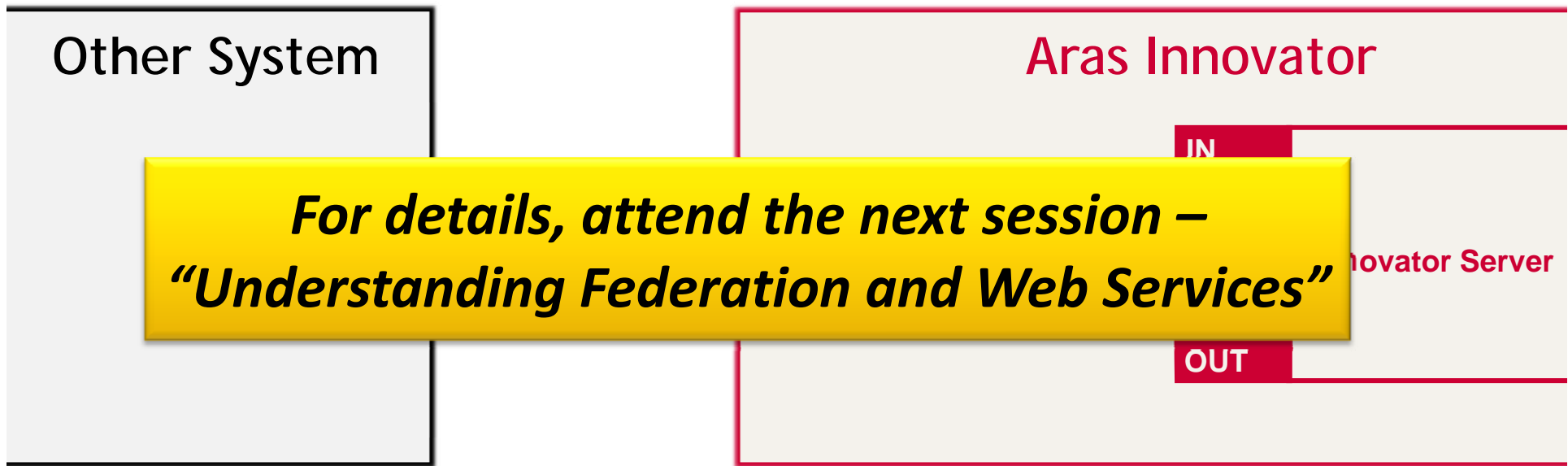
EAI/ESB

WSDL

AML-lite

Flat File

Federation Integration



Federation

Flat File

AML-lite

WSDL

EAI/ESB

IOM API

Summary of Technologies

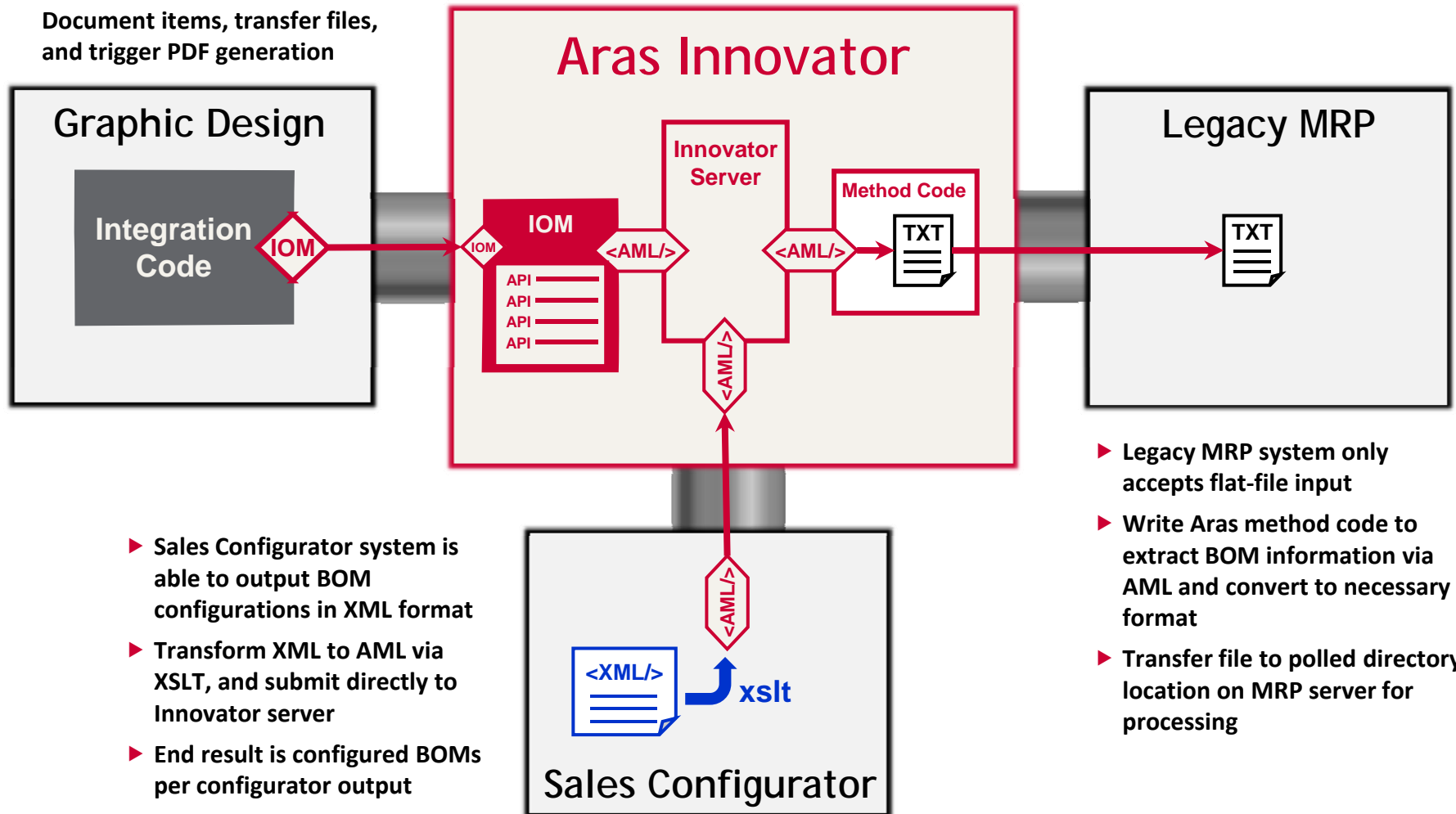


- ▶ **Use the Flat File approach only if the other system is limited to that**
- ▶ **Both the AML-lite and IOM API approaches allow for any Innovator operation to be accomplished**
- ▶ **The IOM API approach provides most if not all of the functionality of a standard web service. However, it does not provide a discoverable web service in the traditional sense – there is no WSDL.**
- ▶ **For a more traditional web services integration, use either the WSDL or EAI/ESB approaches**

Example Integration Scenario



- ▶ Build API to API integration between graphic design system and IOM
- ▶ Create functions to create Document items, transfer files, and trigger PDF generation



- ▶ Sales Configurator system is able to output BOM configurations in XML format
- ▶ Transform XML to AML via XSLT, and submit directly to Innovator server
- ▶ End result is configured BOMs per configurator output

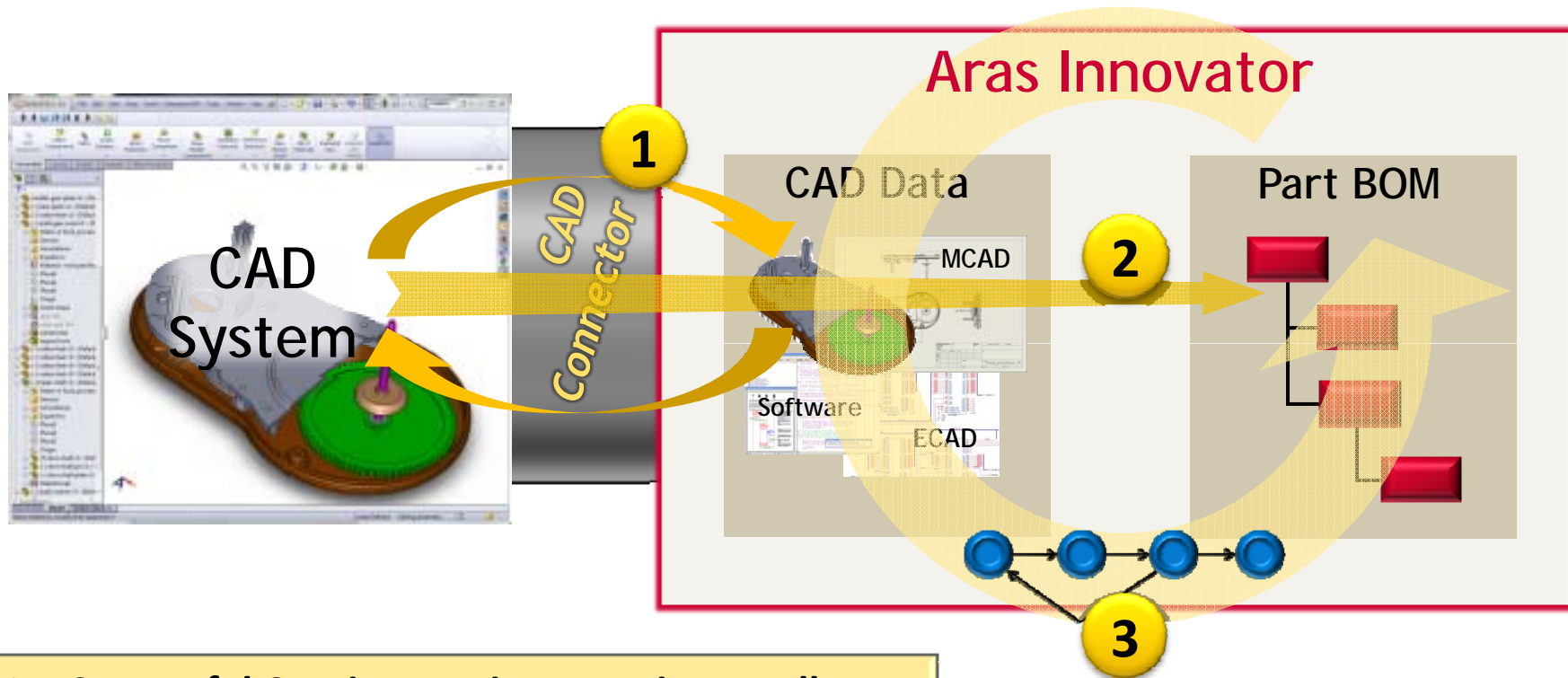
- ▶ Legacy MRP system only accepts flat-file input
- ▶ Write Aras method code to extract BOM information via AML and convert to necessary format
- ▶ Transfer file to polled directory location on MRP server for processing

Aras Integration Platform Capabilities



- ▶ **Aras provides additional capabilities to address the needs of common integrations**
 - Based on input from customers and partners
- ▶ **Event model**
 - The Aras Event model provides great flexibility for controlling integration behaviors, for example:
 - On promotion to Released state → send Part to ERP
 - OnAfterVersion → go update viewable in other system
- ▶ **Data structures**
 - Standard **CAD Document** data model (9.3)
- ▶ **Special APIs**
 - *CheckoutManager* for bulk file download (9.2 SP5)
- ▶ **Process best practices**
 - CAD change process

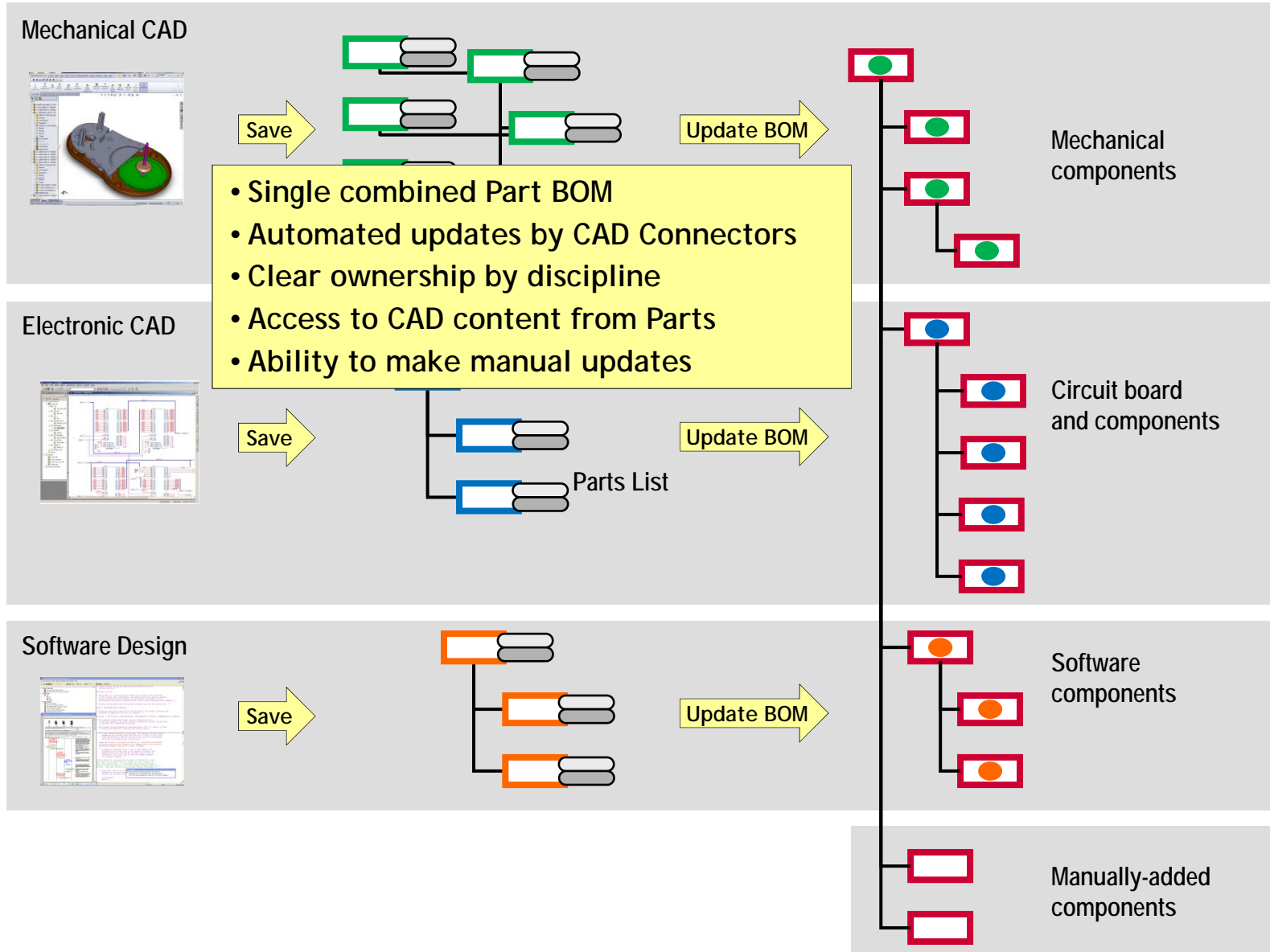
Example: CAD Integration



- ▶ Successful CAD integrations require a well-defined integration platform
- ▶ Aras is actively enhancing these core features and working with partners to promote best practices

- 1 CAD data managed in Aras
- 2 Automated Part BOM updates from CAD
- 3 Enterprise change management with CAD data visibility

Example: Process Best Practices



Integration Offerings



▶ Many integrations are available from Aras Partners and the Community:

- MCAD
- EDA
- Electrical
- Software
- Firmware
- MS-Office
- ERP
- PLM
- Collaboratiion

Where to go for help



- ▶ **ACE Partner Exhibit Showcase**
- ▶ **Aras Partner web page**
 - <http://www.aras.com/partners/>
- ▶ **Aras Community Forums**
 - <http://www.aras.com/community/forums/>
- ▶ **'Developing Solutions' Training**
 - <http://www.aras.com/university/training-classes.aspx>
- ▶ **Programmer's Guide**
- ▶ **API Reference**



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Questions?

