CIXS – Common Information eXchange Specification

Cisco adoption of open standards

John Varughese
Data Architect, Enterprise Architecture, OAGi Board Member
Cisco Systems
March, 2006
Background & Evolution of CIXS

Customer, Partners, Vendors

B2B
Orders, Invoices, PR, PO, Remittances
B2B Standards, Fax, Email, etc.
Cisco uses industry agreed standards
Standards for both Framework & Payload
Standard: B2B Standards

Process Integration

A2A
Customer Validation, Get Address Info
Messaging, Web Services
Lack of agreed standards across the enterprise – Framework & Payload
Standard: CIXS

Data Integration

ETL
Bulk Data movement between applications
EDW, Data marts, ODS
Lack of agreed standards across the enterprise – Payload
Standard: CIXS, ERD
Application Integration Landscape

OE Systems

- SJxxxx
- CRMxxx
- HRxxx
- WIPS
- CUSTOMER

OE Systems

- SJOExxxx
- BVOExxxx
- ODS
- EDW

Costly

Disaster Recovery Solutions

Complicates

Increase Release Management complexity

Impact Analysis is made difficult

Maintenance is a challenge

Not Scalable

Impact Analysis is made difficult

Increase Release Management complexity

Not Scalable

Complicates Disaster Recovery Solutions

Costly

Impact Analysis is made difficult

Increase Release Management complexity

Not Scalable

Complicates Disaster Recovery Solutions

Costly
One **UNIQUE** set of mapping unit needs to be created between **EACH** pair of applications.

4 * (4– 1) = 12

4 applications to integrate can result in **12 DISTINCT** integrations / transformations

**Exponential growth**

10 * (10– 1) = 90

10 applications to integrate can result in **90 DISTINCT** integrations / transformations
Where Are Your Support Money Going?

* MAINTENANCE consumes between 60 PERCENT and 80 PERCENT of a typical product's TOTAL software lifecycle EXPENDITURES


### Hypothetical

<table>
<thead>
<tr>
<th>Num System</th>
<th>1 Interface or transformation</th>
<th>1 to 1</th>
<th>1 to 1</th>
<th>Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td></td>
<td></td>
<td>$2,000</td>
</tr>
<tr>
<td>10</td>
<td>90</td>
<td></td>
<td></td>
<td>$9,000</td>
</tr>
<tr>
<td>15</td>
<td>210</td>
<td></td>
<td></td>
<td>$21,000</td>
</tr>
<tr>
<td>20</td>
<td>380</td>
<td></td>
<td></td>
<td>$38,000</td>
</tr>
<tr>
<td>25</td>
<td>600</td>
<td></td>
<td></td>
<td>$60,000</td>
</tr>
<tr>
<td>30</td>
<td>870</td>
<td></td>
<td></td>
<td>$87,000</td>
</tr>
<tr>
<td>35</td>
<td>1190</td>
<td></td>
<td></td>
<td>$119,000</td>
</tr>
<tr>
<td>40</td>
<td>1560</td>
<td></td>
<td></td>
<td>$156,000</td>
</tr>
</tbody>
</table>

Where N is the number of interfaces, each requiring Analysis, Design, Build, Test, Release, and Support.

Common Information eXchange Specification (CIXS) Reduces Number of Mappings

With a common internal definition the number of interfaces and transformations are **DRAMATICALLY** reduced

\[ n \times 2 \text{ instead of } n \times (n-1). \]

4 applications integrated using this technique can result in a maximum of **8 DISTINCT** integrations / transformations

\[ 4 \times 2 = 8 \]

10 applications integrated using this technique can result in a maximum of **20 DISTINCT** integrations / transformations

\[ 10 \times 2 = 20 \]
Reduce support money by using data standard

* **MAINTENANCE** consumes between **60 PERCENT** and **80 PERCENT** of a typical product's **TOTAL** software lifecycle **EXPENDITURES**

- Reduced analysis due to common definition - CIXS
- Mapping done once
- Build once
- Test
- Release
- Support fewer mappings

---


---

### Hypothetical

<table>
<thead>
<tr>
<th>Num Systems</th>
<th>1 to 1</th>
<th>CIXS</th>
<th>1 to 1</th>
<th>CIXS</th>
<th>Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>~ $100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>0</td>
<td>0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>20</td>
<td>10</td>
<td>$2,000</td>
<td>$1,000</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>90</td>
<td>20</td>
<td>$9,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>210</td>
<td>30</td>
<td>$21,000</td>
<td>$3,000</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>380</td>
<td>40</td>
<td>$38,000</td>
<td>$4,000</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>600</td>
<td>50</td>
<td>$60,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>870</td>
<td>60</td>
<td>$87,000</td>
<td>$6,000</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>1190</td>
<td>70</td>
<td>$119,000</td>
<td>$7,000</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td>1560</td>
<td>80</td>
<td>$156,000</td>
<td>$8,000</td>
</tr>
</tbody>
</table>

\[ N \times (N - 1) \]

\[ N \times 2 \]
Integration Scenario - I

**Portals & Mobility:** With a common internal definition the number of interfaces and transformations are **DRAMATICALLY** reduced.
**Integration Scenario - II**

**Distributed business data objects:** With a common internal definition the need of **REPLICATION** reduced

- **System A**
- **System B**
- **Web Application**
- **Aggregator**
Integration Scenario - III

**Business Rule Engine**: A common internal definition is a critical component for successful ‘business rule engine’ implementation.
Integration Scenario - IV

**Usage in Data Warehouse:** Usage of common data definition enables the data warehouse to be real-time, in-turn provides real-time BI
A Few CIXS Business Data Objects

Enterprise CIXS
(Example)
CIXS & Data Management Framework

- **What?**
- **Why?**
- **Who?**
- **How?**
- **Where?**

**Definition**

- Business Process
- System Of Record
- Trustee & Stewards
- Policies
Cisco’s Experience of Adopting OAGIS

- Increase **data quality** by using commonly understood definition of data
- Reduce **development time** for integration, by reuse of mapping units
- Reduce **data redundancy** by enabling real-time aggregation of business data objects
- Enable **loose coupling**, gives independency for application and database changes
- **Data Governance** made possible by defining System of records
Q & A