Creating competitive advantage with Integration Technology

Russell Scherwin
Director
Agenda and Key Themes

1. IT’s strategic organizational role.

2. IT’s maturation.


4. Leading IT’s transition to a strategic business unit.
A Lesson From Calvin and Hobbes

1. **Explain** service-oriented architecture in your own words.

![Calvin and Hobbes comic panels](image-url)

- I love loopholes.
SOA/Integration – Back to basics

Organizational Strategy
Exploit market opportunities

Processes
Organize and optimize operations around strategy

Technology and Systems
Automate processes (historical IT role)
Market driven company’s sustain competitive advantage

Organizational Strategy
- Exploit market opportunities

Technology and Systems
- Automate processes (historical IT role)

Organizational Processes
- Organize and optimize operations around strategy

If systems are not flexible, organization’s ability to change is inhibited
What’s driving change?
How are we helping our customers?

- M&A
- Enter new markets
- Exit markets
- New brands/products
- Divestitures

- Single view of customer
- CRM
- Collaborative processes with distributors, wholesalers
- Marketing Programs
- New channels
- Quality demands

- Collaborative Processes
- Rapidly change (provision/de-provision)
- Vendor Managed Inventory
- E-Procurement

- Deregulation
- Compliance
- Local Regulations
- Sarbanes/Oxley
- HIPAA
- Audit

- Asset Management
- Optimize processes
- Outsource processes
- Optimize cost structure
- Employee self service
- Time to market
- Actionable intelligence
- Operational BI

Good Architecture and Alignment implies that a small change to the business should entail a small change to the infrastructure.

If systems are not flexible, organization’s ability to change is inhibited.
Existing infrastructure is the barrier

- Becomes a bottleneck for fulfilling new requirements
- Too much cost/time/risk.
- Requires expensive, high-demand, low-supply skill sets”
- Lack of reuse and interoperability
- Reuse is impossible
- Infrastructure has been built with no roadmap

All IT projects have significant interface requirements – they’re the costliest, riskiest and most complex and redundant
SOA puts a business interface on IT

- IT is a maturing sub-industry.
- Over the past 40 years IT has
  - Automated a majority of their organization’s finite # of processes
  - Employed many applications, databases, platforms, middleware, etc…
  - Formed habit of adopting new platform silos for new issues
- Application Development is the lifeblood process of IT
  - New App Dev projects are no longer about architecting new systems
    - As IT matures, new projects must take inventory of exiting functionality and data assets, before designing new systems, and reuse them in satisfying business requirements.
- A ubiquitous framework for reusing functionality and data is the critical ingredient for all application development projects, now and in the future.
## What’s the relevance?
### Survey of CEO challenges

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed, flexibility and adaptability to change</td>
<td>39%</td>
</tr>
<tr>
<td>Profit growth</td>
<td>38%</td>
</tr>
<tr>
<td>Sustained and steady top-line growth</td>
<td>37%</td>
</tr>
<tr>
<td>Consistent execution of strategy by top management</td>
<td>32%</td>
</tr>
<tr>
<td>Stimulating innovation, creativity &amp; entrepreneurship</td>
<td>28%</td>
</tr>
<tr>
<td>Product innovation</td>
<td>27%</td>
</tr>
<tr>
<td>Customer loyalty/retention</td>
<td>25%</td>
</tr>
<tr>
<td>Speed to market</td>
<td>23%</td>
</tr>
<tr>
<td>Tight cost control</td>
<td>21%</td>
</tr>
<tr>
<td>Improving productivity</td>
<td>21%</td>
</tr>
</tbody>
</table>

Basic definitions, what is .....?

... a service?
A repeatable business task – e.g., check customer credit; open new account

... service orientation?
A way of integrating your business as linked services and the outcomes that they bring

... service oriented architecture (SOA)?
An IT architectural style that supports service orientation

... a composite application?
A set of related & integrated services that support a business process built on an SOA
Case study
First – custom-coded, non-reusable interfaces (the wrong way)
SOA is Best Practices Approach to integration
Reusable business services (the right way)
SOA is Best Practices Approach to integration
Reusable business services (the right way)
Where’s the value (and what’s different)?
Distributed *reusable* business services & events

Integration = any Service on any Channel
SOA increases the strategic importance of IT

**Time to market: Productivity**
- Leverage common skill-sets, rather than rare, expensive ones.
- Focus resources on business issues, rather than technical issues.
- Development and maintenance cost reduced by 80%.

**Risk Mitigation (Bus. Agility): Interoperability and Flexibility**
- Alleviates technology demands of process change.
- Future-proofs your infrastructure from changes in business and technology landscape.

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**BPM/BPEL**

**Composite Apps**

**B2B**

**Business Intelligence**

**Event Driven**

**DB2**
**DB2/400**
**Oracle**
**SAP**
**SQL Svr**
**Windows**

**J2EE/.NET**
**EDIFACT**
**AS2**

**iSeries**

**Mainframe**
**CICS**
**IMS**

**Update Customer**

**Insert Sales Order**

**Check Inventory**

**Service Consumers**

**Reusable Business services**

**Existing Systems**

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**SOA increases the strategic importance of IT**
5 SOA Best Practices

Creating a flexible, sustainable, cost-effective business architecture
1 - SOA starts with a business problem and is built incrementally, through high ROI projects

“The company’s (iWay Software’s) commitment to aggressively addressing our most complex integration challenges has made all the difference in how we have shaped our IT and business processes for organizational growth.”
2 – Mitigate risk and create business agility through interoperability, reuse and flexibility

Web Service connectivity and data transformation

<table>
<thead>
<tr>
<th>Web Services</th>
<th>Universal connectivity and transformation</th>
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<tr>
<td>UDDI, HTML</td>
<td>Tuxedo, CICS, JMS, JCA, Essbase, 5250, 3270</td>
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<tr>
<td>XML, SOAP, JMS</td>
<td>Siebel, SAP, EDIG@S, ESRI, EDIINT, AquaLogic, BizTalk, UCCnet</td>
</tr>
<tr>
<td>WSDL, HTTP</td>
<td>FIX, Oracle, Google, VSAM, Lawson, PeopleSoft, ebXML, DB2/400</td>
</tr>
<tr>
<td></td>
<td>AS1, GJXML, AS2, AS3, HL7</td>
</tr>
</tbody>
</table>

Web services alone, will **not** provide interoperability and reusability
3 – Increase time to market by replacing code with GUI based interfaces that increase ROI

- The ability to tie together data from multiple sources and bring it forward in new ecommerce initiatives has enabled Novelis to realize the following benefits:
  - Development cost savings. ($4.4MM)
  - Vendor cost savings from improved information management for negotiating prices. ($15MM Annually)
  - Profit on additional revenues. ($1MM)

### SUMMARY

<table>
<thead>
<tr>
<th>Project: iWay Software</th>
<th>Annual return on investment (ROI)</th>
<th>93.4%</th>
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<tbody>
<tr>
<td>Payback period (years)</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>Net present value (NPV)</td>
<td>19,659,381</td>
<td></td>
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<tr>
<td>Average yearly cost of ownership</td>
<td>635,414</td>
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<table>
<thead>
<tr>
<th>ANNUAL BENEFITS</th>
<th>Pre-start</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tr>
<td>Direct</td>
<td>0</td>
<td>20,431,000</td>
<td>16,693,000</td>
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<tr>
<td>Indirect</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Total Benefits per Period</td>
<td>0</td>
<td>20,431,000</td>
<td>16,693,000</td>
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<table>
<thead>
<tr>
<th>DEPRECIATED ASSETS</th>
<th>Pre-start</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tr>
<td>Software</td>
<td>212,492</td>
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<td>0</td>
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<tr>
<td>Hardware</td>
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<td>0</td>
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<tr>
<td>Total per Period</td>
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<table>
<thead>
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<th>DEPRECIATION SCHEDULE</th>
<th>Pre-start</th>
<th>Year 1</th>
<th>Year 2</th>
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<tr>
<td>Software</td>
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<td>62,499</td>
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<tr>
<td>Hardware</td>
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<td>29,008</td>
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<tr>
<td>Total per Period</td>
<td>0</td>
<td>91,506</td>
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<table>
<thead>
<tr>
<th>EXPENSES COSTS</th>
<th>Pre-start</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tbody>
<tr>
<td>Software</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hardware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Consulting</td>
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<td>Personnel</td>
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<tr>
<td>Training</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>Other</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Total per Period</td>
<td>990,712</td>
<td>150,000</td>
<td>150,000</td>
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<table>
<thead>
<tr>
<th>FINANCIAL ANALYSIS</th>
<th>Results</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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</thead>
<tbody>
<tr>
<td>Net cash flow before taxes</td>
<td>20,281,000</td>
<td>16,543,000</td>
<td>16,543,000</td>
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<tr>
<td>Net cash flow after taxes</td>
<td>10,187,253</td>
<td>8,317,253</td>
<td>8,317,253</td>
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<tr>
<td>Annual ROI - direct and indirect benefits</td>
<td>93.4%</td>
<td>93.4%</td>
<td>93.4%</td>
<td></td>
</tr>
<tr>
<td>Annual ROI - direct benefits only</td>
<td>93.4%</td>
<td>93.4%</td>
<td>93.4%</td>
<td></td>
</tr>
<tr>
<td>Net present value (NPV)</td>
<td>19,659,381</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payback (years)</td>
<td>0.09</td>
<td>1,606,243</td>
<td>878,112</td>
<td>635,414</td>
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<tr>
<td>Average annual cost of ownership</td>
<td>2035%</td>
<td>635,414</td>
<td>635,414</td>
<td>635,414</td>
</tr>
<tr>
<td>3-year cumulative ROI</td>
<td>2035%</td>
<td>635,414</td>
<td>635,414</td>
<td>635,414</td>
</tr>
<tr>
<td>3-year IRR</td>
<td>1047%</td>
<td>635,414</td>
<td>635,414</td>
<td>635,414</td>
</tr>
</tbody>
</table>

Nucleus Research independent study
"I’ve always been impressed by how iWay could come in and do a proof-of-concept in a few hours, and I saw some of the more sophisticated, more expensive products struggle for days to put in place similar functionality."
Bo Foster – CIO of Novelis

“What took one consultant working seven days with iWay would have taken us three months with two developers”
Jeff Murphy, CIO - MHC Truck
4.5 – Incorporate ongoing interface maintenance into all project’s cost basis

“iWay mitigated our risk while giving us a clearly defined TCO. While I know what the projects development costs are today, With iWay, I know what they will be tomorrow”

CIO, Large Canadian Utility
"It used to take 15 minutes for a dealer to look up the location of a part while a customer waited. It took searching 4 systems and manual writing between the systems. Now it takes 3 seconds and they won’t walk out the store. That is the magnitude of change you can bring to your organization with iWay."
Explaining SOA to IT’s customers

4 Executive Realizations

1. Your organization depends on IT for creating competitive advantage and responding to market conditions.

2. IT is a maturing sub-industry. Rapid Reuse is the critical success factor, as it was for vehicles and guns.

3. You can not solve a problem of complex, large, proprietary technology stacks, by putting another large, un-interoperable stack in the middle. Interoperability mitigates the risk of change.

4. IT requires an understandable business interface on top of systems complexity, so that it can “service” the business.
“The ability to leverage an existing IT application that generates cost savings & efficiency as a platform to create a new strategic application is at the heart of the IT value proposition.”

- Business Strategy Textbook

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Thank You
How do our customers benefit?

- **CEO + LOB Executives accelerate strategy → execution**
  - Respond faster to changing market conditions.
  - Create and sustain competitive advantage
  - Decrease time to market for new initiatives
  - Isolates business decisions from technology constraints

- **CFO and Process Owners**
  - Decrease cost and risk associated with the IT project portfolio
  - Makes IT’s cost structure more understandable and predictable
  - Makes business processes and costs more understandable

- **CIO and the IT function become more strategic**
  - Gets IT out of the business of managing non-value complexity
  - Makes IT more useable and breaks down technology silos
  - Aligns IT resources with business goals
  - Frees expensive resources to work on tasks that the business considers valuable
  - Accelerate Application Development (Integration) projects by up to 80%
NYC Dilemma

Example Connection Points to The Enterprise

IT Tools, App Servers, Brokers  Customers, Partners, Vendors & Suppliers  Portals  Custom Applications  BAM & BI Tools

IBM Broker Plug-Ins  WS/AS2/FTP  Native API’s  .NET & J2EE  ODBC & JDBC

Things That Need Data

Mitigates the risk of changing business and technology environments

Open Transport and ESB Interoperability Layer

Universal Adapter Framework

XML  Emulation  Transactions  Touchpoint  Applications  Data
Your team’s view of integration

- **SAP NetWeaver**
- **IBM WebSphere**
- **Microsoft .NET**
- **BEA WebLogic**
- **Oracle Fusion**

**iWay ESB + Interoperability Layer (JCA, SMTP, MQ, Plug-ins,..)**

**iWay SOA Middleware**

- **iWay Universal Adapter Suite** (300+ Code Eliminating Adapters)

**Code Minimization =**

- Lower Fixed Bids +
- Higher Level Engagements

**Reuse + Interoperability =**

- Risk Mitigation &
- Scale Economies

**B2B**

- Documents
- Emulation
- Transactions
- Processes
- Applications
- Data
Phase 1: Starting With SAP

Proprietary Interfaces:
IDoc, BAPI, RFC

SAP
Benelux  Germany  Spain  Portugal  Italy  BW
Infrastructure with iWay Added

iWay SOA Framework

Standard Interfaces: XML

SAP

Benelux Germany Spain Portugal Italy BW
Phase 1: Warehouse changes

Int + ext Warehouses

iWay SOA Framework

Standard Interfaces: XML

Flat

XML

SAP

Benelux

Germany

Spain

Portugal

Italy

BW

IDoc

EDI

IDocXML
Infrastructure with iWay Added
Phase 2: IBM Procurement

Int + ext Warehouse apps

iWay SOA Framework

SAP
Benelux Germany Spain Portugal Italy BW

IBM

FTP

CSV

XML

SAP

IDocXML

FTP

XML

CSV
Infrastructure with iWay Added
Phase 3: integration new division

iWay SOA Framework

Int + ext Warehouse apps

JDE

FTP

IBM

SAP

Benelux

Germany

IDoc

Spain

Portugal

Italy

BW
Infrastructure with iWay Added

Int + ext Warehouse apps

Manugistics

JDE

UK/ France Legacy

US Oracle

IBM

SFTP

SAP

Benelux

Germany

Spain

Portugal

Italy

BW
Infrastructure with iWay Added

Customer

Web Svcs

Int + ext Warehouse apps

DB

DW

DB2

ORA

Datawarehouse and Enterprise Information Integration

SAP

Benelux Germany Spain Portugal Italy BW

Other B2B IBM

Etc. AS2 SFTP
Infrastructure with iWay Added

Customer

Int + ext Warehouse apps

Services, Google, Process Management, Transformation, Routing
A Framework for Future Integration and App Dev Projects

DB

DW

DB2

ORA

Manugistics

JDE

UK/France Legacy

US Oracle

Etc.

AS2

SFTP

Other

B2B

IBM

SAP

Benelux

Germany

Spain

Portugal

Italy

BW