IBM Software

Innovate2012

The Premier Event for Software and Systems Innovation

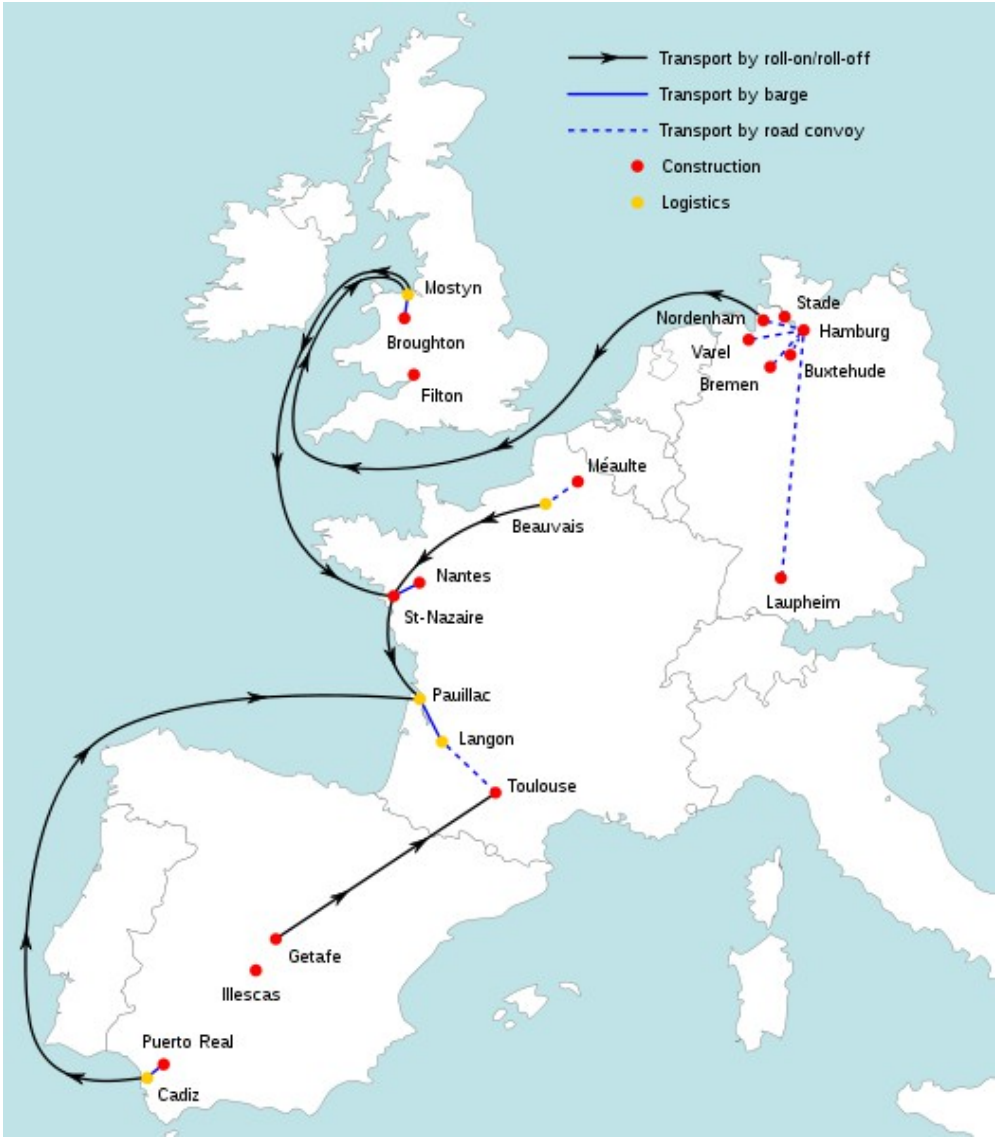
Next NOW!

The Business Value of OSLC: Save Money, Integrate Better

Andreas Keis
Manager Software Engineering
EADS Innovation Works UK

Sean Kennedy
OSLC Community Development Leader
IBM

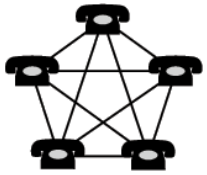
Airbus A380 Cockpit – it's all about integration!

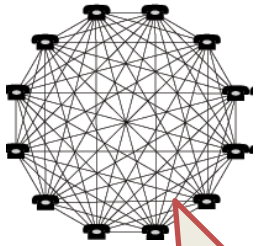


Airbus A380 – the integration challenge

The Integration Problem

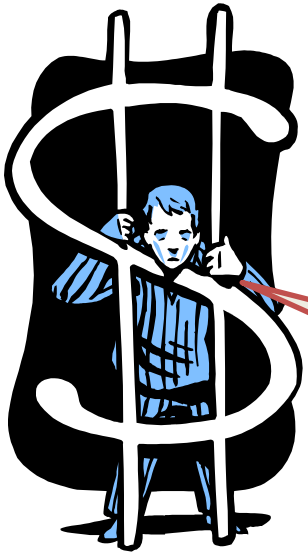
Point-to-point Integrations don't scale





Creating new integrations is unpredictable

Monocultures lock you in



Past choices restrict present action and future vision

Maintenance, management, and change costs go up over time

Ongoing and unexpected costs drain resources

End-user productivity suffers: Either stuck with the wrong tool, stuck doing manual integration, or stuck doing both

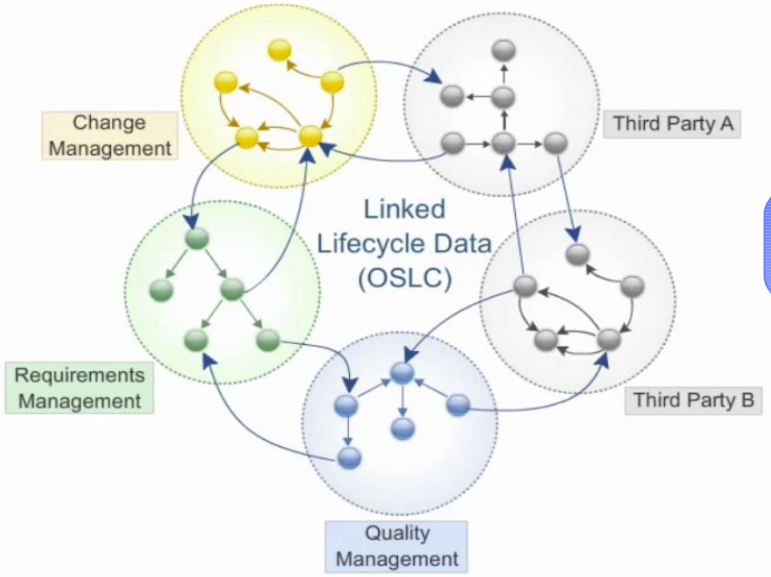
Integrations consume more of the IT budget: integration failures are the top 2 causes of software project delays*

More limited ability to respond to change
Constrained by exhausted IT budget and lower productivity

* Commissioned study conducted by Forrester Consulting on behalf of IBM.

The Integration Solution: OSLC (Open Services for Lifecycle Collaboration)

- OSLC is a community working to improve the way that tools integrate to share data
- OSLC develops open specifications for integrating software
- Integrating using OSLC is more predictable and less expensive



Open Services for Lifecycle Collaboration
Lifecycle integration inspired by the web

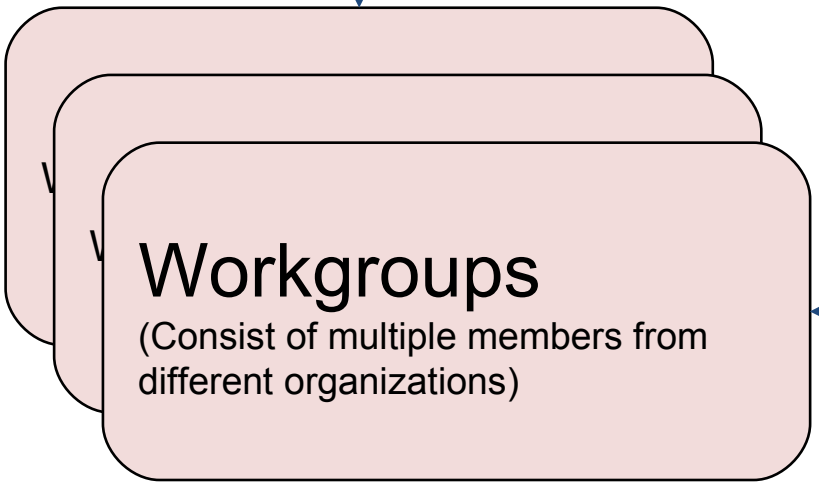
W3C WORLD WIDE WEB consortium

Community-driven decision making

Sets the business and operations direction for the community

Steering Committee

(Accenture, Tasktop, Creative intellect, EADS, Siemens, and IBM)



Core Workgroup

(Consist of multiple members from different organizations)

Govern themselves for specification development and decision making

Sets technical direction for the community

OSLC's Innovative Solution: IBM Experience

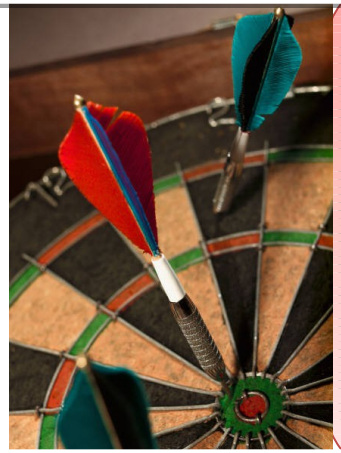
Eclipse Lyo
Enabling tool integration with OSLC

Improved time-to-market

Faster
Time-to-prototype
Worked in ~1 day

Faster
Time-to-market
Saved almost $1M

Increased effectiveness



Make ClearQuest, DOORS, CLM suite (and others) OSLC-CM Consumers
Connect to over 20 products
All using the SAME integration

OSLC-enable internal Client Request System and enhance it capabilities
Reduce admin costs by 2/3
Reuse code and knowledge

and value of IT spending

New 3rd-party release
No change to OSLC-based integration

Resolve OSLC-based integration problems faster
Clients' waiting time reduced by 26%

Decreased related costs

Over 100 survey respondents* identified benefits with OSLC

86%	Improved traceability across artifacts and throughout the process
83%	Saved time and effort
78%	Delivered more value to market
77%	Improved business outcomes
75%	Implemented leaner and/or more agile processes

Percentages are the average respondent agreement with the statements.

* Data from the OSLC 2012 Community Survey
(The raw survey results are available on open-services.net; there is also a summary PDF)

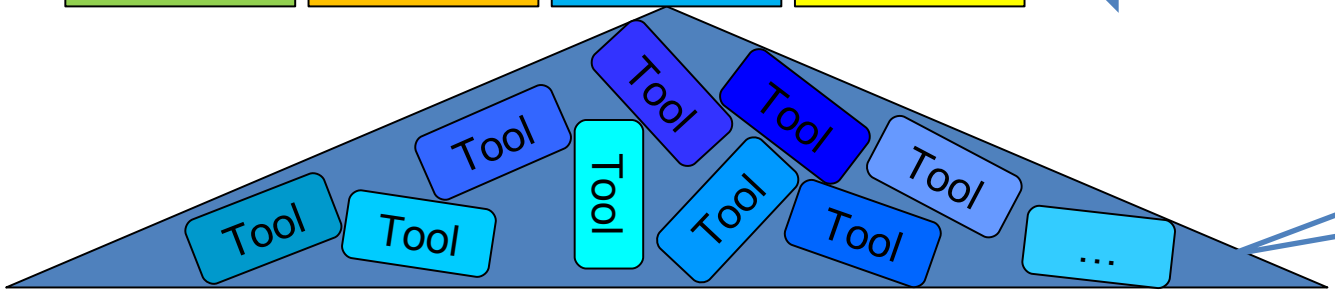
The Integration Problem: Implications to EADS

- We must
  - Respond to Change
  - Deliver on Time
  - Trust our Data

SO MUCH SOFTWARE NEEDS SO MUCH INTEGRATION!

Electrical | Mechanical | Software | …

Each discipline requires its own



big vendors
niche vendors
open source
homegrown

OSLC's Innovative Solution: EADS Perspective

- By commoditizing the integration space, our software selection can be driven by choosing the best tool for each domain

- Allows us to find our "sweet spot" of integration – the perfect balance of COTS and homegrown
  - Simpler add-ons to extend COTS
  - "Migration by integration"

- Data can live where its created, and be used where its needed

- Move from federated data to centralized single source of truth where ever possible

OSLC's Innovative Solution: EADS Experience

OSLC workgroup participation

Collaborate with vendors and other interested users to have our scenarios addressed by OSLC.

OSLC ALM-PLM integration

To achieve our "musts" we must have a whole system view across all disciplines, as deep as they go.

Integrated software is one cost of creating perfectly integrated aircrafts. OSLC helps **minimize** that **cost** and **maximize** the **innovation**.

OSLC: Save Money, Integrate Better

LESS INTEGRATING → MORE INNOVATING

Creating integrations?

- Improve time-to-market
- Increase ROI
- Reduce costs

Using integrations?

- More choice
- Respond to change
- Reduce costs

Eclipse Lyo

Enabling tool integration with OSLC

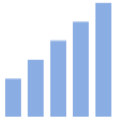
OSLC

Inspired by the web

Proven

Free to use and share

Open



Changing the industry

Innovative

www.ibm.com/software/rational

Influence the future of Linked Lifecycle Data

Open Services for Lifecycle Collaboration
Lifecycle integration inspired by the web
open-services.net

Anyone Can Join!

Eclipse Lyo
Enabling tool integration with OSLC

Official 1.0 Release Now Available!

eclipse.org/lyo

Requires W3C Membership

W3C WORLD WIDE WEB consortium

LINKED DATA PLATFORM WORKING GROUP

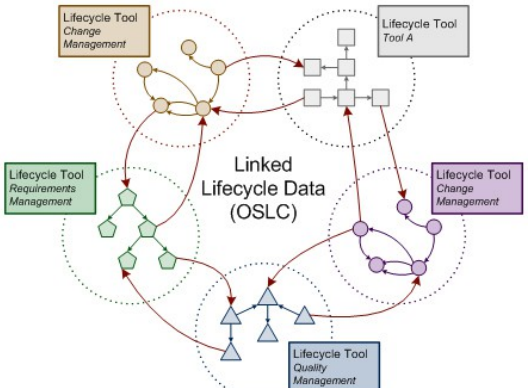
w3.org/2012/ldp

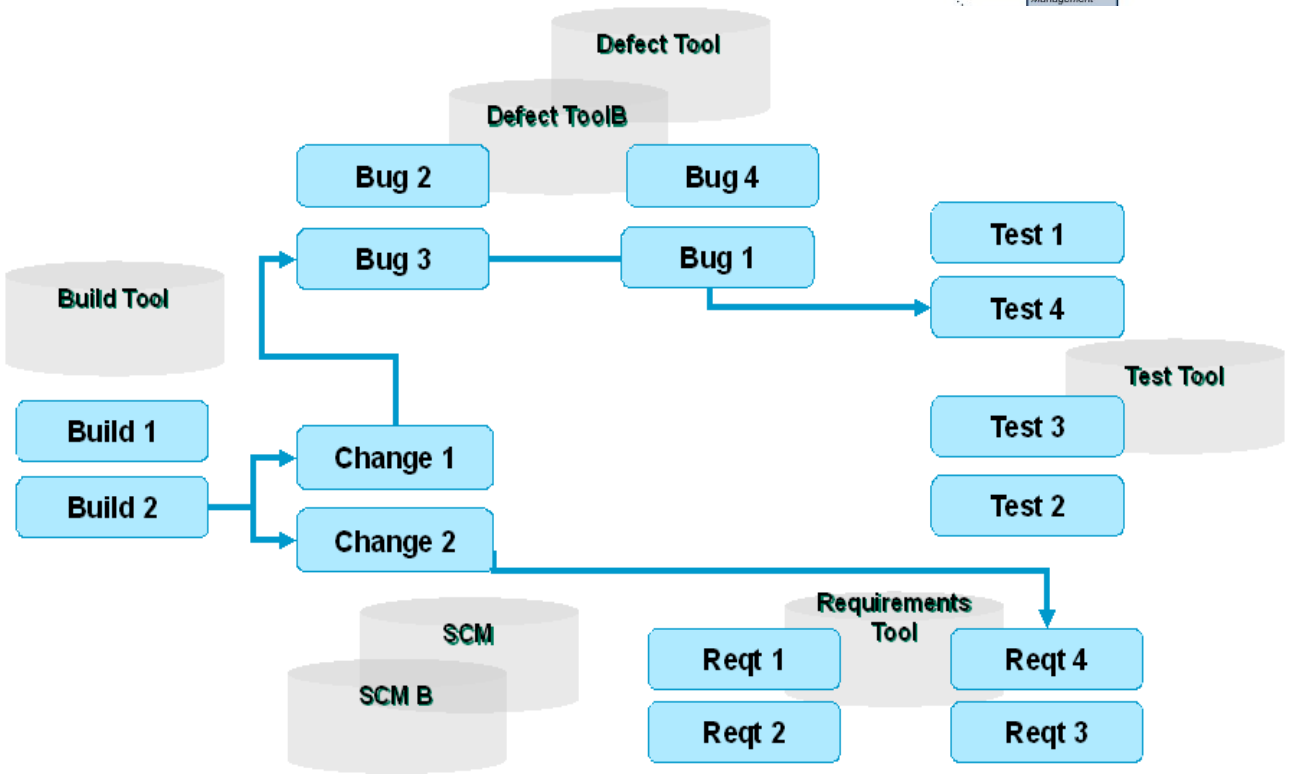
1st Editor's Draft Now Available!

GET INVOLVED AND CONTRIBUTE!

Backup

Linked Lifecycle Data

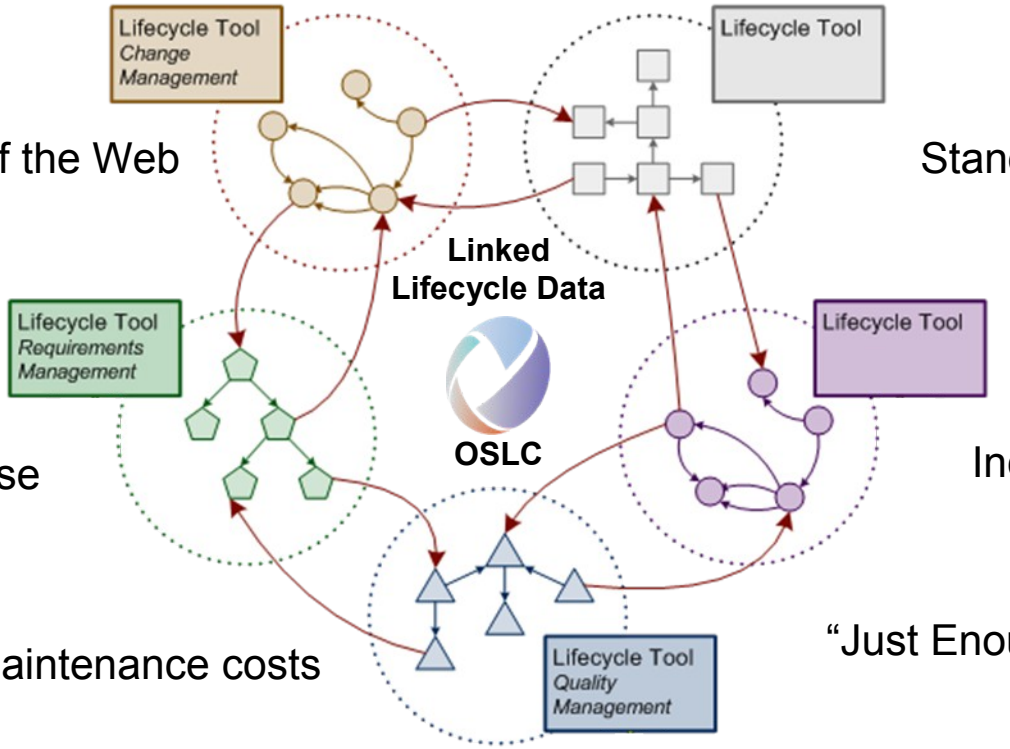




- **The data is the thing**
  - Resources and relationships
  - Tools operate on the data
  - Tools execute the process
  - Tools expose their data in a common way (REST)
- **Lifecycle integration = tracing, indexing, analyzing the web of lifecycle data where it lives**
- **Utilizes architecture of the internet**
  - All data are resources with HTTP URIs
  - Open standards
  - Loosely coupled
  - Technology neutral
  - Scalable, extensible

OSLC's Innovative Solution

Users can work across the integration without leaving their favorite tool



Architecture of the Web

Standard Interfaces

Linked Data

Better visibility

Increased reuse

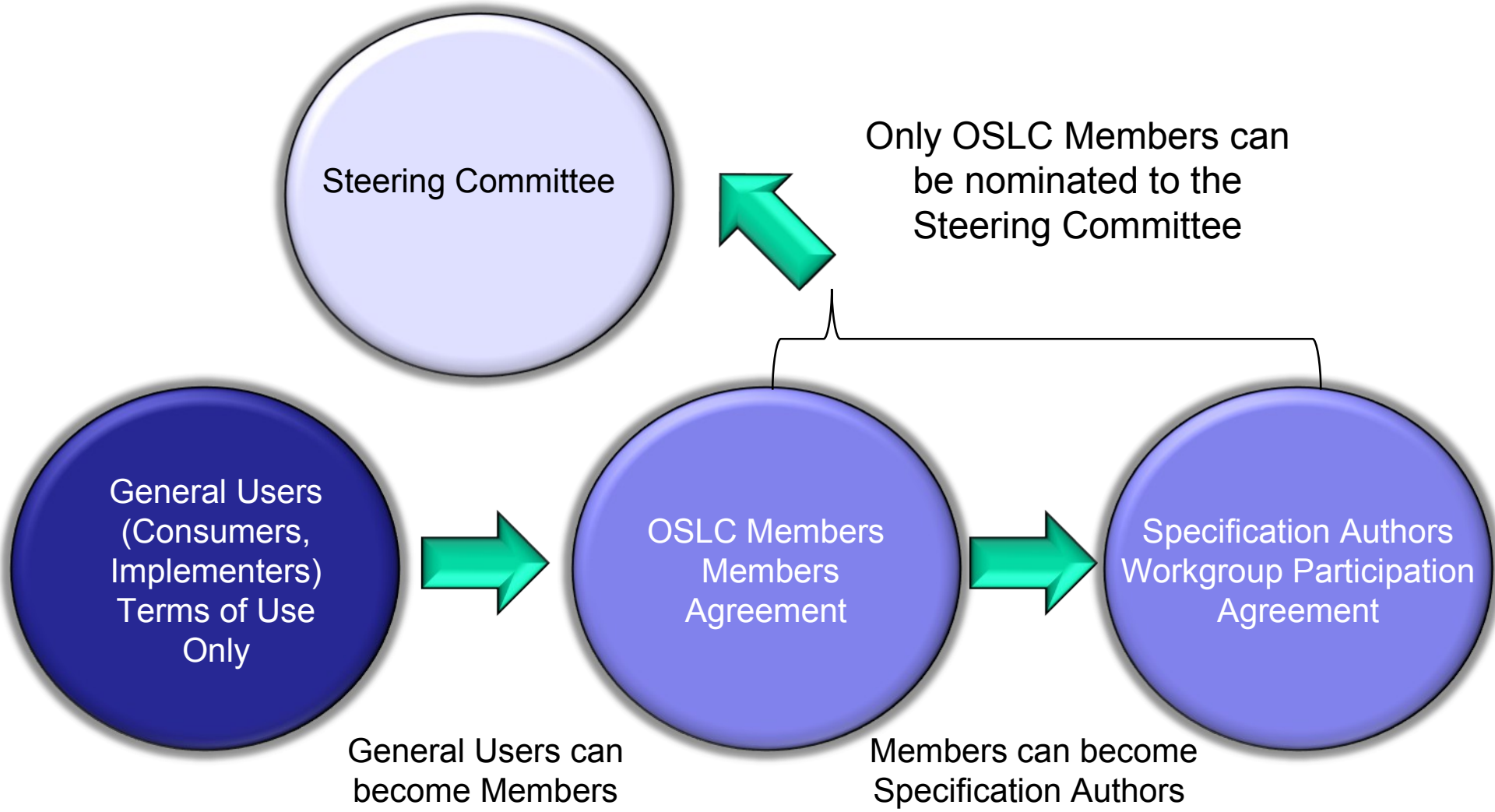
Increased traceability

Decreased maintenance costs

"Just Enough" integration

Link to where the data lives as opposed to copying and synchronizing

How the OSLC Community Governs Itself



OSLC beyond the OSLC Community

Eclipse Lyo

Enabling tool integration with OSLC

eclipse.org/lyo

LYO FEATURES

Lyo goal: to benefit all developers, regardless of implementation technologies.

SDK	Test suite	Reference implementations
Library for Java (other languages planned or in progress), documentation, samples, examples, and tutorials.	Assess your OSLC implementation using freely available test suites.	Learn from OSLC in action! Use the simple server as a test harness.

W3C WORLD WIDE WEB consortium

MEMBER SUBMISSION

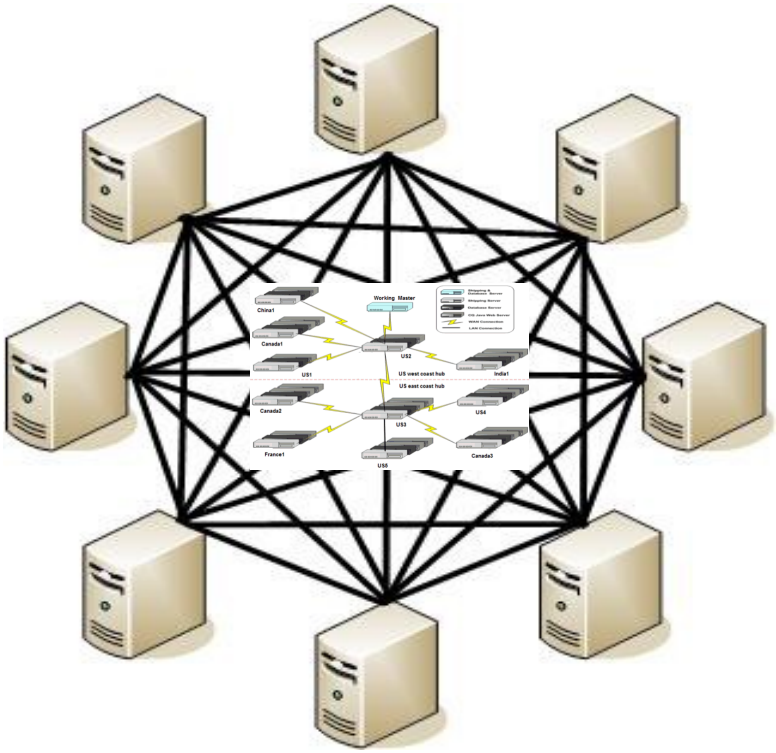
LINKED DATA PLATFORM WORKING GROUP

Published	Submission / Comment	Documents	Submitters
2012-04-02	Linked Data Basic Profile 1.0 Submission (W3C Staff Comment)	• Linked Data Basic Profile 1.0 • Linked Data Basic Profile 1.0 - Use Cases and Requirements	IBM, DERI, EMC, Oracle, Red Hat, SemanticWeb.com, Tasktop, on 28 March 2012 Supporters: Siemens, Cambridge Semantics

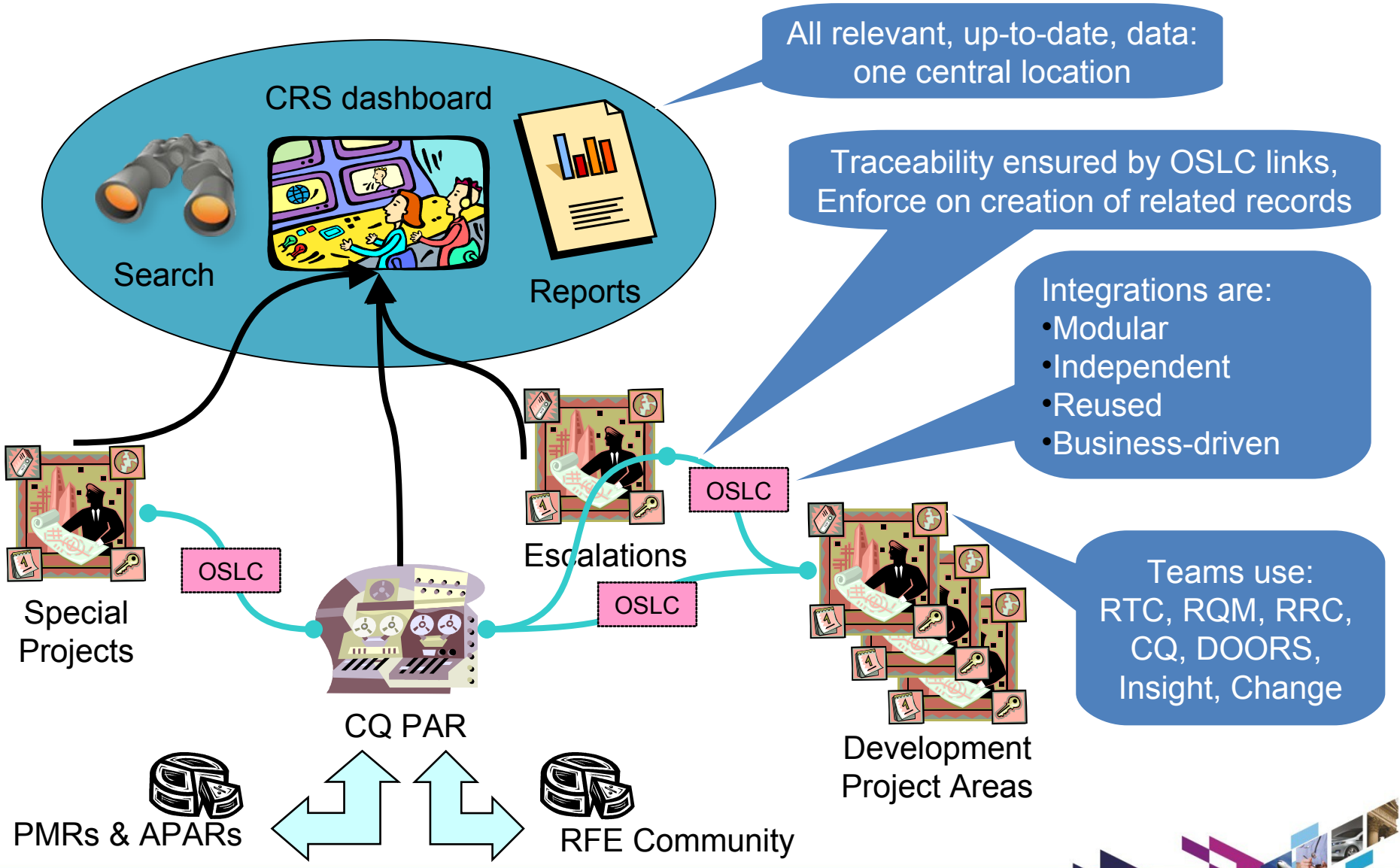
w3.org/2012/ldp/

The Integration Problem: Implications to IBM → Client Request System

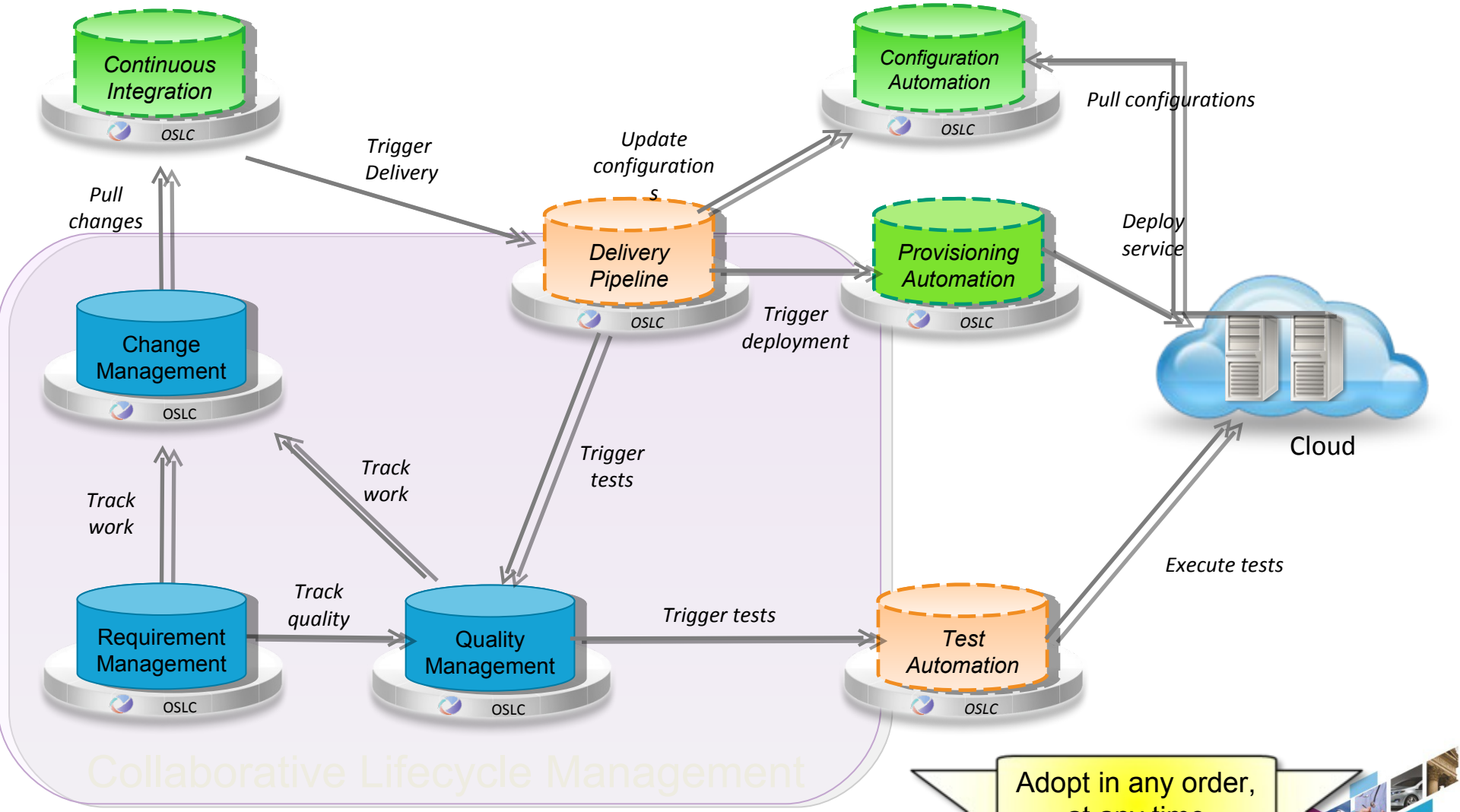
- High regular and emergency administration costs
  - Disparate and geographically dispersed systems
  - Sync replication data failures
- Imposing maintenance and management costs
  - Changes cross-cut integrations: high complexity and risk
- Less than expected ROI from investments
  - Still doing manual integrations, traceability, and reporting
  - Sync replication data failures can lead to bad, or delayed, decisions



OSLC's Innovative Solution: New Client Request System

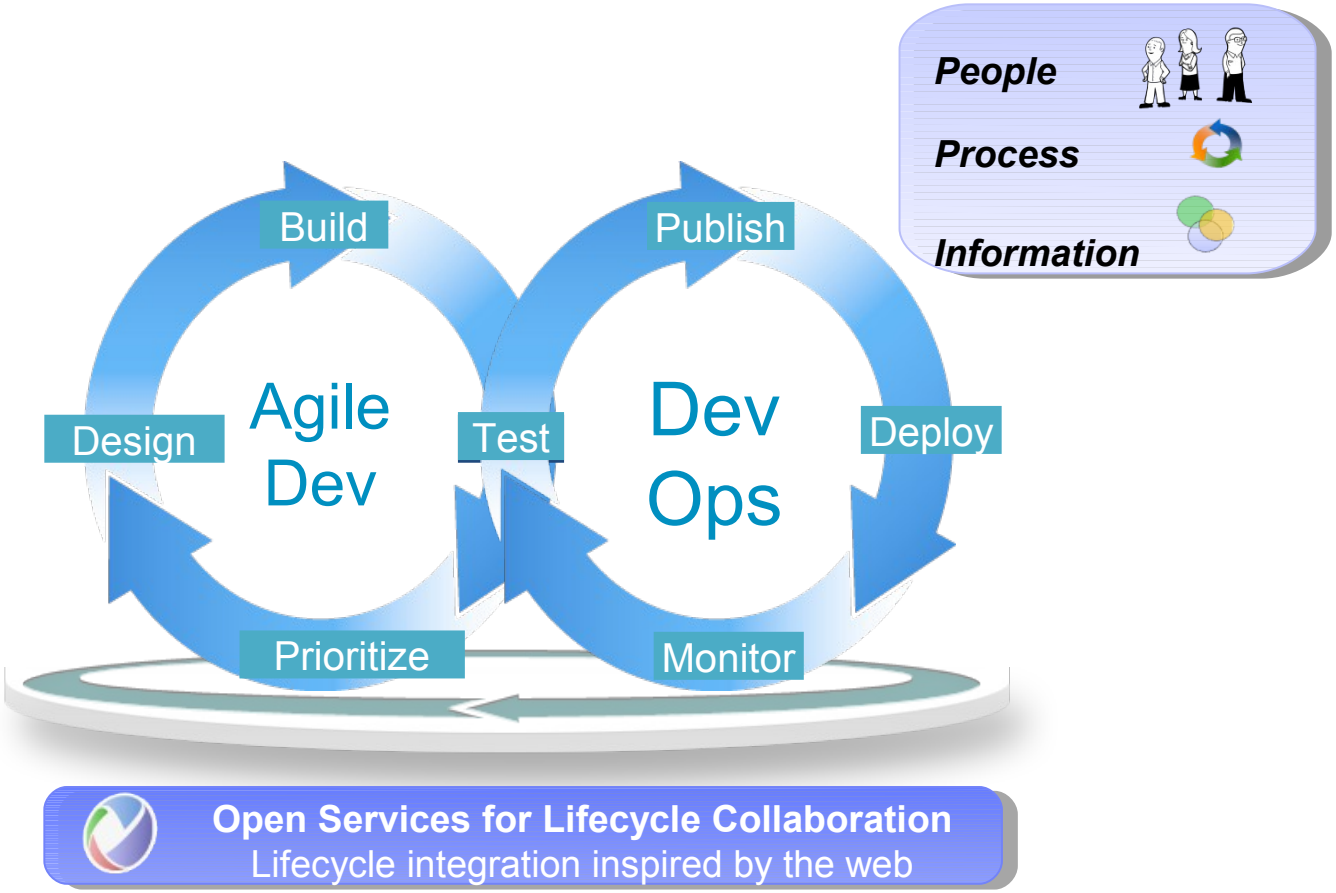


Lifecycle Management Reference Architecture



Adopt in any order, at any time

End-to-End Lifecycle Optimization



Follow us on the Enterprise DevOps and Jazz Team Blogs and at open-service.net

Client's experience the barriers of time, cost and risk today

Typical IT Project Time and Budget

Phase	Time (days)	Budget
Specify/design	73 - 96	14% - 16%
Procure	57 - 112	19% - 21%
Implement	74 – 93	12%
Configure/test	74 – 80	10% - 11%
Cluster and HA	66 – 104	11% - 12%
Backup	44 – 108	10%
Tune	89 – 98	9% - 10%
Management	67 – 110	9 – 10%

34%** of new IT projects (US) **deploy late

Top Causes of Project Delays

Hardware

- Troubleshooting and tuning production environment — **45%**
- Integration, configuration and testing of the infrastructure — **45%**
- Installation, cabling and network access for the environment — **29%**

Software

- Integration, configuration and testing of applications — **41%**
- Integration, configuration and testing of middleware — **35%**
- Configuration, build and deployment of applications — **34%**

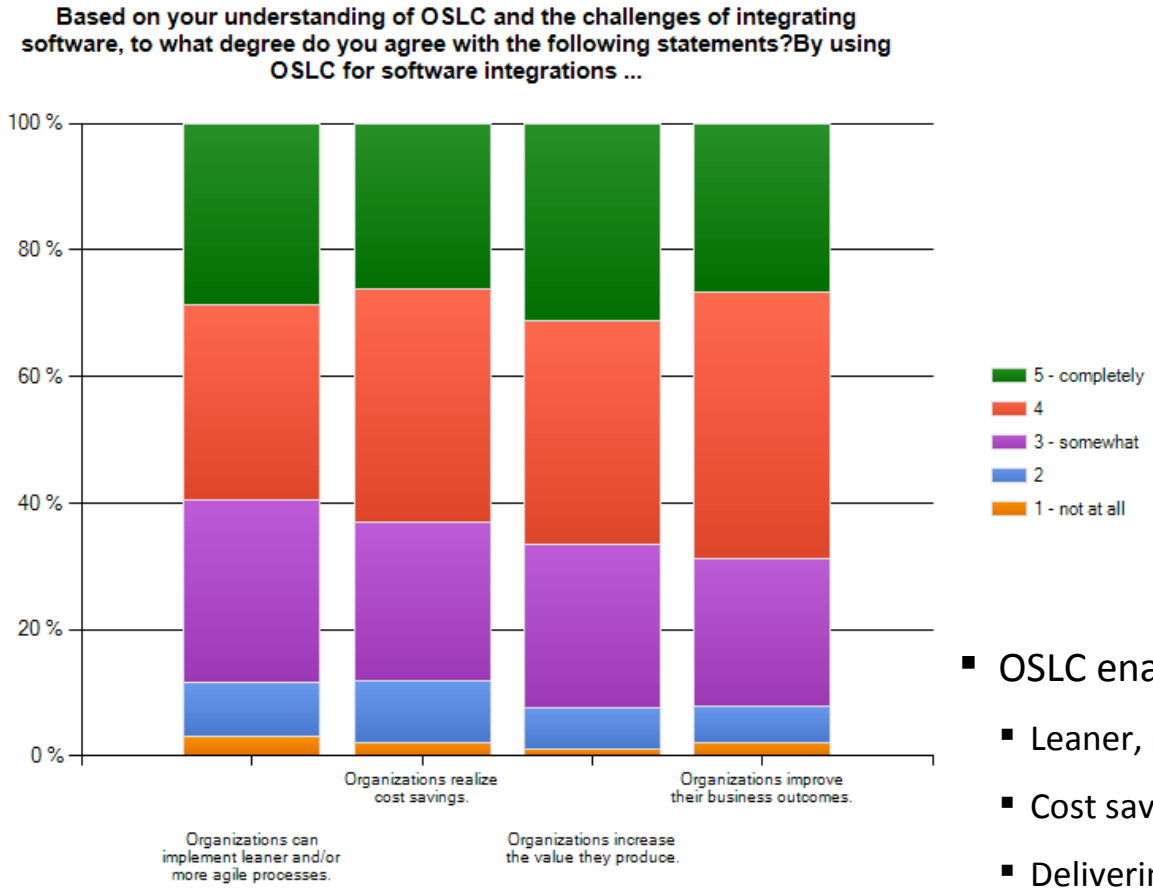
Source: Commissioned study conducted by Forrester Consulting on behalf of IBM.

Technical Leaders Agree: OSLC Integrations Have Desirable Qualities

- Better Maintainability
  - Single set of skills needed for product integrations = **Less Specialization**
  - Majority of integration implementation identical across all integrations = **More Reuses**
- Better Serviceability
  - Isolates the integration from the action that invoked it
    - Can reproduce problems with only one side of the integration +
    - Don't need customer data or infrastructure to reproduce =
      - **Less Complexity**
      - **Easier Problem Determination**
      - **Easier Solution Validation**
    - Should Lead to:
      - **Quicker Response Times**
      - **Higher Customer Satisfaction**
  - More can be done without involving developers = **Reduced Support Costs**
- OSLC Virtuous Cycle:
  - The more OSLC implementers, the more valuable each OSLC implementation

* Based on interviews conducted September 28-30, 2011 with Rational architects, developers, and product managers who implemented OSLC in their products, as well as with associated support professionals.

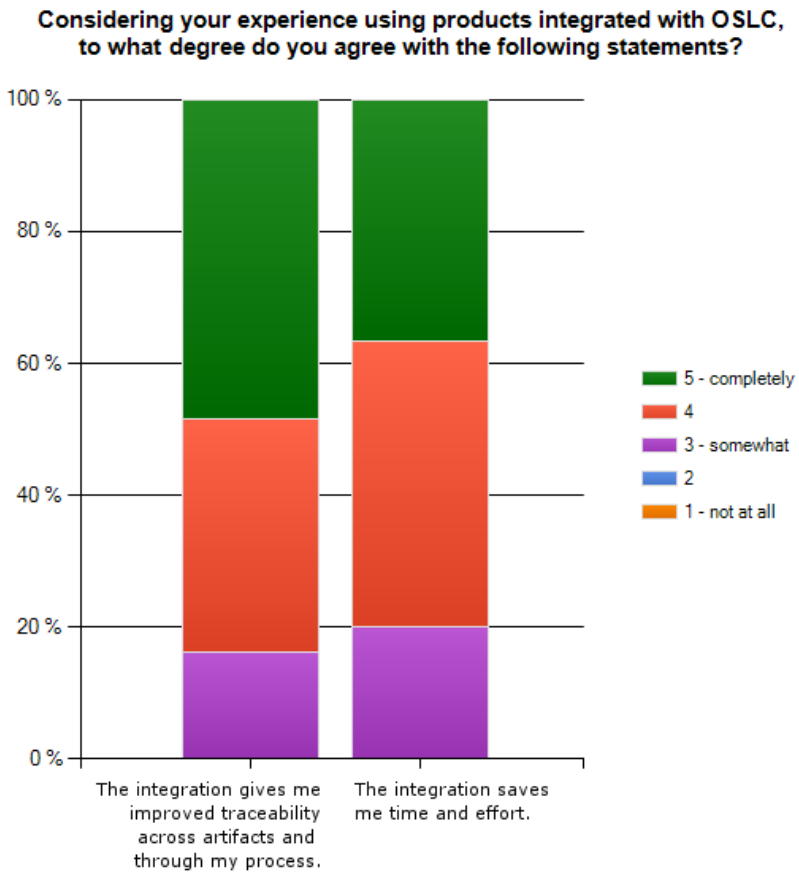
OSLC' s Innovative Solution: Collective Organizational Experience*



- OSLC enables:
  - Leaner, more agile processes
  - Cost savings
  - Delivering higher value
  - Better business outcomes

* From the OSLC 2012 Community Survey
(The raw survey results are available on open-services.net; there is also a summary PDF)

OSLC's Innovative Solution: Collective User Experience*



- The survey supports the thesis that there is a lot of value in the vision of OSLC, and it is possible to realize some of it today.
- People are benefiting from OSLC today, and expect to benefit from it more in the future.

* From the OSLC 2012 Community Survey
(The raw survey results are available on open-services.net; there is also a summary PDF)