

Reducing system integration costs with OSLC and data federation

Fernando Moraes, Ícaro Technologies

About us

- Company founded in 1997
- Offices in São Paulo, Rio de Janeiro, Curitiba and Campinas
- 120+ employees
- Projects in 11+ countries



What we do

Integration

and development of service, network, systems, infrastructure and security management & analysis solutions

Products

for operations & infrastructure control and optimization, and IT service management

Our solutions



A few of our clients



Our clients' top 3 concerns

- Service availability
- Quick launch of new services
- Cost reduction & operational efficiency

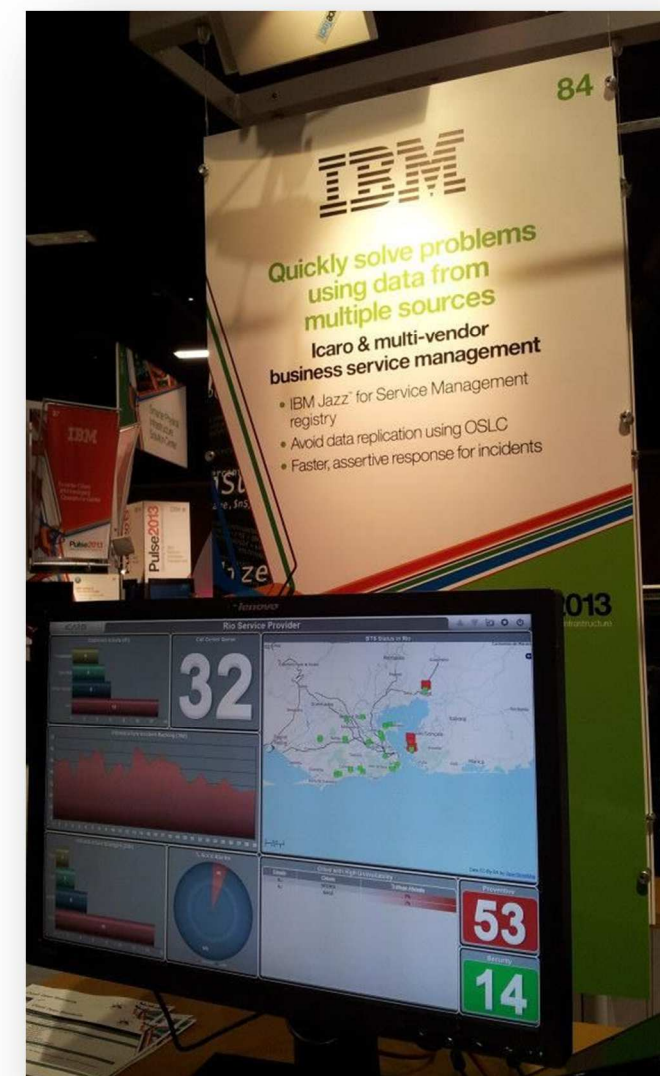


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Why data federation & OSLC?

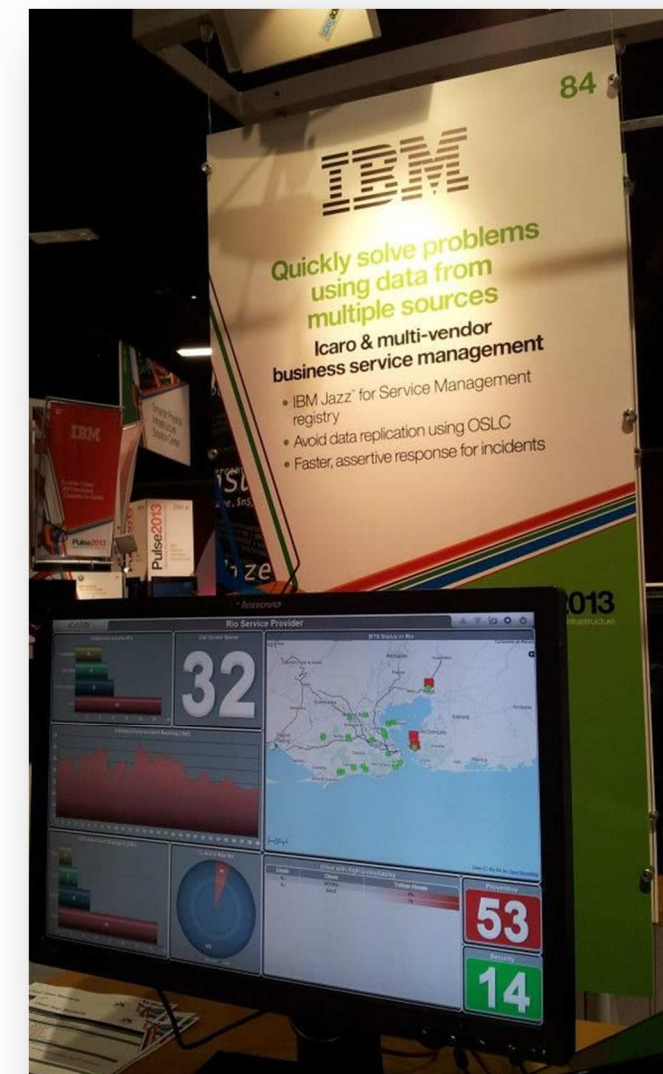
A short story: How we got started with OSLC...

- Q4'12: IBM invited us to try OSLC and demo its system integration capabilities at Pulse'13
- We learned OSLC
- And built prototypes for both a data provider and a data consumer



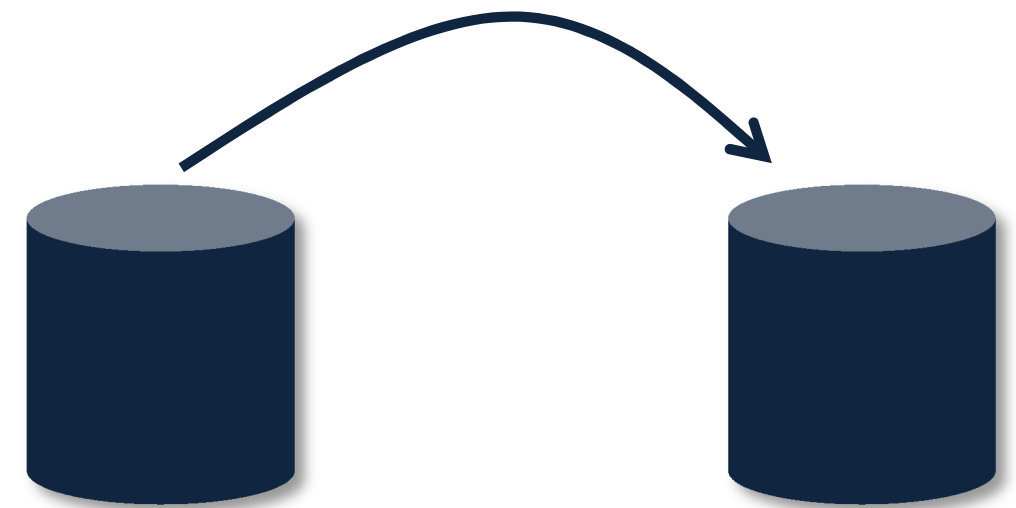
...And how we got surprised with it

- Q1'13: We plugged our prototypes into Pulse'13 demo environment
 - Immediately, data from 5 new providers showed up
- It means 5 new systems integrated to our Dashboard
 - No new code, no configuration
 - No downtime
 - No bugs or issues



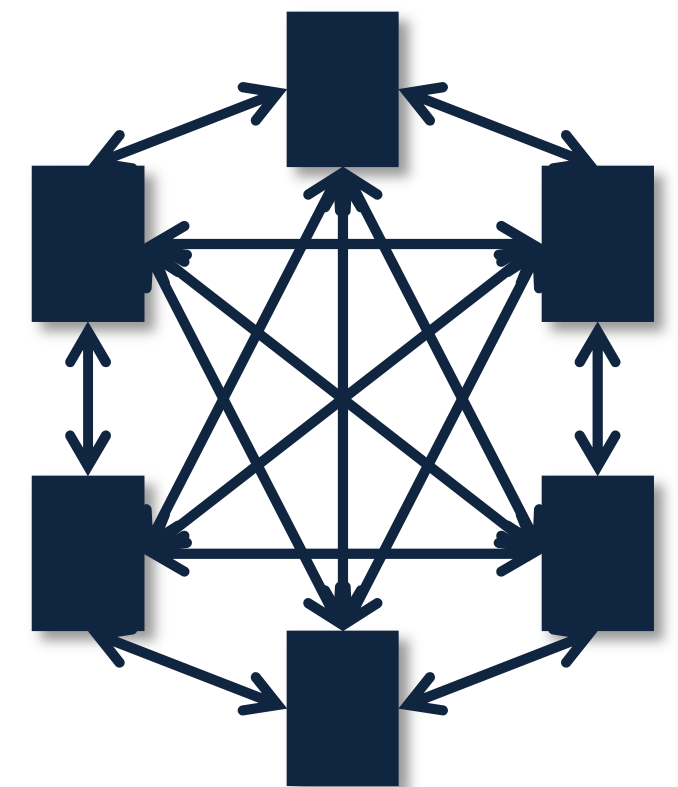
Problems with standard integration approaches

- 1) Data replication
 - Data inconsistency
 - You may have plenty of data
 - Data may change very frequently



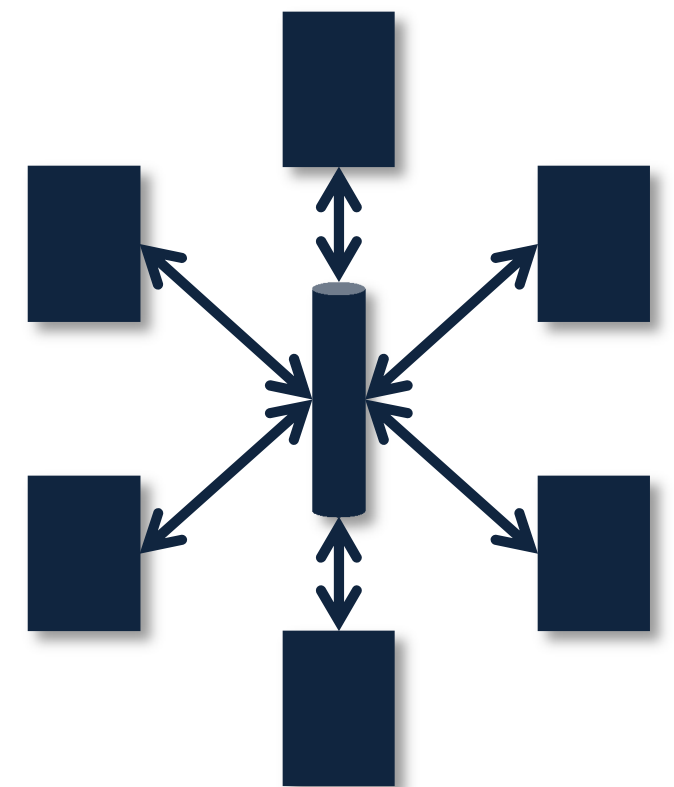
Problems with standard integration approaches (cont.)

- 2) Point-to-point integration
 - Different integration architectures to maintain
 - API, database, web services
 - When new systems are incorporated, changes are needed
 - Applications not aware of new providers



Problems with standard integration approaches (cont.)

- 3) Enterprise Service Bus
 - Usually a better approach, but still
 - No easy “navigation” between data providers
 - No data semantics



System integration cost reduction with OSLC



- Looking back at our own integration projects
 - Project with 10+ system integrations
 - Costs to build, test, deploy, support and evolve the 10+ integrations across 2 years
 - We estimate USD ~2M in savings if we could use OSLC



Operational improvement opportunities with OSLC



- Some operational procedures require real-time information for decision-making, especially in IT Service Management. Examples:
 - Experience shows that as much as 70% of critical incidents are due to lack of accurate, real-time information in Change Mgmt
 - On average, our clients could save ~USD 60k a year in rework related to Change Management

2

What is data federation and OSLC?

Data federation principles



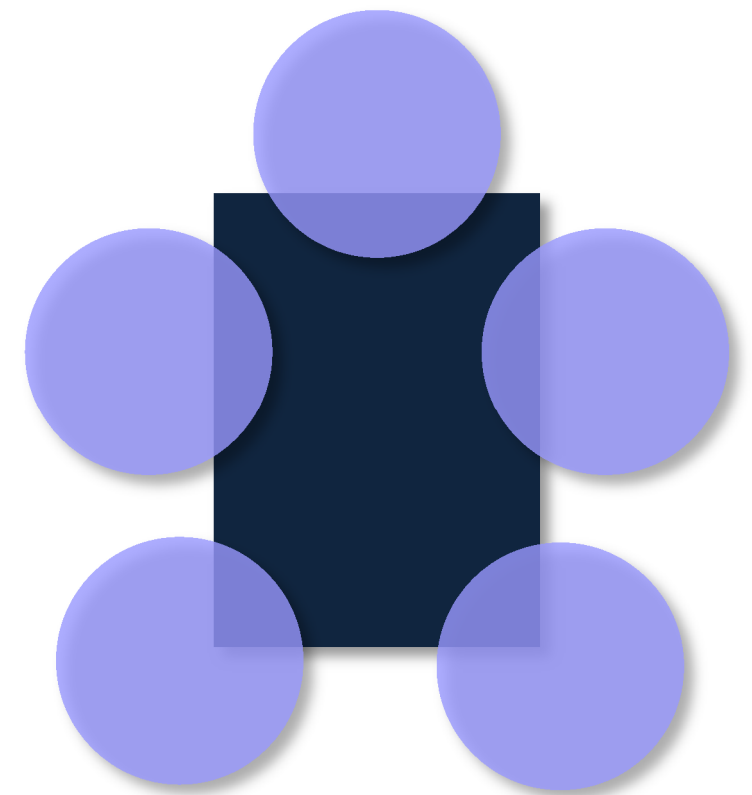
- Not a new concept - we used it before with CMDB's
 - Define common identifiers for the managed entities
 - Provide an entity "index"
 - Allow consumers to search the index for the entities
 - Allow consumers to directly access entity data from providers

Data federation outcomes

- No need for replication
- No need to point-to-point, proprietary API integrations
- New providers and consumers can be added to the environment

Data federation means that...

- Each application will perform specialized management of aspects of the same entities
 - Inventory
 - Configuration Management (CMDB)
 - System health monitoring
 - Capacity planning
 - Incident Management
 - Change Management



OSLC allows data federation

- OSLC: Open Services for Lifecycle Collaboration
 - Community of software developers, operations experts, and organizations
- Activities
 - Gather industry experts
 - Openly discuss common problems and solutions
 - Publish open specifications



***Open
Services for
Lifecycle
Collaboration***



3 Basic OSLC concepts



- Resource
 - Any entity defined by OSLC such as computer system, bug, change ticket, etc.
- Service Provider
 - Product/service that provides information on resources
- Service Provider Catalog
 - Enable OSLC clients to find Service Providers and resources

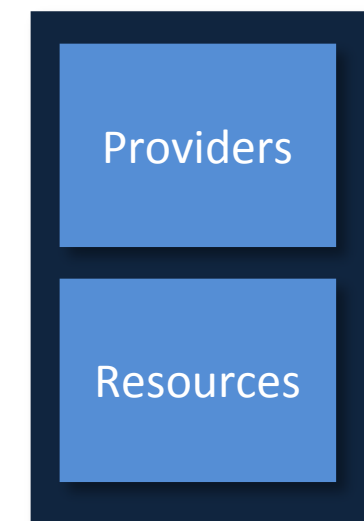
OSLC principles

- Built on the WWW architecture
 - Minimalist & loosely coupled
 - Standard data representation
- Use HTTP Uniform Resource Identifiers (URI) as a naming convention
 - So that people can look up those names
 - Include links to other URIs



How OSLC allows for data federation?

- The key is the Service Provider Catalog concept
 - Directory of data providers and their resources
 - Keeps only identification data about resources
 - Reconcile resources from multiple providers
 - Also known as Registry



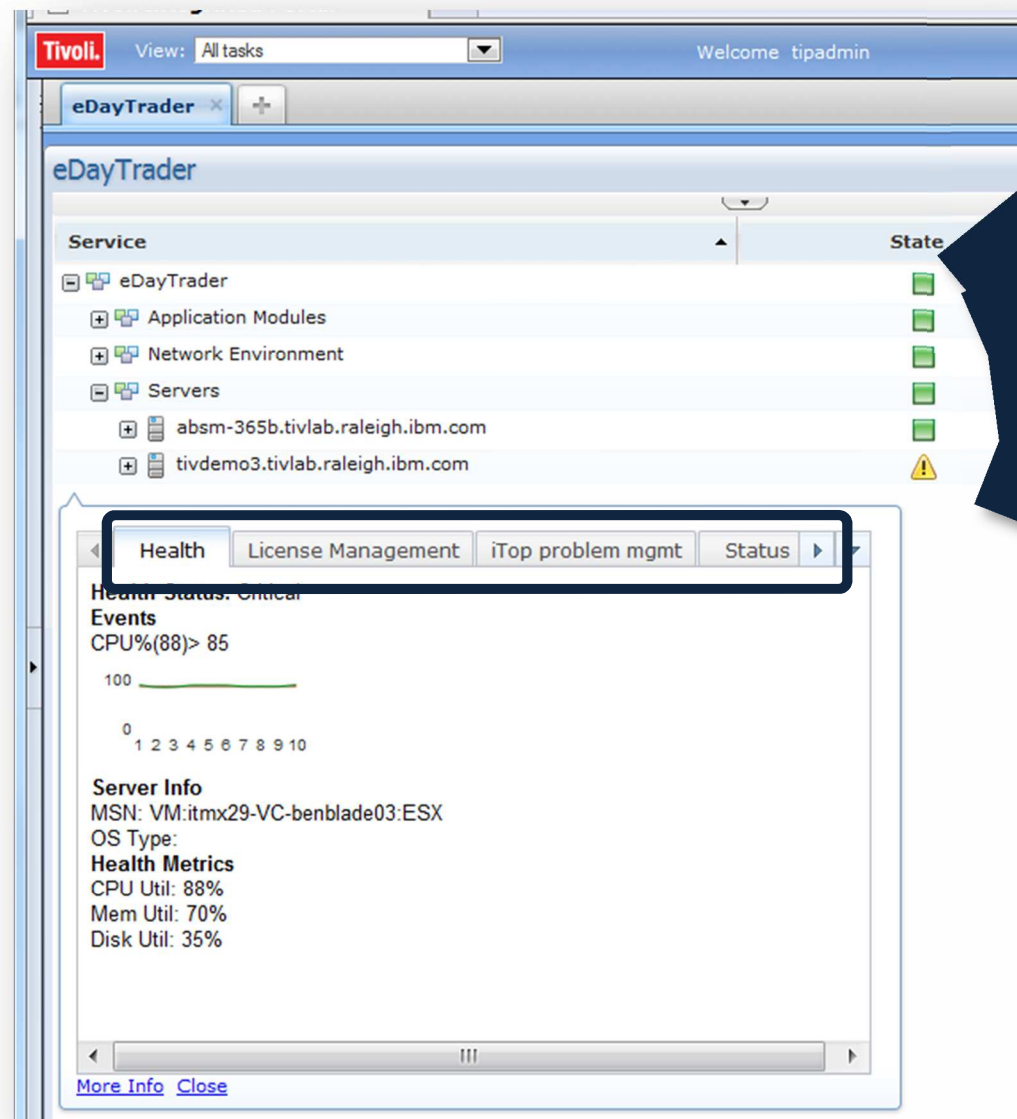
Service Provider
Catalog

Federation with UI Preview

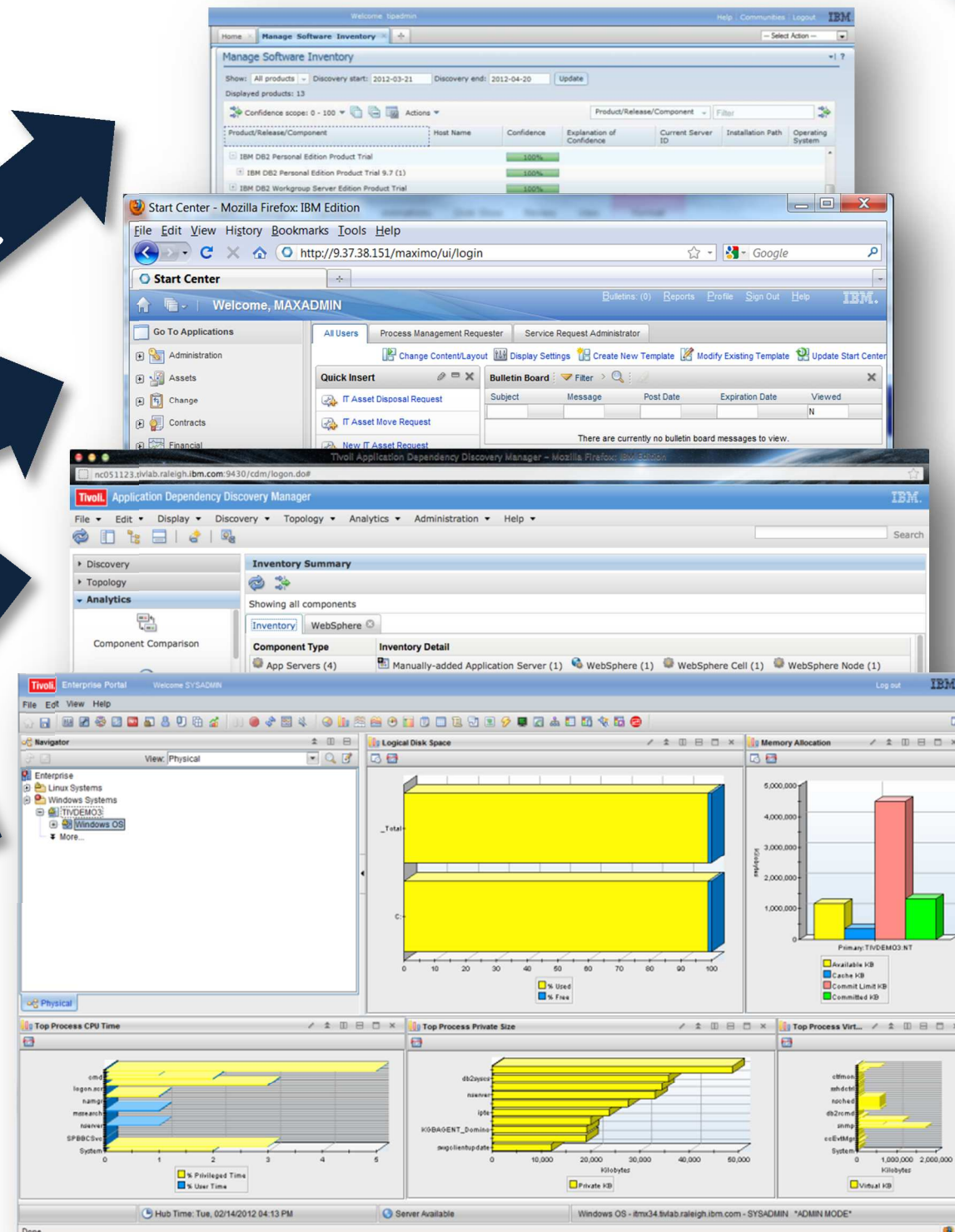
- Gather info from all sources

- Versus launching multiple apps

ICARO
TECHNOLOGIES



License Mgmt
Work Orders
Chg History
Health



Registry operations

- HTTP operations are used to interact with the registry
 - POST to create a resource
 - DELETE to remove
 - GET + PUT to update

Querying the Registry

- Retrieve all records that depend on a particular resource:

server

clause

qualif.

```
http://oslc-registry/oslc/rr/collection?
```

```
oslc.where=
```

```
crtv:dependsOn=<http://oslc-registry/oslc/resources/1>
```

- Retrieve URLs for all model 4061-BKA ComputerSystem Resource Records:

server

clause

qualif.

```
http://oslc-registry/oslc/rr/collection?
```

```
oslc.where=
```

```
crtv:model="4061-BKA" and
```

```
rdf:type=
```

```
<http://open-services.net/ns/crtv%23ComputerSystem>
```

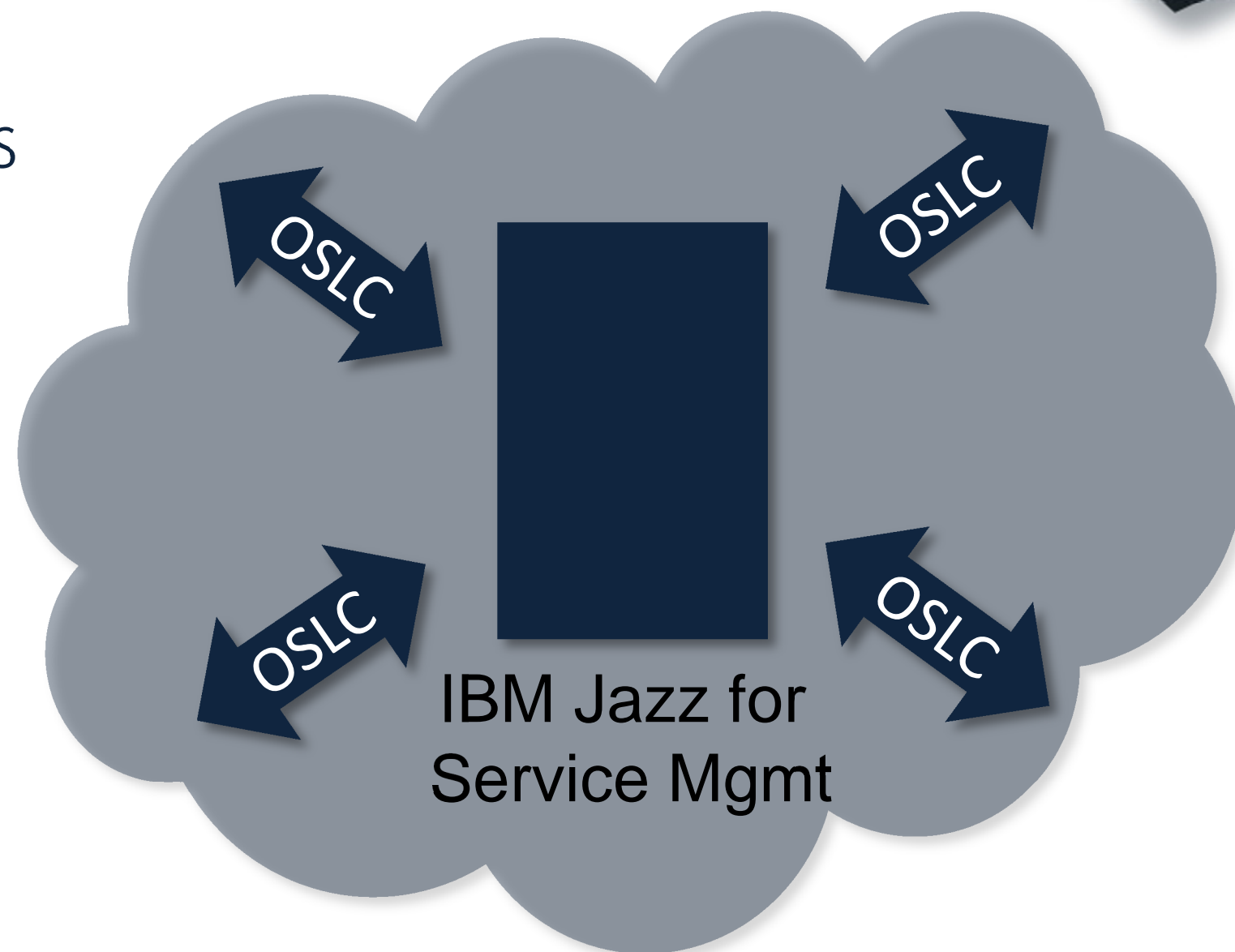
3

Our experience with OSLC

IBM Jazz for Service Mgmt

- IBM implementation of OSLC-compliant componentes

- Registry
- Visualization
- Administration
- Reporting
- Security



What we did for Pulse'13

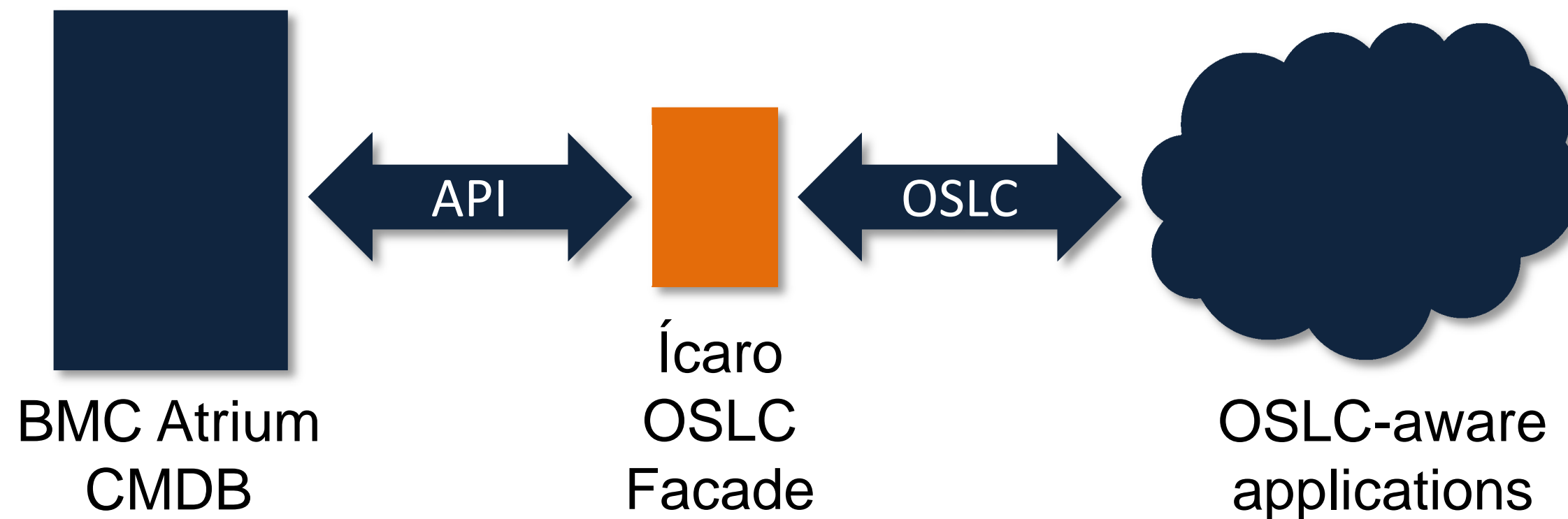
- 1) Learning
 - Short learning curve
 - ~1 to 2 weeks
 - Some background will help
 - Java programming
 - RESTful web services



What we did (cont.)



- 2) Creation of an OSLC facade in 3 weeks
 - Java web application (demo later on)
 - To expose third-party application data to OSLC consumers



What we did (cont.)

- 3) Implementation of an OSLC-aware widget on our product
 - 2 weeks



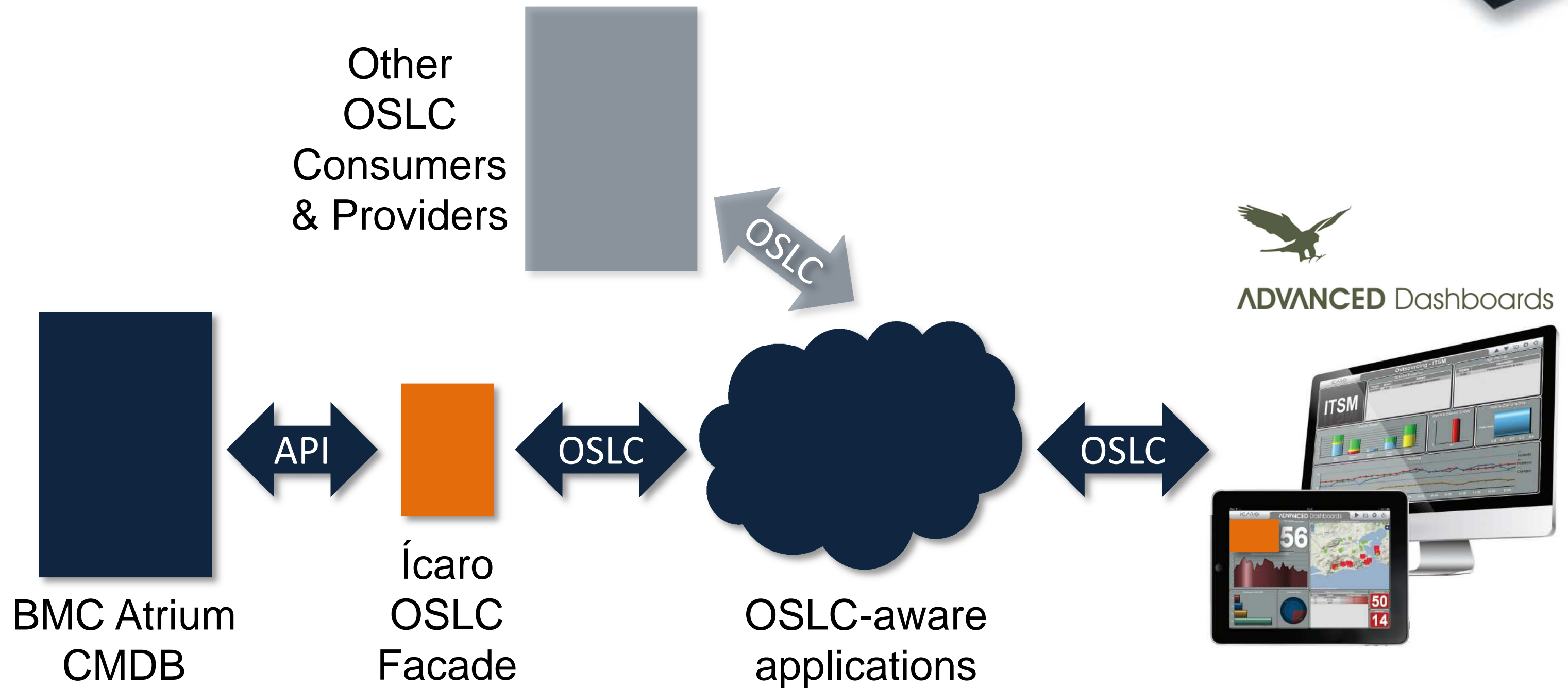
OSLC-aware
applications



ADVANCED Dashboards

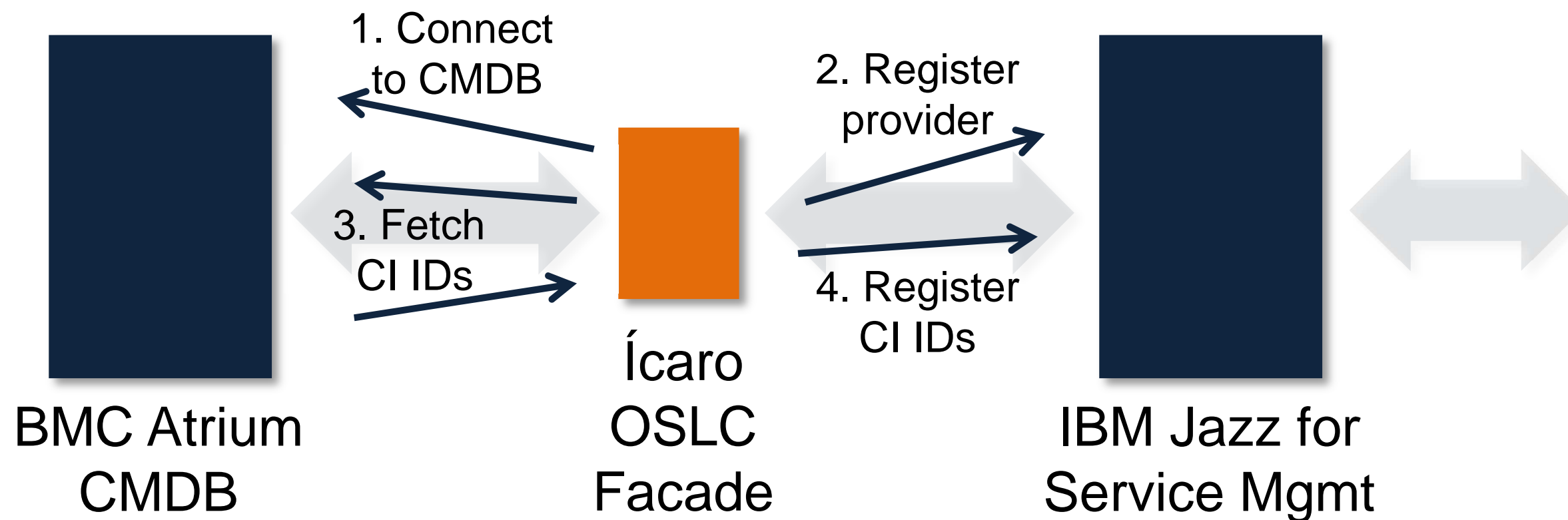


The final scenario



How the facade works

- 1) Setup phase
 - Provider registers itself on Registry (IBM Jazz for SM)
 - Also registers the configuration items available

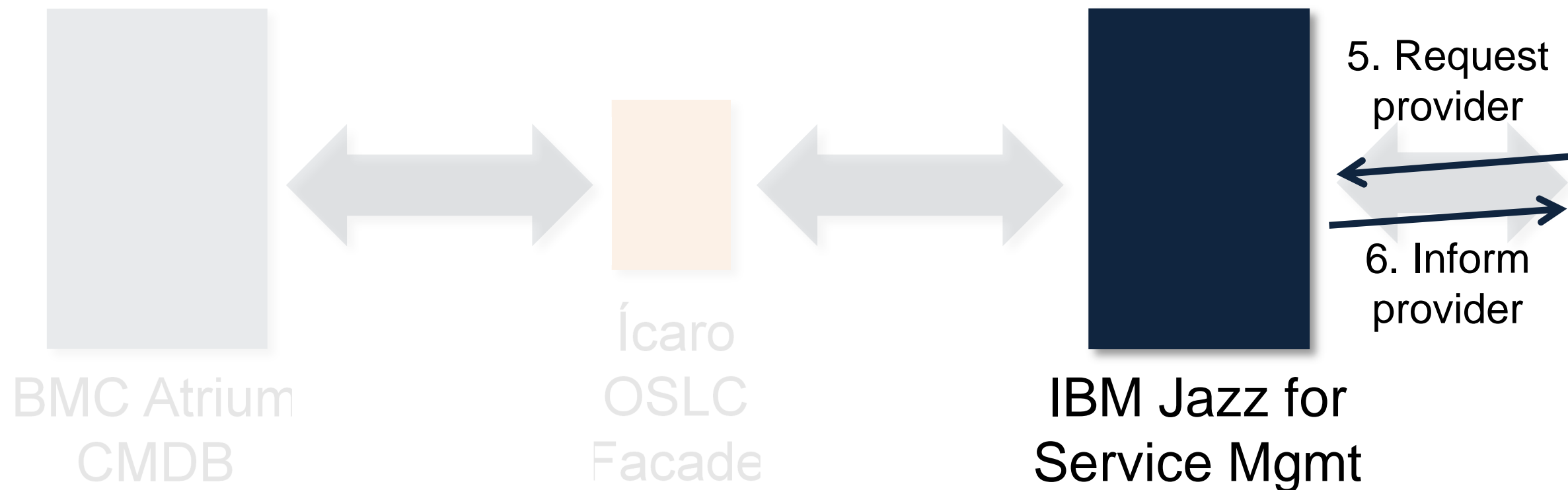


ADVANCED Dashboards



How the facade works (cont.)

- 2) Providers request
 - Consumer consults Registry for providers

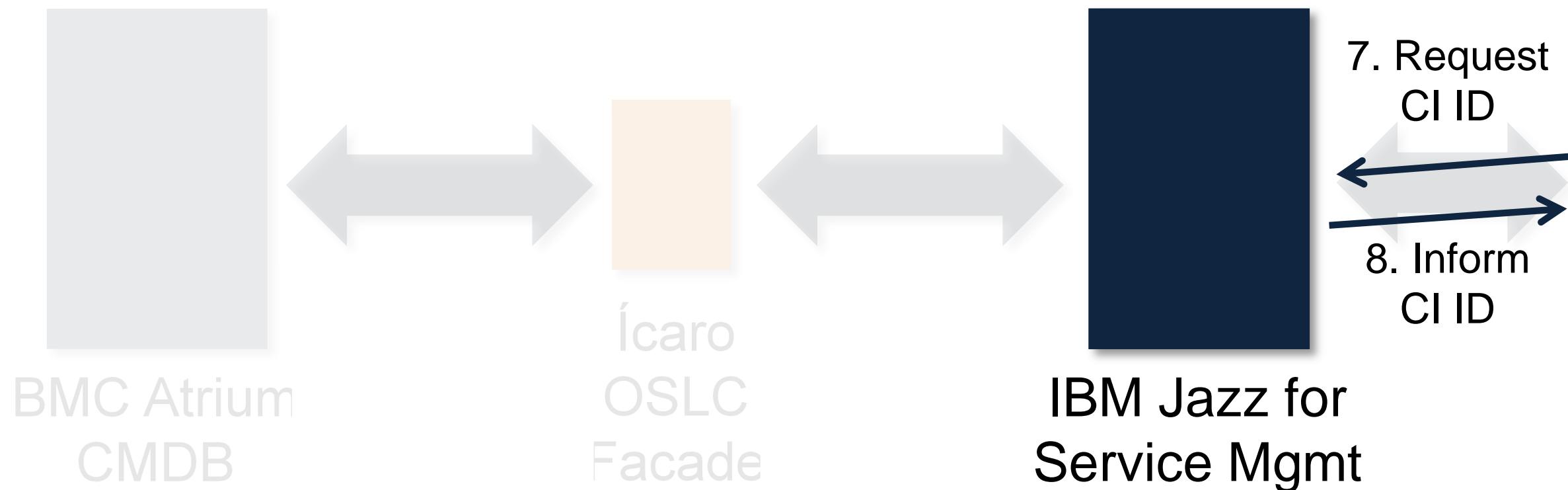


ADVANCED Dashboards



How the facade works (cont.)

- 3) Configuration item ID request
 - Consumer consults Registry for a CI ID

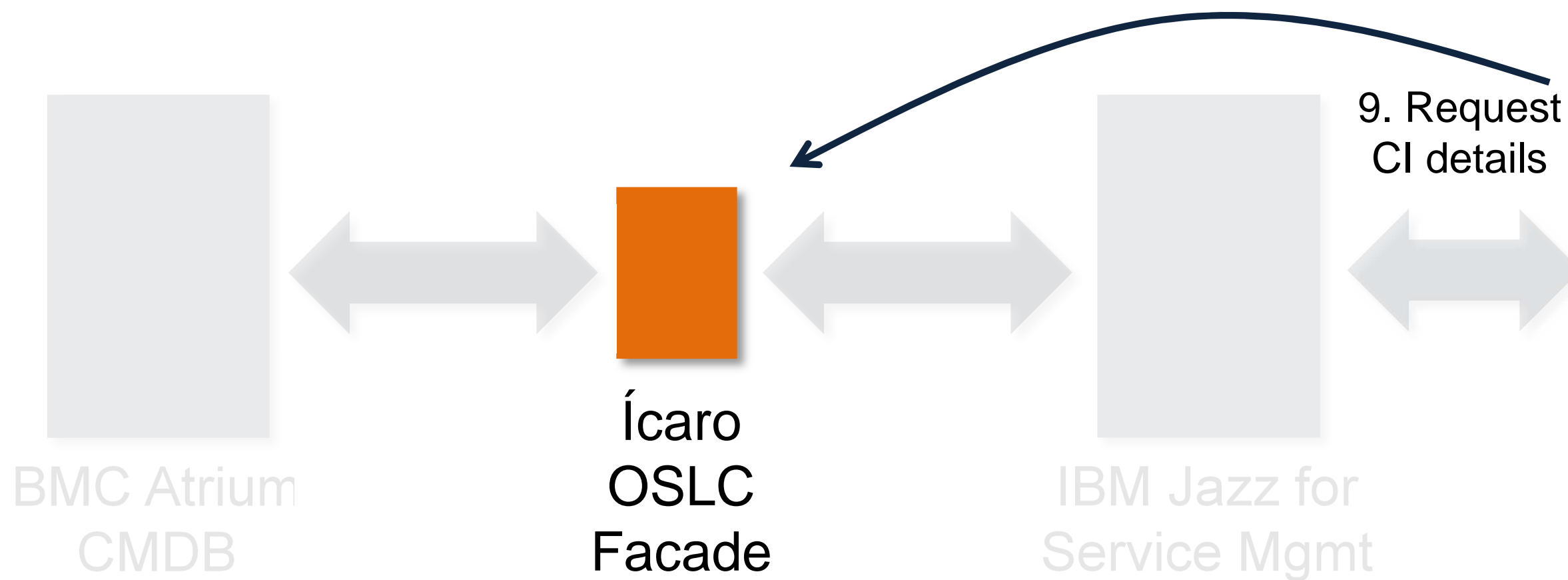


ADVANCED Dashboards



How the facade works (cont.)

- 4) Configuration item details request
 - Consumer requests CI details to OSLC Provider

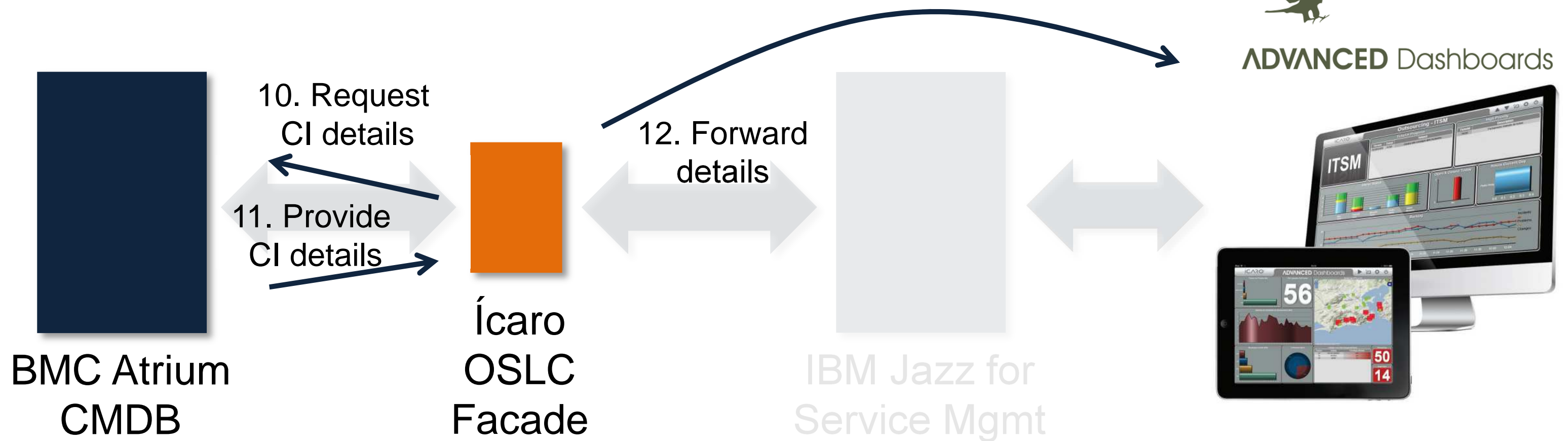


ADVANCED Dashboards



How the facade works (cont.)

- 5) Data providing
 - Consumer requests CI details to OSLC Provider



Demo

www.icarotech.com

Summary

www.icarotech.com

Summary

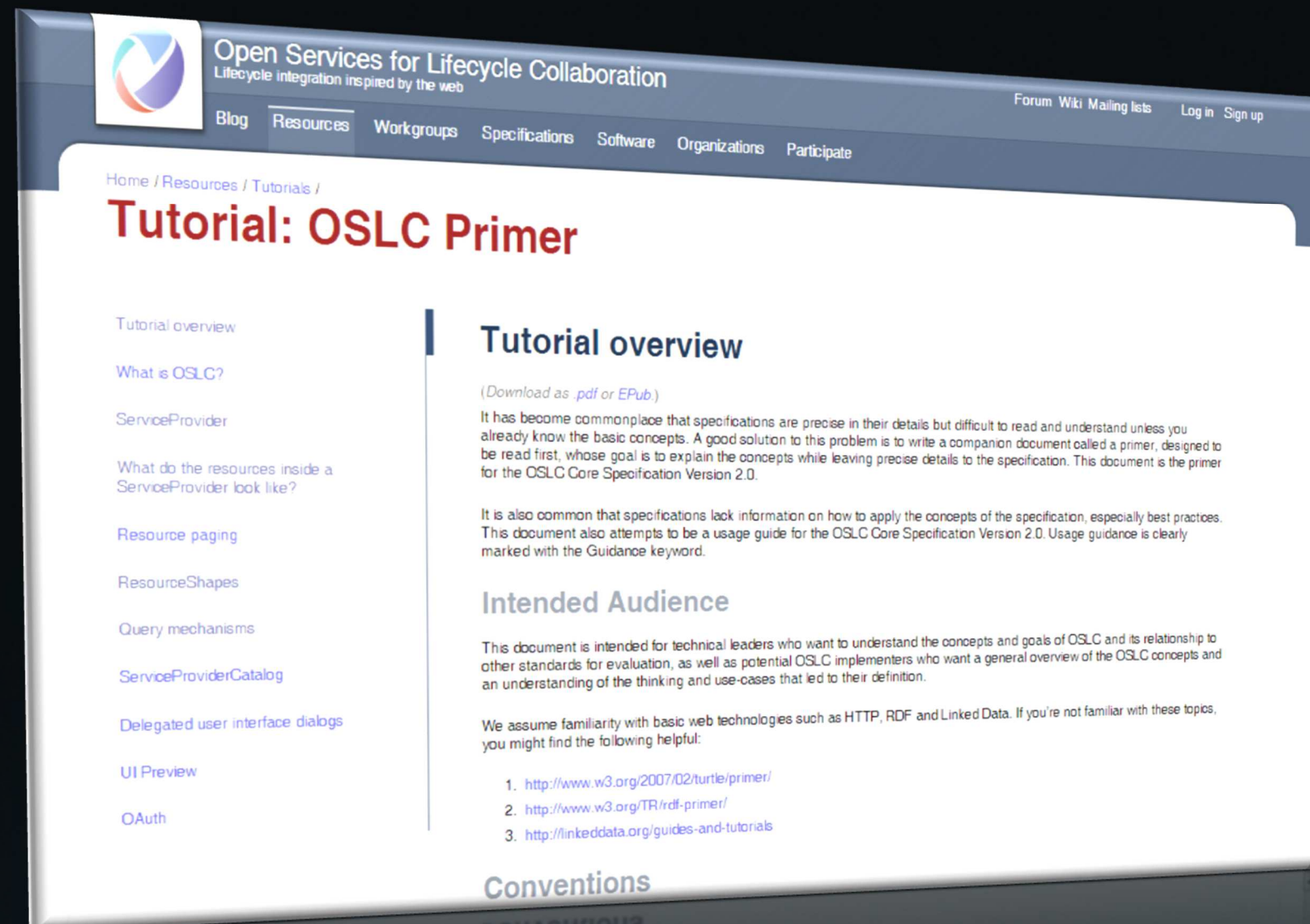
- Data federation and OSLC allow for
 - Easier, quicker, reusable integrations
 - Lower development, support and change management costs
- Get started now!

Q&A

www.icarotech.com

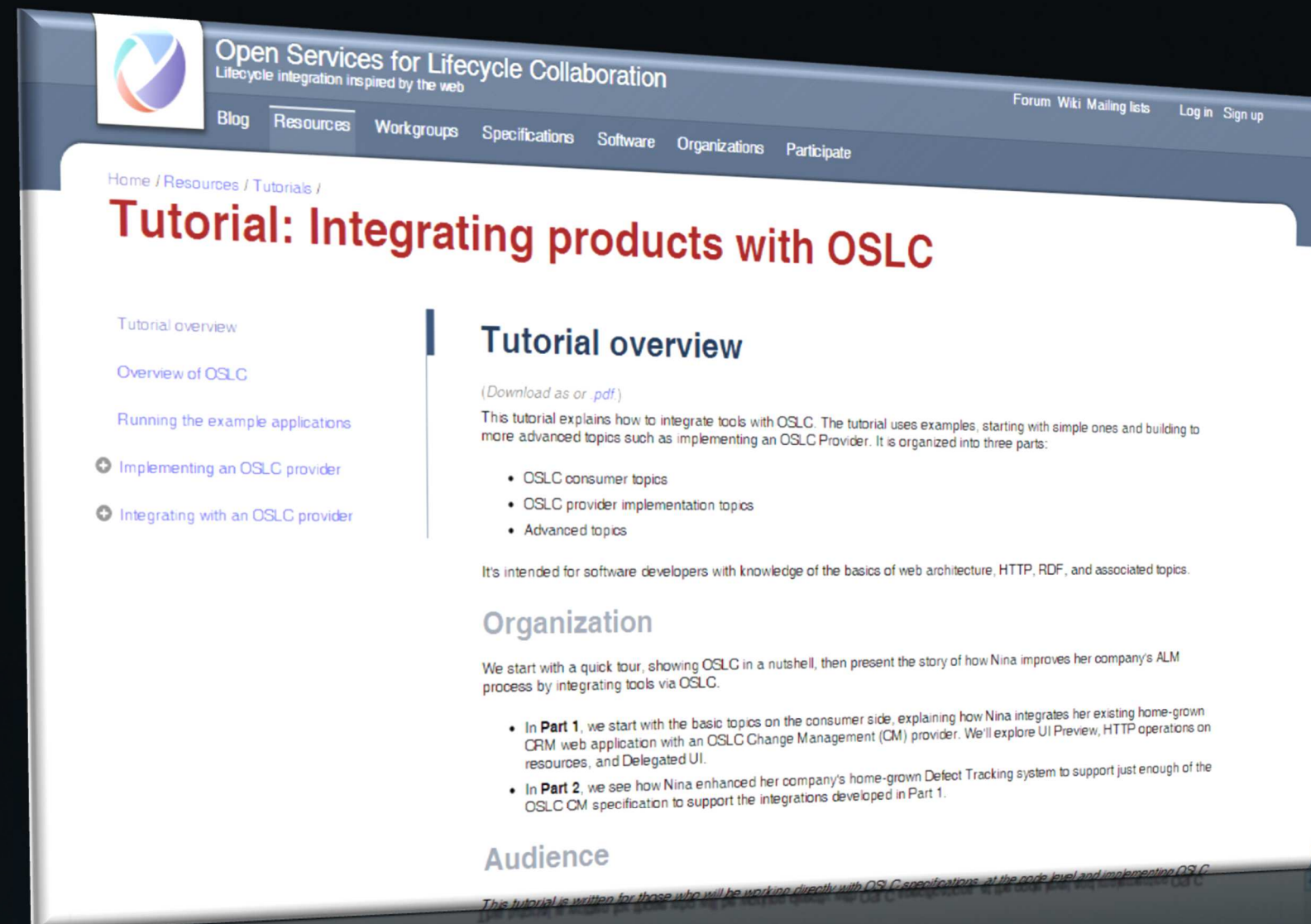
How to get started?

www.icarotech.com



OSLC Primer online doc

<http://open-services.net/resources/tutorials/oslc-primer/>



The screenshot shows the OSLC website with a blue header. The main navigation bar includes links for Blog, Resources, Workgroups, Specifications, Software, Organizations, and Participate. A secondary navigation bar on the right contains links for Forum, Wiki, Mailing lists, Log in, and Sign up. The breadcrumb trail reads 'Home / Resources / Tutorials /'. The main heading is 'Tutorial: Integrating products with OSLC' in a large, bold, red font. On the left, a sidebar lists the tutorial's sections: 'Tutorial overview', 'Overview of OSLC', 'Running the example applications', 'Implementing an OSLC provider', and 'Integrating with an OSLC provider'. The main content area starts with a 'Tutorial overview' section, which includes a download link for a PDF and a brief description of the tutorial's scope. It then lists three topics: OSLC consumer topics, OSLC provider implementation topics, and Advanced topics. A paragraph explains that the tutorial is intended for software developers with knowledge of web architecture, HTTP, RDF, and related topics. The 'Organization' section follows, describing the tutorial's structure and the story of Nina's company. It lists two parts: Part 1, which covers basic consumer topics and CRM integration, and Part 2, which covers how Nina enhanced her company's defect tracking system. The 'Audience' section is partially visible at the bottom.

Open Services for Lifecycle Collaboration
Lifecycle integration inspired by the web

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Tutorial: Integrating products with OSLC

Tutorial overview

Overview of OSLC

Running the example applications

Implementing an OSLC provider

Integrating with an OSLC provider

Tutorial overview

(Download as or .pdf)

This tutorial explains how to integrate tools with OSLC. The tutorial uses examples, starting with simple ones and building to more advanced topics such as implementing an OSLC Provider. It is organized into three parts:

- OSLC consumer topics
- OSLC provider implementation topics
- Advanced topics

It's intended for software developers with knowledge of the basics of web architecture, HTTP, RDF, and associated topics.

Organization

We start with a quick tour, showing OSLC in a nutshell, then present the story of how Nina improves her company's ALM process by integrating tools via OSLC.

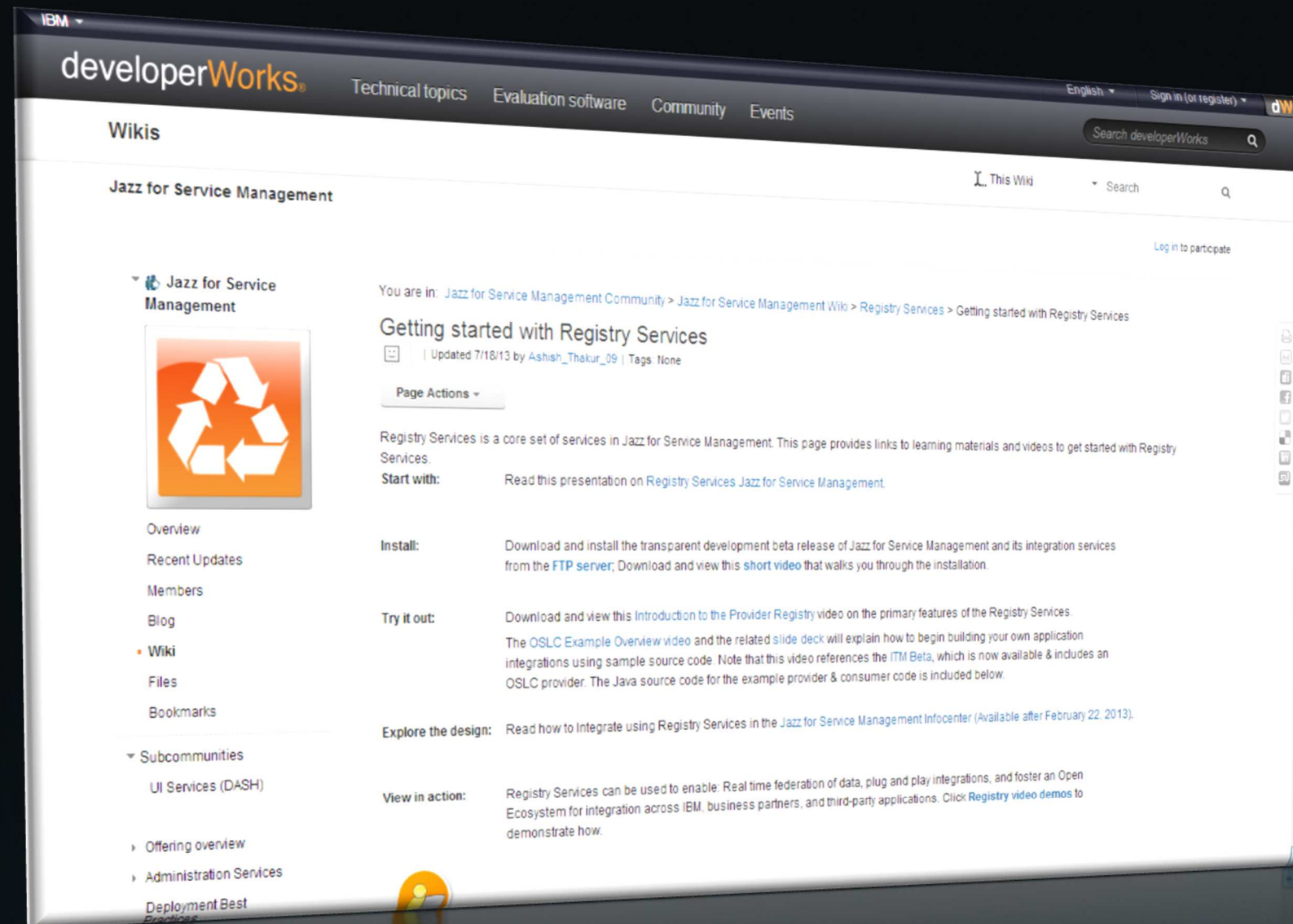
- In **Part 1**, we start with the basic topics on the consumer side, explaining how Nina integrates her existing home-grown CRM web application with an OSLC Change Management (CM) provider. We'll explore UI Preview, HTTP operations on resources, and Delegated UI.
- In **Part 2**, we see how Nina enhanced her company's home-grown Defect Tracking system to support just enough of the OSLC CM specification to support the integrations developed in Part 1.

Audience

This tutorial is written for those who will be working directly with OSLC specifications, at the code level and implementing OSLC

OSLC integration tutorial

<http://open-services.net/resources/tutorials/integrating-products-with-oslc/>



Getting started with Registry Services

Jazz for SM Community > Jazz for SM Wiki > Registry Services > Getting started with Registry Services

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Jazz for Service Management

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Log in to participate

browserreload dash dashboard dashboarding gauge isl-csi jazzsm milestone refresher registry-services remote reporting resource-shapes smc xlaunch

All posts

Date Likes Comments Visits

Announcing Availability of Jazz for Service Management Milestone 15

L. Saucedo July 26 Visits (296)

Milestone 15 of Jazz for Service Management Open Beta is now available for download. It includes several enhancements and defect fixes listed in the Readme available here. Jazz for Service Management brings together the Open Services for Lifecycle Collaboration (OSLC) community's open specifications for linking data and other shared integration services, including administrative, reporting, security, and visualization services. It underpins client-defined management scenarios such as cloud, performance monitoring, and IT... [More]

Tags: security milestone reporting administrative jazzsm dashboard

Upcoming presentation: Reducing system integration costs with OSLC and data federation

Maisa Gemignani July 25 Comments (4) Visits (453)

About this blog

Welcome to the Jazz for Service Management Blog, where you can read the perspectives from the Jazz for SM experts. Please also join the JazzSM Group: <http://smconnect.net/jazzsm> This Blog provides insights into the overall Jazz for SM solution, as

f t in

Trending topics

jazzsm osc dashboard

Jazz for SM blog posts at developerWorks

Thank you

Fernando Moraes
fernando.moraes@icarotech.com

www.icarotech.com

References

www.icarotech.com

References



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 - <http://open-services.net/>
- Case Study: Open Services Lifecycle Collaboration framework based on Linked Data
 - <http://www.w3.org/2001/sw/sweco/public/UseCases/IBM/>
- Search IBM developerWorks community for “Jazz for Service Management”
 - <https://www.ibm.com/developerworks/>