MBSE and Digital Thread
Exposing Capella Models to OSLC consumers

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Who am I?

What is this ‘Capella’ I’m talking about?

Systems Engineering Challenges

Publication for Capella

Demo

An OSLC Journey?

Q&A
We create **modeling tools** for systems engineers, software engineers, and domain modeling experts.
Modeling workbenches | Ready-to-use, or tailored to your needs

Systems Engineering

Capella

#MBSE #Arcadia

Enterprise Architecture

OBEO SmartEA

#Archimate #BPMN

Your Specific Engineering Domain

OBEO Designer

#DSL #MDE

https://www.siriuscon.org/
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Capella is a comprehensive, extensible, field-proven MBSE workbench to successfully design System Architectures.
Formalize specification and master architectural design

Better understand the customer need

Define and share the solution among stakeholders

Secure SYS/SW/HW engineering, prepare subcontracting

Evaluate and justify architectural design early

Prepare and master V&V
But Capella is not only a Tool.

It comes with a Method:
Digital continuity from requirements to architecture

How Arcadia manages Requirements modeling and Traceability?

**Architectural Design** model elements are linked to **Requirements**

=> Consistency, Verification & Justification
Oh, and by the way...

Capella is Open-Source
Learn more about Capella and its Community

‘The spirit of Arcadia and Capella in 7 minutes’
youtube.com/watch?v=BtzhlZUaWA8

‘Catapult’ Tutorial
esd.sutd.edu.sg/40014-capella-tutorial/index.html

Website: eclipse.org/capella
Youtube: youtube.com/channel/UCfgwbb2h10V3tgI59sbGBnQ/videos
Forum: forum.mbse-capella.org
Linkedin: linkedin.com/in/capella-mbse-tool/
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Q&A
That’s a lot of silos!
BEST PAPER AWARD

Augmenting requirements with models to improve the articulation between system engineering levels and optimize V&V practices

Capella
Open Source MBSE Solution

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Models as enablers of agility in complex systems engineering

INCOSE International Symposium 2020
And many more of course...

But let’s focus on these for now.
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Q&A
Better communication and collaboration
Break silos

System Architecture is becoming a central place for cross-engineering understanding
Publication for Capella
Connect Capella with any OSLC-compliant repository (Polarion, Doors Next, Jazz platform, ...)

ALM / RM

Requirements
Tasks
Issues
Change Requests
Test Cases
Releases

Digital continuity from requirements to architecture
Better communication and collaboration
Single and integrated sources of truth
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Q&A
Demo: Create and Verify Traceability Links in your ALM
Connect people to your MBSE
Test & Quality Management | Drive your V&V with your architecture

Functional Chain with the list of Functions to test

Traceability example

Test Case
Connect people to your MBSE
Test & Quality Management | Drive your V&V with your architecture

BEST PAPER AWARD
Augmenting requirements with models to improve the articulation between system engineering levels and optimize V&V practices

Test Case

Traceability example
Connect people to your MBSE
Issue Management | Drive your quality with your architecture

Operational Scenario causing the defect & Involvement of each Component

Traceability example

Component or Function to be fixed by HW/SW teams
Connect people to your MBSE
Change Management | Drive your modifications with your architecture

Traceability example

Change Request

Impact on the existing system architecture

Context about the request to justify the need for change
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Q&A
Oh god, there’s a whole new community to discover!
Nice to meet you everyone :-(
OSLC | Lessons Learnt

The AM vocabulary is very abstract and simple
It’s OK for now to cover the need we had: Traceability
OAuth-1 still seems very much in use
However, it’s deprecated. We’d like to move away from it.
What’s the general trend among OSLC-compliant repositories?
Multiple implementation differences in tools

We’ve been able to successfully connect our implementation to several third-party tools

A few minor tweaks were sometimes needed, especially on corner cases, not on main working scenarios
The OSLC promise holds!

Well, mostly.

Some areas don’t seem as well supported as the ‘basic’ use-case we needed:

- Reporting seems to be tool-specific, support for links to/from third-party repositories not so well supported
- Lifecycle of links when linked objects are modified on any side
OSLC | What we need to learn

OSLC Tracked Resource Set

Configuration Management

What is supported by which tool?
Publication for Capella | Roadmap in 2022

Technical rationalization with Obeo Cloud Platform
   Pre-requisite for everything else, in progress

Improve User Experience
   Improve navigation, search, delegated UI, ...

Support Model Reviews

Other topics to prioritize
   Support bi-directional link authoring
   Support IBM’s Global Configuration
   Support Tracked Resource Set
We’re beginning what looks like a promising journey...

We know where we want to go.

Now let’s see what more OSLC can do for us, and maybe what we can do for OSLC via its community?
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Capella YouTube channel: https://www.youtube.com/channel/UCfgwbb2h10V3tgJ59sbGBnQ
Capella adopters: http://www.eclipse.org/capella/adopters.html

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