Talk
Using UML and ODP for Enterprise Architecture

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www.cuml.org
Summary

Some concepts apparently missing from UML:

Joint action
Dependability
Configuration state machine
Signal
Flow
Summary

Some concepts apparently missing from ODP:

Association
Signal
A relaxed attitude

At this time, the best approach to using UML to prepare an integration specification may be to have a relaxed attitude to UML restrictions.

This is the approach that has been taken by many UML modeling tool vendors, who permit drawings that violate UML restrictions.
ISO/ IEC & ITU

The joint technical committee of ISO and IEC is considering a proposed new work item to prepare a standard UML profile for ODP modeling.

At the time of preparation of these slides, I do not have the alphabet soup that identifies the proposed new work item. I’m sure most of you are not interested. Those who are, please e-mail me. mailto:joaquin@acm.org
Quick ODP overview

For the text of RM-ODP, see

www.cuml.org/ RM-ODP
Some important ODP concepts

Viewpoint

Viewpoint correspondence

Distribution transparency

ODP function
Viewpoint

2-3.2.7 Viewpoint (on a system):
a form of abstraction achieved using
a selected set of
architectural concepts and
structuring rules,
in order to focus on
particular concerns
within a system.
Viewpoints

Enterprise
Information
Computational Engineering
Technology
Viewpoint

Enterprise Viewpoint

Information Viewpoint

Technology Viewpoint

Engineering Viewpoint

Computational Viewpoint

The System
Architecture of House

- Support Structure Model
- Exterior Covering Model
- Plumbing Plan
- Electrical Plan
- Floor Plan
Transparencies

Access transparency
Failure transparency
Location transparency
Relocation transparency
Migration transparency
Persistence transparency
Replication transparency
Transaction transparency
Functions

Management functions
- Node, object, cluster, and capsule management

Coordination functions
- Event notification, checkpointing and recovery, deactivation and reactivation, group, replication, migration, engineering interface reference tracking, transaction

Repository functions
- Storage, information organization, relocation, type, trading

Security functions
- Access control, security audit, authentication, integrity, confidentiality, non-repudiation, key management
Enterprise view

What we are specifying and why

A view of an ODP system and its environment that focuses on the purpose, scope and policies for that system.
Enterprise view

Community
- Configuration of objects
- Purpose
- Contract
- Roles
- Policies

Federation
Enterprise view

The systems to be integrated will form a larger system.

Specify the community in which this larger system plays a role.

Specify the role of each system in this community.
Enterprise language

A new enterprise language standard has just been adopted:

Recommendation X.911
International Standard 15414
Information view

Monolithic view

A view of an ODP system and its environment that focuses on the semantics of information and information processing
Information view

Specify all the information processed by the larger system
and
Specify all the processing of that information by that system
Without regard for the distribution of responsibilities
Computational view

Modular view

A view of an ODP system and its environment which enables distribution through functional decomposition of the system into objects which interact at interfaces.
Computational view

Specify an initial decomposition of the larger system with each of the systems to be integrated appearing as a single computational object.

Determine what other computational objects are needed.
Engineering view

Mechanisms for distributed interaction

A view of an ODP system and its environment that focuses on the mechanisms and functions required to support distributed interaction between objects in the system.
Engineering view

Specify the transparencies that are required.

Use the functions and structuring rules to provide the transparencies.
Technology view

Standards to be followed
Products to be used

A view of an ODP system and its environment that focuses on the choice of technology in that system.
Technology view

Of course: wherever practical and adequate, use already available and proven software to provide the needed functions.

Better yet, use proven software that reliably provides the required transparencies.
See the tutorial slides

On the same CD with these slides, you will find a somewhat larger set of slides on the same topic, prepared for the tutorial presented earlier in the workshop.

Sadly…
An apology

Due to the need to prepare for an ISO editing meeting and to work on UML 2 and MOF 2 submissions, I was unable to complete the drawings and notes for these slides before the deadline.

A complete set of slides and notes is at:

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