Current OMG Directions:

BPM, Financial Services, Software Quality

Richard Mark Soley, Ph.D.
Chairman and CEO
A Story from My Hometown

- Great Baltimore Fire of 1904
- Response from Philadelphia, Washington, New York, Virginia, Atlantic City... hundreds of firefighters
- Burned two days, 60 hectares
Standards Are Important

- Sometimes they have life-or-death consequences
- Successful standards start, maintain and build ecosystems & businesses
- Standards are product differentiators:
  - Marks of quality
  - Expertise (certification, validation)
  - Interoperability, Portability & Reuse
Heterogeneity is Permanent

- **Programming languages**
  - ~3 million COBOL programmers
  - ~1.6 million VB programmers
  - ~1.1 million C/C++ programmers

- **Operating systems**
  - Unix, MVS, VMS, MacOS, Windows (all 8!), PalmOS...
  - Windows 3.1: it’s still out there!
  - Embedded devices (mobile, set-top, etc.)

- **Networks**
  - Ethernet, ATM, IP, SS7, Firewire, USB
  - Bluetooth, 802.11b, HomeRF
The integration picture is always changing

Executive decisions, mergers & acquisitions have a way of surprising us...
Bringing Down Cost of Adaptation
OMG’s Mission Since 1989

- Develop an architecture, using appropriate technology, for modeling & distributed application integration, guaranteeing:
  - reusability of components
  - interoperability & portability
  - basis in commercially available software
- Specifications *freely available*
- Implementations exist
- Member-controlled not-for-profit
Who Are OMG?

Adaptive
AIST
Borland
Boeing
BPM Focus
CA
CSC
Ericsson
Fujitsu
Harris
Hewlett Packard
Hitachi
IBM
IHI Heavy Ind.
JARA
Johns Hopkins U.
IDS Scheer
Kennedy Carter
MITRE
Mitsubishi
Mitsubishi Electric
NIST
NTT Data
NTT DoCoMo
Northrop Grumman
OASIS
Oracle
SAP
SAS Institute
SEC Co.
Select Software
Siemens
Soluta.net
Technologic Arts
Toshiba
Toyo U.
UMTP
Unisys
VHA
Visumpoint
W3C
Zeligsoft
OMG’s Best-Known Successes

- Common Object Request Broker Architecture
  - CORBA® (and the DDS™ Publish/Subscribe model) remains the only language- and platform-neutral interoperability standard

- Unified Modeling Language
  - UML® the world’s mostly widely adopted standard modeling language

- Common Warehouse Metamodel
  - CWM™, the integration of the last two data warehousing initiatives

- Business Process Modeling Notation
  - BPMN™ widely adopted for business analysis

- Meta-Object Facility
  - MOF™, the language-defining language

- XML Metadata Interchange
  - XMI™, the XML-UML standard
OMG’s Breadth of Standards

Besides key modeling, distributed computing & realtime/embedded standards, OMG develops standards in:

- Healthcare
- Financial Services
- Telecommunications
- Government
- Military Logistics
- Manufacturing
- Robotics
- Systems Engineering
- Military Communications
Building Ecosystems
Future of the IT Department

- The successful 21st century organization will no longer have an « IT » department
- IT’s success means moving from « partnership » and « alignment » to an integral part of the business organization
- Our role: recognizing, precisely defining, capturing, storing, reusing and optimizing business processes
- Removing waste: take out the trash!
- Optimization is a precursor to innovation
Introducing Business Ecology

- Business Ecology Initiative recognizes that
  - IT as a support organization is a dead-end and short-term solution
  - The IT organization must evolve into part of (not just a partner of) the business, with a focus on minimizing waste across all processes that implement business capabilities
  - No-one knows more about the operations of the *whole business* than the IT organization, so...
Introducing Business Ecology

- ...the IT organization of the future will be the key focus of business process
  - Definition
  - Governance
  - Reuse
  - Optimization
Two Specific Projects

- Model Driven Message Interoperability (MDMI)—dealing with financial services integration in a heterogeneous world
- Consortium for IT Software Quality (CISQ)—dealing with the lack of standardization in software quality service level
- Both are aimed at optimizing the enterprise and providing consistent, provable, integrated systems in a world of risk & regulation (think SOX!)
Messages Proliferate

- For any given domain of inter-corporate, automated intercourse, there are already dozens (or even hundreds) of message formats.
- A great example: financial payments
  - ISO 15022, ISO 20022
  - SWIFT FIN, MT
  - US Federal Reserve (FedWire)
  - Related financial instrument trading (FIX, IFX, TWIST, FPML)
- The problem is precisely the same in other domains
  - Healthcare Records, Energy Trading, etc.
- The classic standards problem: N+1 formats
Modeling Comes to the Fore

- Model-driven & model-based solutions have changed the way information models are captured.
- Common languages (like UML and BPMN) have quelled the proliferation of notations & methodologies.
- More than 70% of all software development groups now use UML.
The Communications Problem

Description of System A

System A

Description of System B

System B
Modeling At Many Levels

- Description of System A
- System A
- Automated Translation
- Description of System A
- System B

Shared Model
Why Model Systems

- Lower initial cost
- Lower runtime cost
- Lower *transition* cost
- Higher maintainability
- 90% of all software lifecycle costs are in the maintenance & integration stage—so why not focus there?
Why MDMI?

- Already proven in one major high-transaction-rate financial services setting (VISA), with support from multiple vendors & users
- Supported by an open, neutral, international standards process and an open, neutral prototyping organization (MDMI Consortium) for new use cases
- Leverages open ISO standard dictionary and open to extension with other dictionaries (even in totally different settings, like energy trading & healthcare)
- Directly supports multiple syntaxes for messages
Regardless of methodology & approach, the biggest problem in IT today is inconsistent and unreliable software quality.
Why CISQ?

Industry needs software quality measures:
- Visibility into business critical applications
- Control of outsourced work
- Benchmarks

Current limitations:
- Manual, expensive ➔ infrequent use
- Subjective ➔ not repeatable or comparable
- Inconsistent definitions ➔ burdens usage
CISQ Vision

- In 2011, there will be an open, neutral, objective standard for measuring the quality of software code based only on the code itself.

- In 2011, there will be a recognized, international, neutral authority that licenses individuals trained to apply the above standard in software quality analyses and provide related software quality services.

- In 2011, there will be an international market of software quality metrics products supporting the standard widely available from multiple vendors.
Initial CISQ Objectives

1. Raise international awareness of the critical challenge of IT software quality

2. Develop standard, automatable measures and anti-patterns for evaluating IT software quality

3. Promote global acceptance of the standard in acquiring IT software and services

4. Develop an infrastructure of authorized assessors and assessment products for evaluating the quality of IT software
The CISQ project is developing an OMG standard defining computable measures and anti-patterns to be used for evaluating multi-tier IT application software:

- Establish a computable software quality standard for IT applications with scoring guidelines
- Recommend measurement thresholds against which minimally acceptable levels of quality and other attributes of business application software can be assessed.
- Develop baselines for benchmarking application quality, productivity, cost, and other attributes across application domains and industry segments.
- Conduct case study research with consortium sponsors validating application metrics and their business value.
- Provide a source of application measurement expertise to consortium sponsors.
Deployment

Promote global acceptance of the standard in acquiring IT application software and services:

- Establish industry consensus on the use of an IT application quality standard as a component of the acceptance criteria for contracted/supplied software
- Develop guidance for incorporating IT application quality criteria in contractor/outsourcer/vendor contracts
- Collect information/data on the use of IT application quality criteria in contractor/outsourcer/vendor contracts to improve their definition and use
Who Manages CISQ?

- Partnership of the Software Engineering Institute of Carnegie Mellon University and Object Management Group
- Bringing together executive requirements for software quality measures with technical standardization
- Supports the needs of software buyers to measure what they’re buying
- Supports the needs of outsourcers, systems integrators & other software developers to prove their quality level
- Sufficiently concrete & automated to be used consistently and widely
To Get More Information

- OMG General Information
  - http://www.omg.org/

- Business Ecology Initiative

- OMG Software Quality Initiative
  - http://www.omg.org/cisq/

- Model Driven Message Interoperability
  - http://www.omg.org/mdmi/

- Contact the Author
  - soley@omg.org