

# Delivering Business Value with Modeling and Service Orientation: The Lean, Green Business

Richard Mark Soley, Ph.D.  
Chairman and CEO, OMG  
Executive Director, SOA Consortium



# What are you doing?

1. I am using Service Oriented Architecture (SOA)
2. I am using Business Process Modeling (BPM)
3. I am using Model Driven Architecture (MDA)
4. My business is a lean, green, fighting machine!
5. I don't need that newfangled stuff, sonny
6. I don't know what the heck you're talking about



# Service Oriented Architecture

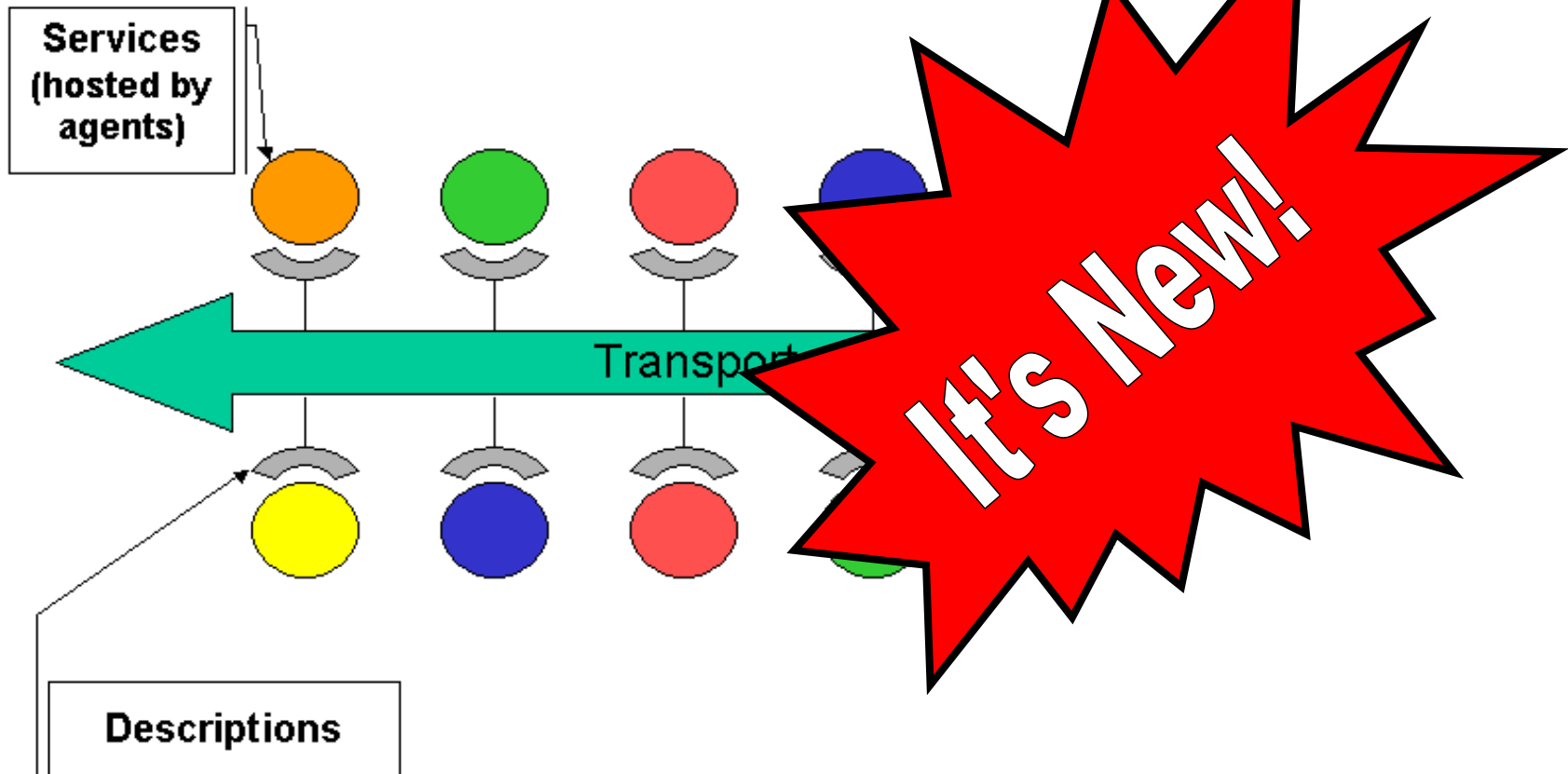
Wikipedia says:

*"...a perspective of software architecture that defines the use of services to support the requirements of software users. In an SOA environment, resources on a network are made available as independent services that can be accessed without knowledge of their underlying platform implementation."*

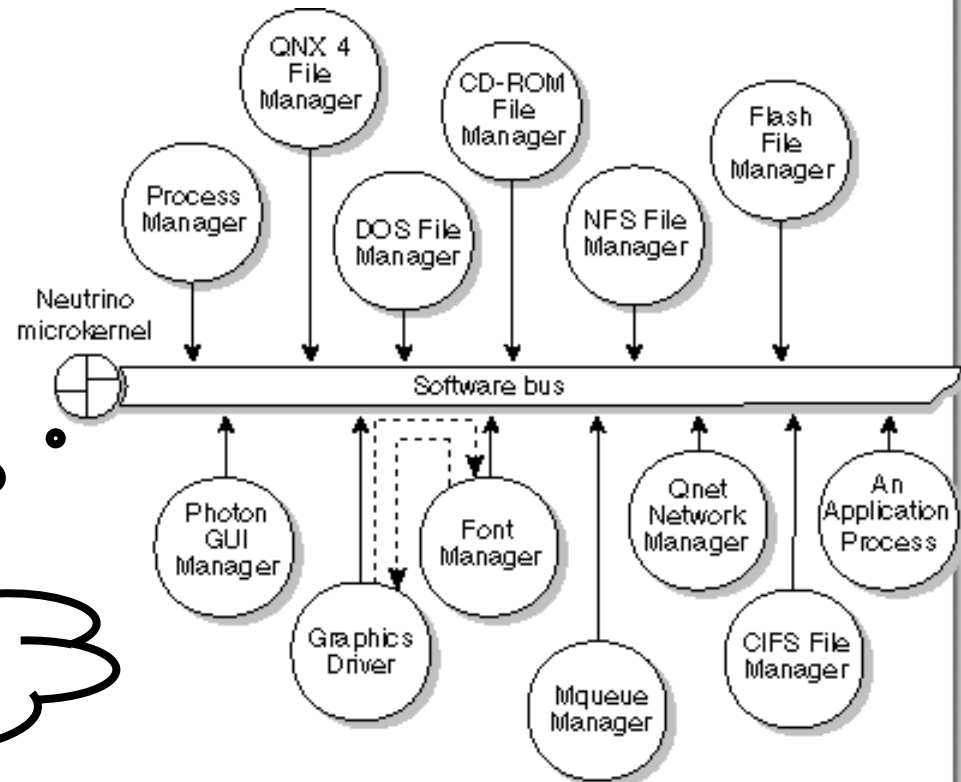
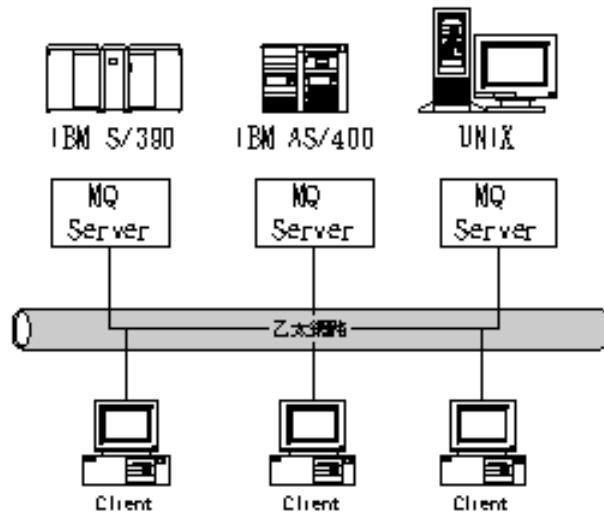
# SOA Solves All Our Problems?

- InfoWorld: *Desperately Seeking SOA* (Alan Zeichick, 30 December 2004!)
- Zapthink: *Why is SOA Taking So Long?* (October 2005)
- Gartner 18 July 2006: SOA is entering the “trough of disillusionment”

# Service Oriented Architecture

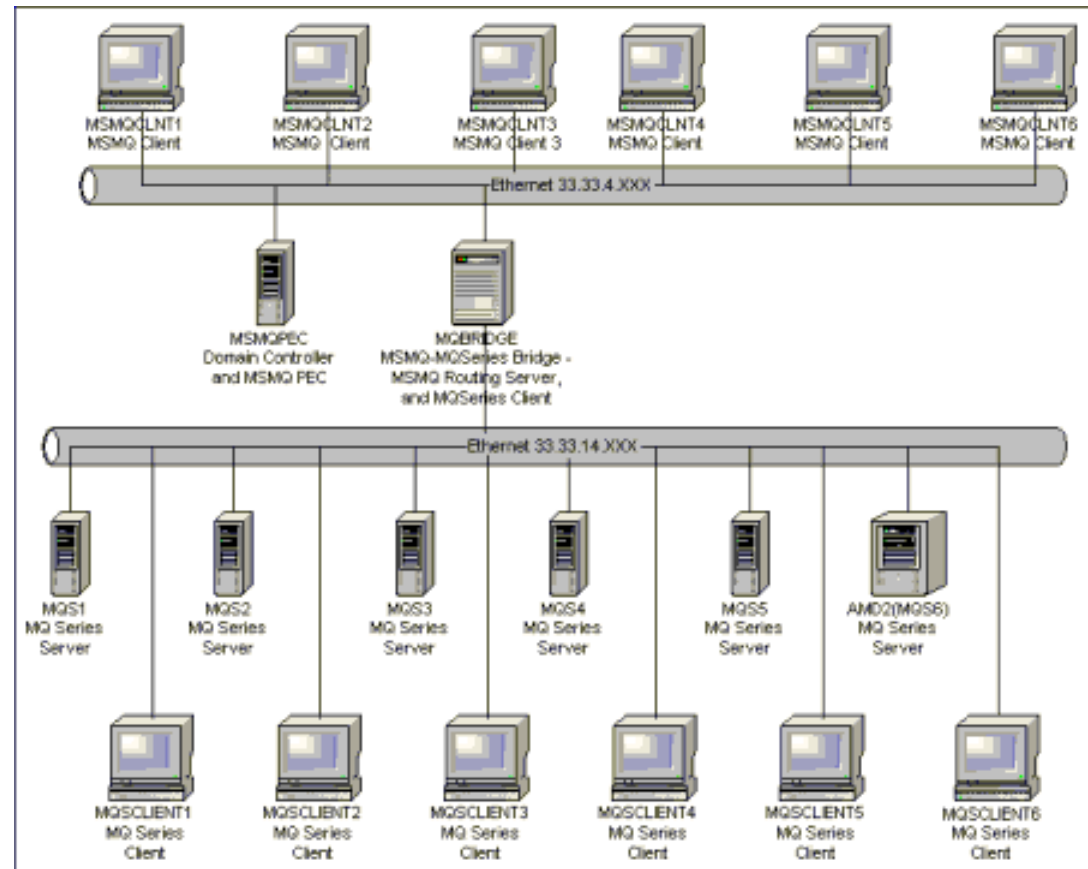


# Remember MQSeries?

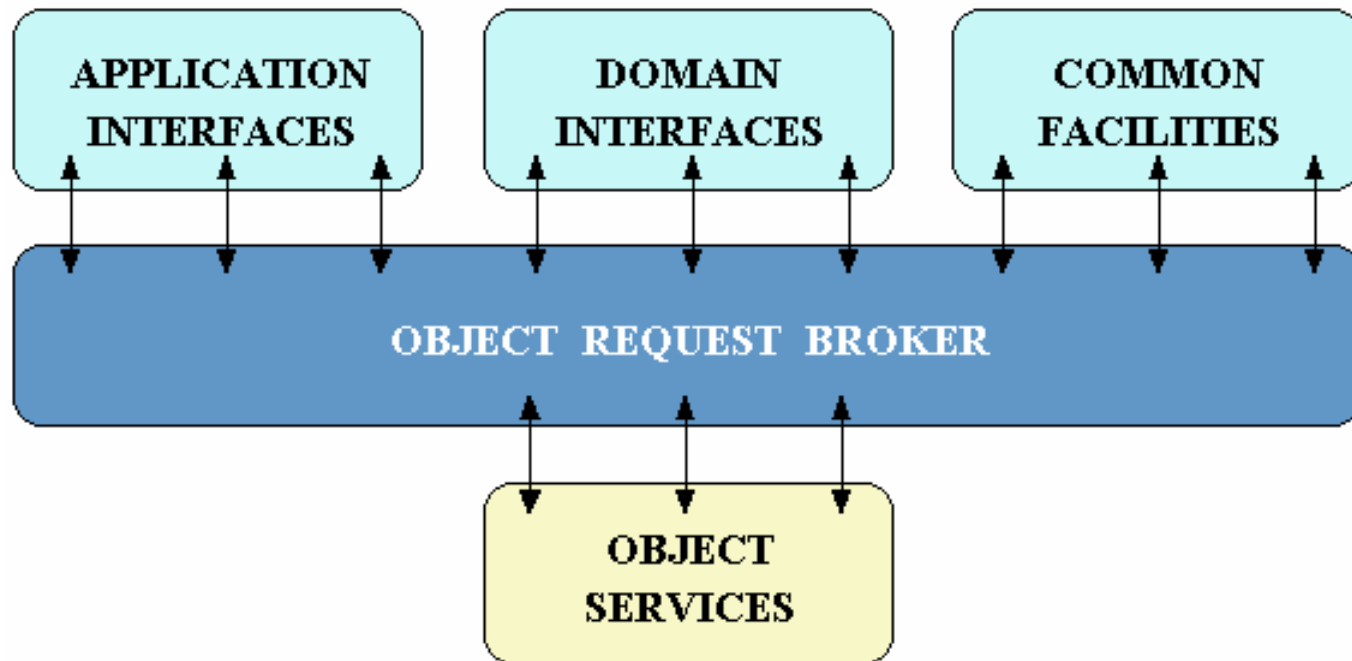


How about QNX?

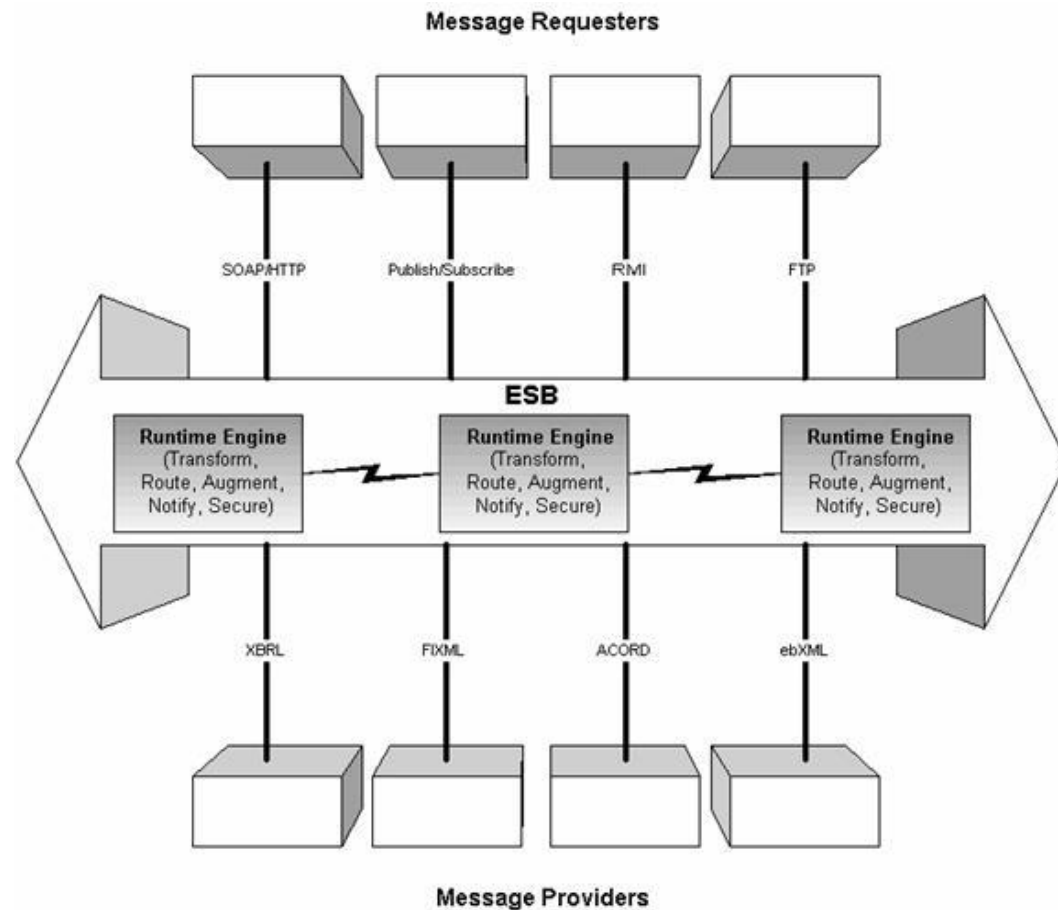
# ...or MSMQ?



# A Little Bit of OMG History...



# Now Here's the *Next Best Thing*



# There You Go Again!



“Hey Doc, it hurts  
when I do this!”

# Here's a Thought...

Perhaps we should focus on

- agility
- reusable design
- performance metrics
- *expected change.*



# Focus for 2009-2010

- In a bad economy, it pays to be *lean*
  - Survive to fight another day
  - Keep your best staff
  - Emerge stronger than ever before
- Does it pay to be *green*?
  - Where is the ROI?



# So What is SOA?

1. The latest pointless IT industry hype
2. A cool technology for building distributed systems on the Web
3. Web Services technology for integrating my applications
4. A business strategy for increasing the efficiency & agility of my company

# Introducing SOA Consortium

“The SOA Consortium is a new **SOA advocacy group** comprised of end users, service providers, and technology vendors, committed to helping the Global 1000, major government agencies and mid-market businesses successfully adopt SOA by 2010.”



The SOA Consortium is a time-boxed organization, with an end date of 2010—and a proven success.



# SOA Consortium Foundational Premises

1. SOA adoption is a key enabler for the 21st century enterprise
2. Achieving the benefits of SOA requires significant changes for both IT and business executives
3. SOA is perceived by business executives as an IT integration and productivity story, but is really a business agility story
4. Enterprise SOA practitioners would greatly benefit from a vibrant practitioner community to drive local, business-driven, SOA success, and to spur broader enterprise, and industry-wide, SOA adoption.

# SOA Consortium Mission

“Promote and enable business agility via Service-Oriented Architecture to allow businesses to compete, innovate & thrive.”



# SOA Consortium Vision/Goals

“In 2010...

75% of the Global 1000

75% of Major Government Agencies

50% of mid-size businesses

...self proclaim SOA Success.\*

\*SOA success is defined in terms of business value generation, business agility, IT agility, IT productivity, and business and IT collaboration.

# Some Comments

“I told my executive team, don’t worry about SOA.  
It’s just an IT infrastructure productivity tool.

You don’t need to know.”

– Travel CIO at start of Summit

“Well, I learned something. You actually changed my  
mind on something.

How SOA is not just an infrastructure productivity  
tool for IT, so you guys pretty much convinced  
me, which is really great.”

– Travel CIO at end of Summit

# SOA and BPM are One Strategy

**“SOA, BPM, Lean, Six Sigma are all basically one thing (business strategy & structure) that must work side by side” - CTO**

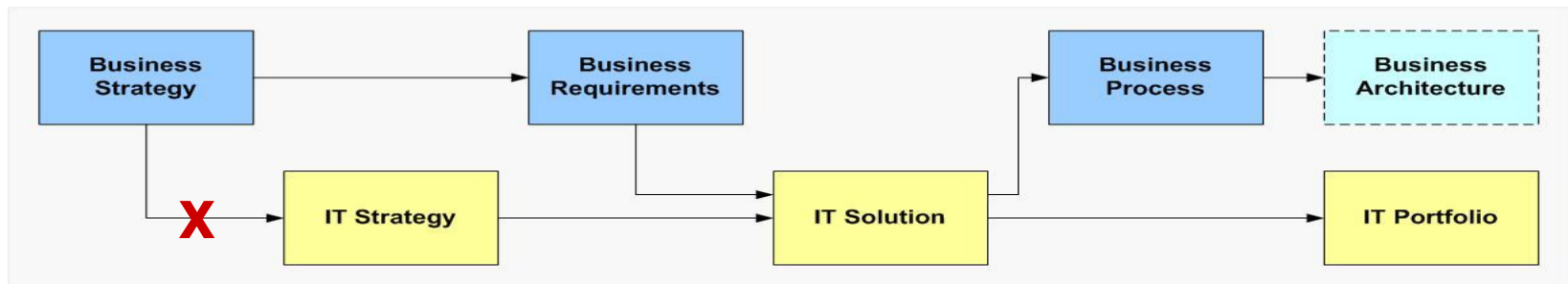
The only way we can be efficient & agile is to ensure that business processes can be

- recognized
- precisely captured
- categorized & stored
- found & reused
- made more efficient



# Success Requires Business and IT Collaboration

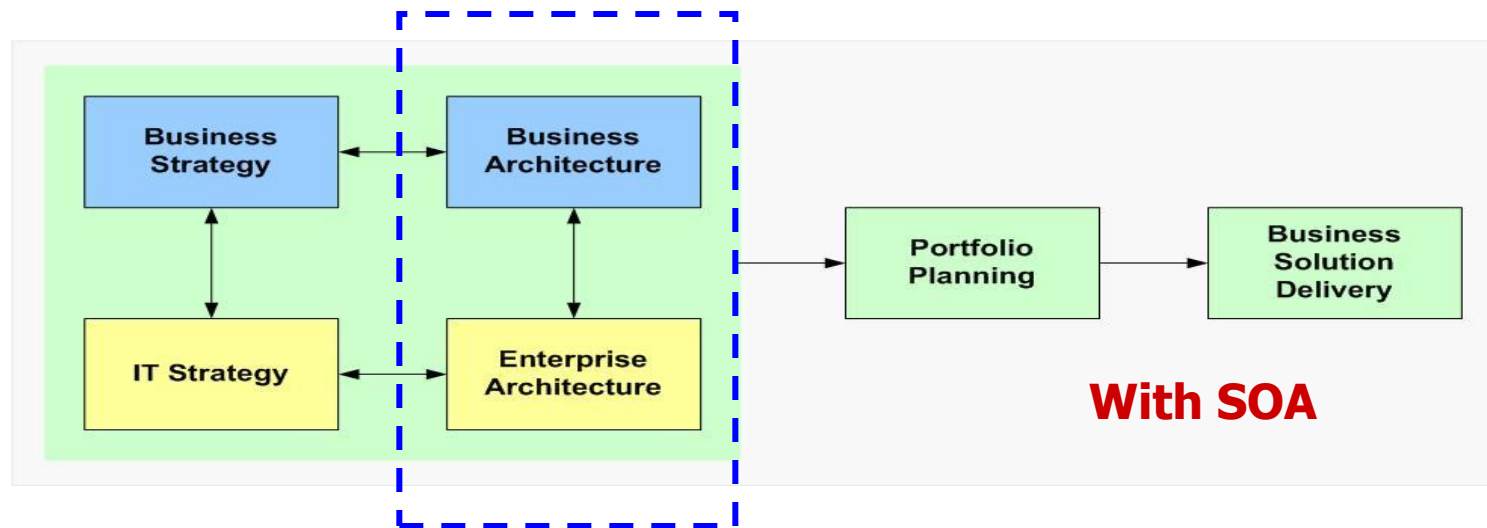
*Achieving the benefits of SOA requires significant changes for both IT and business executives – SOA Consortium Premise 2*



**Before SOA**

# Success Requires Business and IT Collaboration

*Achieving the benefits of SOA requires significant changes for both IT and business executives – SOA Consortium Premise 2*



**“Enterprise Architecture Discipline”**

# SOA is Game Changing for Application Providers

"We're going to completely change the IT execution model, it'll be based on SOA principles..."

I'm not going to build any more monolithic applications. I don't even want to buy any more monolithic applications.

I want to use SOA to de-customize the ones I have spent the last 8 years customizing."

# SOA is Game Changing for Application Providers

“SOA fundamentally enables a change in the marketplace.

The way we buy software today is changing and we are not going to buy software in the future.

We are going to subscribe to services and you are going to deploy those services to develop and deploy your next generation applications.”

- CIO on future of applications

# SOA is Game Changing for Application Providers

## Where will Services Come From?

- Internally Built, Exposing Existing Functions and Data
- Packaged Software with a Service-Oriented Architecture
  - Buy “application platform”, Services are Free
- Service Bundles from Software Providers
- Service Subscriptions from “Service Grid/Marketplace”
- Open Source - Common Services (Customer Creation)

**They are in fact our business capabilities!**

# What About Standards?

- SOA Standards world is a huge mess
  - Confusion about “low SOA” vs. “high SOA”
  - Over 440 XML standards groups
  - Even the basics of “low SOA” are managed by too many groups: W3C, OASIS, WS-I
  - Architects & developers need protection from constant churn of the SOA IT support infrastructure
- OMG focused on two directly-relevant areas
  - Business Process Management & Modeling
  - SOA Modeling

# 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?



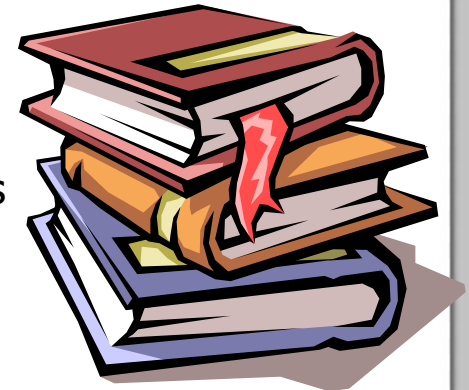
Accenture	Fach. Vorarlberg	NASA	Select Software
Altova	France Telecom	NEC	SELEX
Artisan Software	Fujitsu	NIST	Siemens
AT&T	Hewlett Packard	NTT DoCoMo	Sparx Systems
Borland	Hitachi	Northrop Grumman	SWIFT
Boeing	IBM	OASIS	TCS
CA	Inst. Tech. Inf.	Oracle	Unisys
Deere & Co.	Mentor Graphics	Progress	U. of Kent
Deri Int'l.	Microsoft	SAP	U. Bologna
Ericsson	MITRE	Satyam	



**W3C**

# OMG's Best-Known Successes

- Common Object Request Broker Architecture
  - CORBA® remains the only language- and platform-neutral interoperability standard
- Unified Modeling Language
  - UML™ remains the world's only standardized OO modeling language
- Common Warehouse Metamodel
  - CWM™, the integration of the last two data warehousing initiatives
- Meta-Object Facility
  - MOF™, the language for defining languages
- XML Metadata Interchange
  - XMI™, the XML standard for MOF-defined languages

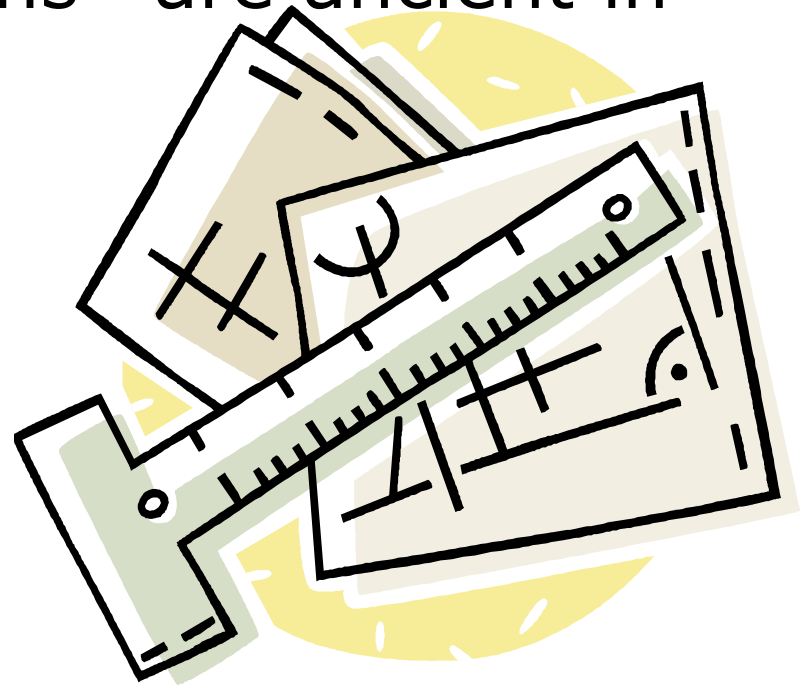


# Gartner on Modeling

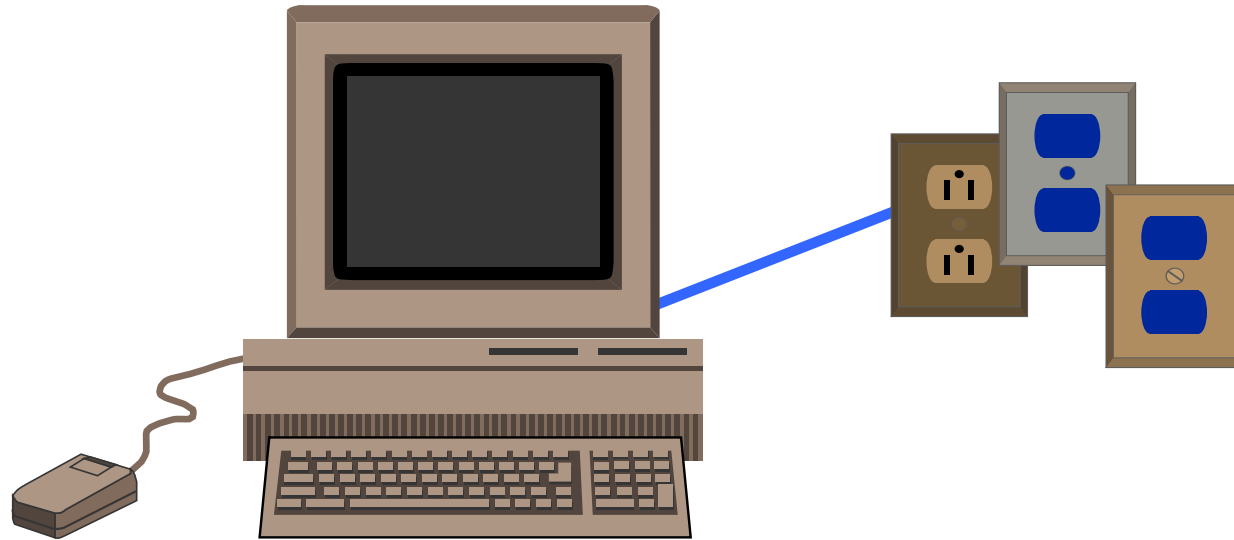
- “Organizations implementing SOA’s should pay close attention to the MDA standards and consider acquiring tools that automate models and rules.”
- “By reinforcing the business-level focus and coupling MDA’s with SOA concepts, you end up with a system that is inherently more flexible and adaptable.”

# People Share Design with Models

- Models—abstractions—are ancient in
  - Engineering
  - Architecture
  - Ship-building
  - Traffic control
  - Workflow
  - Maintenance
  - ...



# What is the *real* integration issue?



*The Global Information Appliance*

# Not too bad for electrical power



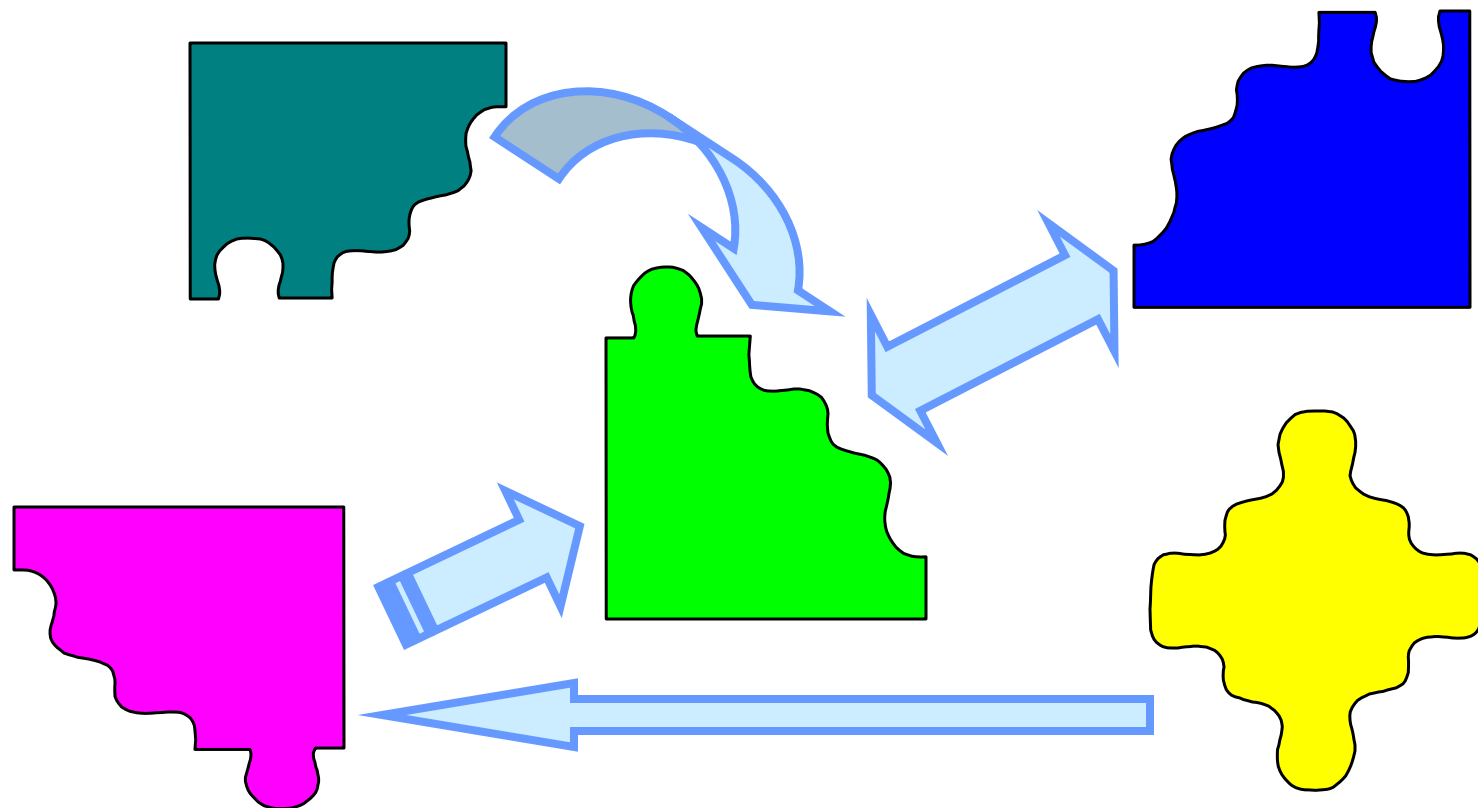
# ...but a mess for telephony!



# 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...*

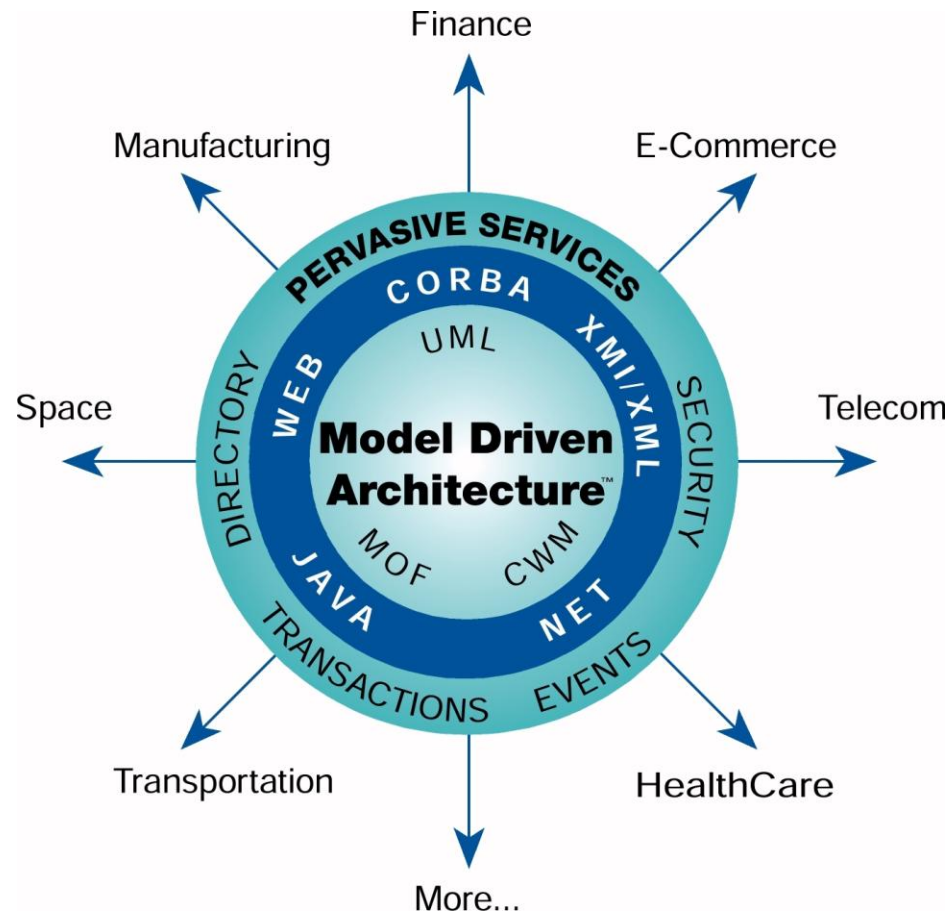
# The Model Driven Architecture

- OMG's *Model Driven Architecture* (MDA™) initiative is aimed precisely at modeling "up and down the stack"
- You have an opportunity to increase your bottom line by *integrating your assets*
- Industry standards support that goal by future-proofing your application design
- The MDA will help you integrate the mix you have today, and give you an architecture to support the unexpected
- Focus on integrating legacy applications
- Ensure smooth integration of COTS applications
- Models are *testable* and *simulatable*
- The aim: *a 20-year software architecture*

# Modeling: Key Concepts

- Emphasis on *transformation techniques*
  - Based on a standard metamodeling framework; there will be many metamodels, and plenty of modeling languages (including UML)
  - Clear semantics, expressed consistently
  - Potentially many levels of abstraction
- *Enduring architectures* are the focus
  - Maintenance and integration aren't pretty, but they are the main job of IT
- Graphical languages as well as textual ones
  - Some generic, some domain-specific, just like the textual language world

# Model Driven Architecture



# Swisscom Case Study

- Project Management & Reporting tool eDASECO used company-wide
- New business process cost 3-4 months (2-3 months if using existing interfaces)
- Manual testing, documentation & implementation extremely error-prone
- New implementation time *30 minutes* and included automatically generated documentation & testing

# SWIFT Case Study

- One of the world's largest financial payments organizations (15 million messages/day)
- MT messages no longer fit for purpose; consensus for new XML message format but didn't want to have to retool again in the future
- Settled on model-driven process based on UML and codified by ISO 20022 (UNIFI)
- Layered OMG MDMI specification automates message transformation

## Large French Transportation Company

- Separated “architect” and “developer” roles
- Based on Eclipse UML tools and OMG EDOC standards
- Generated to WebSphere and JBOSS
- 100% code generation for technical code, persistence & confirmations
- 50% reduction in developer’s time
- Still missing the link from BPM to models

# BPMN: An Example of MDA

- BPMN was designed to bridge the gap between business process design and process implementation
  - To support both abstract and executable processes: not just automation
- BPMN is supported by more than 40 vendors
  - Process engines support BPMN natively
  - Tools map BPMN to BPEL and other execution languages
  - Also in use by BPM practitioners in the end user community
- Allows precise definition of business process to implement required capabilities

# Circling Back: SOA, BPM & MDA

- Service Oriented Architecture (SOA) is an *executive decision* that requires commitment to discovering, mapping, and executing repeatable processes
- Business Process Modeling (BPM) is a requirement for mapping, executing and *measuring* repeatable processes
- Model Driven Architecture (MDA) is a way to share concepts, designs and languages in a world of constantly changing infrastructure and requirements
- Tools supporting that stack are in use *today*.

# What about *lean and green*?

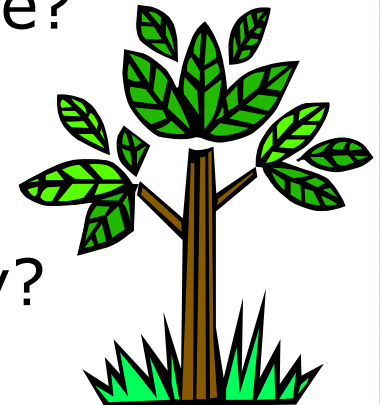
- Remember our focus for this economy
  - *Discover & document our business processes*
  - *Understand our business processes*
  - *Reuse our business processes*
  - *Optimize our business processes*
  - *...including optimization on the "green axis"*

- Community to promote and assist with enterprise sustainability through information technology
- Standardized definitions and measurements for “going green”
- Case study sharing, ROI and TCO experiences and results of analysis
- Education on sustainability and relationship to other industry directions such as BPM, Cloud, etc.
- Standard maturing model work - customer driven auditing
- *Not just the data center...*
- *...the entire enterprise.*



# Green Business Maturity Model

- A formal industry standard way to define, assess and monitor how *green* an organization is does not exist
- Addresses sustainability questions:
- What is a green business process?
- How do we assess how “green” we are?
- What is the level of maturity?
- What are the *dimensions* of *green*?
- How do we monitor, govern & comply?



# Checking: What Do You Think?

1. Just more hype, Richard, sit down
2. Maybe there's something to this
3. Green was for last year, I can't afford it
4. I am already doing SOA, BPM & MDA; I slept through the talk



# More Information

- Interested in the SOA Consortium?  
<http://www.soa-consortium.org/>
- Interested in Green Business?  
<http://www.gcio.org/>
- Interested in Standards?  
<http://www.omg.org/>
- Didn't get to ask your question?  
soley@omg.org

