The Birth of SCA/SDO and its Significance to SOA

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29 May, 2007

Open Service Oriented Architecture

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Agenda

- Innovation and Standardization
- Collaborations Produce Standards that Enable New Markets
  - Java™ Enterprise Edition (J2EE)
  - Web Services (WS-*)
- The Open SOA Collaboration
- SCA/SDO and the growth of the SOA Market

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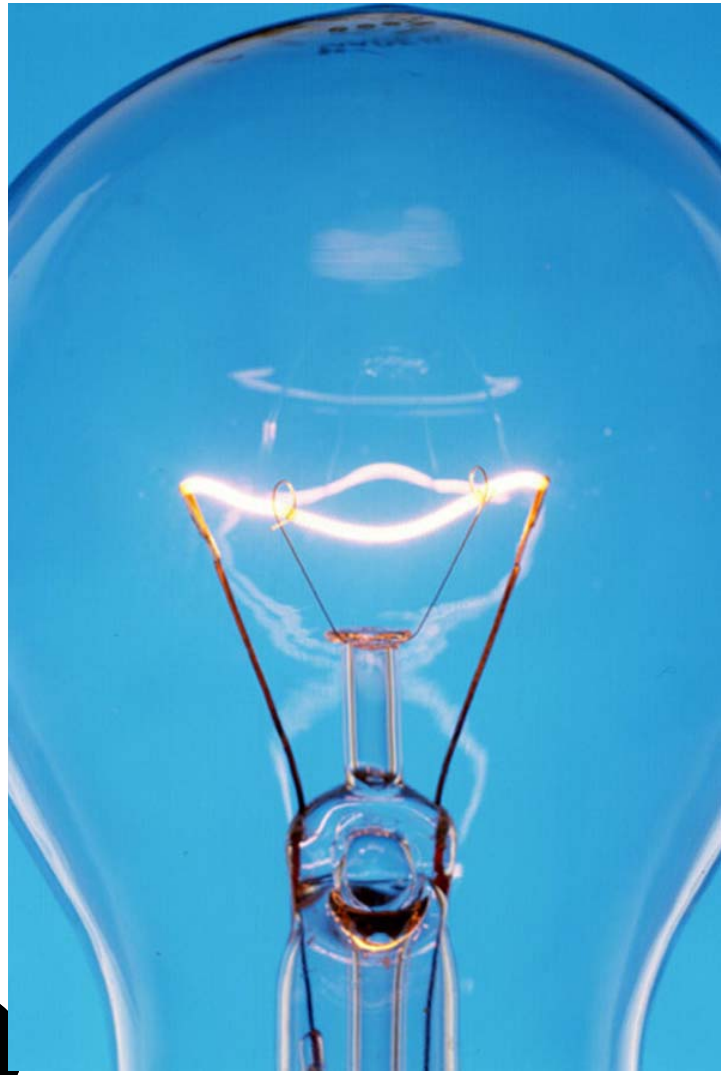
Innovation comes from multiple sources

- Research
  - Academia
  - Industry
  - Analysts
- New technologies
- Product Development
- Standards which enable new Markets

The quality of the innovation is more important than the source.



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Evolution of IT Standardization

- National Standards Bodies
  - Long standardization cycles
  - Very broad focus
  - Wide range of participants (industry, academia, ..)
  - Often produced standards at the end of a technology's life cycle
- Industry Consortia (beginning in the late 1980s)
  - Shorter standardization cycles
  - Narrower focus OMG (1989), OASIS (1993)
  - Participation tends to be more limited to industry
  - Can suffer from lack of real world experience
- Industry Collaborations (beginning in the mid-1990s)
  - Focus on standards that enable new markets
  - Small number of participants
  - Iterative model (innovate, implement, standardize)

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Why Collaboration is Important

- Single vendor solutions are viewed as proprietary
  - Customers demand choice
  - Customers resist vendor lock-in
- New markets need time to coalesce
  - Multiple solutions lead to market fragmentation
  - Building an ecosystem is essential for success
    - Skilled developers
    - Tools, books, etc.
- Standards accelerate the growth of the market
  - Enhance interoperability and/or portability
  - Low switching costs encourages early adopters
  - Opportunity for individual vendors is larger

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Forms of collaboration

- Need for innovation
  - New area of activity
  - Need for rapid progress
  - Need for market testing of work (iterative development)
- Standards bodies not good place to start
  - Charters limit the scope of the effort
  - Intellectual property policies often constrain early implementations

The New Standards Development Model

- Innovate
  - Analyze the problem space
  - Create initial specification(s)
  - Iteratively modify and extend
- Implement
  - Create code that implements the specifications
  - Solicit feedback from early implementers and customers
  - Use experience for additional innovation
- Standardize
  - When sufficiently mature and coherent
  - Submit to standards body with explicit charter
    - Fewer new features
    - More work on conformance and interoperability

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Example 1 – Java 2 Enterprise Edition™

- Technological Innovations
  - The Internet
    - Lower cost communications
    - Ubiquitous connectivity
  - Java™ Programming Language
- Business Opportunity for Application Infrastructure
  - Internet for Electronic Commerce - ***eBusiness***
  - Emergence of the Browser
  - Diversity of hardware and operating systems
- Sun (and partners) create J2EE™
  - Consolidated the application server market
  - Provided customer choice with low switching costs
  - Allowed multiple vendors to compete with compatible implementations

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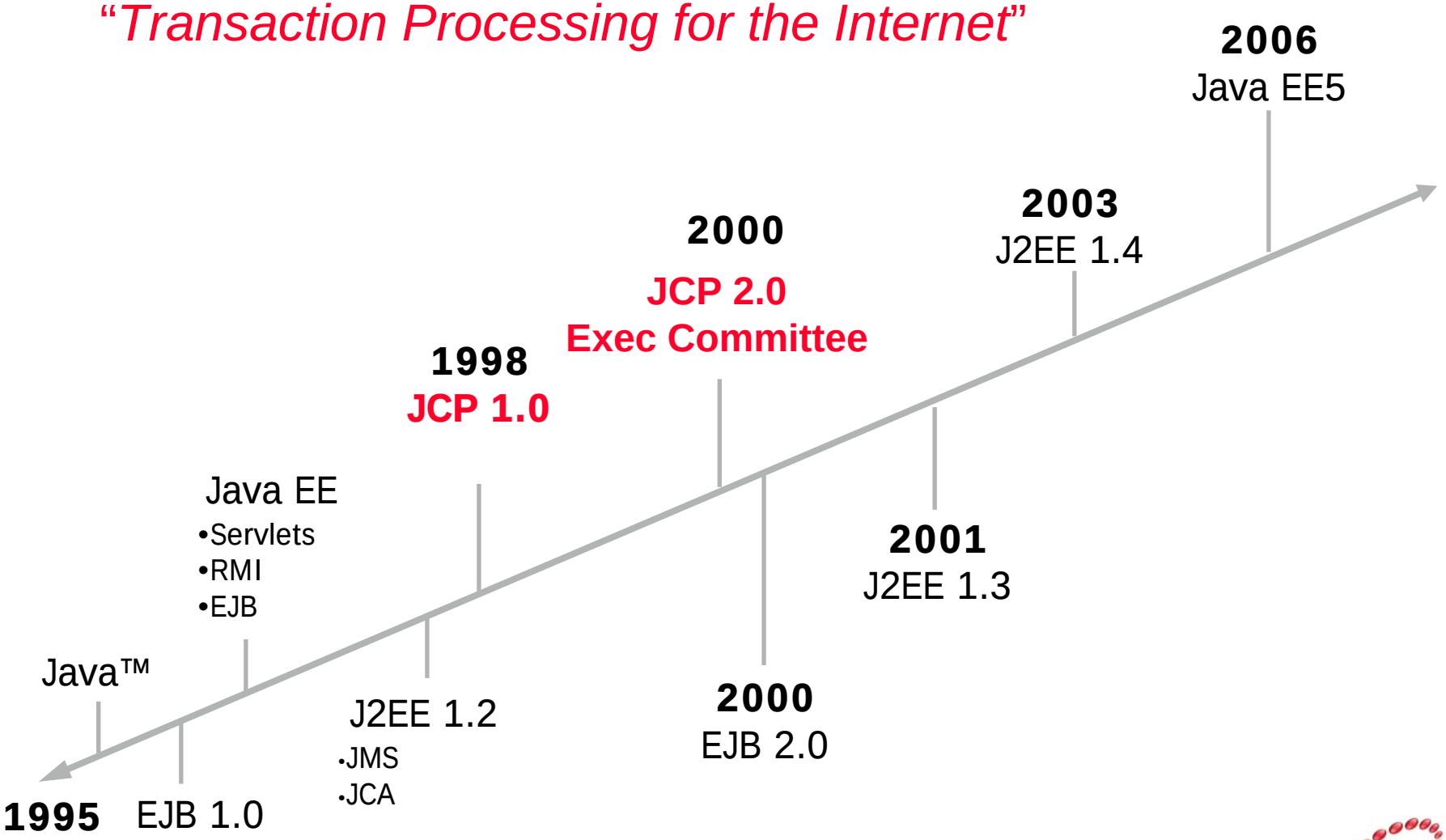
Java Enterprise Edition Roadmap

"Transaction Processing for the Internet"



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Example 2 - Web Services Protocols (WS-*)

- Technological Innovations
  - The Internet
  - J2EE and .NET
- Business Opportunity for Interoperability
  - Market had two dominant technologies
  - Many customers had both and demanded interoperability
- IBM and Microsoft (with partners) created WS-*
  - Basic Infrastructure
  - Security
  - Metadata
  - Management
  - Business Process Management
- Approach to Standardization
  - Publish Specifications
  - Interoperability events among participants
  - Submit to standards body

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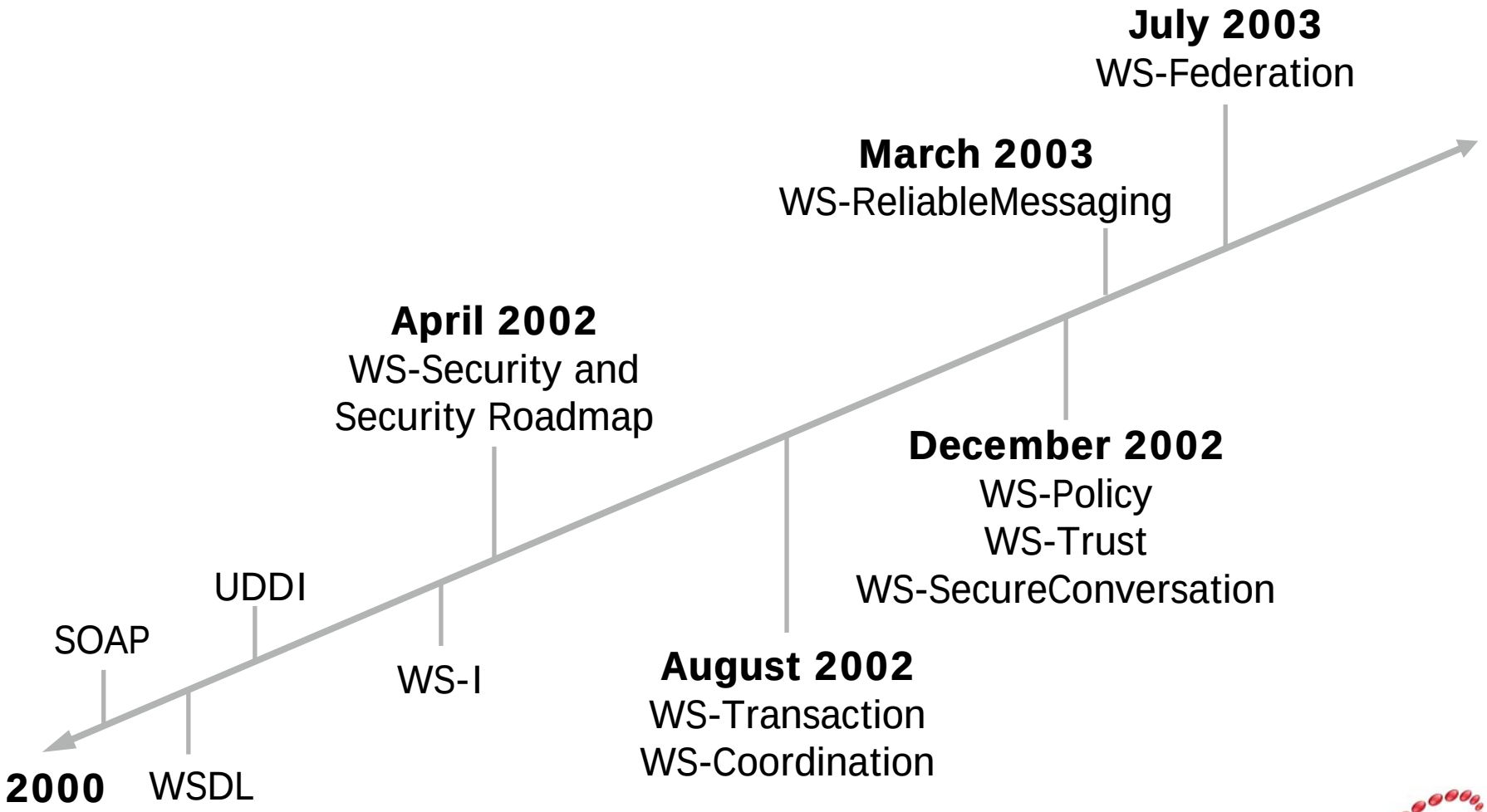
Web Services Collaboration Roadmap

"Secure, Reliable, Transacted Services"



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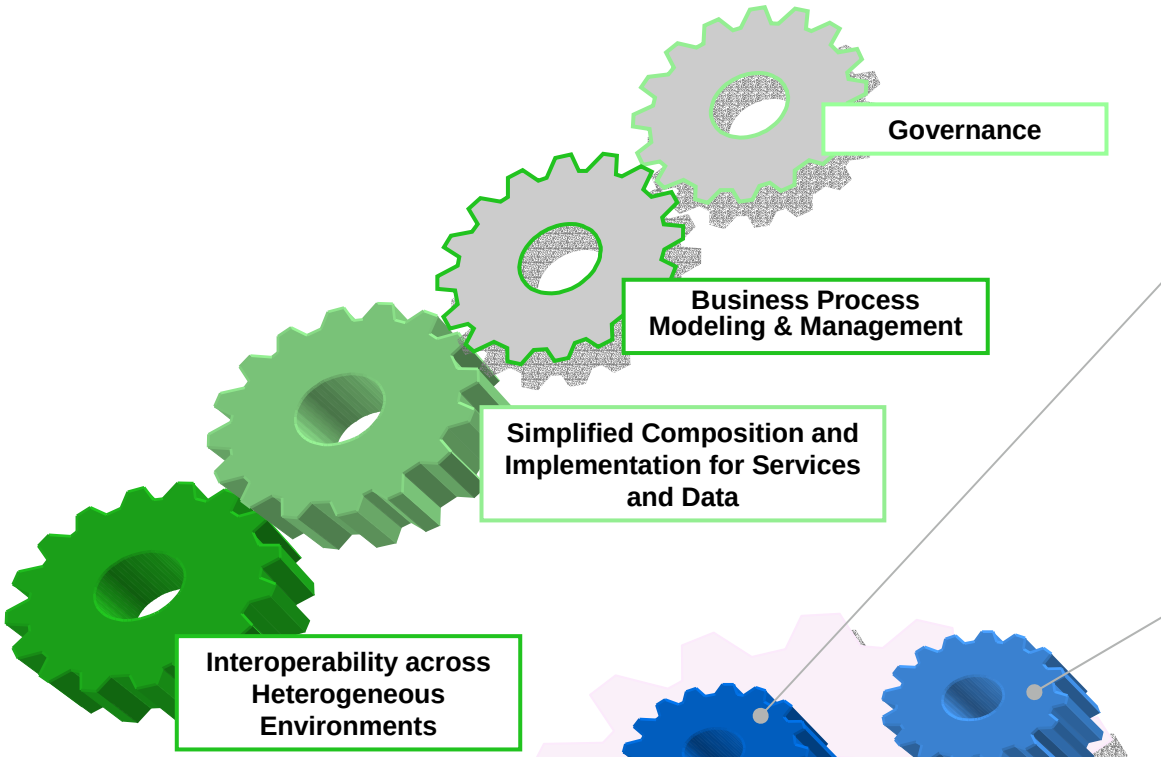
The Open SOA Collaboration

- A partnership for SOA Standards essential to the Service Infrastructure Market
  - Meta-data for Service Assembly
  - Client & Implementation Model for Service Authoring
  - Framework for Quality of Service and Transport at deployment time
- Modeled on the Web Services Collaboration with enhancements
  - An Apache Open Source Project for runtime (Tuscany)
  - An Eclipse Tools project (STP) for new development tools
  - Not all partners involved in all efforts

Elements of the SOA Programming Model



Integration

SCA Binding & Policy Model

- Expose components as Services regardless of underlying technology

Development

SDO - Service Data Object

- Makes it easy to manage data exchange across services with heterogeneous data formats.

SCA Client and Implementation Model

- Simplify implementation of business services by focusing on business logic not on infrastructure.

Assembly

SCA Assembly Model

- Assemble heterogeneous components into service networks

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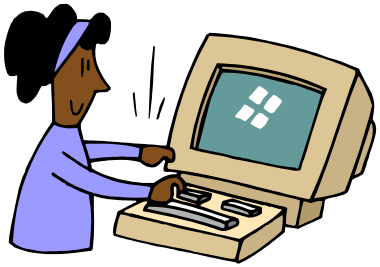
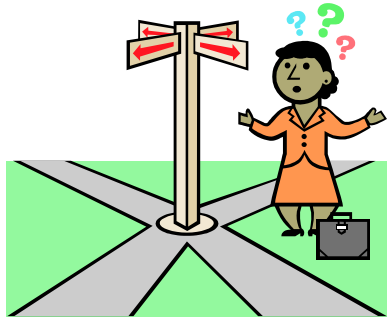
Collaboration Approach

- Specifications developed in “semi open” fashion
  - Specialized working groups
  - Regular publication and feedback
  - Royalty-free license to implement published specifications
- Parallel implementation efforts
  - Multiple open source efforts
  - Collaboration partners do product development
  - Other implementations encouraged
- Feedback processes
  - Feedback license to protect Royalty-free status
  - Input from multiple sources
    - specification review
    - other implementers
    - open source projects



Working Group Methodology

- Working group responsible for one or more specifications
  - Each group had a chair and one or more editors
  - Mailing list
  - Regular conference calls
  - Issues lists for each specification
  - Dependencies between specifications carefully tracked
- Proposals created individually or jointly
- Decisions
  - Consensus (typical on conf calls, or by email)
  - Formal vote (by company) if no consensus
  - Escalation procedure defined (but never used)



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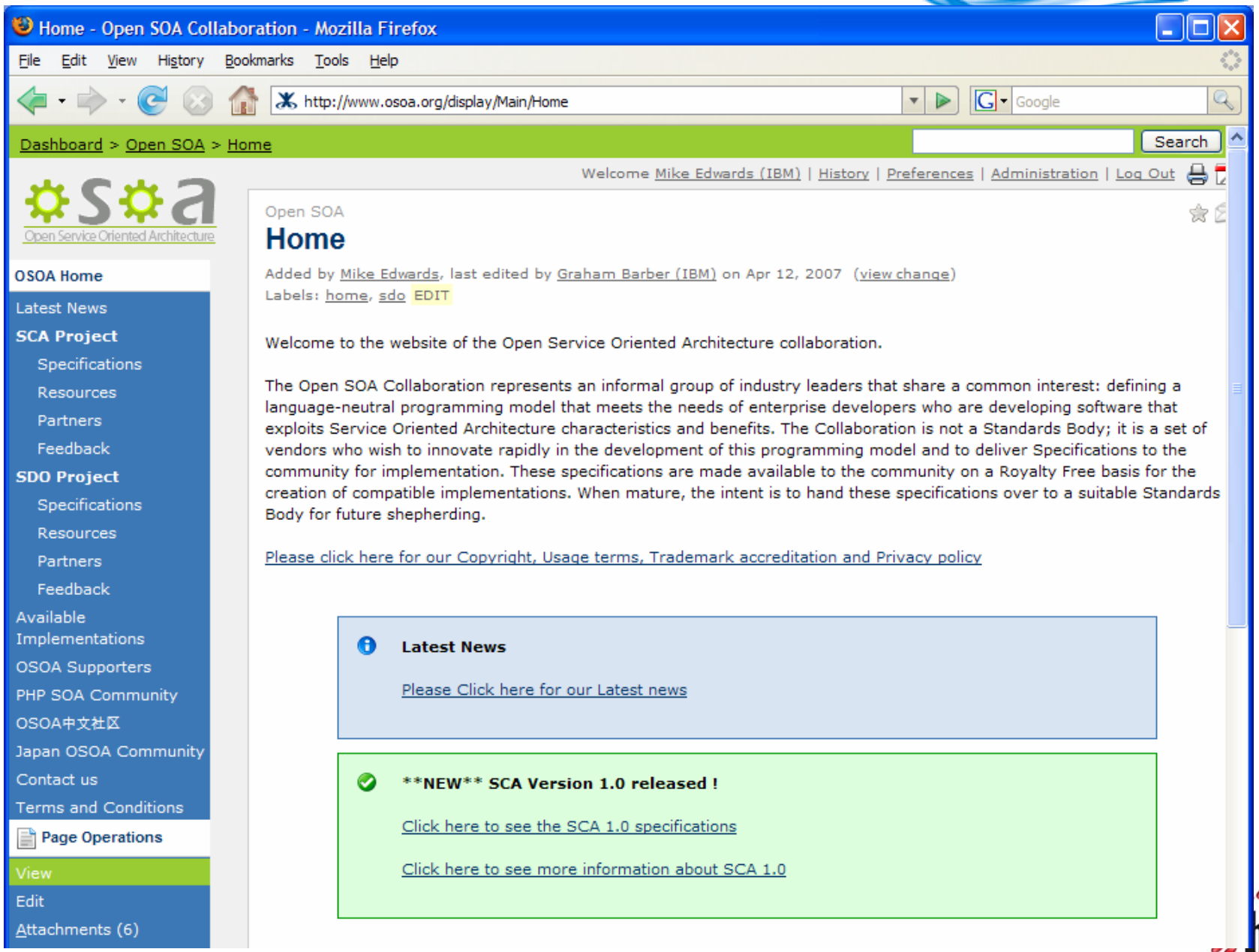
The Public website

- Public face of the Collaboration
  - Publication of interim specifications
  - Evangelism, e.g. white papers and education
  - News and conference events
  - Feedback and supporter program
- Website (www.osoa.org)
  - Partitioned into three sections with access control:
    - Public (open to all)
    - Collaborators (open to members-only)
    - Supporters (open to members and supporters)
  - Hosted by a “neutral” service provider
  - Wiki – based => collaborative, simple to update



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OASIS

Advancing E-Business Standards Since 1993

Standardization to Begin

- OASIS to guide the standardization of Specifications from the collaboration in the OpenCSA Member Section
- Member Section Structure
  - Multiple Technical Committees (TCs) to address one or more Specifications from the collaboration
  - Charters for TCs submitted as they are created - First TCs to begin working in June 2007
- SDO V2.1 for Java will be completed in the JCP as JSR235
- Specification development to continue within the collaboration for technologies not yet ready for standardization

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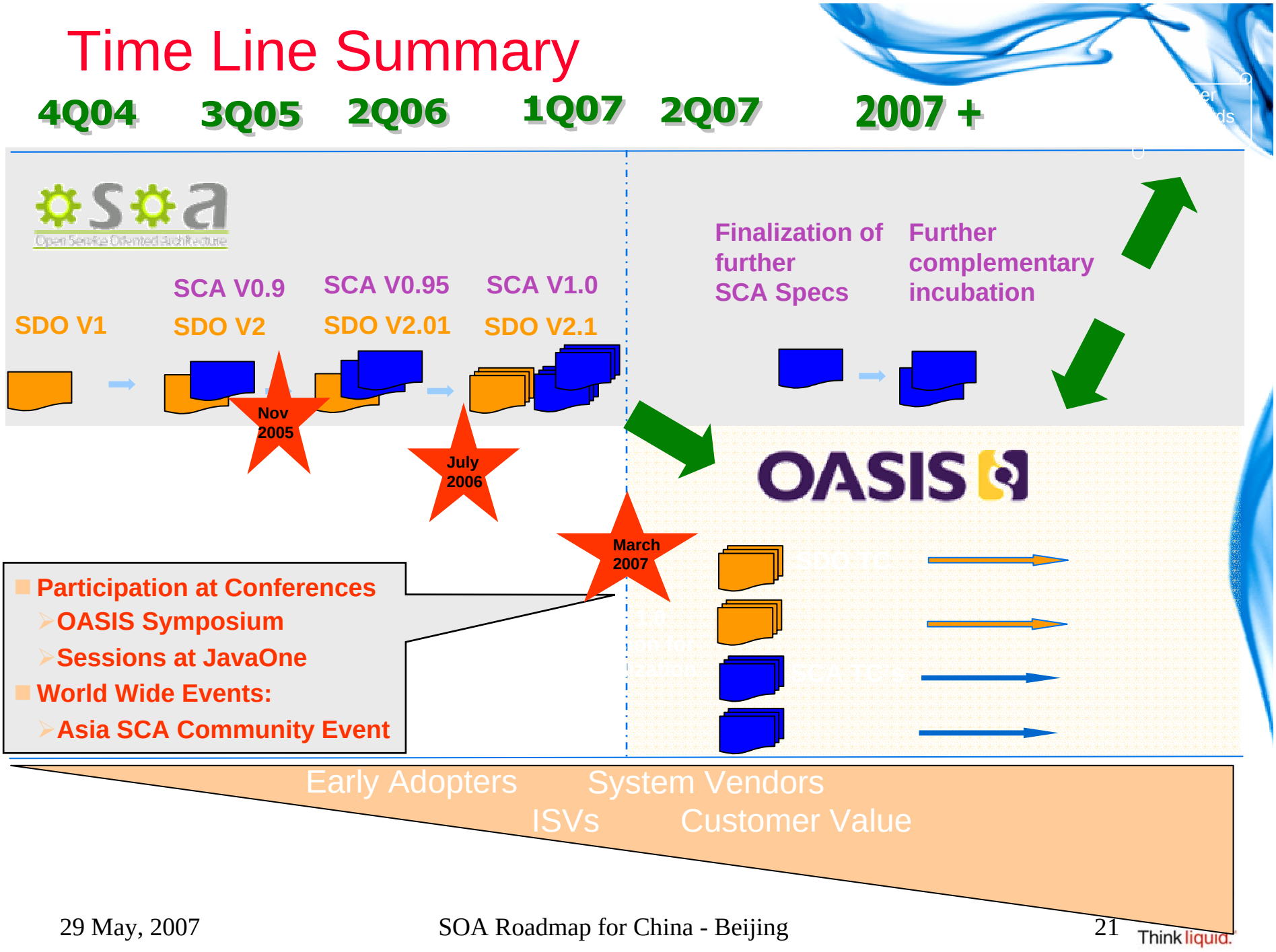
Time Line Summary



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Service Infrastructure

Application Infrastructure - Building

- Service Enablement
- Execution Environment
- Reliability

Service Infrastructure – City Planning

- Cross-platform management
- Governance and control
- Service discovery and publishing
- Service security
- Message routing and transformation
- Resource allocation

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The Future

- We believe that SCA and SDO will be *the critical standards* for the service infrastructure (SOA) market
  - Coalesces service composition around a common metadata format enabling similar tooling and portability of skills
    - This allows customers to invest with confidence
    - Which accelerates adoption and grows the market
  - Vendors can compete based on the quality of their SCA implementation (just like J2EE)
  - An ecosystem of 18 Partners and 19 Supporters
- The OpenCSA Member Section is up and running at OASIS
  - TC charters are expected to be submitted shortly
  - Steering Committee Elections had 9 candidates for 3 seats
- Early Implementations are beginning to appear, both commercial and open source

Press

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March 21st, 2007

SCA/SDO goes to OASIS, could be to SOA what Java EE was to n-tier computing

Posted by Dana Gardner @ 9:36 am

Categories: Open Source, Software Infrastructure, Enterprise Java, SOA, SOA Governance, Microsoft, Software Development, Eclipse, IBM, Developer Tools, Web Services, Sun Microsystems, Agile Development, Red Hat, .NET, Sybase, Java, Oracle, Cape Clear, IONA, datacenters, Cisco, Progress Software

TALKBACK ADD YOUR OPINION

Worthwhile? +2 2 VOTES

Seeking to make the Service Component Architecture (SCA) and its sibling Service Data Objects (SDO) the basis for a new generation of standardized architecture in the SOA era, the large IT vendors behind the developments have agreed to hand over the specifications for management and maturity to the Organization for the Advancement of Structured Information Standards

RECENT ENTRI

SOA architects mu evangelists and co

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Analyst Comments

- "Service Component Architecture has the potential to significantly aid mainstream organizations in the development, deployment and management of services using a service-oriented architecture."

Service Component Architecture Is a Winner in the Quest to Establish a Common Notation for SOA - Jess Thompson, Gartner, March 2006

- "SCA is an ambitious initiative, intended to offer mainstream software projects an easy-to-use way to deploy consistently well-designed, multiplatform service-oriented business applications…This approach would:
  - Simplify the design and deployment of services.
  - Establish a "transportable" set of engineering skills for service-oriented architecture (SOA) design.
  - Enable many of the static analysis features that developers have come to expect in programming environments, but that have been absent in services (such as dependency analyses and type checking)."

Gartner First Take, 3/23/07; Daniel Sholler, Jess Thompson, Yefim Natis

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Thank You


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