Cloud Computing Standards Cataloging, Categorization, and Coordination Workshop

Towards a Formal Guidebook: Standards Projects, Industry Associations, Community Efforts, and Government Initiatives

Steve Diamond, David Bernstein, IEEE
Dawn Leaf, Bob Bohn, NIST

IEEE CloudCom 2010
Friday, 3 December 2010
University Place Conference Center

NIST National Institute of Standards and Technology

IEEE Advancing Technology for Humanity

Cloud Standards Workshop

http://salsahpc.indiana.edu/CloudCom2010/ccsccc2010.html

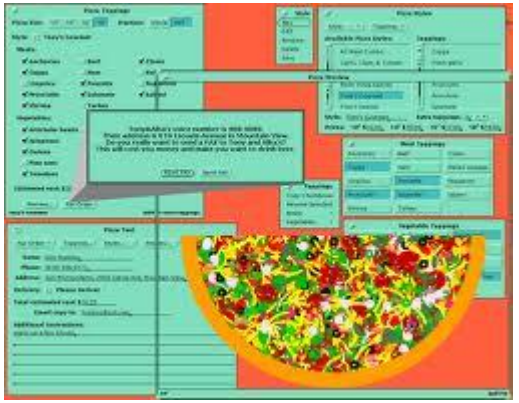
- Steve Diamond
  - Chair, IEEE Cloud Computing Initiative
- David R. Bernstein
  - Vice Chair, IEEE Cloud Computing Standards Study Group
- Dawn Leaf
  - NIST Senior Executive for Cloud Computing
- Bob Bohn
  - NIST
- Prof. Tomonori Aoyama
  - Chair, Global Inter Cloud Technology Forum
- Wayne Adams
  - Senior VP, DMTF Board of Directors
  - Chairman, SNIA Board of Directors

Agenda

Time	Topic	Presenters
9:00-9:15am	Welcome and Introductory Remarks by the Sponsors/Moderators	Stephen Diamond, David Bernstein IEEE Cloud Computing Standards Study Group Dawn Leaf, Bob Bohn NIST Cloud Computing Group
9:15-9:45am	Presentation of Guidebook Concept Proposal, Characterization (Diagram) Approach	Sponsors/Moderators
9:45-11:30am	Current Cloud Computing Standards Activities (15 minutes each)	IEEE, NIST USG Cloud Computing Roadmap, SNIA, DMTF, GICTF
11:30am-12n	Lunch Break	
12n-1pm	Continuation Current Cloud Computing Standards Activities (15 minutes each)	NIST USG Reference Architecture; Others TBA
1-2:30pm	Identification of completeness of Inventory of Groups, and Additional Groups needed to Participate Structured Discussion towards a Guidebook, using Characterization (Diagram) and Reference Architecture approach Open Collaboration and Discussion	All
2:30-3pm	Concluding Remarks and Follow-up Action Items	Sponsors/Moderators
3:00pm	Adjourn	

James Gosling

- Unix emacs (1981)
  - Programmable editor

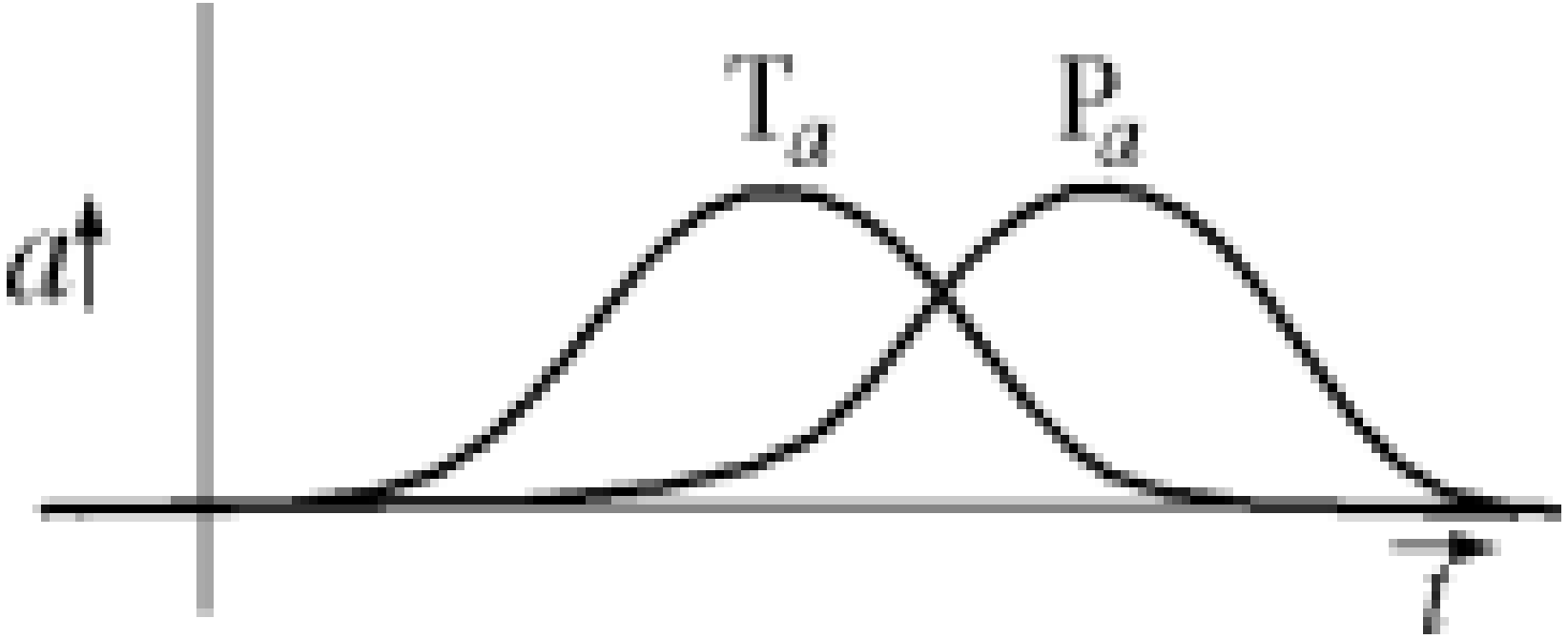


- Co-developer of NeWS (1985)
  - Programmable window system

- Inventor of Java (1994)
  - Programmable browser

Phase Relationships in the Standardization Process

James Gosling, August, 1990

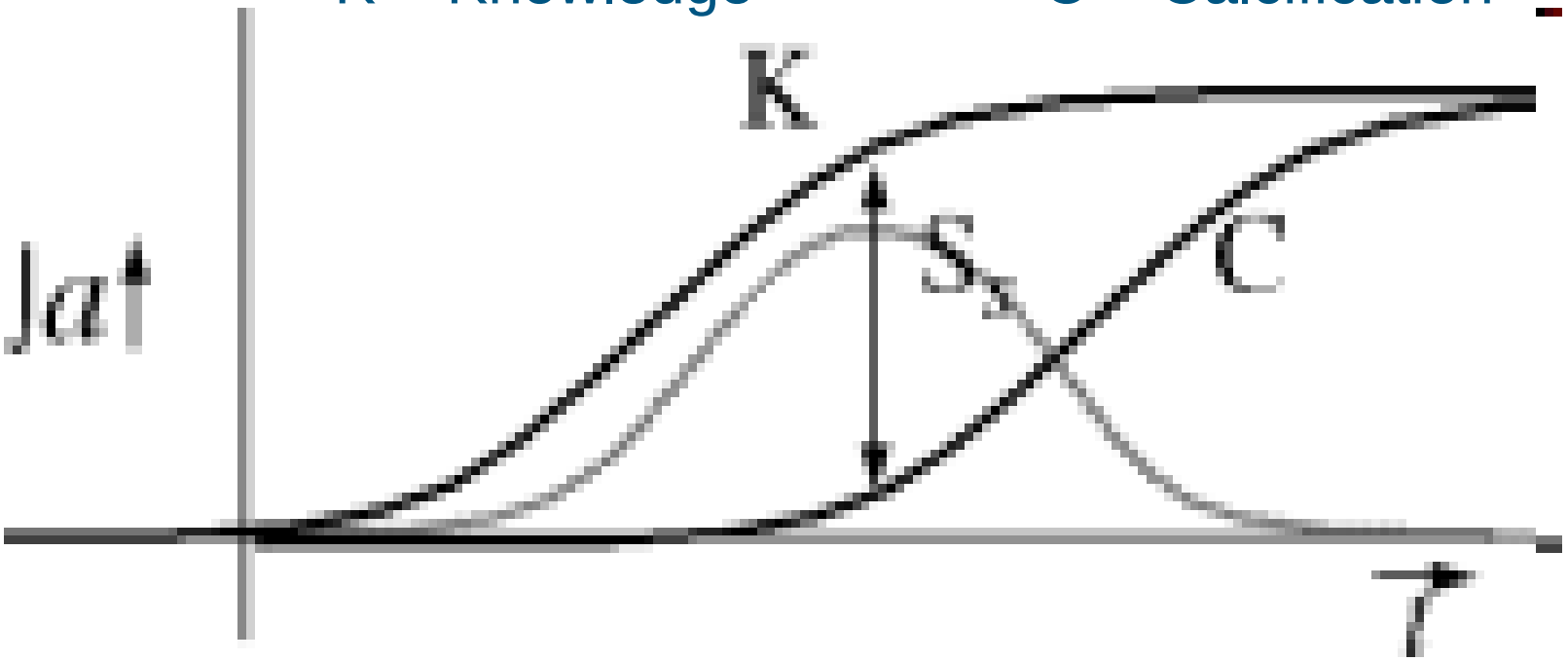


Ta = Technical Activity Pa = Political Activity

Phase Relationships in the Standardization Process

K = Knowledge

C = Calcification

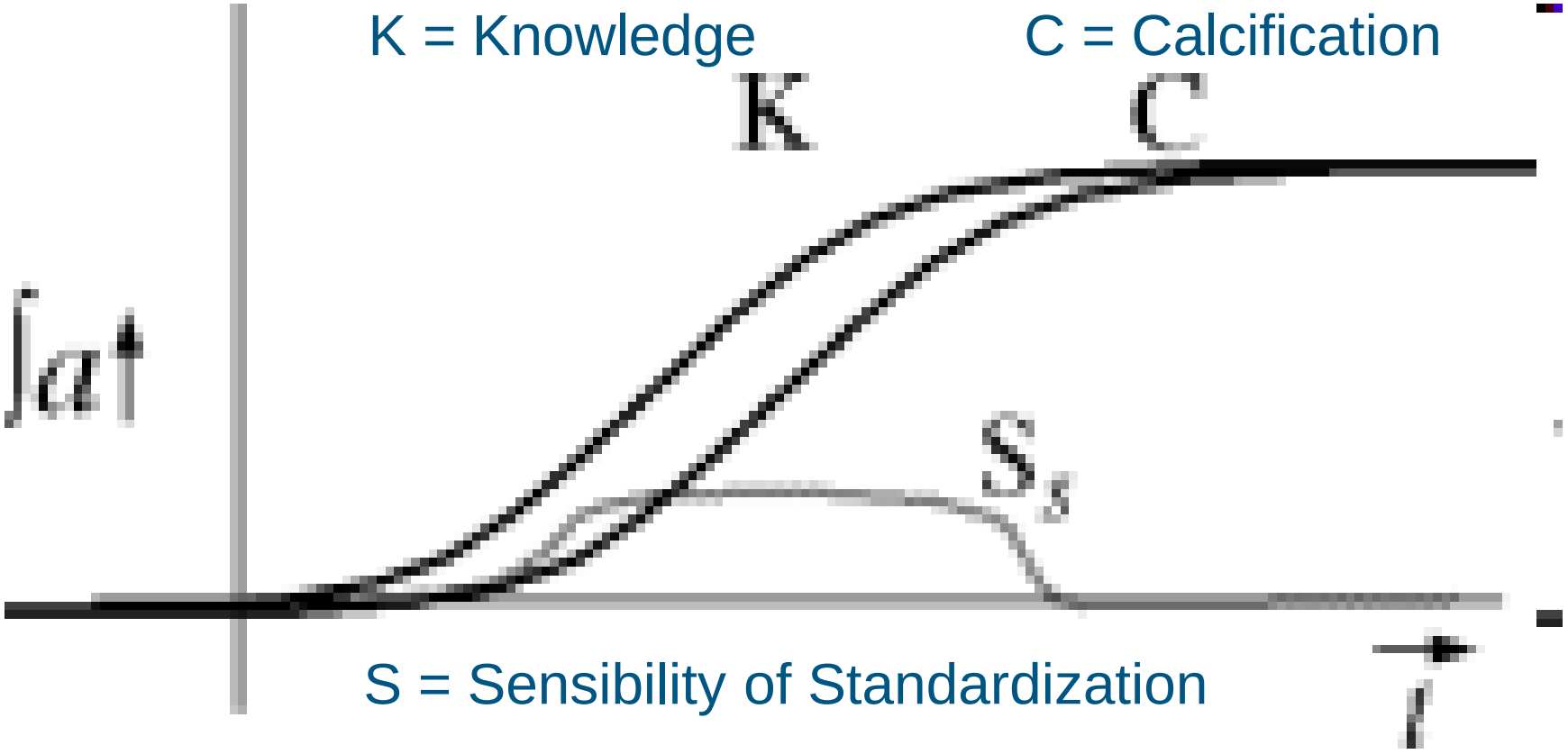


S = Sensibility of Standardization

Phase Relationships in the Standardization Process

K = Knowledge

C = Calcification



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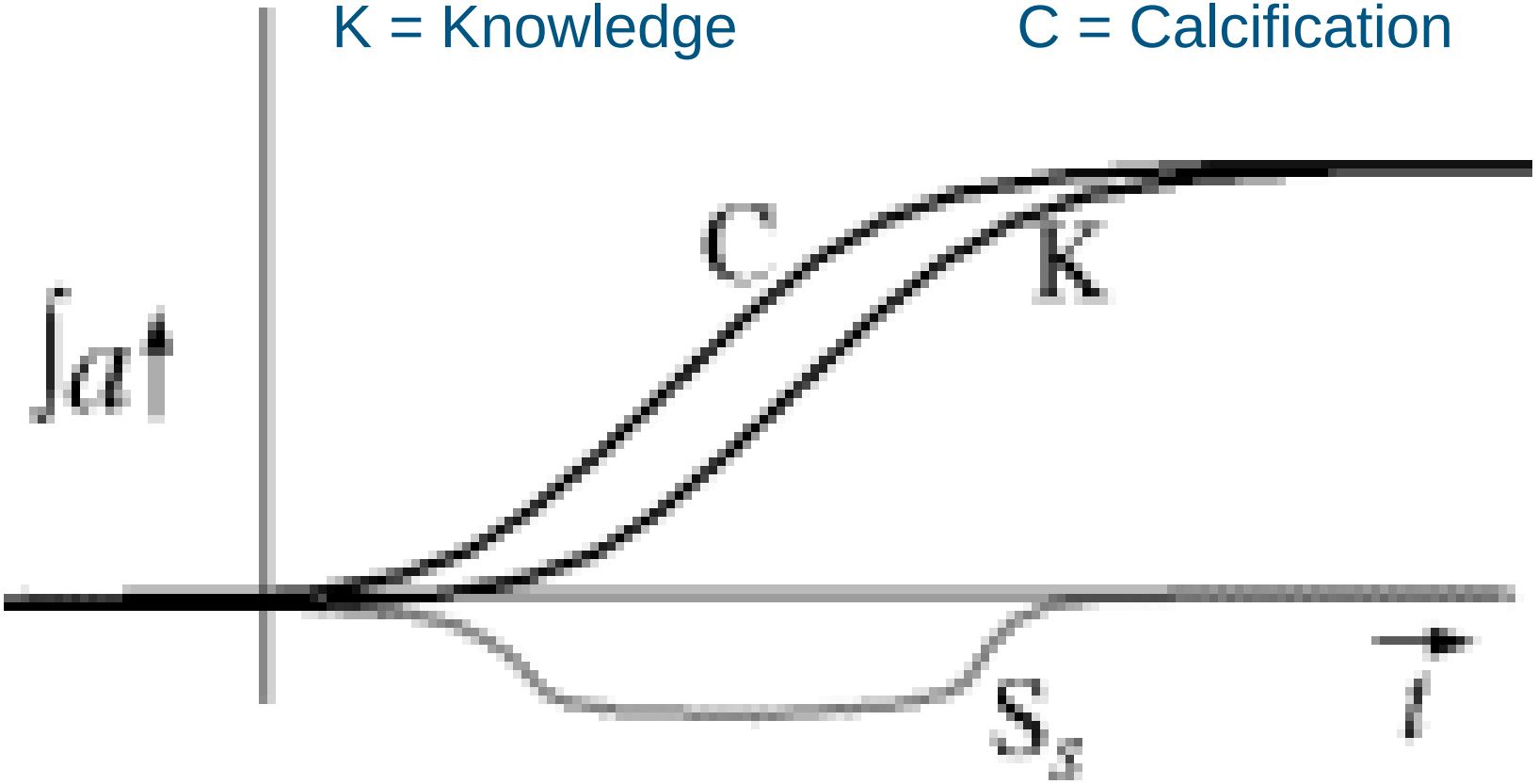
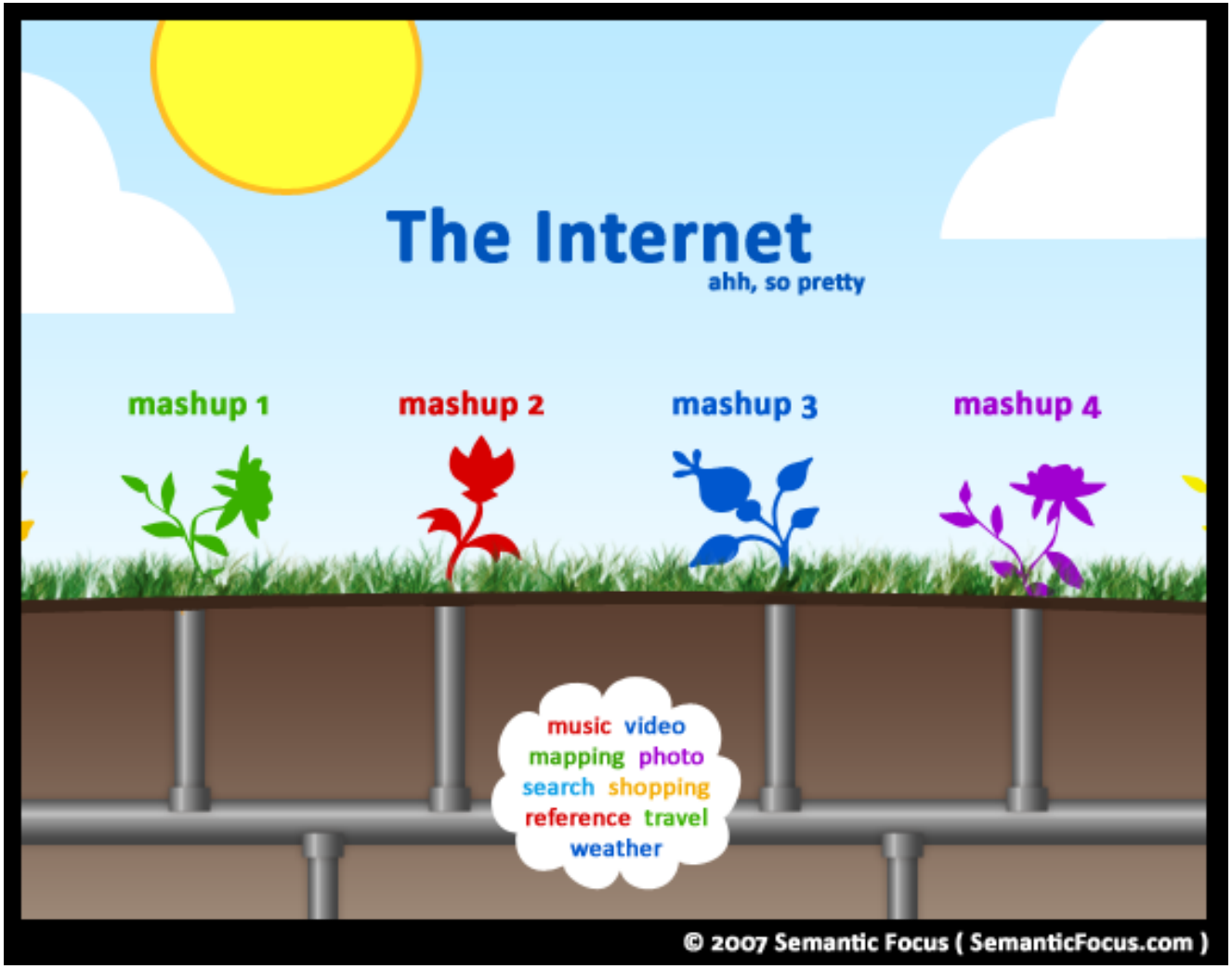


S = Sensibility of Standardization

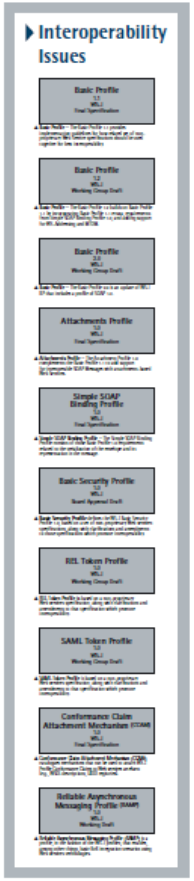
"This standard is too early."
"This standard is too late."
"This standard is *just* right."

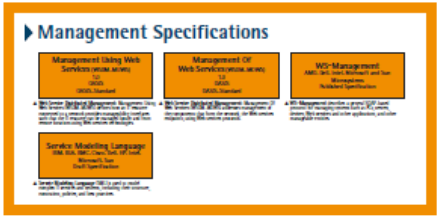
Another Lesson

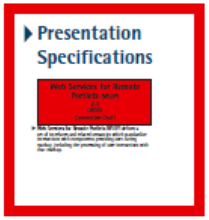


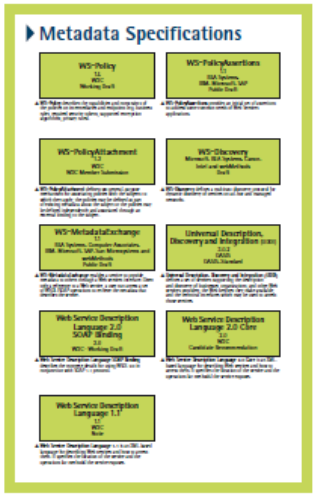
The Web Services Standards Set

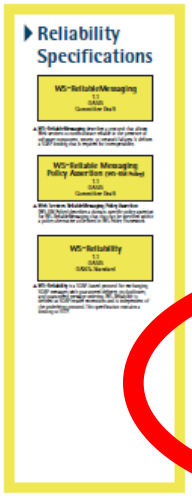
Web Services Standards Overview

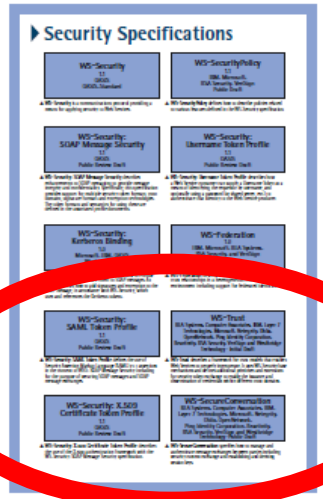


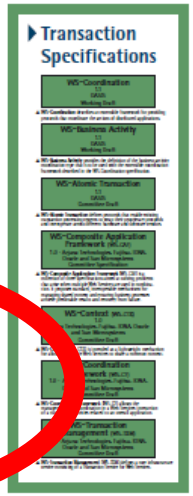


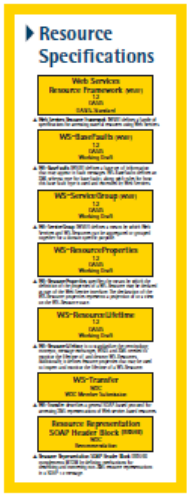


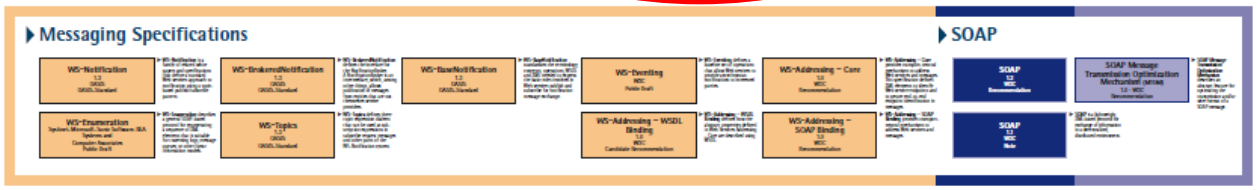


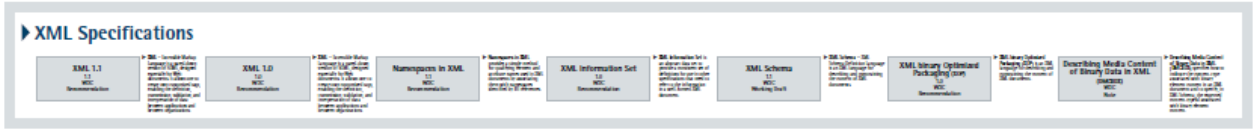


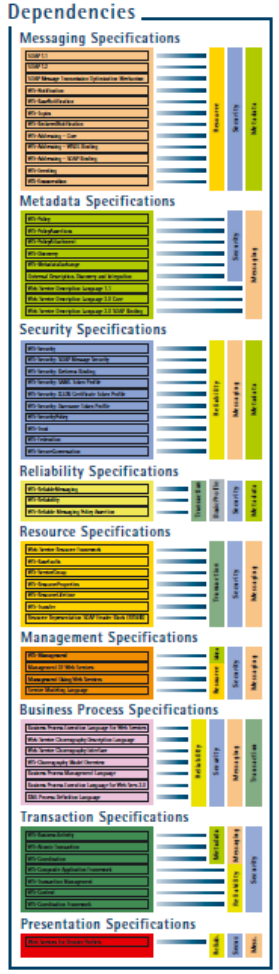












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Detail of Web Services Security

WS-Security: SAML Token Profile

1.1
OASIS
Public Review Draft

▲ **WS-Security: SAML Token Profile** defines the use of Security Assertion Markup Language (SAML) v1.1 assertions in the context of WSS: SOAP Message Security including for the purpose of securing SOAP messages and SOAP message exchanges.

WS-Trust

BEA Systems, Computer Associates, IBM, Layer 7 Technologies, Microsoft, Netegrity, Oblix, OpenNetwork, Ping Identity Corporation, Reactivity, RSA Security, VeriSign and Westbridge Technology · Initial Draft

▲ **WS-Trust** describes a framework for trust models that enables Web Services to securely interoperate. It uses WS-Security base mechanisms and defines additional primitives and extensions for security token exchange to enable the issuance and dissemination of credentials within different trust domains.

WS-Security: X.509 Certificate Token Profile

1.1
OASIS
Public Review Draft

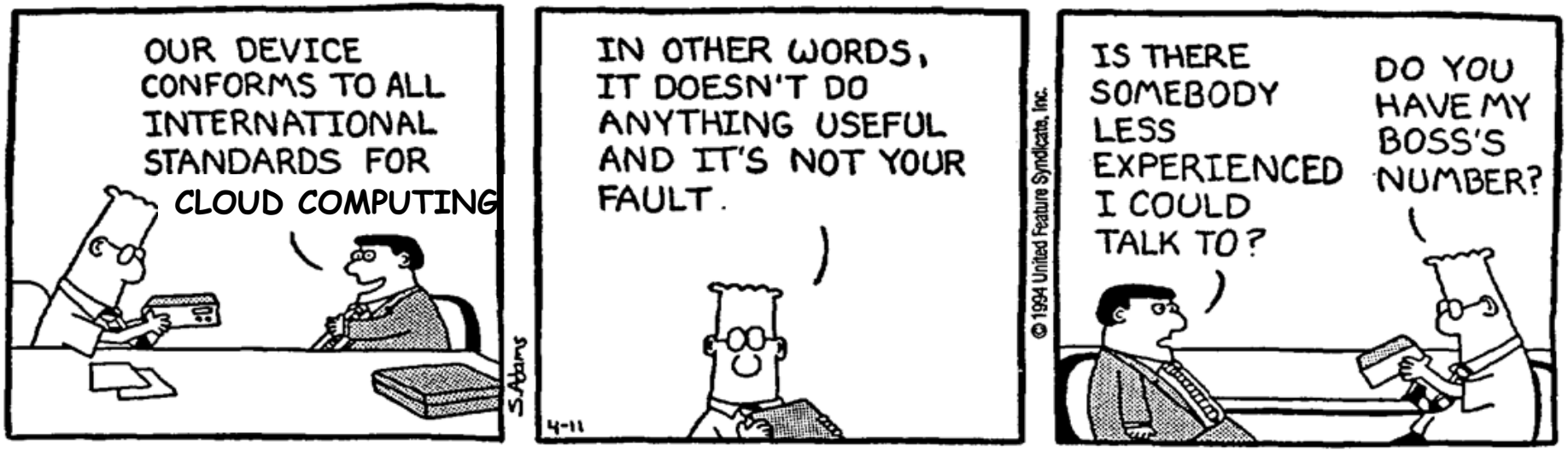
▲ **WS-Security: X.509 Certificate Token Profile** describes the use of the X.509 authentication framework with the WS-Security: SOAP Message Security specification.

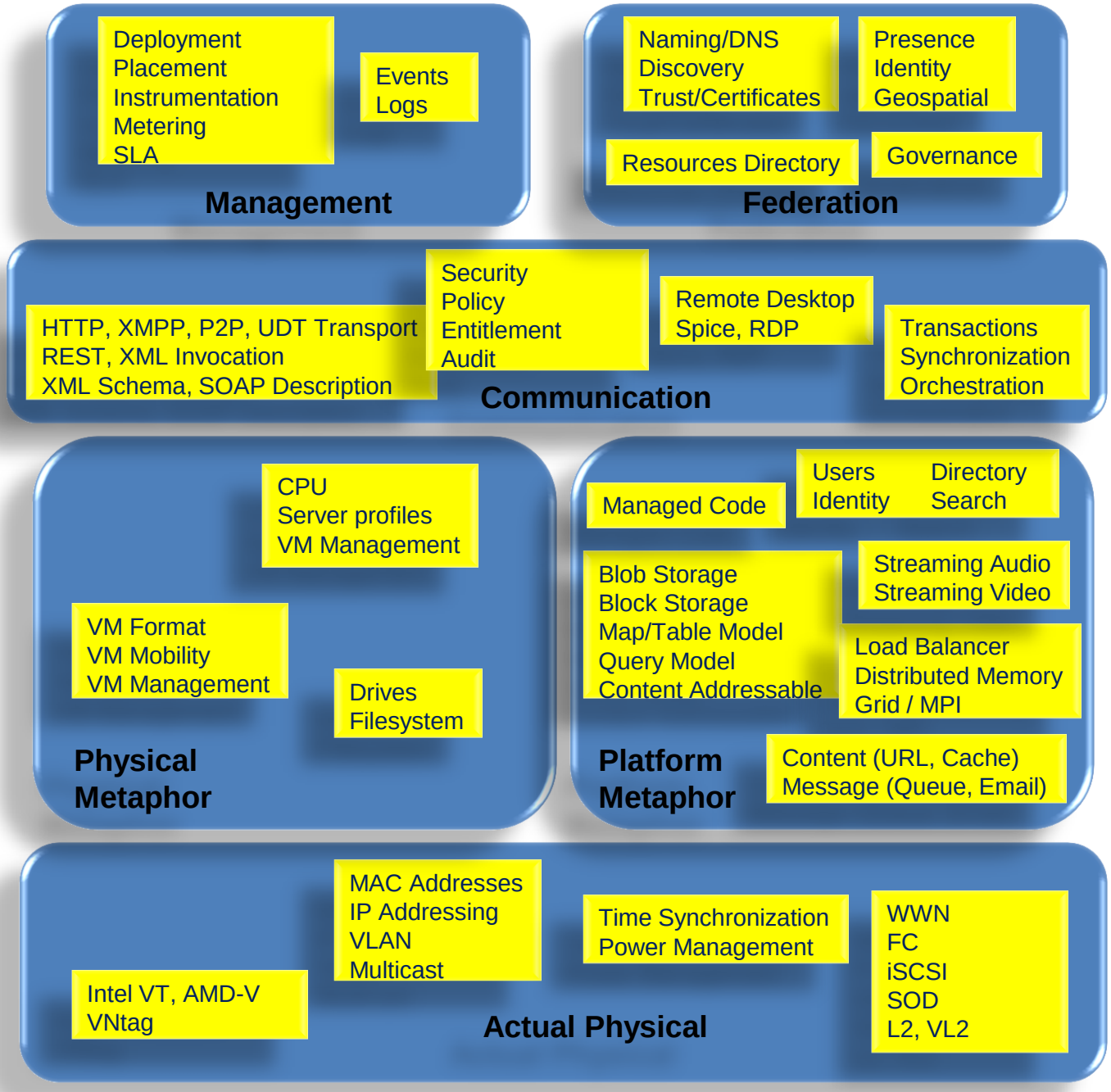
WS-SecureConversation

BEA Systems, Computer Associates, IBM, Layer 7 Technologies, Microsoft, Netegrity, Oblix, OpenNetwork, Ping Identity Corporation, Reactivity, RSA Security, VeriSign and Westbridge Technology ·Public Draft

▲ **WS-SecureConversation** specifies how to manage and authenticate message exchanges between parties including security context exchange and establishing and deriving session keys.

Cloud Computing Standards




Deployment
Placement
Instrumentation
Metering
SLA
Events
Logs
Management
Naming/DNS
Discovery
Trust/Certificates
Presence
Identity
Geospatial
Resources Directory
Governance
Federation
HTTP, XMPP, P2P, UDT Transport
REST, XML Invocation
XML Schema, SOAP Description
Security
Policy
Entitlement
Audit
Remote Desktop
Spice, RDP
Transactions
Synchronization
Orchestration
Communication
CPU
Server profiles
VM Management
VM Format
VM Mobility
VM Management
Drives
Filesystem
Physical
Metaphor
Managed Code
Users
Identity
Directory
Search
Blob Storage
Block Storage
Map/Table Model
Query Model
Content Addressable
Streaming Audio
Streaming Video
Load Balancer
Distributed Memory
Grid / MPI
Platform
Metaphor
Content (URL, Cache)
Message (Queue, Email)
MAC Addresses
IP Addressing
VLAN
Multicast
Time Synchronization
Power Management
WWN
FC
iSCSI
SOD
L2, VL2
Intel VT, AMD-V
VNtag
Actual Physical

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