The Use of Standards in SOA

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The 2nd Service Oriented Architecture (SOA) and Web Services Best Practices

Chicago, IL
Oct. 18, 2005

OPEN STANDARDS

What is an Open Standard?

- An **open standard** is:
  - publicly available in stable, persistent versions
  - developed and approved under a published, transparent process
  - open to public input: public comments, public archives, no Non-Disclosure Agreements (NDA)
  - subject to explicit, disclosed (Intellectual Property Rights) IPR terms
- **Anything else is proprietary**
  - That's not a pejorative, it's a description
  - Using a single company's method, or joint work from several companies, may be fine: but it has a different set of risks and qualities than the official output from a genuine open standards process

Standards ROI

- Normalizing data, processes and users costs time and money
- ROI can come from operational savings and outweigh the costs, **if** those savings are **stable** and **persistent**
- This requires:
  - Established versioning
  - Reliable, fixed terms of availability (some protection against withdrawal or “embrace-and extend”)
  - **INTEROPERABLE** standards
  - **CONVERGING** standards

Regulatory case for Open Standards

- Increasingly, it matters to government regulators and implementers whether standards are developed under an **open, fair, vendor-neutral** process.
  - WTO Technical Barriers to Trade Agreement
    - http://www.wto.org/english/docs_e/ legal_e/final_e.htm
  - United States criteria
    - http://www.whitehouse.gov/omb/circulars/a119/ a119.html)
- Industry users care about the same issues

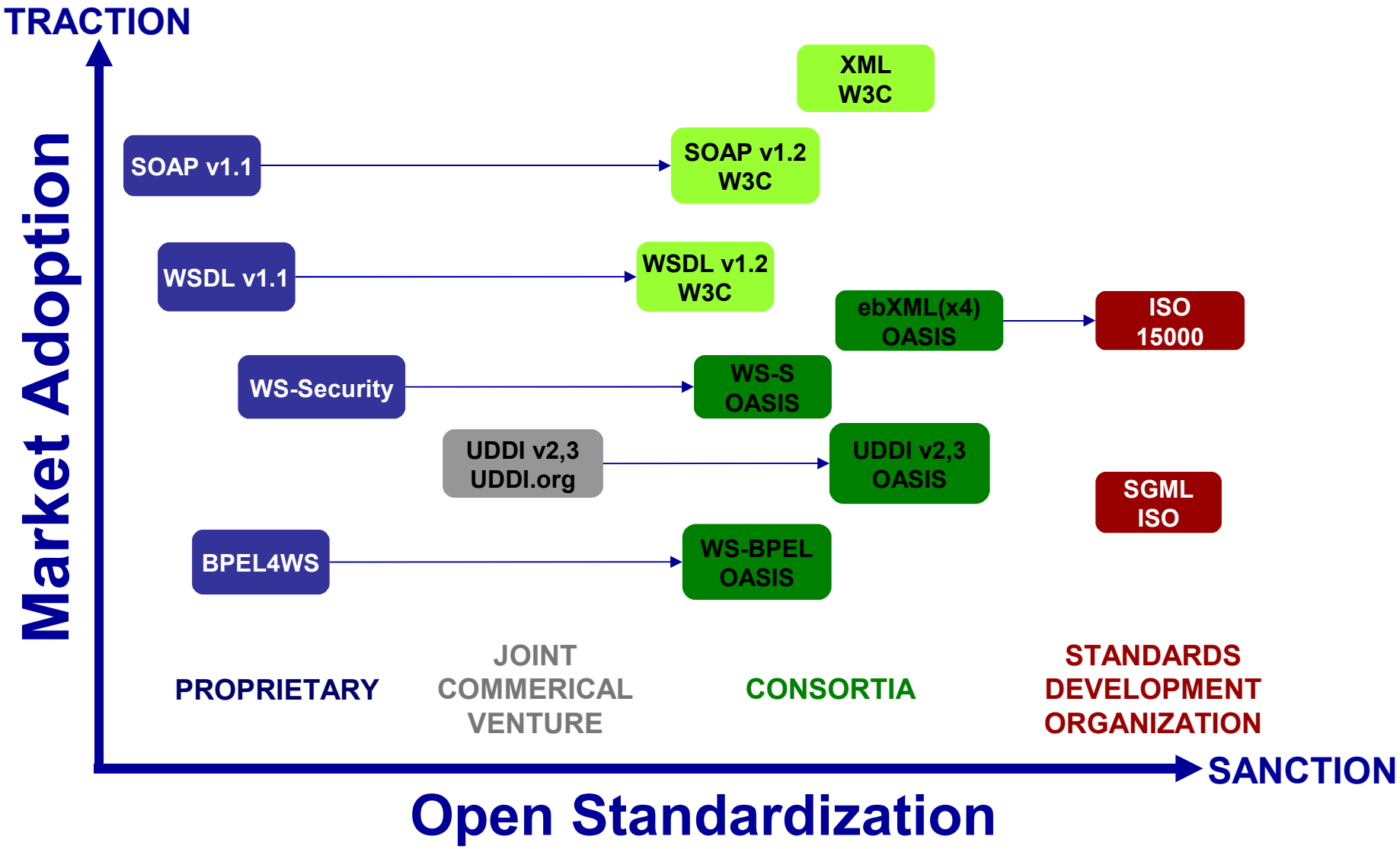
Interoperating with the world

- Cooperation, liaison and harmonization with other standards organizations is a strategic OASIS priority
  - Working to reduce duplication and promote interoperability
  - Gaining sanction/authority & adoption for OASIS Standards
- Formal working relationships with:
  - ISO, IEC, ITU, UN-ECE MoU for E-Business
  - ISO/IEC JTC1 SC34, ISO TC154 (Cat. A Liaison)
  - ITU-T A.4 and A.5 Recognition
  - IPTC, LISA, SWIFT, UPU
  - ABA, ACORD, AIAG, HL7, HR-XML, ISM, MBAA, NASPO, European ICTSB, CEN/ISSS, EC SEEM, PISCES, LRC
  - Asia PKI, CNNIC, EA-ECA, ECIF, KIEC, PSLX, Standards-AU
  - BPMI, CommerceNet, GGF, IDEAlliance, OAGi, OGC, OMA, OMG, RosettaNet/UCC, W3C, WfMC, WSCC, WS-I, ANSI

Standards Adoption

- To be successful, a standard must be **used**
- Adoption is most likely when the standard is
  - Freely accessible
  - Meets the needs of a large number of adopters
  - Flexible enough to change as needs change
  - Produces consistent results
  - Checkable for conformance, compatibility
  - Implemented and thus practically available
- **Sanction** and **traction** both matter

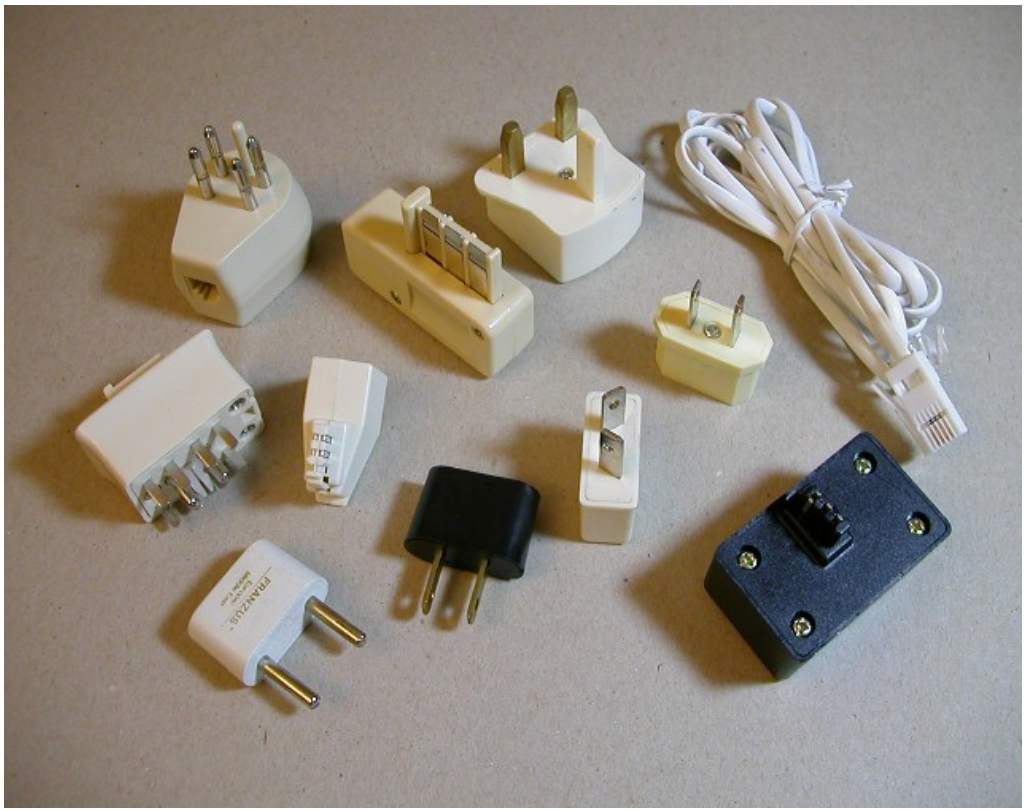
Standards: Traction vs. Sanction



INTEROPERABILTY

What is interoperability?

- The harmonization of e-business standards
- Sometimes there is more than one way to fulfill a need:



Multiple Standards may co-exist

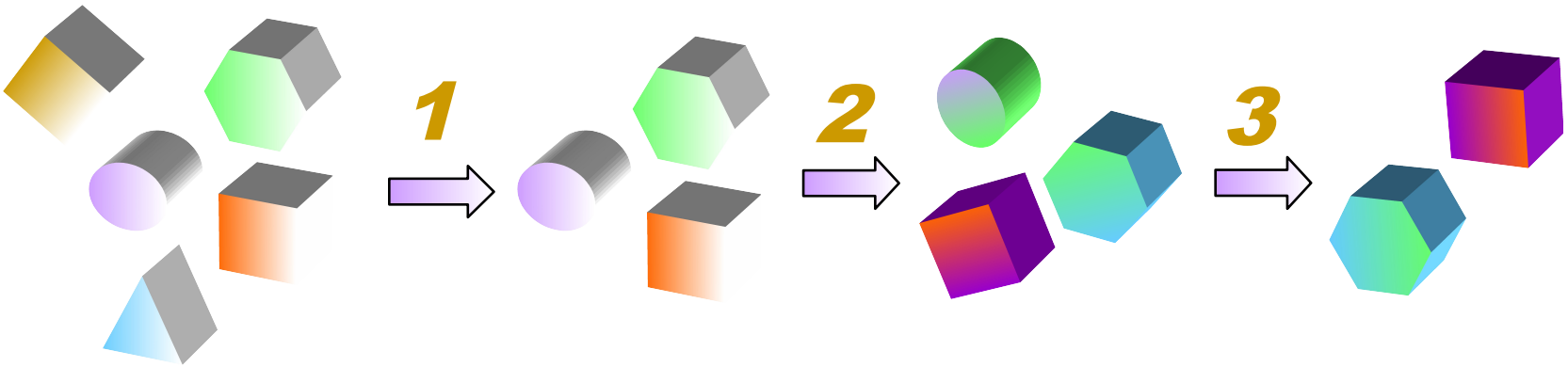
- Different legacy systems or business requirements may require different methods

Lightweight code
Limited Use Case
Easier to build, deploy
Loose Coupling

Heavyweight code, more functionality
Highly scalable
Bigger tools, higher cost
More exclusive

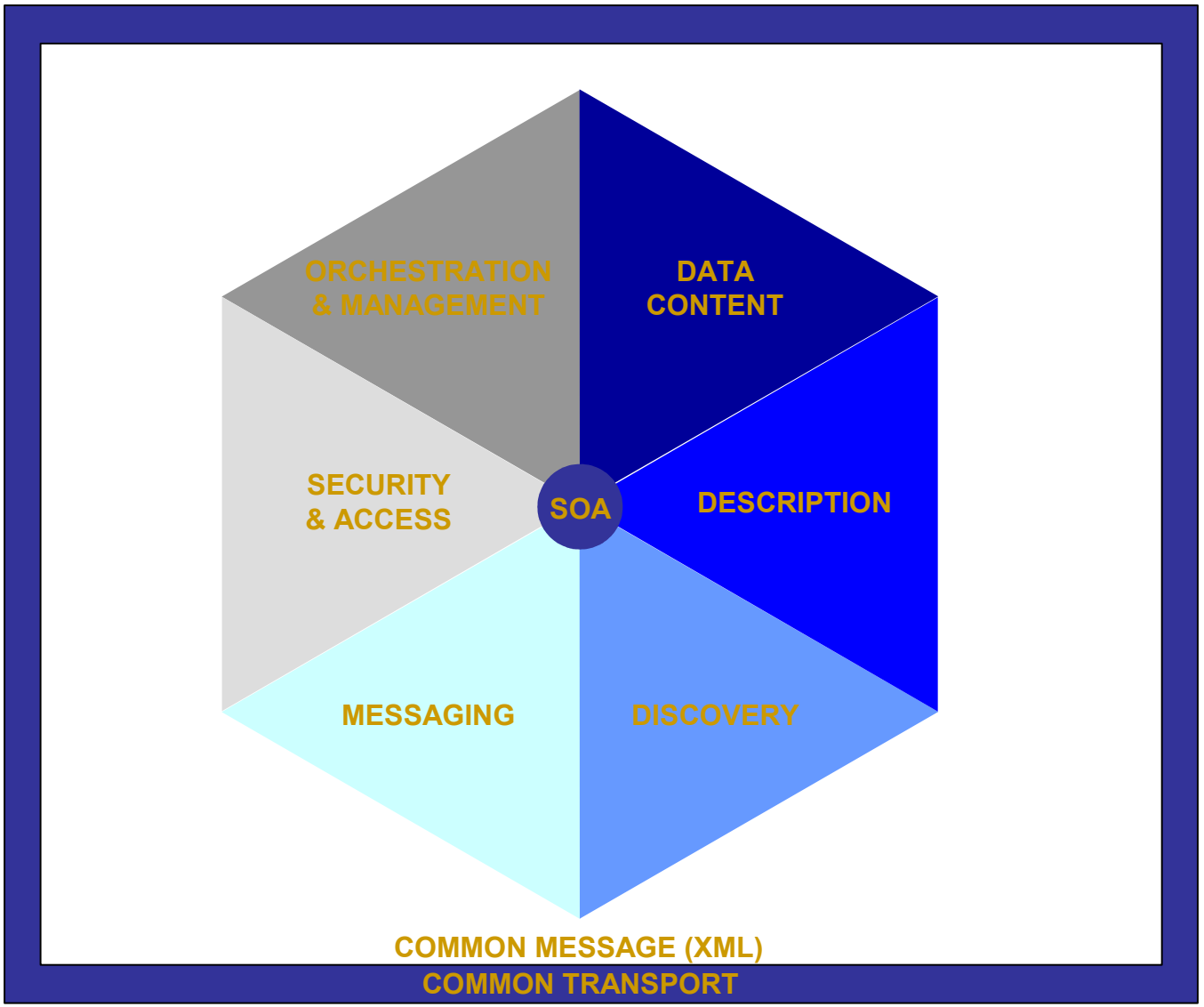
Interoperability & Convergence

- Multiple filters make it happen

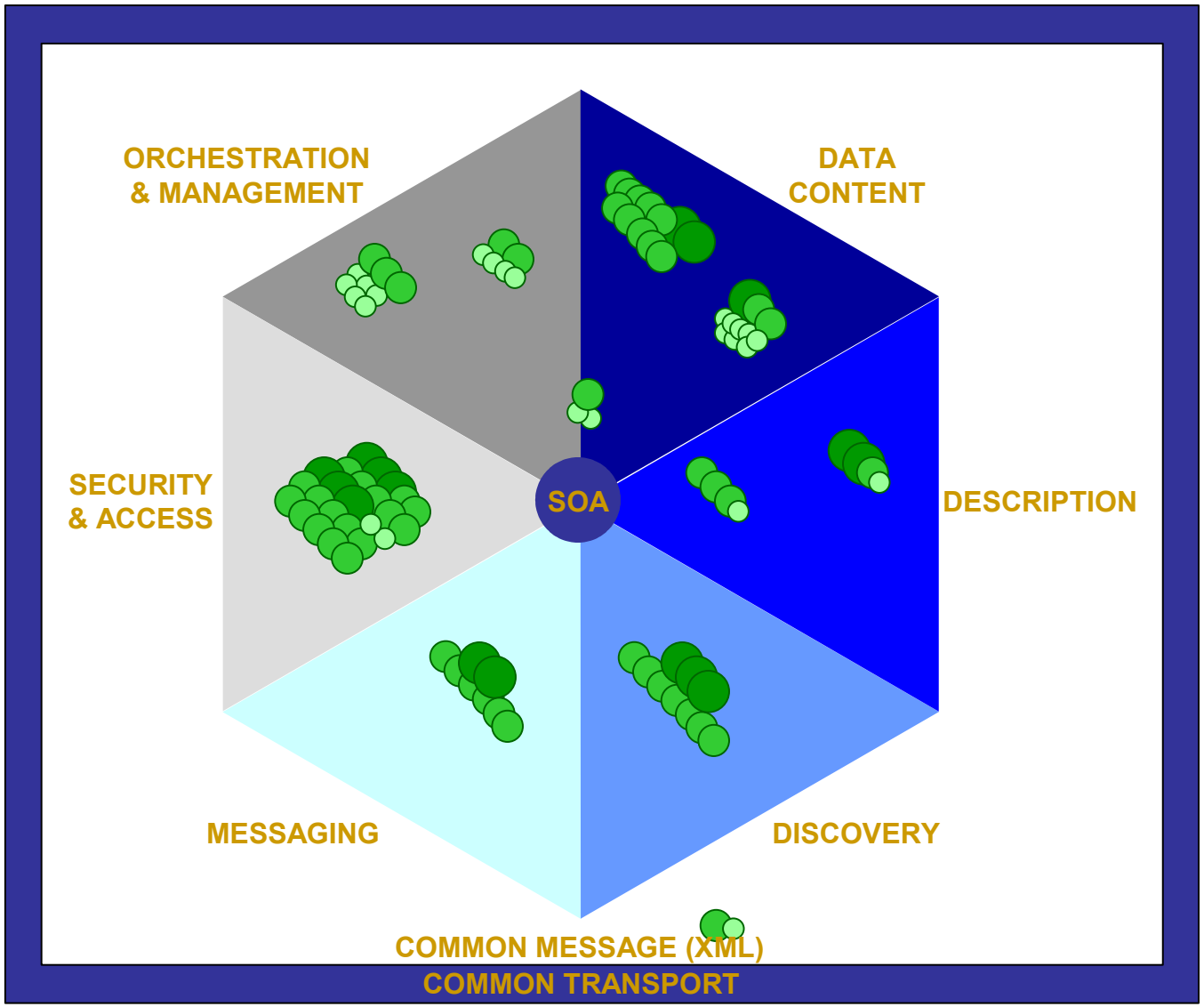


6. **Open standards** process
7. **Proximity** breeds comparison & convergence … and **users** drive convergence & optimization
8. Methods find their place in the **marketplace**

Functional Categories to Track Standards Work



Technical Projects (12/04)



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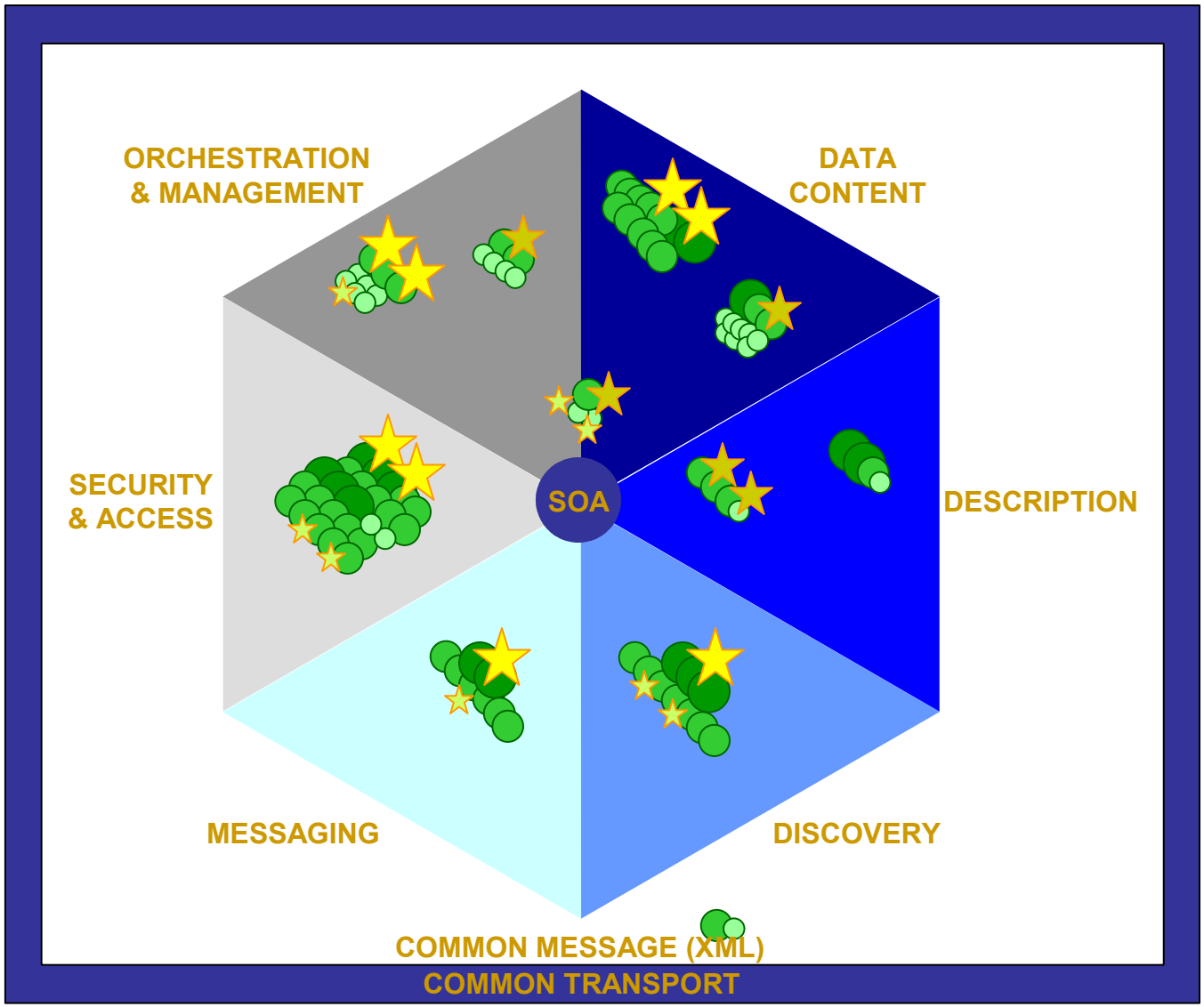
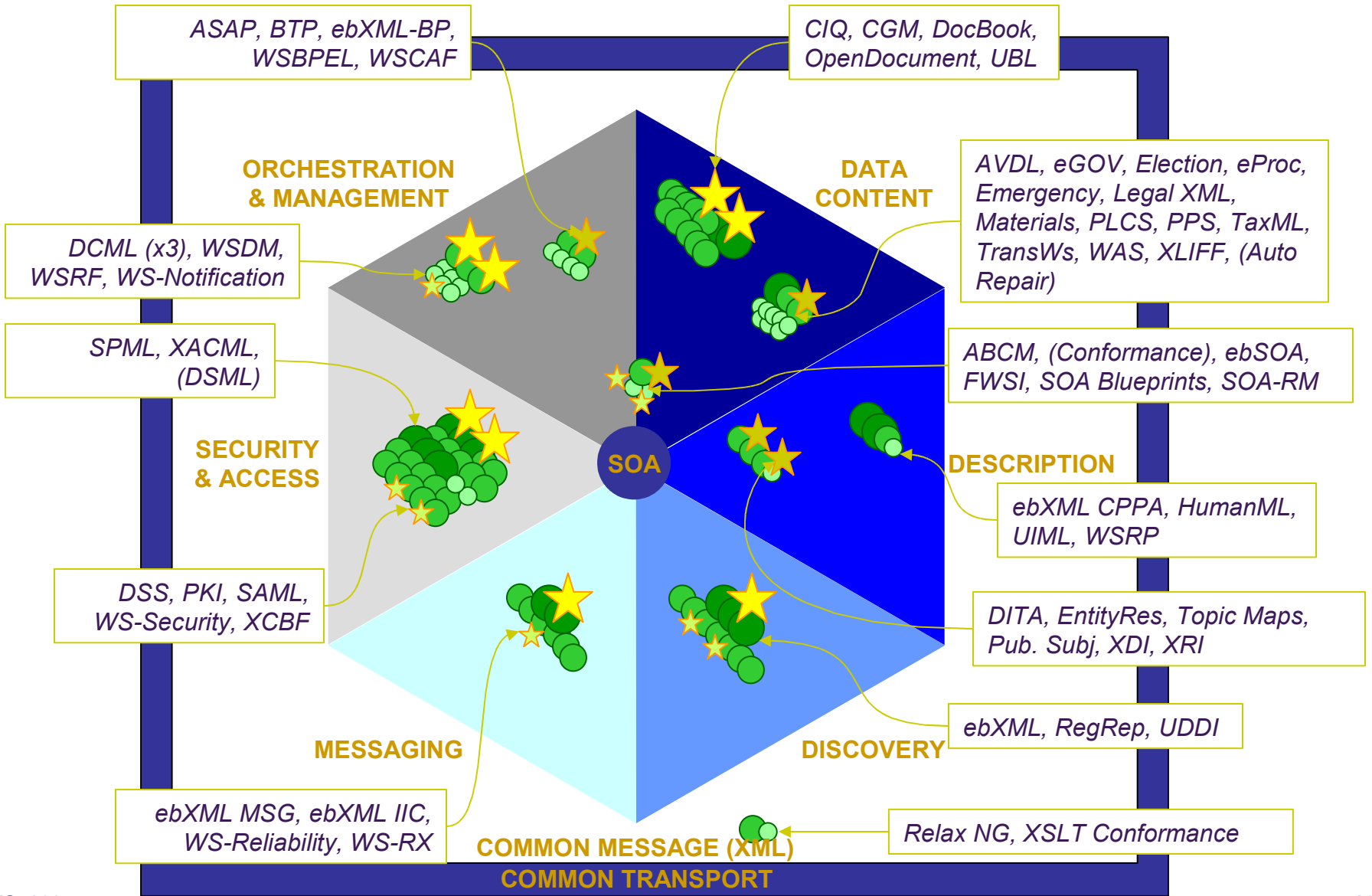
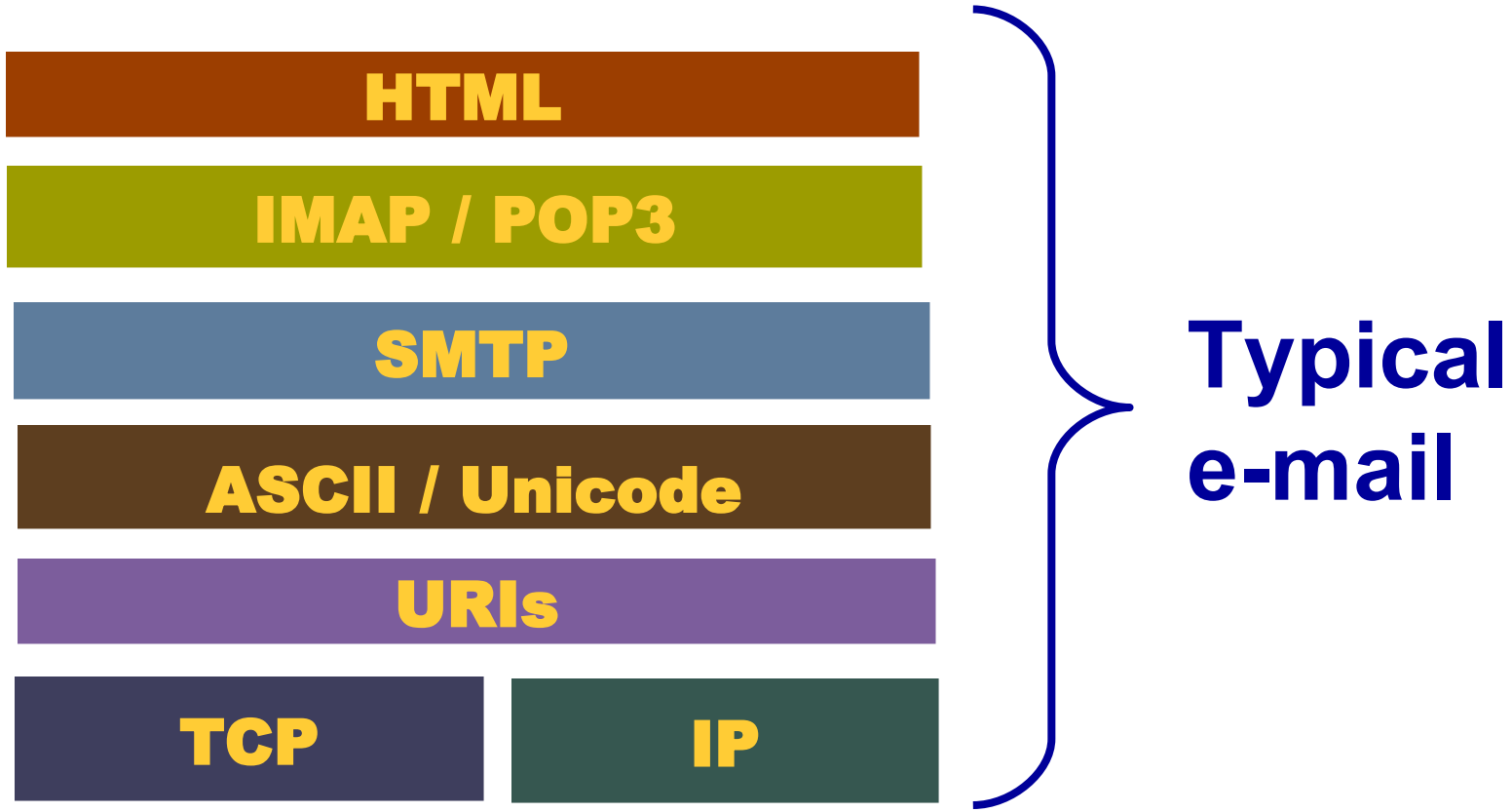


Technical Standards

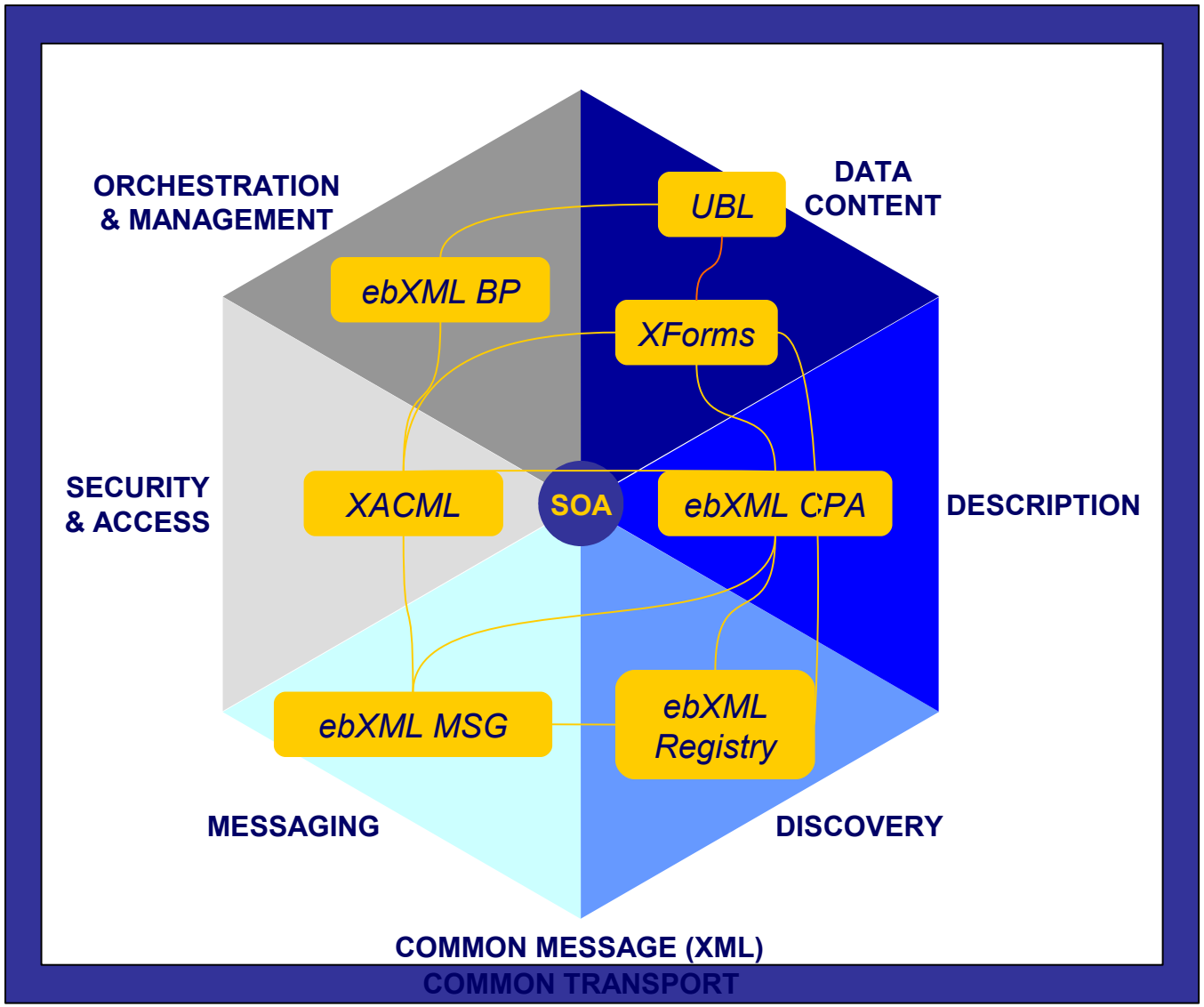


Modularity: all the things that we use must work together

Multiple Standards in the Real World



Real-world installations are composed of multiple standards



Example:
The OASIS Disease Control Interoperability Demo at XML 2003

Interoperability requires flexibility

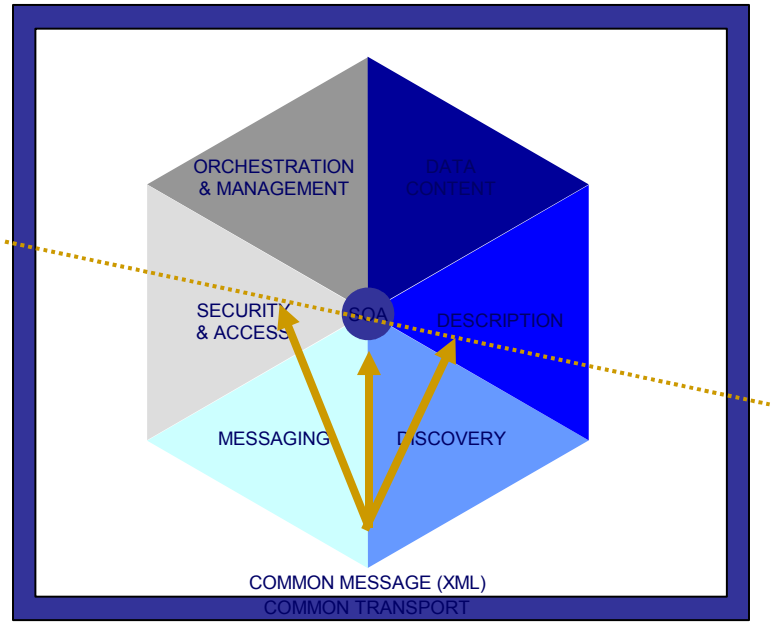
We use many diverse methods and legacy systems.

All of the methods we use must be:

- **MODULAR**
- **INTEROPERABLE**
- **MANAGEABLE**
- **STANDARDIZED**

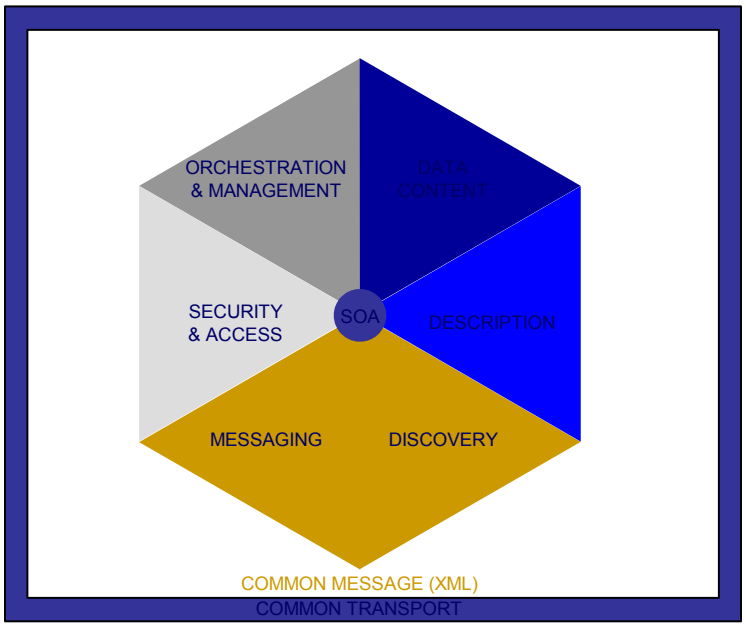
OASIS STANDARDS

Technical trends in OASIS work



- Infrastructure work is maturing
- The action is moving up the "stack" to content and semantics
- Stronger emphasis on service orientation: interoperability and modularity
- End users are providing more of the content

OASIS: Infrastructure



Discovery

- ebXML Registry
- UDDI Spec

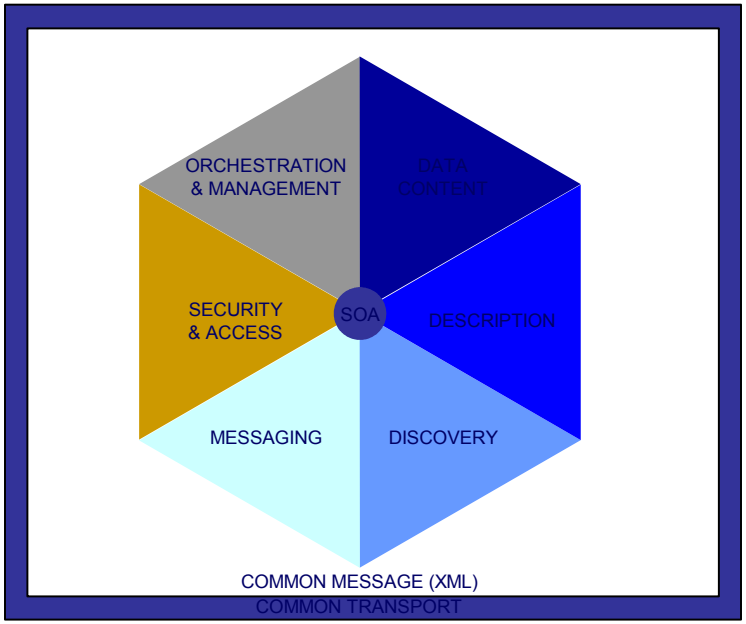
Messaging

- ebXML Messaging
- ebXML IIC
- WSRM TC (WS-Reliability)
- WS-Reliable Exchange

XML Methods

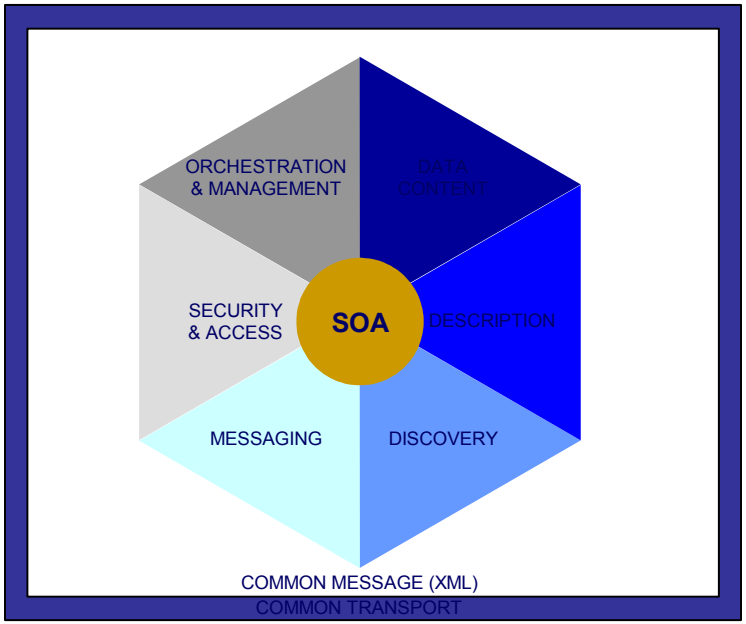
- RELAX-NG
- XSLT Conformance

OASIS: Security & Access Control



- Digital Signature Services
- PKI
- Provisioning Services (SPML)
- Security Services (SAML)
- Web Services Security
- XACML (Extensible Access Control ML)
- XCBF (Common Biometric Format)
- DSML [completed]

Service Orientation



2005

SOA

Internet
WWW

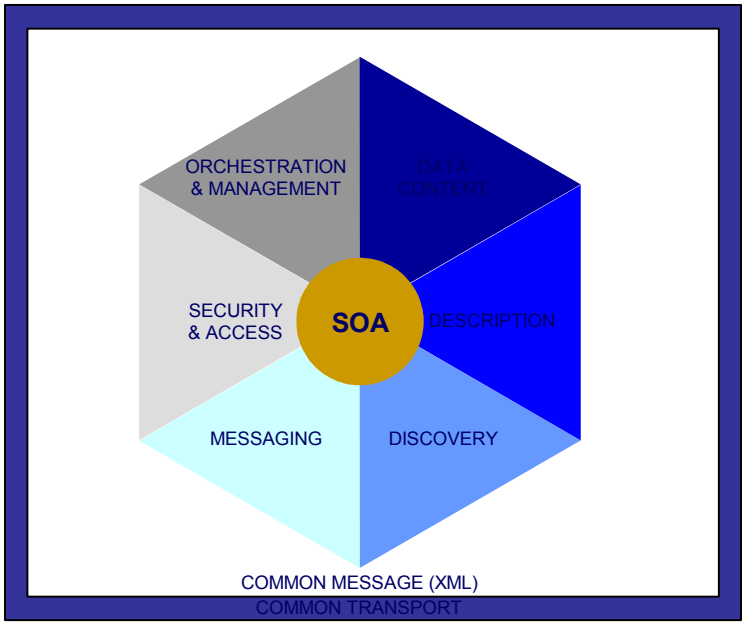
1995

What is SOA?

Central concept ... but:

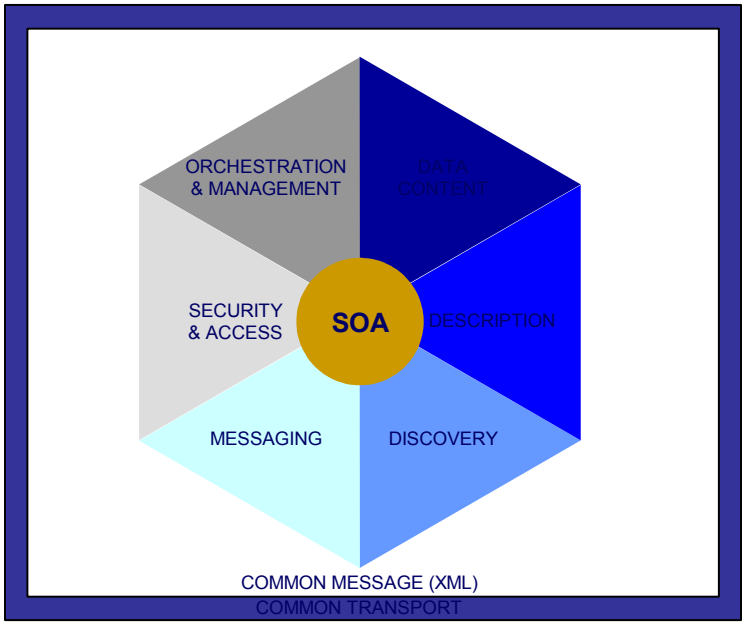
- Registry centric?
- Web services centric?
- ebXML centric?
- EDI on steroids?
- CORBA on steroids?
- XML centric?
- OO centric?
- Model centric?
- Semantics centric?

Service Orientation and Data Harmonization



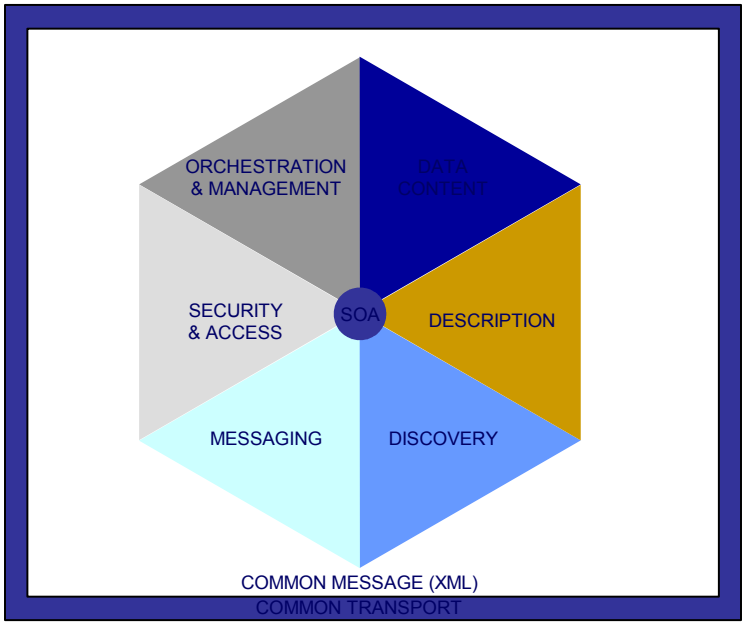
- Today's WS-this, EB-that and UM-the other may be tomorrow's something else
- But the functional data models will outlive any single implementation
- IF they are:
  - **MODULAR**
  - **INTEROPERABLE**
  - **MANAGEABLE**
  - **STANDARDIZED**

OASIS: SOA Domain



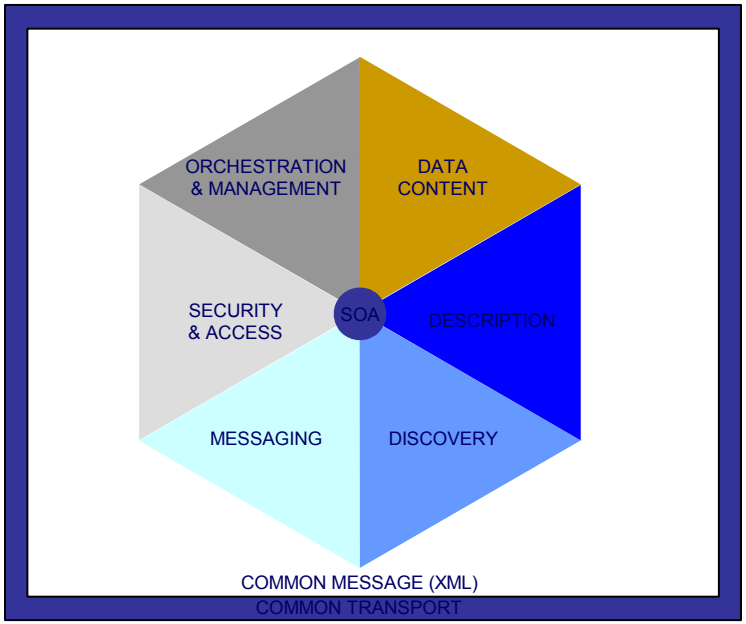
- BCM
- ebSOA
- Framework for WS Implementation
- SOA Adoption Blueprints
- SOA Reference Model
- Conformance [completed]

OASIS: Service and Data Description



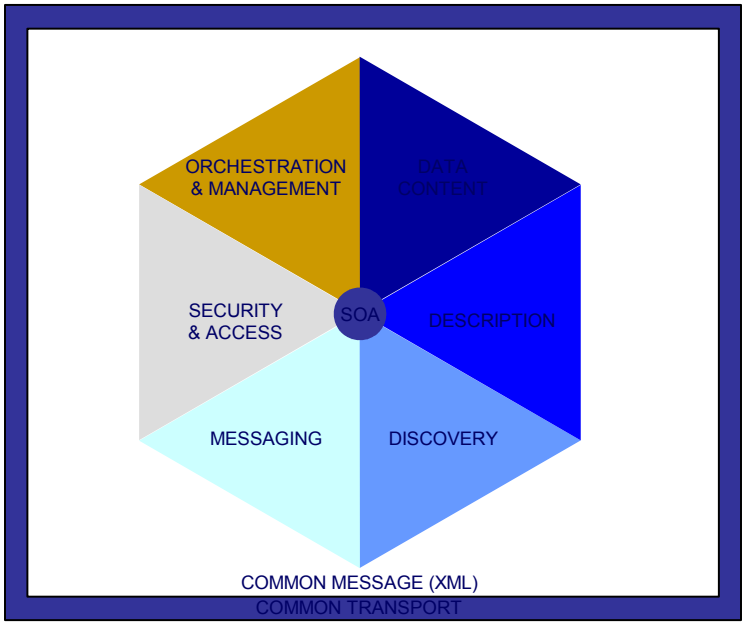
- ebXML CPP/A
- HumanMarkup
- User Interface ML (UIML)
- WSRP (Portlets)
- DITA
- Entity Resolution
- Published Subjects (Topic Maps)
- XDI
- XRI

OASIS: Data Content



- AVDL
- CGMO WebCGM
- CIQ
- DocBook
- eGov
- ElectionML
- Emergency Mgmt (Common Alerting)
- EPS (Procurement)
- LX-Court Filing
- LX-eContracts
- LX-eNotary
- LX-Integ Justice
- IHC (Health)
- Materials
- OBIX
- OpenDocument
- Product Lifecycle (PLCS)
- PPS
- TaxXML
- Trans WS
- UBL
- WAS
- XLIFF
- [Auto Repair]

OASIS: Orchestration & Management



- ASAP
- Business Transactions
- CAM
- ebXML-BP
- SOA-RM
- WSBPEL
- WS-CAF
- DCML-Adoption
- DCML-Apps & Services
- DCML-Framework
- WSDM (Mgmt)
- WS-Notification
- WS-Resource Framework

WHY OASIS?

What is OASIS?

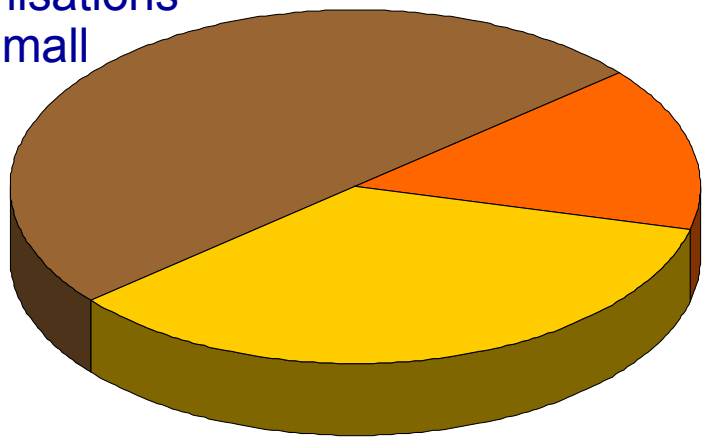
- OASIS = Organization for the Advancement of Structured Information Standards
- OASIS has been developing e-Standards since 1993
- OASIS is a member-led, international non-profit standards consortium concentrating on structured information and global e-business standards.
- Over 6000 members and 650 organizations
- Supports over 60 technical committees producing royalty-free and RAND standards in an open process.

"The largest standards group for electronic commerce on the Web"

The New York Times

OASIS Member Distribution

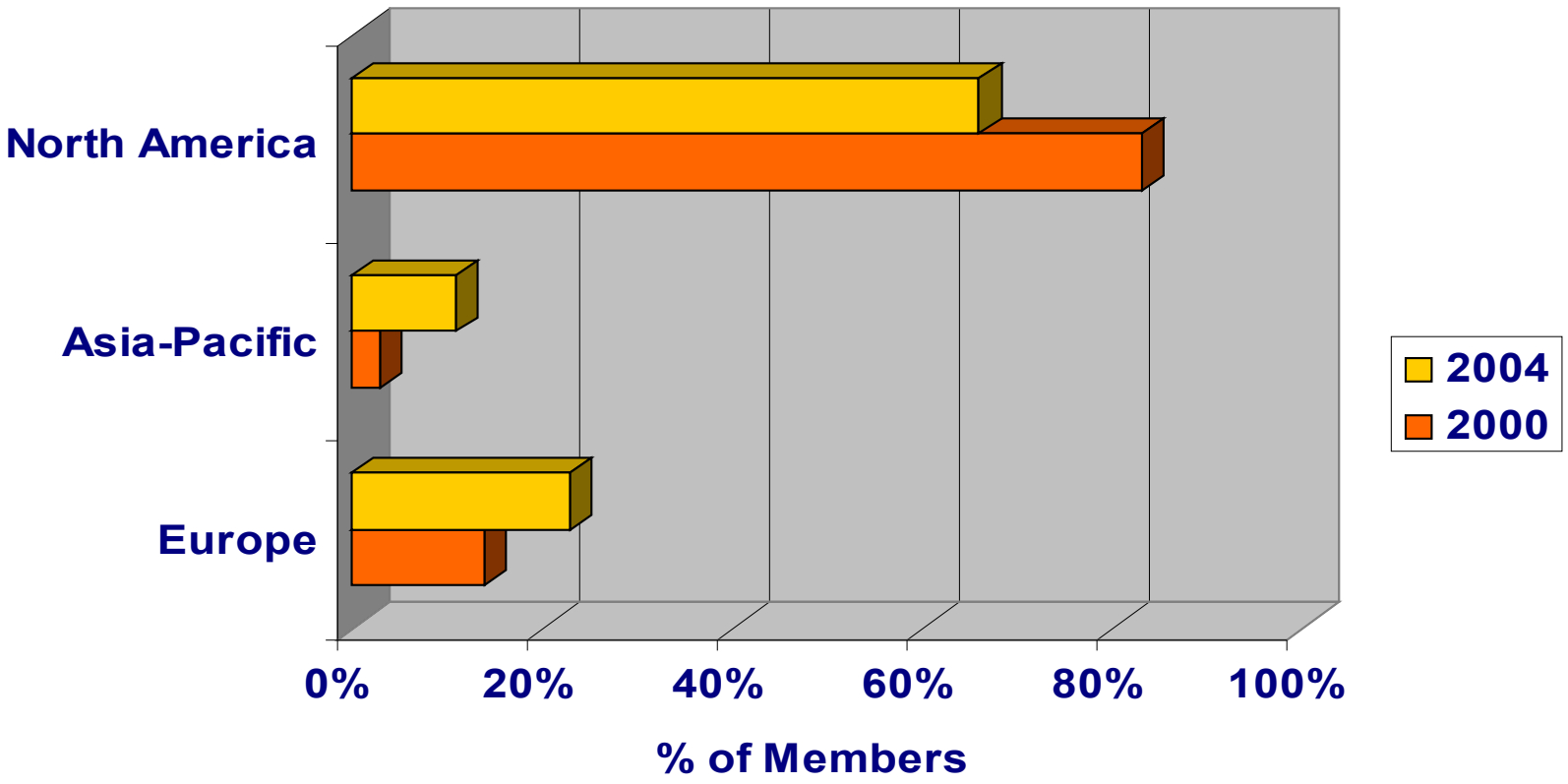
50%
Technology Providers
- Software vendors
- Industry organisations
- Individuals / small developers



15%
Government & Academic
- Governments
- Universities
- Research centres & related nonprofits

35%
Users and influencers
- User companies
- Vertical industry organisations
- Individuals / small consultancies

OASIS Membership Expanding Globally



OASIS Technical Work

- The OASIS technical agenda is set by our members; bottom-up approach
- A Technical Committee (TC) is formed by a proposal of our members
- Each Technical Committee sets its own scope, schedule, and deliverables
- More than 60 Technical Committees in a variety of topic areas
  - E-business
  - Security
  - Web services
  - Public sector

OASIS Standards Process

- Specifications are created under an open, democratic, vendor-neutral process
  - Any interested parties may either participate or comment
  - No one organization can dictate the specification
  - Ensures that specifications meet everyone's needs, not just those of the largest players
- All discussion is open to public inspection and comment
- Bi-level approval process
  - TC approves Committee Draft
  - OASIS members approve OASIS Standard
- Resulting work is representative broad range of industry, not just any one vendor's view

Technical Work Process

1. Any three or more OASIS members propose creation of a Technical Committee (TC)
2. Existing technical work submitted to TC; or TC starts work at the beginning. TC conducts and completes technical work; open and publicly viewable
3. TC votes to approve work as an **OASIS Committee Draft**
4. TC conducts public review, and three or more OASIS members must implement the specification
5. TC revises and re-approves the specification
6. TC votes to submit the Committee Draft to OASIS membership for consideration
7. OASIS membership reviews, approves the Committee Draft as an **OASIS Standard**

Focused Content

- www.oasis-open.org
- www.xml.org
  - egovernment.xml.org
  - finance.xml.org
  - healthcare.xml.org
  - hr.xml.org
  - insurance.xml.org
  - localisation.xml.org
  - publishing.xml.org
  - security.xml.org
- xml.coverpages.org
- www.cgmopen.org
- www.dcml.org
- www.legalxml.org
- www.pkiforum.org
- www.uddi.org

Membership Benefits

- Influence
- Information
- Participation
- Education
- Co-ordination
- Credibility
- Visibility
- Openess

Software Vendor Benefits

- Form a committee to standardize current proprietary processes or schemas
- Influence the direction of an existing committee by submitting materials to the committee
- Influence the direction by articulating preferences
- Gain early feedback on new concepts and ideas
- Access to early drafts of new specifications
- Actively participate in interoperability tests
- Find partners and develop joint solutions
- Become part of a ”bigger picture”; especially important for small – medium software vendors
- Promote your company with events and information channel sponsorship
- Meet and work with end user organisation as well as industry organisation
- Identify potential customers with a real and expressed needs

End-User Company Benefits

- Educate employees on trends and developments of technology
- Learn and adopt best practices
- Influence direction and priorities of standards development by providing business requirements
- Evaluate and observe vendors in their implementation and product directions
- Participate in interoperability demos by providing business scenarios
- See practical implementations from multiple vendors for given scenarios

Government Benefits

- Educate staff to learn about general e-Business frameworks
- Influence software vendors to develop solutions for your government
  - Increases number of competitive solutions
  - Lowers cost of implementations for your agencies
- Enable cross-government adoption
- Participate in inter-government standards activities
- Learn and adopt best practices
- Coordinate complimentary standards activities – minimise overlap
- Speed up development and adoption of new technologies and emerging standards
- Minimize risk in evaluation of new technology directions
- Monitor open standards and marketplace adoptions for recommendation in government structure
- Monitor and evaluate best practises for recommendations to industries and companies within your country or region

University and Research Center Benefits

- Monitor ”state of the art” in technology and standards development
- Propose new ideas and receive feedback to those ideas
- Reduce the ”time to market” from concept to wide spread adoption
- Create a broader market for adoption of development from your research projects
- Gain visability for your project efforts
- Establish closer ties with more industry and government organisations

What should a user do?

- Bring your use cases to the standards table
- Be prepared to compromise
- If you can participate as an active contributor, do so
- If you don't have the bandwidth to contribute actively, be a good observer
- Understand the ground rules
- Expect conformance
- Be a good citizen: share your experience

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