AIAG AutoTech 2007

Interoperable Electronic Business Messages

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Co-opetition: Creating Supply Chain Value

Enterprise Challenges

Winning the present

- Flexible execution
- Predictable performance
- Compliance

Adapting to accelerating change

- Strategic agility
- Faster business model innovation
- Flexible networks

The Web as the ubiquitous dial tone

- Geographically distributed
- Homogeneous technology
- Accessible everywhere
- Multi-vendor

Dependencies

Web services must interoperate to be effective

- *Reality:*
  - *An enterprise consists of tools and solutions from multiple providers*
- *Enterprises want and need quality, modularity, evolve-ability, etc.*
- *Interoperability is a major step towards meeting requirements*

The Web services adoption and support cycle

- *Web services succeed in direct proportion to the technologies that support them*
- *Vendors must deliver more and better support as adoption grows*
- *As more common services become available, the pace of adoption will accelerate*

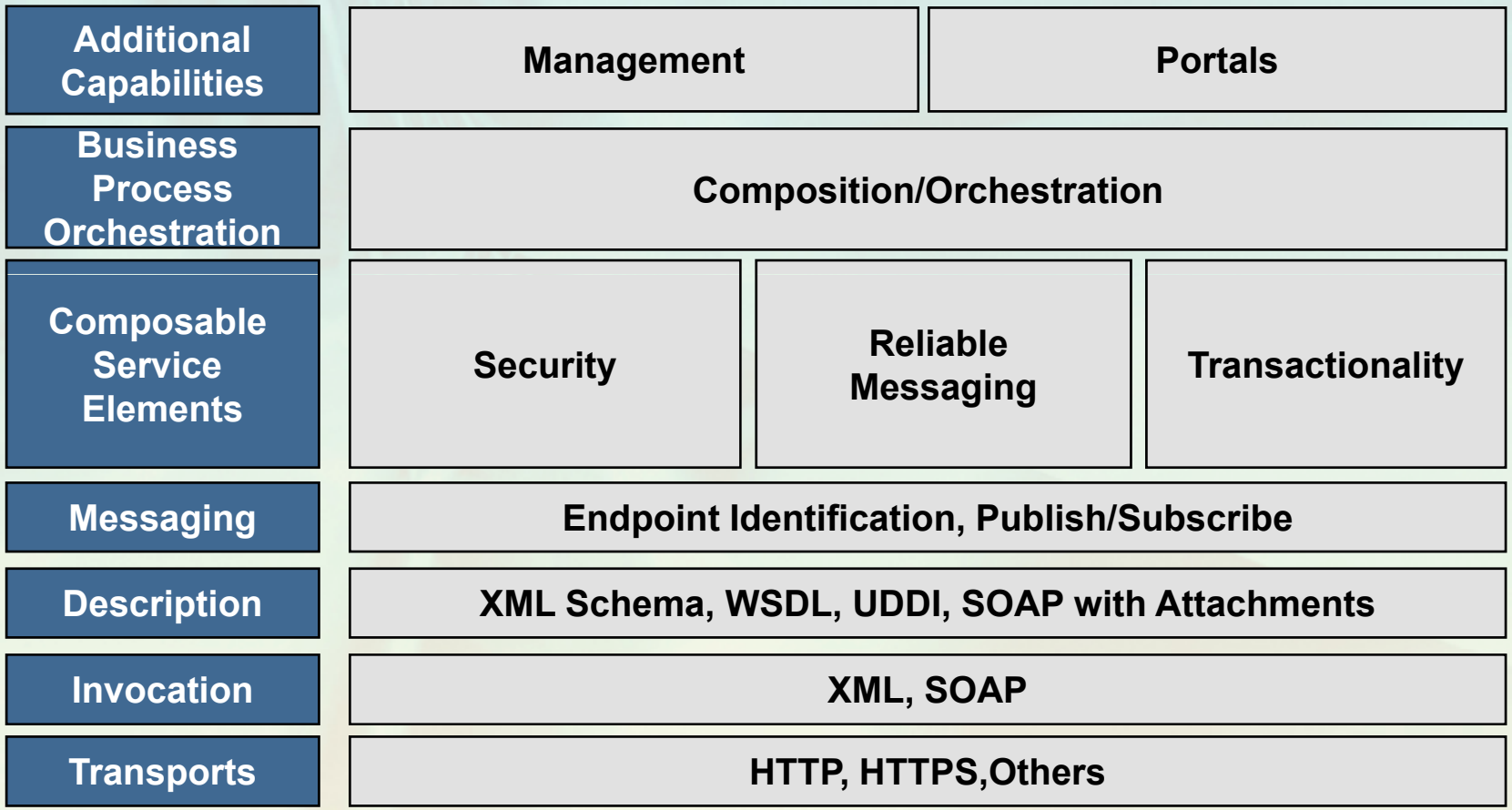
Web Services Interoperability Organization (WS-I)

- **An open industry effort**
  - *Advancing Web services interoperability*
- **Broad participation**
  - *180+ companies*
- **Establish best practices for achieving interoperability**
  - *Based on existing open standards*
- **Cooperate with standards development organizations**
  - *OASIS, W3C, others as appropriate*

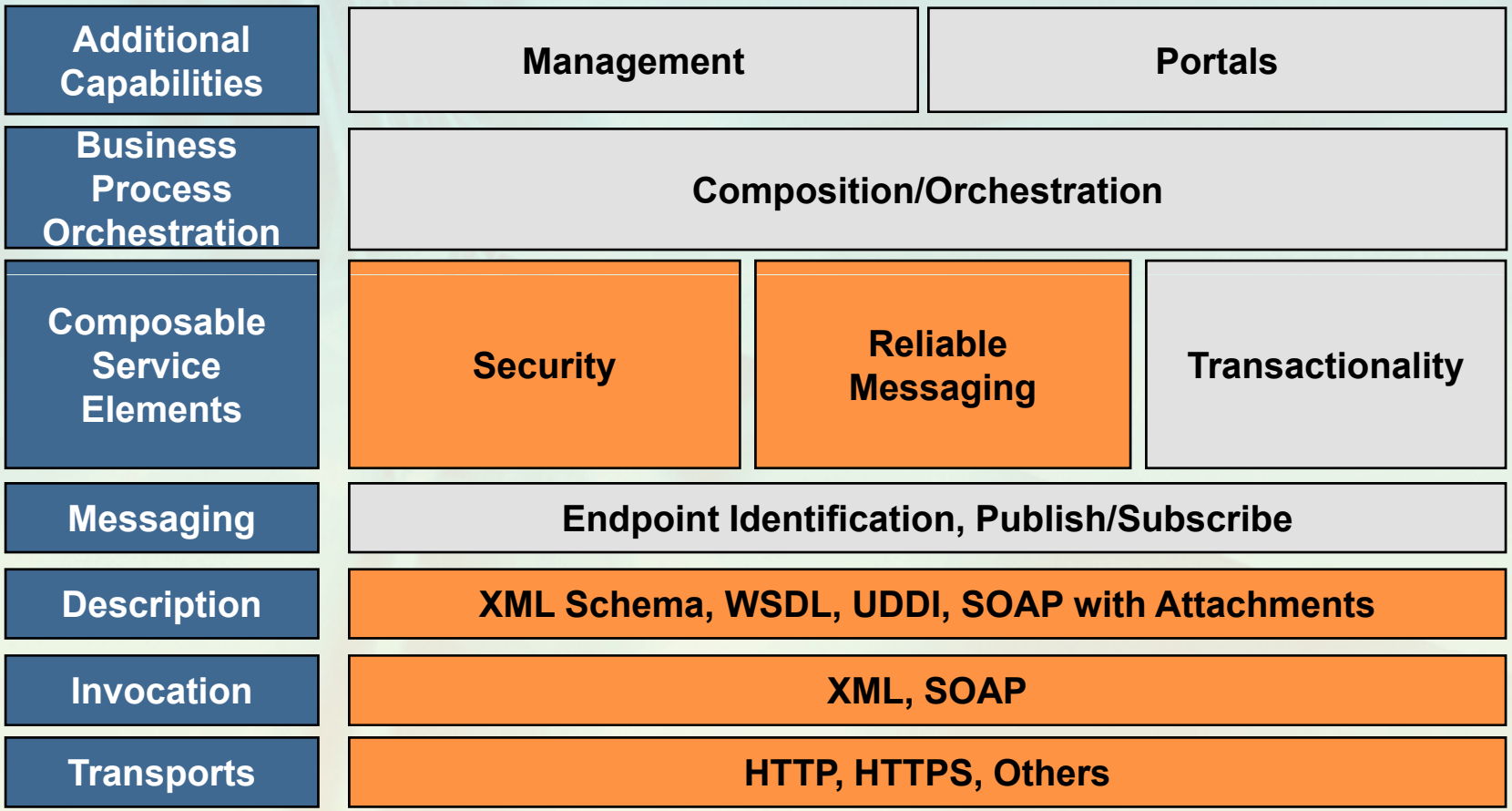
WS-I Value Proposition

- **Reduce cost, complexity and risk**
  - *Provides confidence in achieving interoperability*
  - *Common implementation guidelines*
- **Improve productivity and accelerate time to market**
  - *Facilitates collaboration, both internally and with business partners*
  - *Allows companies to focus on added value, not basic plumbing*
- **Simplify Web services buying decisions**
  - *Ask for WS-I conformance before buying*

The Web Services Standards Set



WS-I Work to Date



WS-I Deliverables

- **Profiles**
  - *Guidelines and conventions for using a defined set of specifications to ensure interoperability*
  - *Selected set of specifications based on customer requirements*
- **Sample applications**
  - *Sample code and applications support multiple environments*
  - *Demonstrate interoperability for completed profiles*
- **Test tools and supporting materials**
  - *Test profile implementations for conformance*
  - *Supporting documentation*

Why Are Profiles Necessary?

WS-I Profiles:

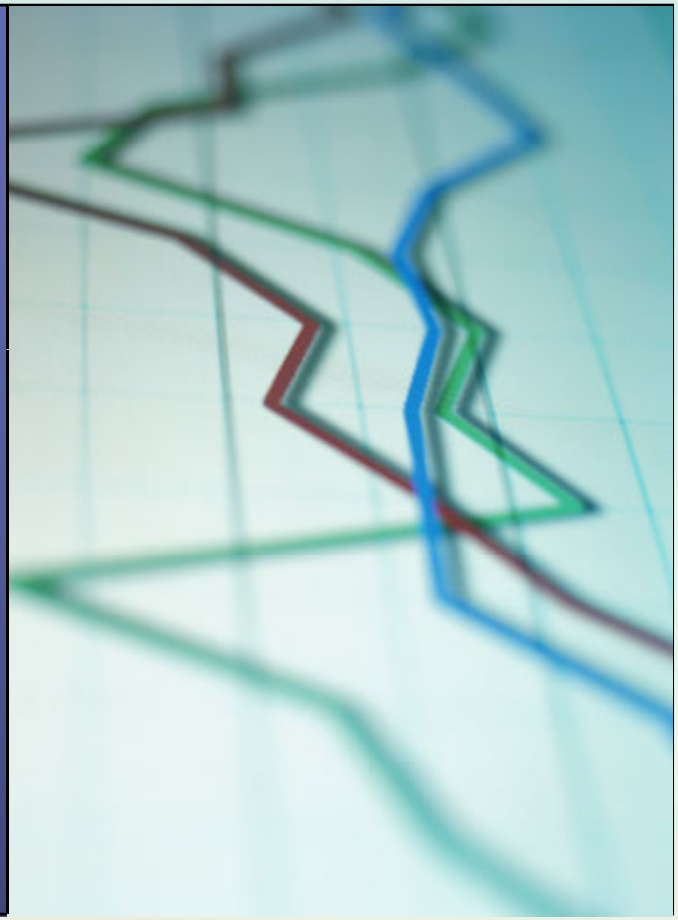
- Establish Best Practices
- Eliminate ambiguity
- Clarify semantics
- Ensure consistent application for selected standards

Progress to Date

- **Final material**
  - *Basic Profile 1.0 and 1.1*
  - *Simple SOAP Binding Profile 1.0*
  - *Attachments Profile 1.0*
  - *Security Challenges, Threats and Countermeasures 1.0*
  - *REL and SAML Token Profiles*
  - *Basic Security Profile 1.0*
- **Work in progess**
  - *Basic Security Profile 1.1*
  - *Basic Profile 1.2 & 2.0*
  - *Reliable Secure Profile 1.0*

Automotive OEMs—major business drivers

- Cost reduction and outsourcing
- Manufacturing productivity
- Flexibility and responsiveness
- Pursuit of new markets
- Innovation
- Time to market
- Product quality
- Client Service



Automotive OEM Supply Chain Integration

- Automotive OEMs are actually “integrators”
- OEMs perform little in-house manufacturing
  - – Outsource to a number of suppliers
- Automobiles assembled from parts and subassemblies
  - – Complex value chain of suppliers

Automotive --- the 10,000-foot view

Current Automotive Supply Chain

- Based on dated Electronic Data Interchange (EDI) implementations which are too expensive for many suppliers
- Poor or non-existent adoption of technology by lower tiers
- Huge use of paper, pencil and fax machine

Next Generation Automotive Supply

- Web Services-based B2B interchange enabling SOA
- Open Standards
- Business process integration
- Business process re-engineering
- Reflects a supply chain shift in the entire automotive industry

A cost-effective, open, dynamic and adaptable infrastructure—
B2B with WS*

Automotive Industry and WS-I

- Multiple OEMs worked together to define requirements
  - Needed more than synchronous processing
- Required Secure Asynchronous processing
  - Web services standards were evolving
  - OEMs required interoperability
    - Ease integration challenges
  - Approached WS-I in mid-2006
    - Agreement to initiate new Profiles to address OEMs' needs
    - Target delivery for completed profiles – 2H07

The WS-I Response

- Basic Profile 1.2
  - SOAP 1.1 Binding for MTOM
  - WS-Addressing and MTOM/XOP
    - Target completion: 2H07
- Reliable Secure Profile 1.0
  - WS-ReliableMessaging 1.1
  - WS-SecureConversation 1.3
    - Composes with BP 1.2/2.0 and BSP 1.0
    - Target completion: 2H07

Conclusion

- It took the telecommunications industry 100 years to establish a ubiquitous network
- Industry is on its way to establish “dial tone” interoperability
- Web services standards continue to mature and be integrated into technology