



XML Standards for Business Messages



OOPSLA 2000

October 17, 2000

Minneapolis Convention Center,
Minneapolis, Minnesota

David Connelly,
President and CEO
Open Applications Group, Inc.

<http://www.openapplications.org>



Agenda

- B2B Today
- We Need . . .
- Industry Standards Activity
- Open Applications Group
- Summary





New Model

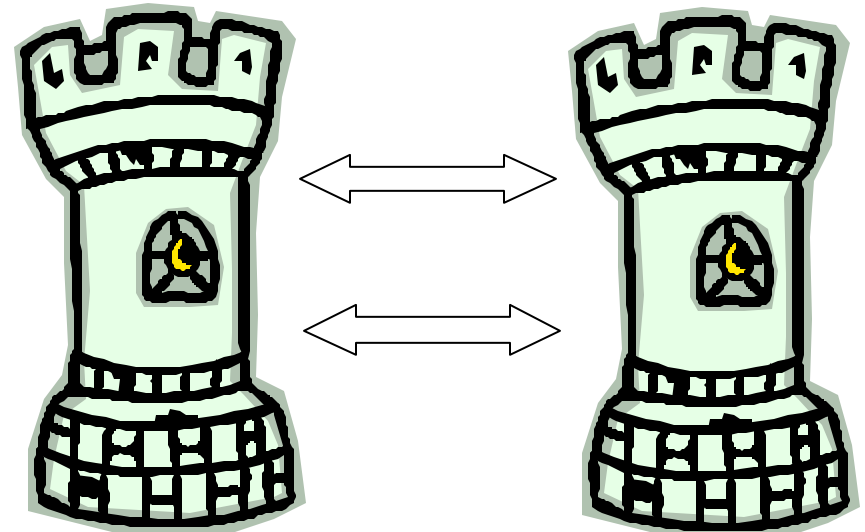
- B2B is here to stay
- Old methods won't work
- There is a new model for interoperability
- XML is here
- EDI is legacy





B2B Projects Today

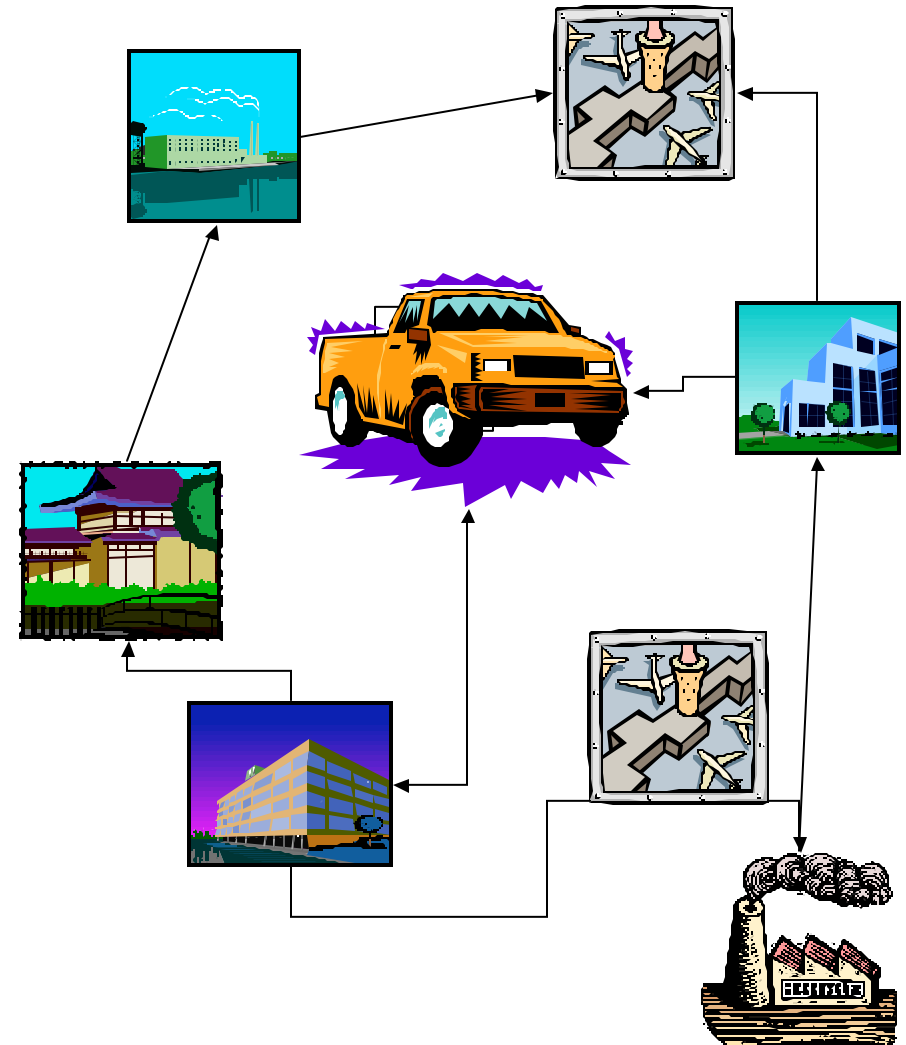
- Pair wise still very prevalent
- EDI-like in implementation
- Too often a “one off”





B2B Projects Today

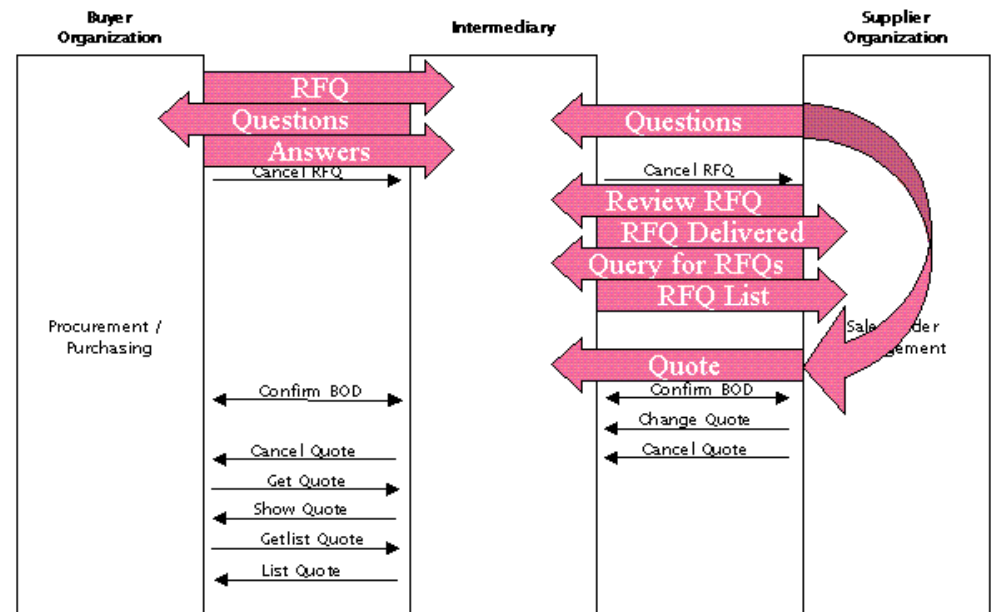
- Web based Supply Chain
 - One to Many Model
 - Mostly large corporations
 - Requires own infrastructure
 - Hard to scale
 - This has the potential to marginalize (again) the SME





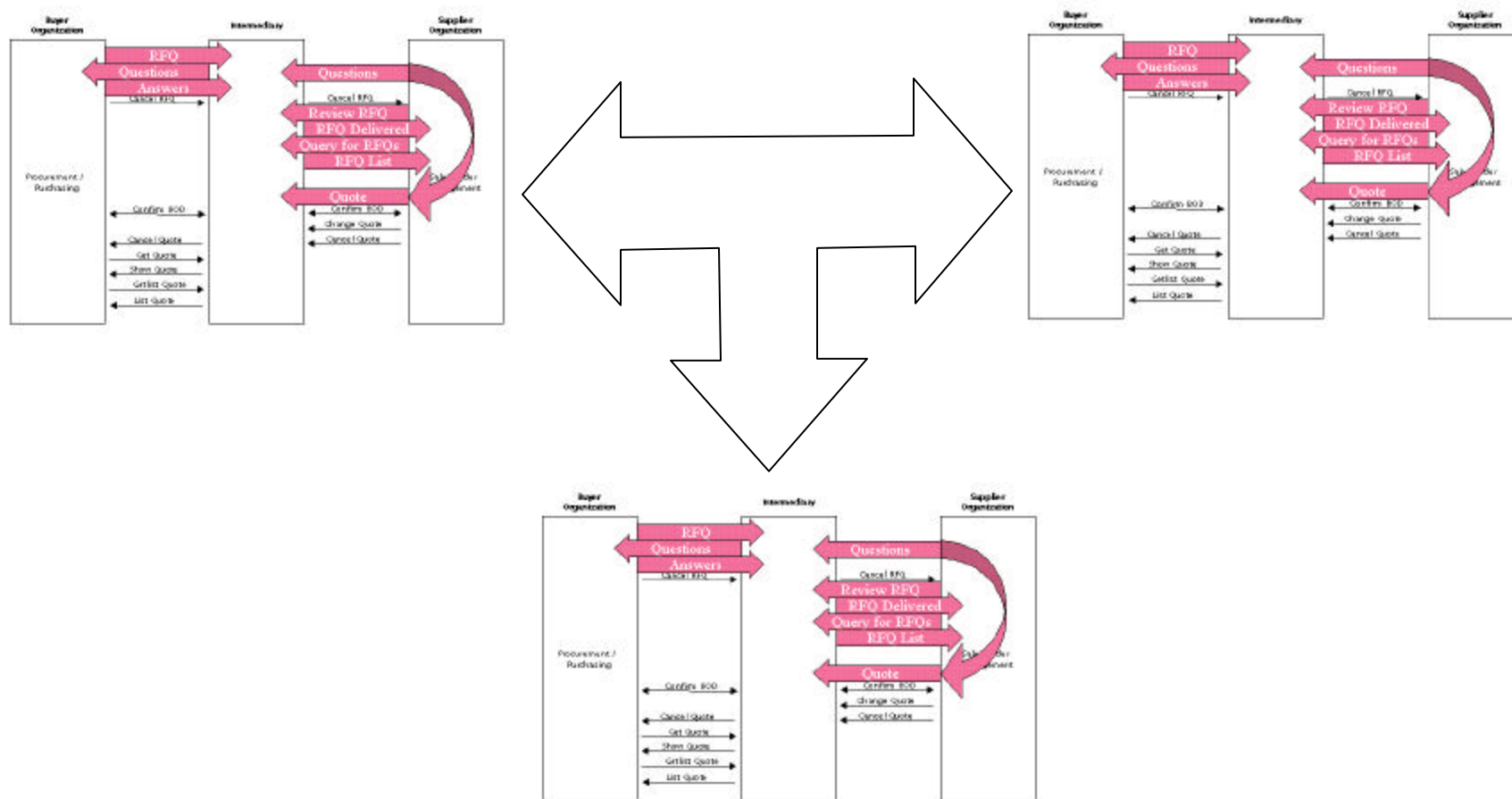
B2B Projects Today

- Internet Market Places
- Also known as:
 - Trading Exchanges
 - Portals
 - Net Markets
 - B2B-Intermediated
 - Vertical trading hubs
 - Etc.





Trading Exchange Integration





We need . . .

- Architectures that provide business connections to dissimilar technologies
- Off the shelf products to enable





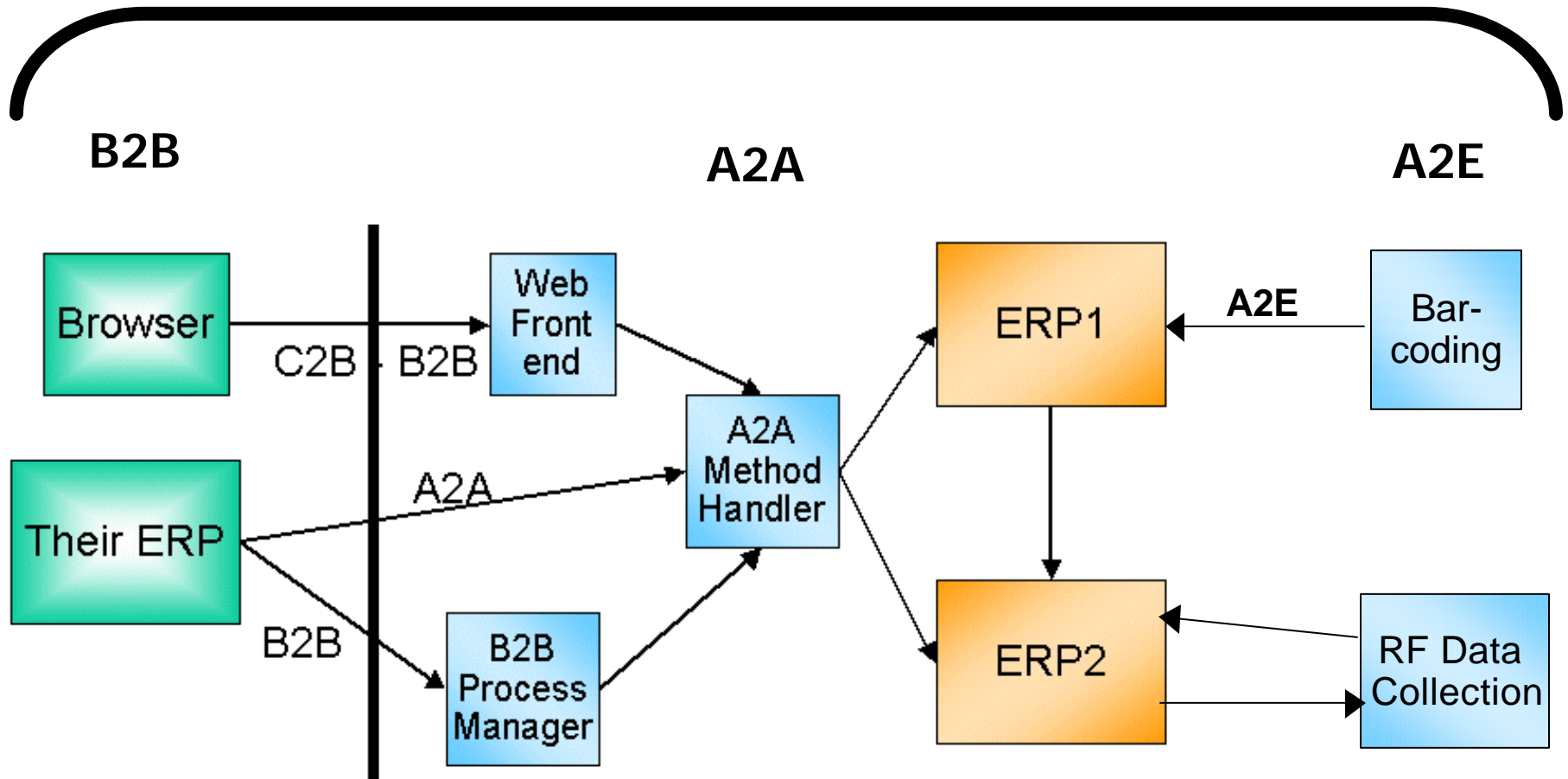
We need . . .

- Faster set up time to begin trading with partners
- Secure and affordable way to handle high volumes
- To provide higher levels of automation





The End in Mind



$$E2E = B2B(C2B) + A2A + A2E$$



The Focus

- Agility



- Lower cost of ownership





Standards as an enabler

Value Proposition for Vendors

- Gain market and industry insight
 - define industry-centric, standards-based solutions
 - detect emerging trends and markets
 - understand customer needs and objectives
- Establish contacts, relationships, leads
- Demonstrate leadership
- Preparation to work in a trusted, consultative capacity with customers
- Position against competition
- Valuable tool for gaining knowledge and sharing expertise



Standards as an enabler

Value Proposition for End-Users:

- Gain Economies of Scale
- Less implementation effort
 - vendors have done the work so customers don't have to
- Quicker time to deploy
 - starting with an "out of the box" solution
- Vendors invest time and resources to keep current so customers have more time to devote to other efforts
- The end result is an quick-to-deploy solution that is closely aligned with customer's needs and objectives



Initiatives and Associations by Industry

- High-Tech Manufacturing (HTM)
 - RosettaNet
 - CompTIA - Computer Technology Industry Association
 - EIDX - Electronics Industry Data Exchange
 - EIA - Electronic Industries Alliance
 - EICX - Electronic Component Information Exchange
 - IPC - Institute for Packaging Electronic Circuits
 - SMDX - Semiconductor Manufacturing Data Exchange Standard
- Financial Services
 - FpML - Financial Products Mark-up Language
 - Acord - insurance industry standards group
 - EFP - Electronic Payment Forum
 - FINXML - Financial Markets XML
 - FIXML - Financial Information eXchange Markup Language
 - FSTC - Financial Services Technology Consortium
 - GSTPA - Global Straight Thru. Processing Association
 - SET - Secure Electronic Transactions



Initiatives and Associations by Industry

- **Petro/Chemical**
 - PIDX - Petroleum Industry Data Exchange**
 - API - American Petroleum Institute**
 - GISB - Gas Industry Standards Board**
 - CIDX - Chemical Industry Data Exchange**
- **Heavy Manufacturing**
 - AIAG - Automotive Industry Action Group**
 - AIA - Aerospace**
- **Pharmaceuticals**
 - LPA - Lab Products Association**
 - NWDA - National Wholesale Druggists**
- **Healthcare**
 - HL-7 - Health Level 7**
 - HIBCC - Health Industry Business Comm Council**
- **Consumer Packaged Goods**
 - Supply Chain Efforts**
 - NRF-ARTS - Nat'l Retail Federation Association for Retail Technology Standards**
- **Gov't & Education**
 - DOD's Joint Electronic Commerce Program Office**
 - IDE - Integrated Digital Environment**



Cross-Industry Associations

- **CPFR/VICS - Collaboration, Planning, Forecasting, and Replenishment**
- **CommerceNet**
- **OBI - Open Buying on the Internet**
- **DISA - Data Interchange Standards Association**
- **UCCNet - Uniform Code Council Network**
- **EISC - Enterprise Integration Standards Council**
- **HR-XML**
- **ICE - Information and Content Exchange**
- **MDC - Meta Data Coalition**
- **NAPM - National Association of Purchasing Management**
- **OAGI - Open Applications Group**
- **OASIS/XML.org - Organization for Advancement of Structured Information Standards**
- **OMG - Object Management Group**
- **Ontology.org**
- **SCOR - Supply chain council**
- **XML/EDI Group**



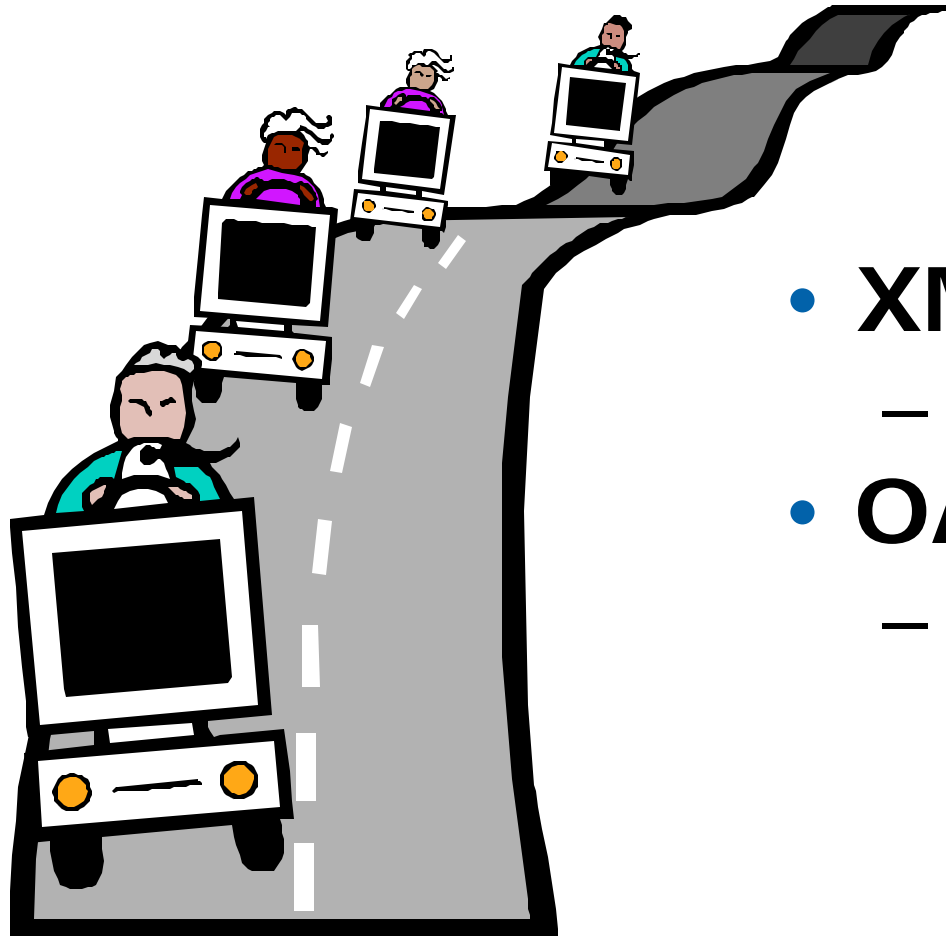
XML Activity

- W3C ← **Defining XML**
 - XML.org/ebXML ← **XML Repositories**
 - BizTalk.org ← **XML Repositories**
 - ebXML ← **XML Repositories**
 - BizTalk ← **Frameworks**
 - OAGI ← **Frameworks**
 - Rosettanet ← **Defining Content**
 - ebXML ← **Defining Content**
 - CommerceOne ← **Defining Content**
 - Ariba ← **Defining Content**
 - HL7 ← **Defining Content**
 - XML/EDI ← **Defining Content**
 - CommerceNet ← **Promoting eCommerce**
- Open Applications Group**
- ✍ Focused on schemas and process
 - ✍ Horizontal model
 - ✍ Focused engineering practices
 - ✍ Actively bringing stakeholders together
 - ✍ Convergence initiative
 - ✍ Implementable



Downloads in 2000

(thru Oct. 17, 2000)



- **XML in 2000**
– 7340
- **OAGIS in 2000**
– 7092



Total Transfers by Client Domain

%Reqs	%Byte	Bytes Sent	Requests	Domain	
0.01	0.00	67163	5	ad	Andorra
0.12	0.25	14595843	65	ar	Argentina
0.31	0.05	2957918	173	at	Austria
1.00	1.56	91933659	553	au	Australia
0.79	0.89	52284674	440	be	Belgium
0.13	0.24	14067615	73	br	Brazil
1.04	0.88	51746047	577	ca	Canada
0.48	0.63	36884679	267	ch	Switzerland
0.08	0.18	10417087	47	cn	China
0.03	0.11	6676441	15	co	Colombia
0.17	0.21	12633673	92	cz	Czech Republic
2.15	2.28	134782200	1193	de	Germany
0.24	0.47	27856878	133	dk	Denmark
0.07	0.03	1773253	40	ee	Estonia
0.20	0.09	5539628	111	es	Spain
0.15	0.03	1985499	86	fi	Finland
1.13	1.31	77220553	627	fr	France
0.05	0.08	4480038	27	gr	Greece
0.01	0.01	508777	7	gt	Guatemala
0.01	0.01	619653	5	hk	Hong Kong
0.00	0.01	597717	1	hr	Croatia (Hrvatska)
0.02	0.00	147670	11	hu	Hungary
0.04	0.20	11631493	21	id	Indonesia
0.11	0.04	2428336	61	ie	Ireland
0.10	0.15	8716575	55	il	Israel
0.14	0.16	9468846	79	in	India
0.52	0.62	36298170	286	it	Italy
2.86	1.04	61515653	1586	jp	Japan
0.03	0.01	823101	15	kr	Korea (South)
0.01	0.00	87066	7	kz	Kazakhstan
0.01	0.00	67135	5	lb	Lebanon
0.01	0.00	89212	6	lt	Lithuania
0.05	0.02	1115917	29	lu	Luxembourg
0.01	0.00	77611	6	lv	Latvia
0.03	0.02	975703	19	mu	Mauritius
0.06	0.03	1923834	35	mx	Mexico



Total Transfers by Client Domain

%Reqs	%Byte	Bytes Sent	Requests	Domain
0.05	0.05	3238765	26 my	Malaysia
0.62	0.57	33718057	343 nl	Netherlands
0.07	0.12	6961369	39 no	Norway
0.32	0.56	32968420	175 nz	New Zealand (Aotearoa)
0.02	0.00	103626	10 om	Oman
0.00	0.00	504	1 ph	Philippines
0.23	0.20	11989152	126 pl	Poland
0.15	0.20	11728059	83 pt	Portugal
0.29	0.13	7853403	163 ru	Russian Federation
0.06	0.07	4336953	36 sa	Saudi Arabia
0.24	0.40	23649061	133 se	Sweden
0.48	0.22	12940563	266 sg	Singapore
0.03	0.15	8568936	19 si	Slovenia
0.01	0.01	618681	3 sk	Slovak Republic
0.05	0.02	912986	30 th	Thailand
0.28	0.29	17333790	156 tw	Taiwan
0.03	0.11	6761088	14 ua	Ukraine
1.26	1.40	82695750	697 uk	United Kingdom
0.07	0.12	7046216	37 us	United States
0.07	0.01	838409	38 uy	Uruguay
0.00	0.00	8071	1 ve	Venezuela
0.76	0.84	49391362	424 za	South Africa
0.19	0.39	22831906	104 210	
0.00	0.00	18228	2 246	
39.16	36.61	2159915917	21740 com	Commercial
0.37	0.19	10941436	204 edu	Educational
0.12	0.13	7950955	68 gov	Government
0.28	0.12	7221371	157 mil	US Military
12.63	11.51	679311029	7013 net	Network
0.78	0.57	33591439	433 org	Non-Profit Organization
29.20	33.38	1969545796	16210 unresolved	

Open Applications Group

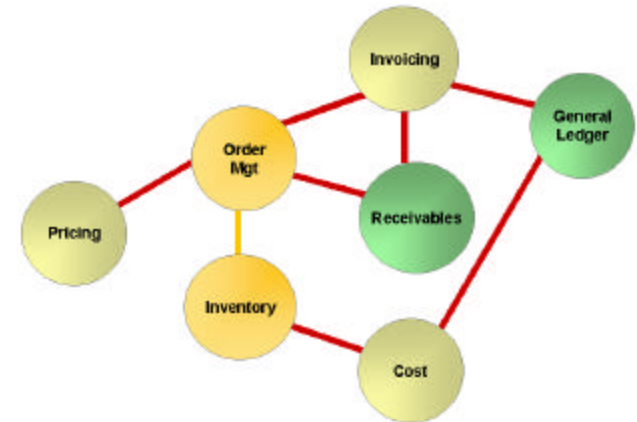
Best Practices and XML Content for eBusiness and Application Integration



Open Applications Group

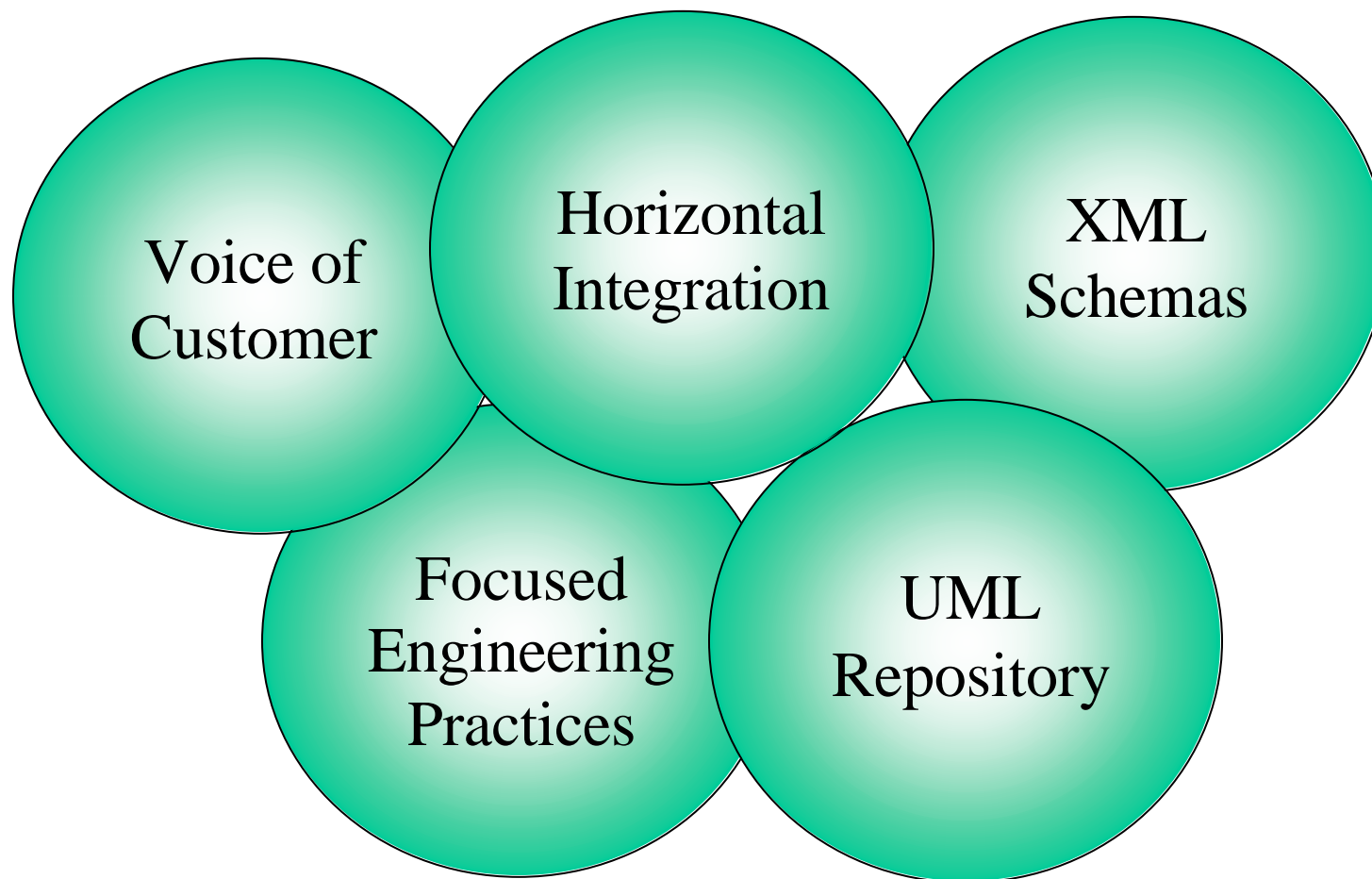
Industry Consortium working to achieve dramatically easier business software integration for:

- Business to Business
- Application to Application
 - Legacy
 - Packaged
- Outside the Enterprise
- Across the Enterprise
- Down the Enterprise





OAGI Facilities





Current Membership

Active Software
Agile Software
Atofina Chemicals
AT&T Wireless
Bluestone Software
Boeing
Candle Corp.
Canopy International
CIMLINC
Compaq
Cyclone Commerce
DATEV eG
DHL
Digital Paper
EntComm
Electron Economy
eXcelon Corporation
Extricity Software
Ford Motor Company
Future Three
Glotech Solutions
Great Plains
HMS Software
I2 Technologies
iBASEt

IBM
ISSG
irista, Inc.
J.D. Edwards & Company
Killdara Corporation
Lockheed-Martin IT
Lockheed-Martin System
Solutions
Lucent Technologies
Mega
Mercator
Microsoft
NEC Corporation
NetCommerce
Netfish Technologies
Netonomy
NexPrise
NextSet
OASIS (XML.org)
OMG
Object Space
OnDisplay
Optio Software
Oracle Corporation
PeopleSoft, Inc.
PricewaterhouseCoopers

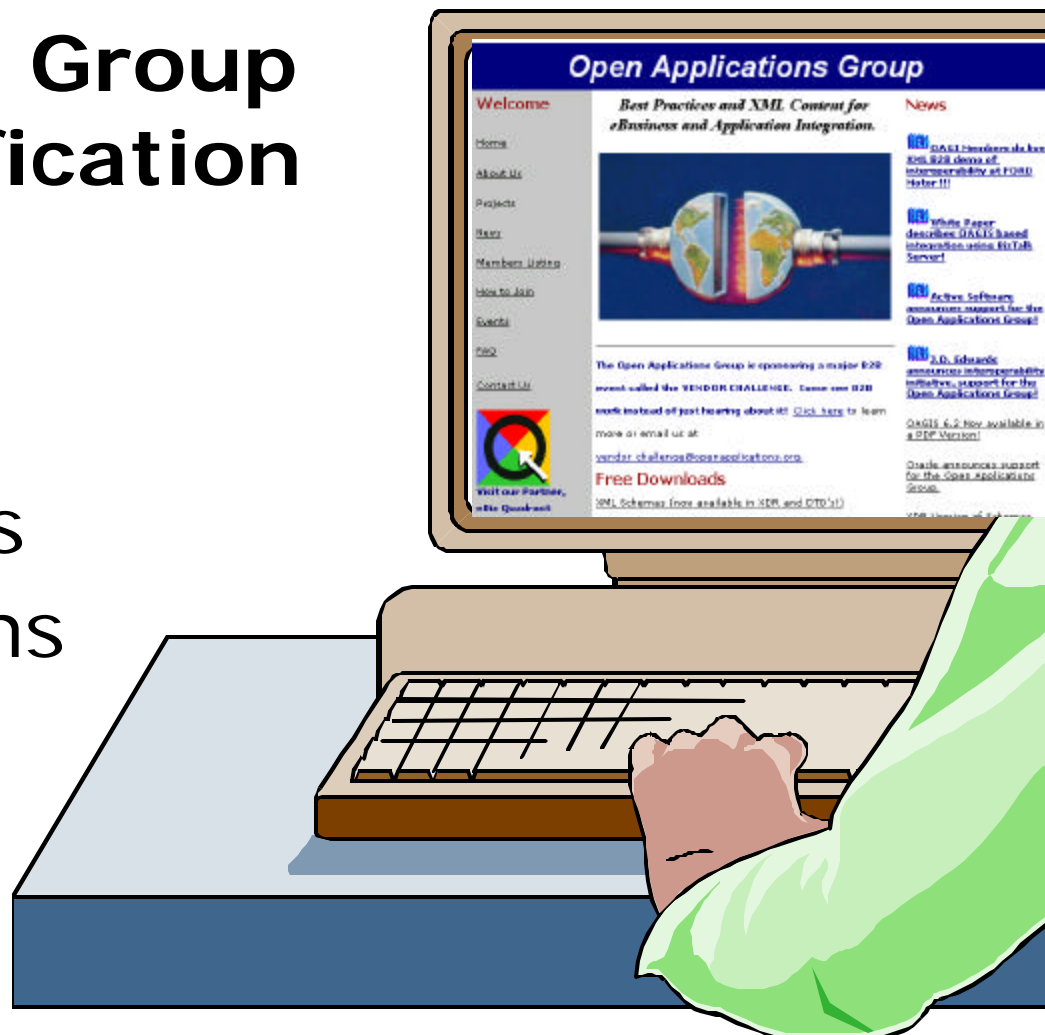
PSDI, Inc.
Requisite Technology,
Inc.
Robocom Systems Intl.
Saga Software
Sand Hill Systems
SAP AG
SilverStream
SoftQuad Software
Software Technology
Corporation
StreamServe, Inc.
SupplierMarket.com
SynQuest
Psion Teklogix
Tilion
TradeAccess
Trilogy
Unilever PLC
USDATA
Viewlocity
Vitria
webMethods
Wonderware
XML Global
XML Solutions



Key Deliverables

Open Applications Group Integration Specification

- Architecture
 - Business, Technical, Message, XML
- Process Definitions
- Message Definitions
- XML Schemas
- Data Dictionary





Technology Strategy

The technical
architecture of the
Open Applications
Group is intended to
be technology
sensitive . . .
*but not technology
specific.*





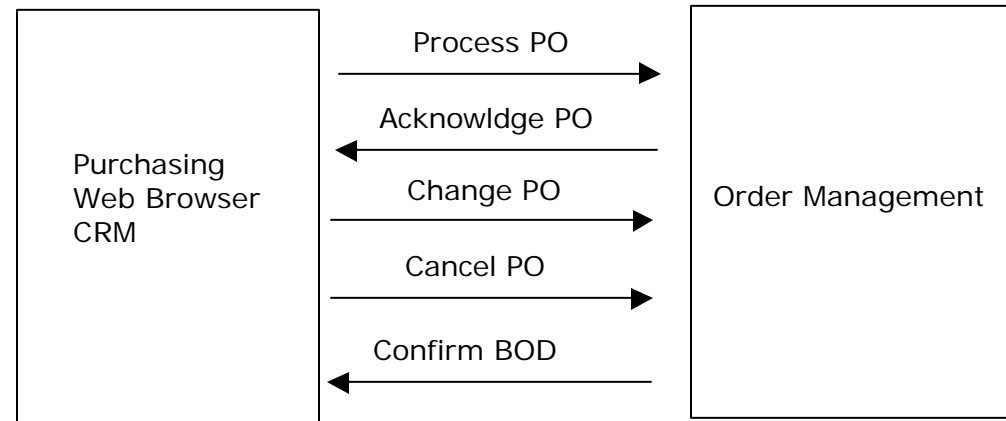
Business Process Diagrams

Business process based

Purchasing Ordering Process

Customer

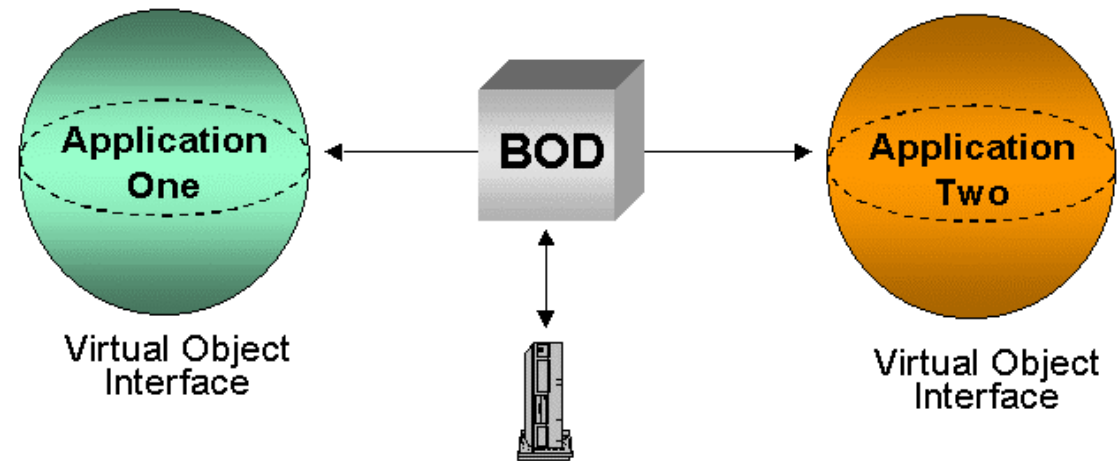
Supplier





A Virtual Object Model

- Loosely coupled
- Asynchronous
- Heterogeneous
- Message based
- Common content
- Meta data based

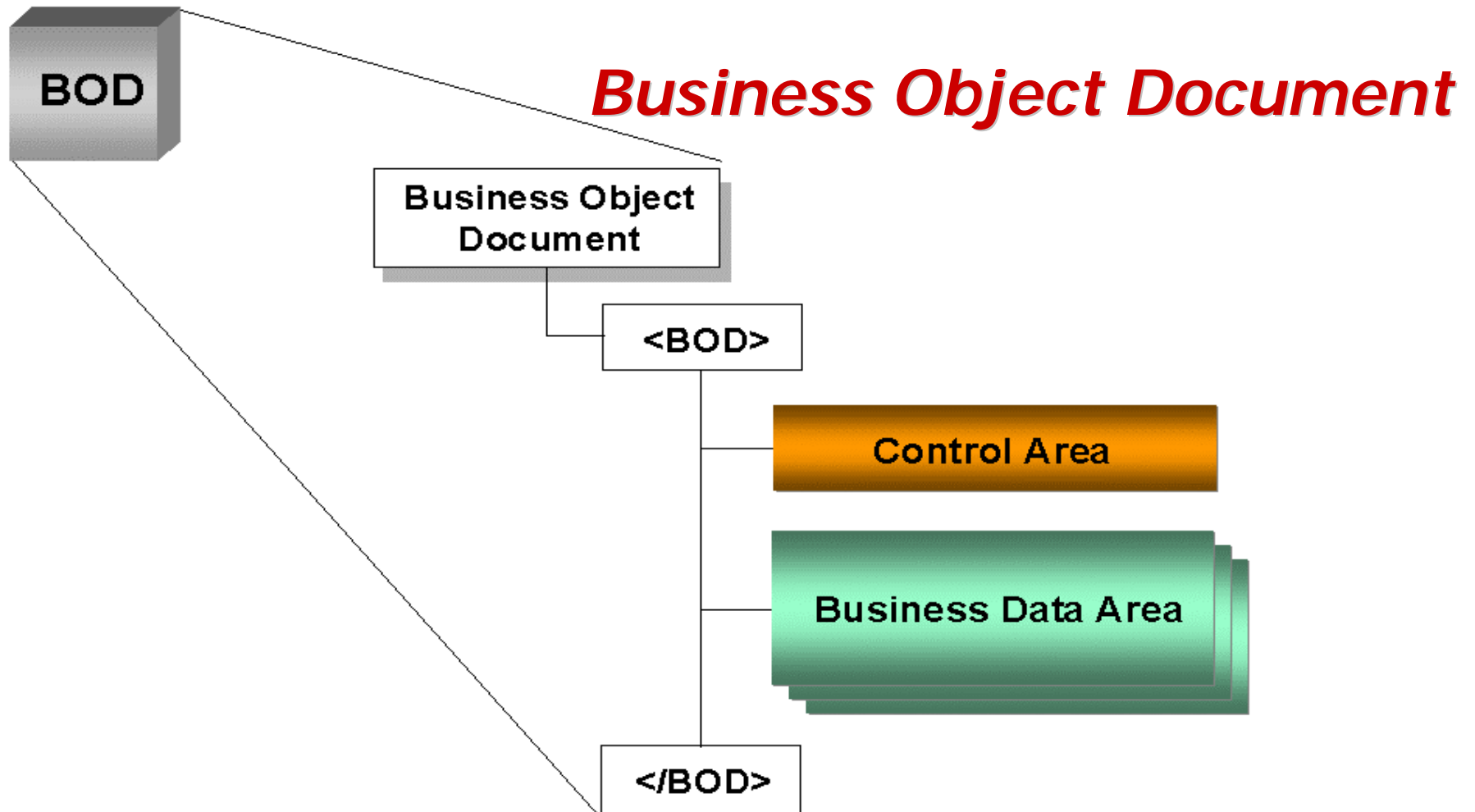


Integration Server

- Request - Reply
- Publish - Subscribe
- Directory Services
- Routing
- Queuing
- Logging
- Exception handling
- Transaction Management



Message Architecture





Library of Nouns

- Activity
- BOD
- BOM
- Catalog
- COA
- Countinfo
- Credit
- Customer
- Delivery
- Dsptchlist
- Engchgordr
- Exchngrate
- Field
- Inspection
- Invcntcount
- Issueinfo
- Item
- Journal
- Ldgrbudget
- Maintorder
- Matchdoc
- Matchok
- Matchfail
- Mfgtlcode
- Miscitem
- Payable
- Personnel
- Picklist
- PlanSched
- Plinvoice
- PO
- PriceList
- Prodavail
- Prodorder
- Productreq
- Projacctng
- Quote
- Receivable
- Requisition
- RFQ
- Routing
- Salesorder
- SeqSched
- Sitelevel
- ShipSched
- Status
- Supplier
- WIP
- Wrkschdule



Data Dictionary

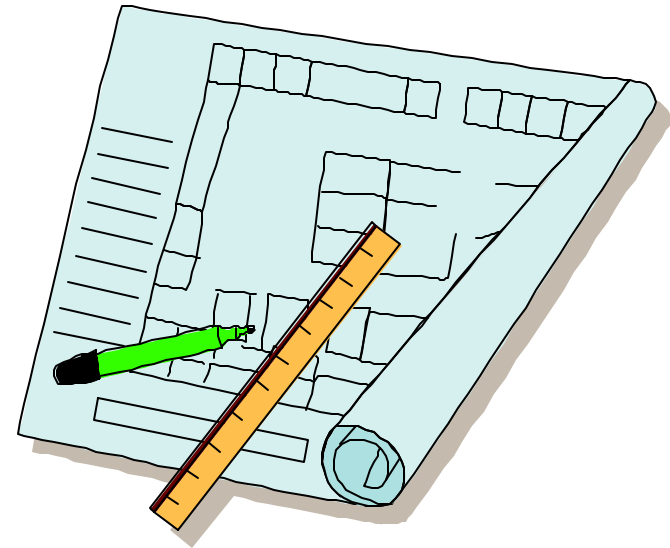
APPENDIX C - FIELD IDENTIFIER DESCRIPTIONS	OAGIS RELEASE 3
FAX1 THROUGH FAX9 FACSIMILE TELEPHONE NUMBER	
FAX is the facsimile telephone number for the CONTACT...	
FIELD FIELD IDENTIFIER	
FIELDID is the ten character field identifier name.	
FIELDVALUE FIELD VALUE	
This is a generic Field Identifier that holds the value of a field. This is used only in specific cases when there is a user needed generic field to process.	
FIXQTYIND FIXED QUANTITY INDICATOR	
Binary Indicator (Y or N) that specifies whether the QUANTITY (ITEM) is a fixed size and does not scale along with the quantity of the BOM being produced.	
FIXEDASSET FIXED ASSET IDENTIFIER	
FIXEDASSET represents a code defined for a fixed asset being tracked in project accounting and financial applications.	
Processing Note: In some applications, the complete identification of this value may require	
FRTHTCLS FREIGHT CLASS	
FRTHTCLS Qualifies goods for purposes of freight cost calculation. An example would be the qualifications used by National Motor Freight Carriers.	
FUND FUND IDENTIFIER	
Used to describe a major budgeting and spending area in an organization, FUND may be treated similarly to a legal entity. It is normally used in not for profit and may have a fiscal year that is different from a 12-month cycle.	
Processing Note: In some applications, the complete identification of this value may require multiple attributes. It is anticipated that in the future OAGIS will deal more thoroughly with this issue.	
SYNONYMS	
OPEN APPLICATIONS GROUP INTEGRATION SPECIFICATIONS	C-10

- Names and descriptions
- Horizontal Definitions
- Picking values where practical. ISO, etc.



UML Models

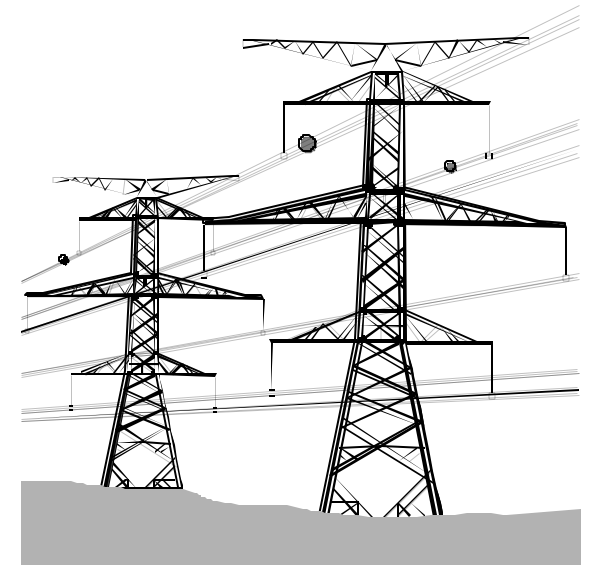
- Expressing OAGIS in UML
- Full repository containing
 - Object Model
 - Scenarios
 - Messages
 - Dictionary
- Will generate OAGIS from repository
- Will be available to members
- Available to public at cost





OAGI XML Technology

- Largest publisher of XML messages
- First adopted in 1997
- 170 XML definitions, more on the way
- Freely downloadable
- XML-Schema prototype project moving forward





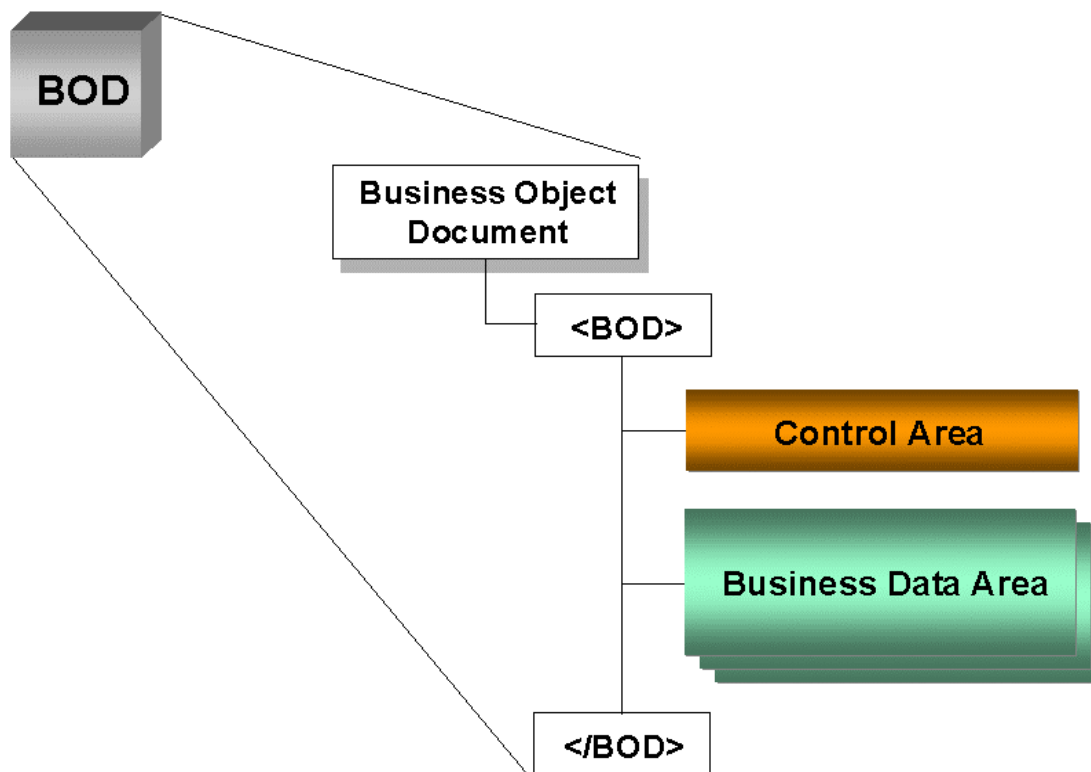
Result – Scalable Solution

Email - SMTP

Browser
- HTTP

B2B/A2A
Servers

DCOM, MOM,
CORBA

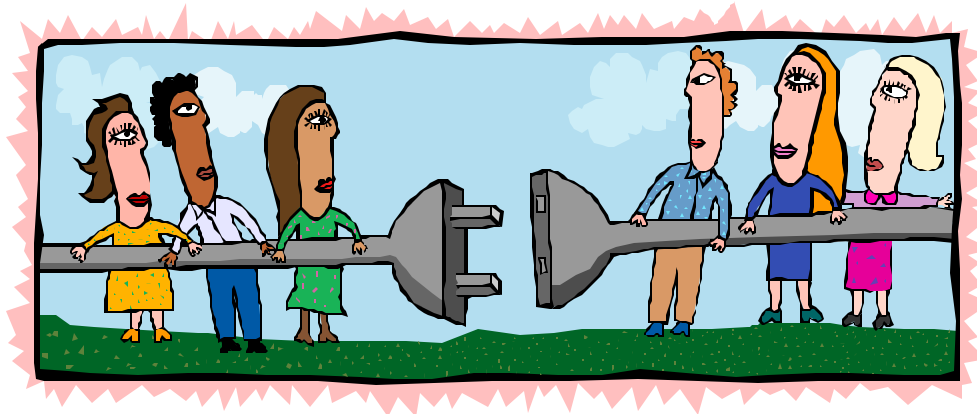


BOD XML message as payload



Convergence Strategy

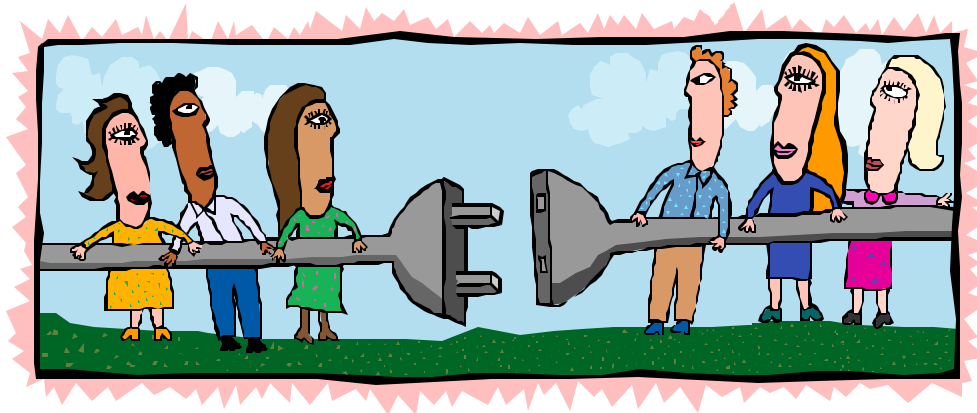
***The Open Applications Group will support
the leading Industry Framework
“Envelopes”, ebXML, BizTalk and RosettaNet***





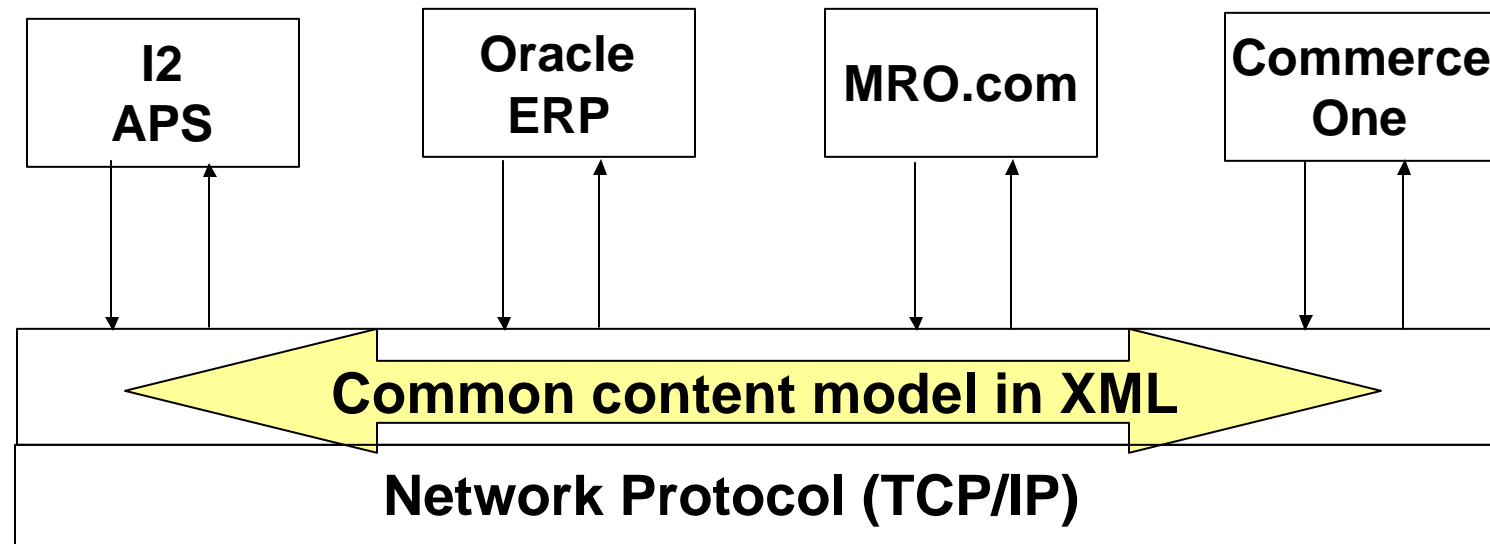
Convergence Strategy

The Open Applications Group will work for convergence on content with industry organizations.





Digital Dial Tone



**Open Applications Group XML Schemas provide
the “*Digital Dial Tone*” to business software**



Questions

<http://www.openapplications.org>