



## ADP Stewardship of OAGIS

*OAGi Spring 2007 Meeting  
May 1-3*



*Presenting  
Steffen M. Fohn,  
CTO of Information Architecture  
Enterprise Architecture at ADP, Employer Services*



## Agenda Overview

- **ADP Overview:** a brief introduction to ADP's business solutions in particular Employer services
- **BOD Message Landscape at ADP:** a glimpse into the ADP nouns and what services produce and consumer them
- **Message Development Process:** a review of the development process activities, roles, reviews and artifacts
- **The Message Library System:** what are the required activities that comprise "the system"
- **Some Challenges:** some key challenges encountered over the last couple of years
- **Conclusion**



## Agenda

- **ADP Overview**
- **BOD Message Landscape at ADP**
- **Message Development Process**
- **The Message Library System**
- **Some Challenges**
- **Conclusion**



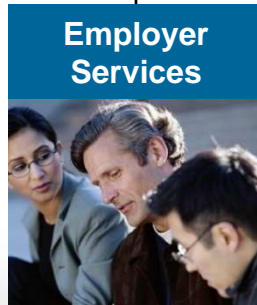
# Employer Services



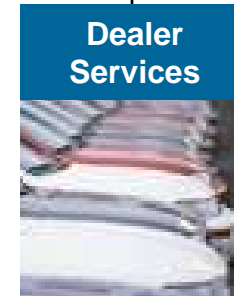
## ADP Business Overview



ADP offers a broad spectrum of technology-based outsourcing solutions through our four largest businesses.



- **Payroll & Tax Services**
  - *pays over 31 million people*
  - *files over 38 million W-2's*
  - *files over 15 million payroll tax returns*
- **Human Resource Information Management**
- **Benefit Services**
- **Time & Labor Management Services**
- **Applicant Management Services**



- **Largest Provider of Computerized Services to Auto & Truck Dealers**
  - *over 19,000 dealership clients*

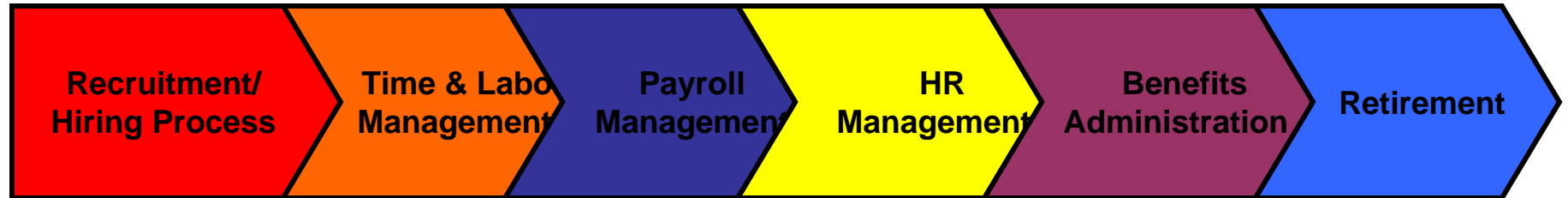


# Employer Services



## Employee Lifecycle

Recruitment  Retirement



- Applicant Tracking System
- Background Checks
- Drug Testing
- Physicals
- New Hire Reporting
- Tax Credits

- Collection Devices
  - Ethernet Clocks
  - Hand Scanners
  - Internet
  - Telephone Input
  - PC Timesheets

- Neb Native
- On Demand Check Processing
- Payroll Tax Filing
- Reporting
- GL Interface
- Payroll Admin
- Garnishment Processing
- W2 Processing
- CD-ROM Storage
- On-line Pay and W2 Statements
- Visa Pay Card
- Forms Fulfillment
- Call Center

- Integrated HRMS
- Web Native Architecture
- Web Based Travel & Expense Reporting
- Unemployment Claims Mgmt
- Recruiting & Staffing
- Performance & Training
- Skill Tracking
- ESS & MSS Self Service
- Forms Fulfillment
- Call Center

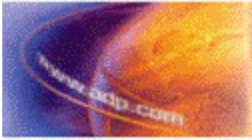
- Health & Welfare Admin
- Total Compensation Statements
- COBRA/HIPAA
- TRIP Administration
- FSA Administration
- Direct Billing & Collection
- Carrier Reporting & Premium Recon
- Open Enrollment
- FMLA
- 529 Plans
- Employee Advocacy
- Forms Fulfillment
- Call Center

- 401K Plan Administration
- Non Qualified Plans
- Interface to DB Administrator
- Pension Payroll Processing
- Retiree Admin
- Retiree Billing
- Forms Fulfillment
- Call Center



## Agenda

- ADP Overview
- **BOD Message Landscape at ADP**
- Message Development Process
- The Message Library System
- Some Challenges
- Conclusion

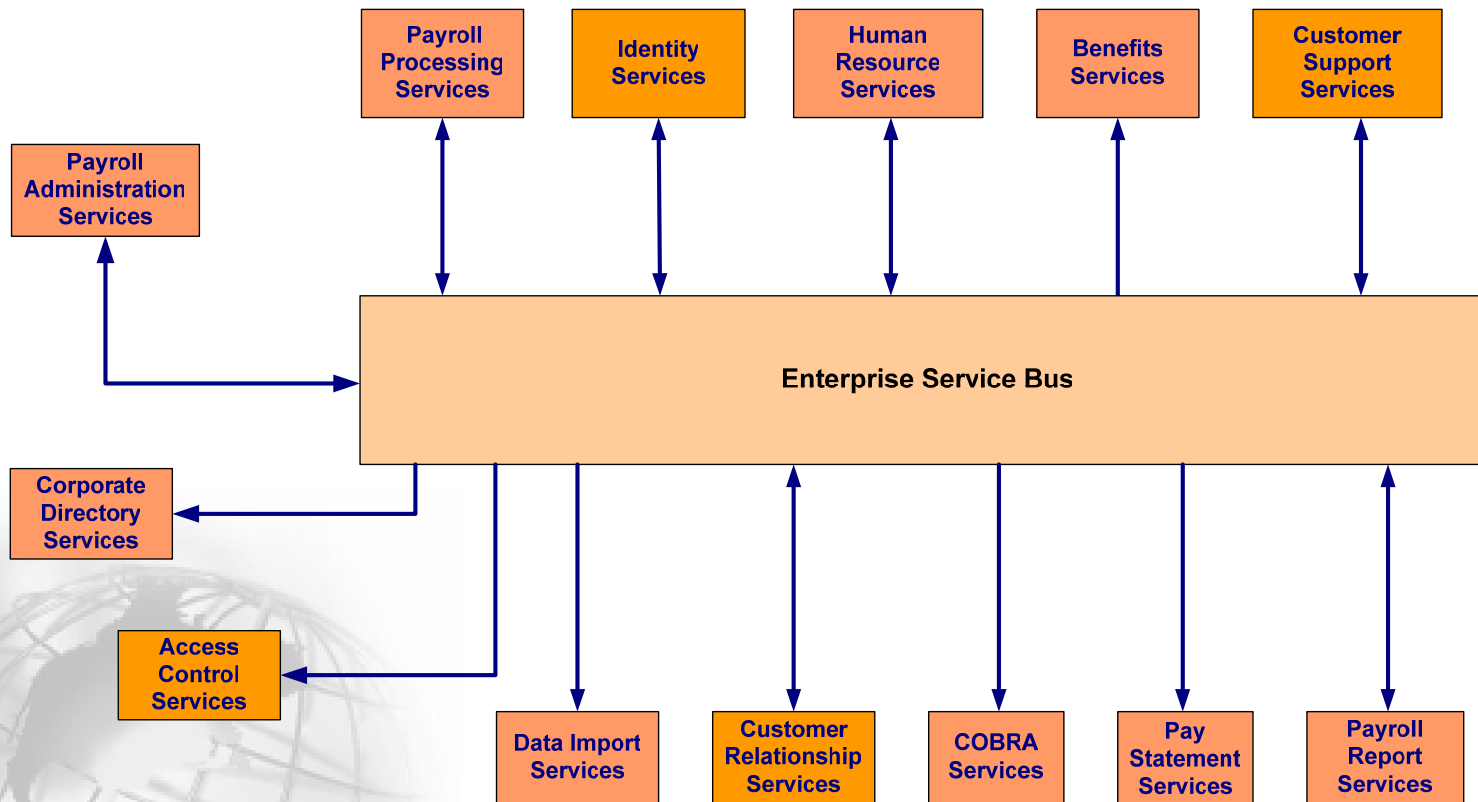


# Employer Services



## BOD Message Landscape

*Messaging*



**Nouns**  
 Service Fulfillment  
 OrganizationRegistration  
 PersonRegistration

**Nouns**  
 IndicativeAssociate  
 IndicativeOrganization  
 HealthInsuranceCoverage

**Nouns**  
 PayrollInstructions  
 ComputingJob  
 Table

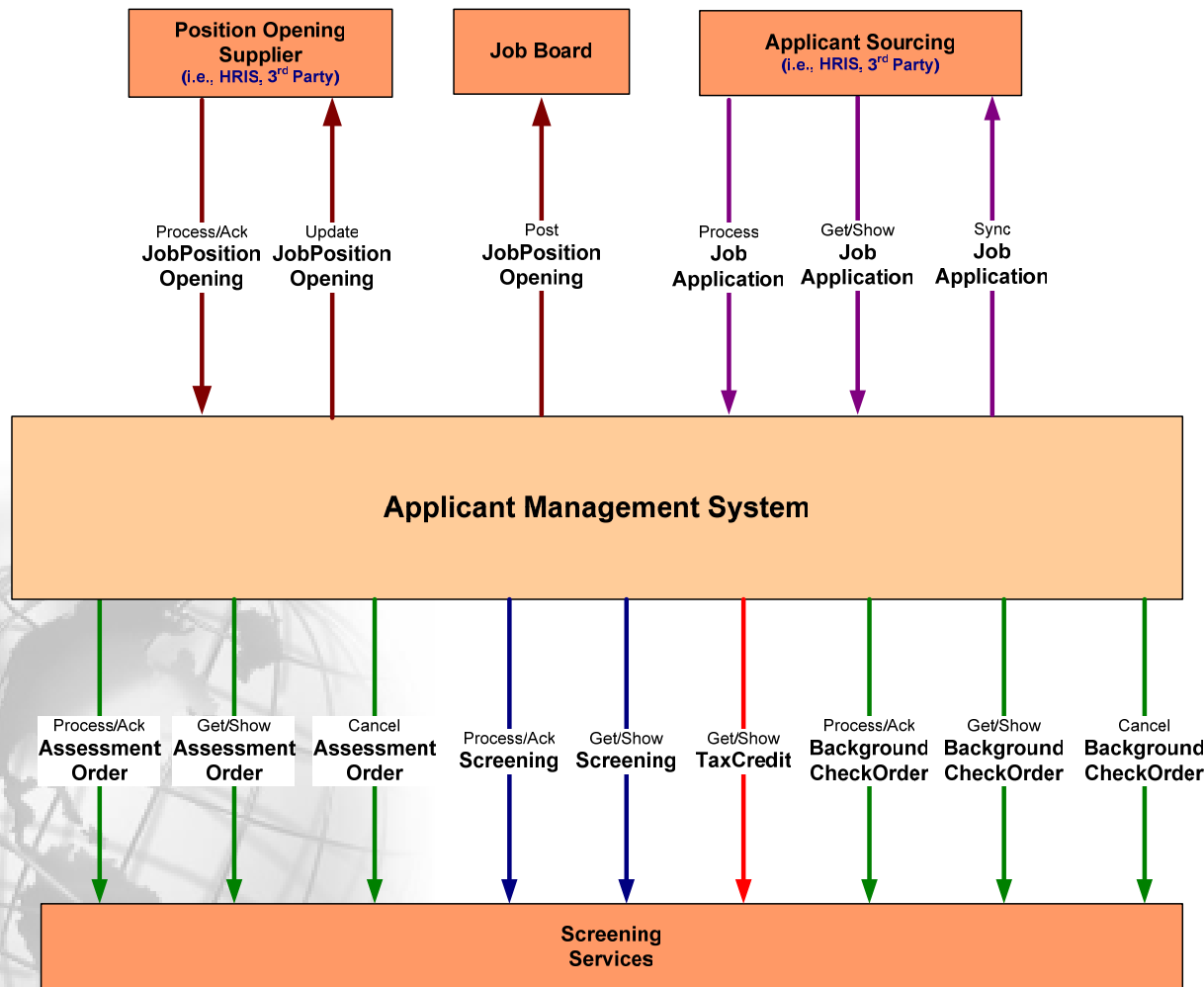


# Employer Services



## BOD Message Landscape

*Web Services*



**Nouns**

- JobPositionOpening
- JobApplication
- AssessmentOrder
- BackgroundCheckOrder
- Screening
- TaxCredit

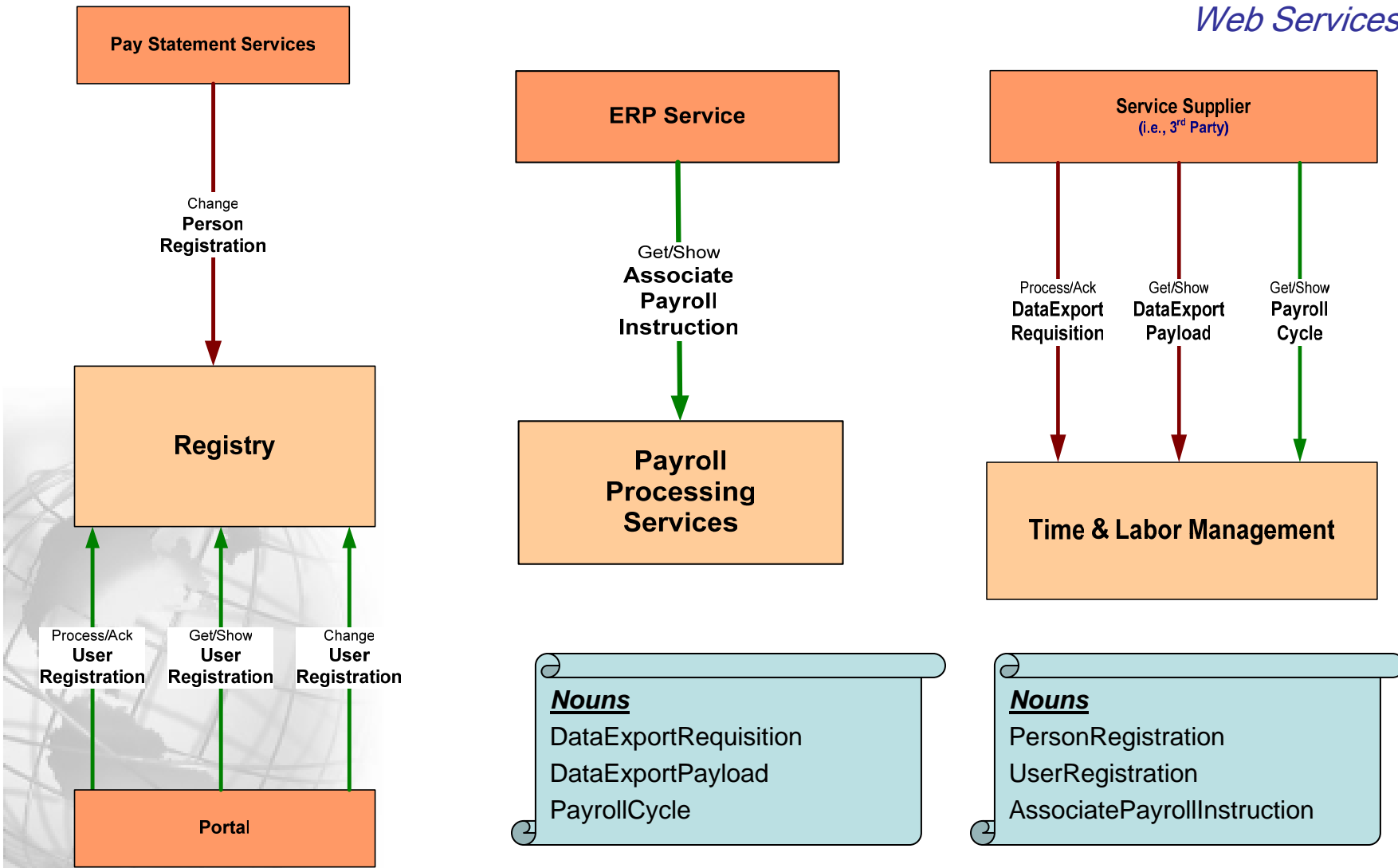


# Employer Services



## BOD Message Landscape

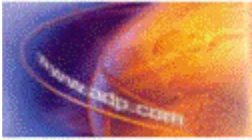
*Web Services*





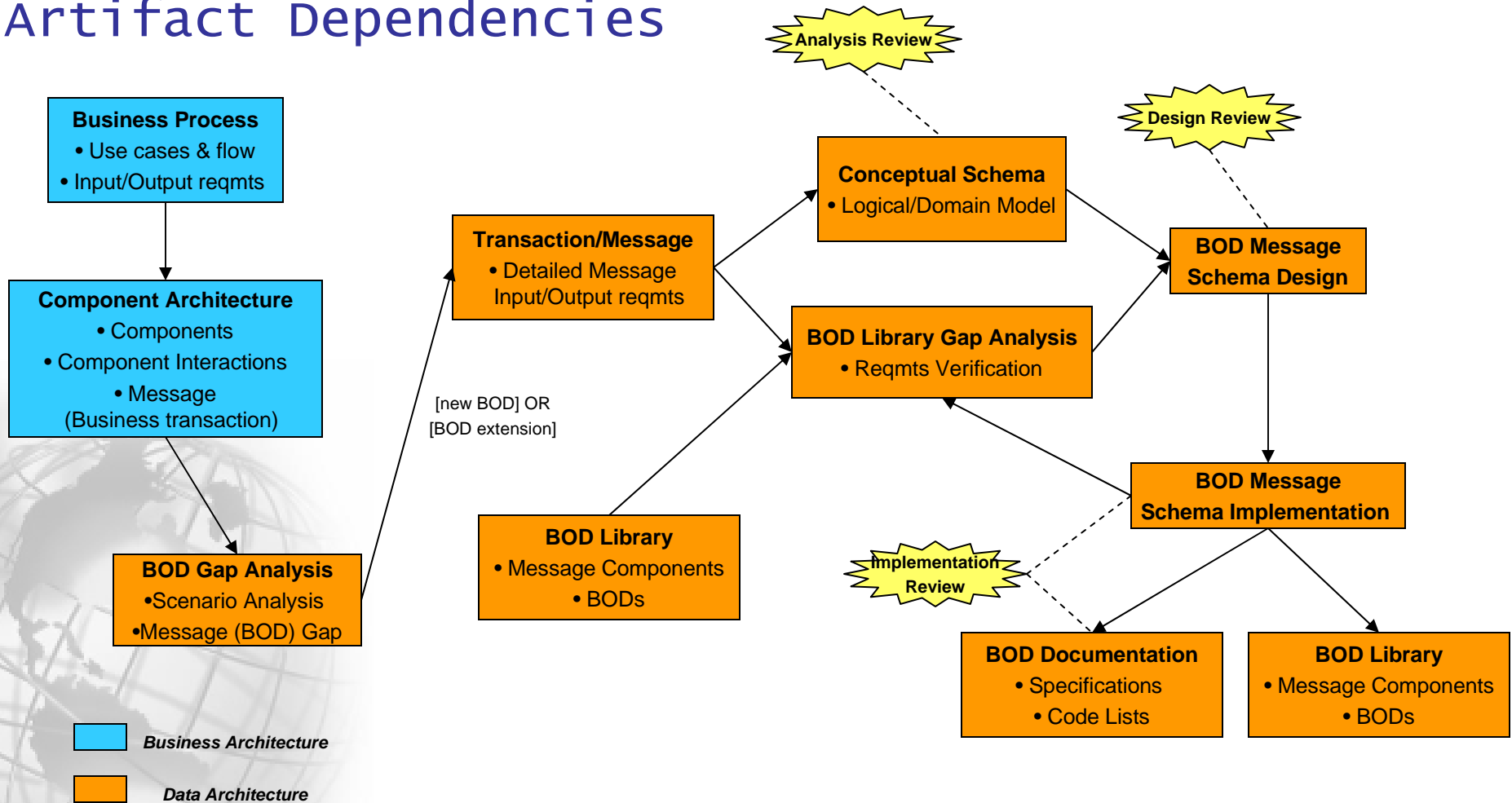
## Agenda

- **ADP Overview**
- **BOD Message Landscape at ADP**
- **Message Development Process**
- **The Message Library System**
- **Some Challenges**
- **Conclusion**



## Message Development Process

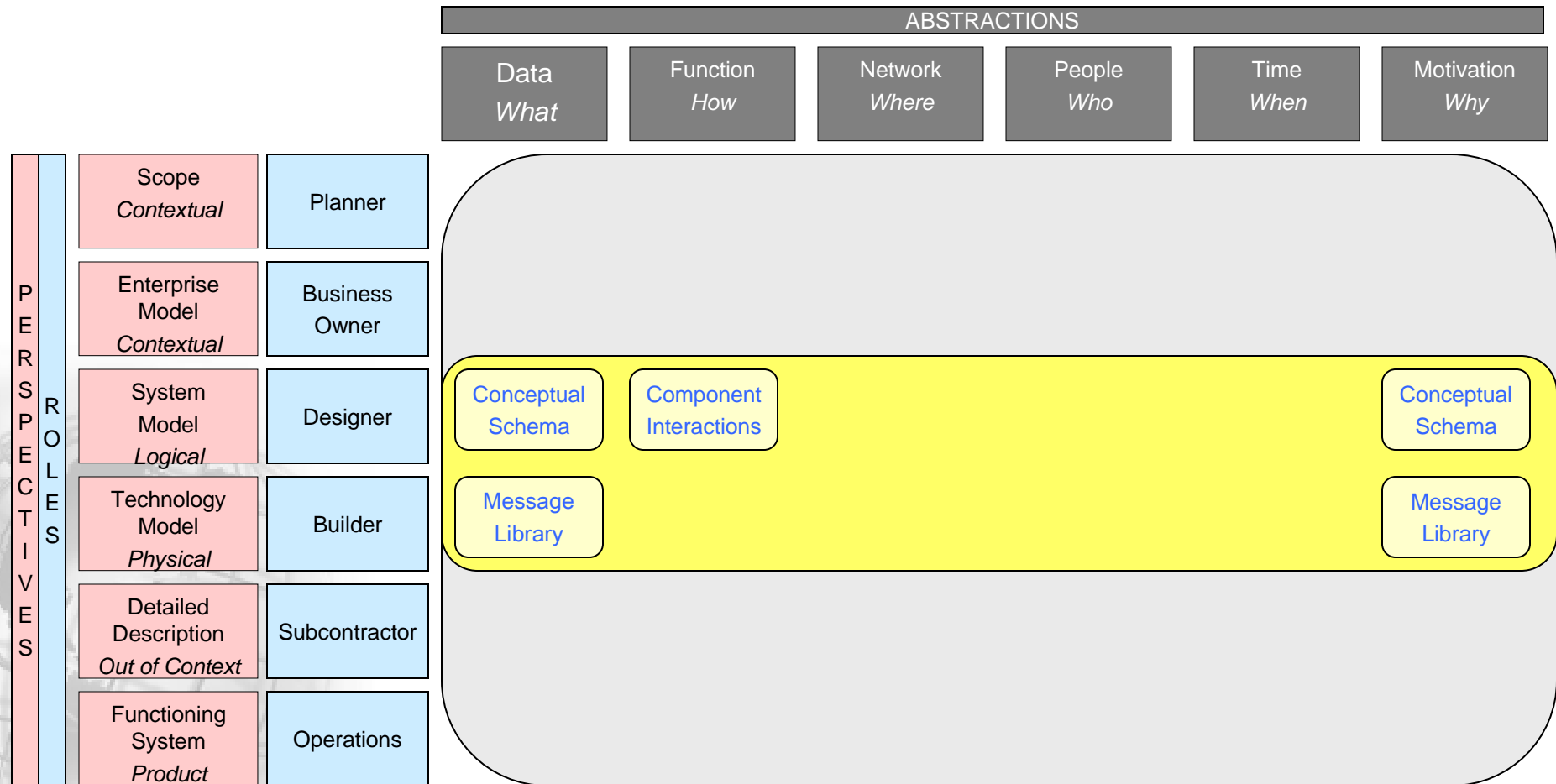
### Artifact Dependencies





## Message Development Process

*Where are we in Zachman's EA Framework?*





## Agenda

- **ADP Overview**
- **BOD Message Landscape at ADP**
- **Message Development Process**
- **The Message Library System**
- **Some Challenges**
- **Conclusion**



## The Message Library System



*ADP Information eXchange Specification*

- Processes in the “system”
  - Operational Processes
    - Processes that create the primary value stream (the core business)
  - Management Processes
    - Processes that govern operations
  - Support Processes
    - Process that support the primary value stream

[Computer Integrated Manufacturing Open Systems Architecture (CIMOSA)]



## The Message Library System

AXiS



*ADP Information eXchange Specification*

- **Outputs of the Operational Processes**
  - Message Schemas
  - Message Specifications
  - Flattened BODs
  - System Collaborations (Component Interactions)





## The Message Library System

### ■ Outputs of the Support Processes

#### – Infrastructure

#### • Development

- Organizational
- Requirements Management
- Version Control
- Issues Tracker
- Change Request Tracker
- Communications
- Forward Engineering of Schema from the Logical Model
  - » Logical Model is technology agnostic
  - » Facilitate engineering/design process
- Utilities
  - » BOD Flattener
  - » BOD Library Schema Pruner



*ADP Information eXchange Specification*

#### • Development (con't)

#### – Metadata Management Tool

- » Maintain traceability within the Canonical (Logical Model to Physical realizations)
- » Facilitate mapping of “As-Is” applications to the Canonical Model
- » Central Repository to manage Enterprise Information Assets

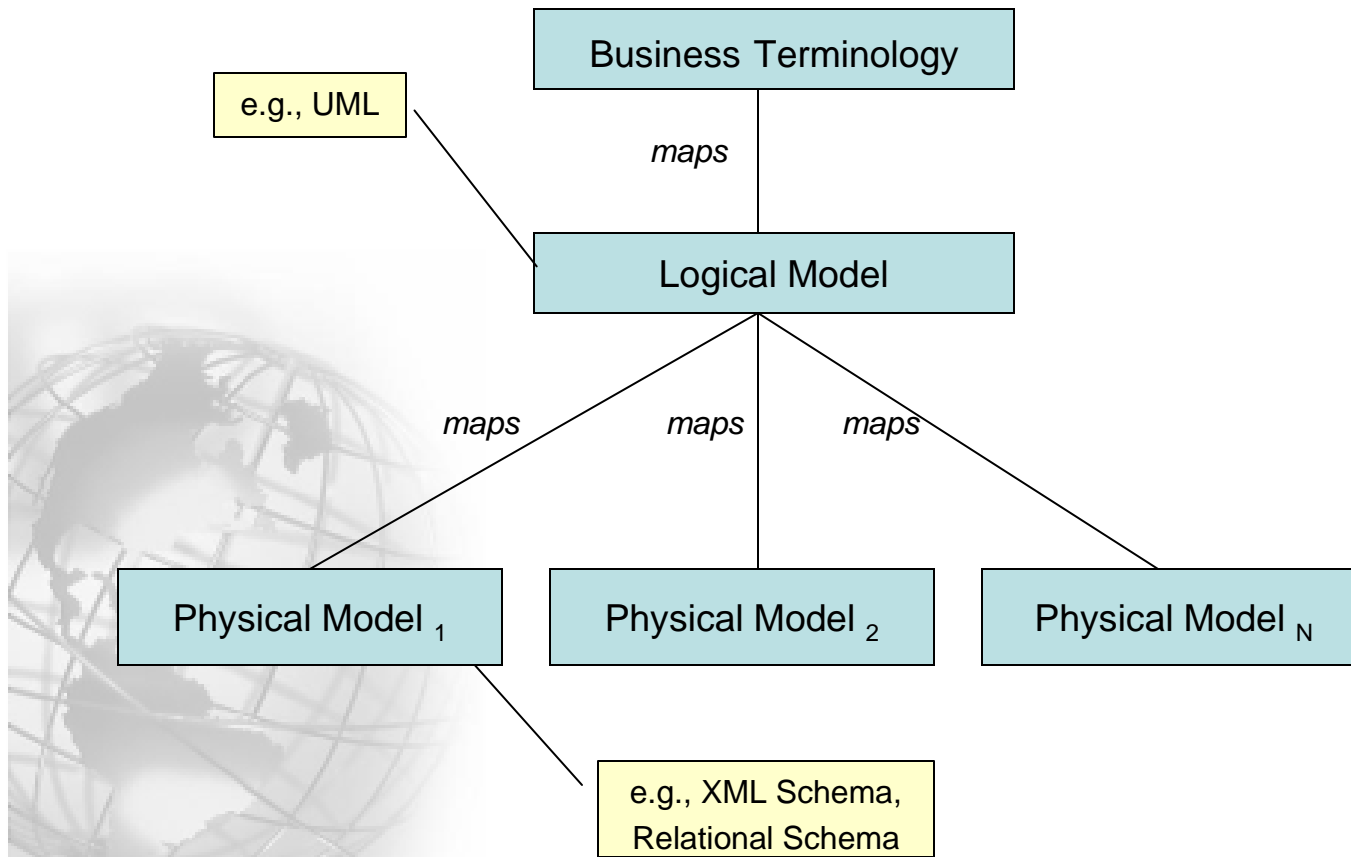


## SOAPBOX

## Canonical Map (Metadata Mgmt)

Enabling data asset management...

*Mapping across Business, Designer, and Builder Perspectives within the Canonical*



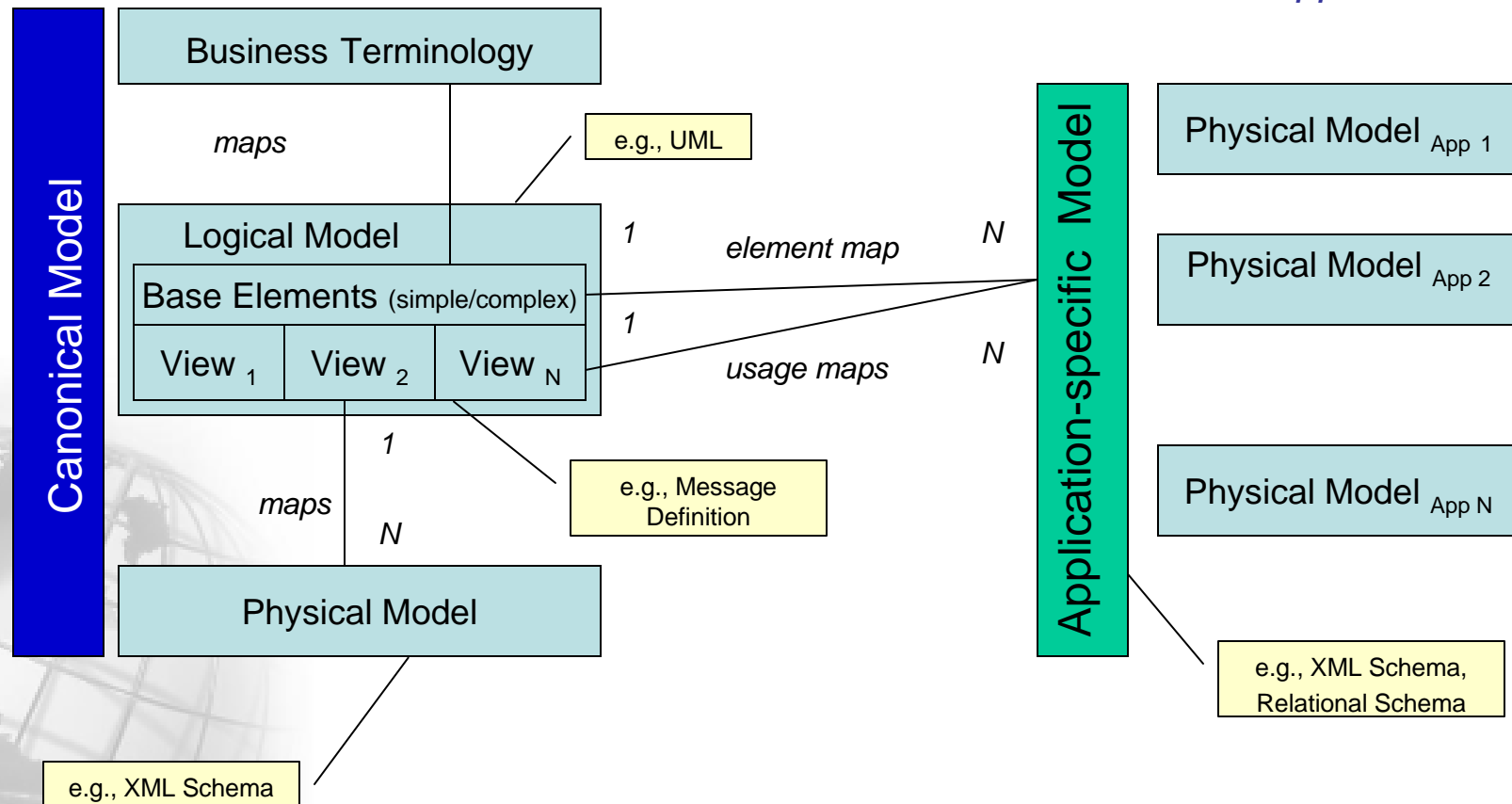
P E R S P E C T I V E S	Scope <i>Contextual</i>	Planner
	Enterprise Model <i>Contextual</i>	Business Owner
	System Model <i>Logical</i>	Designer
	Technology Model <i>Physical</i>	Builder
	Detailed Description <i>Out of Context</i>	Subcontractor
	Functioning System <i>Product</i>	Operations



## SOAPBOX

## Canonical Map (Metadata Mgmt)

*Mapping from the Canonical  
To the Application Physical*

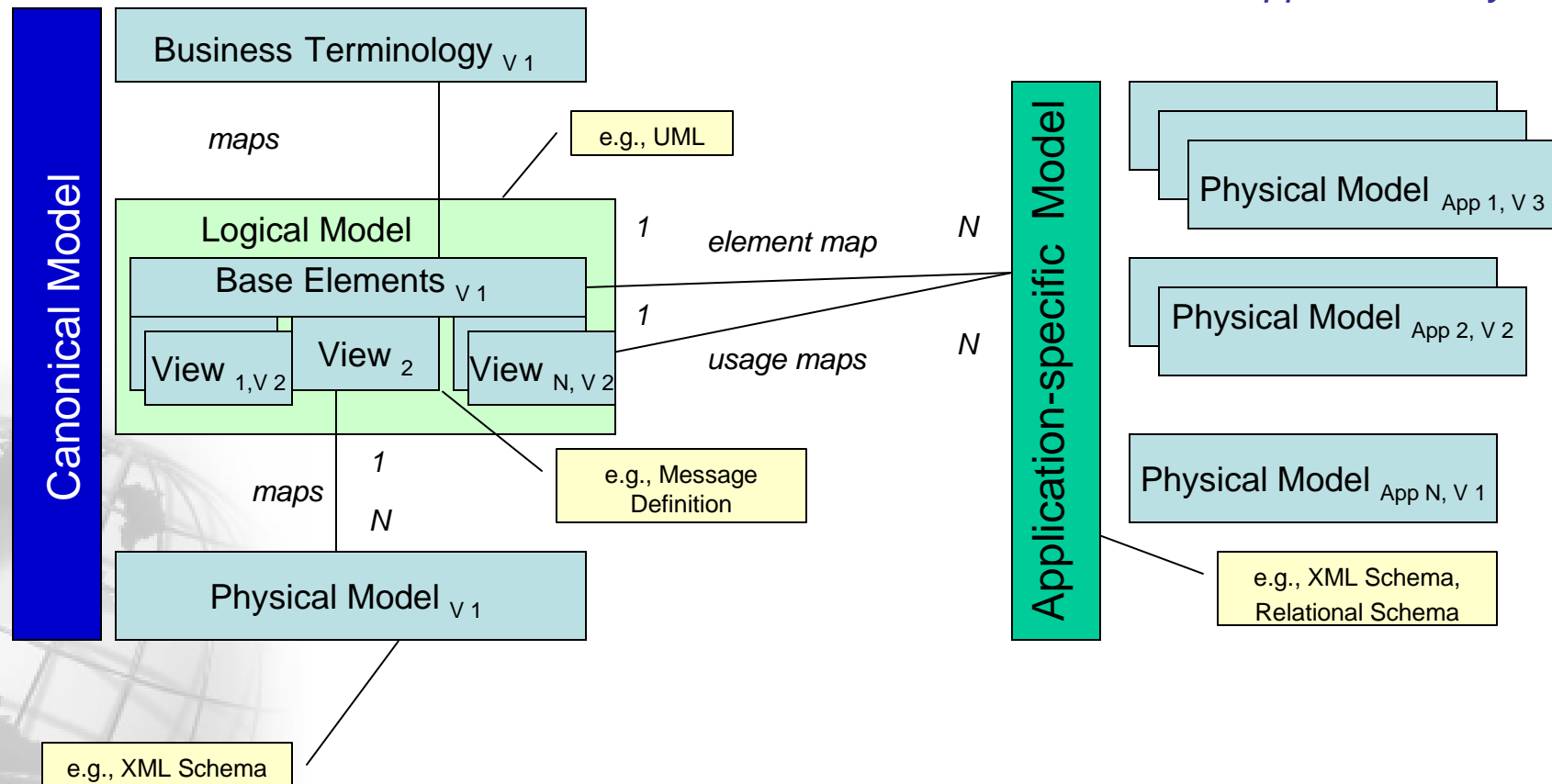




## SOAPBOX

## Canonical Map (Metadata Mgmt)

*Mapping from the Canonical  
To the Application Physical*





# Employer Services



## SOAPBOX

## Canonical Map (Metadata Mgmt)

Business Term	Logical Model Base Element	Logical Model View Element	Physical Model <sub>1</sub> Element (Message)	Physical Model <sub>2</sub> Element (App DB)	Physical Model <sub>N</sub> Element (App DB)
Home Address	Address. typeCode = Home	Person Registration. Person. Address  Where typeCode = Home	PersonRegistration. PersonRegistration- Detail.Person. Address  Where typeCode = Home	HomeAddress	Residence
		Person Indicative. Person. Address  Where typeCode = Home	IndicativeAssociate. IndicativeAssociate Detail.Associate. Address  Where typeCode = Home		
Business Address	Address. typeCode = Business	Person Indicative. Person. Address  Where typeCode = Business	IndicativeAssociate. IndicativeAssociate Detail.Associate. Address  Where typeCode = Business	WorkAddress	Location



## *SOAPBOX* Meta-Data Repository (Metadata Mgmt)

- Support metadata representations:
  - Technical
    - Reverse engineering of logical and physical data schemas
    - Logical model development environment
    - Canonical Maps: Logical to physical mappings (traceability)
  - Business
    - Elements/Terms, Rules, Semantics
  - Retrieval
    - Location and utilization of data items
- Support metadata management:
  - Administration
    - Centralized Configuration management (problems, changes, audit trail)
    - Version control
    - Multi-user
  - Analysis
    - Search, Query, Reporting



## The Message Library System

### ■ Outputs of the Support Processes (con't)



*ADP Information eXchange Specification*

#### – Infrastructure

##### • Operational

#### – Schema Deployment

- » Facilitates physical deployment
- » Centrally deploy schemas with version management
- » Ensures applications are running the appropriate versions

#### – Technology Evaluation/Selection

#### – Codelist Validation

#### – External Activities

- OAGi Board Membership & Workgroup participation
- HR-XML Membership & OAGIS Convergence





## The Message Library System

### ■ Outputs of the Management Processes

- Message Development Consulting
- Policies and Guidelines
  - Message Development Process
  - Data Management
  - Message Specific Versioning
  - Web Service Description Versioning
  - Web Services Description using BODs
  - Business Events Framework
    - Business Events

AXIS



*ADP Information eXchange Specification*





## Agenda

- **ADP Overview**
- **BOD Message Landscape at ADP**
- **Message Development Process**
- **The Message Library System**
- **Some Challenges**
- **Conclusion**

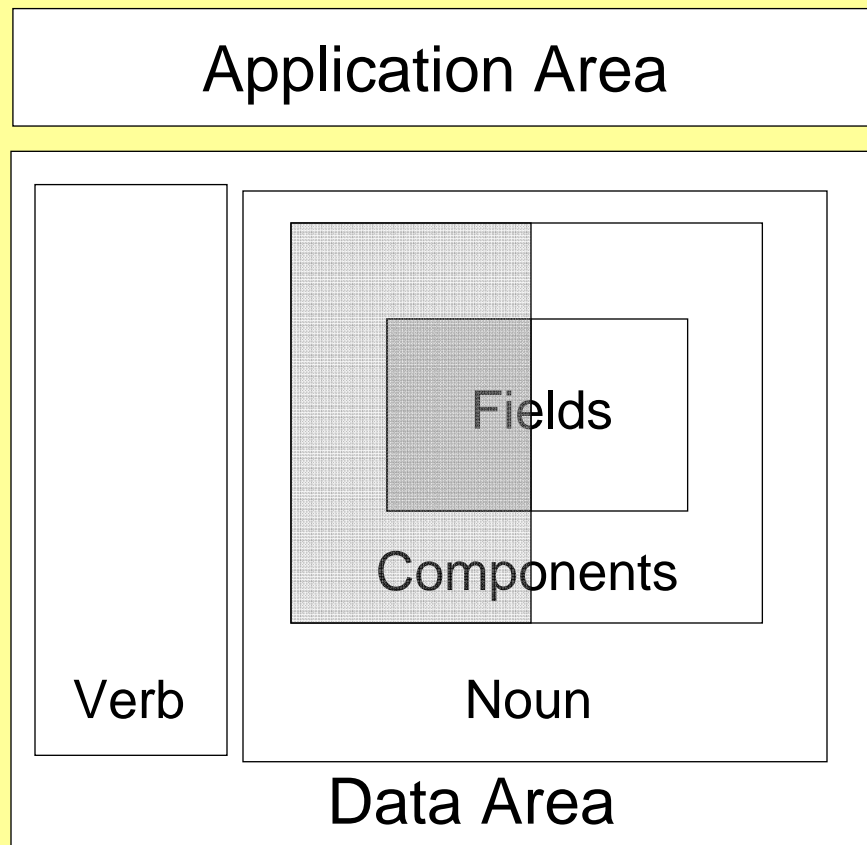


## Some Challenges

- Getting the policies and guidelines documented
  - Constraining and detailing the usage of the BOD message framework (i.e., Data Management)
- Getting project or domain workgroups trained and “through the learning curve”.
- Codelists
  - Externalization vs. embedded within the schema types
    - Context dependent
- Supporting creation of Lite BODs for
  - Different granularity requirements (Web Services, MOM)
  - Element relevance

## SOAPBOX

### **Business Object Document (BOD)**



## BOD “Sizing”

### “Sizing” Techniques

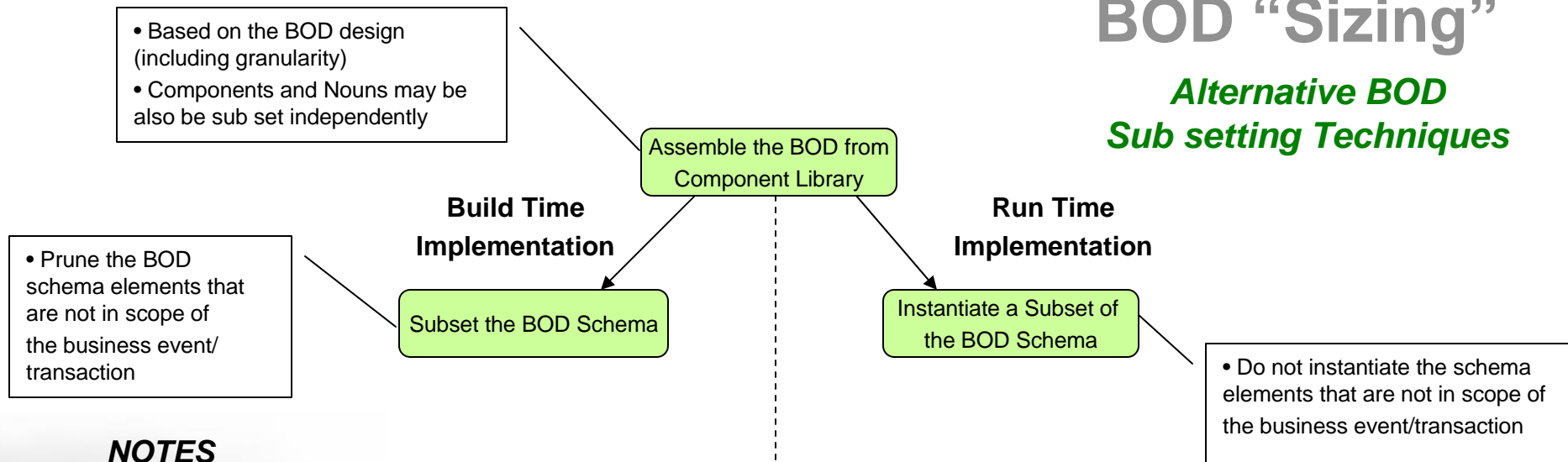
- BOD (Message Definition/ Business Transaction) Granularity
  - Define finer-grain transactions
  - “Granularity is a design decision”
- BOD Sub setting
  - Fields and Components not relevant to a transaction are “pruned” from the BOD resulting in Lite BODs
  - Technology is under evaluation



## SOAPBOX

## BOD "Sizing"

### Alternative BOD Sub setting Techniques



### NOTES

- Can be used to prune message elements not relevant to the business transaction
- Can be used to define finer-grain business transactions (BODs) derived from coarser-grain BODs (i.e., Web Services)
  - Two or more subset schemas
- Schema is used as mechanism for expressing association between business event and its data elements

### NOTES

- Can be used to instantiate finer-grain messages from coarser-grain BODs
  - One schema...one to many business event/transaction
- Requires mechanism for expressing association between business event and its data elements



## Agenda

- **ADP Overview**
- **BOD Message Landscape at ADP**
- **Message Development Process**
- **The Message Library System**
- **Some Challenges**
- **Conclusion**



# Employer Services



		ARCHITECTURE MATURITY STAGES in REALIZING SOA			
		Stage 1 <i>Business Silos</i>	Stage 2 <i>Standardized Technology</i>	Stage 3 <i>Standardized Processes</i>	Stage 4 <i>Business Modularity</i>
C H A R A C T E R I S T I C S	IT Capability	Local IT applications	Standard technology platforms	Enterprise-wide standardized processes or data	Plug-and-play business process modules
	Business Objectives	ROI of local business initiatives	Reduced IT costs	Cost and quality of business operations	Speed to market, strategic agility
	Funding Priorities	Individual applications	Shared Infrastructure services	Enterprise applications	Reusable business processes
	Key Management Capability	Technology-enabled change management	Design and update of standards; funding shared svcs	Core enterprise process definition and measurement	Management of reusable business processes
	Application Owners	Local business leaders	IT and business unit leaders	Senior managers and process leaders	IT, business and industry leaders
	Key IT Governance Issues	Measuring and communicating value	Establishing local vs. regional vs. global responsibilities	Aligning project priorities with arch objectives	Defining, sourcing and funding business modules
	Strategic Implications	Local/functional optimization	IT efficiency	Business operational efficiency	Strategic agility

## Conclusion

*Where does "OAGIS" and the Message Library System fit -- in realizing SOA?*

- It realizes process standardization and integration
- It realizes data interoperability
- It is a "necessary, but not sufficient condition" for SOA

[MIT Sloan Center for Information Systems Research]

[Gruman, G. "The 4 Stages of Enterprise Architecture" CIO, December 1, 2006]