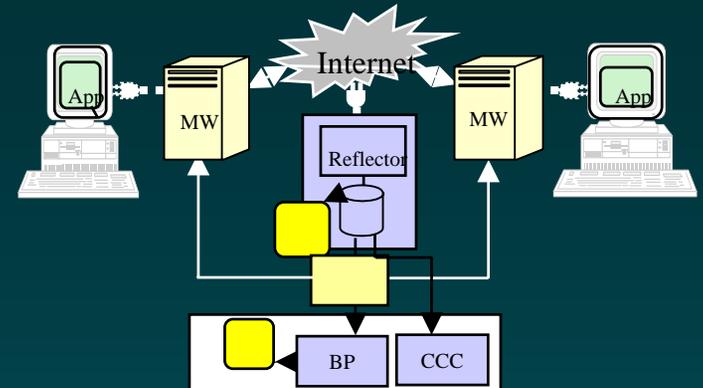


# OAG/NIST B2B Interoperability Testbed



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# Outline

- Participants
- Vision
- An Interoperability Pilot Architecture
- Architecture
- Functionality Overview
- A Current Interoperability Project - Inventory Visibility and Interoperability (IV&I)
- International Collaboration
- Next Steps

# Participants

- Vendors
  - Fujitsu
  - Sun
  - Sybase
  - Sterling Commerce
  - Accordare
  - QAD
  - Kildara
- Industry Consortia
  - STAR/XML
  - AIAG
- Standards Organizations
  - OAG
  - ebXML IIC TC (OASIS)
- Users
  - GM
  - Ford
  - Lockheed Martin
- Government
  - USAF
  - NIST

# TestBed Roadmap (Vision)

## Spectrum of Testbed Activities

### Initial capability:

- Web-based infrastructure for interoperability piloting any time, any place via Web browser.

Distributed and Living Pilot

Vendor-driven Scenarios

No metrics

One-time building cost

DONE

Distributed and Living Pilot

User-driven scenarios

No metrics

One-time building cost

DONE

### Ultimate vision:

- Distributed, living testbed allowing customer-driven A2A interoperability testing
- Demonstrate A2A over B2B infrastructures such as ebXML, RosettaNet, etc...

Distributed and living testbed

User-driven interop. scenarios

User and vendor-defined metrics

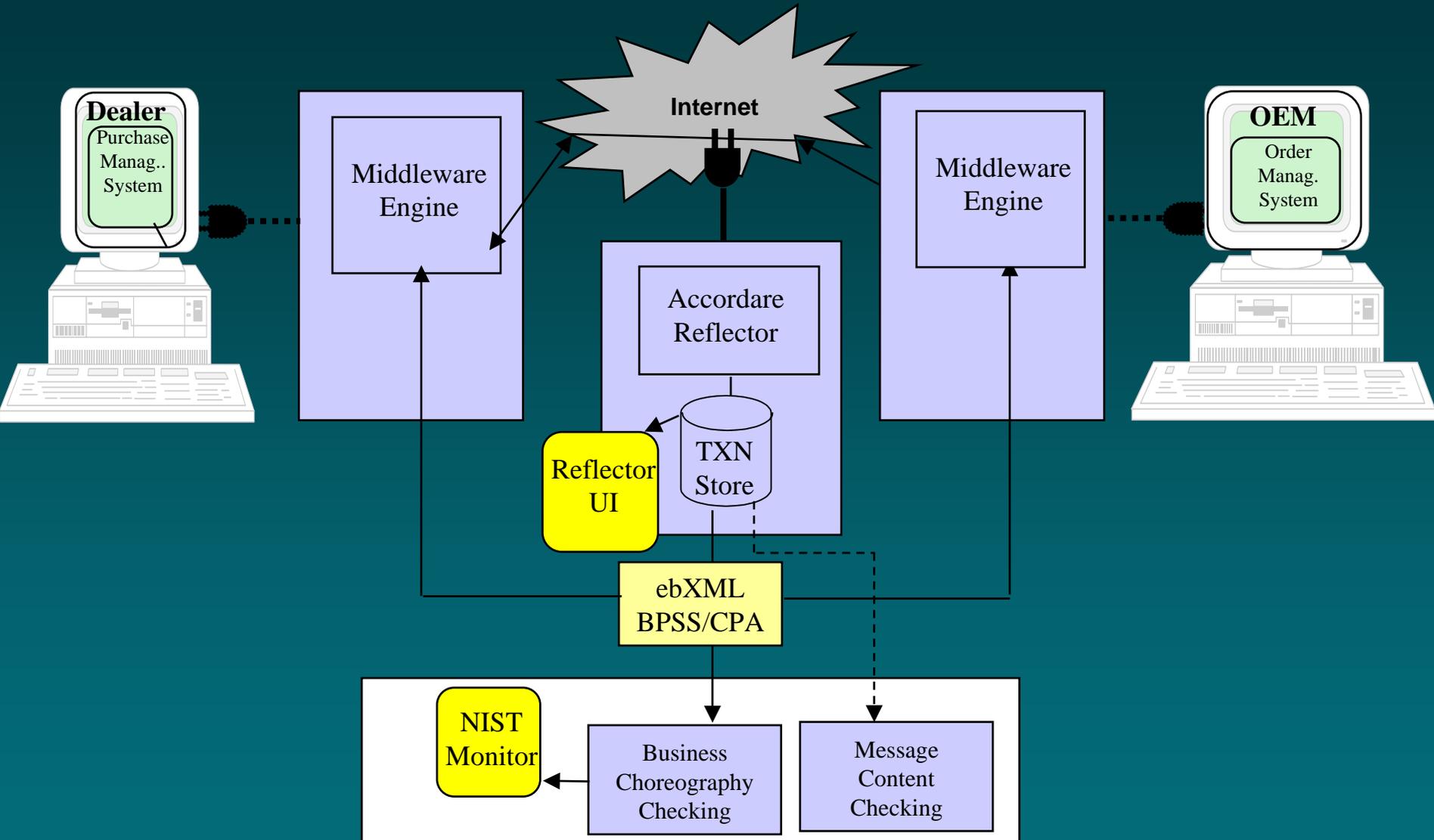
Periodical, interim, and on-demand testing



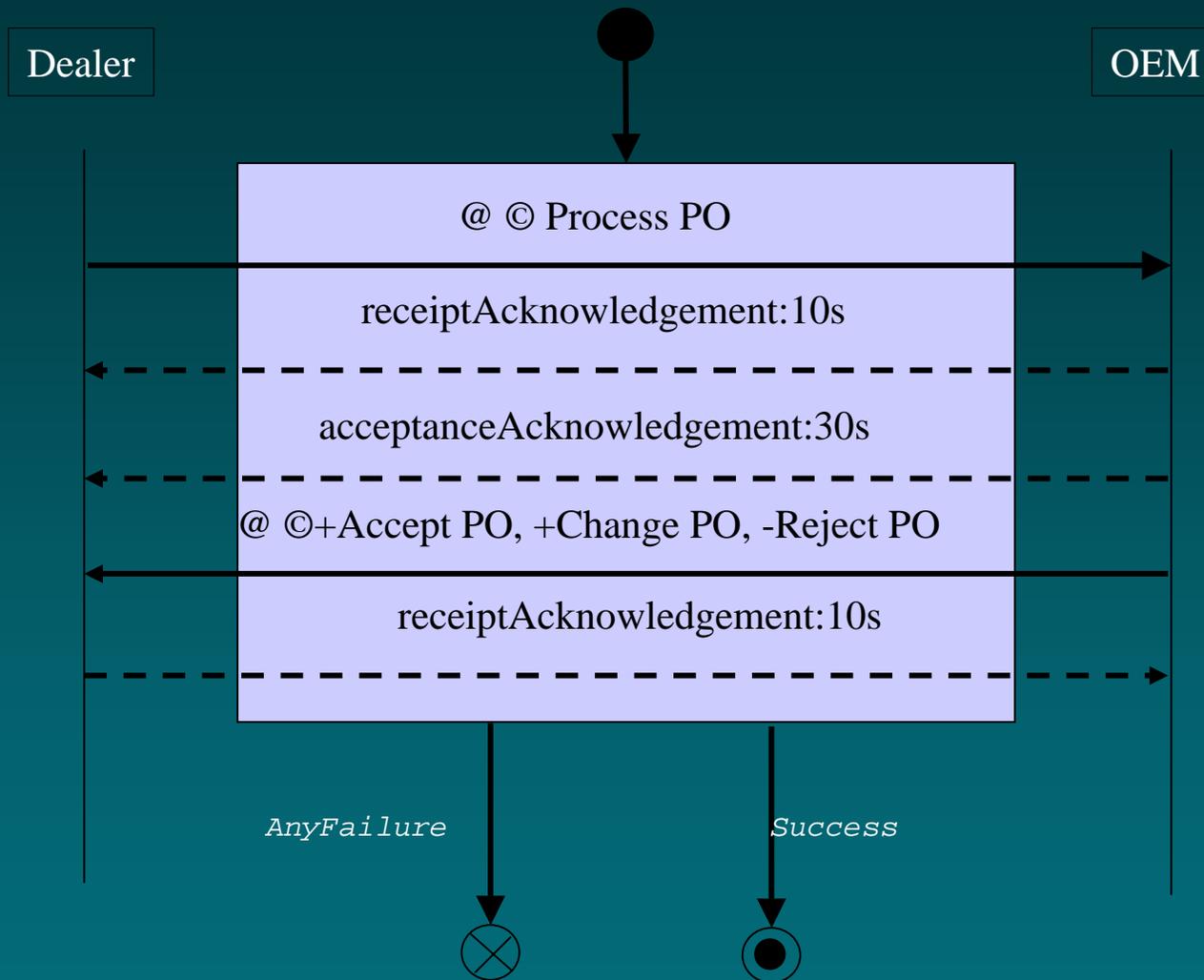
### Key Characteristic:

A non-competitive, non-biased environment enabling resource-sharing and coordinated activities

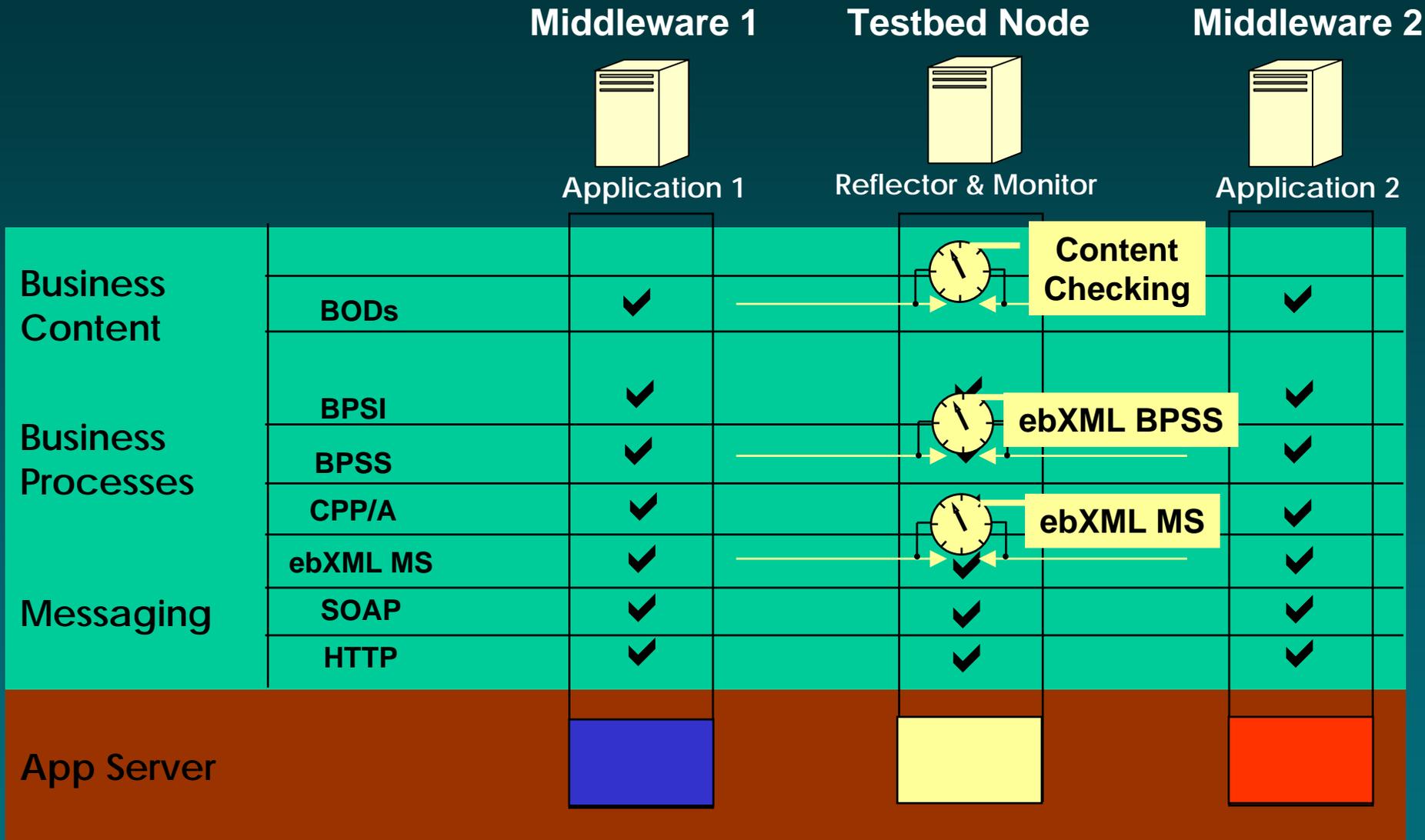
# An Interoperability Pilot Architecture



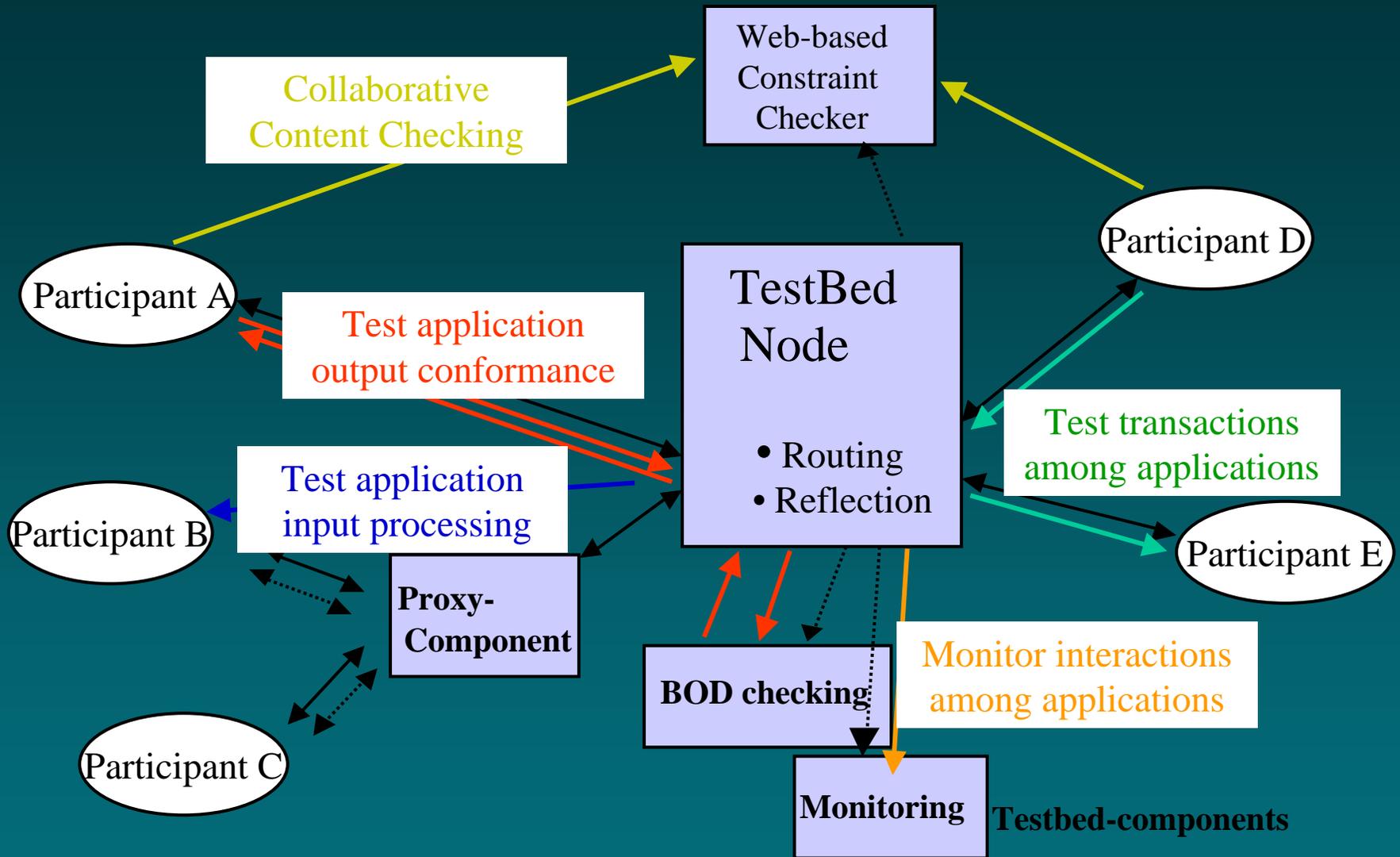
# A Business Scenario: Automotive Retailers - Parts Order



# Testbed Architecture



# Testbed Functionality

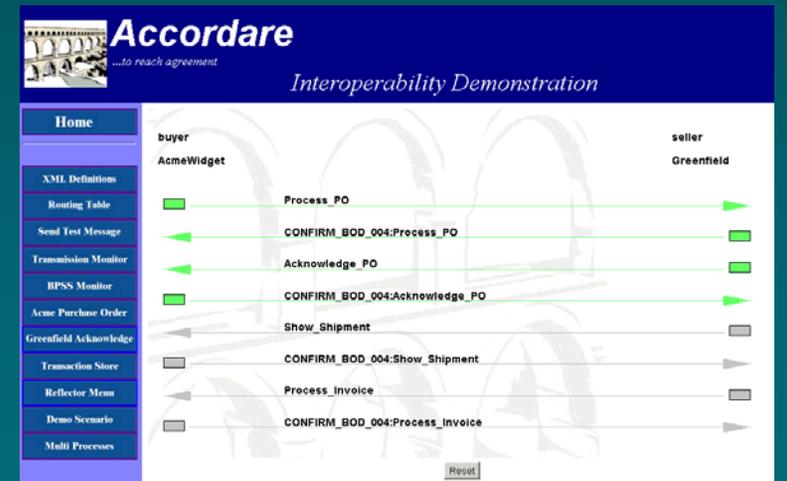
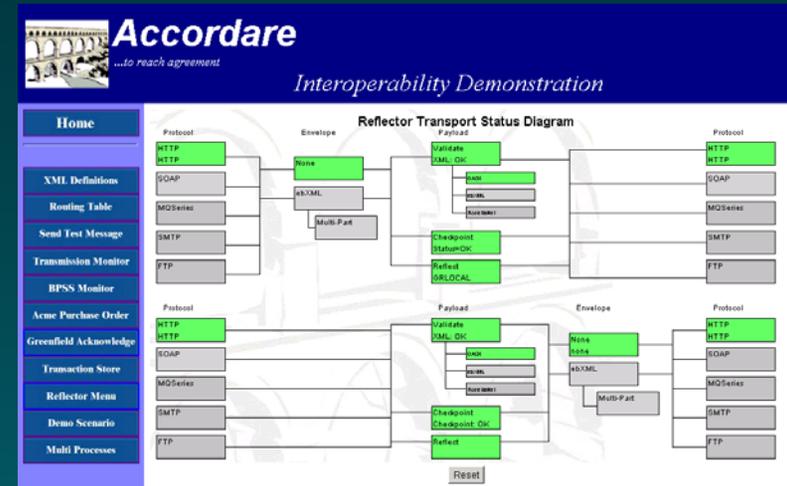


# Accordare Reflector



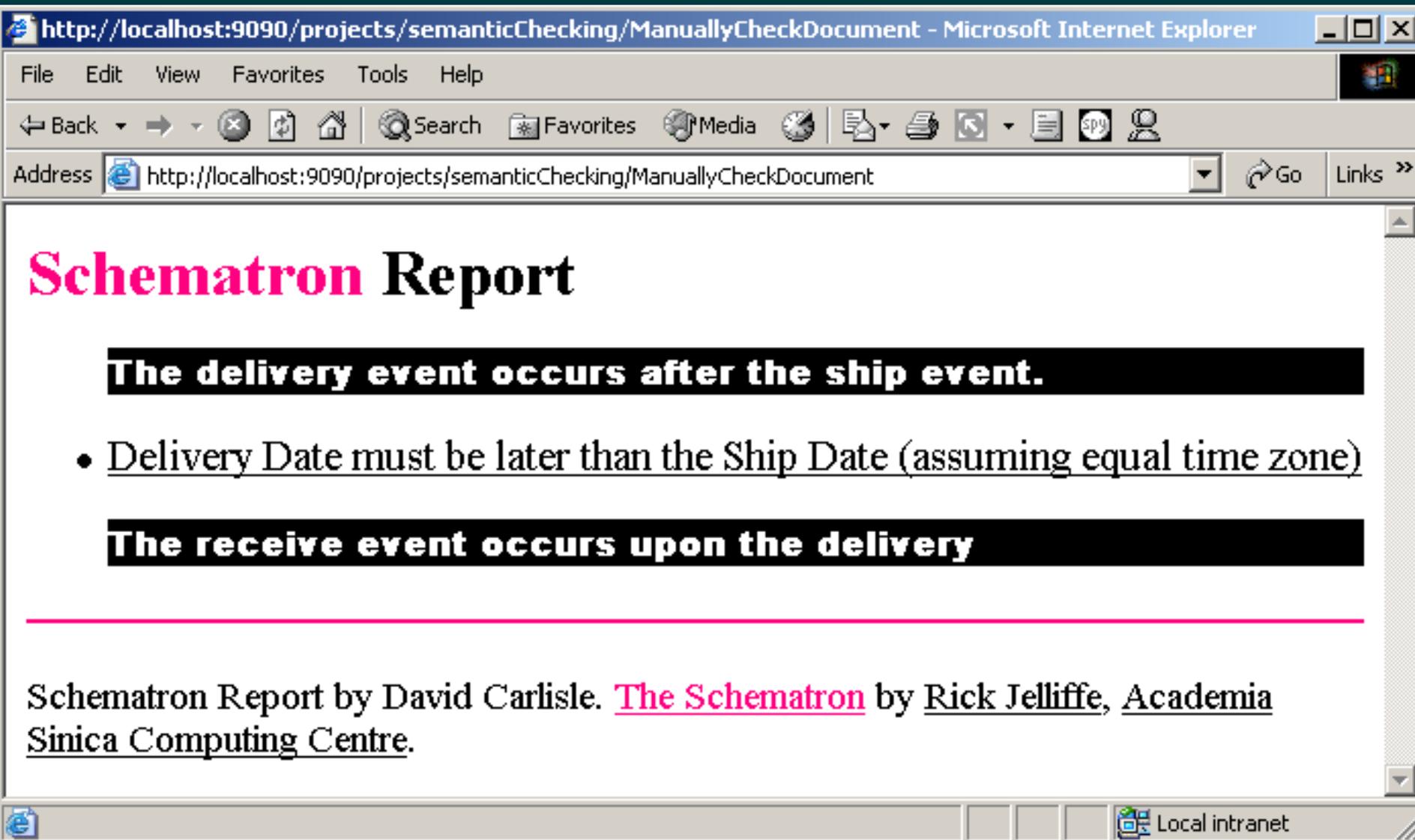
Accordare  
Building business bridges

- Routing, reflecting, and logging of messages
- Messages progress display
- XML testing and supplier qualification intermediary
- Collaborative testing synchronously or separately
- Transport status monitor





# Content Checking: Sample Report



The screenshot shows a Microsoft Internet Explorer browser window. The address bar contains the URL: <http://localhost:9090/projects/semanticChecking/ManuallyCheckDocument>. The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The toolbar contains icons for Back, Forward, Stop, Home, Search, Favorites, Media, Print, and other functions. The main content area displays the following text:

## Schematron Report

**The delivery event occurs after the ship event.**

- Delivery Date must be later than the Ship Date (assuming equal time zone)

**The receive event occurs upon the delivery**

---

Schematron Report by David Carlisle. [The Schematron](#) by [Rick Jelliffe](#), [Academia Sinica Computing Centre](#).

The browser's status bar at the bottom shows "Local intranet".

# Content Constraint Specification Wizard

The screenshot shows the 'Constraint Specification Wizard' window. The left pane displays a tree view of a schema structure. The right pane shows the 'SHIPMENT' rule with three assertions. The 'Test Condition' field contains the expression `count(PARTNER) = 2`.

**Schema Tree (Left Pane):**

- ShowShipment
  - BusinessObjectDocument
    - ApplicationArea
      - revision
      - environment
      - lang
    - DataArea
      - DataArea
      - Show
        - ConfirmableVerb
      - Shipment
        - Noun
        - Header
          - SCEHeader
          - Parties**
          - PartyType
        - Shipltem
        - UserArea
        - CommonShipInformation
        - ShipUnit

**Schema Details (Right Pane):**

- Schema
  - Pattern verb
  - Pattern noun
  - Pattern logicalID
  - Pattern language
  - Pattern ReciprocalPartners
  - Rule SHIPMENT
    - Assert
      - count(PARTNER) = 2**  
There must be two partners in the shipment element.
      - Assert
        - normalize-space(PARTNER[1]/PARTNRTYPE) = 'ShipFrom'  
First one must be a ShipFrom partner type.
      - Assert
        - normalize-space(PARTNER[2]/PARTNRTYPE) = 'ShipTo'  
Second one must be a ShipTo partner type.
    - Assert

**Test Condition:**

`count(PARTNER) = 2`

Buttons: OK, Cancel

# Prototype of a Virtual Trading Partner

The image displays two overlapping windows of the Business Process Executor (BPE) software. The top window is titled "Business Process Executor [OEM]" and the bottom window is titled "Business Process Executor [Dealer]".

**Business Process Executor [OEM] - Business Status:**

- Possible State: **[Fork] XOR-Parts Order Fork**
- State Name: XOR-Parts Order Fork
- NEXT STATES:
  - Modify PO Dealer>>Start
  - Modify PO OEM>>Start
  - End Collaboration

**Business Process Executor [OEM] - Event History:**

```
[START]
[START] >>> [Process PO]
[Process PO] >>> [XOR-Parts Order Fork]
[XOR-Parts Order Fork] >>> [Process PO]
[Process PO] >>> [XOR-Parts Order Fork]
```

**Business Process Executor [Dealer] - Business Status:**

- Possible State: **[Fork] XOR-Parts Order Fork**
- State Name: XOR-Parts Order Fork
- NEXT STATES:
  - Modify PO Dealer>>Start
  - Modify PO OEM>>Start
  - End Collaboration

**Business Process Executor [Dealer] - Event History:**

```
[Start] >>> [Process PO]
[Process PO] >>> [XOR-Parts Order Fork]
```

**Business Process Executor [Dealer] - Output Window:**

```
<> PUSH "START COLLABORATION" to Start Binary Collaboration
<> Collaboration is Started.
[OEM] << Process PO:RequestingBusinessActivity
[OEM] >> Process PO:RequestingBusinessActivity:receiptAcknowledge
<> Time-out: Request Again.
[OEM] << Process PO:RequestingBusinessActivity
[OEM] >> Process PO:RequestingBusinessActivity:receiptAcknowledge
[OEM] >> Process PO:RequestingBusinessActivity:acceptanceAcknowledge
[OEM] >> Process PO:RespondingBusinessActivity
```

**Business Process Executor [Dealer] - Chat Window:**

```
[Server]Client [Dealer] is Connected.
[Server]Client [OEM] is Connected.
```

**Business Process Executor [Dealer] - Console & Event Window:**

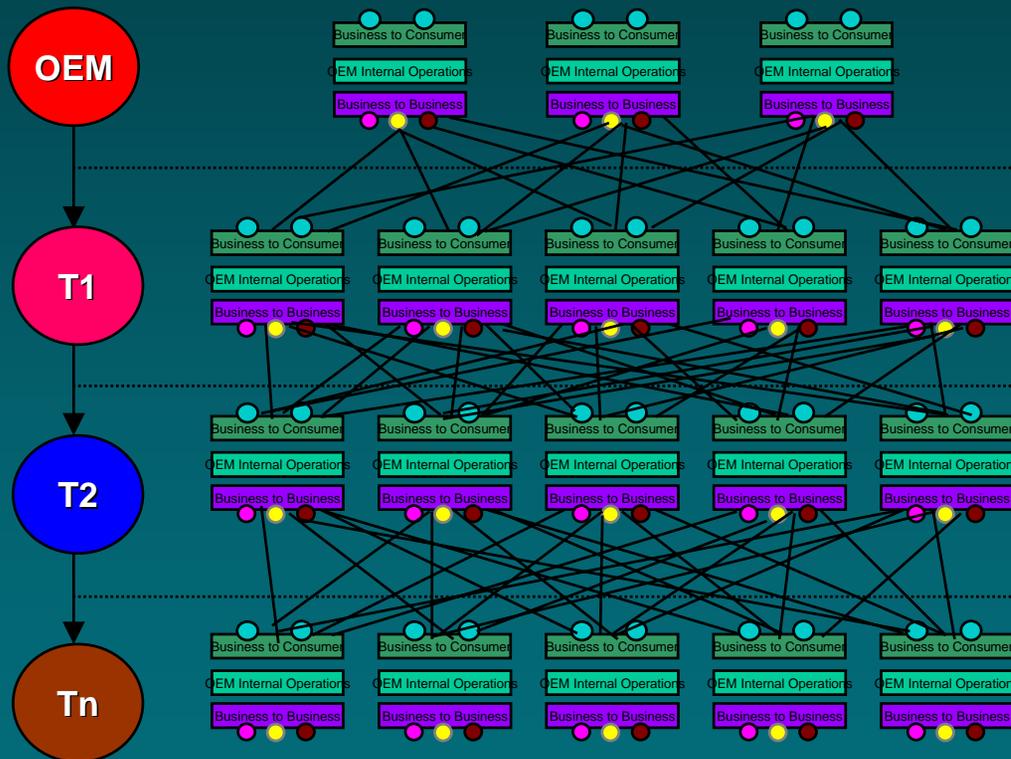
- BPE CONFIGURATION:** Load BizProcess, CONNECT SERVER
- COLLABORATION ACTIONS:** Modify PO Dealer>>Start
- NEXT STEP
- CHATTING:** SEND, CLEAR
- EXIT BPE

**CONNECT SERVER** button and **SEND** / **CLEAR** buttons are visible on the right side of the interface.

# A Current Project: Inventory Visibility and Interoperability

The landscape and scope is extremely complex with multiple tiers of suppliers

Cut down the time it takes to pass demand and scheduling information from weeks to hours.



Customers allow suppliers visibility to key data to make operational decisions and support customer build.

Facilitate/simplify the use of inventory visibility tools through interoperability, allowing companies to subscribe to a single tool of their choice

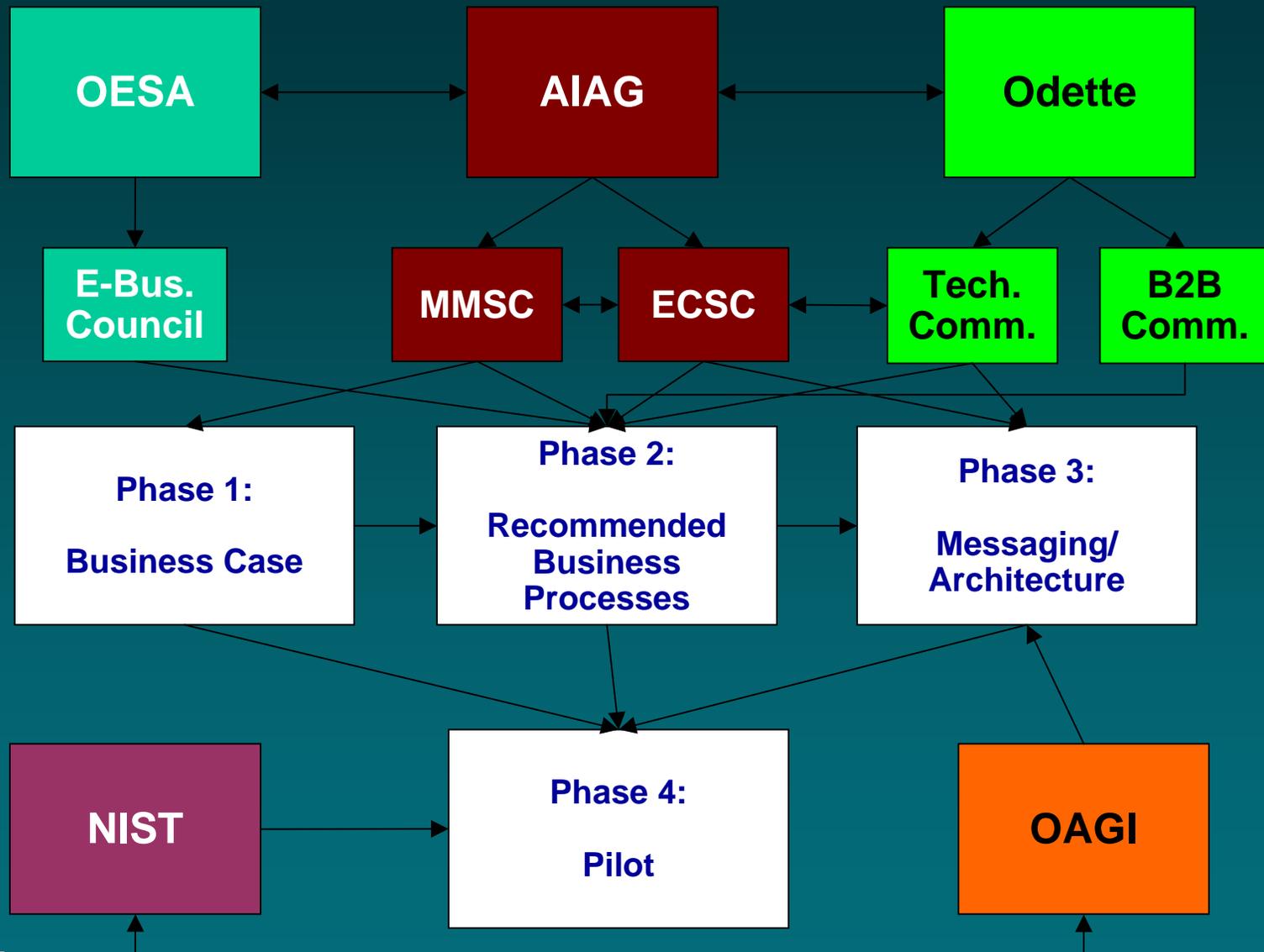
Source: CGEY, January, 2003

# Ensuring Interoperability: Common Data Model and Semantics

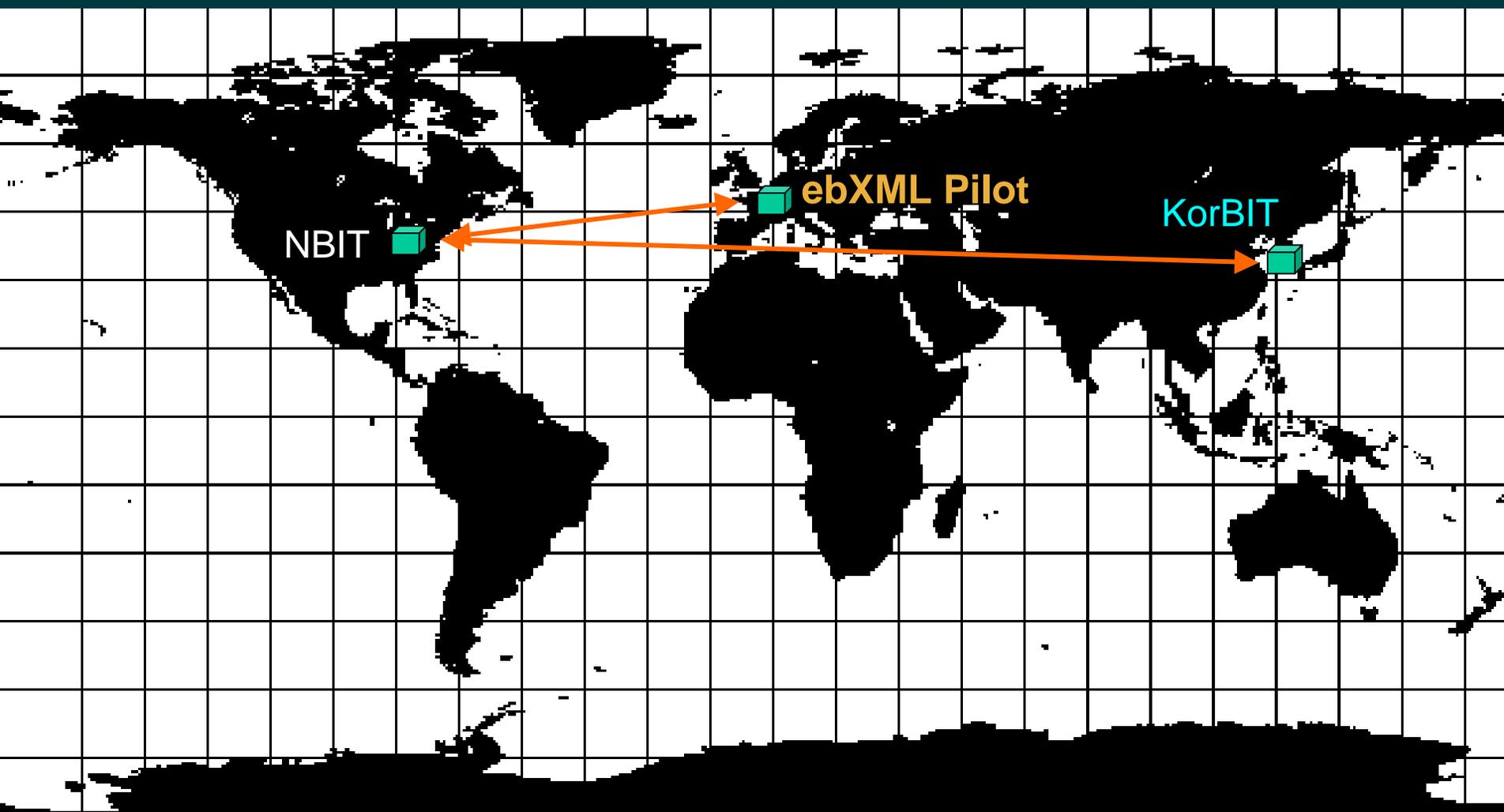
Field	Future 3	Eventra	Brain	DCX	Oracle	QAD
Item Number Customer	YES	x	<b>X</b>	X	<b>x</b>	X
Item Number Supplier	YES	x	<b>X</b>	X		X
Ship From	YES	x	<b>X</b>	X	<b>x</b>	X
Ship To	YES	x	<b>X</b>	X	<b>x</b>	X
Dock Number	YES	x	<b>X</b>	X	<b>x</b>	
Engineering Change Level	YES	x	<b>X</b>	X		
Unit of Measure	YES	x	<b>X</b>	X	<b>x</b>	X
Cum Qty Received	YES*	x	<b>X</b>	X		X
On Hand Qty	YES*	x	<b>X</b>	X	<b>x</b>	X

Eventra supports this and number of other quantity references via an order line or scheduled requirement QTY table where any combination of QTY\_DESC\_CODE and QTY\_VALUE can be stored for display.

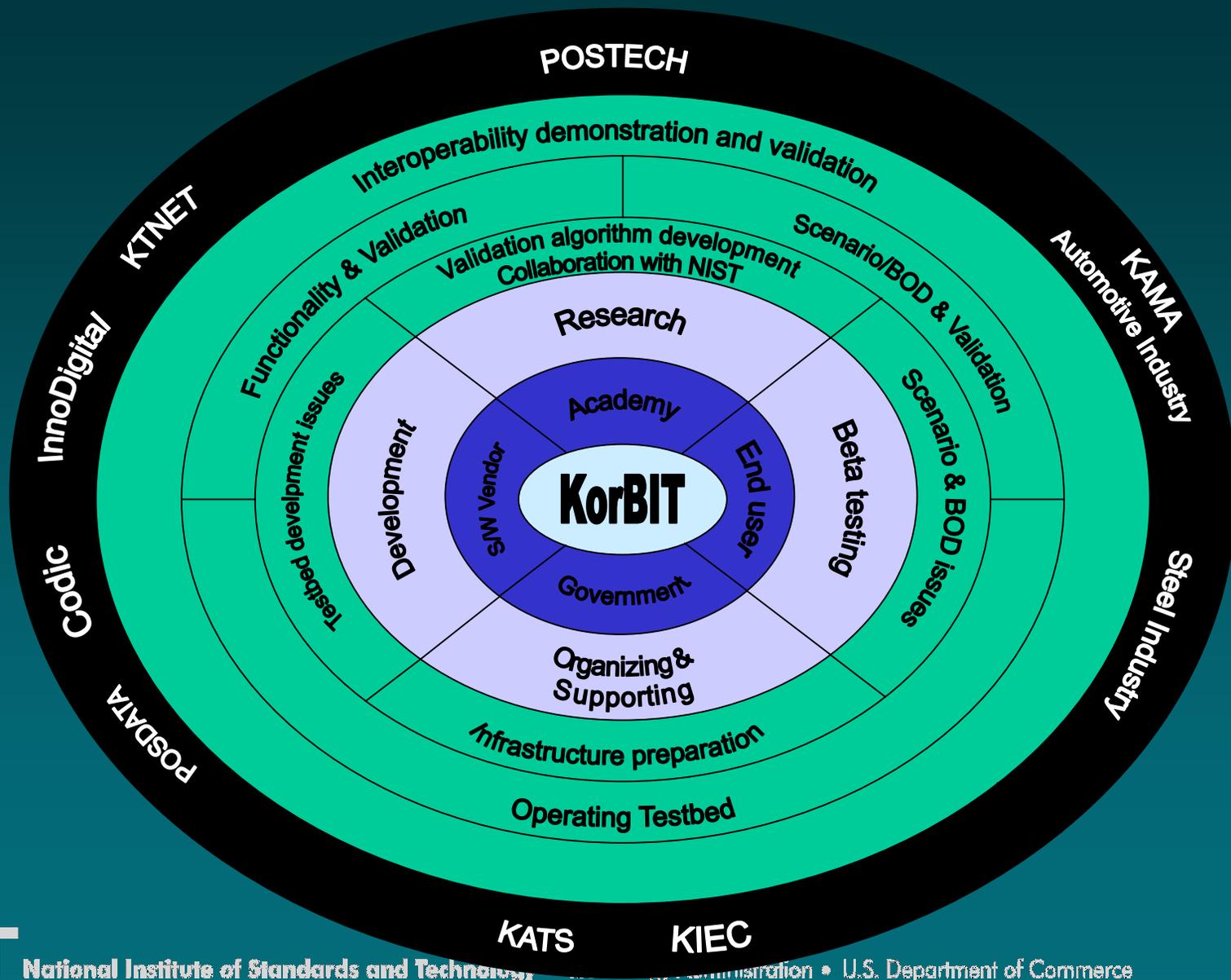
# Collaborators and Phases



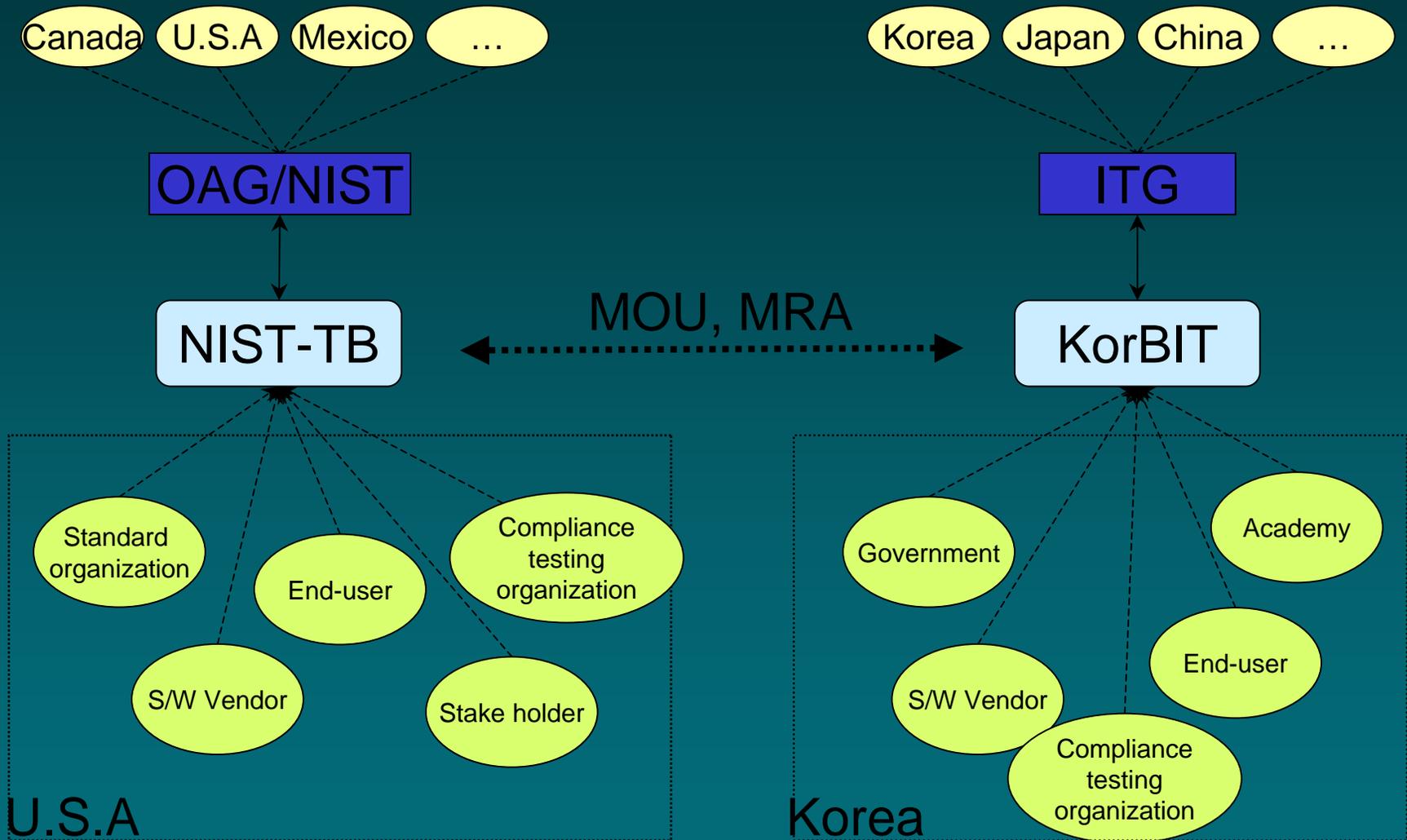
# International Collaboration Strategy



# Korean B2B Interoperability Testbed Consortium



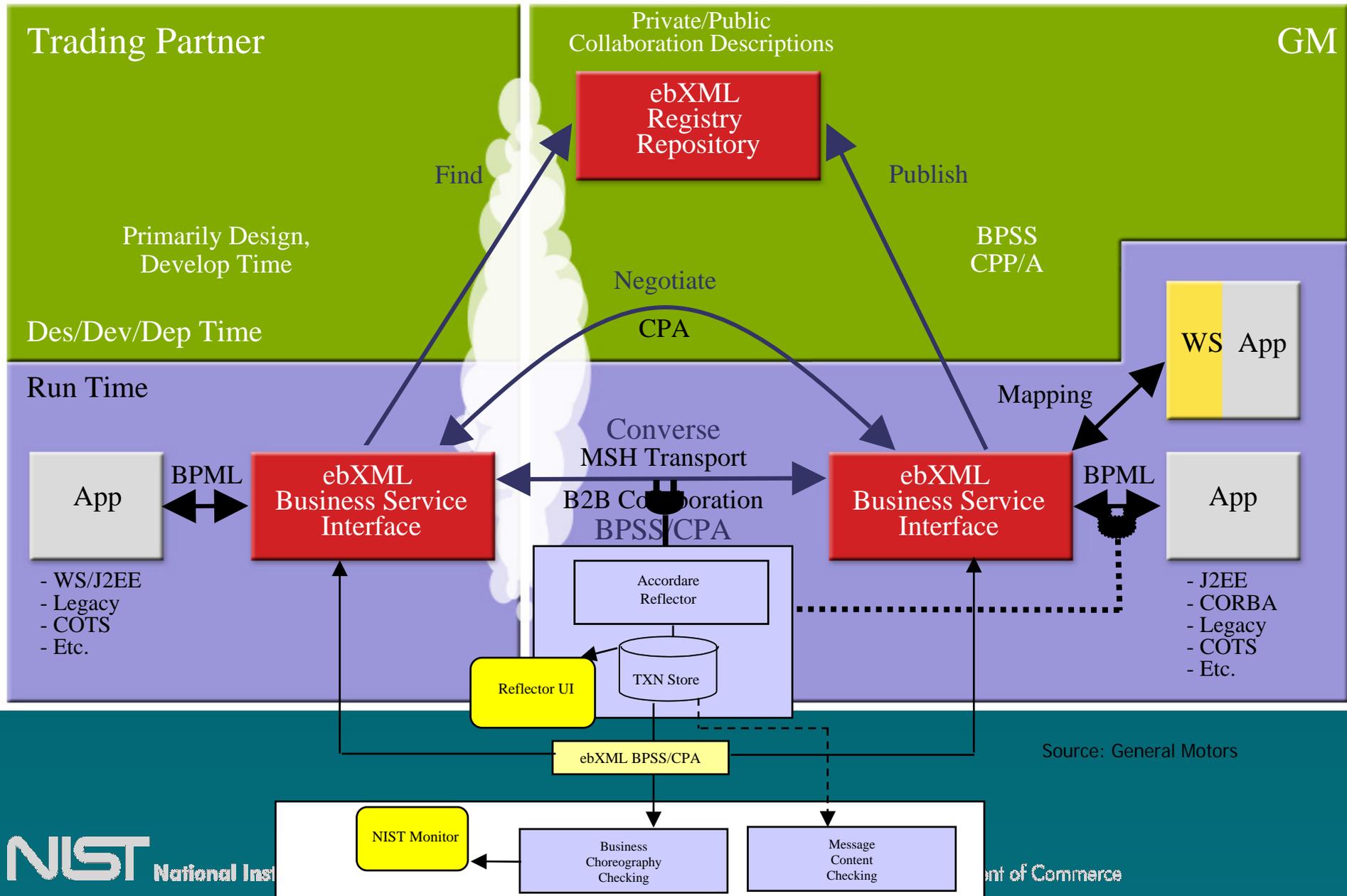
# KorBIT-NIST Testbed Collaboration Strategy



# A Potential European Collaboration

- eBES vendor forum – ebXML Interoperability Pilot
- Started in 2002 by CEN-ISSS and OASIS.
  - Incremental tests building on core functionality – payloads, error handling, signals, signatures, etc.
  - ebMS 2.0, ESIDEL (Steel industry), UBL and CPP/A (informal)
- Planned draft business scenario that integrates car and steel manufacturing.
- **Synergy possible with OAG-NIST Testbed – potential scenario, industry, and cross-regional opportunities.**

# Next Steps: Services Oriented Architecture



# Summary

- Interoperability piloting and testing are best performed in an open, widely shared environment
- NIST is a neutral technical player to provide a layer of excellence and trust in measurement and standards, and international advocacy
- OAG/NIST Testbed is a shared, open resource to advance state of the art and practice in interoperability piloting and testing
- The testbed is open for collaborations and partnerships