UN/CEFACT United Nations Centre for Trade Facilitation and Electronic Business

UN/CEFACT Common Methodologies

Mark Crawford, SAP
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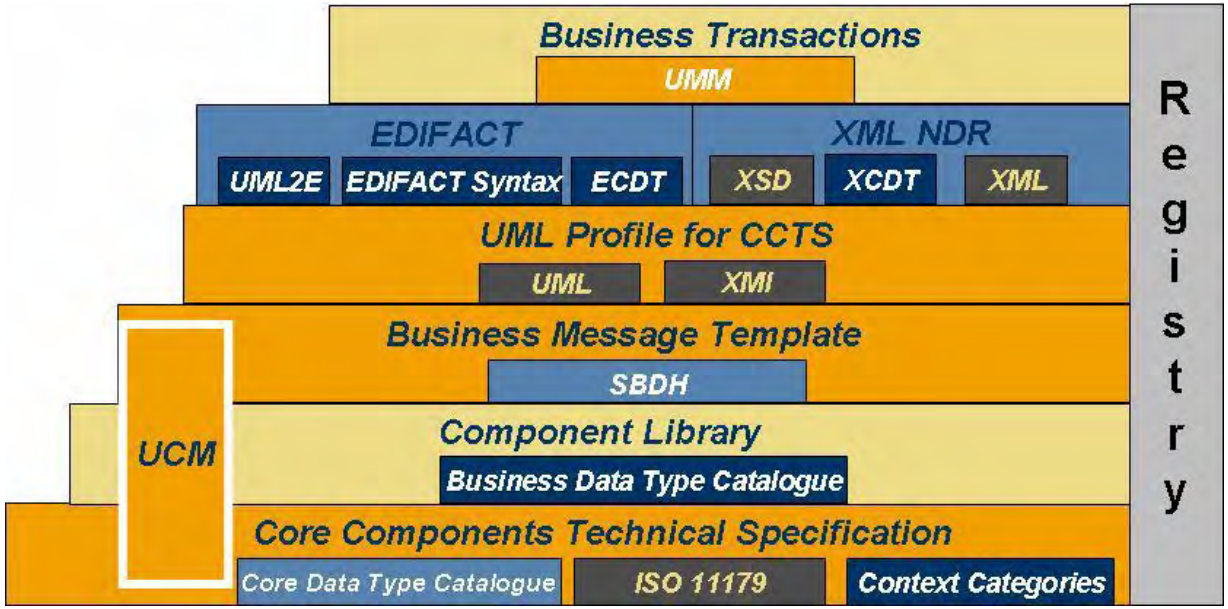

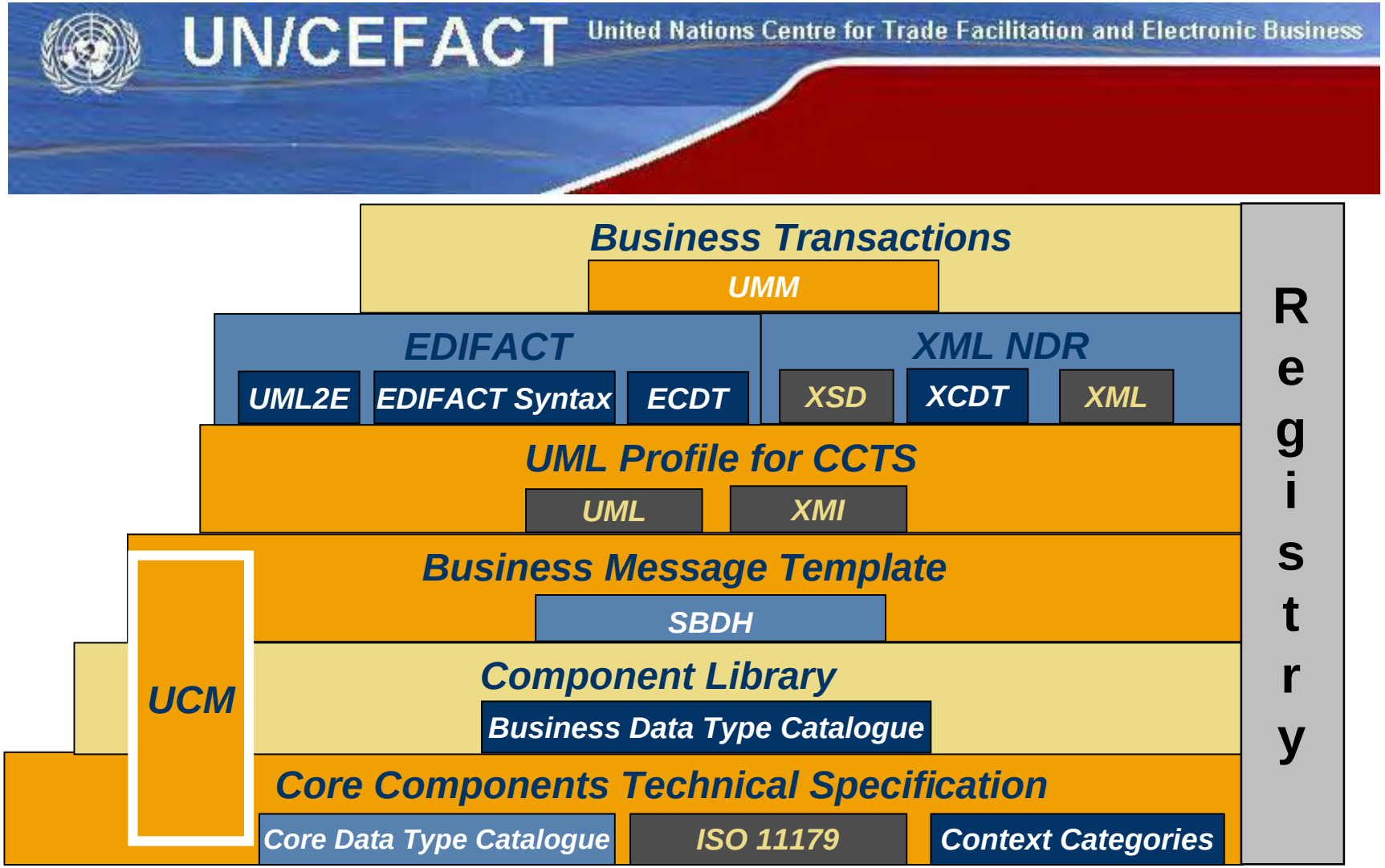

Note:
UML = Unified Modeling Language
UMM = UN/CEFACT Modelling Methodology
XSD = XML Schema Definition Language
XML = Extensible Markup Language
XMI = XML Metadata Interchange
XCDT = XML Expressed Core Data Types
BCSS = Business Collaboration Specification Schema
UCM = Unified Context Methodology
SBDH = Standard Business Document Header
UML2E = UML to EDIFACT
ECDT = EDIFACT Core Data Types

- Purpose
  - Fix significant problems with CCT S 2.01
  - Address real world experiences of last 6 years

Project Lead	Jim Wilson (jim.wilson@kcx.com)
Editor	Mark Crawford (mark.crawford@sap.com)
Approval status	Approved by FMG
Current ODP step	6 (Implementation Verification)

What is Not Changed

- An ACC is still an ACC ï with BCCs and ASCCs
- An ABIE is still an ABIE ï with BBIEs and ASBIEs
- A Data Type is still a Data Type

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Whats Changed

Version 2.01	Version 3.0
Ambiguous Property Concepts	Clarified
Confusing and Conflicting Rules	Clarified and aligned
Implicit and Explicit Rules <200	Explicit Rules > 870
Required Qualifiers	Optional Qualifiers ï For semantic differentiation only!
Universally unique BIEs	Package unique BIEs
Ambiguous Codes and Identifiers	Clarifies differences
Core Component Types	Deleted
Implicit Data Types	Explicit Data Types
Fixed, Limited Primitives	Clarified, Expanded, Floating
Context Constraint Language	Deleted
Storage Requirements	Deleted

- TBG17 style Spreadsheet developed
  - Contains D08a
    - Estimate ï 1 week of effort by 1 person can completely conform to CCTS3
      - Will still require harmonization of conflicts in properties
      - Will still require harmonization for deletion of unnecessary qualifiers and properties
- Input received from ATG
- Input received from CIDX
- Input pending from OAGi ï anticipate by mid-May
- Input pending from TBG1

Still to Do

- Implementation Strategy Document
  - Will most likely recommend phased implementation
    - Transform 2.01 CCs into 3.0 CCs
    - No need to deprecate or transition 2.01 library or artefacts
      - Unless business requirement exists
    - Use 3.0 CCs for new work
  - Anticipate 1st Draft by end of May

- Purpose
  - Develop Data Type Library based on CCTS version 3.0

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Approval status	Approved by FMG
Current ODP step	5 (Public Review)

- Application of CCTS 3.0 concepts
  - Floating primitives
  - Floating Code Lists and Identifier Schemes
- Other changes
  - Enrichment and precision of primitives and facets
  - Rationalization of numeric data types
  - Rework of Date and Time data types
  - Criteria for creating new data types and primitives.

V 3.0	V 2.01	Key changes
Code. Type	Code. Type	Floating Code Lists ï SCôs reduction
Identifier. Type	Identifier. Type	Floating Identifier Schemes ï SCôs reduction
Indicator. Type	Indicator. Type	Boolean primitive: ôTrueö/ôFalseôvalue domain.
Name. Type	Name. Type	
Text. Type	Text. Type	

V 3.0	V 2.01	Key changes
Amount. Type	Amount. Type	Floating Code Lists ï SCôs reduction
Measure. Type	Measure. Type	Floating Code Lists ï SCôs reduction
Numeric. Type		Deprecated
	Ordinal. Type	The data type of the ordinal numbers
Percent. Type	Percent. Type	Clarified definition and use
Quantity. Type	Quantity. Type	Floating Code Lists ï SCôs reduction
Rate. Type	Rate. Type	Addition of unit code SCôs - Floating Code Lists
	Ratio. Type	New, dimensionless, proportion or quotient.
Value. Type	Value. Type	The data type of the quantifying numbers

ATG2 – Data Type Catalogue

V 3.0	V 2.01	Key changes
Date. Type	Date. Type	TimePoint primitive, Format. Code SC
Date Time. Type	Date Time. Type	TimePoint primitive, Format. Code SC
	Duration. Type	TimeDuration primitive
Time. Type	Time. Type	TimePoint primitive, Format. Code SC

V 3.0	V 2.01	Key changes
Binary Object. Type	Binary Object. Type	SC Reduction
Graphic. Type	Graphic. Type	SC Reduction
Picture. Type	Picture. Type	SC Reduction
Sound. Type	Sound. Type	SC Reduction
Video. Type	Video. Type	SC Reduction

Primitives

Name	Description
Binary	The set of (in)finite-length sequences of binary digits
Boolean	Denotes a logical condition through predefined enumeration of the literals ótrueôand ófalseô
Decimal	The subset of the real numbers, which can be represented by decimal numerals
Double	The IEEE double precision 64 bits floating point type
Float	The IEEE simple precision 32 bits floating point type
Integer	A value in the infinite set (...-2, -1, 0, 1, 2...), a denumerably infinite list.
Normalized String	A string that does not contain the carriage return (#xD), line feed (#xA) nor tab (#x9)
String	A sequence of characters in some suitable character set
TimeDuration	A Length of time in various time units as used in the Gregorian calendar.
TimePoint	A point in time to various common resolutions: year, month, day, hour, minute, second, and fractions thereof.
Token	A string that does not contain the line feed (#xA) nor tab (#x9) characters, that have no leading or trailing spaces (#x20) and that have no internal sequences of two or more spaces.

- Purpose
  - Develop Workable Context Methodology

Project Lead	Scott Hinkelman (scott.hinkelman@oracle.com)
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Approval status	Approved by FMG
Current ODP step	3 (1st Working Draft)

- Two significant efforts underway
  - UCM Reference Architecture
    - Internal document ï but available
  - Classification Scheme Technical Specification (name may change)
    - This is the initial UCM specification underway

Architecture Document

- Frames discussion and position of specification work
- Provides comprehensive UCM view
- Essentially sets UCM road map
- Born out of ~30 use case submissions of how/when Context will be used
- Analysis resulted in 3 broad areas ï ñUCM Dimensionsò
  - Modeling
  - Syntax Binding
  - Deployment

- The is the initial, and only, UCM specif ication being worked on.
- It is in the Modeling Dimension.
- Mathematical foundati on based on a Directed Acyclic Graph (DAG) Will specify
  - A UML logical metamodel for defining context values
    - UCM will NOT define context values such as in CCTS 2.X
  - UCM WILL define how to define context values via Classification Scheme instances
  - A Gramm ar (BNF) to express context set values such as:
    - ñAll of Europe but not th e UKò
  - BIEs which are relevant for Step3 in OrderToCash for partner1
    - Automotive industry in Germany
    - More ï you define your values

- Purpose
  - Provide a UML Profile for CCTS 3.0

Project Lead	Philipp Liegl [liegl@big.tuwien.ac.at]
Editor	
Approval status	Approved by FMG
Current ODP step	4 (Internal Draft)

UCM email list: uncefact_ucm@yahoogroups.com
UCM Wiki: http://unstandards.org:8080/display/public/UCM+-+Unified+Context+Methodology

UPCC – A UML Profile for CCTS 3.0

- Project goal:
  - Provide an unambiguous UML representation for Core Components
  - Support the validation of structure and semantics of CCTS 3.0 compliant information models
  - Support storage and retrieval of UPCC 3.0 model artifacts from registries

Project status

- Scheduled end of implementation verification phase (ODP 6): 31.12 .2009

- First prototypical implementation of UPCC
  - VIENNA Add-In
  - Open source implementation
  - http://code.google.com/p/vienna-add-in/

VIENNA Add-In

UMM (UN/CEFACT's Modeling Methodology)

- Model validation
- Transformation to choreography languages (BPEL, BPSS)
- Automated model structure generator

UPCC (UML Profile for Core Components)

- Model validation
- Deployment artifact generation (XSD)
- Model-artifact creation wizards

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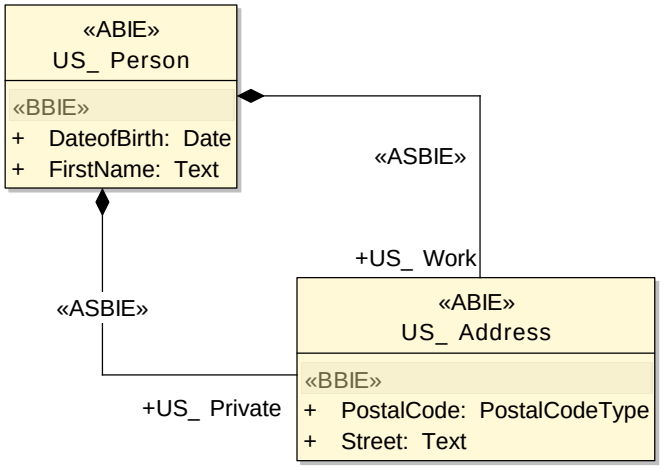
From CCTS models to deployment artifacts

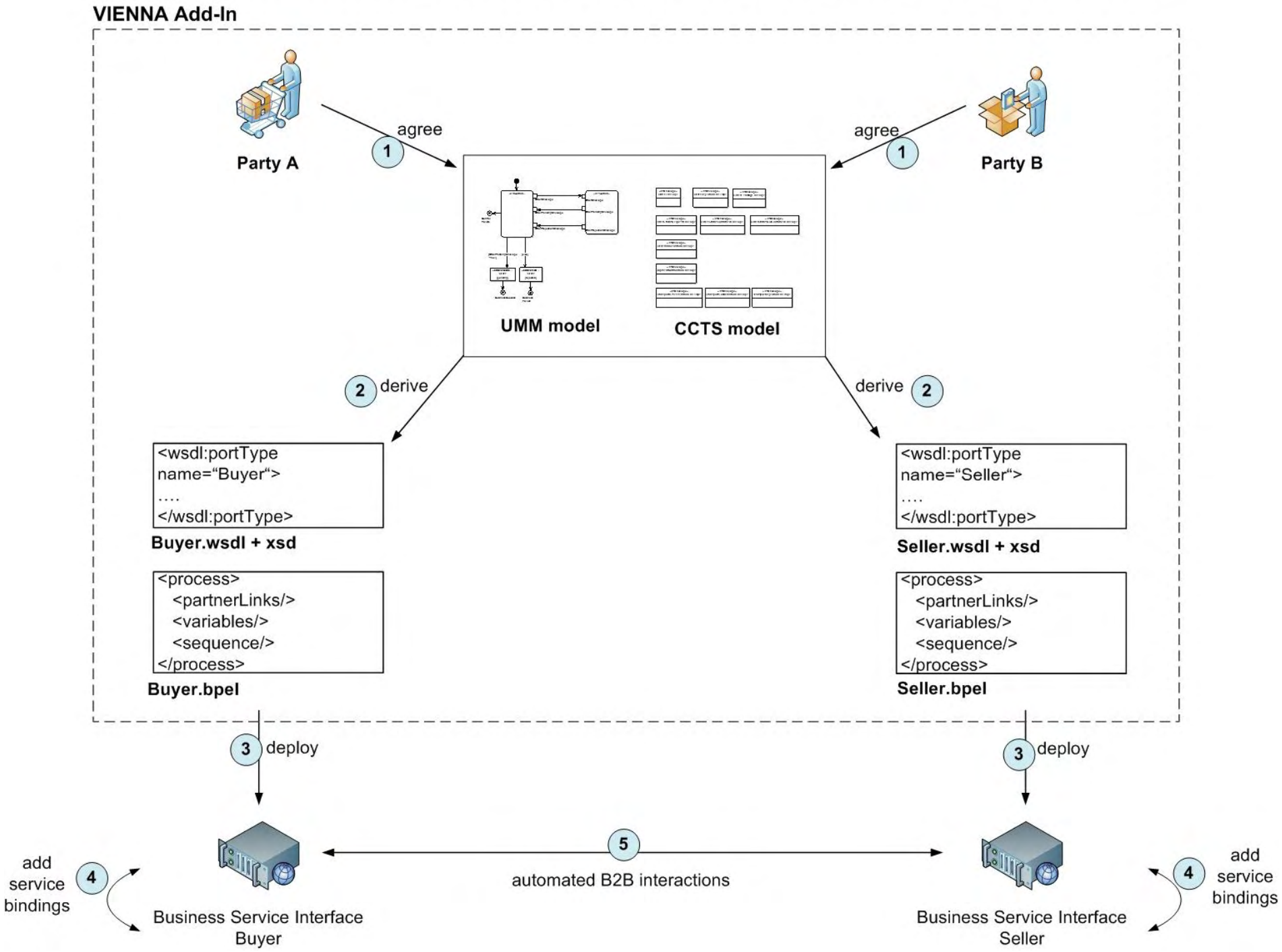


UN/CEFACT
Naming and Design Rules 3.0

VIENNA Add-In

```
<xsd:complexType name="US_PersonType">
        <xsd:sequence>
                <xsd:element name= "DateofBirth" type="udt1:DateType">
                <xsd:element name="FirstName" type="udt1:TextType"/>
                <xsd:element name="US_Work" type="bie1:US_AddressType"/>
                <xsd:element name="US_Private" type="bie1:US_AddressType"/>
        <xsd:sequence>
</xsd:complexType>

<xsd:complexType name="US_AddressType">
 [é ]
</xsd:complexType>
```


VIENNA Add-In
Party A
agree
1
Party B
agree
1
UMM model
CCTS model
2
derive
derive
2
<wsdl:portType
name="Buyer">
....
</wsdl:portType>
Buyer.wsdl + xsd
<wsdl:portType
name="Seller">
....
</wsdl:portType>
Seller.wsdl + xsd
<process>
<partnerLinks/>
<variables/>
<sequence/>
</process>
Buyer.bpel
<process>
<partnerLinks/>
<variables/>
<sequence/>
</process>
Seller.bpel
3
deploy
3
deploy
add
service
bindings
4
Business Service Interface
Buyer
5
automated B2B interactions
Business Service Interface
Seller
4
add
service
bindings

- Purpose
  - Provide Robust XML NDR to support CCTS 3

Project Lead	Mark Crawford (mark.crawford@sap.com)
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Approval status	Approved by FMG
Current ODP step	6 (Implementation Verification)

- NDR 2.01 to NDR 3.0
  - Address the change requests to NDR from UN/CEFACT
    - Concerns about large schema modules
    - Others
  - Provide additional support for SDOôs to drive convergence and alignment
  - Provide support for Context

- Example Change Request from UN/CEFACT
  - IdentifierList and CodeList are the same there is no difference.
    - In CCTS 3, Data Type Catalogue, and NDR 3.0 all enumerated list are CodeLists. IdentifierList identify the meta structure of the identifications.
  - The BIE are divided into namespaces that come from the CCTS Packages for each Business Process that contains the definition of content for the given TBG.
    - Necessary to support elimination of mandatory qualifiers

- CCTS provides the translation of generic CC to context specific BIEs
- NDR 3.0 simply translates these context specific BIEs to XML Schema
- Support for more robust Usage Rules and Context
- Enable the packaging of schema definition in such a way that the entire library is not required for a single implementation

- NDR used by more than UN/CEFACT
  - Request from AIAG to UN/CEFACT and other SDOs to agree upon a common NDR
    - Each SDO has their own NDR
    - The UN/CEFACT NDR addresses the requirements of these other organizations to facilitate their adoption of the UN/CEFACT common methodologies and f oster alignment and interoperability
    - To this end:
      - ACORD, GS1, HR-XML, OAGi, RosettaNet, UBL Participants have been involved and have provided feedback.


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NDR v3.0

Backup

Why a New Version

- Received 300 Comments against 2.01, 659 comments against 1st Public Review and 655 comments against 2nd Public Review
  - Majority submitted by Forum members
  - Some from outside implementers