

Agenda

- RosettaNet
- Why Standardize XML?
- RosettaNet PIPTMs
- RosettaNet B2B Architecture

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RSETTANET



About RosettaNet



- **Vision:** The Leader in global e-business standards
- Mission: RosettaNet drives collaborative development and rapid deployment of internet-based business standards, creating a common language and open e-business processes that provide measurable benefits and are vital to the evolution of the global, high-technology trading network.

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RosettaNet Governing Process

RosettaNet **Executive Board**

 Provide overall auidance Address prioritization and integration across

boards

FCI

TBM

Hitachi

Future Electronics



Individual Supply Chain Boards

- Address SM supply chainspecific issues
- Prioritization
- Resources
- Implementation and adoption



RosettaNet **Partners**

- Vote on standards
- Participate in workshops
- Implement



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Information Technology (IT) Supply Chain Board

3Com Hewlett-Packard Arrow Electronics **TBM**

Ingram Avnet Insight

Cisco Systems Intel Compag

Lucent CompUSA **Technologies**

Dell NEC

Federal Express Netscape

GSA Office Depot Pioneer

Ouantum

SAP

Siemens

Solectron

Tech Data

Trilogy

UPS

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Electronic Components (EC) Supply Chain Board

Agilent Intel Pioneer Altera Kemet Samsung **Arrow Electronics** Lucent Solectron **Technologies**

Avnet Memec Sonv AVX

Micron Technology STMicroelectronics Bourns

Molex Cisco Systems Texas Instruments Motorola

Toshiba National

Tyco Electronics Nokia

Xilinx NEC

Philips

Semiconductors

Semiconductor Manufacturing (SM) Supply Chain Board

Air Products & Micron Technology

Motorola Agilent Technologies National

Semiconductor Amkor Technology

NEC **Applied Materials**

ASE **Philips**

Chemicals

Semiconductors Chartered Semiconductor Samsung Electronics

Intel Shin-Etsu Handoutai **JSR** Shinko Electronics

LSI SPIL

Lucent Technologies Sumitomo Bakelite Sumitomo Metal

Texas Instruments

TOK

Tokyo Electron

Toppan

Toshiba

TSMC UMC

Winbond

Xilinx

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What RosettaNet standardizes

- RosettaNet <u>does not</u> define how trading partners do business together
- RosettaNet <u>does</u>, however, define how trading partners exchange information
- RosettaNet <u>does not</u> build or sell software but instead works with industry thought leaders to develop business process specifications

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Industry Recognition

In a special year-end issue of tomorrow's **LEADERS**, RosettaNet is named a **TOP 10 WINNER OF 2000** by InternetWeek.

12.18.00

"RosettaNet is arguably the MOTHER OF ALL industry-specific XML EFFORTS."

eWFFK

2.26.01

RosettaNet is "one of the

MOST AMBITIOUS

inter-enterprise content and process integration efforts currently underway." Patricia Seybold Group

"RosettaNet's e-business communications standards are **GIANT STEPS** on the journey toward **SOLVING** some of these problems."

CRN
3.19.01

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Why XML?

- Simple to represent richly structured data in an unambiguous, extensible, non-proprietary way
- Readily available, easy-to-integrate parsing and validation technology
- Ideally suited for data exchange over the Internet using well-established transfer protocols

Why Standardize?

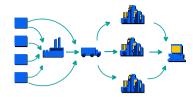
- Competitive pressure to achieve extreme operational efficiency
- Competitive pressure to create additional business value
- Makes integration efforts efficient and repeatable
- Promotes loose coupling of trading partners, allowing for rapid reconfiguration of supply webs
- Leverages expertise and experience of those that have come before you

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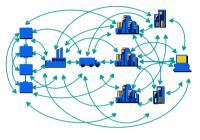
RosettaNet PIPs™ ROSETTANET

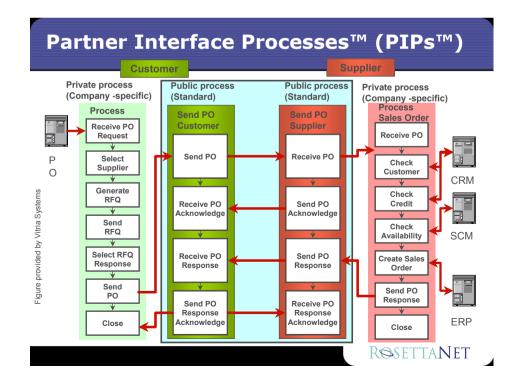
Why Standardize?

Transition from linear supply chain ...



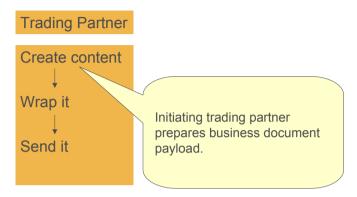
...to dynamic supply web





30,000 ft View of the Technology

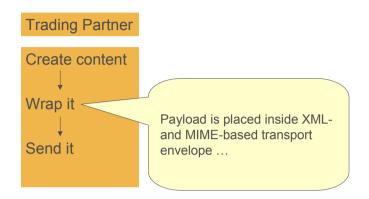
• It is conceptually very simple.



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30,000 ft View of the Technology

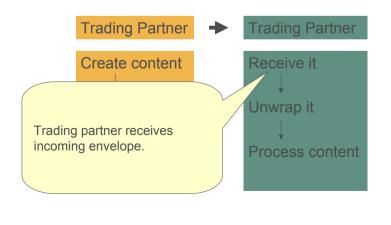


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30,000 ft View of the Technology

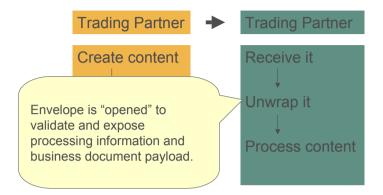


30,000 ft View of the Technology



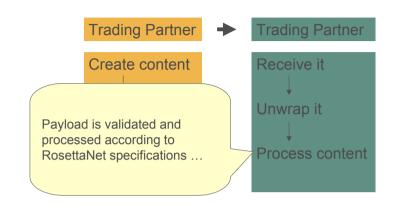
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30,000 ft View of the Technology



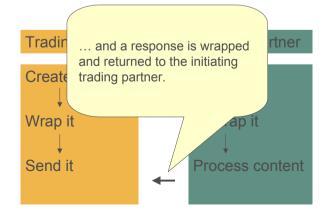
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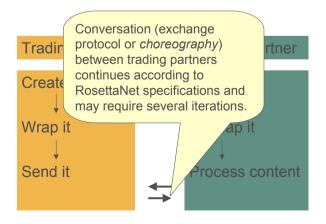


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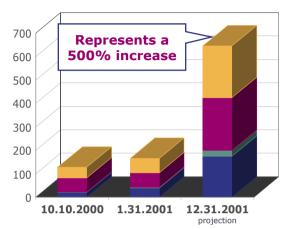


30,000 ft View of the Technology



Implementation Today

Partner Connections with at least one PIP™



Note: A percentage increase of partner connections is the best quantitative indicator of speed and traction of implementation activity. Actual numbers should not be used out of context. Because actual connections are calculated differently company-by-company and partners may report connections inconsistently, these numbers are estimates based on data gathered. Numbers do not reflect additional volume of multi-PIP activities.

IT Board

■ EC Board

SM Board

Other

IMPLEMENTATION SUCCESS

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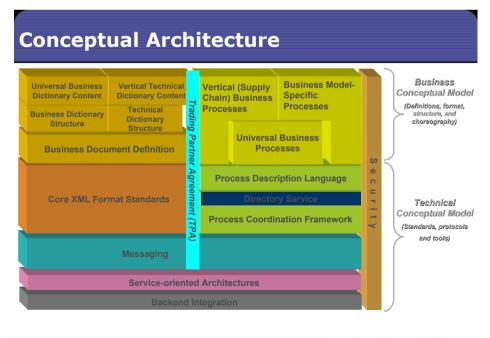
Implementation Successes

Partners	Implementation	Results
Arrow & Carrier	Up and running in six weeks	Reduced a 5-day batched delivery cycle to overnight; results in inventory reduction, improved customer satisfaction
Bourns & TTI	Implemented PIP™ 3A2 in two weeks	New process converted access to inventory information from a week's delay to real-time data; improved customer service
Compaq & Delta (Taiwan)	Implemented PIP 3A4 and PIP 3A7	Reduced the <u>order processing lead time to</u> <u>several minutes</u> ; enabled Compaq to receive the P.O. acknowledgement immediately and allowed departments involved in the process to receive related information in real time
Intel & WPI (Taiwan)	Implemented PIP 3A4 and PIP 3A7	Automated process <u>reduced the cycle time</u> for order processing between the companies
Samsung & Sony	First implementation between Korea- and Japan-based partners	Moved into production this month; expected to shorten lead time

IMPLEMENTATION SUCCESS

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Business Conceptual Layer Rusiness **Business Model-**Vertical Technical Universal Business Vertical (Supply Conceptual Model Specific **Dictionary Content Dictionary Content** Chain) Business (Definitions, format, **Processes** Processes Technical structure, and **Business Dictionary** Dictionary Structure choreographyl Structure **Universal Business Processes Business Document Definition Process Description Language Directory Service** Core XML Format Standards Technical Conceptual Model **Process Coordination Framework** (Standards, protocols and tools) Messaging

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Service-oriented Architectures

Backend Integration

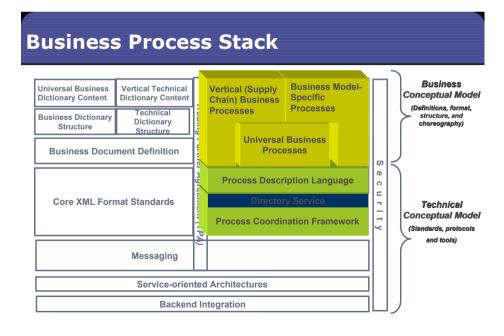
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Technical Conceptual Layer Rusiness **Business Model-**Universal Business Vertical Technical Vertical (Supply Conceptual Model Specific **Dictionary Content Dictionary Content** Chain) Business (Definitions, format, **Processes** Processes Technical structure, and Business Dictionary Dictionary choreography) Structure Structure **Universal Business Business Document Definition Processes** m **Process Description Language Core XML Format Standards** Technical Conceptual Model **Process Coordination Framework** (Standards, protocols and tools) Messaging Service-oriented Architectures

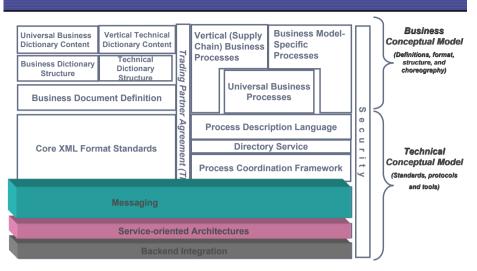
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Business Document Stack Business **Business Model-**Universal Business **Vertical Technical** Vertical (Supply Conceptual Model **Dictionary Content Dictionary Content** Specific Chain) Business (Definitions, format, **Processes** Processes Technical structure, and **Business Dictionary** Dictionary choreography) Structure Structure Universal Business **Business Document Definition Processes Process Description Language Directory Service Core XML Format Standards** Technical Conceptual Model **Process Coordination Framework** (Standards, protocols and tools) Messaging Service-oriented Architectures **Backend Integration**



Execution Component Stack



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Binding Components Business Business Model-Universal Business Vertical Technical Vertical (Supply Conceptual Model **Dictionary Content Dictionary Content** Specific Chain) Business (Definitions, format, **Processes** Processes Technical structure, and **Business Dictionary** Dictionary choreography) Structure Structure **Universal Business Processes Business Document Definition Process Description Language Directory Service** Core XML Format Standards Technical Conceptual Model **Process Coordination Framework** (Standards, protocols and tools) Messaging

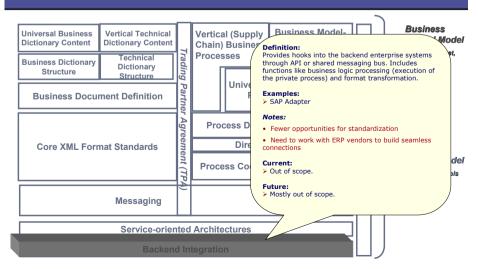
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Service-oriented Architectures

Backend Integration

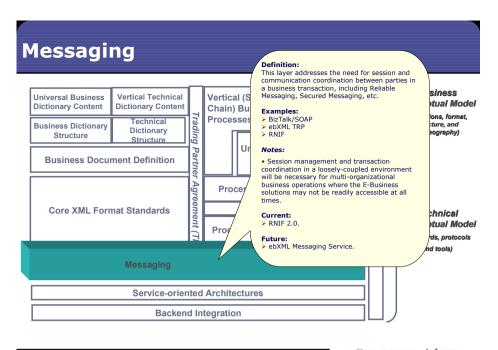
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Backend Integration



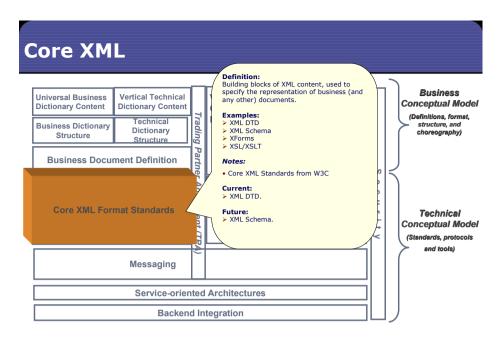
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Service-oriented Architecture Business Business Model Universal Business Vertical Technical Vertical (Supply Model **Dictionary Content Dictionary Content** Spec Definition: Chain) Business Development platform for web-based **Processes** Business Dictionary services. Dictionary Structure Structure Examples: **Universal Bus** ▶ .NET ➤ J2EE **Processe Business Document Definition** · ISVs comprise the primary stakeholders **Process Descriptio** for this layer, who should be able to build competitive solutions based on XMI standards. Directory S Core XML Format Standards Current: Process Coordi Out of scope Future: Out of scope Messaging Service-oriented Architectures **Backend Integration**



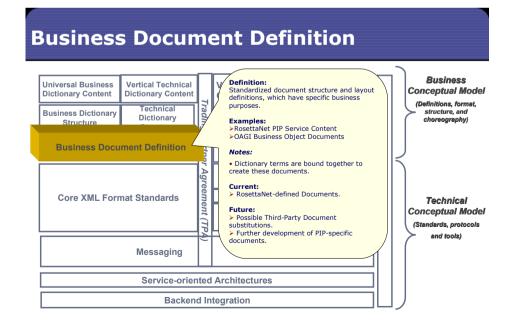
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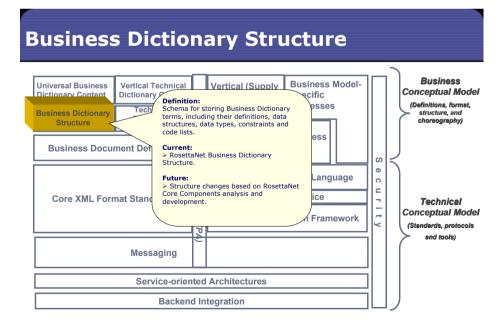
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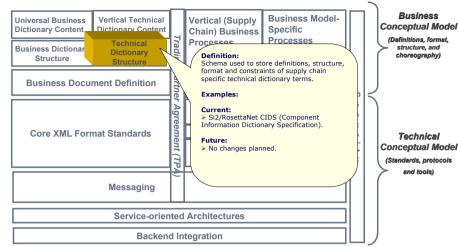


Universal Business Dictionary Content Definition: Specifies business terminology and accepted Business iness Model-Universal Business values that may be commonly used in any Conceptual Model business message; the vocabulary used to cific **Dictionary Content** construct the business content of a cesses (Definitions, format, **Business Dictionary** structure, and choreography) Structure > RosettaNet Business Dictionary ness > ebXML Core Components **Business Document** Current ➤ RosettaNet Business Dictionary 2.0. Language Changes and composition of complex terms based on RosettaNet Core vice Core XML Format St Components analysis and development Technical Conceptual Model Framework (Standards, protocols and tools) Messaging Service-oriented Architectures **Backend Integration**

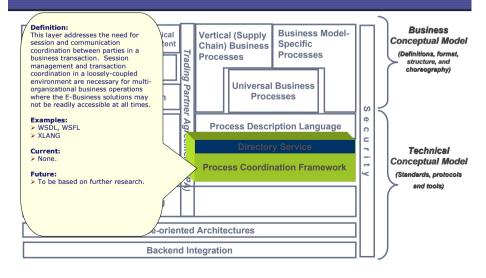
Vertical Technical Dictionary Content Business cinoce Mode **Universal Business** Vertical Technical Conceptual Model **Dictionary Content** Definition: Industry- or supply chain-specific (Definitions, format, Technical technical lexicon (terms, properties structure, and **Business Dictionary** values taxonomic structures) to be used Dictionary choreography) Structure to construct the content of a domain Structure specific business document. **Business Document Definition** Current: > RosettaNet Technical Dictionary Further development of RNTD.

Process Coordination Framework

Technical Dictionary Structure



Process Coordination Framework



Technical

Conceptual Model

(Standards, protocols

and tools)

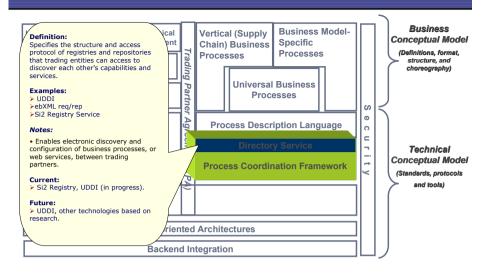
Service-oriented Architectures

Backend Integration

Messaging

Core XML Format Standards

Directory Service



Process Description Language Definition: **Business Business Model-**Vertical (Supply Specifies the way in which any business Conceptual Model Specific process (whether universal or specific in Chain) Business nature) is recorded, such that is understood (Definitions, format, **Processes** Processes and executable in a repeatable fashion by a structure, and wide array of humans and/or applications. choreography) Examples: **Universal Business** ≽ebXML BPSS **Processes** ➤ BPML >UML m Current: **Process Description Language** VML Models, but no machine-sensible format published **Directory Service** Technical Future: ebXML BPSS Conceptual Model **Process Coordination Framework** (Standards, protocols and tools) Messaging

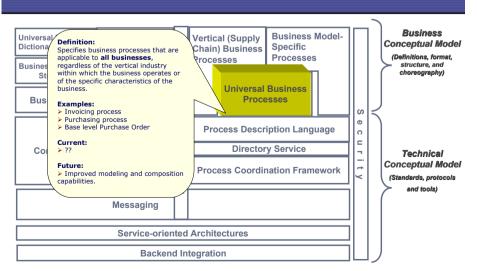
Service-oriented Architectures

Backend Integration

Business Model Business Processes

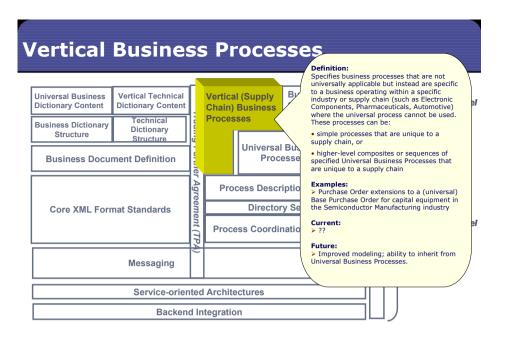
Business

Universal Business Processes

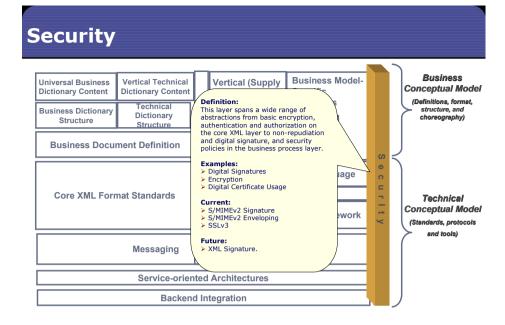


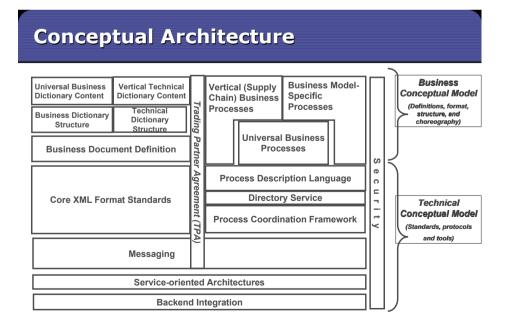
Business Model-Universal Bus ertical (Supply Conceptual Model Dictionary Specific n) Busines (Definitions, format, **Processes** Specifies business processes that are not structure, and Busines universally applicable, but instead are choreography) specific to a business with specific characteristics such as non-profit: small: rsal Business huge, etc. where the universal process Processes Busi cannot be used. These processes can be: · simple processes that are unique to a business model (e.g., non-profit), or cess Description Language · higher-level composites or sequences of specified Universal Business Processes that are unique to a business model. **Directory Service** Technical Examples: Conceptual Model ess Coordination Framework Purchase Order tax modules added to a (Standards, protocols (universal) Base Purchase Order and tools) Current: ▶ ?? Improved modeling; ability to inherit from Universal Business Processes tectures

ration



Trading Partner Agreement Business **Business Model-**Universal Business Vertical Technical Vertical (Supply Conceptual Model Dictionary Content **Dictionary Content** Chain) Bu Definition: (Definitions, format, Process/ Dynamic creation and management structure, and **Business Dictionary** of trading partner agreements between Dictionary choreography) Structure partners. Profiles of trading partner's B2B Structure infrastructure, protocols, contractual agreement for transactions. **Business Document Definition** Examples: ➤ ebXML CPPA Proce No formal specification; individually developed agreements. Core XML Format Standards Technical Conceptual Model Standard TPA and Collaboration Profile Proces specification, possibly ebXML CPPA. (Standards, protocols and tools) Messaging Service-oriented Architectures **Backend Integration**







Convergence Opportunities

- Not all standards efforts are created equal!
- We need to better utilize existing standards not create new ones
- Of the various standards components most standards efforts focus on **business** content
- Creating **business** *process* standards is very difficult
- RosettaNet has created and published a production-ready framework based on XML

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RosettaNet Position on Standards Convergence

- RosettaNet will continue to track new horizontal standards efforts...
- Rosettanet is committed to adopting elements of the architecture when they become broadly accepted horizontal standards
- Rosettanet will provide smooth transition to new horizontal standards as adopted...

Standards Transition

Announced

- Future releases of RNIF will include support for the ebXML's TRP (Messaging Service Specification). May 2001.
- 83 RosettaNet PIP s registered within the UDDI Universal Business Registry, April 2001.

Ongoing

- RosettaNet contributing to ebXML's BPSS (Business Process Specification Schema) for documenting PIP s in XML.
- RosettaNet contributing to UN/CEFACT BL (core components)

Acknowledgements

- RosettaNet
 - Pete Wenzel Chief Architect
 - Jennifer Hamilton, CEO
 - Paul Tearnen, VP Standards
- WebMethods
 - Mitch Shue, former RosettaNet Chief Architect
- Intel:
 - Jackson He,
 - Steve Agritelley
- Business Internet Consortium

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Appendix: Glossary ROSETTANET

Glossary of Terms

authXML Authentication and Authorization

Information in XML

BIC **Business Internet Consortium**

BPML Business Process Modeling Language Business Process Management Initiative **BPMI**

BTP Business Transaction Protocol

cXML Commercial Extensible Mark-up Language

ebXML E-business XML Initiative

ECIX Electronic Component Information Exchange **IEC** International Electrotechnical Commission **JETIA** Japan Electronics and Information Technology

Industries Association

NEMI National Electronic Manufacturing Initiative

Glossary of Terms

OAG Open Applications Group

OASIS Organization for Advancement of Structured

Information Standards

OBI Open Buying on the Internet

S2ML Security Services Mark-up Language

Si2 Silicon Integrated Initiative SOAP Simple Object Access Protocol

tpaML Trading Partner Agreement Mark-up Language UDDI Universal Description Discovery and Integration

UCC Uniform Code Council

UN United Nations

VFIIP Virtual Factory Information Interchange Project

W3C World Wide Web Consortium

XAML Transaction Authority Mark-up Language

xCBL XML Common Business Library

