



Asia-Pacific  
Economic Cooperation

# **APEC Symposium on ebXML for Internet Paperless Trading and Collaborative e-Business**

**July 21-23, 2004  
Bangkok, Thailand**

**APEC Electronic Commerce Steering Group (ECSG)  
APEC Telecommunication and Information Working Group**

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**Symposium Program  
As of July 19, 2004**

**APEC Symposium on ebXML for  
Internet Paperless Trading and Collaborative e-Business**

**July 21-23, 2004, Thailand**

**Day 1: July 21, 2004**

8.30 – 9.00 Registration

**Opening Ceremony**

9.00 – 9.10 Welcoming Remarks and Keynote Address  
His Excellency Dr. Surapong Suebwonglee  
Minister of Information and Communication Technology, Thailand

9.10 – 9.20 Introductory Remarks  
Mr. Karun Kittisataporn  
Permanent Secretary, Ministry of Commerce, Thailand

9.20 – 9.30 Introductory Remarks  
Khunying Dhipavadee Meksawan  
Permanent Secretary, Ministry of Information and Communication  
Technology, Thailand

**Session I: Introductory Session – Economic Impacts and  
Challenges Ahead**

**Session Chair: Skol Harnsuthivarin**  
Vice Chair, APEC Electronic Commerce Steering Group  
Chair, APEC ECSG Paperless Trading Subgroup  
Inspector General, Ministry of Commerce

**This session aims to provide an overview discussion on APEC paperless  
trading initiatives and goals in trade facilitation and border integrity.**

**Why should economies implement paperless trading through the  
development of a single-window system that covers all import and export-  
related procedures? What are challenges and risks ahead? How can an  
environment for domestic and cross-border paperless trading be realized  
through the establishment of an interoperable framework for transmitting  
information and streamlining processes in trade administration, customs  
clearance, financial settlement and international transportation?**

9.30 – 9:55 Current APEC Initiatives on Internet Paperless Trading -  
Benefits and Challenges  
Bruce Bennett  
Program Director, APEC Secretariat

9:55 – 10.20 Establishment of Interoperability and Standardization for Implementing Domestic  
and Cross-Border Paperless Trading  
Hisanao Sugamata  
Research Director, Electronic Commerce Promotion Council of Japan  
Chairman, ebXML Asia Committee

10:20 – 10:40 Refreshment

## **Session II: Strategies in Establishing A Single Window and Integrated System**

**Session Chair: Bruce Bennett**  
Program Director, APEC Secretariat

**This session aims to discuss strategic issues and approaches in implementing a web-based single-window electronic access mechanism and integrated environment for balancing and optimizing border security and trade facilitation, including customs clearance, trade administration, financial settlements and international transportation.**

**What are critical success factors and how can we deal with them, e.g. approaches for cooperation and coordination among relevant government agencies and public-private partnership, challenges in a general lack of single authorities within economies that coordinate paperless uptake, and the importance of business strategies and IT alignment with the concept of enterprise architecture and incremental built?**

- 10:40 – 11:05 ACE: An Integrated Environment for Balancing Trade Efficiency and Border Security  
Charles R. Armstrong  
Assistant Commissioner and Chief Information Officer for U.S. Customs and Border Protection's Office of Information and Technology
- 11:05 – 11.30 Trends in the Development of An Integrated Single Window System for e-Logistics  
Dr. Chong Yoke Sin  
Chief Operating Officer, NCS Pte., Singapore
- 11.30 – 11.45 Experience Sharing and Discussion - Paperless Trading in China  
Ma Jianchun  
Director, Department of E-Commerce, Ministry of Commerce, P.R. China
- 11.45 – 12.00 Q&A, and Panel Discussion – also by member economies
- 12.00 – 13.00 Lunch

## **Session III: Towards A Single Window System among Economies for Customs and Cargo Management**

**Session Chair: Siti Aminah Abdullah**  
Deputy Director, Royal Customs Department

**This session aims to share experience and discuss implementation issues on paperless customs administration, electronic cargo and port manifest. Is it possible to propose new APEC pathfinders for cross-border electronic transmission of customs clearance data for express consignment based on WCO common data model, followed by further initiatives for air cargos and ocean-going cargos?**

- 13.00 – 13.25 A Single Window System for Trade and Port Related Procedures in Japan  
Shunpei Nakagaki  
Manager, e-Japan Strategic Promotion Division, NEC Corporation
- 13.25 – 13.50 Thailand e-Customs and ASEAN Single Window Initiative  
Ubon Chuensupanrat  
Deputy Director General, Royal Thai Customs, Ministry of Finance
- 13.50 – 14.15 Chinese Taipei's Experience in Developing and Adopting ebXML

- Towards e-Logistics  
Frank Lin  
President, GCOM Information Service Co., Ltd., Chinese Taipei
- 14.15 – 14.25 Discussion: Single Window System from Importer's/Exporter's Perspectives  
Tadahiko Mori  
Executive Officer of Logistics Division, Minebea Co., Ltd.
- 14.25 – 14.40 Q&A, and Panel Discussion – also by member economies
- 14.40 – 15.00 Refreshment

#### **Session IV: APEC Paperless Trading Pathfinder Initiatives**

**Session Chair: Songchai Saisavetvari**  
**Deputy Director General,**  
**Department of Export Promotion,**  
**Ministry of Commerce**

**This session intends to discuss approaches for ensuring the implementation of existing APEC pathfinders, including suggestions on overall and integrated roadmaps for implementing pilot programs and capacity building activities.**

**Are there any benefits in terms of transmitting and processing sets of data, especially as XML messages, rather than converting paper documents to an electronic format? How can APEC formally coordinate with UN/CEFACT for the purpose of creating and ratifying the message standards of E-Cert and ECO initiative? How can we overcome the barriers to the adoption of E-Cert and ECO Pathfinders by member economies? How can we encourage all economies to participate in paperless pathfinder initiatives?**

- 15.00 – 15.25 Electronic Sanitary and Phyto-Sanitary Certificates (e-Cert): Benefits and Challenges for Networking among APEC Member Economies  
Ashley Mudford  
E-Cert Project Manager, New Zealand Food Safety Authority (NZFSA)
- 15:25 – 15:50 A Roadmap Towards Cross-Border Electronic Certificate of Origin (ECO)  
Kenneth Lim  
Chairman, AFACT Steering Committee
- 15.50 – 16:15 UN/CEFACT Contribution and Collaboration in Establishing A Single Window  
Jean E. Kubler  
Acting Chief, Global Trade Solutions Branch, Trade Development and Timber Division, United Nations ECE, UN/CEFACT
- 16.15 – 16.45 Q&A, and Panel Discussion – also by member economies
- 18.30 – 20:30 **Symposium Reception**

#### **Day 2: July 22, 2004**

**Session V: Interoperability Framework and Enterprise Architecture for Aligning Paperless Trading Initiative**

**Session Chair: Manoo Ordeedolchest**  
**Director, Software Industry Promotion Agency**  
**Thailand**

**This session aims to share experience and discuss approaches in establishing, maintaining and promoting standards, interoperability**

framework and enterprise architectures to serve as a roadmap for business strategy and IT alignment towards paperless trading and collaborative e-business initiatives.

**How can APEC establish a coordination mechanism with other international standard organizations, such as UN/CEFACT, to intensify information exchange and experience sharing? Member economies will share experience on how an open and nonproprietary XML-based B2B infrastructure, namely ebXML, is being adopted. ebXML is a B2B interoperability framework developed by OASIS and UN/CEFACT. An initial set of ebXML specifications such as reliable and secure messaging protocol, has already been accepted as ISO/DTS 15000 standard. What are the implications of this framework for APEC paperless trading initiatives?**

- 9.00 – 9.25 Global Blueprint for Interoperability at the Business Layer  
Klaus-Dieter Naujok  
Chief Executive Officer and President, Global e-Business Advisory Council  
UN/CEFACT Techniques & Methodologies Group (TMG) Chair  
Former ebXML Chair
- 9.25 – 9.50 Interoperability Framework and Standards in Hong Kong  
Dr. David Cheung  
Director, Center for E-Commerce Infrastructure Development,  
Hong Kong
- 9.50 – 10.15 ebXML Adoption for Paperless Trading and Business Collaboration in Korea  
Jasmine Jang  
Head of EC Standard Team, Korea Institute for Electronic Commerce
- 10.15 – 10.40 Q&A, and Panel Discussion – also by member economies
- 10.40 – 11.00 Refreshment

**Session VI: International Standardization on Message Exchanges, and Business Process and Information Modeling**

**Session Chair: Manoo Ordeedolchest**  
**Director, Software Industry Promotion Agency**  
**Thailand**

**This session will discuss the keys to global e-business interoperability based on the standardization of legally binding business documents, and business processes. How does the standardization of XML business documents fulfill reasonable goals of paperless trading and B2B e-business? The importance and methodology for standardizing business process and information models will be discussed.**

- 11.00 – 11.25 Standardization on Business Process and Information Model  
Hisanao Sugamata  
Chairman, ebXML Asia Committee
- ~~11.25 – 11.50 Using the Universal Business Language for Internet Paperless Trading~~  
~~Tim McGrath~~  
~~Chair of the Library, Current Subcommittee of UBL Technical Committee,~~  
~~OASIS UBL~~
- Session VII: Continued Presentation and Discussion on National Infrastructure and Standards for Secure and Collaborative e-Business**
- 11.50 – 12.20 Q&A, and Panel Discussion – also by member economies  
**Session Chair: Tim McGrath**

**Chair of the Library Content Subcommittee,  
UBL Technical Committee, OASIS UBL**

- 13.30 – 13.55 Singapore e-Business Standard Project  
Tan Jin Soon  
Chairman, ITSC Automatic Data Capture Technical Committee  
IT Standard Committee, Singapore
- 13.55 – 14.20 Korea e-Trade System: Strategy and Architecture  
Chaemee Kim  
Global e-Trade Solution Lead, KTNET
- 14.20 – 14.45 B2B Interoperability Framework in Australia: Benefits to SMEs  
Steve Capell  
Director e-Business Strategy, Red Wahoo, Australia
- 14.45 – 15.15 Q&A, and Panel Discussion – also by member economies
- 15.15 – 15.30 Refreshment

**Session VIII: Secure Cross Border Electronic Transaction and  
PKI Interoperability**

**Session Chair: Tim McGrath**  
**Chair of the Library Content Subcommittee,  
UBL Technical Committee, OASIS UBL**

**How can APEC overcome problems of infringements on cyber security, data  
integrity and transaction fraud?**

- 15.30 – 15.55 National PKI/CA Framework for Secure Electronic Transaction  
Dr. Thaweesak Koanantakool  
Director, National Electronic and Computer Technology Center,  
Ministry of Science and Technology, Thailand
- 15.55 – 16.20 PKI Cross Border Interoperability: Pan-Asian E-Commerce Alliance (PAA) Mutual  
Recognition Scheme  
Andrew Cheng  
Digi-Sign's Chief Executive Officer,  
Tradelink Electronic Commerce Limited
- 16.20 – 16.30 Discussion: Banker's Perspectives and National Payment Infrastructure  
Vilawan Vanadurongvan  
Executive Vice President, e-Channels and Business Enhancement  
Division, Bank of Asia  
Thailand e-Transaction Committee
- 16.30 – 16.50 Q&A, and Panel Discussion – also by member economies

**Day 3: July 23, 2004**

**Session IX: Continued Presentation and Discussion on National  
Infrastructure and Standards for Secure and  
Collaborative e-Business**

**Session Chair: Charles R. Armstrong**  
**Acting Assistant Commissioner and Chief Information  
Officer**  
**U.S. Customs and Border Protection's Office of  
Information and Technology**

## **Secure and Reliable Exchanges of Electronic Services and Messages**

- 9.00 – 9.25 Balancing and optimizing trade facilitation and border integrity  
Jeremy Andrulis  
IBM Institute of Business Value
- 9.25 – 9.50 Thailand's Approach Towards Internet Paperless Trading  
Dr. Somnuk Keretho  
Director, Institute for Innovative Information Technology  
Kasetsart University
- 9.50 – 10.15 Towards Adoption of ebXML in Royal Customs Malaysia  
Siti Aminah Abdullah  
Deputy Director, Royal Customs Department, Malaysia
- 10.15 – 10.30 Q&A, and Panel Discussion – also by member economies
- 10.30 – 11.00 Refreshment

## **Session X: APEC Strategies and Actions Towards a Cross-Border Paperless Trading**

**Session Chair: Dr. Somnuk Keretho**  
Director, Institute for Innovative Information  
Technology, Kasetsart University

**An overall strategy, guideline, or roadmap for APEC to push forward the goals of paperless trading will be summarized, proposed and discussed, especially on the issues related to single window systems, establishment of open platform and interoperability frameworks. The discussion aims to propose further strategies and actions for common data models, message standards, a platform for message exchange, e-services and business processes, collaboration with other international standard organizations and public-private partnership for paperless trading.**

- 11.00 – 11.45 The Roadmap Towards Cross-Border Internet Paperless Trading  
Nana Wang  
Director of Information Center, Bureau of Foreign Trade, Chinese Taipei
- Transparency in e-Commerce  
Natalia A. Makarycheva  
Director of International Project Department, Russian Information  
Technology Association  
Andrey Masalovich  
Member of the Board, Russian Information Technology Association
- 11.45 – 12.15 Recommendations by Participants
- 12.15 – 12.30 **Concluding Remarks**  
Skol Harnsuthivarin  
Chair, APEC ECSG Paperless Trading Sub Working Group  
Vice Chair, APEC E-Commerce Steering Group (ECSG)  
Inspector General, Ministry of Commerce, Thailand



## Current APEC Initiatives on Paperless Trading

### - Benefits and Challenges

## Benefits



- Savings to business
  - Communication charges
  - Fewer errors
  - Lower interest payments on trade finance
  - Efficient supply chains
  - Electronic Certificates
- Savings for government agencies, banks, insurers and shipping companies

## Recent APEC initiatives



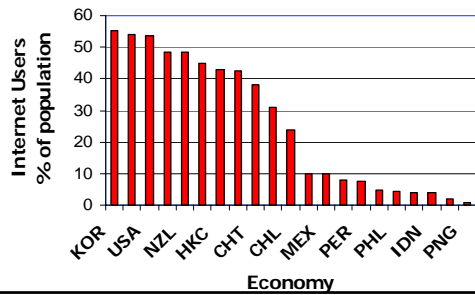
- E-APEC Strategy 2001
  - Universal internet access by 2010
- Cybersecurity Strategy 2002
  - Secure Trade in the APEC Region
- Leaders' Statement on Trade and the Digital Economy

## e-Business - Progress to date

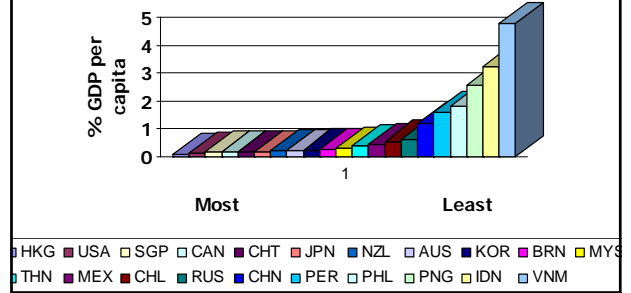


- Improved internet access
- Lower internet charges
- New technologies and systems
- Supportive legal and regulatory regimes
- Privacy and security of electronic transactions

## Internet Access 2003



## Affordability of internet services in 2002



## Paperless Trading Goals

- Reduce or eliminate paper documents by 2005/2010
- A sound legal and regulatory framework
- Secure and interoperable technology
- Responsive to business
- Capacity building

## APEC Paperless Trading Environment

- Public-private partnerships
- Institutional arrangements and capacity building programs
- Pathfinders
- Common standards and procedures
- A balance between trade facilitation and security

## Current APEC Programs



- E-procurement
- On-line customs clearance
- Electronic Certificates of Origin
- Electronic SPS Certificates

## e-Procurement



- Survey of e-Procurement systems and online tendering
- Implementing e-Procurement strategies
- e-Procurement guidelines
- e-Procurement technologies

## Paperless customs administration



- SCCP Paperless Trading Collective Action Plan
- Self assessment and technical needs analysis to identify areas to improve customs practices
- Provision of capacity building assistance

## Electronic customs administration



- Electronic customs clearance systems
- Common Data Elements
- Kyoto Protocol Pathfinder
- WCO Customs Data Model

## Electronic Certificates of Origin



- APEC Pathfinder Initiative
  - Confidentiality, authenticity and non-repudiation
  - Potential savings of \$US100/certificate
- Challenges
  - Acceptance of ECOs by financial institutions
  - Agreement on standards for ECOs
  - Not required in a post-transaction compliance regime

## Electronic SPS Certification



## Case study findings



- The internet is an excellent platform
- XML is superior to EDI
- Data must be accessible to all members of the supply chain
- Data sets are more practical than sets of documents in electronic format
- Work is needed on Letters of Credit, Bills of Lading and Inspection Certificates

## Challenges



- Capacity building
- Global e-business interoperability
- Mutual recognition of PKI domains
- International standards
- Participation in e-Pathfinders
- E-Carnets, e-LCs and e-Bills of Lading

## Paperless single window systems



- Single window systems multiply the benefits of paperless trading
- UN/CEFACT Draft Recommendation No 33
- Benefits to government and business
- Experience of Singapore and the United States

## Possible policy responses



- International standards for ECOs and e-SPS
- UN/CEFACT single window systems
- Including e-Commerce in FTAs
- Digital certificates and PKI domains
- Internet environment – SPAM, IPV6
- Electronic Letters of Credit, Bills of Lading
- New Pathfinders – express consignments; e-Carnets

Thank you

Bruce Bennett  
BB@apcc.org

Asia-Pacific Economic Cooperation

**ebXML**

Establishment of Interoperability and Standardization for Implementing Domestic and Cross-Border Paperless Trading

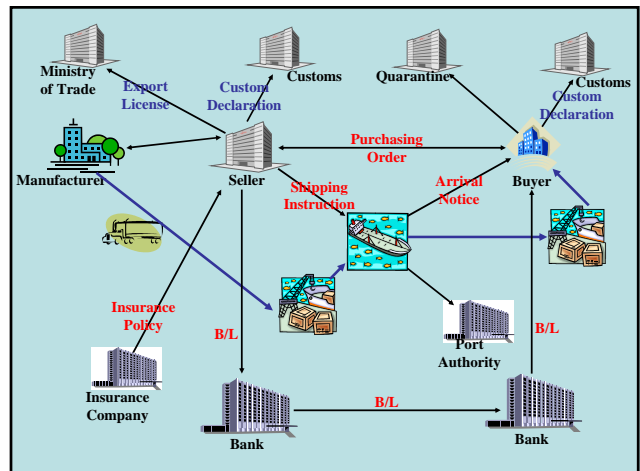
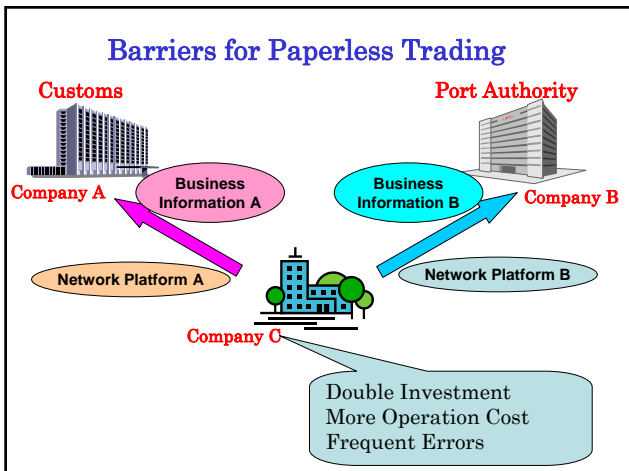
21<sup>st</sup> of July, 2004  
 ebXML Asia Committee  
 Hisanao Sugamata (ECom)

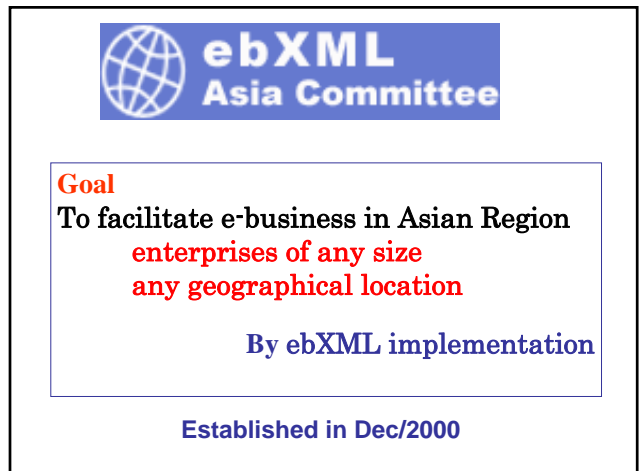
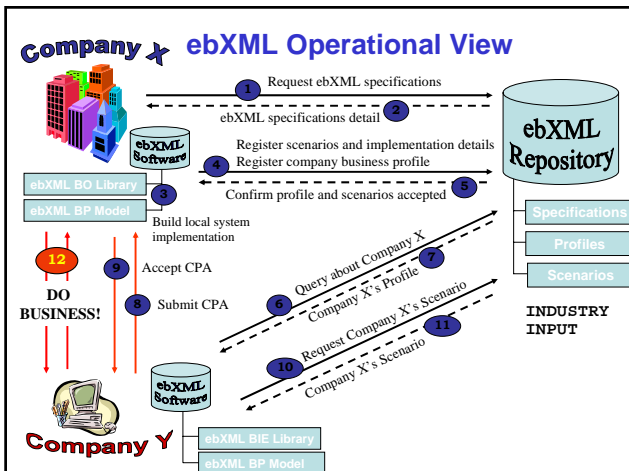
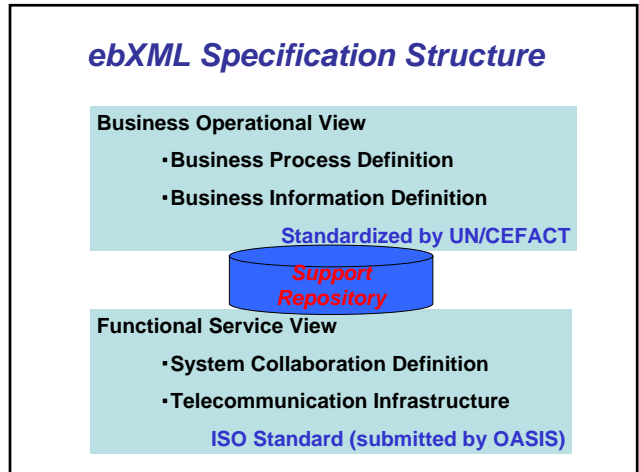
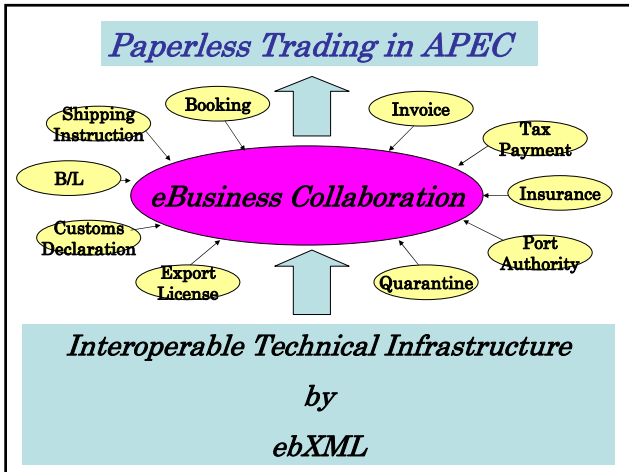
**ebXML Asia Committee**

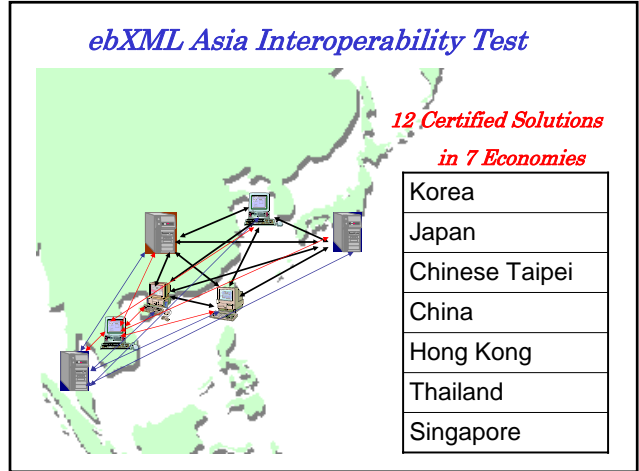
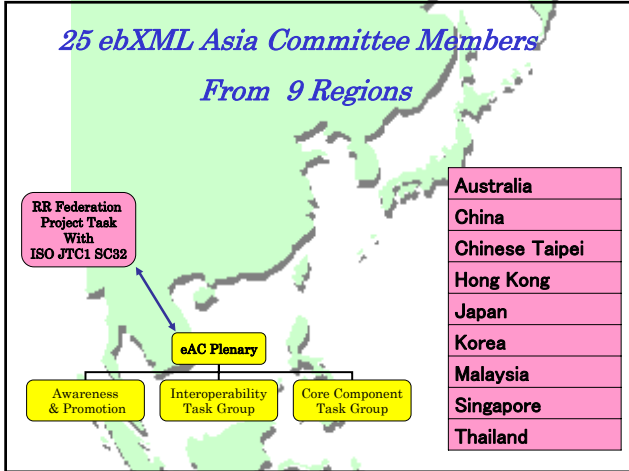
**EDI is essential for the current business**

Electronic Data Interchange

Improved Business Processes Enabled BP Reengineering (JIT, VMI)

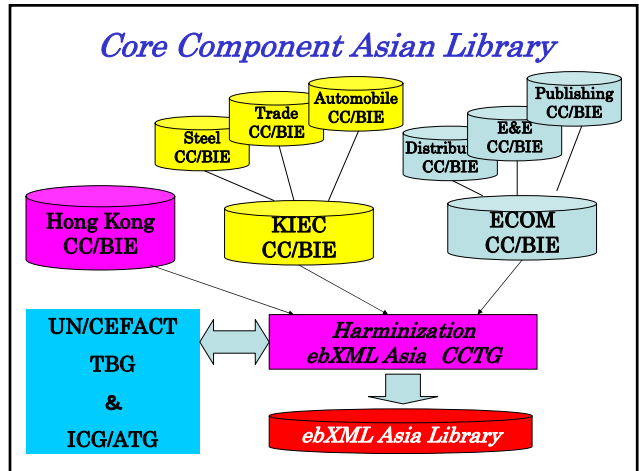




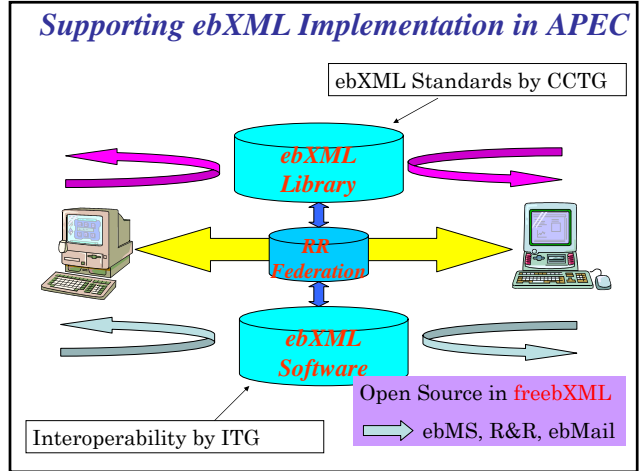
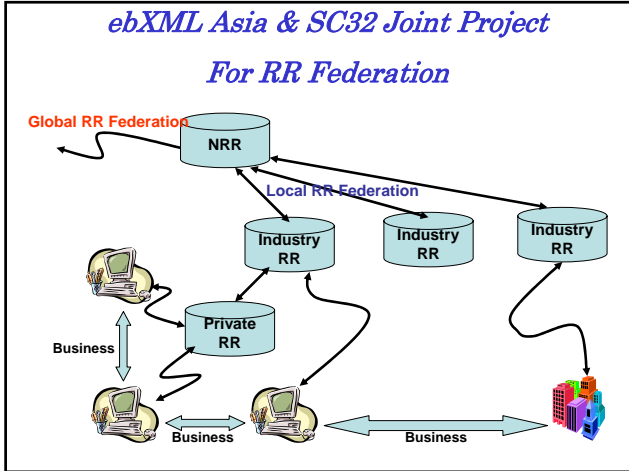


### ebXML Interoperability Certification

	Aug / 2003	May / 2005
Level 2 Certificate	CECID (Hong Kong) CrimsonLogic (Singapore) Fujitsu (Japan) GCOM (Taipei) Hitachi (Japan) IIT (Thailand) Innodigital (Korea) KTNET (Korea) NEC (Japan) POSDATA (Korea) Samsung SDS (Korea) SKLSE (China)	Algo21 (Japan) B2B Internet (Korea) CJS (Japan) Dasan (Korea) ETRI (Korea) Infoteria (Japan) NTT Data (Japan)
Reliability		
Level 3 Certificate		CECID (Hong Kong) CrimsonLogic (Singapore) Fujitsu (Japan) Infoteria (Japan) IIT (Thailand) Innodigital (Korea) KTNET (Korea) NEC (Japan) SKLSE (China)
Security		







**Recommendation**  
**Promote ebXML Standards**

**Model BP/BI based on the Common Component**

- ◆ Utilize the ebXML Asia Libraries

**Make the Sharable solutions use of**

- ◆ Use the ebXML Asia Certified Solutions
- ◆ Utilize the freebXML Open Source

**Establish RR federated with APEC regions**

- ◆ Utilize the POC Project experience

**For Paperless Trading in APEC**

**Join US!**

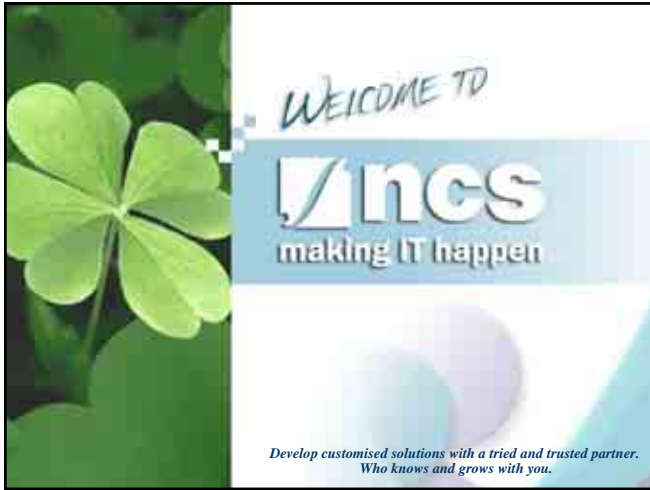
The next ebXML Asia Committee Meeting  
will be held in Seoul (Korea)  
27<sup>th</sup> ~ 29<sup>th</sup> / October / 2004

**Contact Information**

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ebXML Asia Committee Web Site: [www.ebxmlasia.org](http://www.ebxmlasia.org)

ECOM Web Site: [www.ecom.jp](http://www.ecom.jp)



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GREETINGS

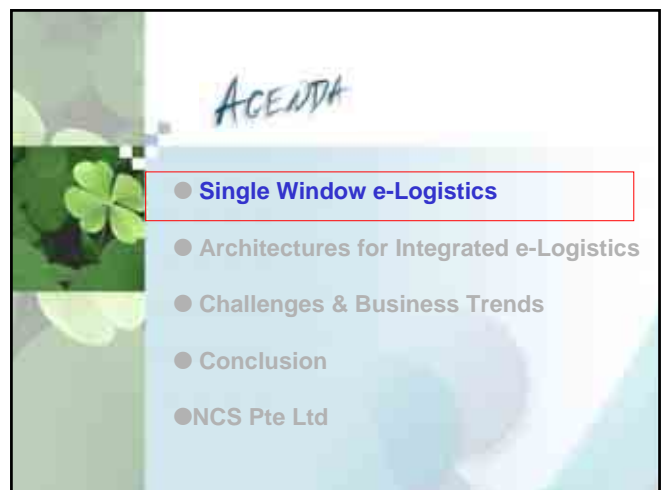
## Integrated Single-Window e-Logistics Trends

*Presented by*  
Dr Chong Yoke Sin  
Chief Operating Officer, NCS  
21 July 2004



AGENDA

- Single Window e-Logistics
- Architectures for Integrated e-Logistics
- Challenges & Business Trends
- Conclusion
- NCS Pte Ltd



AGENDA

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## E-Transportation & E-Logistics

### E-Transportation & E-Logistics

- Asia/Pacific markets are directly tied to global trade and logistics e-marketplace creation and management. The region remains the very center of the world's industrial output (approximately 50%).
- Trend :  
The electronic exchanges that successfully combine robust front-end inter-enterprise integration tools, multi-mode information support and target specific virtual private networks and narrowly-focused vertical communities will serve most of the global e-trade community.



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## Single Window e-Logistics

### • Definition of a Single Window by WCO

“ A facility enabling the provision of standardized information with a single body to fulfil all import, export and transit related regulatory requirements. If information is electronic then individual data elements should only be submitted once.”

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## International Examples of Single Window

Country	System	Dealing with	Linked to:	Status	Costs of introduction	Costs of running
Australia	TradeGate, ImportNet and ExportNet	Customs clearance, being expanded to link to other	Statistics, Quarantine and inspection, Tax, Permit issuing authorities	Live	Estimated at \$5 million Australian dollars. Users charged on a per transaction basis.	
Canada	Electronic Release	Customs clearance	Foreign affairs and international trade, Food Inspection agency	Live	Not quantified.	
Finland	TYVI	Company tax reporting	Tax, Customs, Statistics, Pension insurance companies, Trade unions, Employers unions	Live since 1997	"very minimal"	Charge made per transaction, but paid by authorities, not customers.
Hong Kong	TradeLink	EMAN	Customs, Statistics, Trade community	Live	Not quantified.	
Korea	KT Net	Customs clearance, export & import permissions; LCs; Bills of Exchange; Insurance; Bills of lading	Unclear of precise links but system appears well developed with multiple internal links within government and direct links abroad.	Live		
Mauritius	TradeNet	Full single window based on Singapore system.	Ports authority, Cargo handling corporation, Chambers of commerce and industry, Customs, Ministry of Co-operatives, Freeport authority, Banks, Registrar General, National transport authority	Live	Equipment software and staff	Communications, maintenance and staff. One time costs for registration and software, then charge per customer transaction.

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Source : SITPRO 2004

## International Examples of Single Window

Country	System	Dealing with	Linked to:	Status	Costs of introduction	Costs of running
Singapore	TradeNet	International Trade clearance	35 government agencies and departments	Live	20 million Singapore dollars in 1987.	One off fixed fee of 1500 Sing. Dollars and yearly maintenance fees of around \$1200. Pays \$6.50 per transaction.
Thailand	One Stop Shop	Sea traffic clearance	Port authority, Customs	Live		
USA	ITDS	All international trade	About 100 government agencies, bureaus and offices involved in international trade. Three groups cover all: 1. Admissibility and export control agencies; 2. Data collection and statistical agencies; 3. Statistical only agencies	Under development	Total programme costs estimated at \$256 Million US, including development, deployment and operation. Customers incur connection fees and software costs, some maintenance fees are expected.	

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Source : SITPRO 2004

## Single Window e-Logistics

Logistics Services Sector IT Spending : Worldwide, 2002-2007 (Millions of Dollars)

Region	2002	2003	2004	2005	2006	2007	CAGR 2002-2007
Asia / Pacific	2,179	2,324	2,433	2,534	2,672	2,857	4.22%
Eastern Europe	301	337	367	396	427	457	6.33%
Japan	1,753	1,901	1,958	2,034	2,123	2,214	3.09%
Latin America	699	713	768	853	952	1,081	8.68%
Middle East & Africa	274	293	319	343	368	395	6.10%
North America	6,782	6,972	7,286	7,666	8,154	8,721	4.58%
Western Europe	3,067	3,232	3,287	3,355	3,419	3,468	1.42%
<b>Total</b>	<b>15,055</b>	<b>15,772</b>	<b>16,418</b>	<b>17,180</b>	<b>18,114</b>	<b>19,194</b>	<b>4.00%</b>

Source : Gartner Dataquest(December 2003)

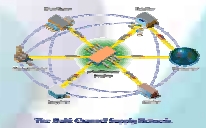
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## Integrated Single Window e-Logistics

### • Definition of a Integrated Single Window e-Logistics

A Single Window System which applies IT in innovative and productive ways to maximize the business value of IT within cargo and logistics operations. It integrates the enterprise systems of the trade community and government agencies and supports the delivery of key strategic business objectives by increasing information velocity, visibility and accuracy.

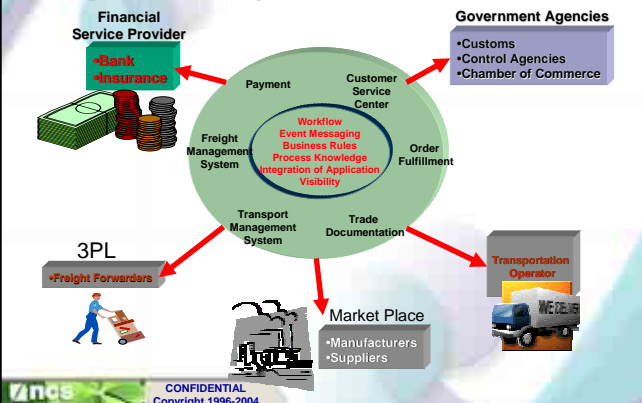
- E-Heart & E-Soul of Trade, Logistics and Supply Chain
- Government Owned or Run and Owned by 4PL Provider.



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## Integrated Single Window e-Logistics

### Integration is the Key to Success for e-Commerce



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## Integrated Single Window e-Logistics

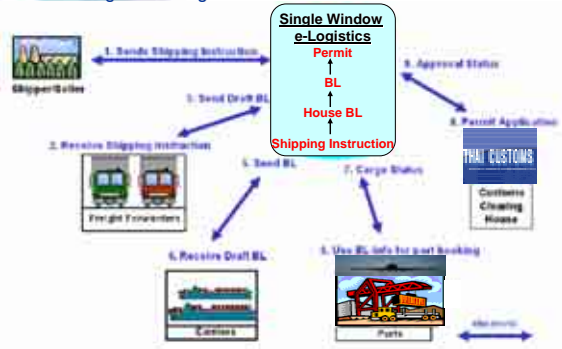
Illustration of Current Typical Trade Transaction



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## Integrated Single Window e-Logistics

Illustration of Integrated e-Logistics



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## Integrated Single Window e-Logistics

Types of Services and Solutions Offered to achieve Integrated Single Window Logistics :

Contractual	<ul style="list-style-type: none"> <li>Software / IT</li> <li>Mgmt Consulting</li> <li>In-house staffing</li> </ul>	<ul style="list-style-type: none"> <li>Core carrier programs</li> <li>Distribution Network</li> <li>Outsourcing</li> </ul>
Transactional	<ul style="list-style-type: none"> <li>Auctions</li> <li>Marketplaces</li> <li>Process Improvement/ Internet IT</li> </ul>	<ul style="list-style-type: none"> <li>Internet Logistics Operator ( ILO )</li> </ul>
	Intermediary/ Process Improvement	Direct / transportation and logistics provider

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## Integrated Single Window e-Logistics

### Characteristics of Contractual Approaches

- Long-term and expensive investment. Hence only big companies (in Fortune 500) with huge customer bases can justify.
- Good for "Core Carrier" who can leverage volume to lower prices for customers.
- May not fulfill the real promise of e-commerce as not all Small and Medium Enterprises are able to link up.

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## Integrated Single Window e-Logistics

### Characteristics of Transactional Approaches

- Brings Buyers and Sellers together to execute individual transactions.
- Facilitates comparison of pricing for transportation and logistics services within a single window.
- To be successful, need to attract high volume of carriers and shippers to create a competitive marketplace (competitive pricing).
- End-to-end services for customers – includes financing, insurance, freight and regulatory transactions.

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## AGENDA

- Single Window e-Logistics
- **Architectures for Integrated e-Logistics**
- Challenges & Business Trends
- Conclusion

## Architectures - Integrated e-Logistics

### Enterprise Architecture Focusing on Private or Public Trade Exchange :

- **< 5%** of all architectures address complex collaboration processes such as Product Design, Engineering Change Management, Program Management, Supply Chain Planning & Optimization.
- **~ 20%** are dedicated to collaborative processes that are repeatable in nature (e.g. auctioning, bidding, and procurement of direct materials, as well as maintenance, repair and overhaul).
- **> 70%** concentrate on the spot and indirect materials markets (e.g. excess inventory, after-market parts, office supplies and equipment).

Source: D.H. Brown Associates Inc.  
Analysis of 113 private and public trade exchanges deployed in discreet manufacturing - Feb 2003

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## Architectures- Integrated e-Logistics

- **2 Major Categories of Enterprise Architecture:**
  - 1 Extended Enterprise Architecture**
    - Relies heavily on common business relationships and ignores differences between partners.
    - Expensive infrastructure.
    - Participants share a common instance of data repository that prescribes a collaborative workflow.
    - Collaboration is achieved by adopting technology that serves a single enterprise internally, and extending the same approach to link autonomous organization entities.

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## Trends - Integrated e-Logistics

### Generic Extended Enterprise Architecture Framework

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## Architectures- Integrated e-Logistics

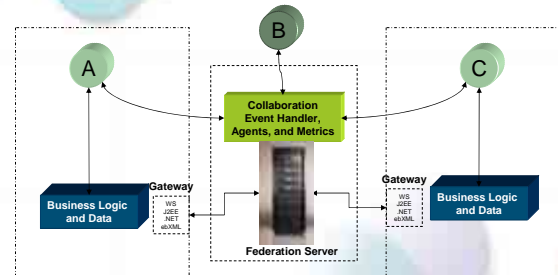
- 2 Major Categories of Enterprise Architecture:

- ② **Federated Enterprise Architecture**

- Combination of External and Internal Criteria to gain value.
- Participants maintain their own internal workflow.
- Framework which manages shared objectives across several autonomous organizations.
- No/little duplication of data.
- Enables partners of the same spectrum to achieve common business objectives.

## Trends - Integrated e-Logistics

- Generic Federated Enterprise Architecture Framework



## Architectures- Integrated e-Logistics

### Federated Architecture – Key Requirements

- **Participants' system(s)**  
Each participant must be able to deploy an open Standard gateway based on Web Services or other XML-based standard of choice that will expose its internal data to a structured interface.
- **Connectivity to federation architecture**  
Participants who wish to publish and/or subscribe to a set of collaborative events have to understand the meta-schema design that will be used in collaboration. Once the understanding of meta-schema is achieved, local gateways can connect using an interoperability standard such as XML, SOAP, and web services.
- **Collaborative workflow adoption**  
Participants must understand their internal processes to enable the collaboration of workflow in a Federated Architecture.

## Technology for Integrated e-Logistics

### Some e-Logistics Standards

- **Enterprise Solution** – Enterprise Resource Planning(ERP), Warehouse Management System(WMS), Transport Management System(TMS), etc.
- **Integration Tools** - Web Services, Integration Suite
- **Messaging formats & Protocol Methods** - XML, ebXML, EDIFACT, X12, AS2, etc.
- **Solutions & Technology** - E-Procurement, E-Marketplace, Portals, RFID






*AGENDA*

- Single Window e-Logistics
- Architectures for Integrated e-Logistics
- Challenges & Business Trends
- **Conclusion**
- NCS Pte Ltd

## Benefits -Single Window

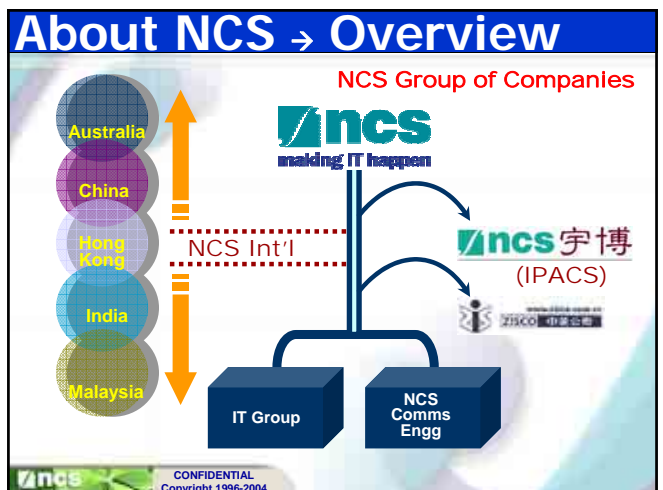
- **Key Benefits of Integrated Single Window e-Logistics**
  - increased trade revenue
  - streamlined procedures
  - seamless experience for traders
  - reduced business cost
  - increased productivity
  - fast turnaround (cost and process)
  - empowered customers
- **Example of Benefits**
  - Realized Lower Freight Costs
  - Improved Order Cycle Times
  - Reduced Inventory
  - Enhanced Customer Service
  - Focus on Core Competencies



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*AGENDA*

- Single Window e-Logistics
- Architectures for Integrated e-Logistics
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- Conclusion
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## About NCS



## About NCS

### The NCS Difference

**People**  
People Developer Award  
Largest pool of Certified Project Managers  
3000 IT Workforce

**Process**  
Singapore Quality Class  
ISO9001 Certification  
ISO9001: 2000 for Suzhou subsidiary  
Data centre services - BS7799 certified  
1to1 Innovators Award for established CRM processes  
Top 100 Superbrands

**Technology**  
Gartner Dataquest (Sept 03)  
2<sup>nd</sup> in Singapore & 10<sup>th</sup> in Asia Pacific for IT Professional Services  
Develop and implement large scale projects  
Choice partner for over 1000 projects and counting

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## About NCS → NCS Experience

### Customs and Trade

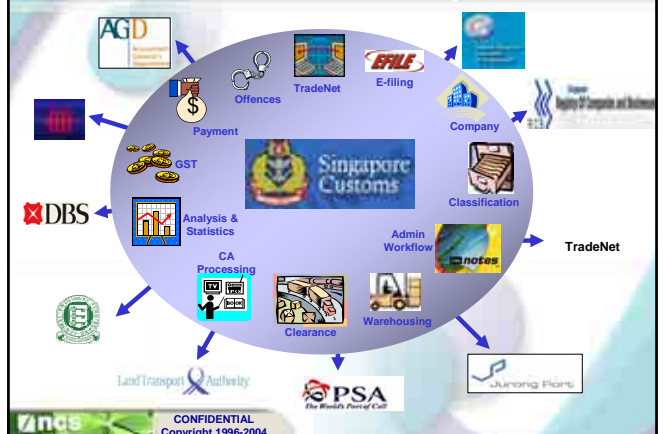
- Singapore Customs
- Logistics & Supply Chain (IPACS)
- Jurong Port (JP-Online)
- Hong Kong Customs (EMAN & CSI)

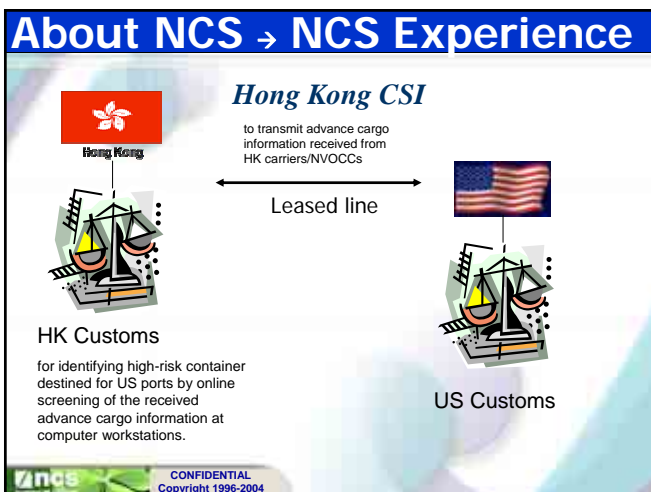
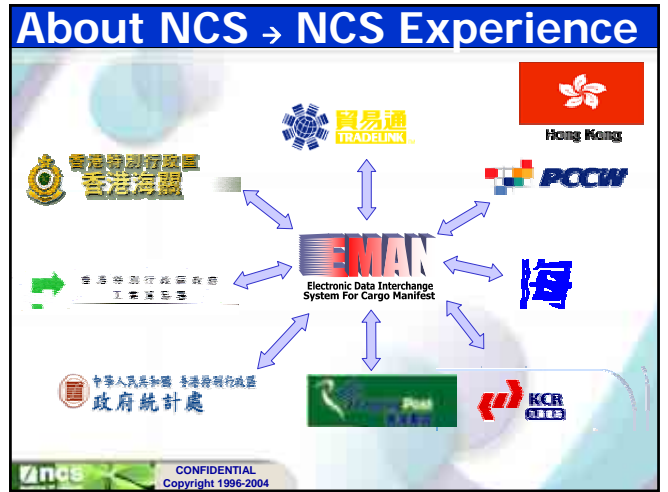
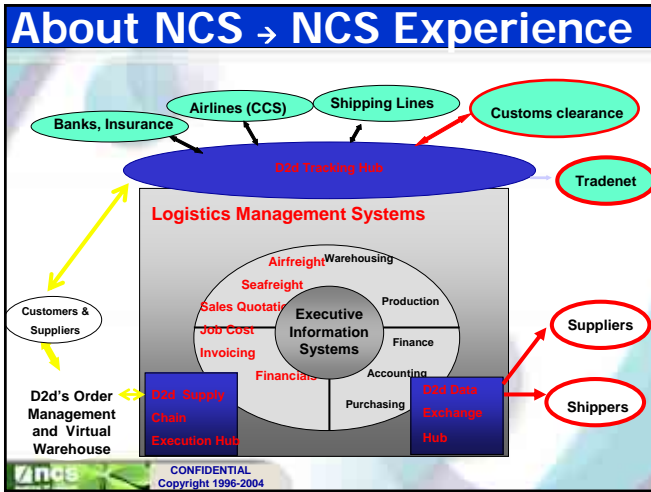
### Others

- MediNET2
- NCS DC experience

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## About NCS → NCS Experience





### About NCS → NCS Experience

#### JP - Online

- A portal for customers to do online electronic transactions on:
  - container tracking
  - berth application
  - vessel scheduling
  - bookings and listings etc
- With hyperlinks to government agencies

- Port Planning Tools
  - Ship Planning
  - Berth Planning
  - Yard Planning
  - Resource Planning
- Port Management Applications
  - Container Terminal Management
  - Marine Management
  - General & Bulk Cargo Management
  - Auto Gate Management
  - Fleet Management
  - Integrated Billing & Financial System

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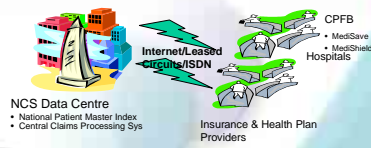
## About NCS → NCS Experience

### MediNET2

### MediNET2



- Live since Oct 2002.
- connects over 50 hospitals, institutions and agencies
- MOH foundation for future applications
  - \* Longitudinal Medical Record
  - \* Public Health Surveillance.
- Key applications



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## About NCS → NCS Experience

### NCS Global Processing Centre Overview

- Infrastructure**
- 12,000 sq ft
  - Structured Cabling
  - 2x400kVA UPS
  - 7.5kN / sqm floor loading
  - BIC Connectivity
  - Internet Connectivity



#### Reliability

- 24 x 7 monitoring
- Environmental Monitoring
- VESDA Smoke Detection
- FM200 Fire suppression

#### Security

- 24x7 security guards @ entrance
- 2 factor authentication for access
- CCTV at strategic location

#### Redundancy

- Parallel redundant UPS
- Dual PowerGrid source
- N+1 precision air conditioners
- 1.25 MVA standby power generator

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## Paperless Trade and Trade Facilitation in China

Ma, Jianchun  
Ministry of Commerce, P.R.China

## World Trade and Globalization

1. The contribution of the world trade to the globalization
2. The Economies of APEC play a very important role in the world trade

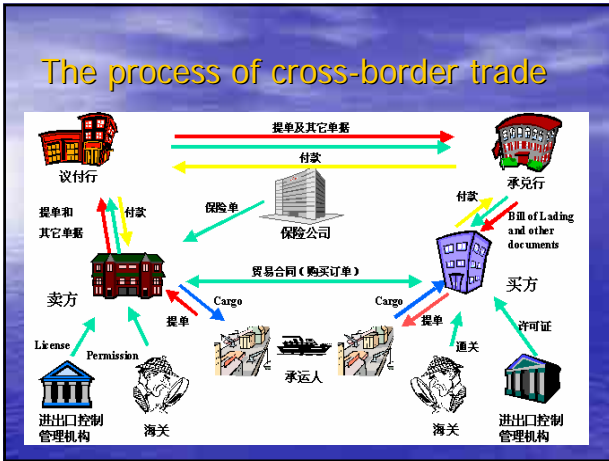
WTO---Trade Liberalization

APEC---Attached more importance in trade facilitation

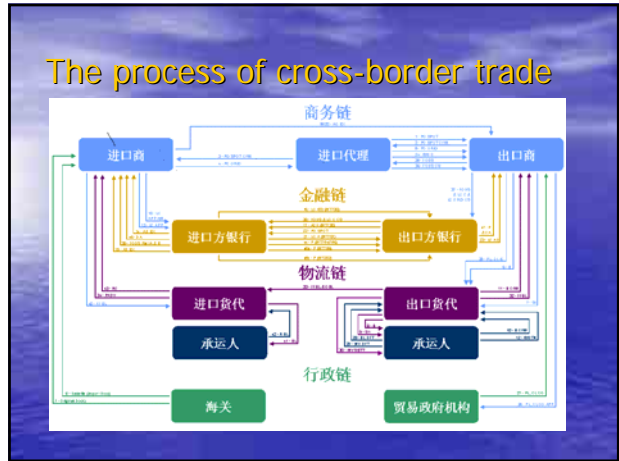
---E-commerce: moving forward by leaps and bounds

--- Paperless: one of the Best Way on the utilization of information and communication technologies in the world trade

## The process of cross-border trade



## The process of cross-border trade



----- Paperless helps us to improve trade efficiency.

----- Paperless helps us to make the possibilities to realities in the using of E-Commerce.

The Efforts China has made

## The Efforts China has made

- EDI: the beginning of Paperless in trade
- E-Government projects have build-up country wide.

## The Efforts China has made

- Golden Gate project: a complete electronic data exchange system.
- Efforts in the harmonization of the Standards.

## The Efforts China has made

- E-Management in cross border trade by the Trade Administrative Department: License. Export quota bidding. Etc.
- More and more enterprises use the E-exhibitions and other E-means to contact the customers.

- Customers Clearance project: welcomed by the business and entrepreneurs for cross-border trade.
- Quality Inspection and Quarantine has entered an E-age.
- The international cooperation has initiated by enterprises.

The Issues Should Be considered  
in Creating Paperless  
Environment

- The role of the transnational companies.
- The relationship between government and business.

The Issues Should Be considered  
in Creating Paperless  
Environment

- The Cyber Security should be regarded.
- The team work spirit should be enhanced.

The Issues Should Be considered  
in Creating Paperless  
Environment

- Training is also important.
- Harmonization and Cooperation between economies in APEC is quite necessary. E-Commerce can not be conducted closely.

Thank You !

Contact: [majianchun@mofcom.gov.cn](mailto:majianchun@mofcom.gov.cn)  
Tel:0086-10-65198089  
0086-10-65197487  
Fax:0086-10-65197440



# Single Window System for Trade & Port Related Procedure in Japan

Shumpei Nakagaki  
NEC Corporation

## AGENDA

1. "Single Window" System:  
One-Stop Service for Trade & Port related Procedures
2. Trade & Port related Procedures In Japan
3. Milestone toward Single Window System
4. NEXT MOVEMENT of Single Window in Japan
5. Introduction to Port EDI system
6. Security Consideration
7. UN/ECE Recommendations

## "Single Window" System: One-Stop Service for Trade & Port related Procedures

### 1. Concept

To facilitate international logistics and to improve the international competitiveness of Japan,  
-Implement interconnection and collaboration of the NACCS, Port EDI system, and Crew Landing Permit Support System etc.  
-Establish the "Single Window" system for governmental procedures as soon as possible in FY 2003.

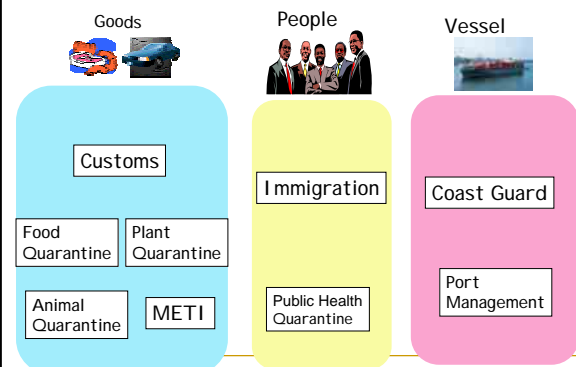
### 2. What is the "Single Window" system?

"Single Window" system enables users to complete all the necessary trade (import/export) and port related procedures in a single entry and a single transmission.

### 3. Basic aims

- 1) Improvement of user convenience
- 2) Reduction of operating costs
- 3) Adoption of the global standards
- 4) Simplification of procedures

## Trade & Port related Procedures In Japan (1)



## Trade & Port related Procedures In Japan (2)

Animal/Plant Quarantine Statement	-Declaration inward and outward of vessel -Dangerous Goods Notification etc.
Import Food Quarantine Statement	
Import/Export License Application	
-Pre-arrival notification -Declaration inward and outward of vessel -Crew List & Passenger List -Import/Export Declaration etc.	
-Pre-arrival notification -Declaration inward and outward of vessel, -Crew List & Passenger List	
-Pre-arrival notification -Declaration inward of Vessel -Radio Pratique Statement -Crew List & Passenger List	-Declaration inward and outward of Vessel -Request for Berth, etc.

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## Milestone toward Single Window System (1)

1992 -Sea-NACCS ( CUSTOMS procedures system) is in service.

1997 -Promotion of Measures under Comprehensive Program of Logistics Polices

1998 -FAINS ( Import Food Quarantine system), ANIPAS & PQ-NETWORK (Animal/Plant Quarantine system) are in service.

-NACCS and FAINS, ANIPAS, PQ-NETWORK are connected

2000 -Enhanced sea-NACCS is in-service

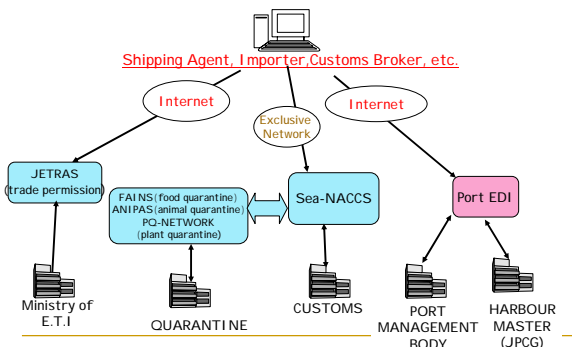
2000 - Port EDI system for Port Master (JPCG) and Port Management Body is in service.

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## Information Systems for Trade & Port Related Procedures (as of Oct. 2001)



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## Milestone toward Single Window System (2)

2001 e-Japan Stimulating Plan

2001 New Promotion of Measures under Comprehensive Program of Logistics Polices (July)

2001 Shiokawa Initiatives "International Logistics Reform Plan (August)

2003 JETRAS & NACCS are connected.

\*Goods related single window is established (procedure can be done through NACCS).

2003 -Public Health Quarantine system is in-service.

2003 -Immigration system for Crew Landing is in-service

2003 NACCS, Port EDI, Public Health Quarantine system and Crew Landing Support system are connect. SINGLE WINDOW for Trade and Port related is established

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### How Single Window for Trade and Port related is done

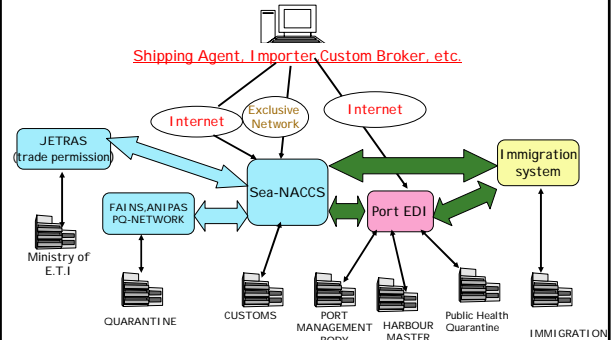
1. Harmonize the name and meaning of element
2. Reducing the duplicated element
3. Simplify the procedure
4. Adopt the Global standard
5. Align the requiring time

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### Single Window for Trade & Port Related Procedure

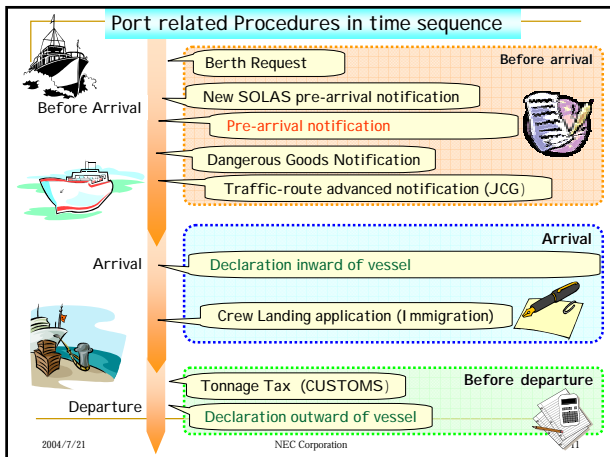


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### Port related Procedures in time sequence



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### NEXT MOVEMENT OF Single Window in Japan

- Alignment toward IMO/FAL Convention  
 IMO/FAL Convention was signed on 9 April 1965 and came into force on 5 March 1967. The Convention recommends the use by national authorities of six standardised forms to be filled in for ships to report when arriving in port and departing from port:
  - (1) IMO General Declaration (Form No. 1),
  - (2) IMO Cargo Declaration (Form No. 2),
  - (3) IMO Ship's Stores Declaration (Form No. 3),
  - (4) IMO Crew's Effects Declaration (Form No. 4),
  - (5) IMO Crew List (Form No. 5),
  - (6) IMO Passenger List (Form No. 6), and
  - (7) IMO Dangerous Goods Declaration (Multimodal Dangerous Goods Form).
- Harmonise Security and Simplification  
 New SOLAS requires ISPS code (the International Ship and Port Facility Security Code).
- Web screen instead, machine-to-machine  
 Minimize application items then adopt EDI (UN/EDIFACT or ebXML)

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## Port EDI system

### Aims

- Paperless and Single window
- Global Standard (UN/EDIFACT, UN/ECE Recommendations)
- Open network (the internet)

### Milestone

- 2000 Declaration inward and outward of vessel , Berth requirement and other vessel related procedures in a port calling
- 2003 Public health quarantine procedures are added.
- 2003 Single window feature is in service
- 2004 Tonnage tax application function is in service
- 2004 New SOLAS pre-arrival notice function is in-service

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## Numbers of Users in Port EDI system

1. Port Managing Organization : 63 Ports
1. Offices of Japan Coast Guard : 97 Offices
2. Private Sectors : 797 Shipping agents
3. Quarantine (Public Health) Inspection Offices: 83

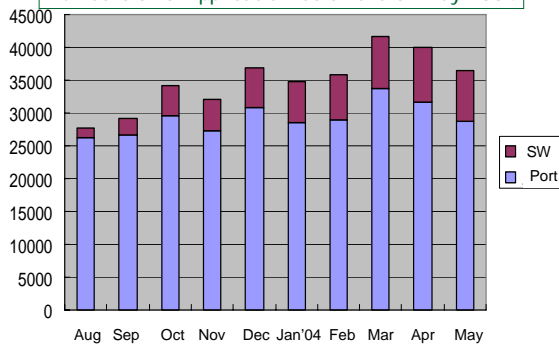
as of end of May 2004

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## Numbers of e-Application as of end of May 2004

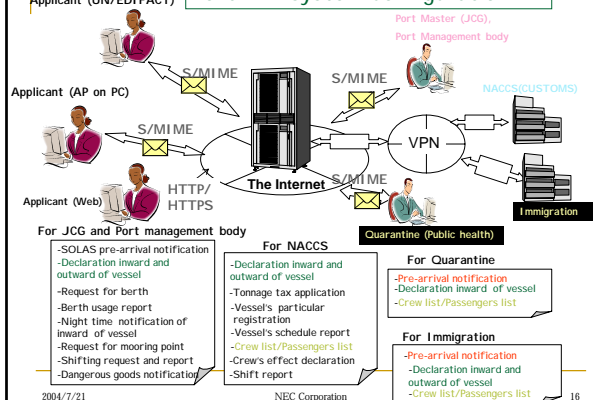


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## Port EDI system Configuration



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## PORT EDI System Application Methods

### Three options :

1. Web Browser Screen
2. Application Software on PC
  - Distribute by the Port EDI System center (Free of charge)
  - Input through GUI Screen, then send it to the Port EDI system
3. UN/EDI FACT Message

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## UN/EDI FACT Message for Application (1)

### Applying rules

1. UN/EDI FACT messages for application are sent to PORT EDI system by SMTP.
2. Instruction for application is sent to the PORT EDI system to instruct the agent name and a kind of applications by SMTP.
3. PORT EDI system builds an application and send to the target agent.
4. Applicant retrieves the result in her or his mailbox in the PORT EDI system by POP3 protocol. The result is mapped into APERAK (UN/EDI FACT message) .

\*: UN/EDIFACT message must be in MIME (or S/MIME) capsule.

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## UN/EDI FACT Message for Application (2)

**BERMAN:** Vessel's particular information and short term schedule  
(Berth Management Message)

**IFTSAI:** Vessel's long term schedule and previous called ports information  
(Forwarding and transport schedule and availability information message)

**IFTDGN:** Dangerous goods information  
(Dangerous Goods Notification message)

**PAXLIST:** Passengers' and Crews' information  
(Passenger List message)

**APERAK:** Result information  
(Application Error and Acknowledge message)

**CONTRL:** Syntax error  
(Syntax and Service Report message)

MIG (Message Implementation Guideline) for UN/EDIFACT messages are aligned with ITIGG's rule. \*ITIGG: International Transport Implementation Guideline Group

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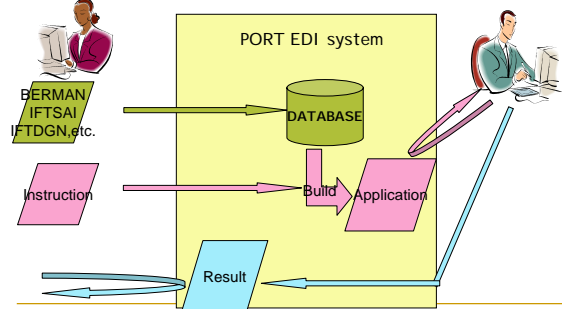
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## UN/EDI FACT Message for Application Process

Applicant (UN/EDI FACT)

Agent (JPCG, etc)



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## Security Consideration (1)

Do business in the internet

Privacy  
Authenticate  
Integrity  
Non reputation

### PORT EDI Security Policy

1<sup>st</sup> priority is Privacy  SSL for Web interface (HTTPS)  
S/MIME for e-mail

2<sup>nd</sup> priority is Authenticate and Non reputation  
 SSL for Web interface (HTTPS)  
1<sup>st</sup> step is only for the Server side.  
S/MIME for e-mail  
Both side are guaranteed.

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## Security Consideration (2)

SSL (Secure Socket Layer) and S/MIME (Secure/Multipurpose Internet Mail Extensions) use a "private key and public key" pair for asymmetric cryptography.

To issue a "private key and public key" pair to PORT EDI community, PKI is established in PORT EDI.

PKI (Public key Infrastructure)

- 1) register users and issue their public-key certificates
- 2) revoke certificates when required
- 3) archive data needed to validate certificates at a much later time

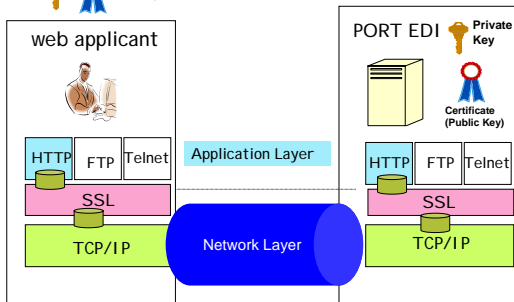
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## SSL Connection

  : Step 2

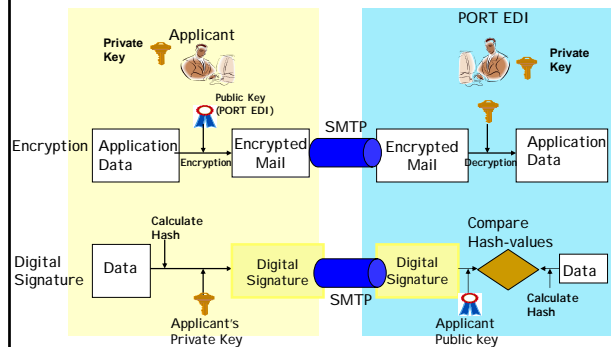


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## Mechanism of S/MIME



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UN/ECE/FAL Recommendation – Standard Codes

<b>Rec. No. 3</b>	<b>ISO Country Code (ISO 3166)</b>	<b>1996-01</b>
<b>Rec. No. 5</b>	<b>Abbreviations of INCOTERMS</b>	<b>2000-03</b>
<b>Rec. No. 9</b>	<b>Alphabetic Code for the Representation of Currencies</b>	<b>1996-01</b>
<b>Rec. No. 10</b>	<b>Codes for the identification of Ships</b>	<b>1997-01</b>
<b>Rec. No. 16</b>	<b>LOCODE - Code for Trade and Transport Locations (2 issues per a year)</b>	<b>2004-01</b>
<b>Rec. No. 17</b>	<b>Abbreviations for Terms of Payment</b>	<b>1982-03</b>
<b>Rec. No. 19</b>	<b>Code for Modes of Transport</b>	<b>2001-03</b>
<b>Rec. No. 20</b>	<b>Codes for Units of Measure</b>	<b>2001-03</b>

UN/ECE/FAL Recommendation – Standard Codes

<b>Rec. No. 21</b>	<b>Codes for Passengers, Types of Cargo, Packages and Packaging Materials</b>	<b>2001-03</b>
<b>Rec. No. 23</b>	<b>Freight Cost Code</b>	<b>2001-03</b>
<b>Rec. No. 24</b>	<b>Trade and Transport Status Codes</b>	<b>2001-03</b>
<b>Rec. No. 28</b>	<b>Codes for Types of Means of Transport</b>	<b>2002-09</b>

UN/ECE Recommendations in Single window in Japan

UN/ECE Recommendation No.3(Country Code),  
No.9(Currency Code), No.16(Location Code)

	<b>No.3</b> ISO3166	<b>No.9</b> ISO4127	<b>UN/LOCODE (Rec. 16)</b>	
Japan	JP	JPY	Sapporo	JPSPK
China	CN	CNY	Tokyo	JPTYO
United State	US	USD	Nagasaki	JPNGS
France	FR	EUR	Beijing	CNBJS
Germany	DE	EUR	New York	USNYC
Vietnam	VN	VND	Seattle	USSEA
Korea	KR	KRW	London	GBLON
Singapore	SG	SGD	Paris	FRPAR
Australia	AU	AUD	Hanoi	VNHAN
Malaysia	MY	MYR	Bussan	KRPUS
Thailand	TH	THB	Bangkok	THBKK
			Sydney	AUSYD

UN/ECE Recommendation No. 20 Unit of Measure

Unit of measure	General description	Code
<b>Length</b>		
CENTIMETRE	CM	CMT
METRE	M	MTR
<b>Area</b>		
SQUARE CENTIMETRE	CM2	CMK
SQUARE METRE	M2	MTK
<b>Volume</b>		
CUBIC CENTIMETRE	CM3	CMQ
CUBIC METRE	M3	MTQ
<b>Weight</b>		
GRAM	G	GRM
KILOGRAM	KG	KGM

UN/ECE  
Recommendation  
No. 21 Package  
Type Code

Package type name	Code
BAG	BG
BAR	BR
BARREL	BA
BASKET	BK
BOTTLE, NON-PROTECTED, CYLINDRICAL	BO
BOTTLE, NON-PROTECTED, BULBOUS	BS
BOX	BX
BUCKET	BJ
BUNDLE	BE
CAGE	CG
CAN, RECTANGULAR	CA
CAN, CYLINDRICAL	CX
CARTON	CT
CASE	CS
CASK	CK
COIL	CL
CUP	CU
CYLINDER	CY
DRUM	DR
FRAME	FR
GAS BOTTLE	GB
PACKAGE	PK

2004/7/21

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UN/ECE Recommendation No.28

CODES FOR TYPES OF MEANS OF TRANSPORT

Type of means transport	Code		
Passenger ship	1-59	Patrol/measure ship	1-71-2
Cargo & passenger vessel	1-57	Stone dumping vessel	1-72-5
General cargo vessel	1-50	Training vessel	1-76-6
Crude oil tanker	1-53-1	Cement carrier	1-52-3
Grain vessel	1-50-1	Tug, with tow	1-60-2
Full container ship	1-51-1	Tanker	1-54
RoRo vessel	1-51-2	Coal carrier	1-52-5
Ferry	1-59-2	Bulk carrier	1-52
Fishing boat	1-75	Ore carrier	1-52-2
Chemical tanker, deep sea	1-53-3	Car carrier	1-51-3
Timber/log carrier	1-50-2	Dry bulk carrier	1-52-1
General cargo/container	1-50-5		
Work ship	1-72		
LPG tanker	1-54-1		
Wood chips vessel	1-50-3		
Navy vessel	1-77		
LNG tanker	1-54-2		
Steel products vessel	1-50-4		

2004/7/21

NEC Corporation

30

Any Question !

Shumpei NAKAGAKI  
[s-nakagaki@bp.jp.nec.com](mailto:s-nakagaki@bp.jp.nec.com)  
 Phone: +81 3 3798 3680  
 Fax: +81 3 3798 3681

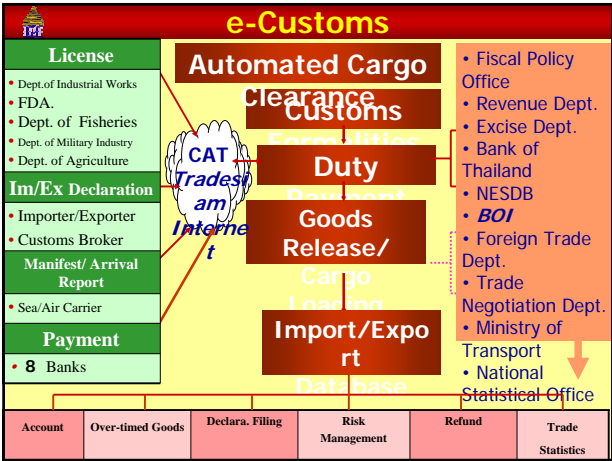
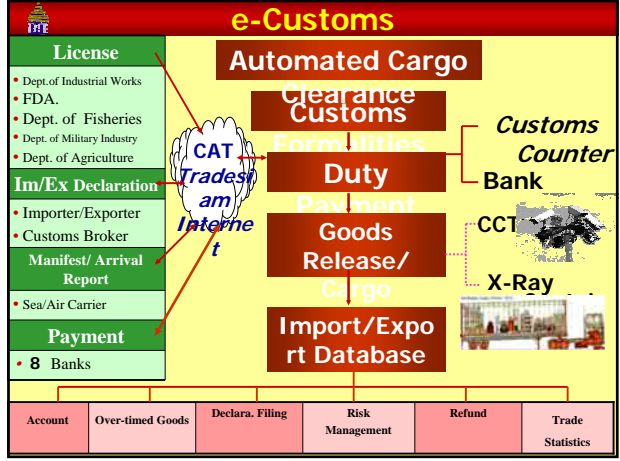
2004/7/21

NEC Corporation

31



**Thailand e-Customs and ASEAN Single Window Initiative**  
**Ubol Chuensupanrat**  
**Deputy Director General, Royal Thai Customs,**  
**Ministry of Finance**



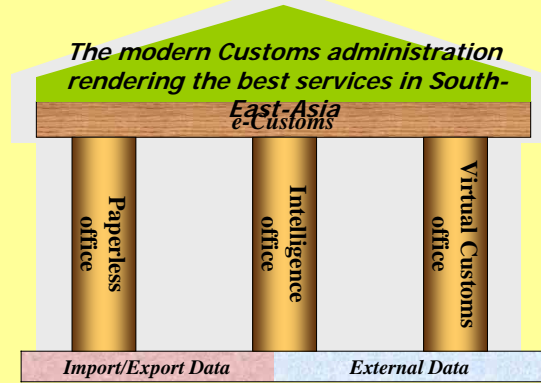
- Limitations of Current System**
1. Inadequate capacity of hardware
  2. Lack of flexibility for application development
  3. The systems are not fully automated resulting in redundant business processes.
  4. The security system has not fully implemented.



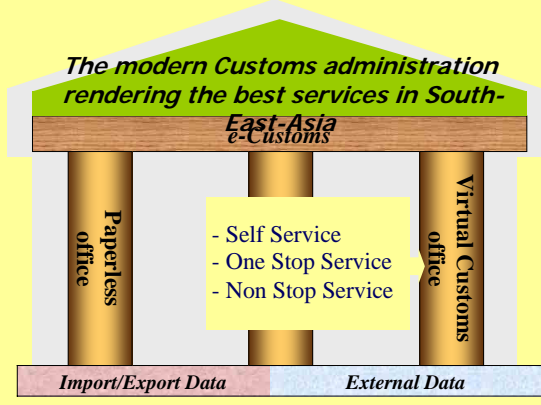
# Next Step Ahead



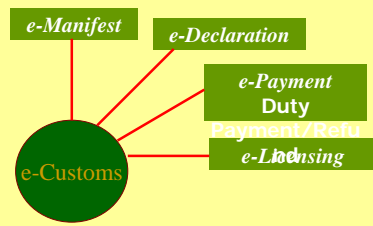
## Future e-Customs



## Future e-Customs

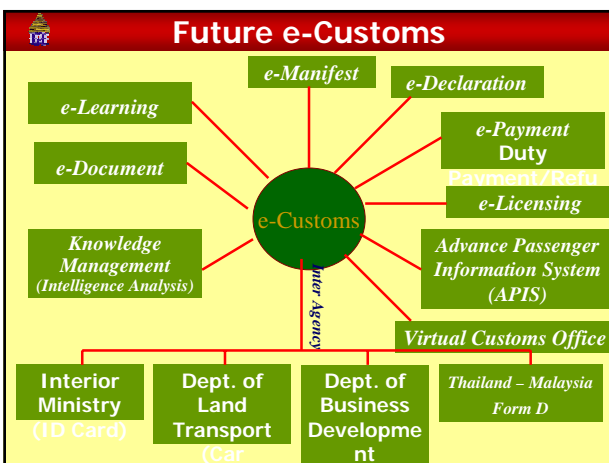
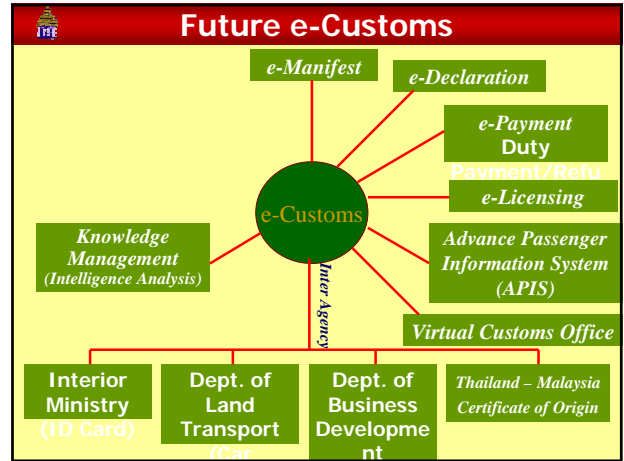


## Future e-Customs



**Future e-Customs**

- A "Single Window Entry" concept is application of an import/export license
- The issuing authority redesigns business
- Issuing an e-license
- The issuing authority and Customs are hence, a status report can be viewed

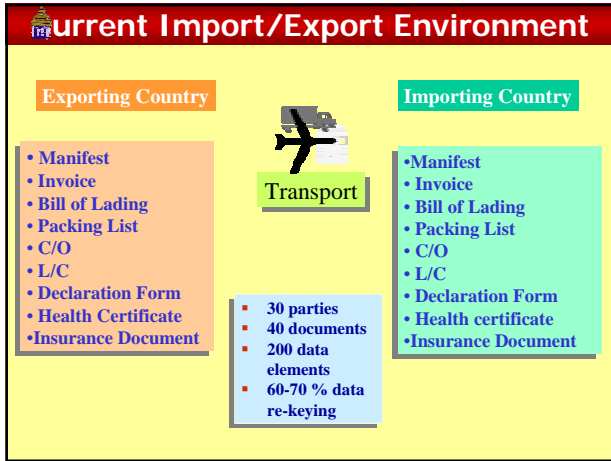


**ASEAN Customs Single Window**

**What is the ASEAN Customs Single Window?**  
 "A single submission of data, single data processing and single decision making for Customs release and Clearance of goods"

**Key Objectives:**

- To establish the viable, simplified and standardized environment for Customs clearance
- Reduction of clearance time and resources



- ### Single Window Environment
- Standardize Customs data elements
  - Standardize data related to Customs valuation
  - Synchronize Customs automated system with the business sector
  - Synchronize Customs automated system with the other government agencies
  - Political commitments

- ### Thailand-Malaysia Co-operation
- MOU on Facilitation of Procedures on Movement of Goods
  - Focus ➡ Single Declaration and Single Inspection
  - Present situation ➡ detailed study to implement common practices
  - Co-operation on the issuance of C/O

## Chinese Taipei's Experience in Developing and Adopting ebXML Towards e-Logistics

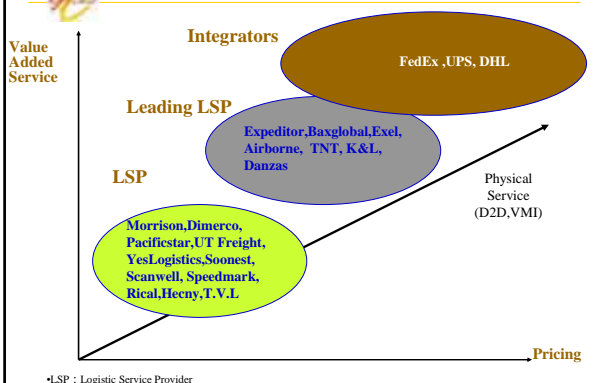
GCOM Information Service Co.,Ltd.  
Frank Lin  
21<sup>th</sup>, JulyMay, 2004

1

## Outline

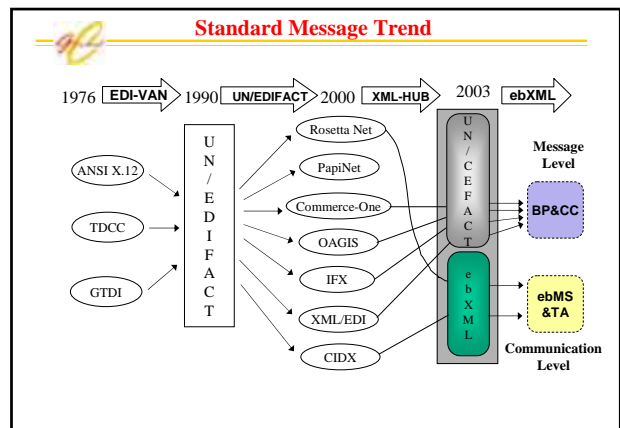
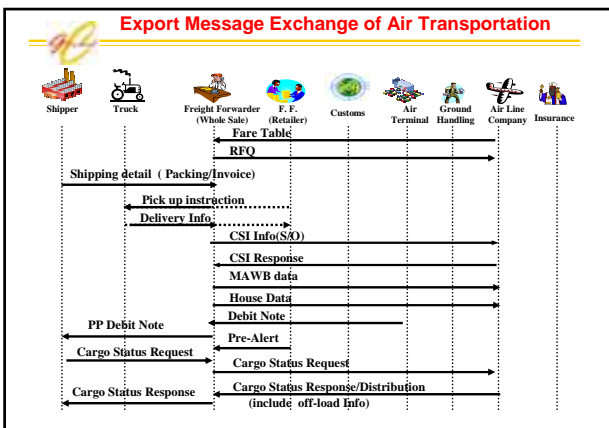
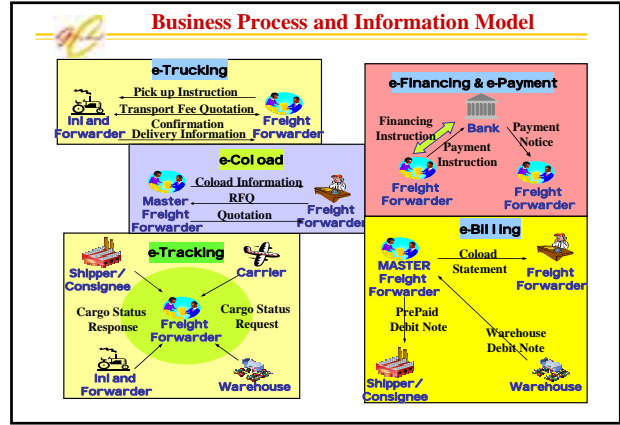
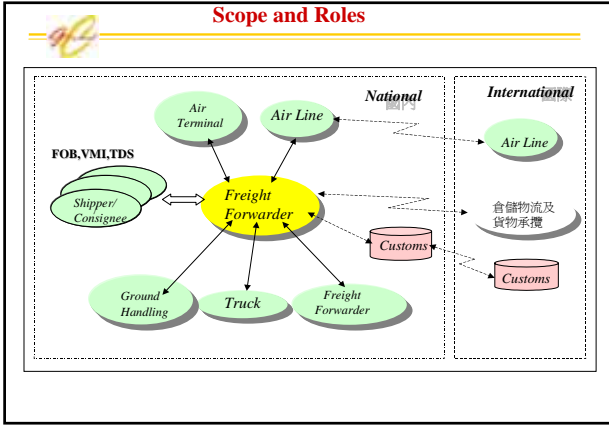
1. Progress status of e-Logistics
2. Adopting the ebXML standard
3. Development of New Business Collaboration Model

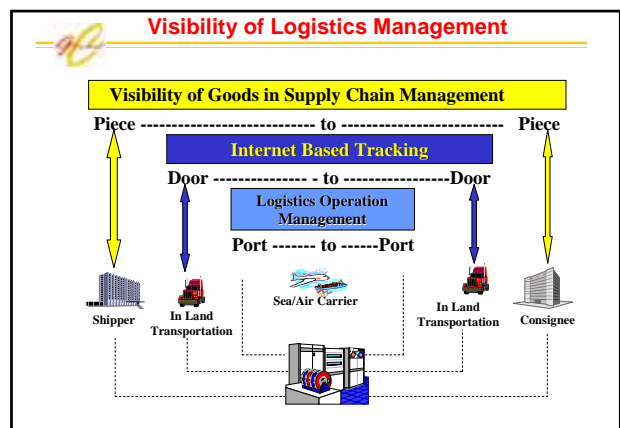
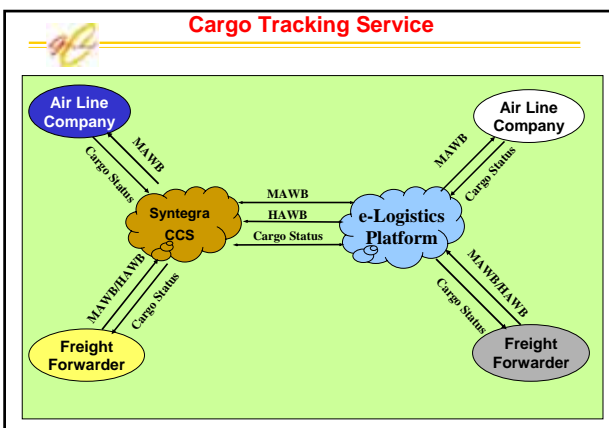
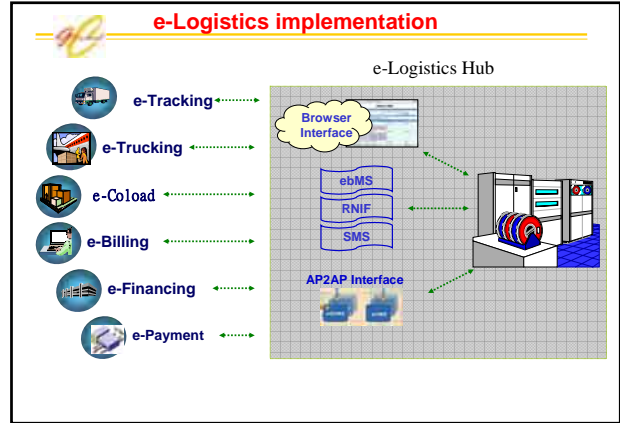
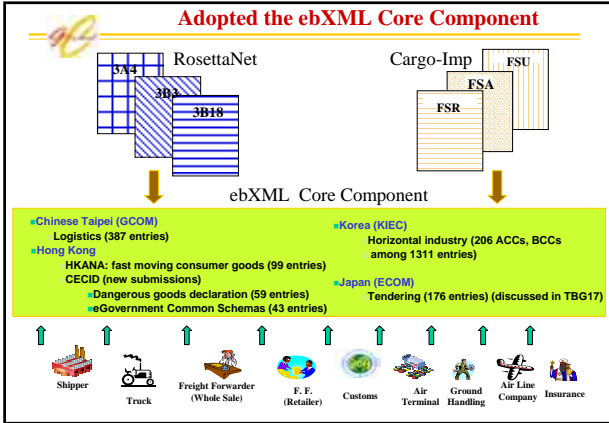
## position and scale



## Goal

- Reduce the cost of transportation and logistics service
- Avoid expensive changes today and tomorrow
- Enhanced Customer Satisfaction
- Faster access to time-sensitive information
- Increased productivity for entire logistic service providers
- Provide the global visibility of goods movement



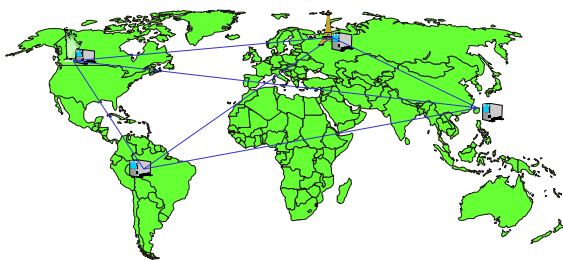


## Development of New Business Collaboration Model

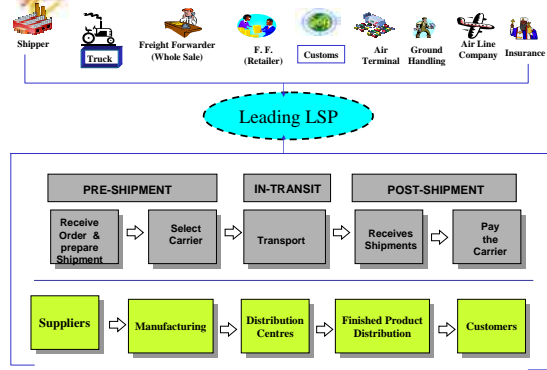
## Logistics process model



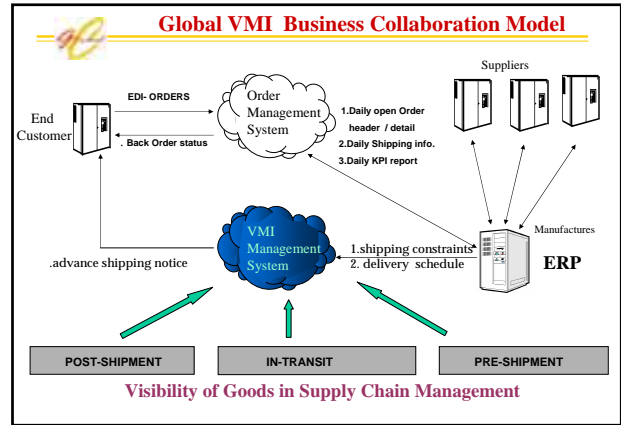
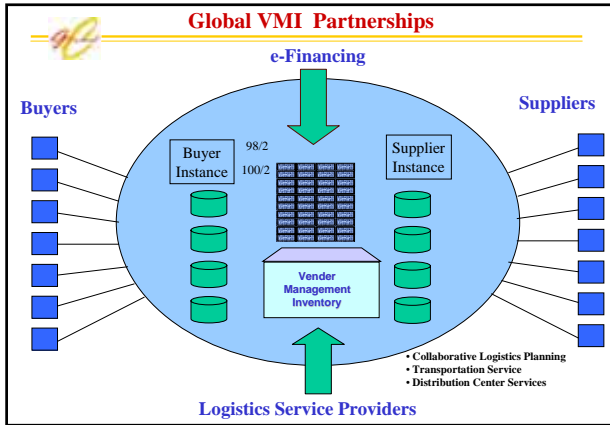
## Initiate the Feasibility Study



## Concept of Virtual Integrator







### In Conclusion

- **If we have been able to:**
  - drive costs from our logistics service
  - operate most efficiently with customers
  - be profitable with lower costs and higher service levels
  - and collaborate with our business partners through ebXML transactions
- **Then we will have dramatically improved customer service in the Global e-Logistics Service**

## e-Cert: Benefits and Challenges for APEC Member Economies

Ashley Mudford  
Programme Manager – E-cert  
New Zealand Food Safety Authority



## Presentation Structure

- International update
- International challenges and benefits
- Internal challenges and benefits
- Where next?



## International Progress

- **International Forums**
  - CODEX (food safety)
  - IPPC (plants)
  - OIE (animal health)
  - APEC (economic)
  - UNCEFACT (data)
- **Regional Uptake**
  - Australasia
  - North America
  - Europe
  - Asia
  - Middle East
  - South America



## APEC involvement

- 2002 - E-cert pathfinder
- 2003 - E-cert presentation – what is E-cert
- 2003 - E-cert pathfinder – priority re-emphasised
- 2004 - E-cert presentation – What is stopping us?





## UN/CEFACT

- Project established Nov 2003
- 1st meeting – March 2004
- Develop Business Process requirements
- Participants include:
  - AVA – Singapore
  - Tradegate ECA
  - APEC Electronic Commerce Steering Committee
  - CFIA - Canada
  - USDA, FSIS – USA
  - SITPRO
  - NEC Japan
  - AQIS – Australia (co-chair)
  - MAF, NZFSA - New Zealand (co-chair)
- Alignment with UN Data Dictionary, World Customs Organisation
- Open Process
- Reporting – June 2005





## International - Challenges

- Internationally accepted **standards**
- **Individual** economy:
  - Sovereignty
  - Preparedness
  - Champion
  - Technology
- Border activity management **alignment**
- Differences in assurance **regimes**
- Mechanism for resolving **differences**
- **Confidence and Trust**
  - Technology
  - Security
  - People





## International - Benefits

- Improved **Relationships** between economies
  - Government to Government
  - Increased Trust and Confidence
  - Greater Transparency
  - Reduced Fraud – Protect Brand – Identify discrepancies
  - Resolve issues using same data
- Improved **economies**
  - Reduced supply chain costs
  - Internal benefits
- More **robust** supply chain
  - Increased speed
  - Data linkages and alignments (eg UCR)

## Internal - Challenges

- **Impetus** for change
- **Convincing** others
- **Organisation alignment**
  - “agriculture” - Seafood, Meat, Dairy, plants/horticulture
  - “biosecurity” - pests, diseases
  - “supply chain” - finance, security, data, industries
  - “external focus” – foreign affairs, market access, Customs
  - Import and export process
- Internal information/IT **systems**
- Internal **uses** for certificate data
- **Decision** maker or **Champion**
- **Personnel** impact
- Obtaining **Funding**



## Internal - Benefits

- **Early notification**
  - Personnel/equipment management
  - Pre-clearance
  - Manage import risks
- **Improved supply chain**
  - Reduction in costs
  - Increased speed
  - Greater transparency
- **Improvement in decision making**
- **More robust/alignment of internal systems**
  - Greater efficiency, reduced workload
  - Reduced errors
  - Proactive rather than reactive
- **Government – Industry partnerships**



This can realise many...



In reduced supply chain costs...

...but...



## How much **value** do you put on:

- Being able to find consignment data on your desktop without having to look for it?
- A reduction in disputes about consignments because you can see what should be arriving?
- Significantly reducing the length of any dispute because you both look at the same data?
- Potentially managing the consignment in internal systems where another Economy provides the data (or if you can't do that, logging onto the exporting economy's system)?
- Assurances from an authorised Official rather than an Importer?
- Being able to decide on what you are going to inspect within hours/minutes of the consignment leaving the exporting economy and being able to direct your resources to risk areas?
- Being able to build up risk profiles for consignments so that you can automate decisions but still have the options for random selection?
- Having confidence that the exporting country's systems can rapidly trace back through the supply chain?
- Integrating supply chain activity so that "Government" is seamless from an exporter's/importer's view
- Being able to tap into all the documentation for any consignment by any agency – Customs, Food, Biosecurity, Port authority? should you wish to do so
- Being able to determine within minutes where a problem has occurred rather than taking weeks because it is all on paper?
- Exporters knowing what is happening to their consignments and being able to more effectively manage their customers



## Where next?

- Establish the need
- Choose your **Champion(s)**
  - Political
  - Public Sector
  - Industry
- **Assess** your current situation
- Identify your **options** for moving forward
- **Liaise** with mentors to benefit from their experience
- **Monitor** UNCEFACT progress and other international activity
- **Market** the idea – benefits and challenges
- Obtain **funding**
- Implement **project** – start small and grow
- Establish bi-lateral agreements on its introduction





Change is the law of life. And those who look only to the past or present are certain to miss the future.

John F Kennedy




## Contacts

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Ph +64 9 302 1803  
E-mail [drasko.pavlovic@maf.govt.nz](mailto:drasko.pavlovic@maf.govt.nz)

**Fiona Cornwell** (AQIS)  
Ph +61 2 6272 5211  
E-mail [fiona.cornwell@affa.gov.au](mailto:fiona.cornwell@affa.gov.au)

**Barbara Cooper** (AQIS)  
Ph +61 2 6272 5164  
E-mail [barb.cooper@affa.gov.au](mailto:barb.cooper@affa.gov.au)



# Thankyou





# A Roadmap Towards Cross Border Electronic Certificate Of Origin By CrimsonLogic

Kenneth Lim  
VP (Technology Development) CrimsonLogic  
Chairman AFACT 2004  
Chairman Singapore EDI Committee  
[kennethlim@crimsonlogic.com](mailto:kennethlim@crimsonlogic.com)  
21<sup>st</sup> July 2004

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# Agenda

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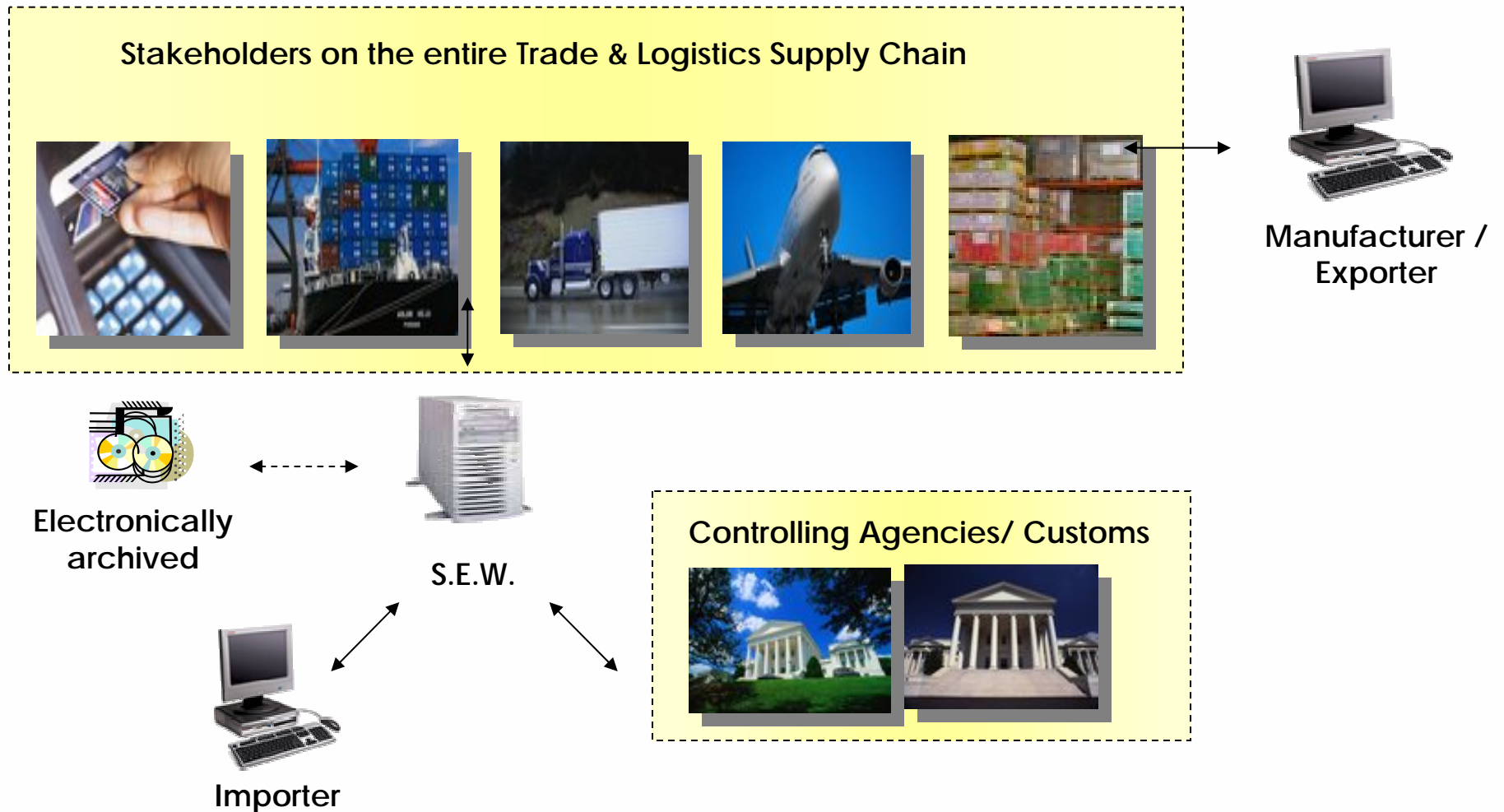
- **C**ertificate of Origin (COO)
- **C**all for Collaboration
- **C**onclusion
- **C**rimsonLogic



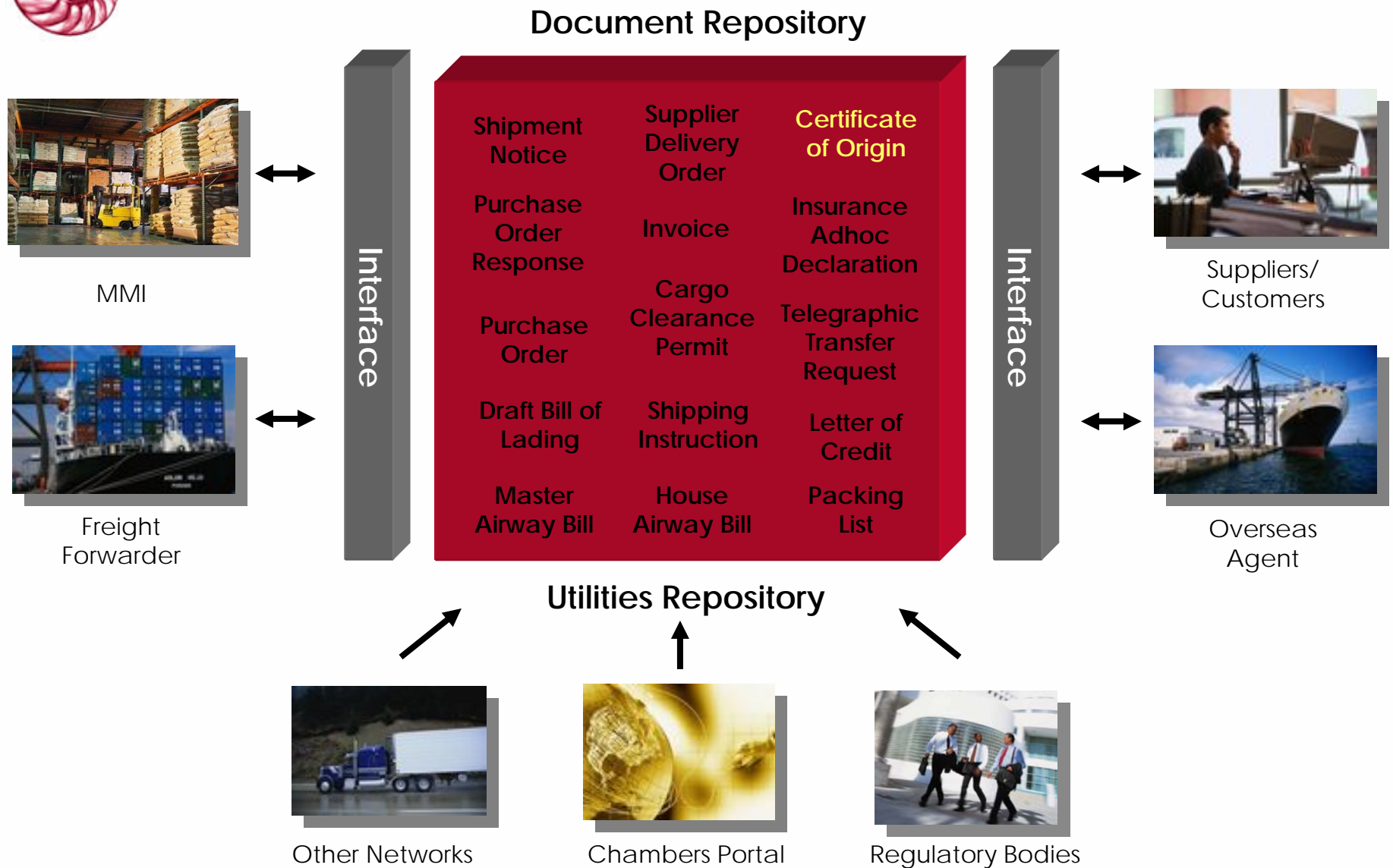
# Certificate of Origin – Where does it fit into the Big Picture ?



## Collaborative Trade



# Single Electronic Window

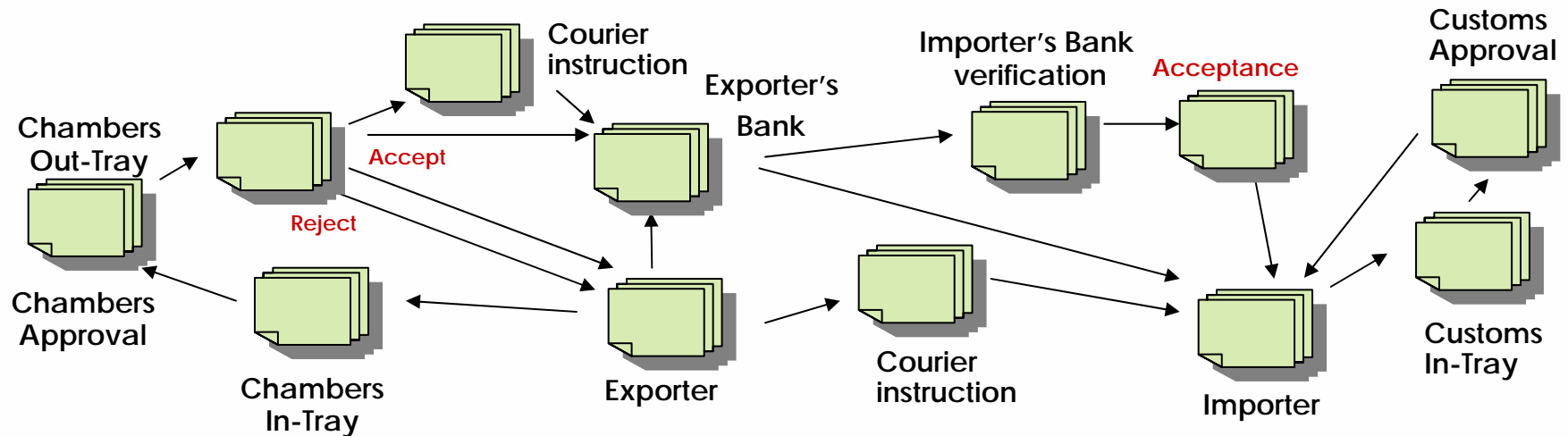


## What is Certificate Of Origin?



- Required by trading partners, and/or foreign governments and/or banks
- Products are wholly obtained, produced or manufactured in a certain country
- Used by Customs officer to determine
  - Whether or not a preferential duty rate applies on the products being imported
  - Whether a shipment may be legally imported during a specific quota period

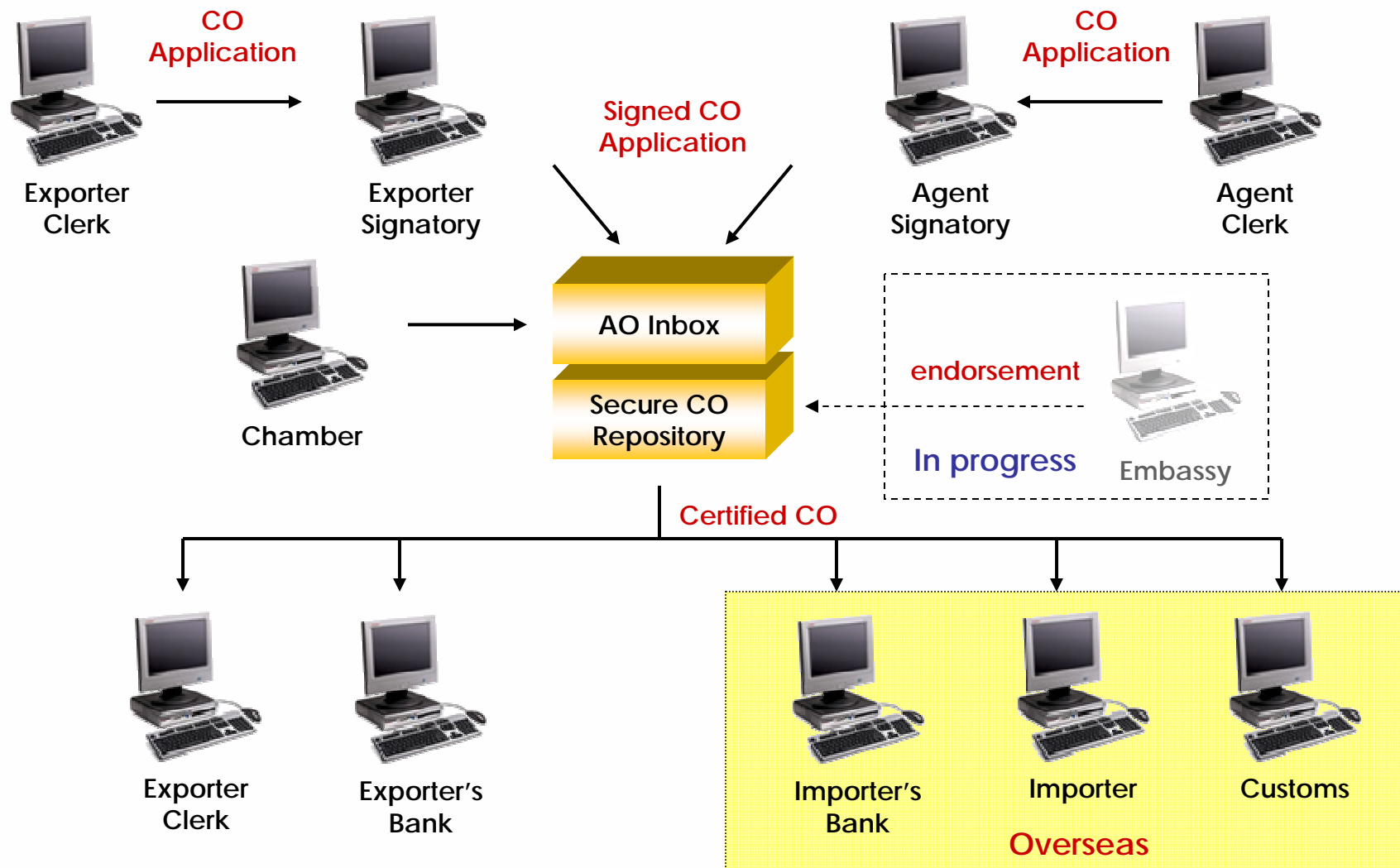
## Paper-Based Certificate of Origin Application



### Issues of Efficiency, Control and Cost

- Multiple manual trips to the chambers and banks
- Paper flow with replicated data entry
- Manual sorting and matching of paper documents
- Slower trading cycle

# Electronic Certificate of Origin





CertOfOrigin allows:

- **Electronic application** of CO by exporters and agents
- Online **approval and certification** by Authorised Organisations
- **Printing** of CO by exporters or designated trading partners
- **Anytime, anywhere access** of CO by bank, overseas buyers and designated trading partners
- Online **verification** of CO by recipients of CO

Break through with CrimsonLogic - it makes better sense - Microsoft Internet Explorer

File Edit View Favorites Tools Help


Back Forward Stop Home Search Favorites History Print Mail News RSS

Address <https://www.certoforigin.com/tnlcoo/pfk/PfkMainServlet?pContents=/coo/CooWalkinUrl.jsp&pAction=FIRST&pPortalId=COO> Go

**CertofOrigin**  
by CrimsonLogic

Home | My Account | Product Info | User Guide | Feedback | About Us | FAQ

Launch->



# CertofOrigin

electronic trade documentation

**New User!**

CertOfOrigin is the world's first web-based Certificate of Origin (CO) application and certification system. It provides a single interface for exporters and their agents to electronically apply for COs conveniently via the Internet.

The web-based system provides an integrated, electronic process for faster CO application and certification. It also allows the immediate transmission of certified COs to designated third party recipients in a secure electronic environment.

**Exporters**

CertOfOrigin liberates the exporters from the manual tasks of submitting numerous supporting documents for their CO application, and physically dispatching the certified CO to the relevant parties after collecting it from the Authorised Organisation.

Exporters can now print COs conveniently from their desktop. They can also forward the document to a designated third party electronically via CertOfOrigin.

The entire application process is thus reduced from weeks to minutes, resulting in significant time and cost savings for the exporters.

**Third Parties**

Banks, overseas buyers, customs and other third parties can now conveniently access and download CO, as well as verify the authenticity of the CO, via the Internet through CertOfOrigin. They are also able to electronically connect to the exporters for seamless business collaboration.

**Authorised Organisation**

CertOfOrigin allows integration with the authorised organisation's workflow to enable automated data validation for faster processing and certification of COs. The online process results in reduced paperwork and better efficiency for the authorised organisation.

Member ID

Password

Forgot [Password](#) ?  
Want to [Verify CO](#)?

For enquiries,  
please call our  
hotline:  
(65) 6887-7888

Certificate of Origin

Done Internet



# Call for Collaboration – How do we work together?



- Jointly tabled by Singapore and Korea (Feb 2004) for ECSG's consideration
- Phase I (by end 2004)
  - Adoption of Standard Features for an ECO Scheme
- Phase II (by 2005)
  - Implementation of ECO system within domestic economy
- Phase III (by 2005/2006)
  - Implementation of system for transmission of cross-border ECOs



# APEC Pathfinder ECO Phase I

---

- **Adoption of Standard Features for an ECO Scheme**
  - Security (transmission, backup, authenticity)
  - Cost Savings
  - Reliable Delivery



# Motivation for Standardization

---

- Open, public, accountable standards process
- Non-proprietary and royalty-free
- UN/CEFACT, OASIS, and W3C specifications
- Intended for normative status under international law
- Human- and machine-readable
- Compatible with existing EDI systems
- Ease of interoperability
- Lower overall cost of entry - quicker adoption by SMEs (users)



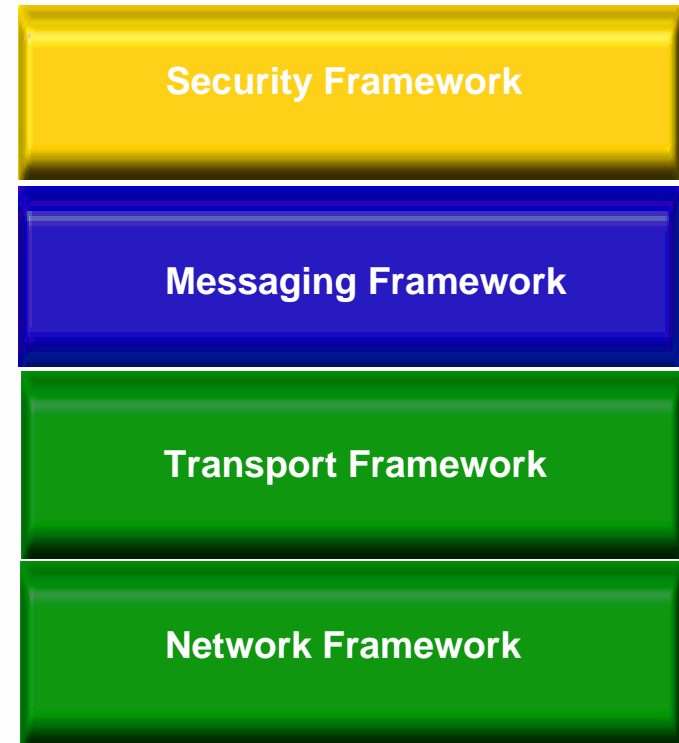
# Standards Based Framework

PKI (X509 v3, PKCS), SSL, XMLSign,  
Watermarking

UBL, BCF, ebXML Core Component,  
RosettaNet, EDIFACT, XML

ebXML, RNIF, web services, SOAP

Internet

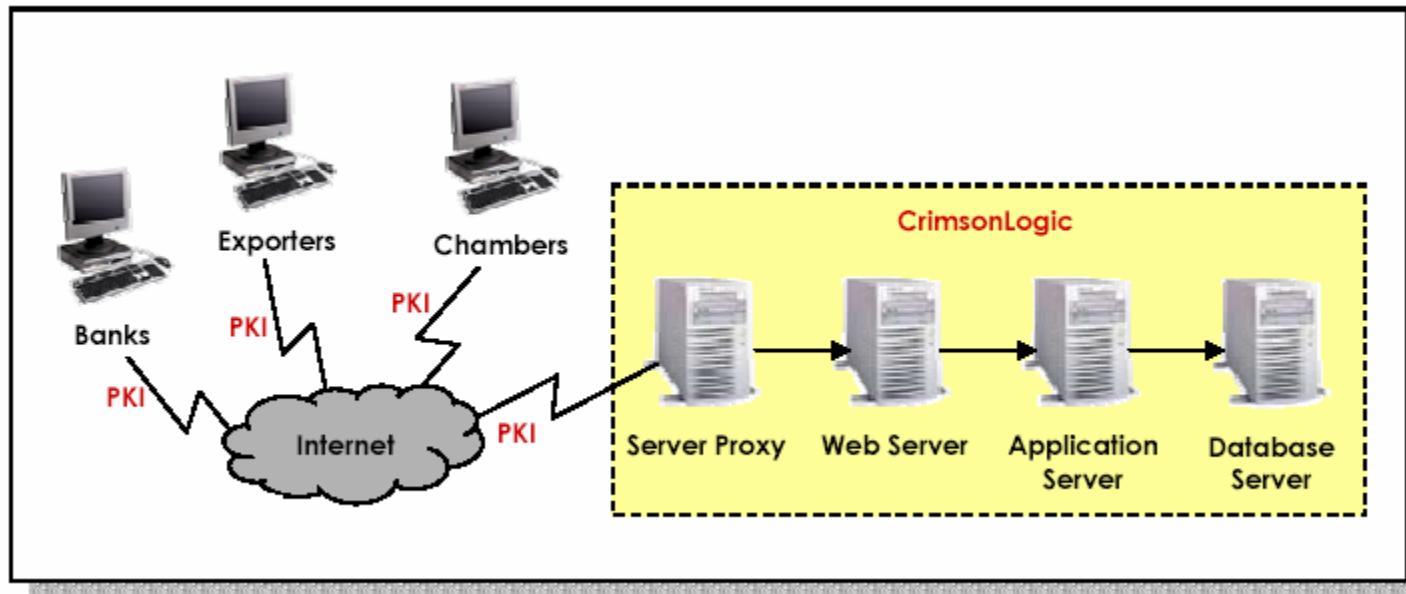




# Technology Used - Message

---

- Business Modeling
  - AFACT has formed a working group to look into the business modeling of ECO using the Business Collaboration Framework. Economies participated in the first meeting include: Singapore, Malaysia, Chinese Taipei, Australia, Korea
- Message Format
  - Submitted to UBL for guidance and adoption of the message specification
- Message Transport
  - To explore ebXML



- PKI
  - Offers data integrity, authenticity and non-repudiation
  - Smartcard used to store private key and access the system when digitally signing the application
  - Working with Asia PKI Forum on interoperability of CA across economies

[AO Details](#) | [CO Recipients](#) [Go to Bottom](#) ↓

**CO Details**

<p><b>1. Exporter: (Name &amp; Address)</b> FAST EXPORTER AND IMPORTERS PRIVATE LIMITED 24, BEACH ROAD #b1-345</p> <p><b>2. Consignee: (Name &amp; Address)</b> Reliable consignee 44, Thames Raod London Heath London Country: GB - UNITED KINGDOM</p> <p><b>3. Departure Date:</b> On or Above 31/12/2002</p> <p><b>4. Vessels Name / Flight No:</b> SQ343</p> <p><b>5. Port of Discharge:</b> At :GBLW - LONDON/GATWICK APT</p> <p><b>6. Country of Final Destination:</b> FR - FRANCE</p> <p><b>7. Country of Origin of Goods:</b> Reared ID - INDONESIA</p>	<p><b>REPUBLIC OF SINGAPORE</b> Re-export Goods - Direct Re-export  <b>No. SCCC1-734</b>  NO UNAUTHORISED ADDITIONAL / ALTERATION MAY BE MADE TO THIS CERTIFICATE ONCE IT IS ISSUED.</p>
<p><b>8. DECLARATION BY THE EXPORTER</b> We hereby declare that the details and statements provided in the Certificate are true and correct.</p> <p><b>Authorized Signatory:</b> <b>Name:</b> Fast Exporters Signatory (ect3002) <b>Designation:</b> MANAGER <b>Signed Date &amp; Time:</b> 15/01/2003 04:05:48 AM</p>	

9. Marks & Numbers	10. No. & Kind of Packages Description of Goods	11. Quantity	Unit
FS94533YT	Fragrant Basmathi Rice in 50 Kg bags	500.0	KG

[CO Details](#) | [CO Recipients](#) [Up](#) ↑

**AO Details**

**Certified by:** Singapore Chinese Chamber of Commerce and Industry  
**Date:** 25/01/2003 00:04:20  
**Digital Certificate:** [View](#) [Verify](#)

**CO Recipients**

Party	Party Name	Remarks
Exporter	FAST EXPORTER AND IMPORTERS	Allowed to print original CO (With watermark)

- View Certificate of Origin
  - Controlled access to various stakeholders
  - Archived copies available

7. Country of Origin of Goods:  
Reared  
ID - INDONESIA

9. Marks & Numbers	10. No. & Kind of Packages	Description of Goods
FS94533YT		Fragrant Basmathi Rice in 50 Kg bags

**AO Details**

Certified by: Singapore Chinese Chamber of Commerce  
Date: 11/01/2003 02:16:31  
Digital Certificate: [View](#) [Verify](#)

**CO Recipients**

Party	Party Name	Remarks
Exporter	FAST EXPORTER AND IMPORTERS	Allowed to print original CO (With watermark)

[Back](#)

Signed Date & Time

**Certificate**

General | Details | Certification Path

**Certificate Information**

This certificate cannot be verified due to a lack of information.

Issued to: CrimsonLogic Web Test4

Issued by: Netrust Test CA1


Valid from 08/01/2003 to 08/04/2003

[Install Certificate...](#) [Issuer Statement...](#)

OK

- Authenticity
  - Digital Certificates included
- Security
  - PKI used
  - Smart Card readers







make  CertofOrigin by CrimsonLogic

Home | My Account | Logout

Launch->

Menu
Inbox
Application
View Status
Print CO
Administration
ECO

## Inbox

- You have **7** Certificate(s) of Origin (original) to view.. 
- You have **71** Certificate(s) of Origin (copy) to view.. 
- You have **2** CO Application(s) returned by Authorised Organisation.. 
- You have **7** CO Application(s) returned by Own Signatory.. 

>> Certificate of Origin

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- Messages Management
  - [Users' Alerts](#)
  - A typical screen for management of certificates

Menu
Inbox
Application
View Status
Print CO
Administration
ECO

## Print Certificate of Origin

Print Original/Copy CO

### CO Printing

Please select a print option (Original or Copy) before clicking Print.

\* indicates mandatory field.

Test your printer :

S/No	Eco No	Eco Date	CO (Original)		CO (Copy)		Print*
			Status	Printed	Status	Printed	
1	<a href="#">SCCCI-713</a>	10-01-2003 06:25:15	Ready	0/1			<input type="radio"/> Original
2	<a href="#">SCCCI-714</a>	10-01-2003 06:25:27	Ready	0/2	Ready	0/3	<input type="radio"/> Original <input type="radio"/> Copy
3	<a href="#">SCCCI-733</a>	24-01-2003 11:57:26			Ready	0/1	<input type="radio"/> Copy

WIP: Watermarking in Progress  
DGIP: Document Generation in Progress

- Remote Printing
  - Print controls functions included to limit copies
  - Printing can be used as an intermediary prior to pure electronic acceptance
  - Watermarking included
  - Online repository

1 Exporter (Name & Address) FAST EXPORTER PTE LTD 31, SCIENCE PARK ROAD		REPUBLIC OF SINGAPORE	
2 Consignee (Name, Full Address & Country) qa a cncadi		CERTIFICATE OF ORIGIN/PROCESSING  No. SSSS-YY-XXXXX NO UNAUTHORISED ADDITIONAL/ALTERATION MAY BE MADE TO THIS CERTIFICATE ONCE IT IS ISSUED	
3 Departure Date On or About 01 APR 2003		8 DECLARATION BY THE EXPORTER We hereby declare that the details and statements provided in this Certificate are true and correct.	
4 Vessel's Name/Flight No. a		Signature: Name: Fast Exporter Signatory (ec3002)	
5 Port of Discharge TORONTO APT, OT		Designation: GM	
6 Country of Final Destination CANADA		Date: 01 APR 2003	
7 Country of Origin of Goods Processed In MALAYSIA		Stamp:	
9 Marks & Numbers a	10 No. & Kind of Packages Description of Goods (include brand names if necessary) Sony TV w01gzz	11 Quantity & Unit 300 PCS	
12 CERTIFICATION BY THE COMPETENT AUTHORITY We hereby certify that evidence has been produced to satisfy us that the goods specified above originate in/were processed in the country shown in box 7. This Certificate is therefore issued and certified to the best of our knowledge and belief to be correct and without any liability on our part.			
01 APR 2003			
Page 1 of 1		<a href="http://www.comoforiga.com/tdmcoocoo/tdmabdk01070634">http://www.comoforiga.com/tdmcoocoo/tdmabdk01070634</a>	

Visible watermark that deteriorates when photocopied

Original Document

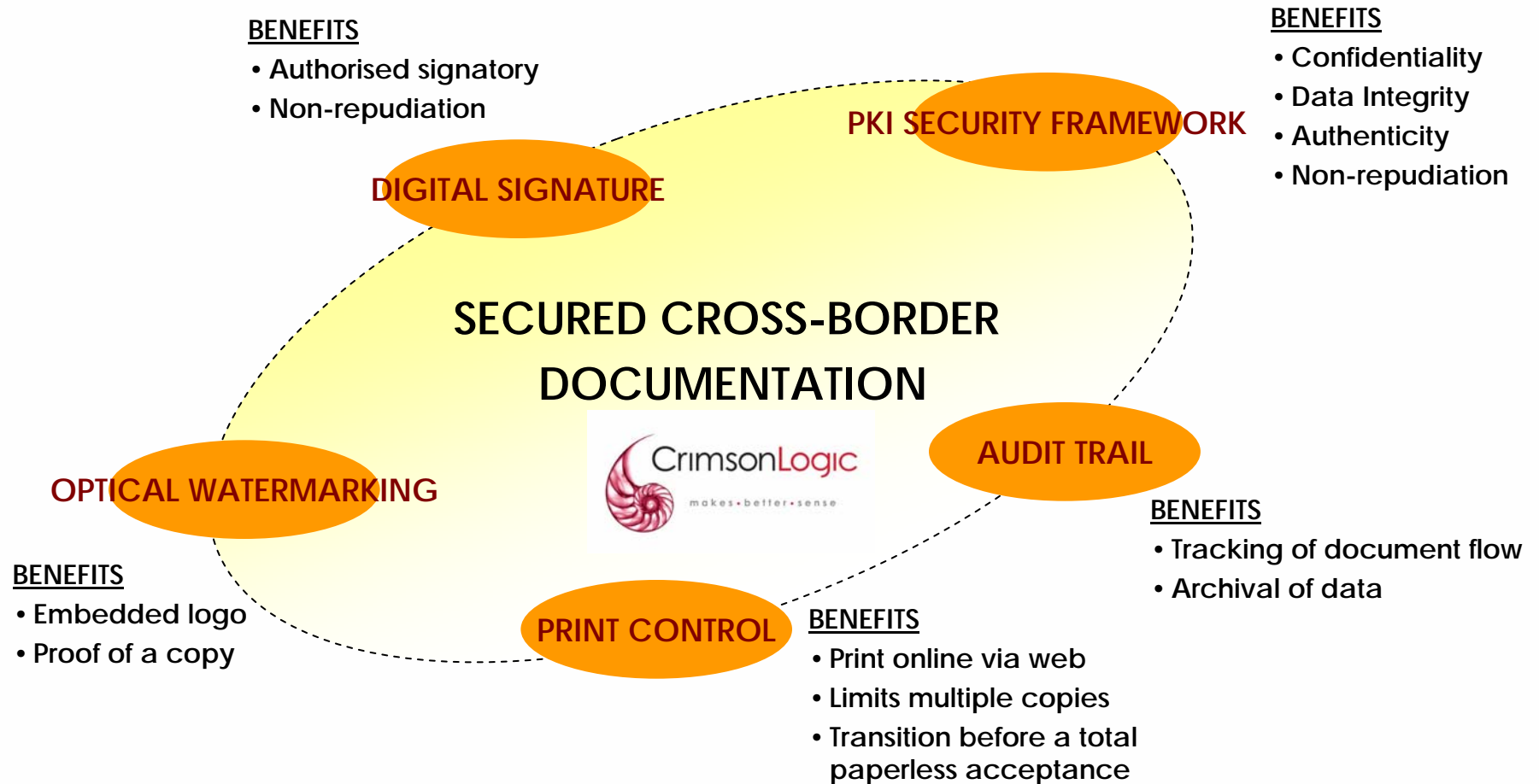
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Invisible watermark that appears when photocopied

Photocopy of Original Document

## Watermarking Technology

- Protects printed document from unauthorized copying
- Allows for a transition state before a total paperless acceptance





# Certificate of Origin – Where do we go from here ?

- Require some clear direction on the standards
- Require to interoperate with existing legacy systems
- Require awareness and adoption in each economy to pick up
- Require requirements for interoperability between economy

**Collaboration is the key to success in cross border transaction**



# Certificate of Origin – Who Implements in Singapore ?



# Our Background

---



Incorporated in March 1988

Four shareholders:



Formerly known as the  
Singapore Trade Development Board





## TradeNet - World's First Nationwide Electronic Data Interchange System

- Harvard Business School, 1993 and 1995

## Independent Record Keeper

- Inland Revenue Authority of Singapore, Ministry of Finance, 1998

## Singapore Electronic Filing System - World's First Nationwide Paperless Civil Court System

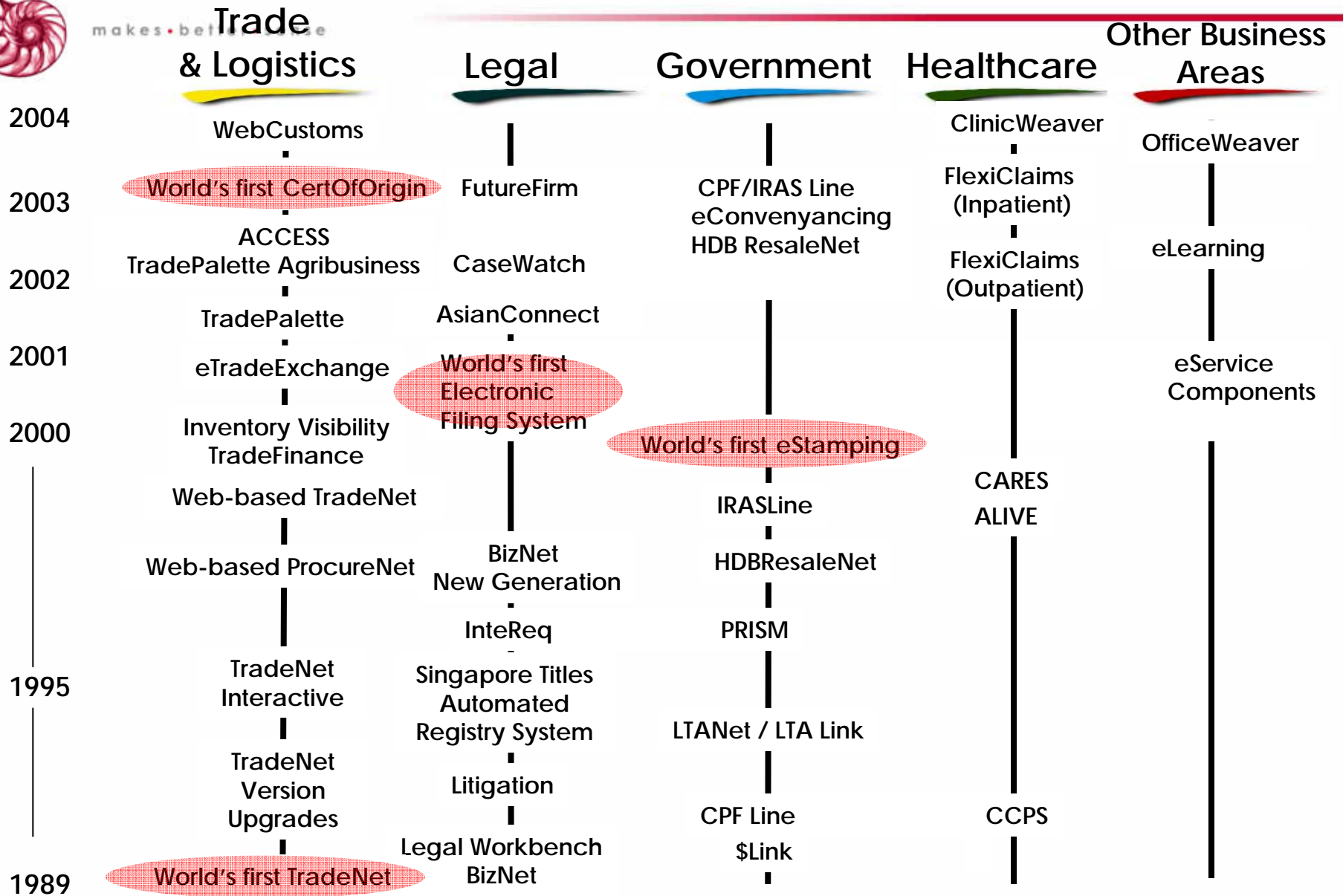
- Journal of the Queensland Law Society, 2000

## Outstanding Supplier Award 2001


- Inland Revenue Authority of Singapore (for the E-Stamping System), 2001

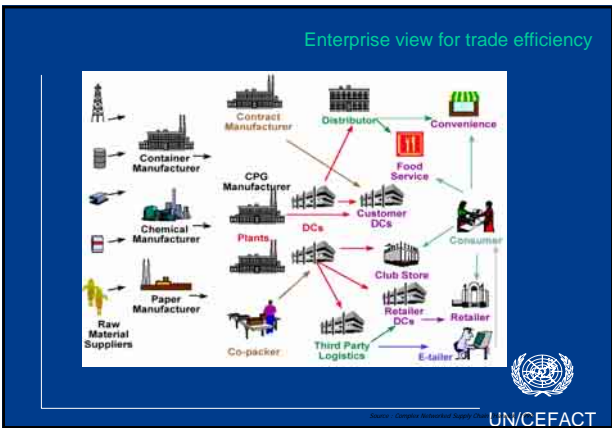
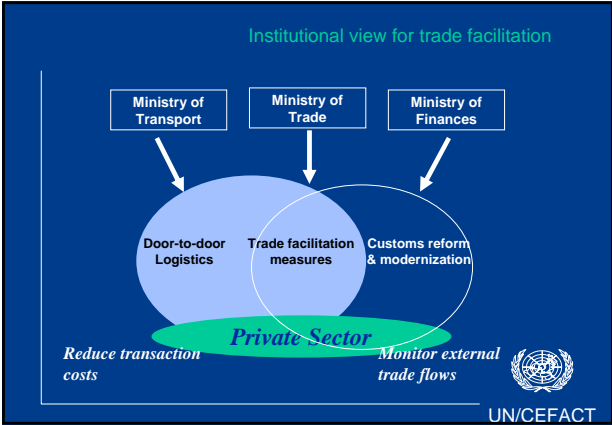


# 16 Years of Innovation





  
**UN/CEFACT**  
**A Global Platform for Trade Facilitation  
And e-business**  
 APEC Symposium on ebXML for Internet paperless Trading  
and Collaborative e-Business  
 2004-07-21/23, TH BKK  
 UNITED NATIONS CENTRE FOR TRADE FACILITATION AND ELECTRONIC BUSINESS  
 Under the auspices of United Nations Economic Commission for Europe



UN/CEFACT Vision

Public AND Private

UN/CEFACT Vision

- The Supply Chain consists of highly **integrated** and **coordinated flows** of information, products and funds

The diagram illustrates the supply chain flow from Suppliers to Manufacturers, Wholesalers, Retailers, and finally Consumers. Three horizontal arrows represent the flow of information, products, and funds across these stages.

UN/CEFACT

UN/CEFACT Vision

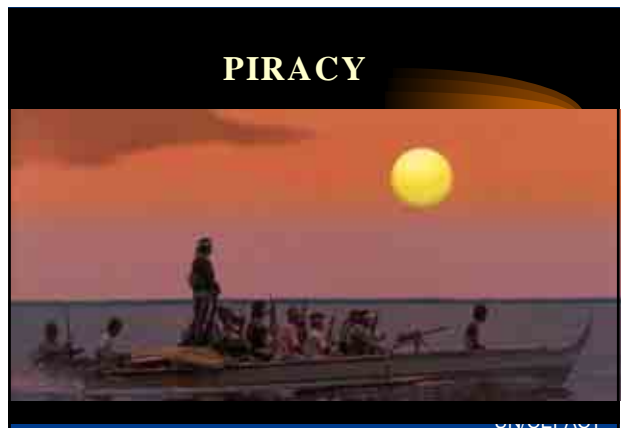
The diagram shows a hierarchy starting with Competitive Strategy, leading to Supply Chain Strategy. This strategy is evaluated against Efficiency and Responsiveness. The Supply Chain Structure is composed of Inventory, Transportation, Facilities, and Information, which are driven by these factors.

UN/CEFACT

UN/CEFACT Bureau Portfolio

	Strategy	Marketing	External Affairs
E-Business	<ul style="list-style-type: none"> <li>Technological work plan to enable Trade Facilitation requirements. eBusiness and non eBusiness accounted for.</li> </ul>	<ul style="list-style-type: none"> <li>Promotion of deliverables</li> <li>Monitoring implementation/collecting feedback/requirements</li> <li>Capacity-building/technical cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Cooperation/coordination</li> <li>liaison</li> <li>feedback</li> <li>re-use</li> <li>non-duplication</li> </ul>
Trade Facilitation	<ul style="list-style-type: none"> <li>How to facilitate global Trade.</li> </ul>		<ul style="list-style-type: none"> <li>Cooperation/coordination</li> <li>liaison</li> <li>feedback</li> <li>re-use</li> <li>non-duplication</li> </ul>


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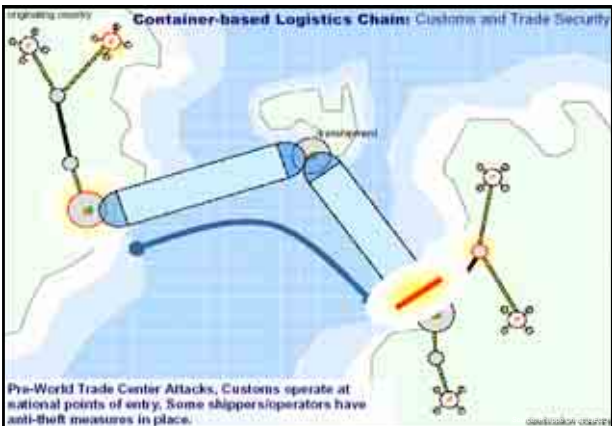


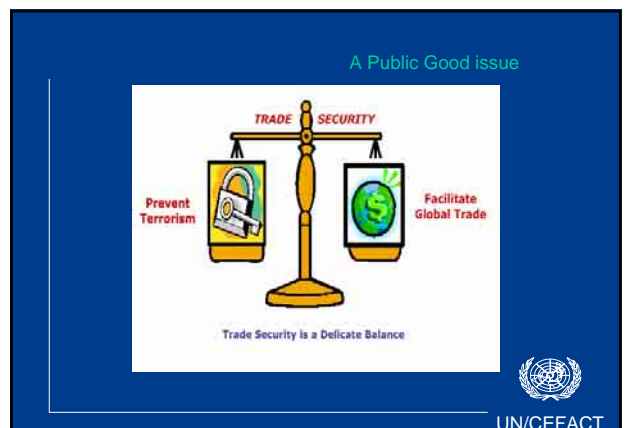
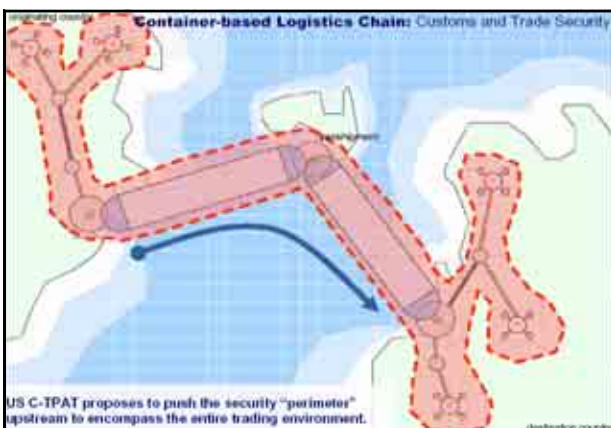
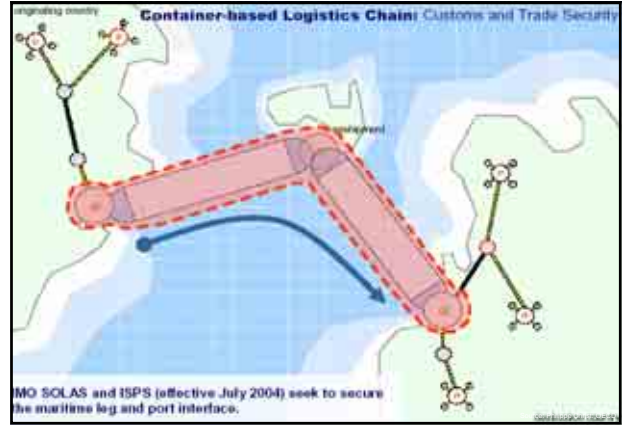
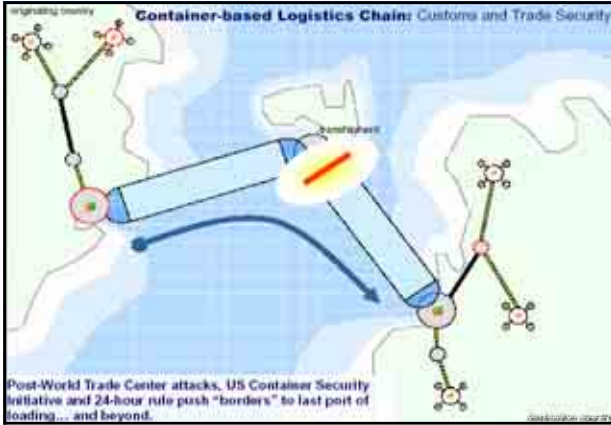


**Response to 9/11**

- Major shift in focus – to the threat **FROM** trade
  - Push Back the Borders – CSI
  - Risk Profiling – Advance information
- US undertook emergency analysis of vulnerability and identified sea-borne containers as main threat

  
UN/CEFACT





Possible strategies to facilitate the secure movement of goods and services

Simple, Transparent and Effective Processes for Global Business.

- UN/CEFACT's vision, norms and standards support the approach
- Paperless trade and e-Business is a key element
- Capacity-building and implementation of existing norms and standards is essential
- Business process information modelling unites
- Lessons learned from the quality revolution (ISO 9000) can address the issue: Prevention, Total organization focus, Process control and designed in

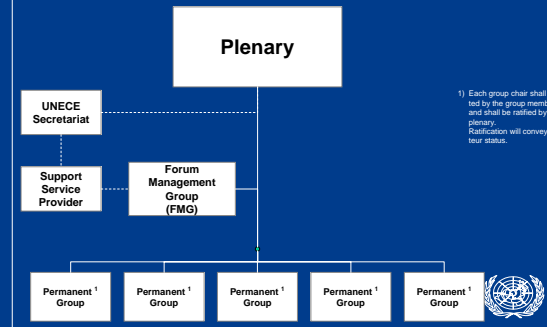
UN/CEFACT - the global standardization body



UN/CEFACT

Total organization focus

Reporting Structure



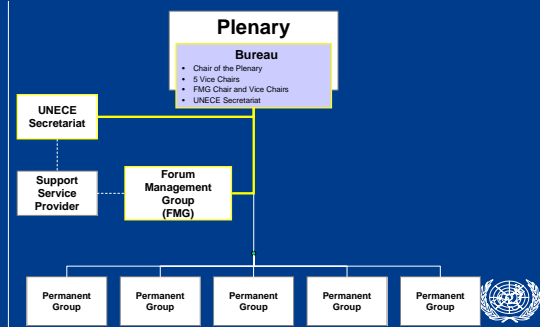
1) Each group chair shall be elected by the group membership and shall be ratified by the plenary. Ratification will convey rapporteur status.



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Total organization focus

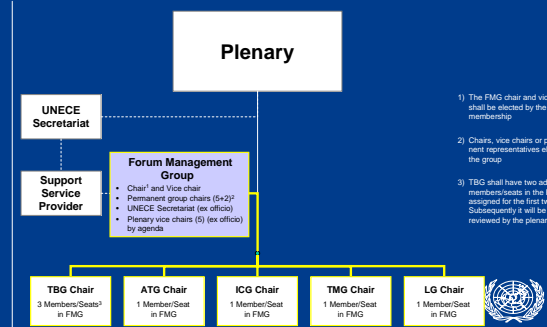
UN/CEFACT Bureau



UN/CEFACT

Total organization focus

Forum Management Group

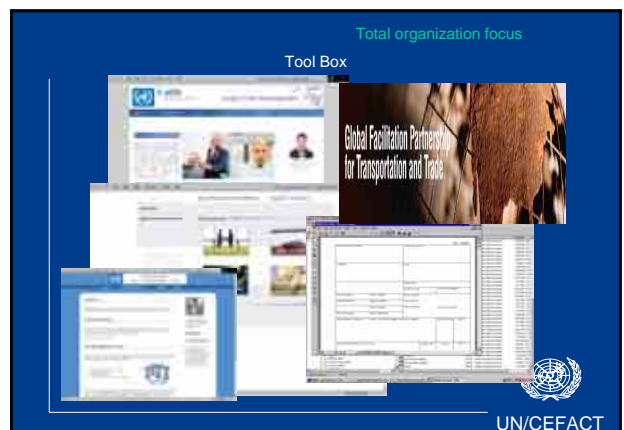
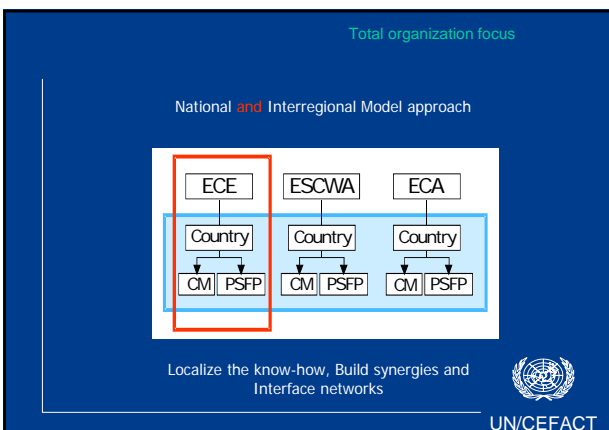
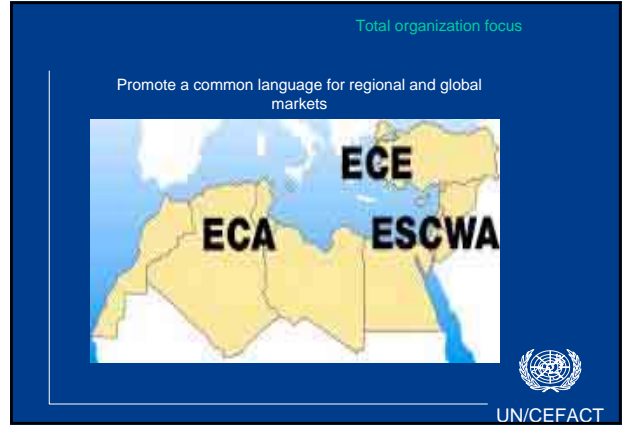
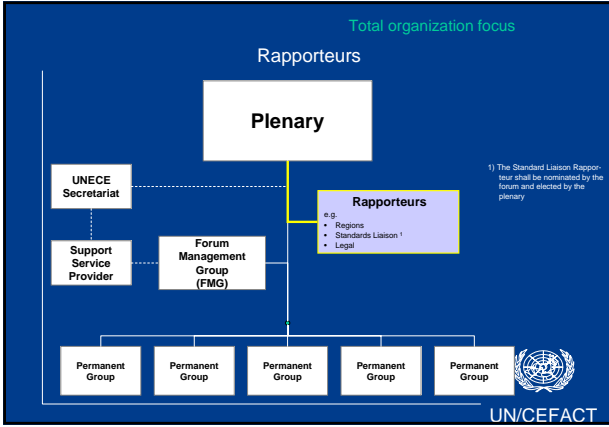


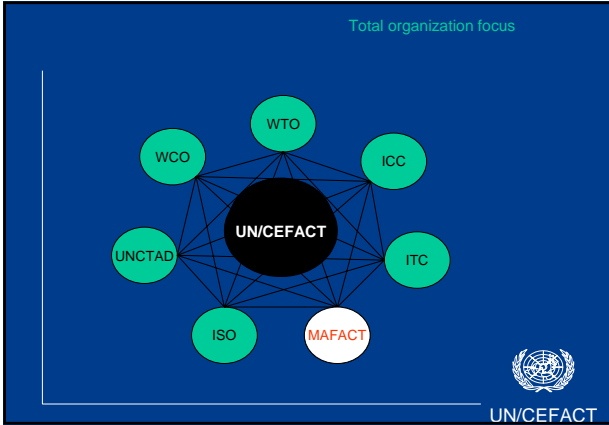
- 1) The FMG chair and vice chair shall be elected by the forum membership.
- 2) Chairs, vice chairs or permanent representatives elected by the group.
- 3) TBG shall have two additional members/seats in the FMG assigned for the first two years. Subsequently it will be reviewed by the plenary.

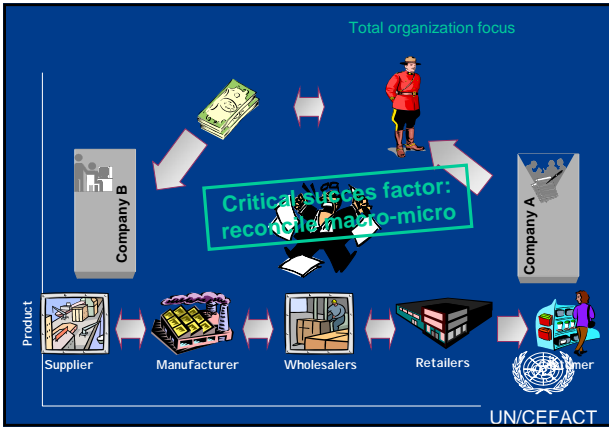


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Process control

**International code lists for trade data and automated data validation**

- Overview of international code lists:
  - ICC codes (INCOTERMS – originally from UNECE!!)
  - ISO standards (30, 3166, 4217, 7372 etc.)
  - UNECE Recommendations on codes – 15 different
  - **WCO Customs Data Model data sets**
  - IATA airport codes (<http://www.iata.org/codes/index.asp>)
  - UPU Postal codes (<http://www.upu.int>)

UN/CEFACT

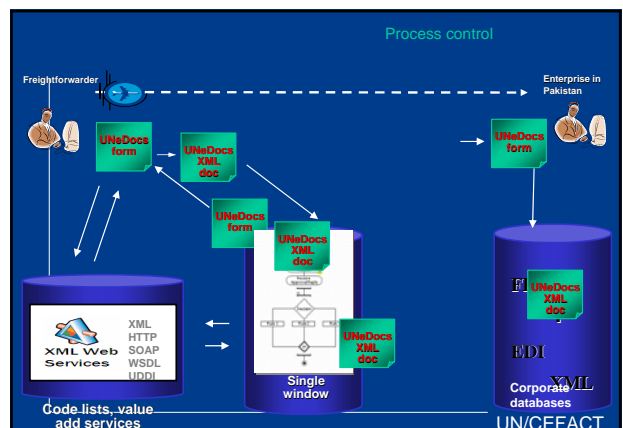
Process control

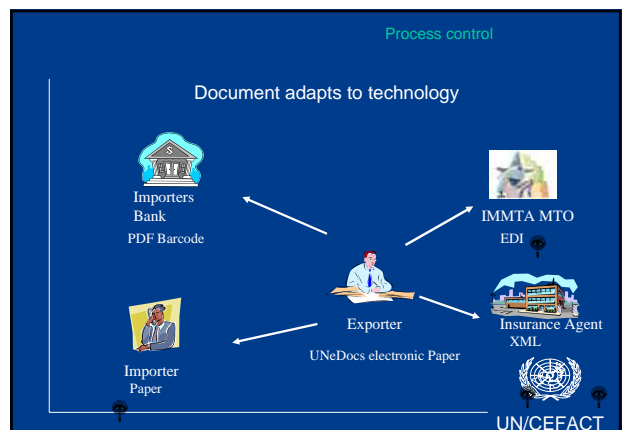
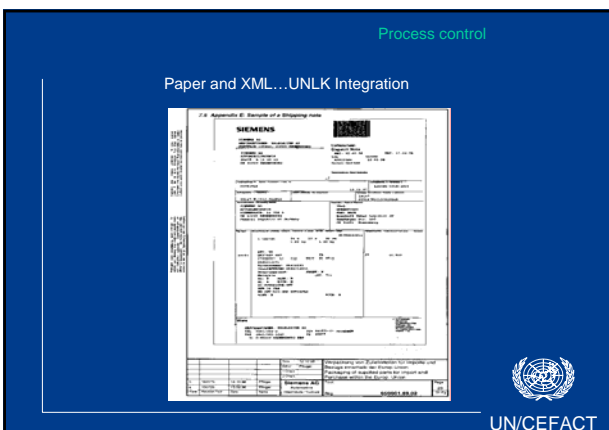
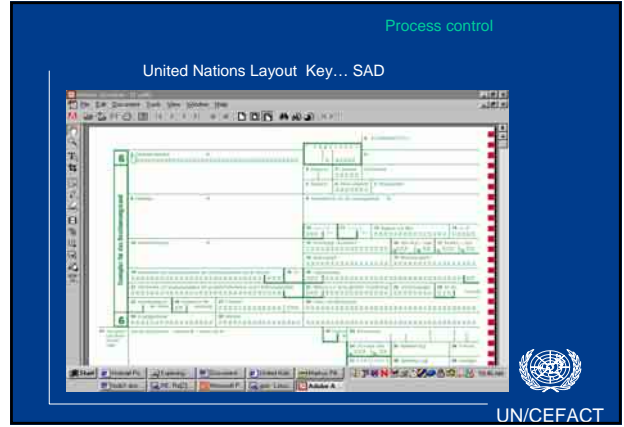
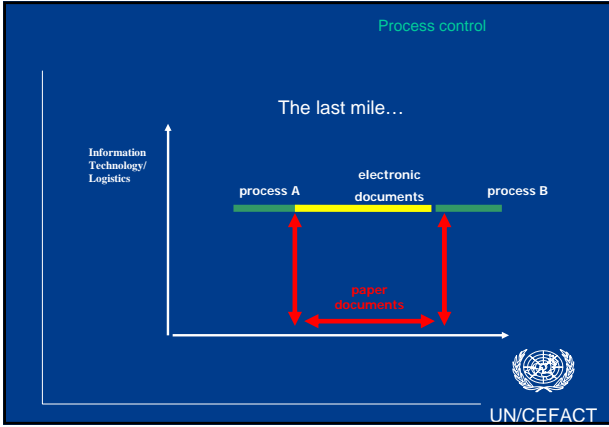
**Single Window Recommendation and Guidelines**

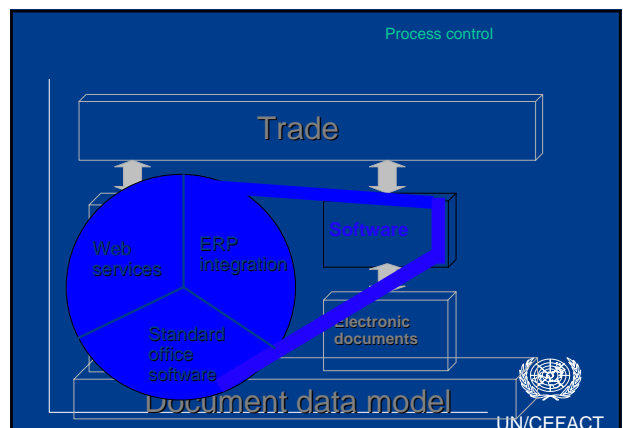
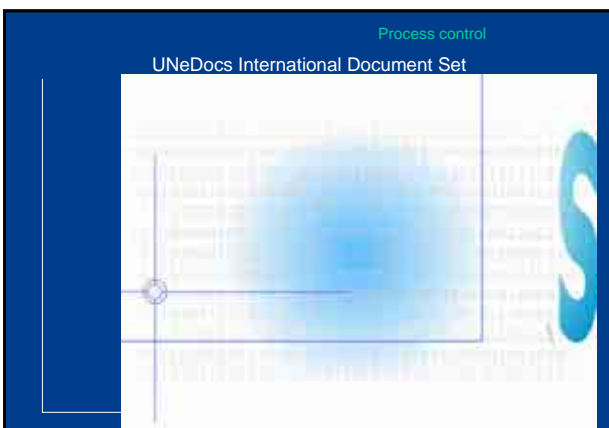
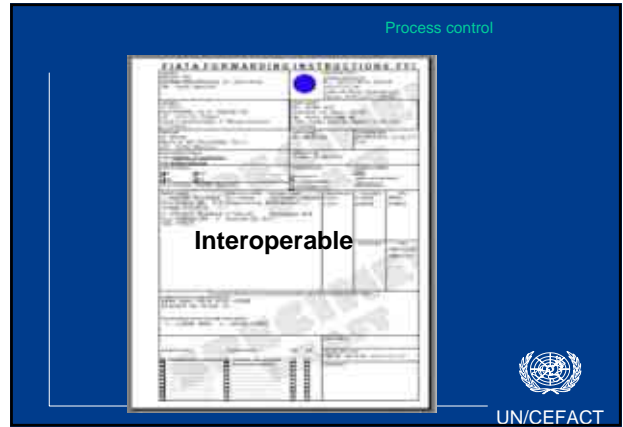
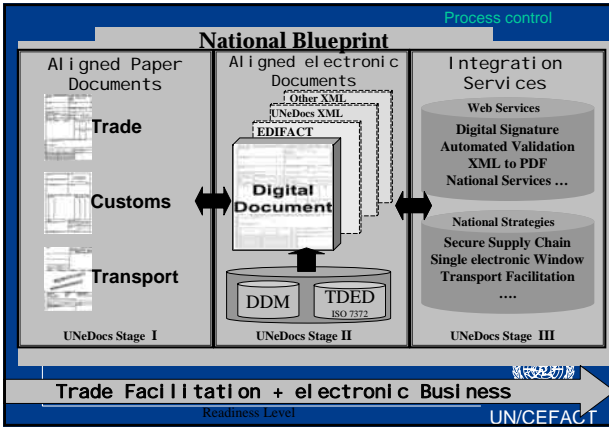
- **Single Window is defined as:**

*a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements.*
- **If information is electronic, then individual data elements should only be submitted once.**

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Process control

Platform to connect the "last mile", "Smart documents" through WS Integration

UN/CEFACT

Designed in

UN/CEFACT

Designed in

**YESTERDAY**  
*(informal description)*

- Example
- Information flow
- Validation rules
- Usage guidelines
- Usage rules
- Field specs
- Format specs
- Scope

**TODAY**  
*(A methodology)*

W H Y → Business Requirements → BUSINESS MODEL

W H A T → Logical Design → TRANSACTIONS & DOCUMENTS


H O W → Technical Implementation → INTERNET

UN/CEFACT

Designed in

UN/CEFACT

Designed in



**Statement by OASIS and UN/CEFACT Representatives**  
21 April 2004

At a constructive meeting hosted by UNECE, representatives of OASIS and UN/CEFACT had a full exchange of views and have reaffirmed their willingness to continue their cooperation on eS/M. Their intent is to develop an agreement within a four-month period at both the strategic and tactical levels, which will contain procedures to ensure that each party uses their best endeavours to have clarity in their work programmes and effective communication, with a view to avoiding duplication of effort, subject to the rules of each organisation and consistent with the objectives of the Memorandum of Understanding between ISO, IEC, ITU and UNECE on electronic business. The proposed cooperation agreement is aimed at improving understanding and clarifying the public perception of how the organisations will work together. Both parties intend by these actions to demonstrate their commitment to eS/M, and its communities of developers and users.

It is intended that a joint press release will be published before the UN/CEFACT Plenary on 17-19 May and the cooperation agreement will be approved by both parties by the time of the September 2004 UN/CEFACT Forum meeting.

UN/CEFACT

Designed in

- **Decision 04-09:** The Plenary decided to forward the CCTS specification to the fast track approval of the TC154 of the International Standardization Organization (ISO). The Plenary noted the BPSS specification and requested TMG, through its Chair, to circulate the full specification and a scope of BPSS 1.1 to review the comments received from Heads of Delegation by the 19 August 2004 and to inform the Plenary of the outcome of that review.
- **Decision 04-14:** The Plenary decided to request the FCT to complement the text of the vision with sections on trade facilitation and business focus by the end of July 2004. After this, the vision would be forwarded to the Bureau for any additional comments. After a subsequent intersessional approval process, the vision would be submitted to the signatories the Memorandum of Understanding between the International Electrotechnical Commission (IEC) and the International Organization for Standardization (ISO), the International Telecommunication Union (ITU) and the United Nations Economic Commission for Europe (UNECE), for their comments and alignment.
- **Decision 04-13:** The Plenary established a task force to make proposals, in cooperation with the leadership of TBG and TBG15, on how to strengthen UN/CEFACT work on trade facilitation taking into account documents TRACE/CEFACT/2004/30 and 34. The Plenary wishes to see the results presented intersessionally at least at by the end of 2004. The Plenary assigned the lead for this work to the Chairman's Policy Group.

UN/CEFACT

WHAT IS MISSING?

**An internationally agreed meaningful framework, including existing and current developments, to achieve efficiency and security in the supply chain ....**



- APEC Symposium 04-07-21/23
- UN/CEFACT Forum, 04-09-13/17, US WAS
- Capacity Building Workshop on Trade Facilitation Implementation, 04-10-18/20, CH GVA
- 3<sup>rd</sup>, International Forum on Trade facilitation, UN/CEFACT, 05-06-20/21, CH GVA
- 11<sup>th</sup>, UN/CEFACT Plenary, 05-06-22/24, CH GVA

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**UN/CEFACT**  
SIMPLE, TRANSPARENT AND EFFECTIVE PROCESSES  
FOR GLOBAL BUSINESS

[www.uncefact.org](http://www.uncefact.org)

UN/CEFACT



## Global Blueprint for Interoperability at the Business Layer

Klaus-Dieter Naujok  
Chief Executive Officer and President  
Global e-Business Advisory Council  
UN/CEFACT Techniques & Methodologies Group (TMG) Chair  
Former ebXML Chair

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## What is (was) ebXML?

**“Creating a Single Global Electronic Market”**

**ebXML enables anyone, anywhere to do  
business with anyone else over the Internet**

- A modular suite of technical specifications
- Developed by OASIS and UN/CEFACT
- Enables communications using open standards



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## What was expected from ebXML?

- Lowers the cost/complexity of electronic business
- Facilitates global trade and puts SMEs and developing nations in the picture
- Expands electronic business to new and existing trading partners
- Converges current and emerging XML efforts
- Eliminates dependence by supporting any language, any payload, any transport



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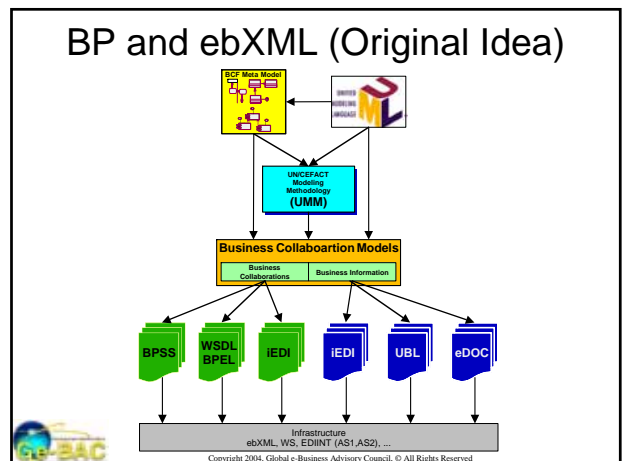
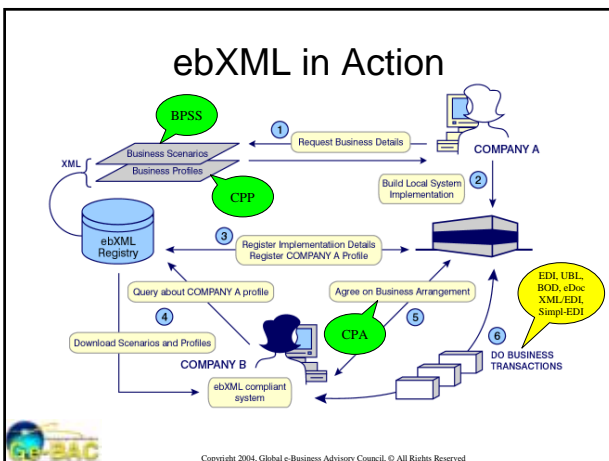
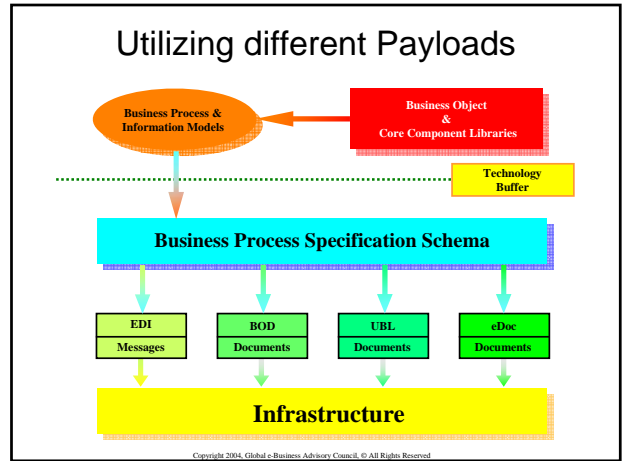
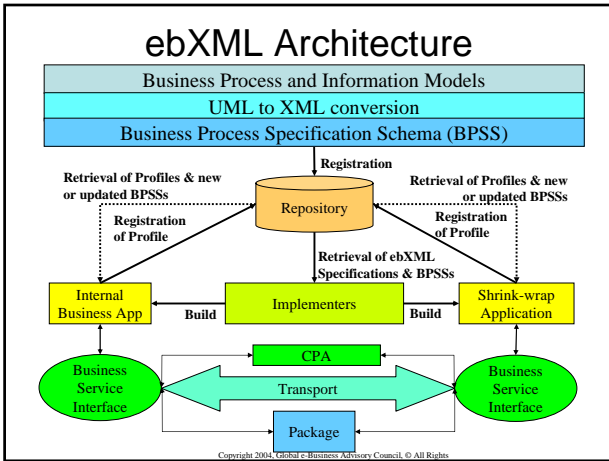
## ebXML Specs - Modular Suite

- Technical Architecture
- Business Process Specification Schema
- Registry and Repository
- Collaboration Protocol Profile and Agreement
- Message Services
- Core Components (2004)

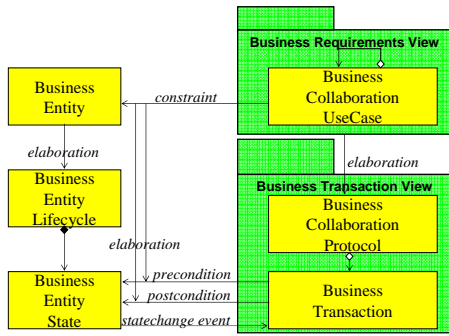


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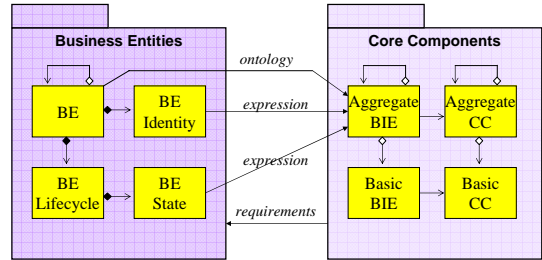


## Public Process Definition



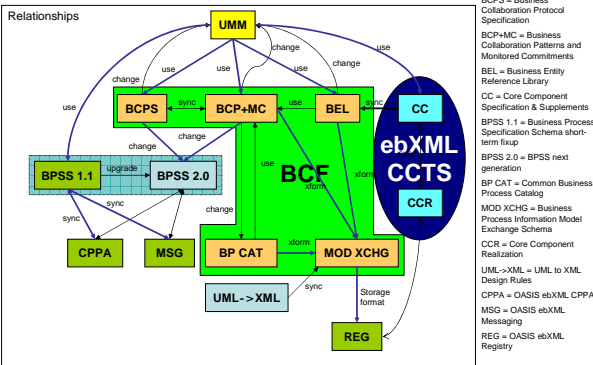
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## Public Information Definition



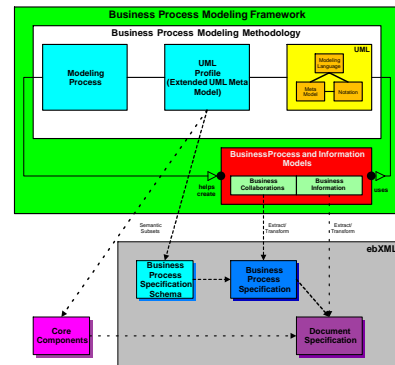
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## ebXML Technical Specifications

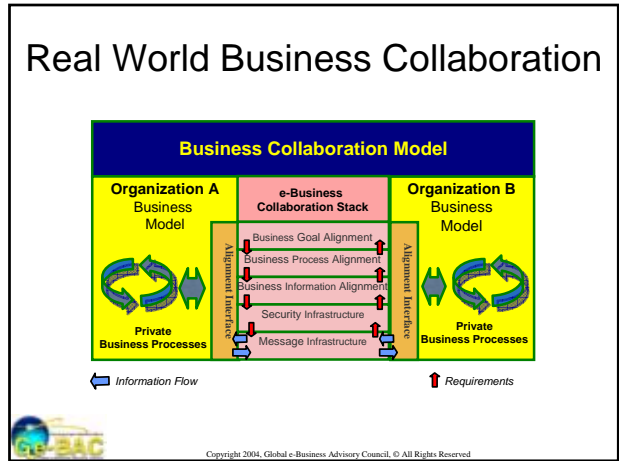
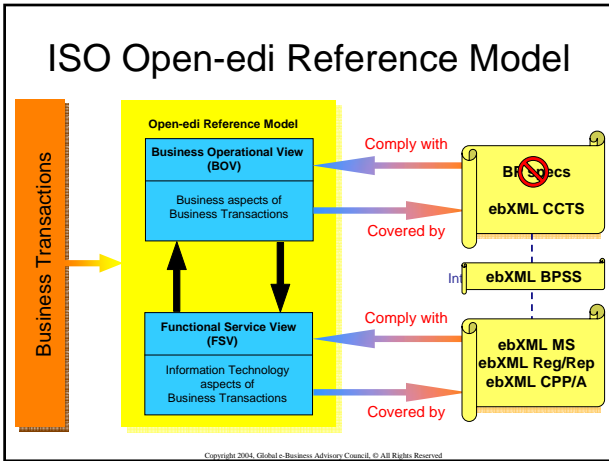


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## BP and ebXML (Final Result)



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In Other Words ...

**Business Requirements must drive Technology Solutions**

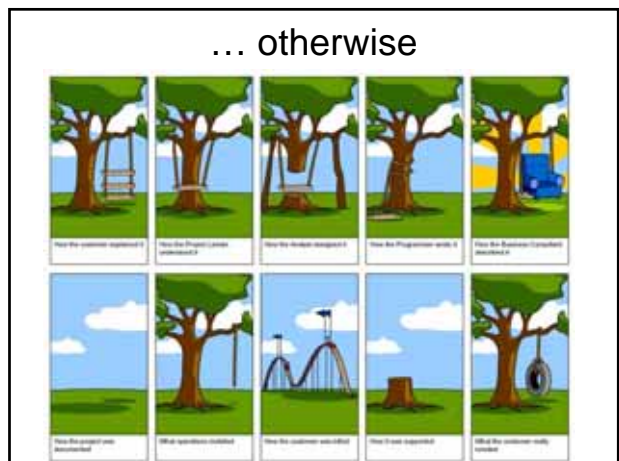
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**Embody Best Trade Practices in Standard e-Business Processes**

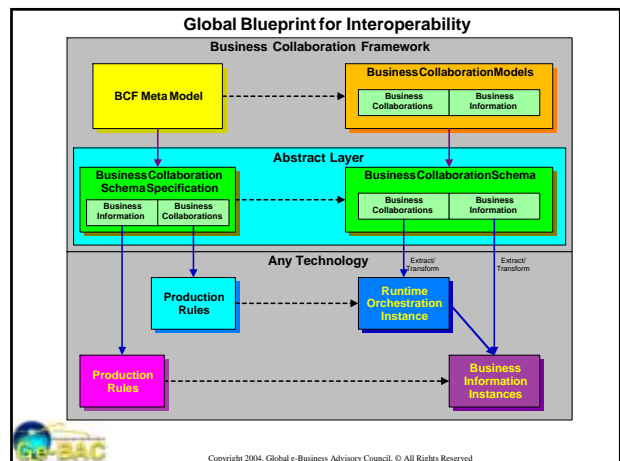
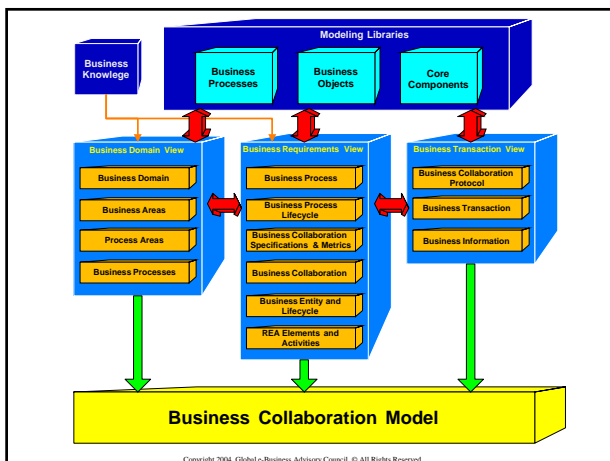
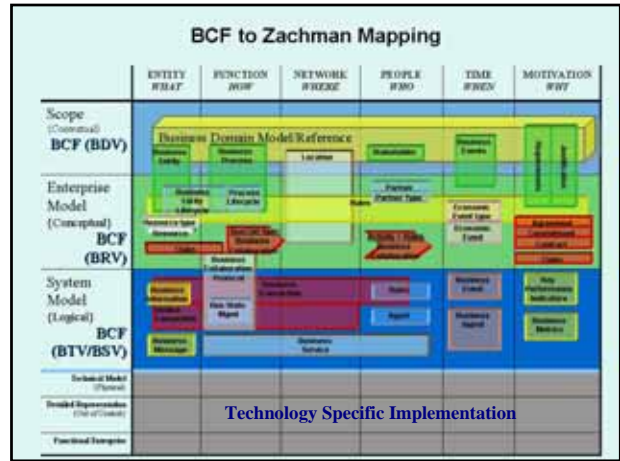
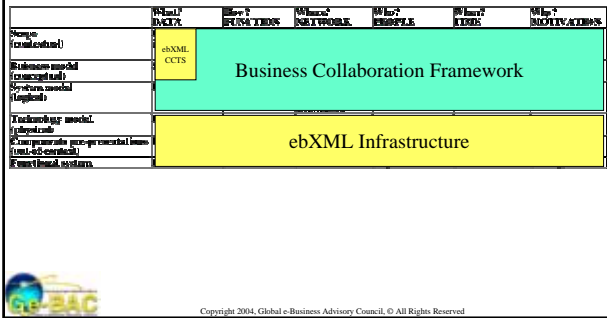
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**Utilizing a Prescriptive Methodology to yield Predictable Results**

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Information System Architecture (ISA)  
John Zachman  
(IBM System Journal Volume 3, No 3, 1992, page 590-616)



## General Perception



- Too Complex
- Too Technical
- Not in plain English
- Not for the Business Persons (Users)
- No guidance how to implement
- ...



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## In the Beginning ...

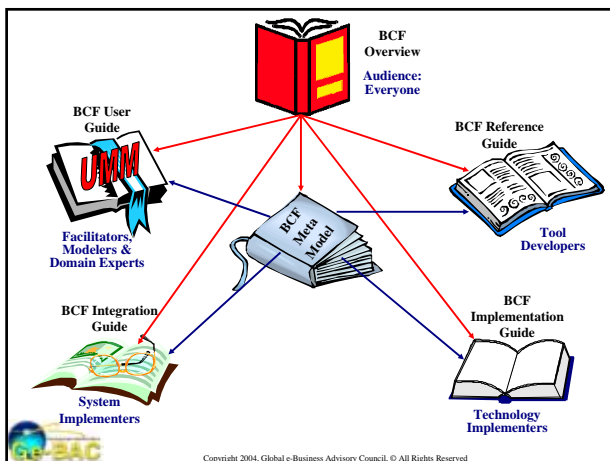
One Document  
...



...  
for  
Everyone



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## Recap: Principles for BCF solution

- Business requirements drive technology solutions
- Embody best practices in collaborative e-Business standards
- Focus on expected business results
- Applicable to both:
  - Analysis
  - Implementations



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## BCF = Interoperability at the Business Layer

- The Benefits
  - Complete Framework for Business and Technology Understanding and Integration
  - Provides the means for legally binding Internet enabled Business and Administrative Communities
  - Rationalized and Standardized Processes and Information
  - Allows any Technology Implementation without changing the Business Requirements
  - Protection of existing Investments
  - Allows Software Producers to provide “Plug and Play” SME Solutions



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## So What is Missing?

- Acceptance of Business Collaboration Models as the foundation to define Business Requirements to drive the implementation
- Acceptance of an ebXML CC Library (maintained by UN/CEFACT) for use by all domains/sectors (industries and governments)
- The need for UN/CEFACT to step forward in its efforts to align/establish global procedures and best practices for all domains/sectors
- Global cooperation and coordination



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## Thank You!

- More Questions?
  - Email to:
    - [klausn@attglobal.net](mailto:klausn@attglobal.net)
- For more Information
  - BCF Project Web Site (online 15 August)
  - [www.bcf-project.org](http://www.bcf-project.org)



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## Interoperability Framework and Standards in Hong Kong



Dr. David Cheung

Director

Center for E-Commerce Infrastructure Development

The University of Hong Kong  
Hong Kong SAR, China

APEC Symposium on ebXML for Internet Paperless Trading and Collaborative e-Business  
July 21-23 2004, Bangkok, Thailand



## Who We Are

- Center for E-Commerce Infrastructure Development (CECID)
  - An e-commerce R&D center in University of HK
  - ~20 full time staffs
- Primarily funded by R&D grants from HKSAR Govt
  - Project Phoenix: Establishment of ebXML Software Infrastructure in HK
  - Project Pyxis: eBusiness Interoperability Software Platform based on Open Standards
- Also provide **R&D outsourcing services** to industry

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## Agenda

- Interoperability – key to paperless trading
- Hong Kong Interoperability Framework
- Hong Kong Digital Trade and Transportation Network
- Open source software to enable interoperability
- Smart interoperability device

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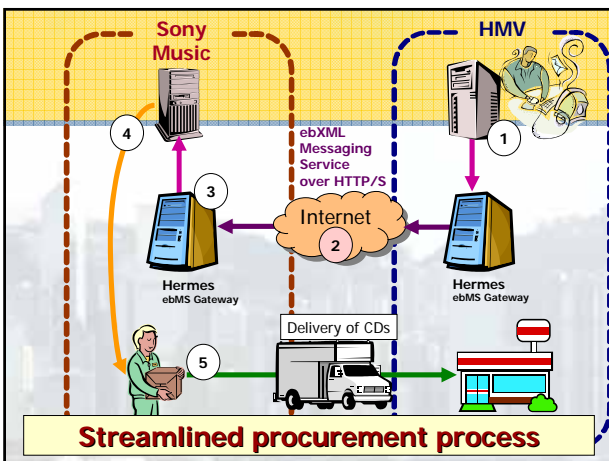
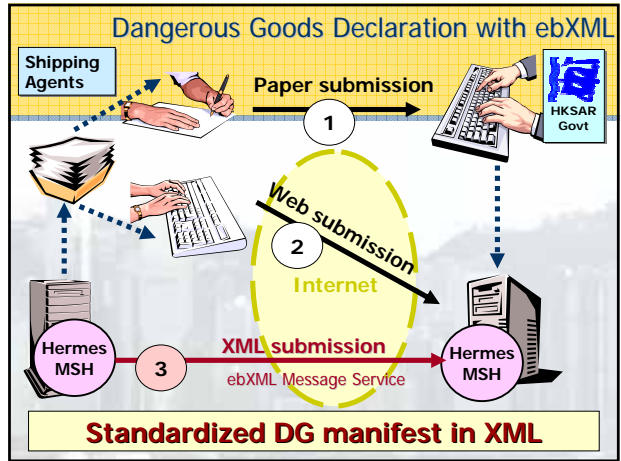
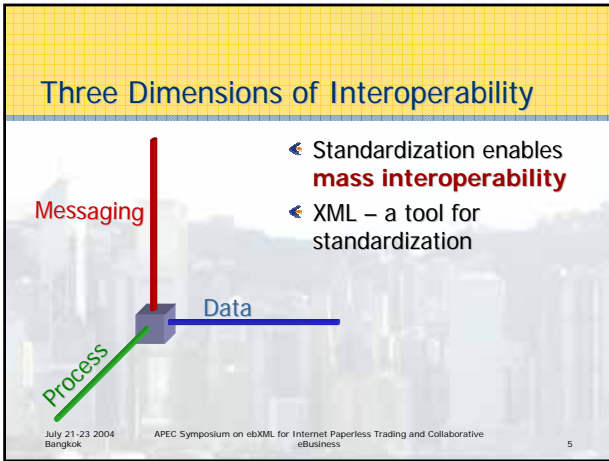
## Interoperability – Paperless Trading

- Paperless trading is national and corporate competitiveness
  - Automation on B2B collaboration
  - Integration of business processes between trading partners
  - Interoperability
- Interoperability: different info systems to work together
- XML was invented to address interoperability problems
- XML is only a tool that can't solve problems itself
- More challenges to meet...

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- ### Interoperability Frameworks
- A standard/guideline for a community to use technology standards
  - eGovernment Interoperability Frameworks, e.g. in HK and UK
  - European Interoperability Framework
    - European Union (EU) agreement for joining up public admin info systems across nations in EU
    - Based on open standards and open source software
  - Pan Asian E-Commerce Alliance
    - Alliance of eTrade agents in various Asian economies to define standards and use of standards to facilitate cross-border trade
  - Hong Kong Digital Trade and Transportation Network
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## Hong Kong Interoperability Framework for eGovernment

- ◀ Guidelines for using and developing standards for G2G and G2B joined-up services
- ◀ General Principle
  - ◀ If a suitable international standard, use it. Otherwise, develop our own.
- ◀ Technical interoperability
  - ◀ Guidelines for adopting technical standards for specific data exchange applications
- ◀ Data interoperability
  - ◀ XML Schema Design and Management Guide
- ◀ Process interoperability is next target

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## Technical Interoperability Guidelines

Interoperability area	Recommended specification(s)	Are the specifications relevant to submissions under ETO?	Remarks
Simple functional integrations in an open environment (e.g. information retrieval from a remote application)	The suite of core Web Services standards: SOAP v1.1 for remote service invocation WSDL v1.1 for remote service description (where necessary) UDDI v2 for the publication and discovery of remote service descriptions	No	When project teams select tools to implement Web Services, they are recommended to take into consideration the tools' conformance to the WS-I's Basic Profile 1.0.
Reliable document exchange between application systems in an open environment for business document-oriented collaboration	eBMS v2	B/Ds will promulgate explicit requirements where relevant	Standards for reliable messaging are also emerging under the Web Services framework. Focused-up applications that are following Web Services standards should agree among the stakeholders on whether to adopt eBMS or some alternate protocol for reliable document exchange.  Although eBMS is not widely supported by the major vendors, its open source implementations can be considered

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## XML Schema Design and Management Guide for HKSAR Govt

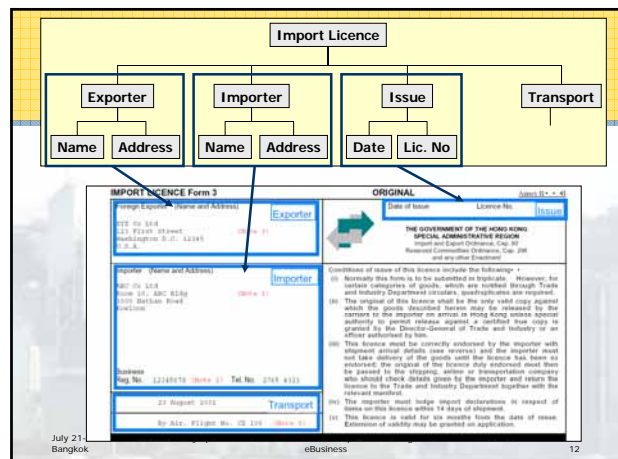
- ◀ XML schema modeling methodology for developing e-govt applications
- ◀ Based on ebXML Core Components & UBL approach
- ◀ Standardized Common Schemas
  - ◀ person's name, HKID#, address, etc.
- ◀ Central Data Registry
  - ◀ [www.xml.gov.hk](http://www.xml.gov.hk)
- ◀ Already applied in real cases
  - ◀ Center for Health Protection
  - ◀ Dangerous goods declaration
  - ◀ Weather info publishing
- ◀ One of OASIS eGovernment best practices
  - ◀ <http://egovernment.xml.org>



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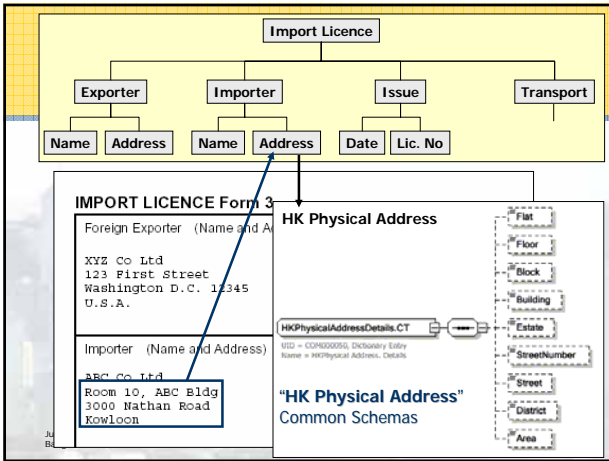
11



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### Coding XML Schema

```

<xs:complexType name="ForeignPhysicalAddressDetails.CT">
  <xs:sequence>
    <xs:element name="Street"
      type="ForeignPhysicalAddressStreetText.CT"/>
    <xs:element name="City"
      type="ForeignPhysicalAddressCityName.CT"/>
    <xs:element name="Country" type="CountryDetails.CT"/>
  </xs:sequence>
</xs:complexType>

```

Order	EID	Primary Key	Name of the associated ABE (for ABE only)	Property Type	Cardinality
1	IEFP0000	Foreign Physical Address, Street, Text		Street	1
2	IEFP0000	Foreign Physical Address, City, Name		City	1
3	IEFP0000	Foreign Physical Address, Country, Details		Country	1

## Digital Trade and Transportation Network in Hong Kong

- Electronic platform to enable **efficient and reliable data exchange** between logistics players in 9 industries
- To enhance HKSAR's competitiveness as a transportation and logistics hub in the region
- Accenture report estimates
  - Investment of HK\$3 billion over 17 years
  - Benefits of HK\$11.8 billion
- Messaging infrastructure:
  - ebXML + Web Services**
  - 60 business docs and 10 workflows identified

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 Extracted from DTTN study report by Accenture  
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## Messaging Architecture

**ebXML is core messaging protocol**

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## XML as Canonical Format for Data Transformation

- Transformation among **60 document types** and **7 message formats** – horrendous job!!!
- Forming a **DTTN Standards Group** to define an XML document standard for 60 documents
- How to define mapping data between different message formats – big challenge!!!

Supported message format (sender)	Canonical message format (the DTTN)	Supported message format (recipient)
<ul style="list-style-type: none"> <li>XML v1.0</li> <li>Microsoft Excel</li> <li>Text in CSV format</li> <li>UN/EDIFACT</li> <li>ANSI X12</li> <li>Cargo-IMP</li> </ul>	<ul style="list-style-type: none"> <li>XML v1.0</li> </ul>	<ul style="list-style-type: none"> <li>XML v1.0</li> <li>Microsoft Excel</li> <li>Text in CSV format</li> <li>UN/EDIFACT</li> <li>ANSI X12</li> <li>Cargo-IMP</li> <li>SMS</li> </ul>

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## Hermes ebMS Handler

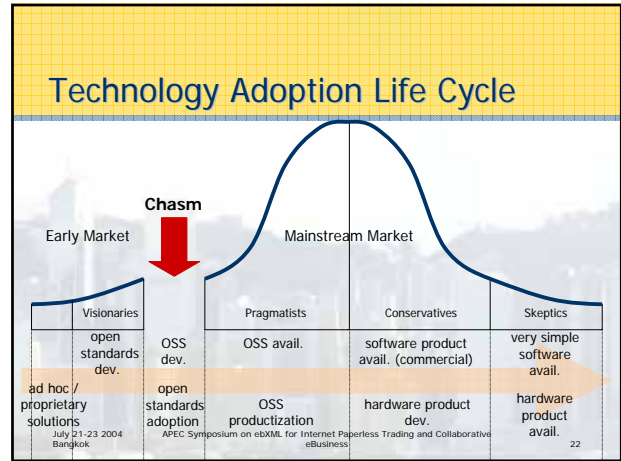
- Implemented **ebXML Messaging Service V2**
- Open-sourced since September 2002
  - Recorded downloads from 60+ countries
- Passed **ebXML Asia Committee Interoperability Test**
- Developers from an European vendor taking Hermes to enter Europe Interoperability Test
- Next version aims at multiple protocol: ebXML + WS-Reliability
- Many production cases in Hong Kong and overseas
  - Sony Music and HMV: procurement of CDs, VCDs and DVDs
  - HKSAR Govt and shipping companies (e.g. OOCL): submission of dangerous goods manifests to HKSAR Govt
  - Spherion in Australia: transaction of training services with Telstra
- Some international vendors use Hermes to develop commercial products

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## ebMail

- eBusiness mailer for small businesses** – low cost and simple
  - Provides user interface for composing and view documents easily and exchange documents through ebMS V2 over HTTP
  - No dedicated Internet connection and server required
  - Supports data import from and export for office applications, e.g. spreadsheet
  - Extensible through **plug-in modules** for handling different business processes and documents
  - Being deployed in Malaysia Customs to communicate vessel info
  - Developed POC in Japan to support oil drum recycling
- Universal Business Language (UBL)** support in next version
- ebXML + UBL e-commerce mailer → **Mosaic of E-Commerce?**

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### Problems of Hub-and-Spoke Model

- ◀ Hub
  - ◀ Not scalable – huge effort in supporting new document type and format
- ◀ Spoke
  - ◀ Thin client (web browser): human interface not for system-to-system integration
  - ◀ Complicated B2B and backend integration: high cost and lack of expertise
- ◀ Smart interoperability-aware device to address these problems

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### B2B Connector (Project Elf)

- ◀ Standalone device for B2B exchange
- ◀ **Plug-and-play**, Internet-based, low-cost
- ◀ Support conversion between different e-doc standards
- ◀ Extensible through plug-in modules
  - ◀ New standards and converters
- ◀ Core technology: **ebXML + UBL**

**eBusiness Router**

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## Project Elf – Smart Interoperability Device

- ◀ Client-based device to consolidate interoperability requirements of all 3 dimensions
- ◀ Extensible through plug-in modules
  - ◀ New standards and converters
- ◀ Easy to deploy (**plug-and-play**) internet-based, low-cost
- ◀ Core messaging technology: **ebXML, AS2, HTTP**
- ◀ Core content standards: **UBL, GDS/EPC, RosettaNet**



- ◀ Multiple ways for backend integration
  - ◀ **File & directory base**
  - ◀ **Web services**
  - ◀ **Web interface**

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## Conclusion

- ◀ Interoperability – key e-business success factor
- ◀ Standardization on three interoperability dimensions → mass interoperability
- ◀ Open source software to enable interoperability
- ◀ Smart interoperability device to commoditize B2B applications

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Thank you



<http://www.cecid.hku.hk>  
[dcheung@cecid.hku.hk](mailto:dcheung@cecid.hku.hk)



**ebXML Adoption for Paperless Trading and Business Collaboration in Korea**

2004. 7

Dr. Jasmine Jang

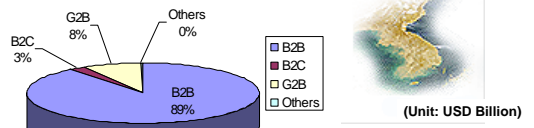


**Agenda**

- Status of e-Business Infrastructure in Korea
- ebXML Adoptions in Korea
  - E-Business Collaboration Model
  - Successful Integration Case : GePS
  - Successful Collaboration Case : SRM in Steel Industry
  - ebXML Adoptions in Korea
  - Lessened Experiences
- Future Directions

**Status of e-Business Infrastructure in Korea**

**Korea e-Commerce Market Volume**



	2000	2001	2002	2003 (Estimate)
<b>B2B</b>	43.61	90.99	130.87	165.17
<b>B2C</b>	0.61	2.15	4.13	4.95
<b>B2G</b>	-	5.86	12.10	14.85
<b>Other</b>	3.71	0.35	0.44	0.33
<b>Total</b>	47.93	99.15	147.54	185.34

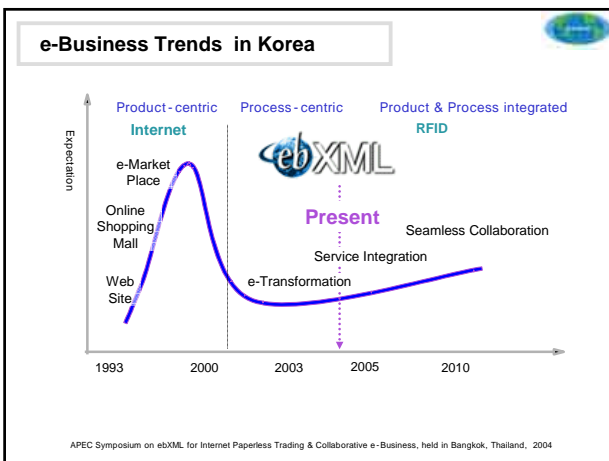
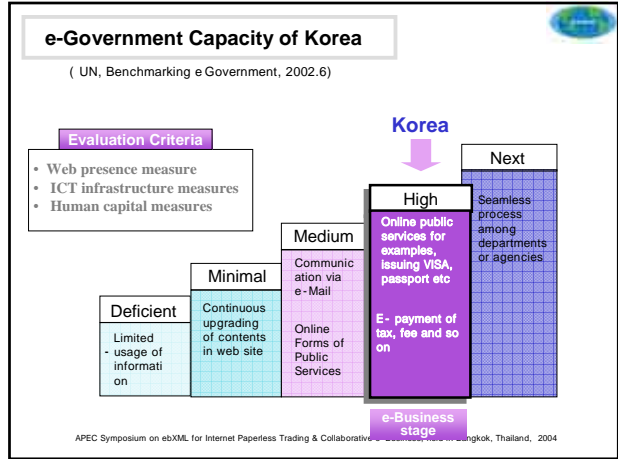
(Unit: USD Billion)  
(Source : Korea National Statistical Office)

### Korea e-Readiness

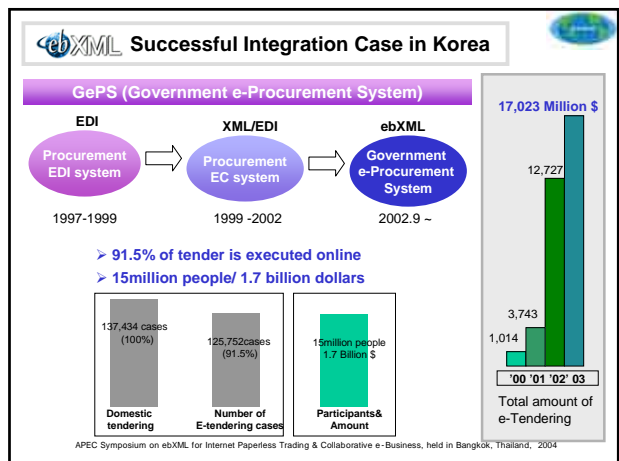
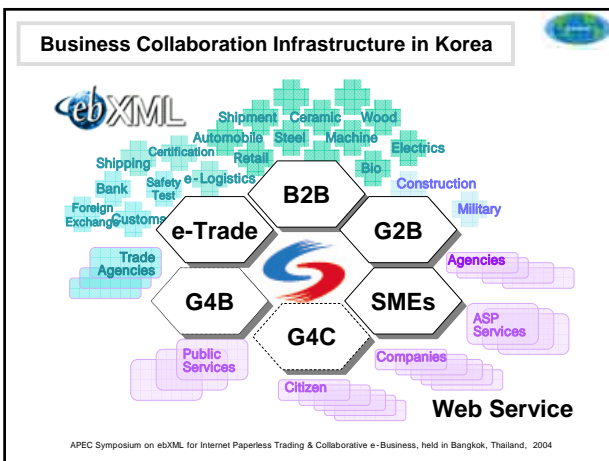
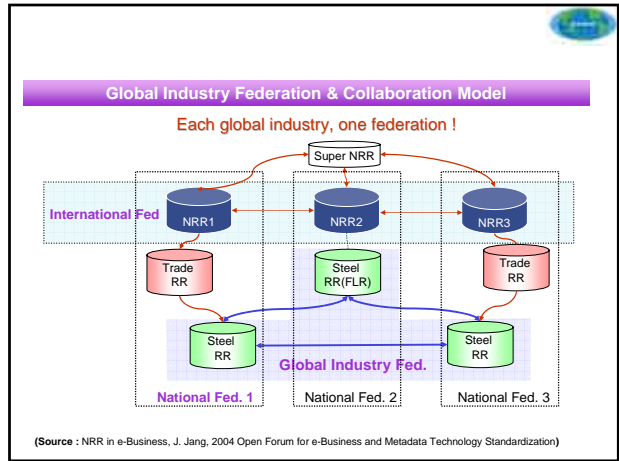
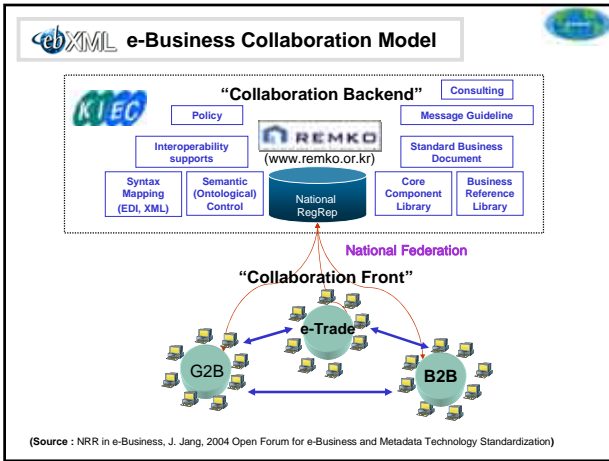
South Korea, the world's most densely penetrated broadband market at 27% of the population,

Country	Score (2004)	e-Readiness Ranking		
		2004	2003	2002
Denmark	8.28	1	2	7
Britain	8.27	2	3	3
Sweden	8.25	3	1	4
Norway	8.11	4	7	11
Finland	8.08	5	6	10
USA	8.04	6	3	1
Singapore	8.02	7	12	11
Netherlands	8.00	8	3	2
Hong Kong	7.97	9	10	14
Switzerland	7.96	10	8	4
Canada	7.92	11	10	9
Australia	7.88	12	9	6
Germany	7.83	13	13	8
<b>Korea</b>	<b>7.73</b>	<b>14</b>	<b>16</b>	<b>21</b>
Austria	7.68	15	14	13

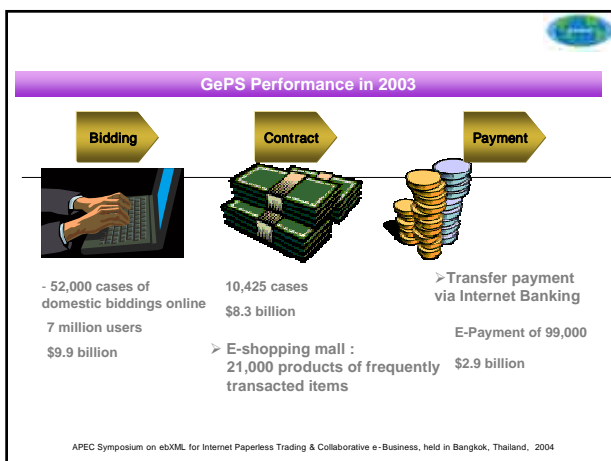
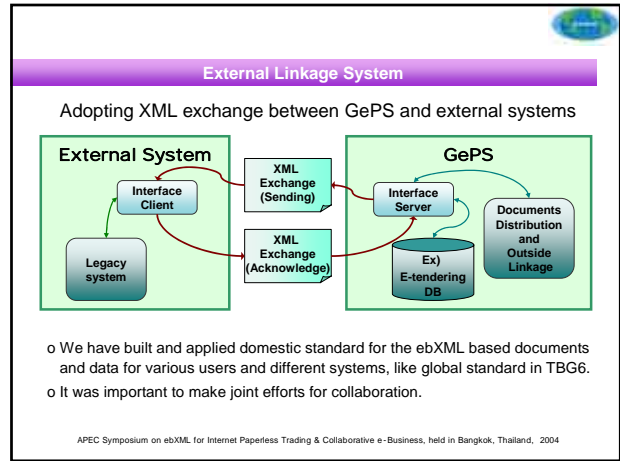
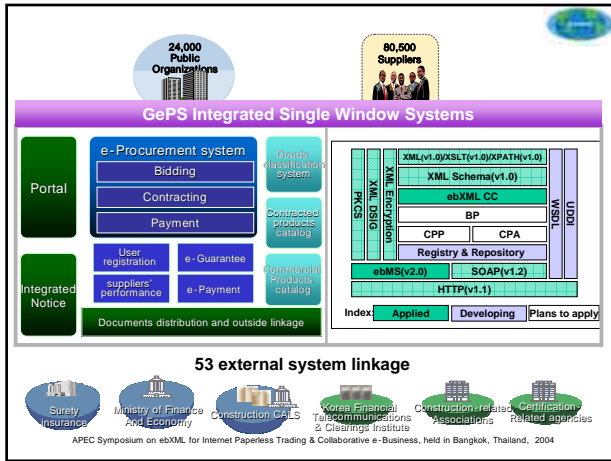
(Source: Economist Intelligence Unit 2004)



- ### ebXML Adoptions in Korea
- E-Business Collaboration Model
  - Successful Integration Case : GePS
  - Successful Collaboration Case : SRM in Steel Industry
  - ebXML Adoptions in Korea
  - Lessened Experiences
- APEC Symposium on ebXML for Internet Paperless Trading & Collaborative e-Business, held in Bangkok, Thailand, 2004







### Korea GePS Documents

ebXML documents & transactions in 2003

Description of documents	No. of documents	No. of transactions
Purchasing request	20	643,760
Contracts	28	875,735
Bidding documents	9	10,238,455
Guarantee	8	39,568
Payment	33	1,010,548
Communication	21	52,569
General Doc., etc.	47	88,876
<b>Total</b>	<b>166</b>	<b>12,949,511</b>

**Global Standardization of UN/CEFACT TBG6 in 2004**


- Reviewed 10 doc. of TBG6 and 11 doc. of GePS considering characteristics and role
- 5 Documents from both TBG6 and GePS are commonly used for the same purpose

	New	Revised
ABIE	17	3
BBIE	109	10

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### Effects of GePS

- Saves transaction costs**
  - Cuts about \$ 2.7 billion per a year
  - Shared information with external systems
    - bonds, supplier performance records and financial data
- Opens bidding markets**
  - Number of bidders increase three times
- Improves responsiveness**
  - On line payment within 4 hours
- Enhances business transparency**
  - Bid information is publicized in online real time
  - Reduces room for arbitrary decision of contracting officers

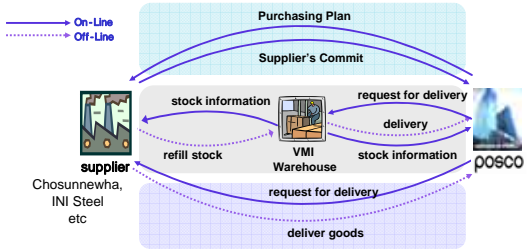


The winner of the first  
UN Public Service  
Award (PSA) 2003

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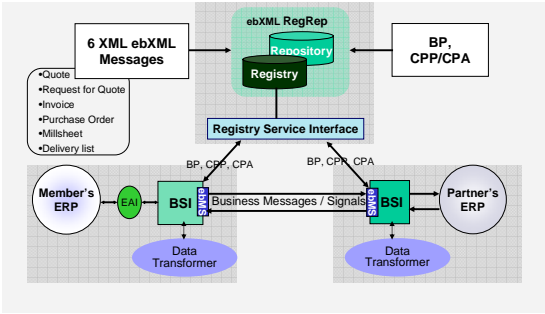
### ebXML Successful Collaboration Case in Korea

#### SRM (Supplier Management System) B2Bi in Steel Industry



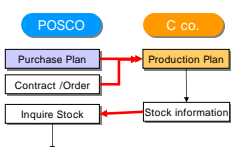
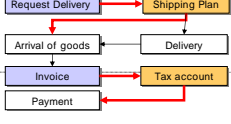
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### SRM B2Bi System deployed full ebXML

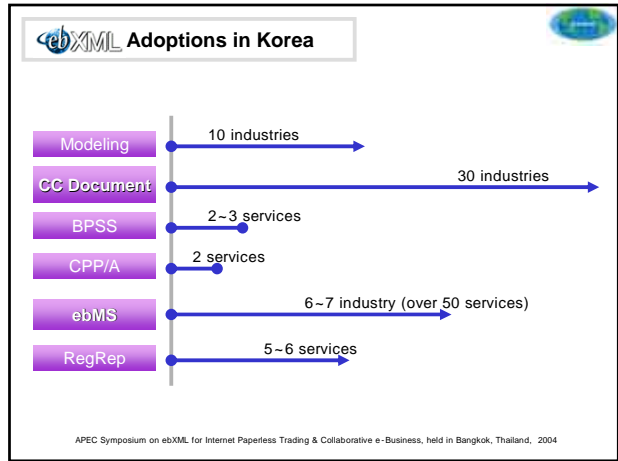
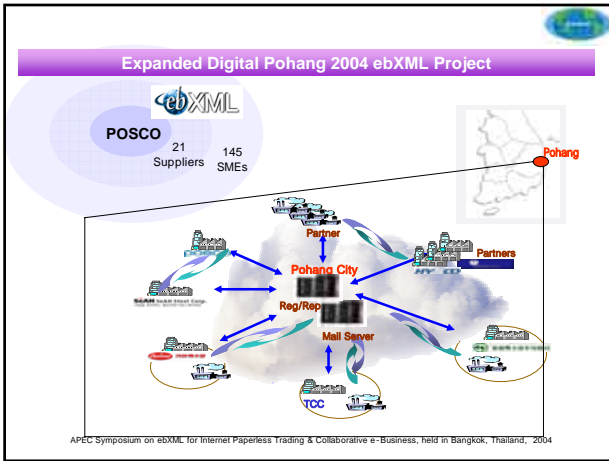


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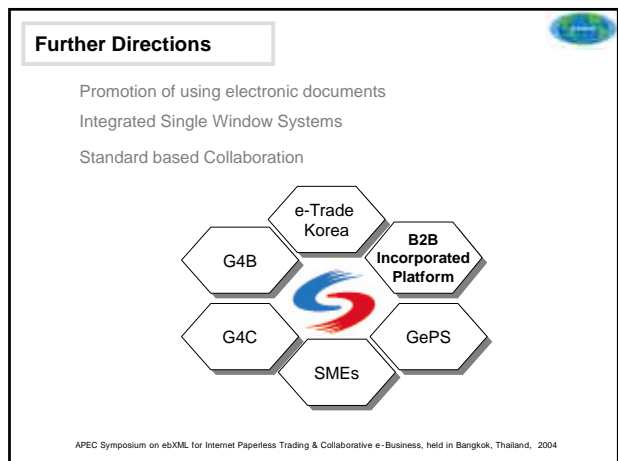
### Seamless Process Collaboration in Steel Supply Chain

	Implications	Effects
	<ul style="list-style-type: none"> <li>Connection with Sales planning system and Production system</li> <li>Sharing stock information</li> </ul>	<ul style="list-style-type: none"> <li>Accuracy of estimated needs 40% → 90%</li> <li>Stock cost of supplier 282Bw → 202Bw</li> <li>Supplier can assure stable production period</li> </ul>
	<ul style="list-style-type: none"> <li>Connection with request of delivery and shipping plan</li> <li>Connection with Invoice and tax account</li> </ul>	<ul style="list-style-type: none"> <li>Enhanced the effectiveness of business process</li> </ul>

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- ### ebXML Lessoned Experiences in Korea
- Prefers ebXML document based on core component**
    - Saves cost and developing time
    - enhances the business collaboration and interoperability
  - Verified scalability and reliability of ebXML message transfer**
    - is considered as recommended technology via eAC ITG Interoperability test
    - offsets the hurdles of enlarged volume of XML messages due to reliable messaging
  - Needs to inform ebXML widely**
    - is difficult to expand to adopt ebXML because of low awareness in market
  - Needs harmony with web service**
    - is well executed only between two partners but, multiple collaboration .....
    - Both hands of ebXML and web services
  - Increases the importance of interoperability more and more**
    - There are lots of different types of e-business system
- APEC Symposium on ebXML for Internet Paperless Trading & Collaborative e-Business, held in Bangkok, Thailand, 2004





## Thank you

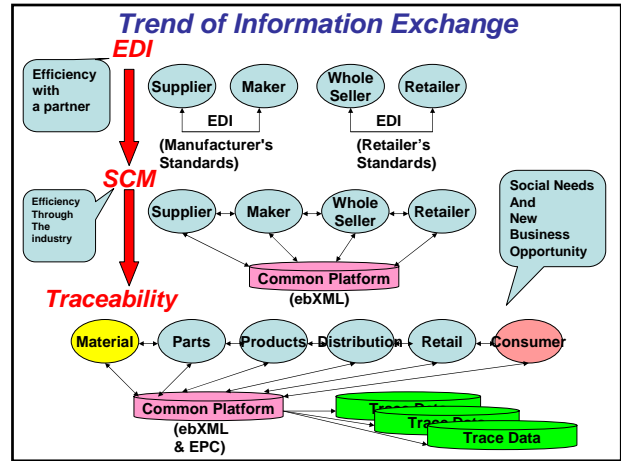
**Jasmine Jang** ([jasmine@kiec.or.kr](mailto:jasmine@kiec.or.kr))

- KIEC, Head of EC Standard Team
- ebXML Asia Committee CCTG, Co-Chair
- ISO TC 154 Korea, Member
- Ph. D. (Management Engineering)

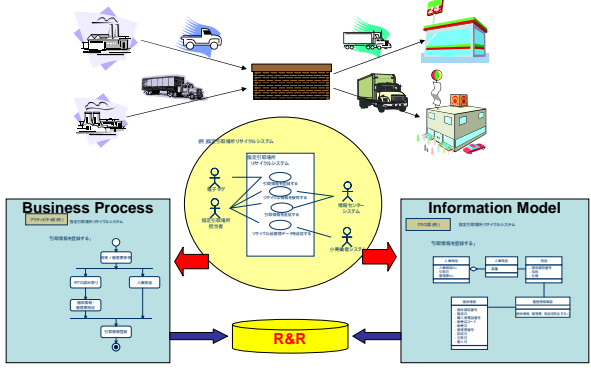
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# Standardization on Business Process and Information Model

22<sup>nd</sup> of July, 2004  
 ebXML Asia Committee  
 Hisanao Sugamata (ECOM)

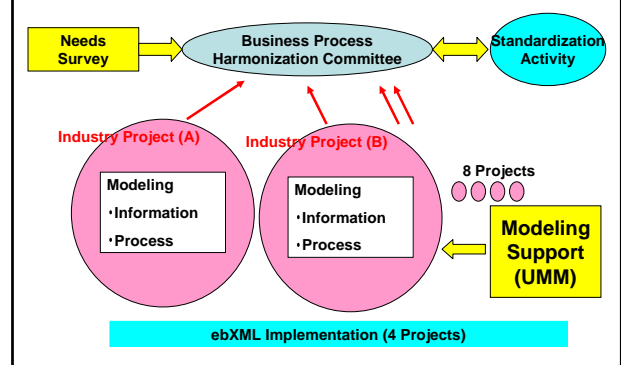


## Business Process & Information Sharing



## Business Process Standardization Project

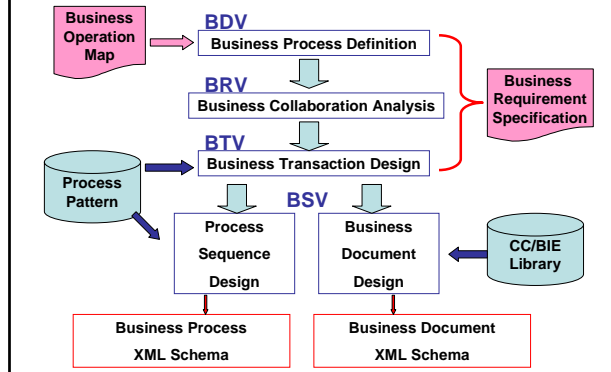
Feb/2003 – Mar/2004



### BP Standardization Project Summary

Organization	Project	Overview
JIFS & KOSA	J-K Steel Joint Project	To exchange the quality report between a maker and a customer.
KIDS Forum	Steel Traceability Project	The experimental project for the steel traceability using RFID.
JEITA	Specification Exchange	To exchange the specifications for the ordered parts between a maker and a supplier.
JEITA	Custom Parts Order Entry	To exchange the timely order information between the maker and the supplier.
JILS	Small Lot Consignment	To realize the electronic collaboration for handling the small lot consignments.
HIIS	House Building Material Order Entry	To analyze the house building material and equipment order entry process.
Travel EC Promotion	Hotel Informatization	To build up the information model for the Japanese style hotel (Ryokan) service.
JPIC	Publishing Traceability	The experimental modeling project for the publishing distribution using RFID.

### BP&BIM Workflow (UMM)

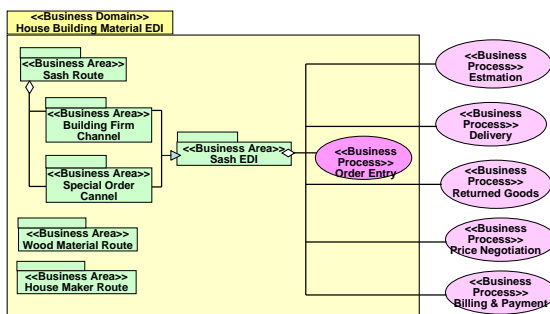


Example – House Building Material Order Entry (1)

### Business Operation Map

Select the Business Area within the domain.  
Define the Business Process.

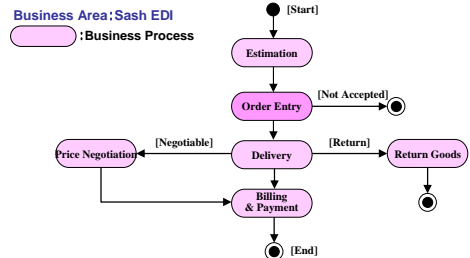
Business Domain: House Building Material EDI



Example – House Building Material Order Entry (2)

### Business Process Activity

Define the relationship between the Business Processes in the Business area.

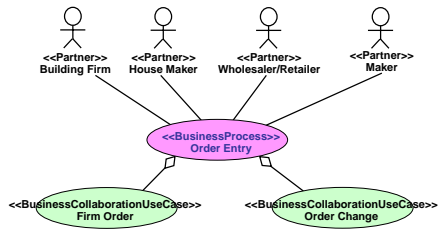


Example – House Building Material Order Entry (3)

### Business Process Use Case

Define the Actors and the Collaborations within the Business Process.

Business Process: Order Entry



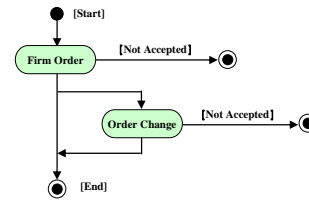
Example – House Building Material Order Entry (4)

### Business Collaboration Protocol

Define the relationship between the Business Collaborations in the Business Process.

Business Process: Order Entry

Business Collaboration

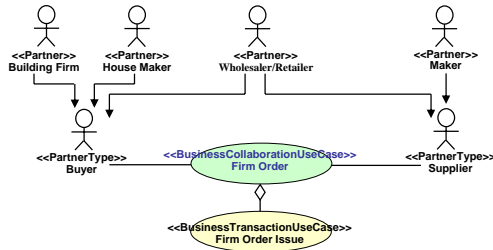


Example – House Building Material Order Entry (5)

### Business Collaboration Use Case

Define the Actors and the Transactions within the Business Collaboration.

Business Collaboration: Firm Order

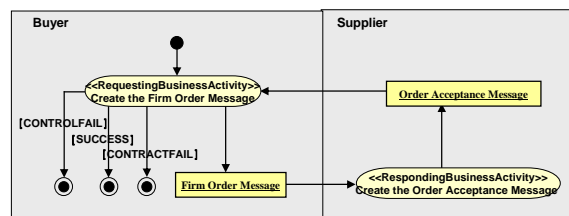


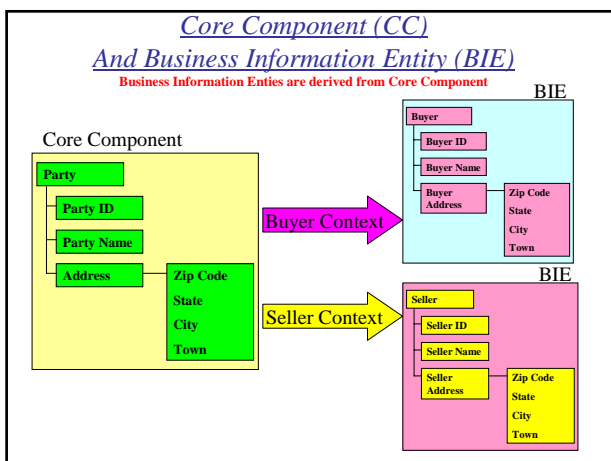
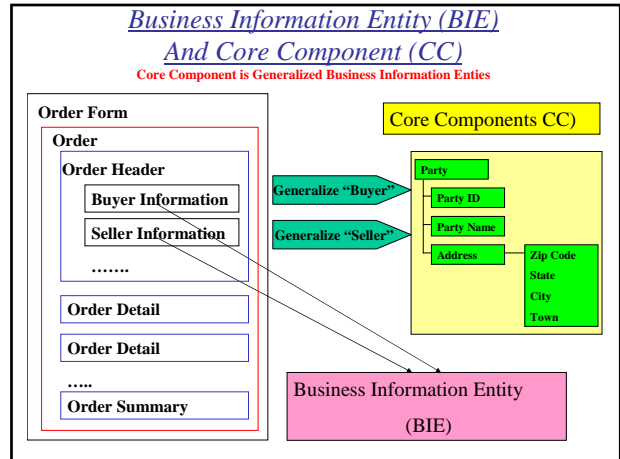
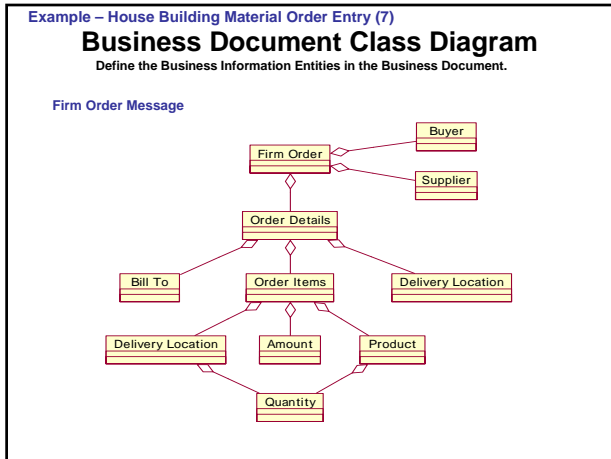
Example – House Building Material Order Entry (6)

### Business Transaction Activity

Define the Business Activities and the Business Documents in the Business Transaction.

Business Transaction: Firm Order Issue





### UN/CEFACT CC

1<sup>ST</sup> Set of Core Component by TBG17

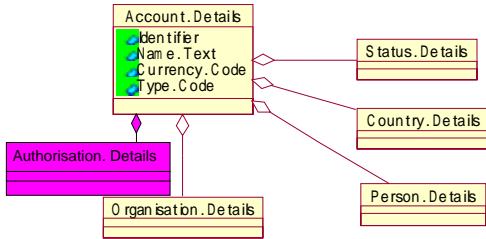
21 ACCs and 163 BCCs / ASCCs

Account	Address	Country
Country Sub-Division	Geo Coordinate	Organisation
Location	Person	Communication
Preference	Period	Contact
Status	Registration	Relationship
Event	Tax Fee	Dimension
Range	Calculation	Communication Number



### ACC: Account. Details

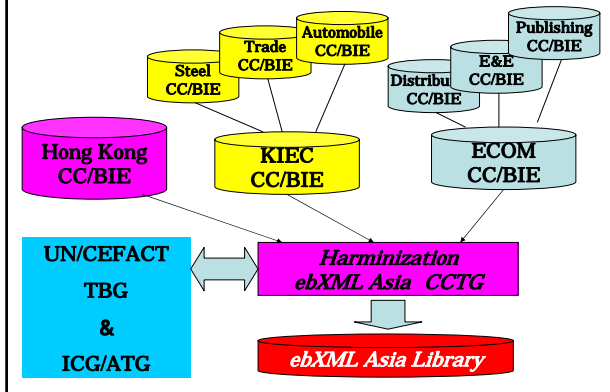
A business arrangement whereby debits and/or credits arising from transactions are recorded. This could be with a bank, i.e. a financial account, or a trading partner offering supplies or services 'on account', i.e. a commercial account



### ebXML Asia CC Library 74 Draft ACCs as of July/2004

Document	Consignment	Condition
Delivery Terms	Equipment	Seal
Attached Equipment	Shipment	Dispatch
Handling Unit	Package	Item
Charge	Currency Exchange	Transport Movement
Transport Means	Risk	Sample
Schedule	Examination Result	Service
Authorization	Product	Consolidation
Project	Card	Government Requirement
Damage	Insurance	Product Specification
Qualification	Membership	Organisation Profile
Price	Service Provision	Service Item
Test	Product Classification	Process
Relationship	Registration	Event
Tax Fee	Dimension	Range
Calculation	Account	Address
Country	Country Sub-Division	Geo Coordinate
Organisation	Location	Person
Communication	Preference	Period
Contact	Status	Communication Number
Activity	Note	Adjustment
Hazard	Payment	Payment Means
Contract	Guarantee	Penalty
Discount	Material	Payment Terms
Route	Sales	

### Core Component Harmonization



### Join US !

The next ebXML Asia Committee Meeting  
will be held in Seoul (Korea)  
27<sup>th</sup> ~ 29<sup>th</sup> / October / 2004



### Contact Information

E-mail: [sugamata@ecom.jp](mailto:sugamata@ecom.jp)

ebXML Asia Committee Web Site: [www.ebxmlasia.org](http://www.ebxmlasia.org)

ECOM Web Site: [www.ecom.jp](http://www.ecom.jp)

Using the  
**Universal Business Language**  
 for  
**Internet Paperless Trading**

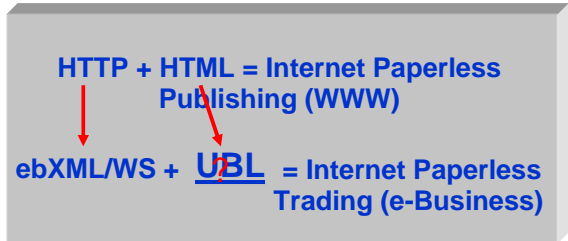
by Tim McGrath

APEC Symposium on ebXML

Bangkok, Thailand, July 21-23 2004



Why UBL?



Objectives of UBL

- Fill the ebXML missing link
  - XML implementation of Core Components
- Apply across all industry sectors and international trade
- Be non-proprietary and free of royalties
- Become an international standard through ISO TC 154
- Follow an open development process
- Leverage experience with EDI and XML



UBL and the ebWS stack



## UBL 1.0

- Released May 1<sup>st</sup> 2004
- <http://www.oasis-open.org/committees/ubl>
- XML Schemas (W3C XSD)
- Basic Procurement Business Process Model
- Information Models based on ebXML Core Component Specification
- XML Naming and Design Rules
- Forms Presentation Mappings
- Links to UBL software tools
- Sample documents



## Scope of UBL 1.0

- Basic Procurement - Order to Invoice
  - Re-usable types
    - *Party, Address, Item, BuyersID, Tax, etc.*
  - ebXML Core Component types
    - *Code, Name, DateTime, Amount, etc.*
  - Business documents
    - *Order, Invoice, Despatch Advice, Receipt Advice, etc.*
  - Code Lists
    - *Currencies, Countries, etc.*
- 80/20 rule applies



## Software tools for UBL

- UBLish (Singapore)
  - Generate customized UBL schemas
- EDIFIX (Germany)
  - Develop UBL models and schemas
- Stylesheets (Canada)
  - UN Layout Key
- Open Office (US)
  - Templates
- CECID (Hong Kong)
  - 'Mosaic' browser for UBL
  - ebMail plugin



## Work Plan for UBL

- Implementation
  - Promoting interoperability
  - Understand customization requirements
    - e.g. Wheat Export Project
  - Gather experience from real implementations
    - e.g. Certificate of Origin project
  - Improving the library
- Localization
  - Japan
  - China
  - Korea
  - Spain (inc. South America)
  - and now... Thailand



## Implementation

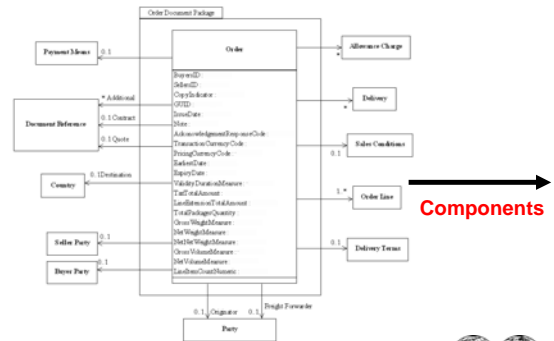
- Levels of Interoperability
  - 80/20 rule applies
  - Everyone will want to customize 20%
  - 80% of effort is required (to do it properly)
  - Implementations will choose levels based on their own requirements
- UBL Methodology
  - Develop conceptual models
    - Semantics
  - Assemble document models
    - Structures
  - Encode document models into XML
    - Syntax



TOWARD A UNIVERSAL BUSINESS LANGUAGE



## Semantics



TOWARD A UNIVERSAL BUSINESS LANGUAGE



## Structure



	A	B	C
1	UBL Name	Dictionary Entry Name	Definition
2	Order	Order Details	a document that contains information directly relating to the economic event of ordering products.
3	BuyerID	Order, Buyers, Identifier, Identifier	a unique identification assigned to the Order in respect to the identification given to an Order by the seller.
4	SellerID	Order, Sellers, Identifier, Identifier	a unique identification assigned to the Order in respect to the identification given to an Order by the seller.
7	IssueDate	Order, Issue Date, Date	a date (and potentially time) stamp denoting when the Order is issued.
11	PricingCurrencyCode	Order, Pricing Currency, Code	the currency in which all pricing on the transaction will be denominated.
12	EarliestDate	Order, Earliest Date, Date	the starting date on or after which Order should be cancelled if not the date on or after which Order should be cancelled if not the total tax amount to be paid for the Order.
13	ExpiryDate	Order, Expiry Date, Date	the date on or after which Order should be cancelled if not the total tax amount to be paid for the Order.
15	TaxTotalAmount	Order, Tax Total, Amount	the total tax amount to be paid for the Order.
17	TotalPackageQuantity	Order, Total, Packages Quantity, Quantity	the count of the total number of packages contained in the Order.
27	BuyerParty	Order, Buyer Party	associates the Order with information about the buyer involved in the transaction.
28	SellerParty	Order, Seller Party	associates the Order with information about the seller involved in the transaction.
30	FreightForwarderParty	Order, Freight Forwarder, Party	associates the Order with information about the freight forwarder involved in the transaction.
36	OrderLine	Order, Order Line	associates the Order with one or more Line Items.



TOWARD A UNIVERSAL BUSINESS LANGUAGE



## Syntax



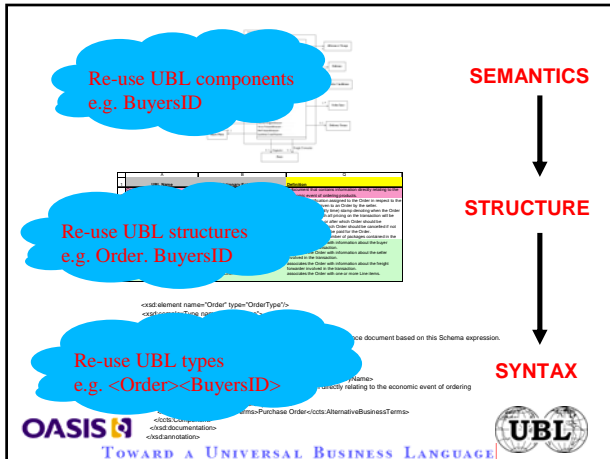
```

<xsd:element name="Order" type="OrderType"/>
<xsd:complexType name="OrderType">
<xsd:annotation>
<xsd:documentation>
<ccts:Component>
<ccts:ComponentType>ABIE</ccts:ComponentType>
<ccts:DictionaryEntryName>Order, Details</ccts:DictionaryEntryName>
<ccts:Definition>a document that contains information directly relating to the economic
event of ordering products.</ccts:Definition>
<ccts:ObjectClass>Order</ccts:ObjectClass>
<ccts:AlternativeBusinessTerms>Purchase Order</ccts:AlternativeBusinessTerms>
</xsd:documentation>
</xsd:annotation>
    
```



TOWARD A UNIVERSAL BUSINESS LANGUAGE





## UBL Interoperability

- UBL “compliance” means...
  - XML Schema validation
  - Syntax agreement
  - ebXML ‘context methodology’
- UBL “conformance” means...
  - Re-using UBL components and/or structures
  - Semantic and/or structural agreement
- Interoperability requires that...
  - Syntax, structure and semantics all agree
  - e.g. <Order><BuyersID> means the same thing

OASIS TOWARD A UNIVERSAL BUSINESS LANGUAGE

## Localization

- UBL has Regional Localization Subcommittees
- Implementation of UBL in the regional market
  - accommodate local business practices and local laws
  - this means customizing UBL
- Understanding the UBL through local language
  - translation
- Diffusion of the UBL activities into the regional market

OASIS TOWARD A UNIVERSAL BUSINESS LANGUAGE

## Translation of UBL

- Translation of UBL documentation
- Developing a controlled vocabulary
  - Is a House a Building? Is a Container a Transport Equipment?
  - UBL Ontology group
    - <http://ontolog.cim3.net/wiki/>
- UBL Schemas are in Oxford English and should remain so...
  - XML is for Application to Application
  - XML tag names (syntax) doesn't matter to people
  - The meaning of the tag names (semantics) do

OASIS TOWARD A UNIVERSAL BUSINESS LANGUAGE

## Japanese Draft Translation Sample

Order	注文	製品を注文する経済的な事象に直接関係のある情報を含む文書。	a document that contains information directly relating to the economic event of ordering products.
BuyersID	発注番号	発注者側において注文に割り当てられたユニークな識別子。	a unique identification assigned to the Order in respect to the Buyer party.
IssueDate	発注日	注文を発行した時点を示す、日付（または時刻）。	a date (and potentially time) stamp denoting when the Order was issued.
PricingCurrencyCode	通貨コード（価格表示用）	取引上のすべての価格表示で指定される通貨。	the currency in which all pricing on the transaction will be specified.
EarliestDate	注文有効期間開始日	注文が有効であると考えらるべき期間の開始日。	the starting date on or after which Order should be considered valid.
ExpiryDate	注文取消可能期限日	注文に満足しないならば、注文を取り消しできる期限の日付。	the date on or after which Order should be cancelled if not satisfied.



TOWARD A UNIVERSAL BUSINESS LANGUAGE



## UBL offers Important and Interesting Solutions

- As a B2B standard
  - User driven, deep experience and partnerships
  - Committed to global trade and interoperability
  - No license or royalties
  - Open and transparent process
- As a Web Service interface
  - Layered on ebXML and other web services
  - Fills missing link for ebXML
- As an e-business vocabulary
  - 80/20 plus customization



## Why UBL?

HTTP + HTML = Internet Paperless Publishing (WWW)

ebXML/WS + UBL = Internet Paperless Trading



Thank You

[tmcgrath@portcomm.com.au](mailto:tmcgrath@portcomm.com.au)



## E-Business Implementation The Singapore Experience

By *Tan Jin Soon*  
*Executive Director*  
*Singapore Article Number Council*  
*Chairman*  
*Automatic Data Capture Technical Committee*  
*of Singapore IT Standards Committee*



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Bangkok, Thailand



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## Presentation Outline

- **Part 1**  
How Singapore Government Agency created a secure and trusted infrastructure for e-business
- **Part 2**  
How Singapore help the retail industry to scope up an e-business project
- **Part 3**  
How Singapore implement e-business for the FMCG industry



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## Part 1 Introduction

- E-Business has emerged as one of the most exciting and promising ways to enable companies to offer goods and services to their customers and potential customers globally.



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## A Framework to Build Trust and Confidence in E-Business

- A secure public key infrastructure
- Establishing confidence in e-business
- Establishing credit bureau service
- Building user confidence
  - Trust Mark
  - Privacy Concerns



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## Legislation Passed by Singapore

- Electronic Transaction Act (ETA) which was passed in July 1998, aims to facilitate e-business by eliminating any barriers to e-business resulting from uncertainties over writing and signature requirements. A review of the ETA 1998 is currently in place to ensure that laws and legal framework remain relevant and competitive with international developments and changes  
Legal Guide to the Electronic Transactions Act 1998.



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## Legislation Passed by Singapore

- Electronic Transactions (Certification Authority) Regulations was passed in 1999 to ensure high standards of integrity, security and service levels for licensed Certification Authorities (CAs) in Singapore.  
Salient Features of the Certification Authority Regulations.
- Computer Misuse Act is aimed at protecting computers, computer programmes and data stored in computers from unauthorised access, modification, interception and interference.



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## Creating a Secure and Trusted Infrastructure

- In order to enhance the robustness of Singapore's E-Business infrastructure to provide an environment in which both businesses and consumers could conduct online transactions confidently and securely, the Singapore Government has put in place a secure and trusted e-business infrastructure based on key initiatives listed in the following slides.



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## Singapore's Efforts in developing infrastructure and confidence for e-Business

- **9 June 1999**  
The Singapore One, a broadband network was launched to enable consumers to enjoy shopping, computer games, e-learning, movies, reservation of tickets and borrowing of library books from computers at home.
- **9 June 1999**  
The Singapore National Electronic Product Catalogue was established to facilitate electronic business. It provides the platform for product data synchronisation.



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## Singapore's Efforts in developing infrastructure and confidence for e-Business

- Creating a global seamless online environment involves creating a legal environment that recognises and facilitates electronic transactions across borders and eliminating outdated regulations. The Singapore Government has worked to create a conducive legal and pro-business policy environment to allow e-business and the internet to reach their full potential through various legislation and regulatory frameworks.



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## Developing a Public Key Infrastructure (PKI)

- The Singapore Government recognises, as does the industry players, that internet security is essential to safeguard transactions of those who use e-business. As a result of this common objective, the PKI Forum Singapore, comprising 19 key industry players including the Singapore Government, SingTel, DBS, CISCO Systems, Netrust, Phillip Securities, CrimsonLogic, NETS, NEC and VISA International, was formed in March 2001.



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## Developing a Public Key Infrastructure (PKI)

- PKI verifies the identity of the parties to an online transaction, ensures data has not been altered in transit, prevents a party from repudiating having sent the message, and makes certain that data remains confidential. The delivery of high-value or sensitive and confidential information online depends upon establishing a PKI to insure security, privacy, confidentiality and legally protected transactions in an electronic environment.



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## Asia PKI Forum

- The PKI Forum Singapore together with Japan and Korea took the lead to form the Asia PKI Forum in June 2001. The seven member countries include Singapore, Japan, Korea, Hong Kong China, Chinese Taipei, China and Malaysia. In an effort to achieve international interoperability, an MOU was signed by Singapore, Japan and Korea to kick-start an experiment that will facilitate interoperability of digital certificates amongst the participating countries.



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## Putting in place Secure E-Payment Services and Applications

- The willingness of a customer to transact and make payments online is a good proxy indicator of the user confidence and trust in electronic business. To put in place a robust and secure payment infrastructure, the Singapore Government has been collaborating with key industry partners and government agencies on a comprehensive suite of e-payment services which offer users an additional and convenient way of paying for their online transactions.



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## Putting in place Secure E-Payment Services and Applications

- For debit payments, the Singapore Government recently facilitated the agreement between NETS and BCSIS to interconnect their payment switches for online direct debit. For credit card payments, IDA is working with the card associations to ensure that a secure user authentication service is in place as a means to minimise online credit card fraud. These debit and credit transactions are verified using the security framework of ebanking sites of the participating banks.



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## Putting in place Secure E-Payment Services and Applications

- The secure user authentication enables participating card issuing banks to validate an on-line cardholder's identity through authentication methods including passwords, digital certificates or biometrics during the on-line checkout process. This is a major step in helping merchants to have more confidence in e-business. More importantly, it ensures that the customer make his online payments in a secure and trusted environment.



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## Part 2 How Singapore help the FMCG industry to scope up an e-business project

### Background

- Infocomm Development Authority of Singapore (IDA)
  - ✓ A Government Agency leading Singapore's drive to be a global infocomm centre and world-wide digital hub
  - ✓ Connected Singapore blueprint
    - Aims for Singapore to become one of the world's premier infocomm capitals
    - Transform industries



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## Part 2 How Singapore help the FMCG industry to scope up an e-business project

- Singapore retail industry
  - Less productive than those in developed economies
  - Low adoption of e-business
    - costly and propriety point-to-point EDI systems



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## Electronic Supply Chain Management Eco-System

- Jointly initiated by ECR Singapore, SPRING and IDA
- ECR E-Business Standards Working Group
  - Formed in Jan 03
  - Chaired by Unilever Singapore
  - Members:
    - ✓ Retailers: Major Retail Chains
    - ✓ Manufacturers/Distributors: Asia Pacific Brewery, Energizer, KAO, Nestle, Sime Darby, Edible Products, Unilever, Yeo Hiap Seng
    - ✓ Government Agencies: SPRING and IDA
    - ✓ Role
      - build consensus and agree on e-business standards
      - engage industry to implement standards



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## Electronic Supply Chain Management Eco-System

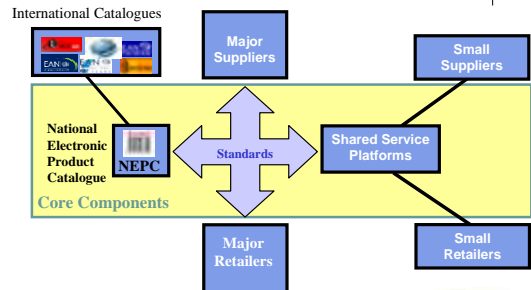
- Two-year project
- Major retailers lead the way
  - ✓ Implement e-procurement projects based on the standards
  - ✓ Establish shared service platforms for smaller suppliers
    - More than 100 suppliers already connected
- SANC build a National Electronic Product Catalogue
- Estimated cost : S\$20m (US\$11.4m)



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## Electronic Supply Chain Management Eco-System



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## Part 3 How Singapore implement e-business for the FMCG industry

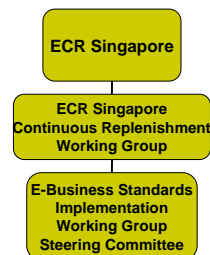
- This project was jointly organised by ECR Singapore, Spring Singapore (the national standards body) and IDA (the government agency which promotes Singapore to be a global infocomm centre).



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## The E-Business Standards Organisation Structure



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## E-Business Project

### PHASE 1

- Initial project was to do CRP ( Continuous Replenishment ) with retailers

### PHASE 2

- To continue with CRP and to expand it to food service sector and healthcare sector.



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## E-Business Project

### Objectives

- To reduce out of stocks
- Carry right quantity of inventory
- More effective and smooth operations
- Increase sales



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## E-Business Project Implementation

### Weaknesses

- Supplier, retailer, IT Systems different (operating on different platforms and many interfaces required).
- Significant amount of manual tracking. High operation cost i.e. employing people to track stocks.
- High percentage of errors.



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## ECR Singapore Continuous Replenishment Working Group

- The Working Group has concluded that to effectively implement Continuous Replenishment, E-Business process needs to be put in place.



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## ECR Singapore Continuous Replenishment Working Group

### Recommendation

- Provide a lower cost E-Business solution via XML.
- To adopt EAN.UCC XML Standard Messages which is a Global Standard endorsed by Global Commerce Initiative (GCI) to facilitate local and global exchanges of electronic messages.



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## E-Business Solution Implementation

- Initiated jointly by ECR Singapore, IDA and SPRING Singapore
- Support by 3 major retail chains (Initially)
- Support by suppliers involving more than 1,000 companies including SMEs
- Duration of project: 2003 / 2005



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## Launch of E-Business Project

- This project was announced by Dr. Lee Boon Yang, Minister for Information, Communications and the Arts on 21<sup>st</sup> August 2003 as part of the E-SCM Eco-System for the FMCG Industry.
- This project was presented at the 6<sup>th</sup> Annual ECR Asia Conference on 9<sup>th</sup> October 2003 in Seoul, Korea.



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## E-Business Project

### Part 1

- Adoption of EAN.UCC XML Message Standards Version 1.31

### Part 2

- Implementation



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## The E-Business Implementation Objectives

### Short Term Objectives

- Eliminate inefficiencies along the Supply Chain and increase productivity through implementing E-Business Standards.
- Increase sales and profit through better availability and more efficient cost.

### Long Term Objectives

- To move Singapore FMCG Industry to an International level that is comparable with those in Europe.



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## The E-Business Implementation

### Strategy

1. Using the Global E-Business Messaging Standards by EAN International
2. The development of a National Electronic Product Catalogue
3. Establish international linkages



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## National Electronic Product Catalogue (NEPC)

- SANC will enhance NEPC to enlarge the database and to connect with e-catalogues in Europe, USA and Asia
- NEPC will have a section on “New Product”.



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## Global Location Number

- A Location Number database has been developed and it is located at SANC website.
- It has been enhanced and interconnected with 60 global location number database in other countries.



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## The E-Business Implementation

### Tactics

- E-Procurement by major retail chains
- Continuous Replenishment to reduce out-of-stock situations and to optimise inventory levels to reduce wastage in the supply chain.



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## Profile of Suppliers

<b>Major Suppliers</b> (S\$100,000 per month)	17%
<b>Medium Suppliers</b> (S\$50,000 – S\$100,000 per month)	10%
<b>Small Suppliers</b> (below S\$50,000 per month)	73%
Total	100%

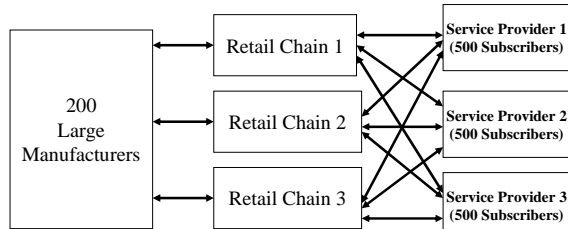


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## The E-Business Model Retailers Connect to All Service Providers



This will enable a supplier when connected to any service provider able to communicate with all retailers.

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## Interoperability

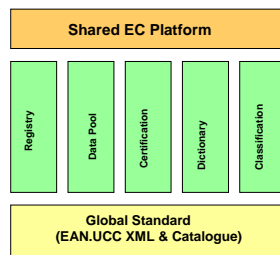
- Suppliers will be able to connect with all retailers directly through the adoption of E-Business Standards
- Suppliers can also connect with all retailers by just linking with one single service provider

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## The Infrastructure of E-Business Platform



Overview of the B2B EC Infrastructure

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## Phase I

- Purchase Order
- Purchase Order Response
- Despatch Advice
- Invoice/Credit Note
- Single Order Multi-location Delivery

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## Phase II

- Sales Report
- Goods Return
- Confirmation of Receipt of Goods
- Request for Trading
- Free text for Remarks

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## Partial Order

- It was agreed that Partial Order would not be accepted.
- Any order not fulfilled will be treated as cancelled.

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## E-Business: Benefits

- Reduce out-of-Stock problems
- Reduce inventory levels
- Reduce errors in Purchase Orders
- Reduce errors in Delivery Orders
- Reduce errors in Invoices



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## E-Business: Benefits (continued)

- Achieve real time inventory data
- Achieve accurate sales forecast
- Achieve accurate party data exchanges through Global Location Number Database
- Achieve data alignment through the National Electronic Product Catalogue



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## Impact to Industry

On a global basis, the benefits derived for error free electronic transactions and out-of-stock situation amount to US\$20 billion for FMCG industry.



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## Next

- The EAN.UCC XML Standard will be extended to cover activities between manufacturers and their distributors/wholesalers
- It will also be extended for the communication between Singapore companies and the manufacturing plants outside Singapore
- Discussions have already started in this direction with ECR Singapore's counterparts in Malaysia, Hong Kong and Korea.



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## EAN International CEO's Comments On This E-Business Project

"It is an outstanding news to know that a new standard (XML) will finally be implemented. As you know, the EAN community made an extra ordinary effort to develop this standard and it is an outstanding news that it is finally being implemented. Thanks for your effort."

Mr. Miguel-Angel Lopera  
2<sup>nd</sup> August 2003



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## Acknowledgement from EAN International On This Project

EAN International has acknowledged that Singapore is the first country in the world to implement the EAN.UCC XML Standard in such a large scale involving more than 1,000 companies which includes SME companies.



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## The National Electronic Product Catalogue (NEPC)

- To ensure error-free e-business transactions, data synchronisation through NEPC needs to be used.



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## What is NEPC ?

- An internet accessible repository of product information and images in a standard electronic format



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## Objectives of NEPC

- To achieve master data alignment or maintenance of accurate and synchronised product information of trading partners to facilitate e-procurement.
- To remove unnecessary costs and increase the efficiency of the entire supply chain by improving the quality of the data exchanged.



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## Benefits of NEPC

- Enforces standard identification of products using EAN.UCC product identification numbers throughout the entire supply chain.
- Optimises space management in store and warehouse.
- Supports Computer Assisted Ordering
- Supports Continuous Replenishment



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<http://www.nepc.sanc.org.sg>

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## Steps to join NEPC

- Join SANC as a member
- Nominate at least one person from the company as the NEPC Administrator as the main contact person for all issues related to NEPC.
- Once registered as SANC/NEPC member, a set of user id and password will be issued to each authorised personnel to access NEPC.
- Training on how to access NEPC will be provided for all new members.



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## Responsibilities of NEPC Administrator

- Registering their company to access NEPC.
- Constantly maintaining the accuracy of product information in NEPC.
- Adding new product information into NEPC via the website.
- Deleting obsolete products from the catalogue.
- Granting catalogue access to members of their organisation for viewing of product information.



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## NEPC Users



- Suppliers
- Retailers
- SANC
- Guest (generic log on user id for non SANC/NEPC members)
- [www.nepc.sanc.org.sg](http://www.nepc.sanc.org.sg)



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## Supplier's Functionalities

- Browsing of product information and images
- Add New Product Information
- Amend Product Information
- Delete Product Information
- Search for product by category, brand, supplier or by keyword



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## Submitting Product Information

- NEPC Administrator will submit their company's product information via the online NEPC.
- NEPC Administrator should read through the NEPC Data Dictionary to understand the various data fields definitions & how the information should be entered before keying in the product information.
- All information submitted via the website will be reflected instantly on the screen.



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## Amending/Deleting Product Information

- Suppliers should constantly update all product information in NEPC.
- All amendments made via the website will be reflected instantaneously.
- All deletions done using the website will also be reflected instantaneously.



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## Product Images

- Suppliers who wish to have their product images (new or replacement of existing images) featured in NEPC will require the assistance of SANC.
- Suppliers may submit photographs, brochures or digital images of their products to SANC for imaging and uploading to NEPC.



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## Product Images

### Minimum requirements for coloured photographs, product brochures :

- Coloured Photographs (minimum 3R size) featuring only a single product in an upright position with plain white or grey background.
- The EAN/UPC barcode number must be written behind the photographs/brochures.
- Overlapping/stacking of products featured in photographs/brochures are not acceptable.



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## Product Images

### Digitised product images

- Must be in jpeg format.
- Digitised images should be saved using the product barcode number as the filename, eg, 8881234567895.jpg



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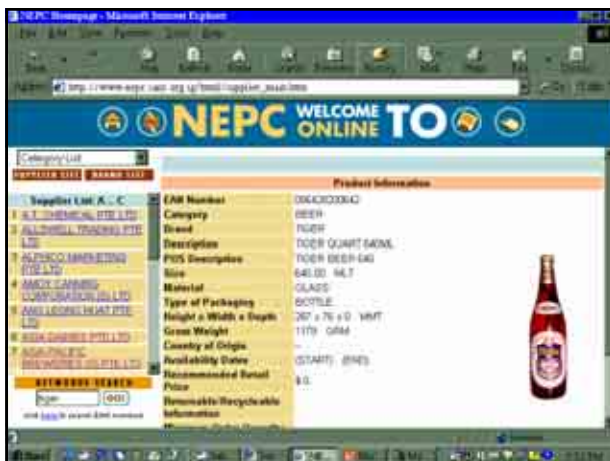


## Charges Involved

Submission of product data	Free
Display of product image	S\$65 per product + 5% GST
Replacement of product image	S\$65 per product + 5% GST
Digitising product advertising filmlet	S\$500 per filmlet + 5% GST
Incorporating digitised product advertising filmlet into NEPC	S\$300 per filmlet + 5% GST



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## Next Steps

- Promote adoption by suppliers and other supermarket retailers
- Extend to other retail segments
- Extend to the Hospitality and F&B industries
- Extend to other messages
  - eg, Sales Report, Cross Docking related
- Extend to international transactions
  - SANC is in discussion with counterparts in Malaysia, Hong Kong and Korea



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**Thank You !**

**Tan Jin Soon**

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**Website: [www.sanc.org.sg](http://www.sanc.org.sg)**



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e-Trade Korea, Innovation 2007 e-Trade Platform

## Korea e-Trade System : Strategy and Architecture

*e-Trade Korea, Innovation 2007 : e-Trade Platform*



APEC Symposium on ebXML for  
Internet Paperless Trading and  
Collaborative e-Business

July 21-23, 2004  
Bangkok, Thailand


Presented by Chaeme Kim  
e-Trade Platform Architect, KTNET



e-Trade Korea, Innovation 2007 e-Trade Platform

## Table of Contents

1. Background
2. Strategy
3. Roadmap of e-Trade Platform
4. e-Trade Platform Architecture
5. Implementation Plan
6. ROI



e-Trade Korea, Innovation 2007 e-Trade Platform

### 1. Background

- Vision : e-Trade Korea, Innovation 2007
- Organization : National e-Trade Facilitation Committee, July 2002
- e-Trade Process Innovation BPR/ISP as One of e-Government Projects, December 2003 ~ June 2004

**National e-Trade Facilitation Committee**

Chair : Prime Minister  
Secretary : Ministry of Commerce, Industry and Energy  
Committee : Ministers & Chief in Private Sector

<b>Government</b> Ministry of Commerce, Industry and Energy Ministry of Finance and Economy Ministry of Foreign Affairs and Trade Ministry of Information and Communication Ministry of Construction and Transportation Ministry of Maritime Affairs and Fisheries Ministry of Justice Korea Customs Service and more	<b>Private Sector</b> Korea International Trade Association Korea Trade Investment Promotion Agency Federation of Korean Industry Korea Chamber of Commerce and Industry Private e-Trade Facilitation Committee Korea Trade Network And more
---	---


**Administrative Committee**

Chair : Vice Minister of MOCIE  
Secretary : Director General for Trade Policy  
Committee : Director of Bureau, Private

**Private e-Trade Facilitation Committee**

Secretariat

Platform W/G
Finance W/G
Logistics/Customs W/G
Law/Global W/G
Marketing W/G
Pilot W/G

-2- 

e-Trade Korea, Innovation 2007 e-Trade Platform

### 2. Strategy

**Process Innovation**

- ◆ Current Process Analysis & To-be Process Modeling
- Marketing
- Financial Settlement
- License/Certificate
- Insurance
- Logistics
- Trade Declaration

**Information Strategic Planning**

- ◆ e-Trade Platform Design
- ◆ Standard
- ◆ Integration & Interface
- ◆ Action Plan (2004-2007)
- ◆ Organization

**Legal System on e-Trade**

- ◆ Institutional Model
- ◆ Incentive & Community Supporting System
- ◆ Bilateral/Multilateral Agreement on International Collaboration

**Law and System**

**Information Strategic Planning**

- ◆ International Collaboration
- ◆ Mutual Recognition on Global e-Trade
- ◆ APEC, WCO, UNICEFACT, PAA, EU IST, ASEM, Asia PKI

**Global Network**

1 Strategy

Internet Based National e-Trade Infrastructure

2 Strategy


Seamless e-Trade Service

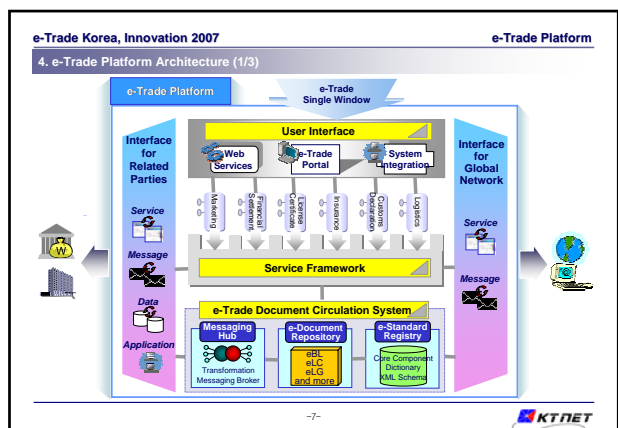
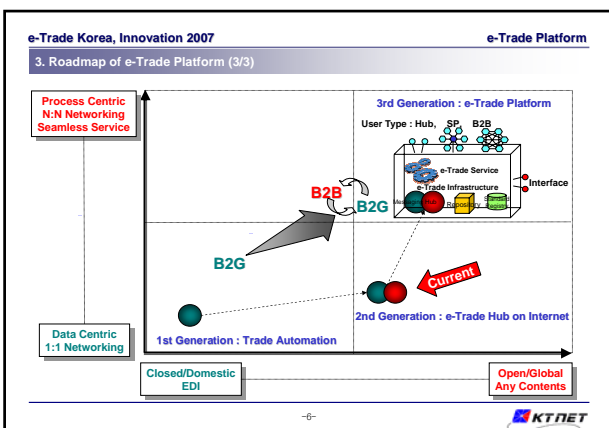
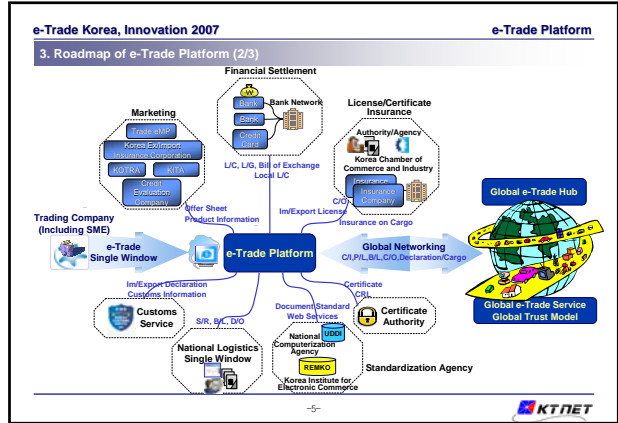
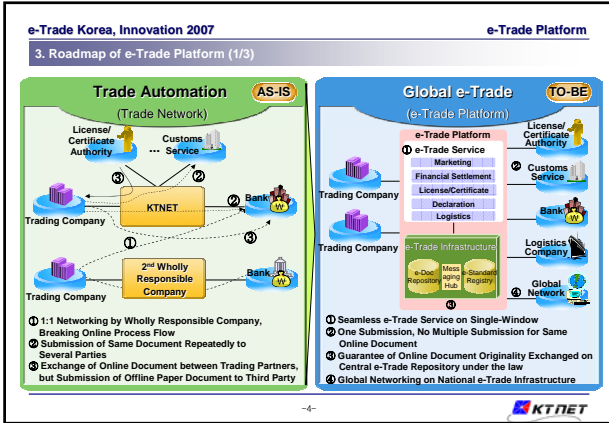
3 Strategy

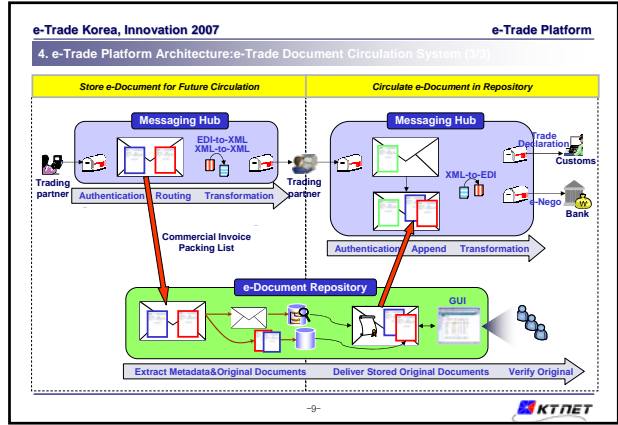
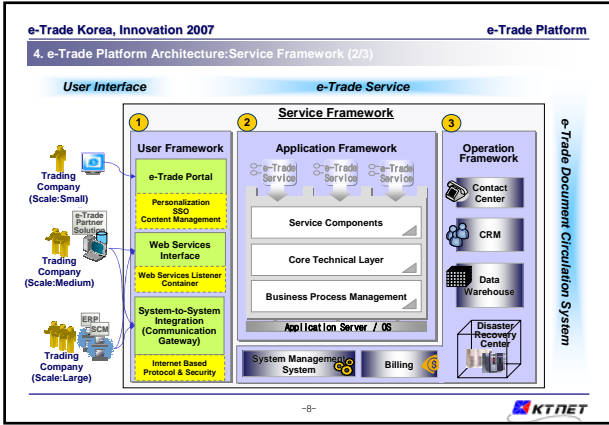
International Collaboration for Cross Border Paperless Trading

4 Strategy

Acceleration of e-Trade Community

-3- 

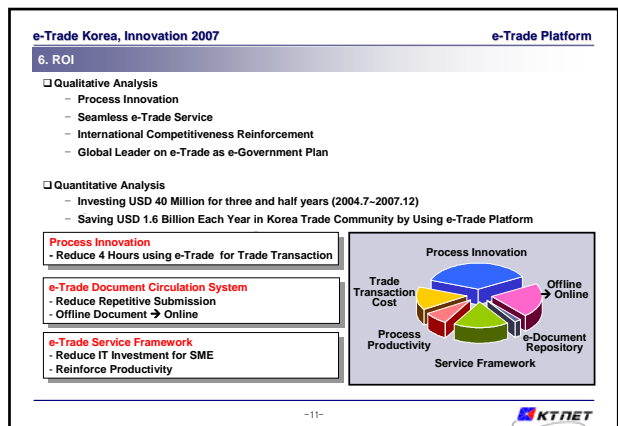




**e-Trade Korea, Innovation 2007** **e-Trade Platform**

5. Implementation Plan

Phase	[1] Building Core Infrastructure 2004.7 - 2005.12	[2] Enhancing Infrastructure - 2006.12	[3] Upgrading User Environment - 2007.12
Goal	<ul style="list-style-type: none"> <li>Build Core Infrastructure of e-Trade Platform</li> <li>Standardize e-Trade Documents</li> </ul>	<ul style="list-style-type: none"> <li>Enhance Core Infrastructure fulfilling Seamless e-Trade Service Implementation</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade User's e-Trade System Environment</li> <li>Establish Global Network</li> </ul>
Action	<ul style="list-style-type: none"> <li>&lt;e-Trade Document Circulation System&gt;               <ul style="list-style-type: none"> <li>New</li> <li>e-Document Repository</li> <li>e-Standard Registry (ebXML RegRep)</li> <li>Enhancement</li> <li>Messaging Hub (EDI, XML)</li> <li>Pilot Project</li> <li>L/C Consolidation &amp; Settlement Limit Management Service</li> </ul> </li> <li>&lt;Document Standardization&gt;               <ul style="list-style-type: none"> <li>Document Standard</li> <li>ebXML Core Component based XML Schema</li> <li>EDI-to-XML Transformation</li> </ul> </li> <li>&lt;Service Framework : Application&gt;</li> <li>&lt;Reorganization of Law and System&gt;</li> </ul>	<ul style="list-style-type: none"> <li>&lt;e-Trade Document Circulation System&gt;               <ul style="list-style-type: none"> <li>Enhancement</li> <li>e-Document Repository</li> </ul> </li> <li>&lt;Service Framework : User&gt;               <ul style="list-style-type: none"> <li>e-Trade Portal</li> </ul> </li> <li>&lt;Seamless e-Trade Service&gt;               <ul style="list-style-type: none"> <li>License/Certificate System based on e-Life Cycle</li> <li>Marketing Supporting System</li> </ul> </li> <li>&lt;Interface with Related Parties&gt;</li> </ul>	<ul style="list-style-type: none"> <li>&lt;Service Framework : Operation&gt;               <ul style="list-style-type: none"> <li>e-Trade Solution for SME</li> <li>Remote Disaster Recovery Center</li> </ul> </li> <li>&lt;Seamless e-Trade Service&gt;               <ul style="list-style-type: none"> <li>e-Trade Settlement</li> </ul> </li> <li>&lt;Global Network&gt;               <ul style="list-style-type: none"> <li>e-CIO</li> <li>e-B/L</li> <li>PA, ASEM</li> <li>WCO, APEC, UNCEFACT</li> </ul> </li> <li>&lt;Interface with Related Parties&gt;</li> </ul>



**BizDex Overview**

ebXML and WebServices – for businesses large and small

Steve Capell  
 Director e-Business Strategy  
 Red Wahoo  
 Steve.capell@redwahoo.com



www.redwahoo.com

1

**The BizDex Vision**

**The BizDex Strategy**

**BizDex Overview**

2

**BizDex Background**

- A 2001 government study showed that broad scale automation of collaborative business processes offers significant value to the Australian economy (2% of GDP), but only if wide spread adoption of B2B may be achieved.
- A 2002 government sponsored symposium in Melbourne agreed that, to date, technology has been unable to deliver on broad scale B2B interoperability. The symposium recommended an ebXML architecture and a commercial / governance framework as a mechanism to drive B2B interoperability.
- Proof-of-concept projects run during 2003 have led to the pilot infrastructure now known as "BizDex".

3

**The problem for Business**

Government

Argghhhhhh!  
 Just fax me

**NOT SCALEABLE**

Each connection requires a different technical solution.

4

**Imagine if . . .**

Imagine if someone created a solution, that automatically set up B2B collaborations . . .



- Between multiple trading partners.
- Across many different business processes.
- Using a variety of certified B2B standards and off the shelf enterprise applications.

5

**Imagine if . . .**

Imagine if peer-to-peer B2B collaborations could be set up . . .




- Leveraging existing infrastructure.
- Without disengaging existing VAN or e-Marketplace relationships.
- Without altering internal business processes.
- Without constantly engaging costly professional services.
- Without paying ongoing subscription or transaction fees.
- For a one time cost of less than \$100 per trading partner.



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## The BizDex Vision




*To bring B2B interoperability to:*

- Common business processes.
- Using different software applications.
- Between thousands of businesses.

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## The Challenge



*To reduce set-up costs to the point where genuine system-to-system B2B interoperability may be justified even for low transaction volumes.*

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## The BizDex Strategy



**Automate**  
B2B Set-Up


**Simplify**  
the Standards Landscape

**Spread**  
B2B compliance costs

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## How Does BizDex work?

### Simplify the Standards Landscape



- An industry working group gains certification of an existing process or uses BizDex to assemble a new public process for use by the community.
- A recognized standards body provides methodology, structure and a governance framework.

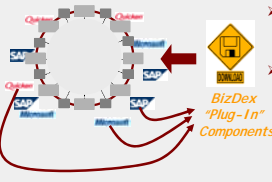
**BizDex Standards Repository**

*Governance, re-use and cross-industry harmonization Simplifies the Standards Landscape.*

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## How Does BizDex work?

### Spread B2B Compliance Costs



- Opportunities emerge to build B2B communities.
- Organisations build "plug-in" components which enable enterprise applications to comply with public processes.


**BizDex "Plug-In" Components**

*Integration costs are reduced by Spreading the costs across users of the same enterprise platform.*

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## How Does BizDex work?

### Automate B2B Set Up



- Businesses publish their profiles and search for partner profiles on BizDex.
- Profiles include:
  - Contact Information (White Pages)
  - Classification Information (Yellow Pages)
  - Business Service Interface (Green Pages)

**BizDex Registry Service**

*BizDex reduces cost by providing a partner discovery framework and single point for profile maintenance.*

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### How Does BizDex work?

#### Automate B2B Set Up

**BizDex Private Process Repository**

**BizDex Trading Partner Agreement Service**

- Trading partners may download plug-in components to BizDex Connector or existing middleware infrastructure.
- Trading partners may use BizDex to calculate the agreement and configure their middleware platforms.

**BizDex reduces cost by Automating the set-up of B2B Collaborations.**

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### How Does BizDex work?

#### Transacting with BizDex

- Once set-up, trading partners exchange transactions **directly** and pay no transaction fees.
- Transactions are secure and reliable, complying with public process requirements.

**Business transactions are peer-to-peer and so not visible to the BizDex Framework.**

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### How Does BizDex work?

#### Manage the B2B Community

**BizDex Community Management Service**

- Large enterprises building a community may use BizDex Lifecycle Management services.
- BizDex assist communities to manage change.
  - Public Process Change
  - New Partners
  - Partner Changes

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### What does BizDex provide?

- A governed repository of public standards.
- A service to manage the B2B community.
- A governed library of integration components.
- A platform for set-up of B2B integrations.
- A service to set-up B2B trading partner agreements.
- A service to manage the trading partner lifecycle.

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### BizDex Business Review

Public - Private Partnership

Commercial model

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### BizDex in a nutshell

BizDex is a service, supported by a commercial and governance framework which provides the environment necessary for B2B collaborations to flourish.

BizDex is built upon a collection of infrastructure components:

- A Standards Library.
- A Registry of Community Data.
- Commercial Services.

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## BizDex Ownership

**Independent Vendors or Industry Leaders**

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## BizDex Ownership

### The BizDex Board

- Currently BizDex reports to the CI TEC Board.
- Propose to establish BizDex Pty. Ltd. as a not-for-profit entity.
- Charter to reflect the interests of the "Public Good".
- Currently sponsored by Standards Australia and NOIE but seeking to expand ownership and board structure.

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## Proposed Mission of the BizDex Board

*To be a trusted and independent, not-for-profit, consortia of government and recognized standards bodies, committed to B2B standards simplification, partnering with private enterprise to deliver low cost, scaleable, B2B interoperability to all Australian businesses.*

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## Public Infrastructure Funding

*Funded through Standards Creation activity.*

- Branded use of infrastructure.
- Subscriptions
- Professional Services:
  - Public Process Creation.
  - Certification Services.
- Revenue share of commercial services.

**Supported by Government and Standards Bodies.**

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## Commercial Business Model

### Free Services

#### Registration and Discovery

- Registration on BizDex is a free service.
- Trading Partner search and discovery is a free service.

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## What Does the Customer Pay? Commercial Model

### Optional User Pays Services

#### Last Mile Integration

- Customers may choose to purchase integration components from BizDex.
- Customers may choose to use the BizDex connector platform or existing middleware infrastructure.

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**Commercial Business Model**

*Optional User Pays Services*

**Trading Partner Agreement**

- Customers may choose to have BizDex establish a trading agreement.
- Trading partners negotiate the distribution of agreement calculation fees.
- The customer only pays once the set-up and agreement is complete.

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**Commercial Business Model**

*Optional User Pays Services*

**Community Management**

- Customers may choose to use BizDex Community Management Services.
- Community Life Cycle Management
- Community Status Reporting
- Community Change Management

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**Commercial Model Value Proposition**

- Core BizDex services are free.
- BizDex commercial services are optional.
- Customers may re-use their own private infrastructure.
- Payment for commercial services is delayed to point of use.
- Governance and certification underpins quality of service.
- Service providers compete in an open technical and commercial framework.
- Use of BizDex is open to individual businesses and communities such as VAN's or e-Marketplaces.

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**Who is BizDex for?**

Government

Industry Associations

Large Business      Small Business

ERP Software Vendors

SME Software Vendors

B2Bi Software Vendors

VAN's & Marketplaces

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**BizDex Project Review**

Where are we now?

Issues & challenges

29

**BizDex – Past, Present and Future.**

30

## Issues, challenges, next steps

- > *Consensus amongst diverse stakeholders*
  - > *Vendors promote their own technology & "standards"*
  - > *Governments are risk averse*
  - > *Standards bodies are wary of new business models*
- > *Aligning benefits and costs*
  - > *Benefits from a B2B automation are often one-sided. The company that is reaping the benefits needs to provide incentives to its partners to collaborate.*
- > *Release BizDex data model and interface definitions as public*
  - > *Release BizDex data model and interface definitions as public standards*
  - > *Provide a certification framework for "BizDex compliant" implementations*

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## BizDex Technology Review

*BizDex Overview*

*BizLib Repository in detail*

*BizDex Registry in detail*

*BizLink Connector in detail*

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## How does BizDex work?

*BizDex is a collection of open infrastructure components that, together with a commercial and governance framework, provide the environment necessary for B2B collaborations to flourish.*

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## What makes up a Public Process?

### Business Domain Model

Layer	Relevant Standards
Process	Alignment domain layers
	Modeling: UNCEFACT UMM (UML profile) Syntax: ebXML BPSS (BCSS in future) Libraries: RosettaNet PIPs
Information	Modeling: UNCEFACT CCTS (UML profile) Syntax: XML (UBL / UN naming & design rules) Libraries: EDIFACT UNCEFACT Core Components UBL, OAGIS (horizontal) EANcom, xbrl, HL7, etc. (industry)
	Trust: ABN-DSC (future - federated domains) Protocol: WS-Security (message), SSL (transport)
Message	Protocol: ebXML MS, EDINT AST/ASZ, SOAP Extended WS-stack (WS-RM/Transco)

*Standards exist at each layer. A robust methodology and governance structure is required to harness the capability.*

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## Public, Private – What is the Difference?

*Whatever a trading partner has to do to comply with the public process.*

*The language of the community.*

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## How is a public process defined?

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### BizLib – Start by modeling the business collaboration

From "helicopter" domain view down to detailed service model

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### Generate the process schema from the model

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### Then generate the information schema

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### Harmonise and publish to BizLib repository

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### BizLib in a nutshell

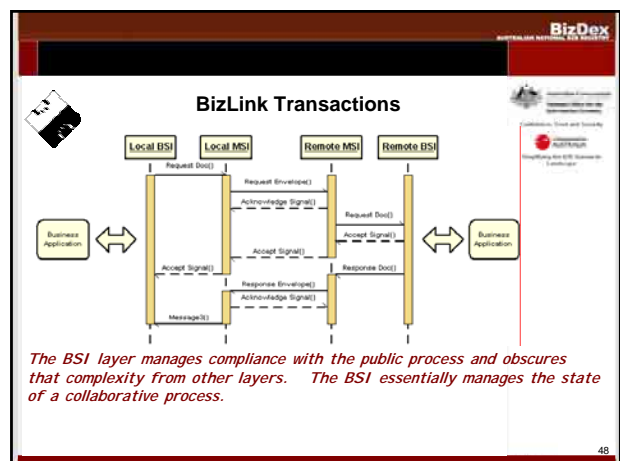
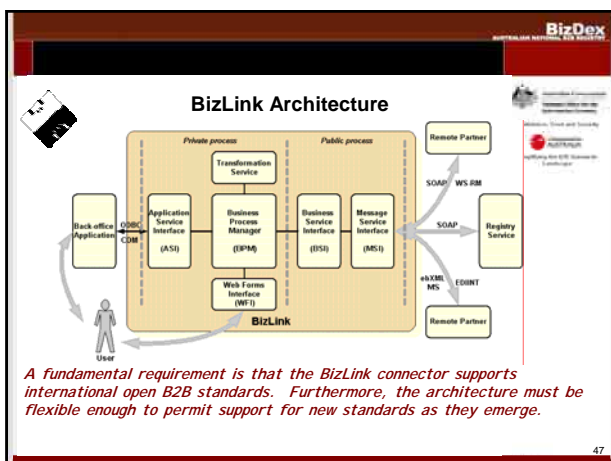
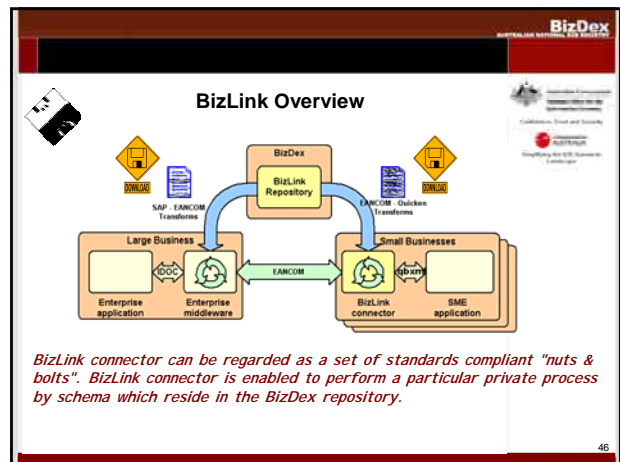
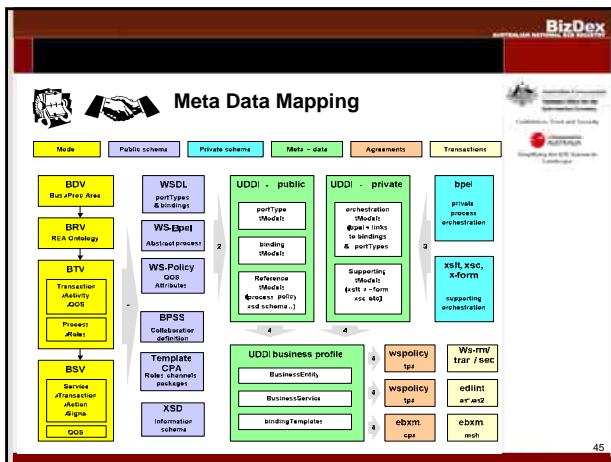
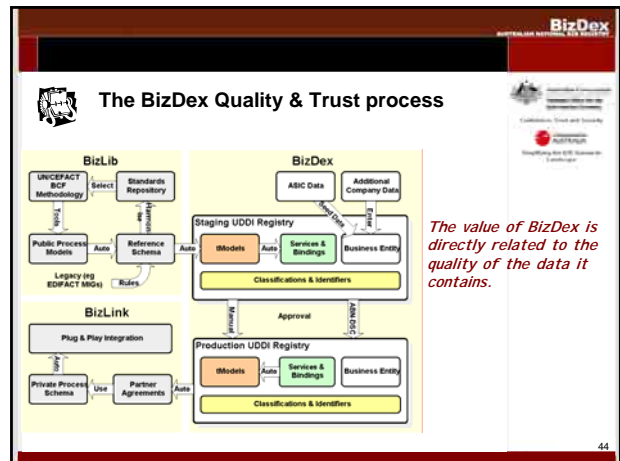
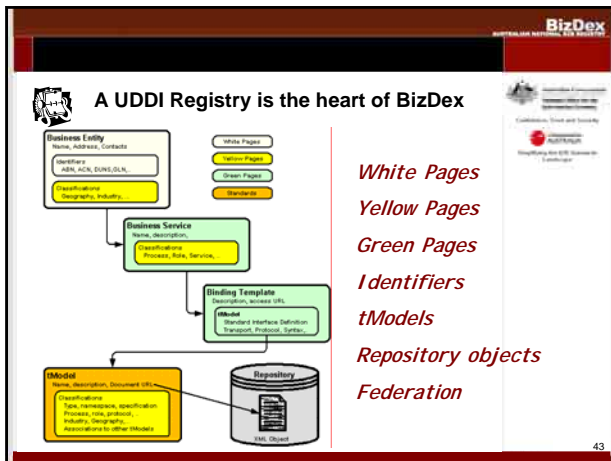
*BizLib Provides:*

- Tools & Methodologies
- Certification Processes
- Harmonisation Framework
- Naming & Design Rules
- Independent Governance

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### BizDex - The role of a registry service

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### BizLink – private processes

The BPM is the heart of the BizLink connector.

It is responsible to execute all the steps defined in the BPEL private process schema.

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### BizLink – self configuration

Before BizLink can process an inbound message, it needs to be "programmed" with appropriate private process schema and partner profiles.

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### What does BizDex provide?

- > A governed repository of public standards.
- > A service to manage the B2B community.
- > A governed library of integration components.
- > A platform for set-up of B2B integrations.
- > A service to set-up B2B trading partner agreements.
- > A service to manage the trading partner lifecycle.

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### The Scenario

David Rouse  
Trading Partner  
Liaison Officer  
IDES US Inc.

Steve Capell  
Managing Director  
Red Wahoo Pty.Ltd.

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### The Five Steps

Invite    Set-Up    Negotiate    Transact

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### Open Discussion

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## BizDex Overview

*ebXML and WebServices – for businesses large and small*



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Director e-Business Strategy  
Red Wahoo  
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**PKI Cross Border Interoperability:  
Pan Asian E-commerce Alliance (PAA)  
Mutual Recognition Scheme**

**Andrew Cheng**  
Tradelink Electronic Commerce Limited

**Thursday**  
**22 July 2004**

## Agenda

- ◆ Highlights of Tradelink
- ◆ Cross Border PKI
- ◆ Pan-Asian E-Commerce Alliance (PAA)
- ◆ Secure Cross Border Transactions
- ◆ PAA Mutual PKI Recognition
- ◆ Current Status
- ◆ Future Direction



## Tradelink's Mission

- ◆ To help Hong Kong **maintain its international competitiveness** through the use of Electronic Commerce
- ◆ To jump start HK's **adoption of Electronic Commerce**

3

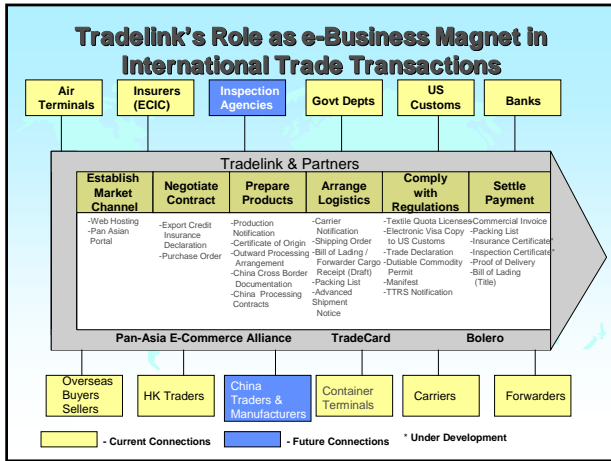
## Tradelink's Electronic Services

Trade Related Government Services as the Basic Building Block

All Traders	Textile Traders & Manufacturers
<ul style="list-style-type: none"> <li>◆ Import &amp; Export Declaration</li> <li>◆ Certificate of Origin</li> <li>◆ Dutiable Commodities Permit</li> <li>◆ Shipping Order Service</li> <li>◆ Trader Documentation Service for Regional/Global Trade</li> <li>◆ China Processing Trade/Cross Border Documentation Service</li> </ul>	<ul style="list-style-type: none"> <li>◆ Restrained Textile Export Licence</li> <li>◆ Carrier Notification and Electronic Visa Copy to US Customs</li> <li>◆ Production Notification</li> <li>◆ Textile Trader Registration Scheme (TTRS) Notifications</li> </ul>
<h3 style="margin: 0;">Forwarders &amp; Carriers</h3> <ul style="list-style-type: none"> <li>◆ Carrier Notification</li> <li>◆ Shipping Order/AMS/ACI</li> <li>◆ Manifest</li> <li>◆ Textile Trader Registration Scheme Notifications</li> </ul>	

4





## PKI (e.g. Hong Kong)

### Legislation

Electronic Transactions Ordinance (Cap. 553) - enacted on 5 Jan 2000

### Applications

- Tradelink's Services
- DTTN
- HKJC e-Betting services
- e-Banking (corporate)
- Corporate (email, document management, access controls)

### Certification Authorities

CA Recognition Office (CARO)

- **Digi-Sign**
- **HiTRUST**
- **Postmaster General**

### Users

- Personal
- Corporate
- Device
- Local
- Overseas

6

## Cross Border PKI

- ◆ **Technical**
  - Cross Certification
  - Bridge CA
  - Certificate Trust List
  - Application support?
- ◆ **Legal**
  - Digital Signature Law

7

## Pan-Asian e-Commerce Alliance (1)

Established in July 2000, aims to secure cross border electronic services for efficient global trade and logistics

Members	Number of Customers
CIECC (China)	10,000
KTNet (Korea)	25,000
CrimsonLogic (Singapore)	25,000
Trade-Van (Taiwan)	15,000
Tradelink (Hong Kong)	53,000
DagangNet (Malaysia)	2,000
TEDMEV (Macau)	2,000
TEDI Club (Japan)	_____
<b>Total</b>	<b>132,000</b>

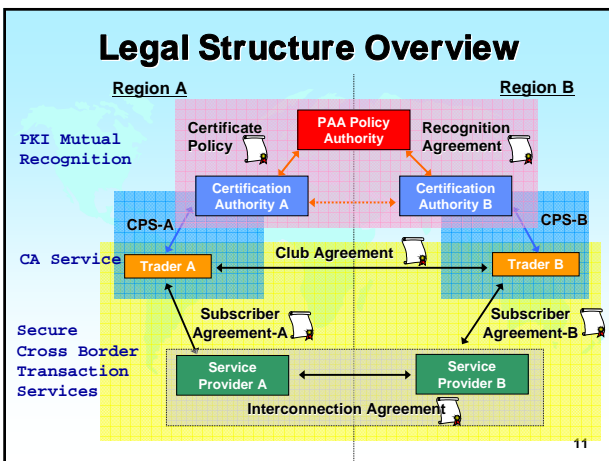
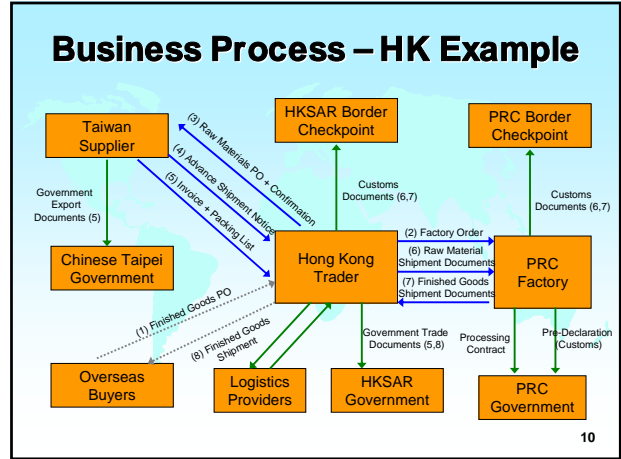
8

## Pan-Asian e-Commerce Alliance (2)

**◆ Initiatives**

- Secure Cross Border Transactions
  - ◆ Document Supported: Purchase Order, Invoice, Packing List, Advanced Shipment Notice, Bill of Lading, Pre-Declaration
  - ◆ Cross border data sharing related to import and export declarations
- Mutual Recognition of Public Key Infrastructure
- Pan Asian Portal and e-Market Place
- Logistics Tracking
- Financial Services

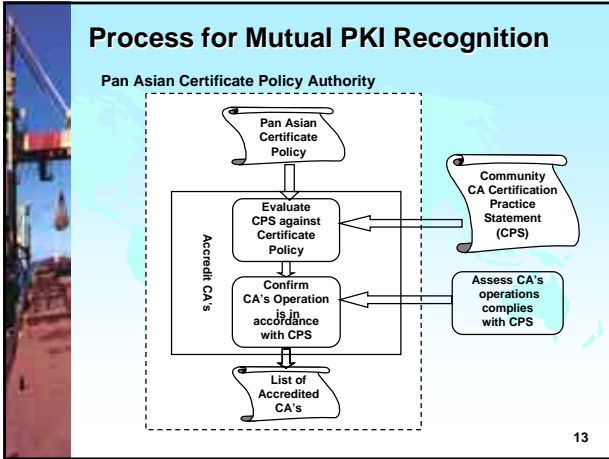
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## PAA Mutual PKI Recognition - Approach

- ◆ Pragmatic approach to drive cross border trade
- ◆ Establish comparative level of trustworthiness
- ◆ Establish Pan Asian Certificate Policy Authority to set criteria for PAA CA/CPS recognition
- ◆ Authentication of Identity of Individuals/ organizations so as to establishing non-repudiation for cross border trade
- ◆ Adherence to “good practice” while being flexible to allow for local requirements/variations

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- ### PAA Mutual PKI Recognition - Current Status
- ◆ **Established Policy Authority (Jan 2001)**
  - ◆ **Established Pan Asian Certificate Policy (Nov 2001)**
  - ◆ **Recognized CAs**
    - Digi-Sign (Hong Kong) (Jan 2002)
    - TWCA (Taiwan) (Jan 2002)
    - Netrust (Singapore) (May 2002)
    - TradeSign (Korea) (Aug 2002)
    - GFACA (China) (Feb 2003)
    - JETS (Japan) (Feb 2003)
  - ◆ **Certificate Trust List distributed among PAA members**
- 14

- ### PAA Secure Cross Border Transactions - Current Status
- ◆ **Secure Cross Border Transactions**
    - Hong Kong - Taiwan (Buyer & Suppliers)
    - Taiwan - Korea / Japan (Buyer & Suppliers)
    - Taiwan - Singapore/ Malaysia (Freight forwarders)
    - Taiwan - China (HQ & Manufacturers)
    - Korea - Japan (Buyer & Suppliers, Title documents)
- 15

- ### Future Direction
- ◆ **Online Certificate Status Protocol**
  - ◆ **Global Certificate Service**
  - ◆ **Others**
- 16

## Certificate Validation

- ◆ **Certificate Revocation List (CRL)**
- ◆ **Issued periodically (e.g. once every 8 hours)**
- ◆ **Size grow in time**
- ◆ **Force CRL may affect CRL publication schedule**
- ◆ **End user's responsibility to go through CRL**
- ◆ **Multiple CAs => Multiple CRLs**

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## Online Certificate Status Protocol (1)

- ◆ **OCSP**
  - OCSP responder (aka Validation Authority) collects Certificate Status from CA
  - End User queries status of a certificate
  - OCSP returns status of the certificate
- ◆ **No CRL downloads**
- ◆ **No need to search through CRL**
- ◆ **No CRL delay (CA dependent)**
- ◆ **Can Serve multiple CAs (local & overseas)**  
hence single point of contact
- ◆ **Remove End user's burden**

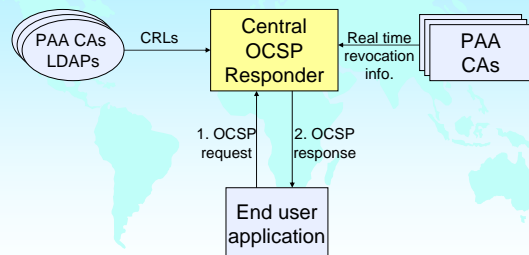
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## Online Certificate Status Protocol (2)

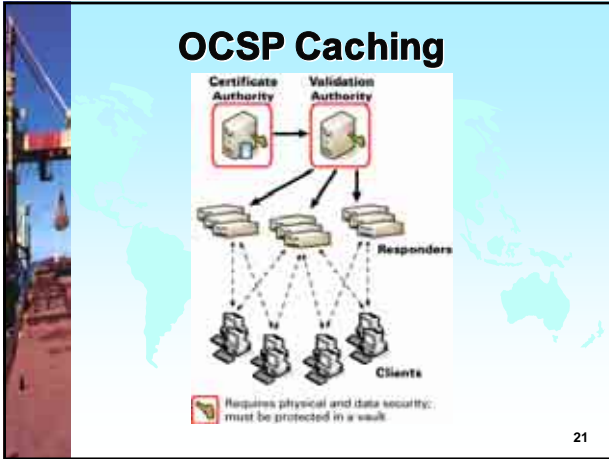
- ◆ **Considerations**
  - Suitable for online only!
  - Turn around time
  - Cost
    - CRL - free
    - OCSP - per transaction (typical)
  - Application support

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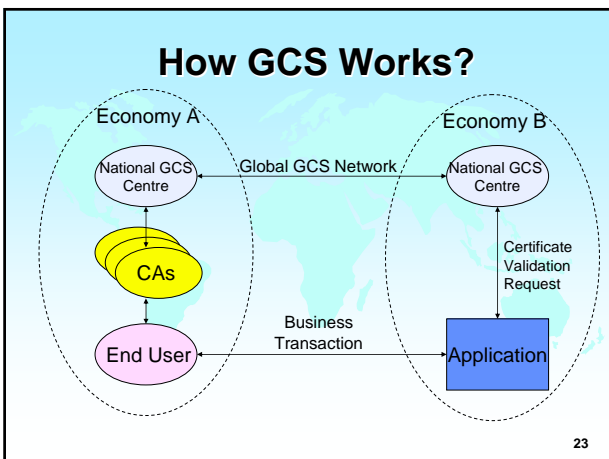
## PAA OCSP



20



- ### Global Certificate Services
- ◆ OCSP only solves half of the problem
  - ◆ Global Certification Service
    - One national GCS centre per member economy
    - National gateway for all certificate related services
    - Business model similar to the relationship with the bank
- 22



- ### Why GCS? (1)
- ◆ Delineated liability boundaries in complex transactions
  - ◆ Single contact point for certification of transactions
  - ◆ Reduces management overhead in maintaining & establishing global relationships with third parties
  - ◆ Simplified legal framework (Application and local GCS centre in same jurisdiction)
  - ◆ Deposit an overseas cheque into the local bank
- 24

## Why GCS? (2)

- ◆ Only need to deal with one local GCS
- ◆ Protected by local government regulation
- ◆ Single certificate to access broader global services
- ◆ Globally recognised certificate

25

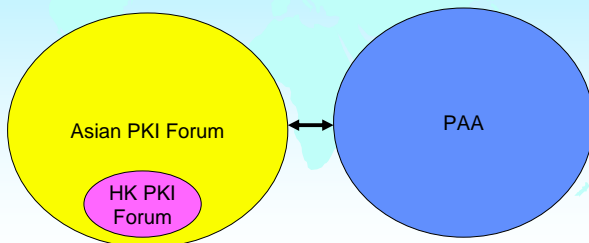
## GCS Model

- ◆ National GCS centre as a trusted gateway provides a national single point of certification for all the subscribing CA's and the enterprises connected using public networks
- ◆ GCS Global Network
  - Full peer-to-peer network with local point of presence in each country (i.e. National CGS centre)
  - Each centre operates under the full jurisdiction & laws that are applicable for their host country

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## Other Possibility

- Beyond PAA

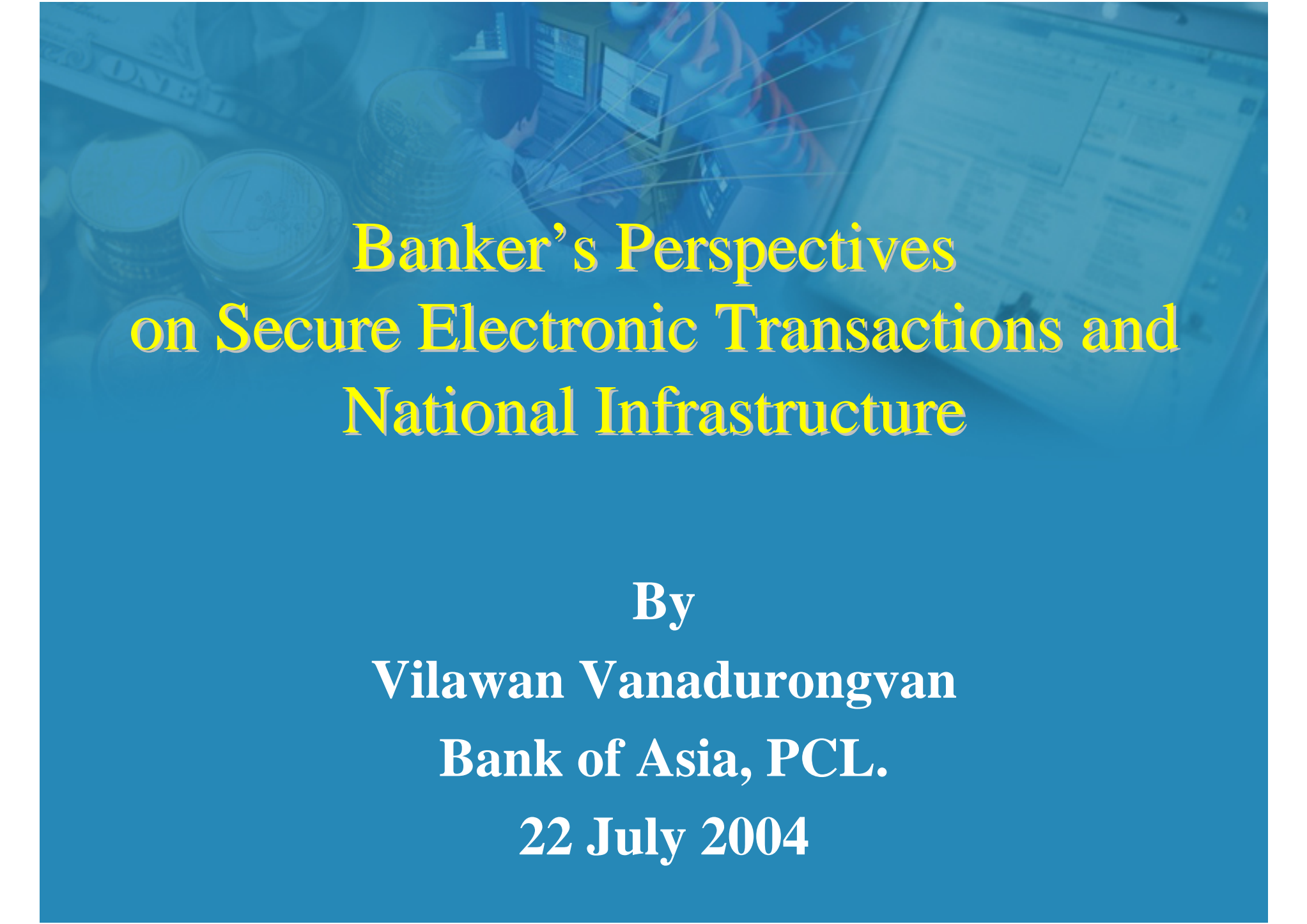


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Spearheading Hong Kong's Development of  
**Electronic Commerce**





**Banker's Perspectives  
on Secure Electronic Transactions and  
National Infrastructure**

**By**

**Vilawan Vanadurongvan**

**Bank of Asia, PCL.**

**22 July 2004**

# Security Concerns & E-Business

- Security concerns do not block the progress as much as initially fear.
- E-Business does not have to be 100% risk-free and fraud-free to be profitable.
- e-Business can still grow to a certain extent by ensuring that the “Rewards” outweigh the “Risks”.



## Example: Verified by VISA

- *Verified by VISA (VbV)* can successfully mitigate credit card fraud for e-Commerce Merchants and card holders.
- Some E-Business decide to delay using VbV when

*Loss in Sale with VbV > Risk in Fraud without VbV*

- *VbV is expected to be effective and widely used when VISA will make Verified by VISA mandatory worldwide in 2005.*

# Payment System & Security

## Payment System

= Instruments + Procedures & Rules

## Security Decisions:

- How much should be invested in hardware & software for security?
- How much security should appear in procedure / rules?

# **10 BIS Core Principles for Systematically Important Payment Systems (SIPS)**

- Address ways to manage legal risks, credit risks, and liquidity risks in SIPS (payment system which can cause domino effect that led to financial crisis if something goes wrong).
- Address that SIPS need rules and procedures to manage the risks & foster understanding about system's impact on each financial risks.
- Address that SIPS must be practical and efficient and their governance arrangement should be effective, accountable, and transparent.

# Levels of security in e-Business

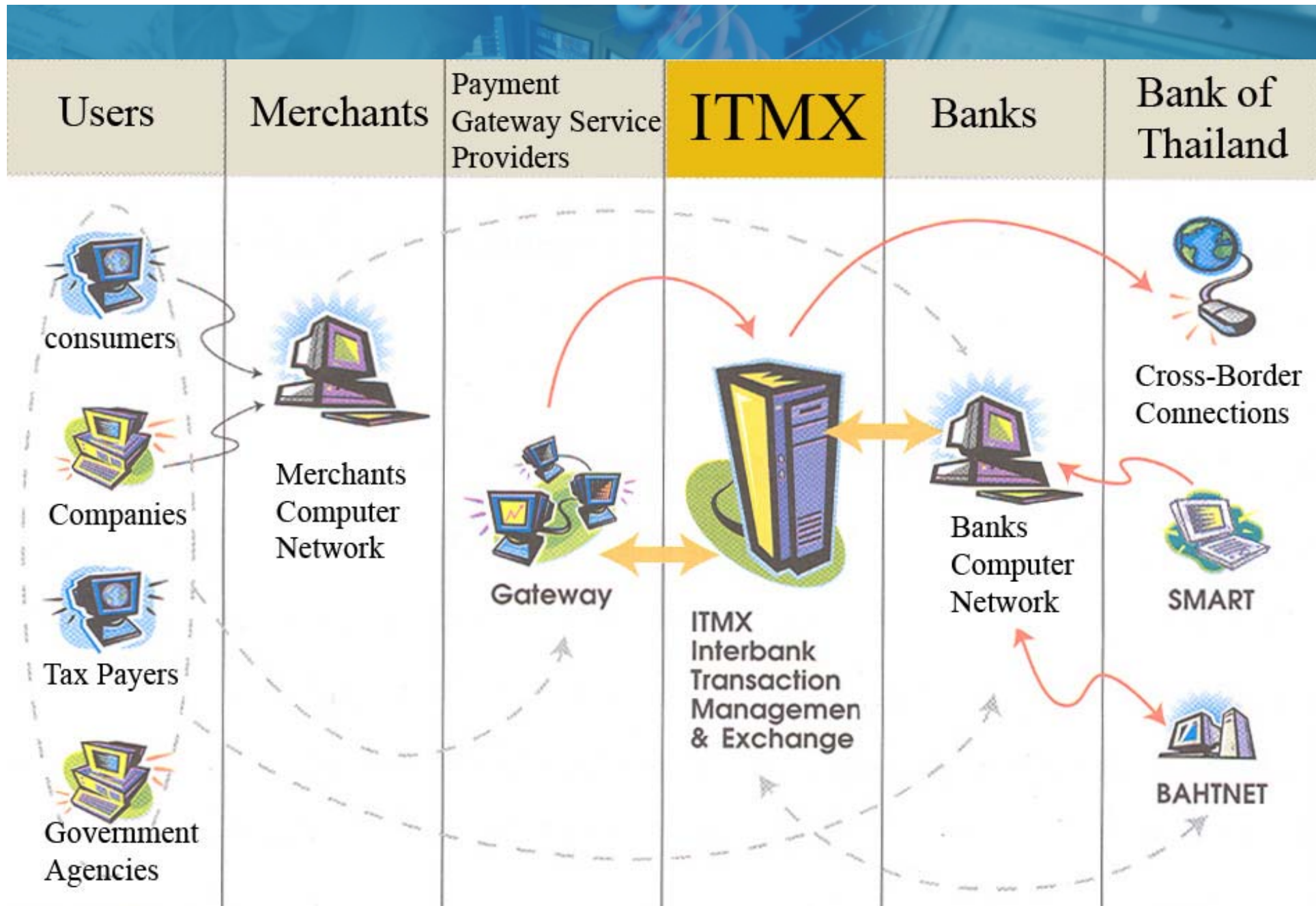
- **Local Level:**
  - With e-Business customers of one bank.
- **National Level:**
  - With e-Business customers of any bank in a country.
- **Regional level:**
  - With e-Business customers of any bank in any country within the region.

# **Local Level:**

- **Banks in THAILAND began to offer e-Commerce Service years before Cabinet approved E-Commerce Law.**
- **B2C**
  - **Transaction amount is not high.**
  - **Level of Risks are acceptable.**
- **B2B**
  - **Businesses signed contracts with bank**
  - **Businesses must have accounts within the same banks to do fund transfer.**
- **Implement security that meets International Standard BUT PKI are not widely used**

# National Level:

- *E-Business Growth:*
  - *Need to allow InterBank Transfer in large sum across banks within Thailand to do e-Commerce transaction.*
    - *Need PKI.*
- *Payment 2004: A Road Map for Thai Payment System.*
  - **Interbank Transaction Management and Exchanges (ITMX)**



# Regional Level (APEC)

Several issues to address

- e-Commerce legislation for APEC region to help settle disputes in-court or out-of-court.
- **PKI IS A MUST but its acceptance depend on ACCOUNTABILITY of CA.**
  - How much liability CA are willing to accept for their mistakes when transaction amount is in million U.S. Dollars?
  - How much fee e-Business is willing to pay to make CA accountable?



Business Consulting Services

## Balancing and Optimizing Trade Facilitation and Border Integrity

Platforms for Secure and Efficient Data Sharing  
July 2004

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Business Consulting Services

### Table of contents

1. Border Management Issues and Value Drivers
2. Platforms for Secure and Efficient Data Sharing
3. Future Business Models and Technologies

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### Customs, Ports and Immigration agencies are driven by a complex and changing global environment

- Expanding multi-mission charter requires agencies to 'do more with the same – or less' financial and human resources
- The new realities of global terror have altered operational focus and investments
- Global competitiveness requires a border management infrastructure that efficiently and securely copes with increased trade volume and complexity
- The private sector expects improved clearance efficiencies with integrated and seamless data sharing among government and private sector organisations

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### These drivers produce tactical challenges for internal operations....

- How can we better manage the gap between increasing trade volumes and available resources?
- What new programs are needed to combat our greatest risks?
- What clearance services will the trading community value?
- How should we organize and deploy officers to be most effective?
- How do we modernize IT cost-effectively and without disruptions of service?
- How do we attract and keep skilled professional staff?

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### ... as well as for external collaboration

- How can we ensure security of global trading and supply chain?
- How can we more effectively share information?
- How do we enforce international regulations and mandates?
- How do we protect public health, safety, citizen welfare and environment?
- How can we collaborate with the private sector to facilitate economic development?

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### Modernization efforts simultaneously balance and optimize the twin goals of trade facilitation and border integrity through four core value drivers

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### Border Management agencies operationalise the core value drivers by modernizing in four areas

**Leadership & Policies**

- Risk management based compliance
- Integrated governance models
- Supporting legislative/policy changes

**Partnerships**

- Public-Private trading systems
- Regional trade agreements & Initiatives

**Customer Focus**

- Electronic submission & rules based processing
- Pre-clearance and pre-certification
- Integrated service delivery

**Information Technology**

- Biometrics
- Data analytics and consolidation
- Virtual border clearance

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### An flexible, service oriented architecture provides the foundation for secure and efficient data exchange

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### A Secure Trade Lane provides efficient and secure data exchange through an integrated, end-to-end platform

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### The future of border management modernization

**Business models will evolve**

- Public-private partnerships enable governments to focus on core functions
- Governments use variable funding models
- Collaborative government processes and cultures – real e-Government not just EDI

**Technology exploitation can drive new vision of operations**

- Pervasively optimized and secure global supply chain
- Mobile field operations enabled by wireless devices
- Portal evolution from transparency programs for trade to knowledge management for analysts and officers

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## Balancing and Optimizing Trade Facilitation and Border Integrity

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### Demonstration Notes - 4 steps – cargo entering country

**Step 1**

- Ships captain request to dock... sends manifest and crew list to gov't – business logic process takes captains request and seamlessly interacts with all applications to either provide permission or take action
- Determine a potential problem through risk assessment program – e.g. Match manifest to bill of lading
- Discrepancy requires physical inspection – Customs official receives notification via wireless device

**Step 2**

- Conduct physical inspection and determine that contamination of the cargo exists
- Issue the alert to gov't agencies– triggers further searches to find if similar cargo problems have entered country
- Raises the alert level – record incident

**Step 3**

- Establish incident response team with team room to allow SMEs to collaborate
- Team decides what actions to take

**Step 4**

- Notify appropriate agencies – health, law enforcement
- Notify private sector, recall material from shelves
- Publish account and actions taken via web and to news agencies
- Citizens can pull out content

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# Thailand Approach Towards Internet Paperless Trading

Dr. Somnuk Keretho  
Director - Institute for Innovative IT  
Kasetsart University

Chair – Thailand Paperless Trading Project Proposal Committee  
Ministry of Information and Communication Technology



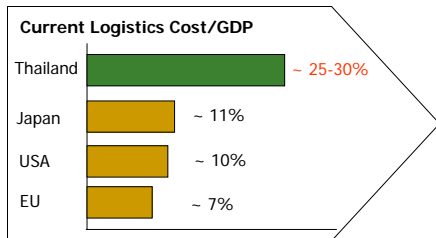
## Table of Contents

- National Competitiveness
- e-Government Guiding Principles
- Applications & Goals
- Architecture & Building Blocks
- Implementation Plan
- Cost/Benefits Analysis
- Recommendation to APEC



## Competitiveness of A Nation

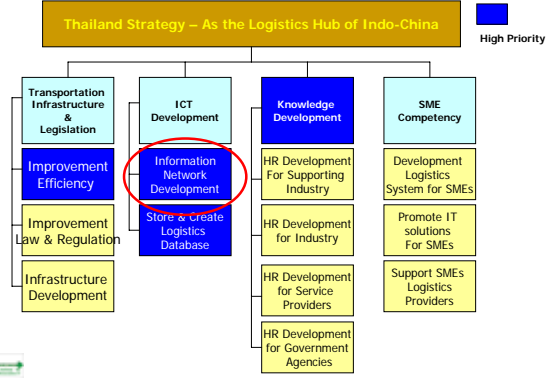
- Logistics – Efficiency flow of Goods
- Logistics Cost in Thailand is quite high.



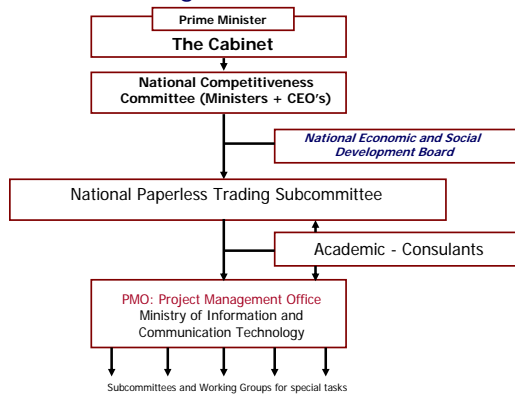
Cost reduction opportunity in Logistics  
For example 5% of GDP ~ 7.5 Million USD



## The Logistics Development Roadmap by National Economic and Social Development Board



## Organization



## Current Import/Export Environment

### Exporting Country

- Manifest
- Invoice
- Bill of Lading
- Packing List
- C/O
- L/C
- Declaration Form
- Health Certificate
- Insurance Document



### Importing Country

- Manifest
- Invoice
- Bill of Lading
- Packing List
- C/O
- L/C
- Declaration Form
- Health certificate
- Insurance Document

- 30 parties
- 40 documents
- 200 data elements
- 60-70 % data re-keying



## Single-Window & Integrated Environment

- To develop *a single window system* as a facility that allow parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfill all import, export, and transit-related regulatory requirements. (UN/CEFACT Recommendation no. 33)
- To provide *an integrated environment* that can provide efficient flow of Information in the logistics/supply chain with information/e-service exchange and streamlining processes among public agencies (~29) and private sectors (>10)
  - For example – a single window service for exporters of poultry – reducing transaction cost/time from 8-10 days to less than 1 days



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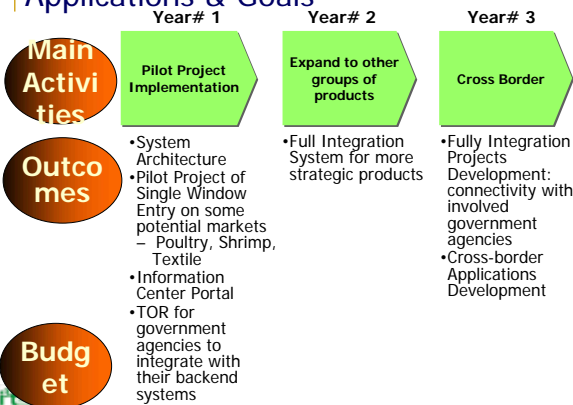
## Government Guiding Principles

1. **Citizen-Centric e-Services**
  - ▶ Single-Window System (e-Services Portal)
  - ▶ Focusing on Customer Accounts, Not Only on Transaction
  - ▶ Inter-Agency Task Force to provide a group of services
2. **Business Process Review/Re-engineering and Streamlining the Processes**
  - ▶ Revolution
  - ▶ Continuous Improvement
  - ▶ Architecture-driven Incremental Build
3. **Standardization, Harmonization & Interoperability**
  - ▶ Standardization on common data elements, business process
  - ▶ Standardization on e-Services Interchange (Interoperability)
4. **ICT Competency Development in the country**



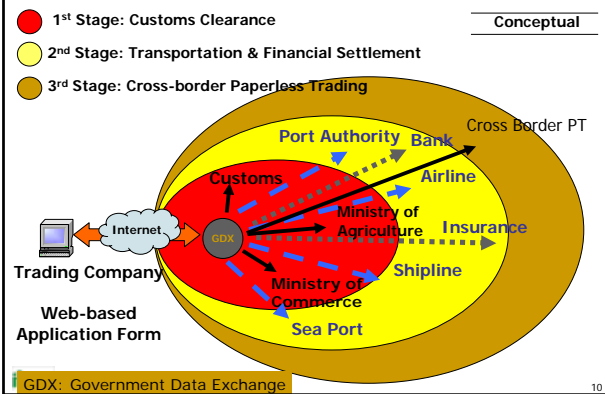
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## Applications & Goals



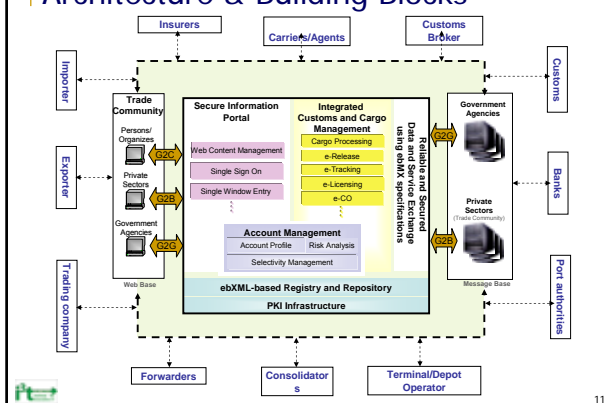
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## Applications & Goals



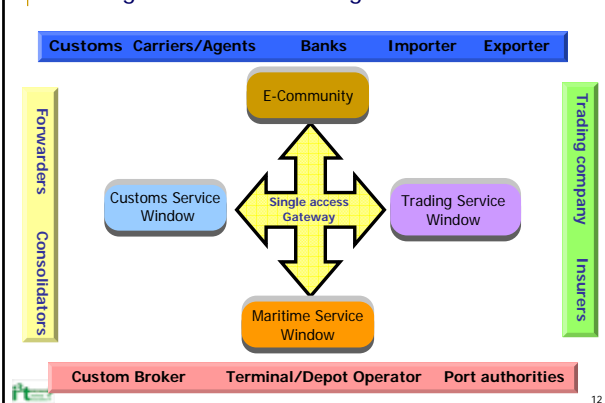
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## Architecture & Building Blocks



11

## A Single Window and Integrated Environment



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## Implementation Plan

### Phase 1

- **One-Stop Resource Center for Trade Facilitation and Logistics:** information consolidation about logistics & trade facilitation for importers & **Existing System Review:** Scenario Analysis & Assessment of Current Practices Including Costs
- **Process & Management Re-engineering, & Business Model Development**
- **Proof-of-Concept & Architecture/Framework Design Projects:** for the first group of agencies, at least for three champions products
- **Detailed TOR Development**
- **Awareness & Training:** Marketing, Rules & Regulations



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## Implementation Plan

### Phase 2

- **Implementation Projects**
  - Requirement Lists, and Business Scenarios
  - Process Re-engineering
  - Detailed Architecture Design, Implementation & Deployment
- **Project Operations, Maintenance & Monitoring, Measurement & Analysis**
- **Auditing Systems**
- **Awareness & Training:** Marketing, Rules & Regulations



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## Implementation Plan

### Phase 3

- **Fully Integration Projects Development:** connectivity with involved government agencies (~26 agencies)
- **Cross-border Applications Development**
- **Project Operations, Maintenance & Monitoring, Measurement & Analysis**
- **Auditing Systems**
- **Awareness & Training**



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## Cost/Benefits Analysis

- **Investment:** ~US\$ 31 million in three years
- **Targeted Benefits:** not less than .5% of Import/Export Volume
  - Costs saving – >US\$ 0.7 billion annually



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## Recommendation to APEC

- Encourage member economies to establish a single-window and web-based system that covers all import and export-related procedures.
- Develop and maintain National Interoperability Framework
- Develop and maintain XML schema design rules and management guide
- Work with each industry to define common data elements and business processes
- Incrementally build the system with business objectives and IT architecture alignment



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Thank you

Dr. Somnuk Keretho  
Director - Institute for Innovative IT  
Kasetsart University

Chair – Thailand Paperless Trading Project Proposal Committee  
Ministry of Information and Communication Technology





APEC Symposium  
on ebXML  
July 21-23 2004  
Bangkok, Thailand



APEC Symposium  
on ebXML  
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Bangkok, Thailand



## "ebXML for Internet Paperless Trading and Collaborative e-Business"

## "Towards Adoption of ebXML in Royal Customs Malaysia"

- Background of ICT implementation
- Proposed implementation of ebXML pilot



## Towards Adoption of ebXML in Royal Customs Malaysia



### Background of ICT implementation - phased approach

#### Formative years

- 1989 to 1994: focus on backroom automation, mainframe and dumb terminals; EDI, UN/EDIFACT standards, value added network - VAN, exploratory years for internet
- Feasibility studies & ICT master plan
- Procurement process: infrastructure installation, Pilot implementation



## Towards Adoption of ebXML in Royal Customs Malaysia



### Background of ICT implementation - phased approach

#### Implementation proper

- 1995 to 2000: internet, e-trade, website, online forms, pc GUI, local area network - LAN
- Continue pilot implementation, New requirements, Additional training
- Began participating in UN, WCO activities: standards, recommendations, best practices, UN/FACT, UN/CEFACT, ASEM, APEC
- Started data exchange project (Asia Region Customs EDI Project - under the UN/FACT IIC)



## Towards Adoption of ebXML in Royal Customs Malaysia



### Background of ICT implementation - phased approach

#### Spin-offs, enhancements, extensions

- 2001 to 2004: (web services, application servers, client-server, electronic government - MSC flagship applications)
- New modules, new features: (paperless environment, gate control system, electronic excise system, centralized KR (transshipment/movement, online permit/SANCR), internet for cargo control files, etc.)
- Linkups with other parties (Statistics Dept), More integration within applications




## Towards Adoption of ebXML in Royal Customs Malaysia




### Background of ICT implementation - phased approach

#### Future

- 2005 and beyond (take stock, Save investment as much as possible)
- Add-on/value-add: (self assessment system, deferred payment, customs golden client, customs portal, internal taxes on-line, certificate of origin, revised Kyoto convention - regulatory/legal changes, Procedural changes)




## Towards Adoption of ebXML in Royal Customs Malaysia




Asia-Pacific  
Economic Cooperation

- **Background of ICT implementation – phased approach**
  - **Future (2005 and beyond)**
    - Embark on new technologies, techniques, recommendations, XML services, single window
    - Adopt more open system features
    - More regional/international co-operation and technical assistance, experience sharing
      - ASEAN, APEC, UN/CEFACT, UN/EDFACT, others
    - **ebXML pilot proposal – electronic invoice (ebXML Asia Committee)**




## Why embark on ebXML ?




Asia-Pacific  
Economic Cooperation

- 40<sup>th</sup> Meeting of the Customs Information Management Sub-committee (IMSC) in Brussels in Jan 2001 - **World Customs Organization (WCO) will adopt ebXML standard**
- Global manufacturers and retailers adopt XML as the backbone of their new data exchange standard for B2B trade
- To keep up with the latest e-Business automation solutions spawned by the use of the internet



## Why embark on ebXML ?



Asia-Pacific  
Economic Cooperation

- **UN/CEFACT and OASIS international initiative**
  - Launched in September 1999 to develop an open XML based framework
  - Completed in May 2001 following an international standardization process
  - The ebXML specifications (Technical Architecture & Core Components Technical Specifications) are in place
  - UN/CEFACT Plenary in May 2003 have endorsed the ebXML specifications



## ebXML Initiatives



Asia-Pacific  
Economic Cooperation

**KOREA:**

- ebXML promotion activities by KIEC - formed ebXML committee
- ebXML POC project - B2B integration between steel and automotive industries; implementation of R&R for B2B industries
- adoption of ebXML in financial institutions exchange
- Developed XML/EDI & ebXML guidelines



## ebXML Initiatives




Asia-Pacific  
Economic Cooperation

**HONG KONG:**


- Govt. formed ebXML R&D center: Center for e-Commerce Infrastructure Development (CECID) to establish ebXML infrastructure in Hong Kong

**JAPAN:**

- Formed XML/EDI Standardization Committee and XML/EDI Promotion WG
- ECOM - chair of eAC



## ebXML Initiatives





Asia-Pacific  
Economic Cooperation

**Other Asian countries:**


- eASEAN community looking into adopting ebXML solution for Government initiatives such as Customs System
- PAA members (China, Taiwan, Korea, Japan, HK, Spore, Msia, Macau & Indonesia) adopted ebMS V2.0 for Cross-Border Transaction Services
- Formation of Interoperability and Core Components Task Groups in ebXML Asia Committee (eAC)

## ebXML Initiatives in Malaysia



- TC4 (Industry Standard Committee - SIRIM) looking into development of ebXML Message Guidelines
- Customs Dagang Net EC Partners are members in eAC
- MEC's ebwg initiating ebXML Pilot Project (Malaysia Customs ebXML Pilot (SMK-Invoice Project))

## Business Case

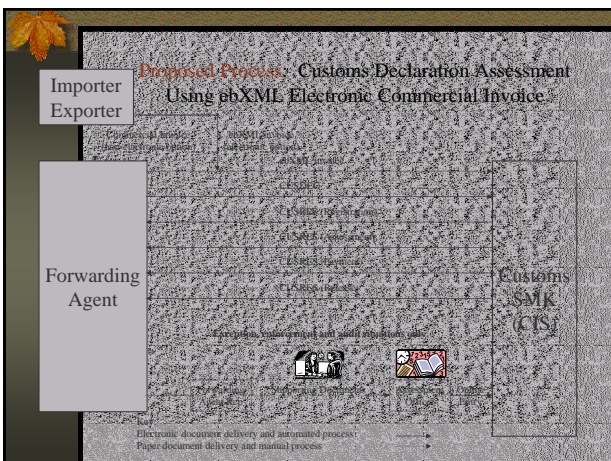
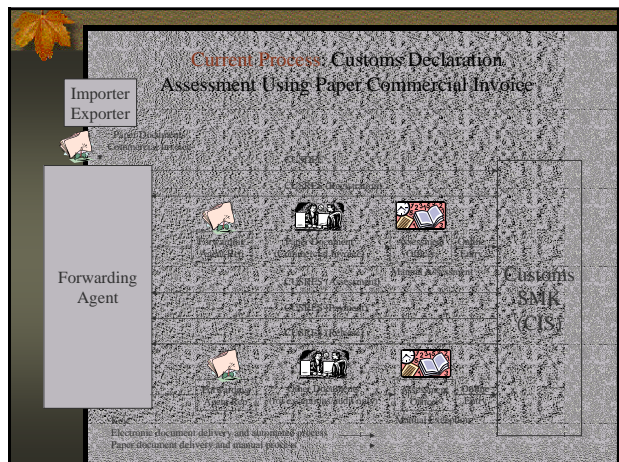



- Enable fully automated and paperless processing of Customs declaration
- Current assessment process
  - Uses paper commercial invoice documents
- Proposed assessment process
  - To use electronic commercial invoice document (when required)



## Project Goals

- Proof-of-concept for improvement of business processes using ebXML standard
- Fully paperless processing
- Trade facilitation
- Collaborative effort of Malaysia Customs Dagang Net and the trading community



## Key Benefits

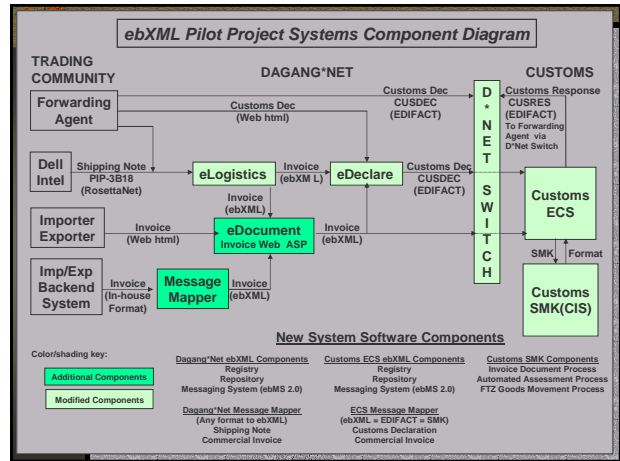
- Removes the last of paper documents used for Customs declaration processing
  - Fully electronic document exchange and automated processing
- Customs assessment office can work far more effectively
  - Handle exemption cases only based on risk assessment criteria
  - Focus on enforcement and audit
- Potential for future Single Admin. Document (SAD)
- ebXML interoperability with existing UN/EDIFACT



**Pilot Implementation**

Asia Pacific Economic Cooperation

- Education and Awareness Campaign
- Business Process Study
- General and Detailed Functional Specifications
- System Development
- System Integration Test (Provisional Acceptance)
- Pilot Test (Final Acceptance)
- Live Implementation and Roll-out
- Operations and Technical Training



**THANK YOU**

Asia Pacific Economic Cooperation

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 tpknisel@tm.net.my  
 603-31764025

APEC Symposium on ebXML for  
Internet Paperless Trading and  
Collaborative e-Business

## The Roadmap Towards Cross-Border Internet Paperless Trading

Chinese Taipei  
Nana Wang

July 2004

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## Presentation—Goal

What was the outcome from last year's  
symposium?

What should we do for paperless trading  
in the future?

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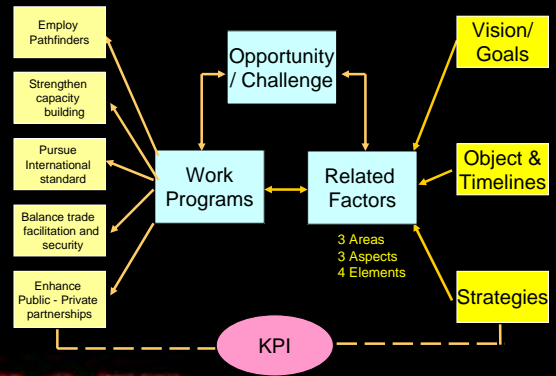
## Outline

Background  
Strategies  
Work Programs  
Conclusions

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## The Roadmap Towards Cross-Border Internet Paperless Trading



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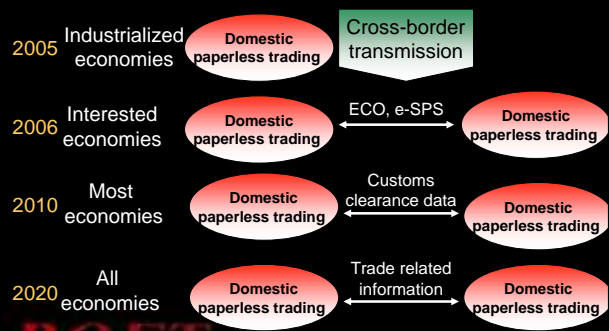
## Background—Objectives and Timelines

- 2005 Industrialized economies establish domestic paperless trading environments.
- 2006 Interested APEC member economies implement ECO and e-SPS Pathfinders for cross-border transmission.
- 2010 Most member economies establish a domestic paperless trading environment and implement pilots for cross-border electronic transmission of customs clearance data.
- 2020 APEC establishes a comprehensive paperless Trading environment that enables the electronic transmission of trade related information across the region.

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## Background—Objectives and Timelines



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## Background—related factors

### Three areas

- Authority (Trade administration, Customs clearance)
- Shipping (International transportation)
- Payment (Financial settlement)

### Three aspects

- Legal
- Procedural (Business processes)
- Technical

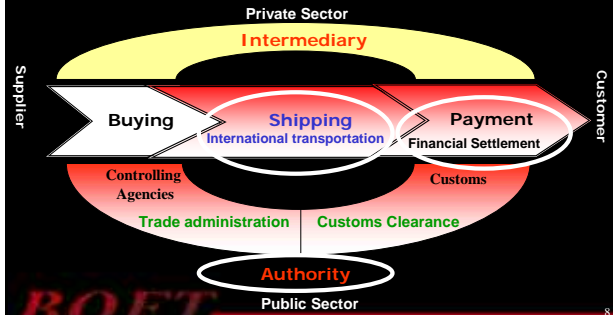
### Four elements

- Public Key infrastructure
- Common data model
- Message standards
- Platform for message exchange

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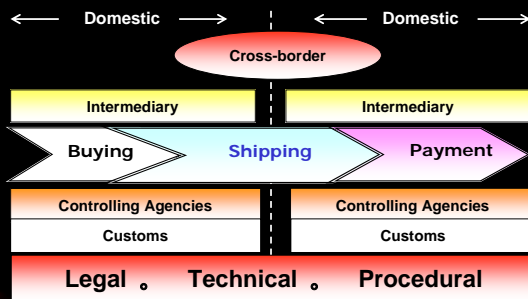
## Trade Facilitation — Three areas



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## Paperless Trading — related factors



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## Strategies

- Employ pathfinders to initiate pilot programs
- Strengthen capacity building programs
- Collaborate with international organizations
- Achieve a balance between security and trade facilitation
- Enhance public-private partnerships and commitments

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## Strategies— work Programs

Strategies	Work programs
Employ Pathfinders	•ECO, e-SPS, revise Kyoto Convention and adopt WCO common data model
Strengthen capacity building	•Hold training programs or workshops •Organize paperless trading expert group (APEC ECSG Paperless Trading Subgroup)
Pursue International standard	•Establish a coordination mechanism with UN/CEFACT •Coordinate with UN/CEFACT for message standards of e-SPS, ECO •Reinforce information sharing with international organizations
Balance trade facilitation and security	•Promote the application of advanced risk management technologies and information systems •Adopt advanced IT technologies
Enhance public-private partnerships	•Promote the use of paperless trading for cross-border transactions •Involve APEC appropriate business organizations

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## Work Programs

### —Employ pathfinders to initiate pilot programs

Items	Responsibility
Monitor the existing Pathfinders	
ECO	ECSG
e-SPS	ECSG, ATC WG
revise Kyoto Convention and adopt WCO common data model	CTI/SCCP ECSG
Initiate new pathfinders	
harmonize customs declaration items	CTI/SCCP
transmit customs clearance data for express consignment, air cargos and ocean-going cargos	CTI/SCCP
establish a cross-recognition of PKI domains	TEL Working Group

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## Work Programs

### —Strengthen capacity building programs

Items	Responsibility
Hold training programs workshops Establishing a web-based Single window Exchanging e-documents on trade The benchmarking of paperless trading	Relevant sub-fora
Organize paperless trading expert group and provide technical assistance programs (APEC ECSI Paperless Trading Subgroup)	ECSI

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## Work Programs

### —Collaborate with international organizations

Items	Responsibility
Establish a coordination mechanism with UN/CEFACT	ECSI
Coordinate with UN/CEFACT for message standards of e-SPS, ECO and other possible initiatives	ECSI
Reinforce information sharing with international organizations to realize the interoperability of required data elements, formats and frameworks	Relevant sub-fora

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## Work Programs

### —Achieve a balance between security and trade facilitation

Items	Responsibility
Promote the application of advanced risk management technologies and information systems	CTI/SCCP
Adopt advanced IT technologies	Member economies

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## Work Programs

### —Enhance public-private partnerships and commitments

Items	Responsibility
Promote the use of paperless trading for cross-border transactions	Member economies
Involve APEC Business Advisory Council (ABAC) Global Business Dialogue on e-Commerce (GBDe), Pan-Asia E-Commerce Business Alliance (PAA) Asia PKI forum and other appropriate business organizations	ECSI

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## Conclusions

from domestic to cross-border, from pathfinder to all economies  
pilot projects and capacity building play the leading roles  
observers to become participants

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## Thank You

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## Transparency in E-Commerce

Proposing APEC Economy: Russian Federation

Andrey Masalovich, Natalia Makarycheva

Bangkok, Thailand  
21-23 July 2004

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## Transparency in E-Commerce

Project Proposal on Development  
of E-Commerce System for Governmental Needs  
in APEC Economies as the Basis for the Format of  
Transparent Interaction of National  
E-Commerce Systems

First presented: Chile, Feb 2004  
2004/SOMI/ECSG/016  
Agenda Item: IV e iii

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## Brief Description of the Project

**Objectives:** This project is to be implemented in the form analysis and research work with the follow-up seminar regarding the method of enhancing the efficiency of state management use of e-commerce and e-procurement systems by implementing APEC's general and area-specific transparency standards.

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## The Project Responds to the Priorities set by APEC Leaders in Bangkok, 2003

The project proposal is guided by **Bangkok Leaders' Declaration on Partnership for the Future** of 2003 that calls to "fight corruption, a major obstacle to social and economic development, by working in 2004 to develop specific domestic actions to combat it. Promote transparency by implementing our general and area-specific transparency standards through our Transparency by 2005 Strategy".

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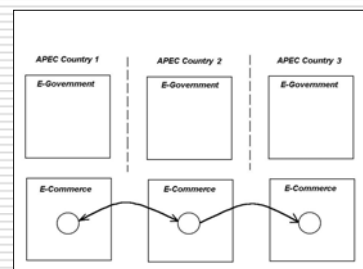
## The Project also Responds to the Priorities set by APEC Leaders and Ministers

The project proposal is guided by **Bangkok Joint Ministerial Statement** of 2003 that calls to "step up efforts to build knowledge-based economies" and instructed APEC members to "accelerate progress towards the Brunei Goals on ... implementation of the e-APEC strategy, in partnership with relevant stakeholders".

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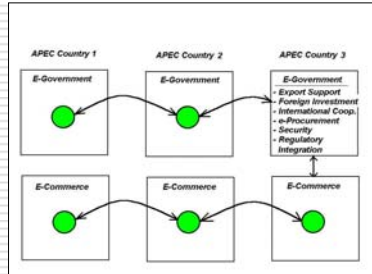
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## The Problem



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## The Basic Idea of the Project



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## Key Aspects of E-Gov for e-Commerce

- Export Support
- Foreign Investment
- International Cooperation
- e-Procurement
- Information Security
- Regulatory Integration

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## The Purpose

**Project Purpose:** Enhancing efficiency of the government expenditures and national e-Commerce systems by development of the recommendations for building of state E-commerce systems and the unified format of transparent e-commerce systems interaction

9

## Outcomes Expected After the First Stage of the Project

1. Report on the comparative analysis of e-government and e-procurement systems in APEC economies
2. Recommendations for the development of transparent e-commerce systems for APEC Economies
3. The recommended unified methodology of the implementation of transparent national e-commerce systems and their interaction

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## The Major Benefits of the Project

1. The project will reduce the costs and risks of e-Commerce and e-Procurement systems implementation in APEC economies
2. The project will assist to the process of integration of APEC economies
3. The project will provide the efficient methodologies of e-Commerce, e-Procurement and e-Government systems development based on the best practices of APEC countries
4. The project will assist in the implementation of **e-Democracy** Principles (the transparency of e-Government procedures and equal right access to e-Procurement systems for SMEs).

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