e-Cert: Benefits and Challenges for APEC Member Economies

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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
  - MAF, NZFSA - New Zealand
  - AQIS – Australia (co-chair)
  - NEC Japan
  - ANZAC – Australia (co-chair)
  - MAP, NZSSA - 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

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...

$\quad$

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 find that, helping onto the exporting economy’s system)?
- Having confidence that the exporting country’s systems can rapidly trace back through the supply chain?
- 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?
- 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 UN/CEFACT 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

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

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Chairman Singapore EDI Committee
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21st July 2004

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• Certificate of Origin (COO)
• Call for Collaboration
• Conclusion
• CrimsonLogic
Certificate of Origin - Where does it fit into the Big Picture?
Collaborative Trade

Stakeholders on the entire Trade & Logistics Supply Chain

- Importer
- Manufacturer / Exporter
- Controlling Agencies / Customs

Electronically archived

S.E.W.
Single Electronic Window

Document Repository

- Shipment Notice
- Purchase Order Response
- Purchase Order
- Draft Bill of Lading
- Master Airway Bill
- Supplier Delivery Order
- Invoice
- Cargo Clearance Permit
- Shipping Instruction
- House Airway Bill
- Certificate of Origin
- Insurance Adhoc Declaration
- Telegraphic Transfer Request
- Letter of Credit
- Packing List

Utilities Repository

- Other Networks
- Chambers Portal
- Regulatory Bodies

Suppliers/Customer Interface

Overseas Agent Interface

Freight Forwarder Interface

MMI Interface

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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
Certificate of Origin

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
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
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 COs, 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.
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
• 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

- Messaging Framework
- Transport Framework
- Network Framework
- Security 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
• View Certificate of Origin
  - Controlled access to various stakeholders
  - Archived copies available
• **Authenticity**
  - Digital Certificates included

• **Security**
  - PKI used
  - Smart Card readers
• **Messages Management**
  - **Users’ Alerts**
  - A typical screen for management of certificates
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**
Visible watermark that deteriorates when photocopied

Invisible watermark that appears when photocopied

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

**DIGITAL SIGNATURE**
- BENEFITS
  - Confidentiality
  - Data Integrity
  - Authenticity
  - Non-repudiation

**OPTICAL WATERMARKING**
- BENEFITS
  - Embedded logo
  - Proof of a copy

**PRINT CONTROL**
- BENEFITS
  - Print online via web
  - Limits multiple copies
  - Transition before a total paperless acceptance

**PKI SECURITY FRAMEWORK**
- BENEFITS
  - Confidentiality
  - Data Integrity
  - Authenticity
  - Non-repudiation

**AUDIT TRAIL**
- BENEFITS
  - Tracking of document flow
  - Archival of data

**SECURED CROSS-BORDER DOCUMENTATION**
- BENEFITS
  - Authorised signatory
  - Non-repudiation
Certificate of Origin – Where do we go from here?
Challenges Faced

• 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?
Incorporated in March 1988

Four shareholders:

Formerly known as the Singapore Trade Development Board
TradeNet - World’s First Nationwide Electronic Data Interchange System

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
Worldwide Presence

- Canada
- Mexico
- Africa
- Middle East
- India
- Mauritius
- Japan
- Korea
- Taiwan
- Hong Kong SAR
- Philippines
- Malaysia
- Singapore
- Australia
- China
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

Ministry of Transport
Ministry of Trade
Ministry of Finances

Door-to-door Logistics
Trade facilitation measures
Customs reform & modernization

Reduce transaction costs
Monitor external trade flows

Private Sector

Enterprise view for trade efficiency

Source: Complex Networked Supply Chain [Harwick, 1999]

UN/CEFACT Vision

Public AND Private
UN/CEFACT Vision

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

Source: ADL 2001

UN/CEFACT Vision

- Competitive Strategy
- Supply Chain Strategy
- Responsiveness

Efficiency

- Inventory
- Transportation
- Facilities
- Information

Supply Chain Structure

UN/CEFACT Vision

- E-Business
- Trade Facilitation

UN/CEFACT Bureau Portfolio

- Strategy
- Marketing
- External Affairs

E-Business

- Technological work to enable Trade Facilitation requirements.

Trade Facilitation

- How to facilitate global Trade.

PIRACY

UN/CEFACT

- Cooperation/Coordination
- Technical
- Training
- Accreditation

External Affairs
Response to 9/11

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

Trade Security is a Delicate Balance

Prevent Terrorism
Facilitate Global Trade

Trade Security

UN/CEFACT Source: Philippe Christ: OECD
UN/CEFACT - the global standardization body

Possible strategies to facilitate the secure movement of goods and services

Simple, Transparent and Effective Processes for Global Business:

- UN/CEFACT’s issues, 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 Bureau

Plenary

UN/CEFACT Plenary

Permanent Group

Support Service Provider

Forum Management Group

Permanent Group

Permanent Group

Permanent Group

Permanent Group

UNECE Secretariat

Forum Management Group

Chair 1 and Vice Chair

Permanent Group

Permanent Group

UNECE Secretariat

Forum Management Group

Forum Management Group

Forum Management Group

Forum Management Group

3 Members/Seats

1 Member/Seat

1 Member/Seat

1 Member/Seat

Forum Management Group

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

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.

4) The FMG chair and vice chair shall be elected by the forum membership.
UN/CEFACT Plenary Permanent Group Permanent Group Permanent Group Permanent Group

UNECE Secretariat Support Service Provider Future Management Group (FMG)

Promote a common language for regional and global markets

Total organization focus

Rapporteurs e.g. • Regions • Standards Liaison 1 • Legal

1) The Standards Liaison Rappor- teur shall be nominated by the forum and elected by the plenary

Total organization focus

UN/CEFACT

National and Interregional Model approach

Localize the know-how, Build synergies and Interface networks

Total organization focus

Tool Box

Global Enabling Perspectives in Transportation and Trade
Total organization focus

Role of the Public sector: APEC 1998 Leaders’ Declaration

1. Requirement Analysis
2. Detailed Analysis
3. Design
4. Implementation
5. Maintenance
6. Research

UN/CEFACT

WCO
WTO
ICT
ISO
UNCTAD
ICC
MAFACT

Total organization focus

UN/CEFACT

Critical success factor
- Strategy/vision for the future
  - Management
  - Organisation
  - Culture
  - Technology

Role of the Public sector for a Process based efficient and secure supply-chain: APEC 1998 Leaders Declaration

UN/CEFACT

Total organization focus

Critical success factor

Role of the Business sector for a Process based efficient and secure supply-chain: APEC 1998 Leaders Declaration

UN/CEFACT
Critical success factor: reconcile macro to micro

Total organization focus

UN/CEFACT

Critical SUCCESS factor: reconcile macro to micro

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/](http://www.iata.org/)
  - UPU Postal codes: [http://www.upu.int](http://www.upu.int)

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 fulfill all import, export, and transit-related regulatory requirements.

- If information is electronic, then individual data elements should only be submitted once.
UN/CEFACT Platform to connect the "last mile", "Smart documents" through WS Integration

Process control

Designed in

UN/CEFACT

YESTERDAY (informal description)

TODAY

(A methodology)

Business Requirements

How

Technical Implementation

TRANSACTIONS & DOCUMENTS

BUSINESS MODEL

- SWIFT

Ident: BIC

Instructing Party

- Security: ISIN

Executing Party

- Action: {Buy/Sell}

Trade

- TradeDate: Date

- PriceCondition: Real

- OrderedQty: Real

TradeCondition

OrderToBuyOrSell

INTERNET

Designed in

UN/CEFACT

Supply Chain Strategy

Trade and transport facilitation strategy

Facilitation of processes TFTA

Codification of processes UMM

Competitive Strategy
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 ebXML. 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 organization 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 organizations will work together. Both parties intend by these actions to demonstrate their commitment to ebXML 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.