



**APEC Symposium On Paperless Trading Capacity  
Building And Intellectual Property Protection  
People's Republic of China  
September 2007**

**Paper  
Trusted Electronic Documents for Cross-border Trade**

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## Trusted Electronic Documents For Cross-border Trade

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CrimsonLogic  
Aug 2007

Productivity Efficiency Accuracy Secure

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## Background

World Trade

Which country are goods made in?  
Where is product made?  
Which country are goods going to?

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## Agenda

- Demand From Cross-border Trade
- eCertificate
- Application Area
- Features
- Benefits

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## Background

- Government trade agreement
- Lower tariff rate
- Product qualification verification
- Products ban
- Market demand

What to do???

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## Demand From Cross-border Trade

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## Cross Board Trade

Region or Economy	Documents for export (number)	Time for export (days)	Cost to export (US\$ per container)	Documents for import (number)	Time for import (days)	Cost to import (US\$ per container)
East Asia & Pacific	6.9	23.9	884.8	9.3	25.9	1,037.1
Europe & Central Asia	7.4	29.2	1,450.2	10.0	37.1	1,589.3
Latin America & Caribbean	7.3	22.2	1,067.5	9.5	27.9	1,225.5
Middle East & North Africa	7.1	27.1	923.9	10.3	35.4	1,182.8
OECD	4.8	10.5	811.0	5.9	12.2	882.6
South Asia	8.1	34.4	1,236.0	12.5	41.5	1,494.9
Sub-Saharan Africa	8.2	40.0	1,561.1	12.2	51.5	1,946.9

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### Documents for Trade

#### China

Import documents	Export documents
Bill of lading	Bill of lading
Cargo manifest	Certificate of origin
Certificate of origin	Commercial invoice
Commercial invoice	Customs export declaration form
Customs cargo release form	Export permit or licenses
Customs import declaration form	Packing list
Customs transit document	
Equipment interchange receipt	
Import license	
Packing list	
Ship arrival notice	
Terminal charges receipt	

#### Singapore

Import documents	Export documents
Bill of lading	Bill of lading
Cargo manifest	Commercial invoice
Certificate of origin	Customs export declaration form
Commercial invoice	Packing list
Customs import declaration form	Shipping note
Packing list	

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### Electronicalizable Documents

Import documents	E...able?	Export documents	E...able?
Bill of lading	✓	Bill of lading	✓
Cargo manifest	✓	Certificate of origin	✓
Certificate of origin	✓	Commercial invoice	✓
Commercial invoice	✓	Customs export declaration form	✓
Customs cargo release form	✓	Export permit or licenses	✓
Customs import declaration form	✓	Packing list	✓
Customs transit document	✓	Shipping note	✓
Equipment interchange receipt	✓		
Import license	✓		
Packing list	✓		
Ship arrival notice	✓		
Terminal charges receipt	✓		

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### Process Time

#### China

Nature of Export Procedures (2006)	Duration (days)	US\$ Cost
Documents preparation	14	120
Inland transportation and handling	2	80
Customs clearance and technical control	1	60
Ports and terminal handling	1	75
<b>Totals:</b>	<b>18</b>	<b>335</b>

Nature of Import Procedures (2006)	Duration (days)	US\$ Cost
Documents preparation	14	120
Customs clearance and technical control	4	60
Ports and terminal handling	2	75
Inland transportation and handling	2	120
<b>Totals:</b>	<b>22</b>	<b>375</b>

#### Singapore

Nature of Export Procedures (2006)	Duration (days)	US\$ Cost
Documents preparation	1	105
Inland transportation and handling	3	100
Customs clearance and technical control	1	31
Ports and terminal handling	1	146
<b>Totals:</b>	<b>6</b>	<b>382</b>

Nature of Import Procedures (2006)	Duration (days)	US\$ Cost
Documents preparation	1	56
Customs clearance and technical control	1	31
Ports and terminal handling	1	146
Inland transportation and handling	0	100
<b>Totals:</b>	<b>3</b>	<b>333</b>

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### Paperless Trade Process Time

	Before TradeNet	After TradeNet
Processing time	2 - 7 days	Less than 1 minute
Number of documents	3 - 35 docs	1 doc

#### China

Nature of Export Procedures (2006)	Duration (days)
<b>Totals:</b>	<b>18</b>

Nature of Import Procedures (2006)	Duration (days)
<b>Totals:</b>	<b>22</b>

➔

#### Singapore

Nature of Export Procedures (2006)	Duration
<b>Totals:</b>	<b>??? minutes</b>

Nature of Import Procedures (2006)	Duration
<b>Totals:</b>	<b>??? minutes</b>

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### Problems

- Multiple manual trips to the authorities
- Paper flow with replicated data entry at each point of approval
- Entire process took up to days
  - Manual processing was labour intensive, time-consuming and prone to error
  - Delay slows down trading flow
  - Human error



High Cost  
Low Productivity  
Low Efficiency

How to resolve???

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### Hardcopy-demandable Documents

Import documents	H...able?	Export documents	H...able?
Bill of lading		Bill of lading	✓
Cargo manifest		Certificate of origin	✓✓
Certificate of origin	✓✓	Commercial invoice	✓✓
Commercial invoice	✓	Customs export declaration form	
Customs cargo release form		Export permit or licenses	✓
Customs import declaration form		Packing list	
Customs transit document		Shipping note	
Equipment interchange receipt	✓		
Import license	✓		
Packing list			
Ship arrival notice			
Terminal charges receipt			

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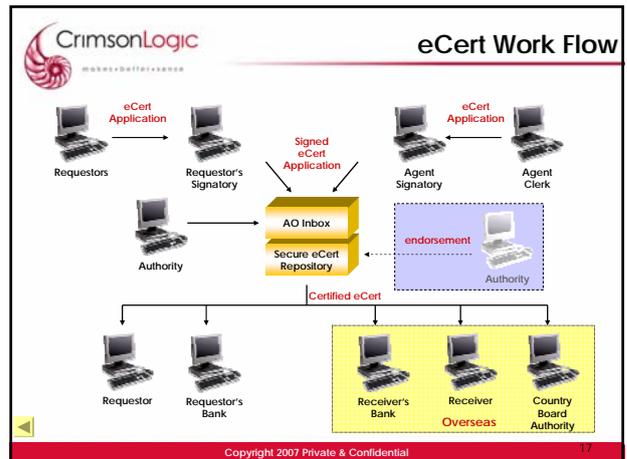
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## Certificate of Product or Service



- A document, required by foreign governments, organizations or institutions, declaring that products or services are verified that achieved certain level of requirement or quality.

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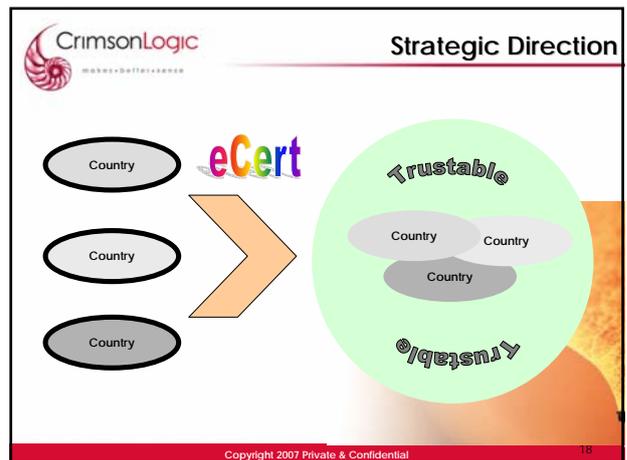


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## eCertificate



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## Electronic Certificate (eCert)



- Way to apply for, approve and receive certificate of products, information or services
  - Allows Authorised Organisations (AO) to certify the document online with easy retrieval of supporting documents such as commercial invoice, Bill of Lading etc. through data integration capability built within computerized system
- Immediate transmission of certified eCert to designated recipients such as the banks, overseas buyers, customs etc. in a secure electronic environment.

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## Application Areas



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**CrimsonLogic** Certificate of Origin

- Ordinary COO
- Non-preferential COO
- Preferential COO



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**CrimsonLogic** Certificate of Origin



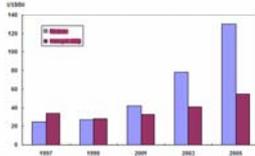
- A revolutionary way to apply for, approve and receive certificate of origin electronically
- Provides simple verification of goods with repository of information
- Governments, chambers, banks and forwarders are working together to migrate from paper-based to electronic CO

[www.CertOfOrigin.com](http://www.CertOfOrigin.com)

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**CrimsonLogic** FTA

- ASEAN CEPT (Form D)
- ASEAN-China FTA (Form E)
- GSP (Form A)
- GSP Yellow Copy (Form A)
- Malaysia-Pakistan FTA (MPFTA Form)
- Malaysia-Japan EPA (MJEPA Form)



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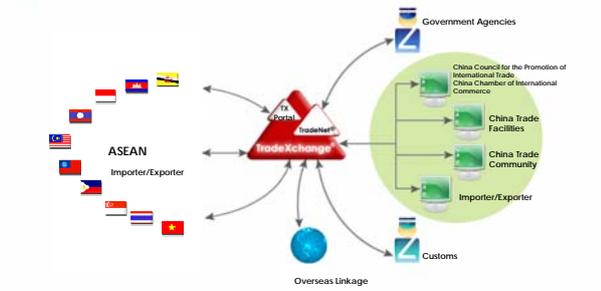
**CrimsonLogic** Certificate of Organic Product

- To certify organic products.
- Multi-ingredient Products
- Foreign Organic Markets



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**CrimsonLogic** Form E



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**CrimsonLogic** Other Application Areas

- Certificate of Processing and Assembling
- Certificate of Re-export
- Force Majeure Certificate
- International Commercial Certificates
- China Compulsory Product Certification
- Export permit
- Import license
- Commercial invoice
- Professional Certificate

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# Features of eCert

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# Watermarking

Visible watermark that deteriorates when photocopied

Original Document

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

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# Security

Anti-Fraud

Online Data Verification

Electronic Certificate Repository

Improved Data Accuracy

User Authentication

Document Control

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# Verification of eCert

**Verify Certs**

ECO No and CID  
Please enter ECO No and CID, then click on 'Verify' button.

ECO No:

CID:

**Verify CO**  
Invalid  
Sorry, it is not a valid ECO!

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# Anti-Fraud

- Optical watermark
  - lowers risk of duplicating certificates
- Digital signature (PKI)
  - non-repudiation of certificate
- Encryption of data (PKI)
  - ensure confidentiality
- Online verification
  - lowers risk of fraud in forging certificates

Anti-Fraud

Online Data Verification

Electronic Certificate Repository

Improved Data Accuracy

User Authentication

Document Control

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# Verify "Valid eCert"

**Certificate of Origin**

CO Details

1. Exporter (Name & Address)  
EXPORTER S  
23 SCIENCE PARK ROAD THE  
CORNER

2. Consignor (Name & Address)  
CONSIGNOR B  
140 CAYENNE CITY  
VIETNAM

3. Departure Date:  
13/07/2004

4. Vessel, Name of Flight No:  
R0272

REPUBLIC OF SINGAPORE  
CERTIFICATE OF ORIGIN/PROCEEDING  
No. SEC 04 000014  
NO UNAUTHORIZED ADDITIONS, ALTERATIONS MAY BE MADE TO THIS  
CERTIFICATE DATE 17 12 2000

B. DECLARATION BY THE EXPORTER  
We hereby declare that the details and statements provided in the  
Certificate are true and correct.

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## Anti-Forgery

- **Micro-printing**  
A very fine print that appears as a line to the naked eye. its contents can only be viewed clearly under a magnifying glass. It will appear distorted when photocopied to reveal any unauthorized reproduction of the document.



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## Document Control

- **Print control**
  - Ensures original and only a specified number of prints can be made
- **Reference ID**
  - access and verify electronic document




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## Anti-Tampering

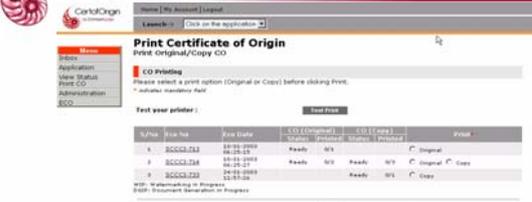
- **SecureCode (2D barcode)**
  - A two dimensional barcode.
  - Higher capacity, contain more information than the conventional 1D barcode.



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## Print Controls



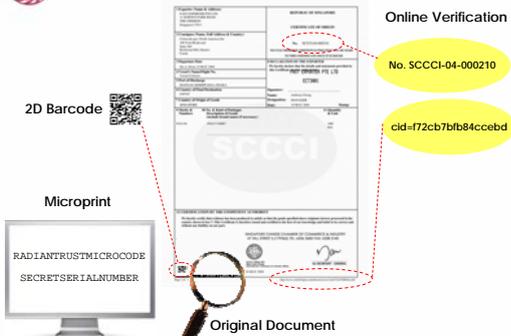
Job No.	Job Title	Job Date	CO (Original)	CO (Copy)	Print
1	SCCCI-752	08-08-2008	Ready	0/5	<input type="checkbox"/> Original <input type="checkbox"/> Copy
2	SCCCI-758	08-08-2008	Ready	0/5	<input type="checkbox"/> Original <input type="checkbox"/> Copy
3	SCCCI-759	08-08-2008	Ready	0/5	<input type="checkbox"/> Original <input type="checkbox"/> Copy

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

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## 2D Barcode, Microprinting



**Online Verification**  
No. SCCCI-04-000210  
cid=f72cb7bfb84ccebdc

**2D Barcode**

**Microprint**  
RADIATRUSTMICROCODE  
SECRETSERIALNUMBER

**Original Document**

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## User Authentication

- **Digital signature (PKI)**
  - non-repudiation of identity
- **Automated Workflow**
  - Control and verification of applicant, authorising party, recipients etc



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**CrimsonLogic** **Electronic Certificate Repository**

- **Online retrieval of eCert**
  - Reference ID to access electronic document
  - for verification of applicant, authorising party, contents etc
  - increases integrity of certificates

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**CrimsonLogic** **Improved Data Accuracy**

- Data from other trade systems
- Automated data validation by system
- Online data processing and reuse - minimise human error

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**CrimsonLogic** **PKI**

- **Authenticity**
  - Digital Certificates included
- **Security**
  - PKI used
  - Smart Card readers / USB Tokens

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**CrimsonLogic** **Online Data Verification**

- **Rules engine**
  - Rule Sets to automatically check and verify the validity of eCert
- Use of standards and standard messages

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**CrimsonLogic** **Controlled Access**

- View eCert
  - **Controlled access** to various stakeholders
  - Archived copies available

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**CrimsonLogic** **Alerts**

- Messages Management
  - **Users' Alerts**
  - A typical screen for management of certificates

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## Benefits of eCert



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## Thank You

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## General Benefits



- Cost and Time Savings
- Allows for transition from paper-based flow to fully electronic implementation
- Improved work processes and seamless connection among all parties involved
- Greater security and reliability
- Data integration
- Minimize human error, alleviate repetitive typing
- No need to fax back "pink" applications

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## Questions & Answers



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