Organización de los Estados Americanos
Secretaría para el Desarrollo Integral
Programa de Compras Gubernamentales

Red Interamericana de Compras Gubernamentales

Activity: Workshop on Government Procurement Modernization in the Caribbean
Topic: Digital Signature, E-Government Procurement
Título: Demystifying Authentication & Digital Signatures, PKI, ETA
Speaker: Dainsworth Richard
Country: Jamaica
Date: May 13th, 2008

Demystifying Authentication & Digital Signatures, PKI & ETA

Dainsworth Richards
CEO (Actg.)

Modernizing Government Procurement in the Caribbean
May 15, 2008
Gran Bahia Principe, Runaway Bay, Jamaica

Vision & Mandate of CITO

- To lead in establishing a world-class national ICT sector, with Jamaica becoming the regional leader in ICT development

Mandate Components

- Key Contributor to E- Enabling of Jamaica
- Champion of the
  - National ICT Strategy
  - National e-Readiness Programme
- GoJ ICT Standards Body
- ICT Best Practices Repository

Core Mission
Cabinet Decision 2001

- The Cabinet approved that proposals for the **procurement** of computer hardware, software and services should be submitted to the Central Information Technology Office (CITO).

- The Cabinet approved the establishment of CITO to coordinate the implementation of the National Information Technology Strategic Plan and assist Government Ministries in the development and monitoring of sectoral information technology plans, among other things.

E-Powering Jamaica

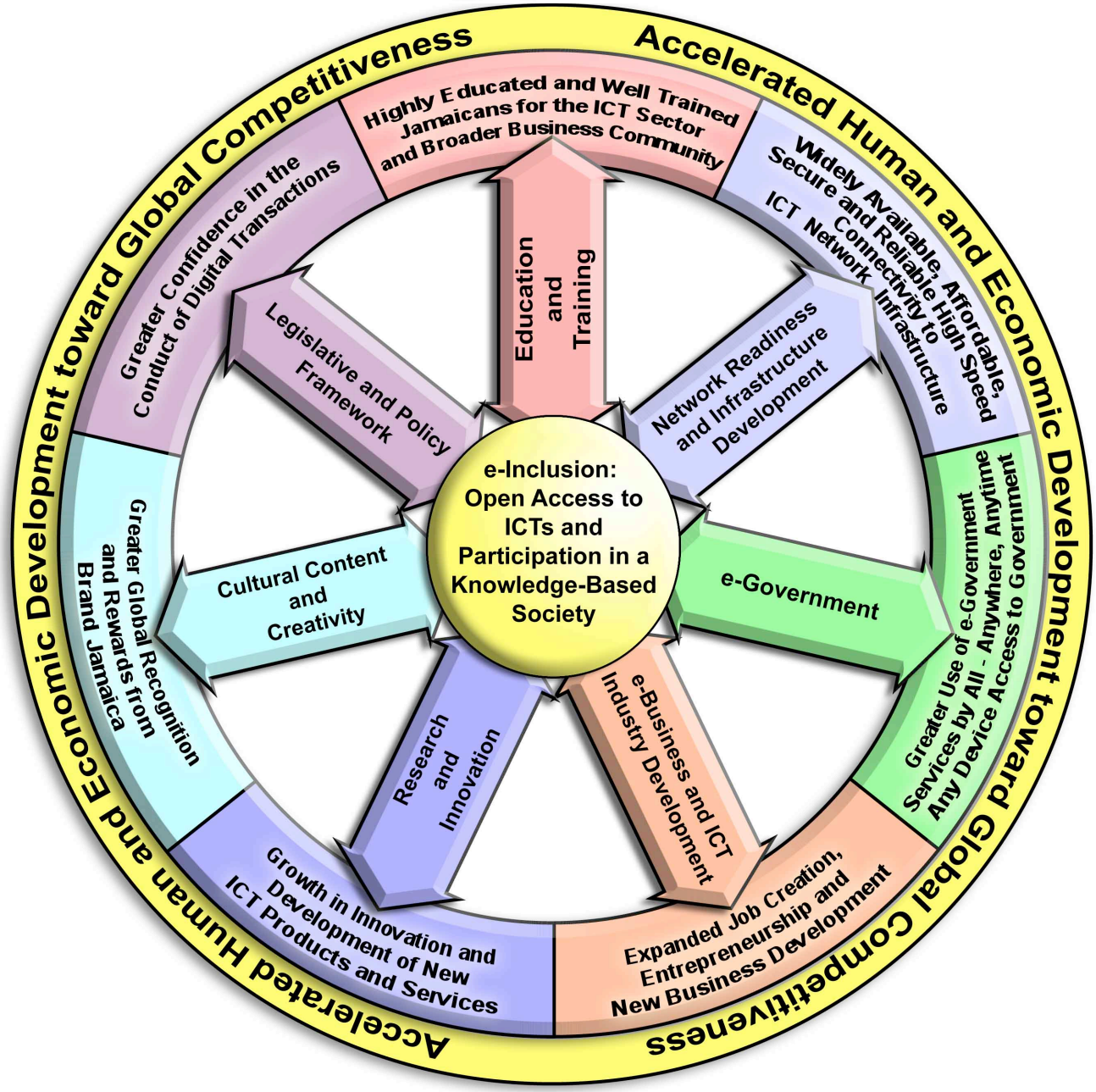
National Information and Communications Technology Strategy 2007 - 2012

Government of Jamaica

E-Powering Jamaica 2012

- Research & Reference Analysis
  - Local Situational Analysis
  - Global References – 9 countries
  - International Development Programmes
- Extensive stakeholder consultations
- Flagship Initiatives and timelines
- Inclusive Enabling Operational Framework
- Master Implementation Plan
- Integration into Jamaica 2030 plan

E-Powering Jamaica 2012



Electronic Transactions Act (ETA)

- Effective since April 2, 2007
- Affects ALL Jamaican legislation which refers to “writing”:
  E-information = written information
- E-Information admissible in court
- Applies to all e-transactions
- **Key consumer protection provisions**
- Secure confidence for in e-commerce in the Jamaican jurisdiction

Electronic Transactions Act (ETA)

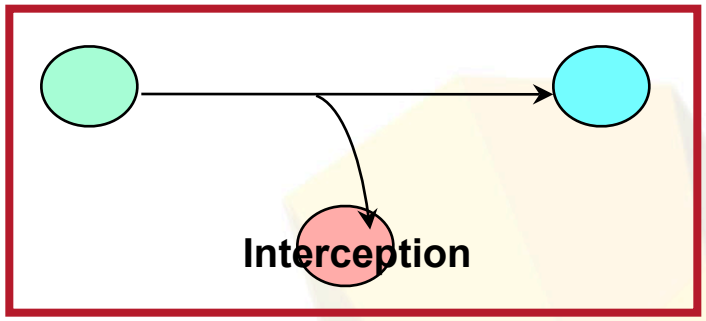
- Act confirms legal basis for:
  - Purchase of goods and services online
  - Privacy and security of our E-transactions
  - Transacting E-business and E-Filing with Government departments
- We have been conducting such transactions for years but the ETA now establishes legal basis

E-Signatures – ETA

- Clear method to identify signatory
- Method is reliable
- Uniquely linked to signatory
- Capable of identifying signatory
- Signature-creation under sole control of signatory
- Subsequent alteration is detectable

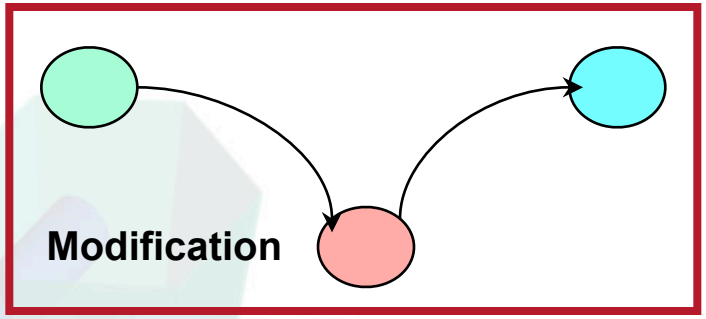
The 'PAIN' of Online Transactions

(P)rivacy / Confidentiality



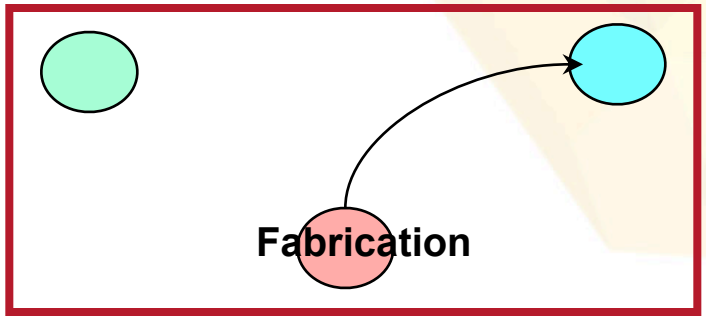
Is my communication private?

(I)ntegrity



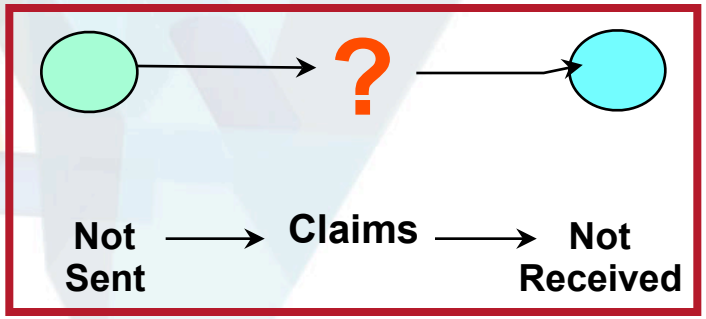
Has my communication been altered?

(A)uthentication



Who am I dealing with?

(N)on-repudiation



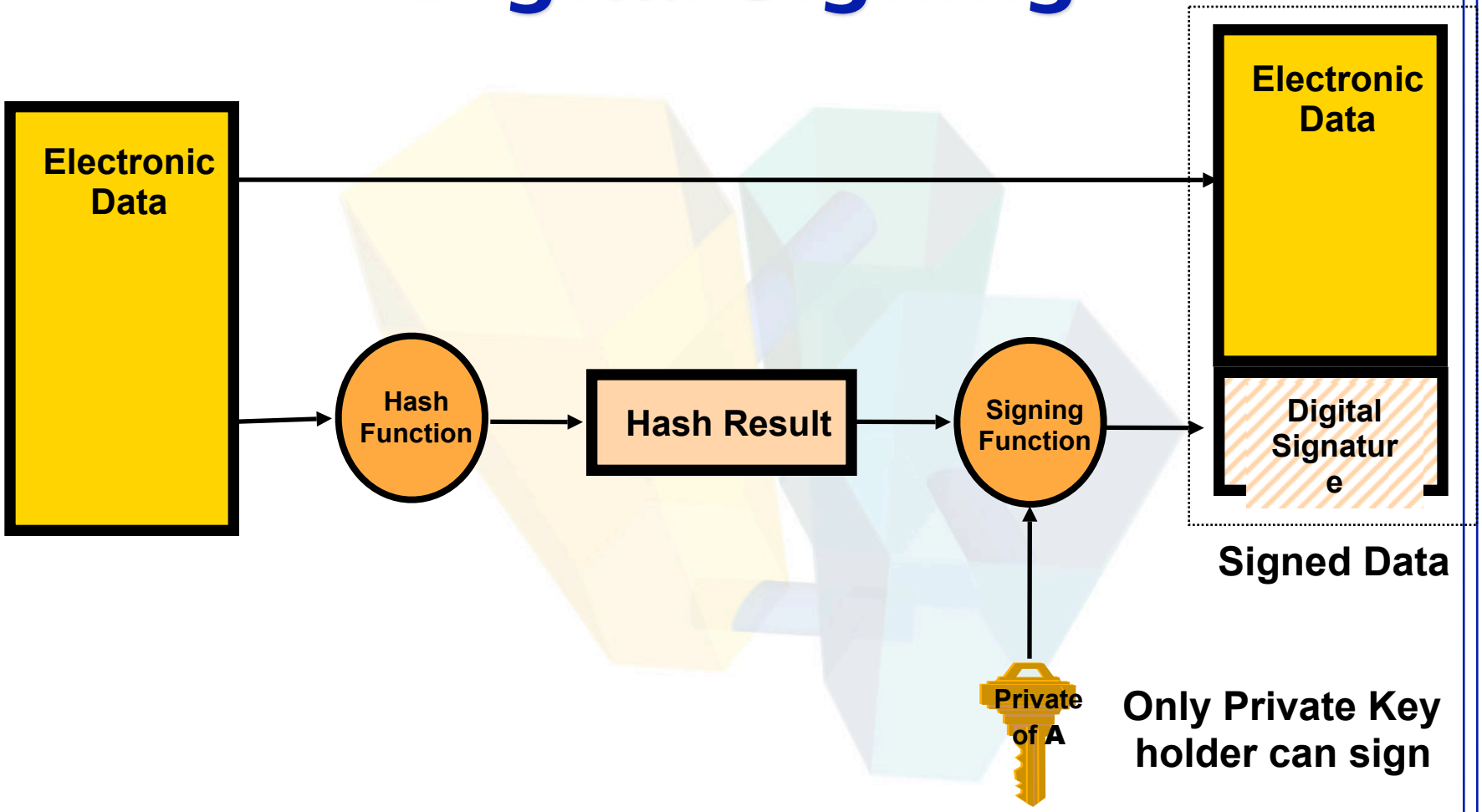
Who sent/received it and when?

Where do Digital Signatures come in?

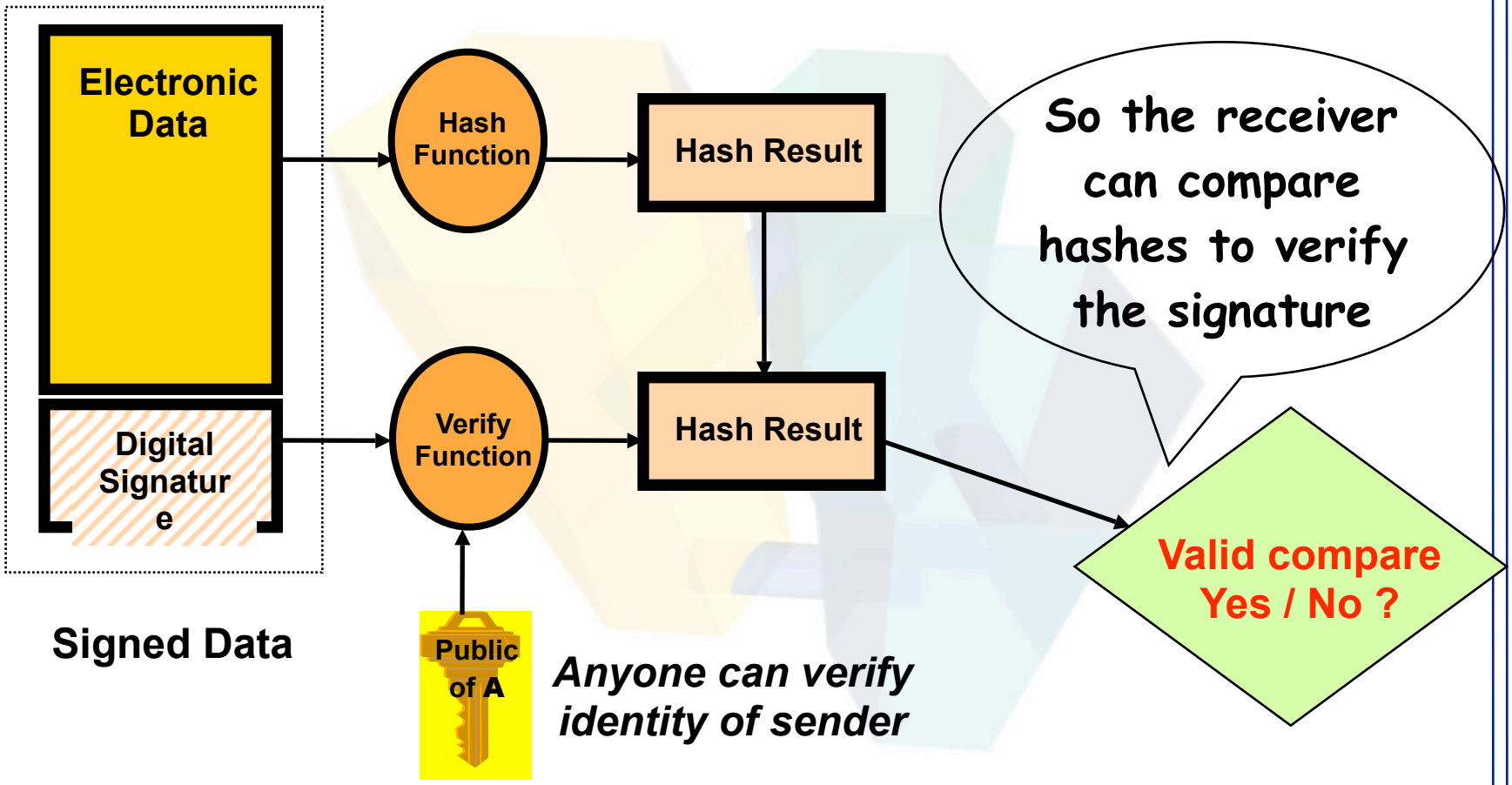
- Passwords are a weak method of authentication
- Passwords do not ensure integrity
- Passwords can be broken, guessed, leaked, extracted, etc.
- A Digital Signature cannot be duplicated, guessed, broken, etc.
- No legal protection for disputes in case of other authentication methods

Digital Signatures are an effective remedy against 'PAIN' of e-Transactions

Digital Signing

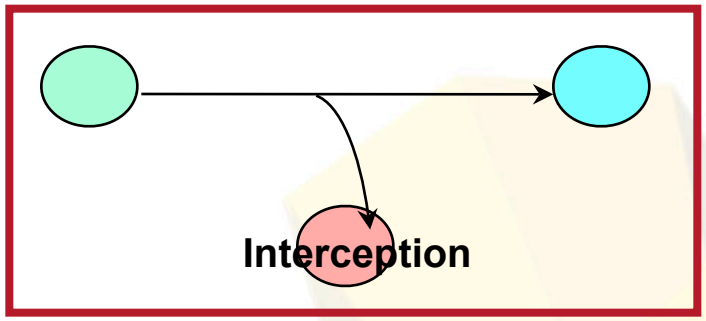


Digital Signature Verification



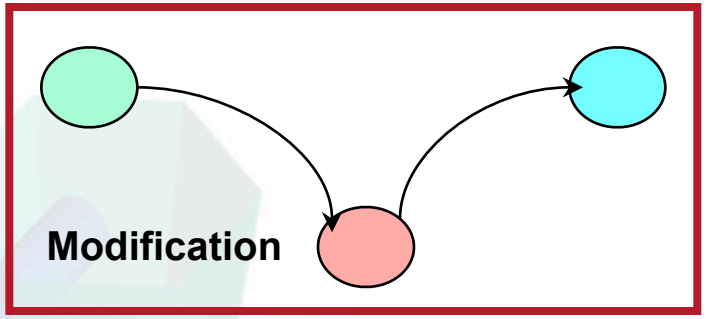
The 'PAIN' of Online Transactions

(P)rivacy / Confidentiality



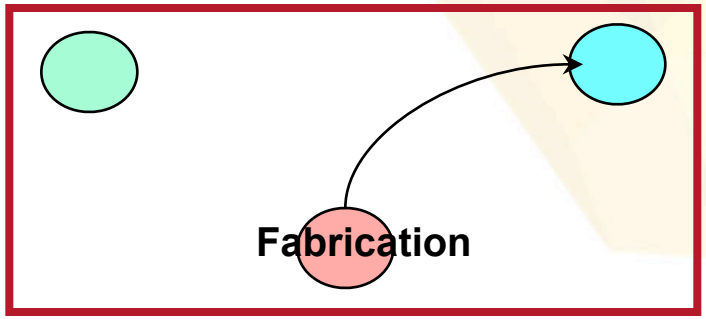
Is my communication private?

(I)ntegrity



Has my communication been altered?

(A)uthentication



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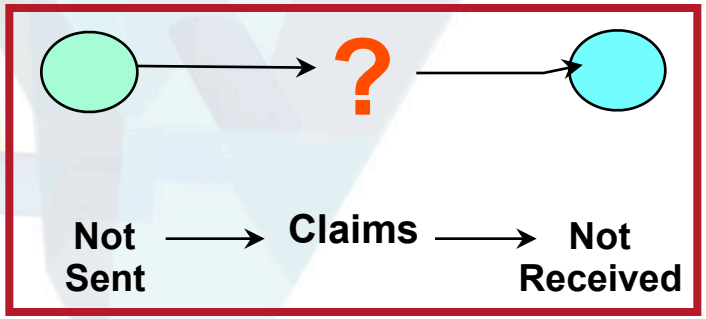


Who sent/received it and when?

ETA, PKI & The Trade Board

- Public Key Infrastructure (PKI): is a system that enables secure **e-government** and **e-transactions** by allowing an individual/entity to identify themselves once to a Certification Service Provider (CSP), which will then vouch for that person/entity's identity when they interact with other entities over the internet.

ETA, PKI & The Trade Board

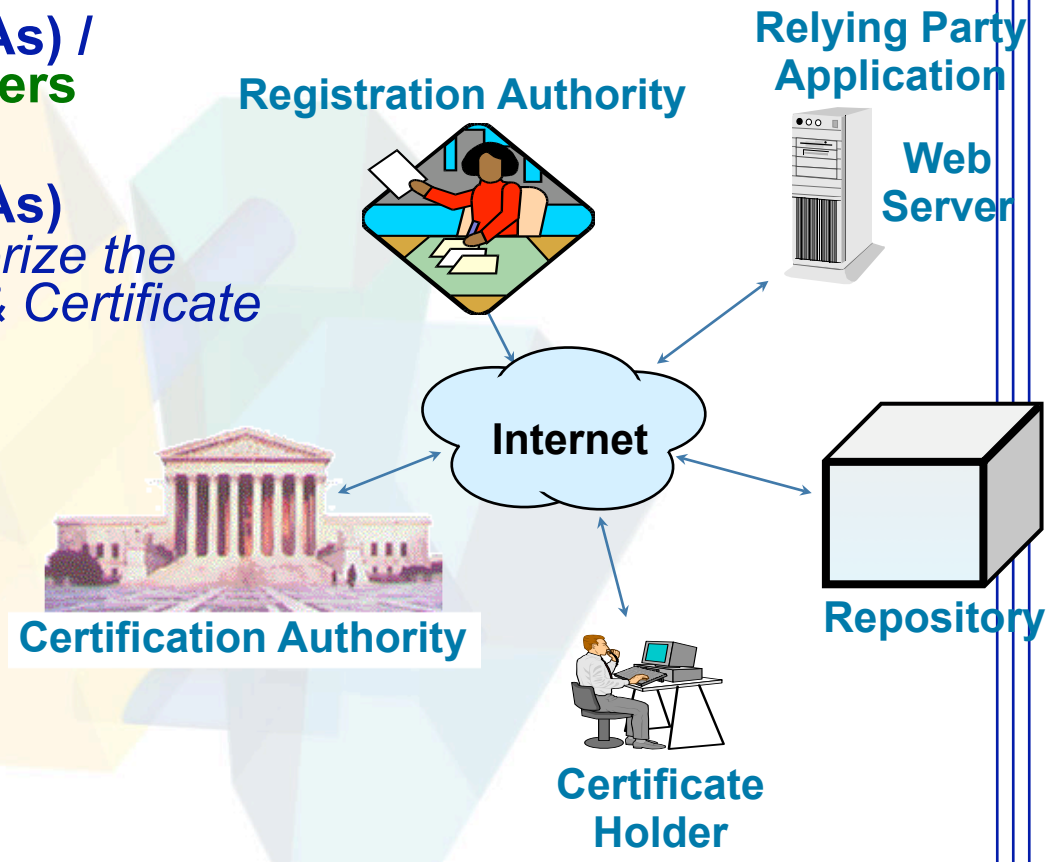
- Digital Certificate: A digital/electronic document issued by a CSP that verifies a person/entity's identity. Similar to a passport or drivers licence which ties personal details to a photograph. The digital certificate ties personal details to a public key – hence associated private key.
- Certification Service Providers (CSP), as defined in the ETA, are the **trusted third party** in an online transaction.

Role of the Trade Board Jamaica

- Be the Certifying Authority for CSPs
  - Registration and Regulation of CSPs
  - Authorise and regulate the issue of certificates by CSPs.
  - Authenticate certificates issued by any local or overseas CSP
- Issue Certificates – Act as CSP for government primarily
- Co-operate with overseas CAs in establishing a system of mutual certification

Components of PKI

- **Certification Authorities (CAs) / Certification Service Providers** *(Issuers)*
- **Registration Authorities (RAs) / Certifying Authority** *(Authorize the binding between Public Key & Certificate Holder)*
- **Certificate Holders** *(Subscribers)*
- **Relying Parties** *(Validate signatures & certificate paths)*
- **Repositories** *(Store & distribute certificates & status: expired, revoked, etc.)*



Digital Signatures, PKI and E-Procurement

Where does Buyer use PKI ?

- Secure Login
- Tender floating
- Corrigendum
- Secure communications with vendors
- Tender opening
- Clarifications and negotiations
- Digitally signed PO/WO
- Digitally Signed Archives

Where does Vendor use PKI ?

- Secure Login
- Secure storage of content
- Tender submission
- Encryption using buyer's public key
- Clarifications and negotiations

Dainsworth Richards

CITO

Thank You

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