



Your G2B trading partner

# UN/CEFACT Mini Conference on “Ensuring Legally Significant Trusted Transboundary Electronic Interaction” 29<sup>th</sup> UNCEFACT, GENEVA

## AFRICA POINT OF VIEW



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*Simplifying Trade Processes For Kenya Competitiveness*



## Importance of Authentication

- Due to the proliferation of fake documents circulating around the world, it becomes necessary that the specific documents must be authenticated from its source.
- Authentication is a proof of recognition of the source of a document
- **Authentication** (from Wikipedia)  
“In contrast with identification which refers to the act of stating or otherwise indicating a claim purportedly attesting to a person or thing’s identity, authentication is the process of actually confirming that identity.”



# Forms of Authentication

There are three factors that can provide a form of authentication:

## What You Know

An example of this factor of authentication is most commonly associated with online security, the password. In addition, another example might be the verbal passphrase to enter the speakeasy or an ATM pin number.

## What You Have

For example, this can be as simple as a person possessing a **door key** to his or her home. Access cards and token authentication fobs are two common ways to authenticate in an office setting.

## What You Are

Mainly biometric analysis. Common forms are **finger/palm print readers and retina scan**. Initially found on things that required the highest level of security, but it's become quite common. Everyday smartphones now require fingerprint scanning before completing purchases.

## Multi-factor Authentication:

Combining factors of authentication greatly reduces the chance of a failure in the authentication process.

Two and three factor authentication is catching on in many areas outside of internet services.

## BENEFITS/ NEED OF AUTHENTICATION TO CROSS BORDER TRADE

- ✓ Digital signature solutions are replacing paper-based signatures and have the potential to dominate signature-related processes. The primary benefits of this technology include increased efficiency, lower costs and increased customer satisfaction.
- ✓ A fully digital process of signing and sending documents decreases work hours and reduces cost in paper and transport.
- ✓ Reduction of fraud due to the traceability of electronic processes and documentation.
- ✓ Facilitates cross border data flows through secure electronic interchange of data from country to country or even at regional basis. E.g. EAC Single Customs Territory, SWS data sharing in the EAC region, effort to exchange Certificate of Origin in various RECs.
- ✓ Promotes adoption of electronic processes for transactional systems thus offering opportunities for data analytics to assist in planning and decision making.



## BENEFITS OF AUTHENTICATION TO CROSS BORDER TRADE....Cont'd

- ✓ Supply chain security by ensuring transparency in trade processes and documentation thus minimizing trade in endangered or prohibited products. Challenge in the EAC region with transiting of wild life trophies..
- ✓ Help to identify authors of an electronic transactions.
- ✓ Facilitates electronic management of data and documents ensuring integrity of the same.
- ✓ Promotes a secure environment for electronic transactions.
- ✓ Promotes the automation of processes and ensuring the legal value of documentation is maintained in electronic transactions.



# CHALLENGES WITH AUTHENTICATION IN KENYA/AFRICA

- ✓ Slow adoption of the technology on existing systems and processes due to the perceived high cost and concern about acceptance by stakeholders and users of the various systems.
- ✓ Poor infrastructure across the country and region. i.e. Internet services, and availability of end user devices.
- ✓ Lack of a harmonised enabling regulatory environment with regards to laws and regulations that support the use of electronic transactions in the region.

An East African Communications Organisation study found that:

“The EAC member states have taken various initiatives to address Policy and Regulatory issues on e-transactions. However, the developments of these Policy and Regulatory frameworks are at varying stages of development.

- ✓ Lack of a critical mass of applications or systems that are PKI enabled.
- ✓ Lack of effective change management initiatives to on-board the citizenry and other stakeholders on use and benefits of digital signatures.

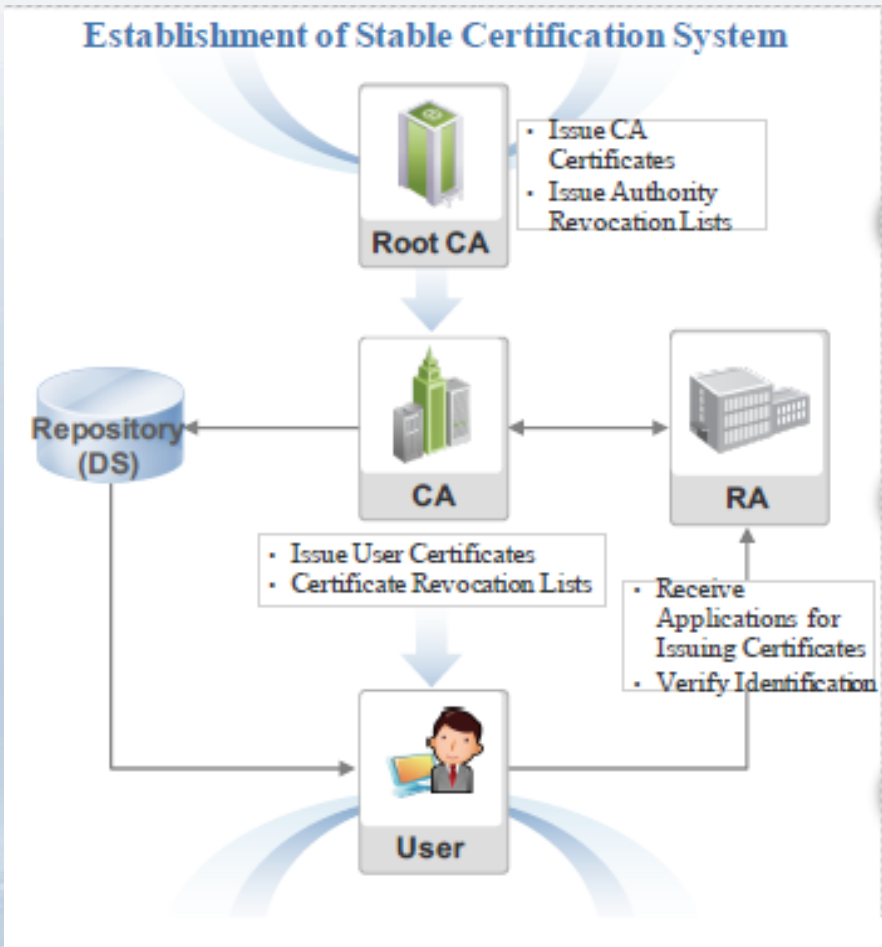
## OVERVIEW OF THE KENYAN PUBLIC KEY INFRASTRUCTURE

- ✓ GOK has embarked on creating a secure online transaction environment and setup an online identity and verification system.
- ✓ The PKI initiative has been rolled out in Kenya and is currently under pilot.





# KENYAN PKI MODEL



Establishment of Laws and PKI standards for:

1. E-Signature law.
2. Standards and Technical guidelines

PKI System Implementation through:

1. Implementation of certification services.
2. Setup of the Root CA and government CA

PKI Service implementation through:

1. PKI application services.
2. PKI enabled applications and services.

## KENYAN PKI MODEL ...Cont'd

**The NPKI comprises of three parts:**

- **The Root Certification Authority (RCA)**

A function of the Communications Authority of Kenya (CA) and is used as a regulatory tool in the licensing of Electronic Certification Service Providers (E-CSPs). The RCA accredits (endorses) the E-CSPs so that the digital certificates they issue are recognized by the law at the national level.

- **The Government-owned E-CSP**

ICT Authority (ICTA) will be licensed to operate the government-owned E-CSP to issue digital certificates (virtual identities) to Internet users using government services. This will be the first E-CSP licensee for the Communications Authority of Kenya (CA).

- **The Registration Authority**

- This are agents of the Certification Authority (s) who run PKI enabled services or applications and register users on behalf of the CA to utilize the services. KenTrade falls under this category as the operator of the Kenya TradeNet (Single Window) service.

## TWO FACTOR AUTHENTICATION ON THE KENYA TRADENET SYSTEM

- KenTrade is currently in the process of rolling out sms based two factor authentication for its single window system users (TradeNet)
- Users will be required to provide a phone number or email address where short codes can be sent.
- During the login transaction, the user will sign-in with their password as usual, then will be required to enter a short code received in a text message through his registered phone or email address.
- The authentication will provide a second level security prior to roll out of the digital signature project.





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