Introduction into electronic Permit Information Exchanges (EPIX)
What is EPIX?

Definition:

*Electronic exchange of CITES permits, certificates (or snippets) between MAs of different countries.*

Annotation:

- Electronic permit data structure as per eCITES Toolkit, Chapter 4.2 (CCL-eCERT mapping)
- Snippet: a subset of the information in a permit
- Exchange between MAs: The assumed sender and receiver is an MA. The actual sender/receiver may be a different agency (SW operator, Customs, ..) but this agency will act on behalf of the MA (Black Box).
- A country may choose to exchange EPIX messages between their own Gov. Agencies (example MA and Customs). These exchanges are not considered EPIX exchanges although the administrations may choose to use the EPIX standards.
EPIX Architecture: How are the messages exchanged?
Architecture: Central Hub or Point 2 Point

Figure 2.1: Overview of Electronic Permit Information Exchange (EPIX) between two Parties
EPIX: Central Hub or P2P?

Feasibility study on a EPIX central hub architecture: Switzerland, France and UNEP-WCMC in 2015/2016

Easy:

- Specifications for web service calls
- Initial technical platform for message exchange

Not easy:

- A Hub comes with a price: Requires development of standards and agreements for security, confidentiality, service level agreements, operation, steering, continuous funding, ..
- Parties could become dependent on the Hub service provider
- A Hub is a single point of failure
- In the future there will be multiple architectures: SW2SW, point-to-point exchanges, ePhyto Hub, ASEAN SW, EU TRACES Hub, Blockchain permit exchanges, ..

Conclusion from the feasibility study:

- In any case we need standards for EPIX exchange
- At them moment P2P is the easiest and cheapest solution, so let,s go with this

**Decision: For now we focus on P2P standards, Parties are free to choose their own architecture**
The very basics of an EPIX message exchange
EPIX - Steps in a P2P permit exchange

EPIX Permit cross border workflow

Exporter

I Request permit

II Receive permit ID

III Send permit ID

IV Submit declaration
Submit permit ID

Authority-Ex

Permit DB

Authority-Im

Customs

V Request permit data

VI Send permit data
Simplified Model of the Permit exchange process (cont)

- Exporter request permit
- MA-Ex issued permit and sends permit ID and optional paper/PDF copies of the permit (no signature/seal) to Exporter
- .. and sends permit ID to importer
- Importer submits permit ID in the Customs declaration
- Customs notifies MA-Im. MA-Im sends permit request to MA-Ex
- Ma-Ex sends permit to MA-Im
- MA-Im sends permit to Customs

* electronic workflows/exchange in red
Currently all pilots are P2P under the leadership of Switzerland

In the near future more Parties will implement P2P exchanges

In the more distant future Parties may choose to implement in addition other architecture/exchange mechanisms such as P2P, Hubs (EU SW Hub, WTO STDF ePhyto Hub, ASEAN SW Hub, ..) Blockchains, ..

A likely outcome is not a single exchange platform/technology but rather a mix of different solutions. This situation will be dynamic, i.e. will evolve as new technologies and experiences become available

CITES CoP is not likely to recommend a single exchange architecture or system

UN/CEFACT standards and guidelines support and will continue to support different architectures

This workshop will focus on P2P architectures only

We will monitor requirements and need for compatibility with Hub solutions

Parties interested in Blockchain for EPIX should follow up on the current research and pilot projects in UN/CEFACT

ESCAP countries should participate in the ESCAP framework agreement on cross border exchange of electronic trade information
Basics of the CITES ePermitting Toolkit
CITES ePermitting Toolkit

- If two MAs want to exchange an electronic permit they need to agree on the structure of the information that is exchanged.

- This structure is defined in the ePermitting Toolkit.

- This work was done by UN/CEFACT experts.

- How did we develop the electronic data structure of the CITES permit?

  ➔ Three Steps

  1. Use a well structured paper permit with a definition for every data element.

  2. For each data element describe a logic structure.

  3. Define how the logic structure is expresses in a computer language (the syntax).
From a paper permit to an electronic permit
Step 1 A well-structured paper permit
From a paper permit to an electronic permit
Step 2: From paper to a logic structure (CEFACT CCL)
From a paper permit to an electronic permit – Step 3 From logic structure (CCL) to XML

```xml
<xs:complexType name="TradePartyType">
  <xs:sequence>
    <xs:element name="ID" minOccurs="0" type="udt:IDType" maxOccurs="unbounded"/>
    <xs:element name="Name" minOccurs="0" type="udt:TextType"/>
    <xs:element name="PostalTradeAddress" minOccurs="0" type="ram:TradeAddressType"/>
    <xs:element name="SpecifiedRepresentativePerson" minOccurs="0" type="ram:RepresentativePersonType"/>
    <xs:element name="SpecifiedAuthoritativeSignatoryPerson" minOccurs="0" type="ram:AuthoritativeSignatoryPerson"/>
  </xs:sequence>
</xs:complexType>
```
The CITES eCERT data structure is based on a more general data structure: UN/CEFACT eCERT standard.

This standard is also used for:

- electronic SPS (IPPC Recommendation)
- electronic agriculture Quality standard certificate
- electronic agriculture Certificate of Origin
- can be used for other agriculture permits (Halal, ..)

This means that the data structure of the “Exporter” in the eSPS and in the eCITES message are the same.

You can electronically validate an eSPS against an eCITES.

eCITES is compatible with CoP18 recommendations for CITES traceability.
When using the eCITESToolkit:

1. Chapter 3 is for information only, chapter 4 (CITES Toolkit Annex), page 33 ff is mandatory

2. **EPIX uses** the XML Schema of the ePermit Core Component Data Model V2.0 (*Chapter 4.2*) of UN/CEFACT

3. For information there is also a mapping to the WCO Data Model (*Chapter 4.3*) which is NOT used for EPIX

4. The eCERT XML Schema can be downloaded from https://cites.org/sites/default/files/eng/prog/e/CITESEPermit_2p0_xsd.zip
Thank you!

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