



Exchange Mechanism & Security with US ePhyto

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Overview

- APHIS has a national system to issue Electronic Phytosanitary Certificates (ePhyto) - (PCIT)
- US ePhyto is a Point to Point web service model
- Based on UN/CEFACT SPS Schema V6.0, and ISPM 12

Start Date	Country	Certificates Received	Certificates Sent
June 2013	Netherlands	3,706	Starting December 2014
December 2013	Australia	2,233	March 2014
Ongoing TBD	Chile, China, Mexico, and New Zealand		

PCIT ePhyto Security Architecture

Based on ISPM 12-Appendix 1:

Six points for ePhyto



1. Each NPPO is responsible for the security of their national system.
2. During transmission, the data should be encrypted to ensure that the phytosanitary certification data is secured and authentic.

PCIT ePhyto Security Architecture

- 3) Transmission of data should be performed using secure IT mechanisms (e.g. Simple Object Access Protocol (SOAP), Secure/Multipurpose Internet Mail Extensions (S/MIME), File Transfer Protocol (FTP)) agreed on by the NPPOs concerned

- 4) At a minimum, the NPPO of the exporting country should make available to the exporter the phytosanitary certificate number of the consignment.

PCIT ePhyto Security Architecture

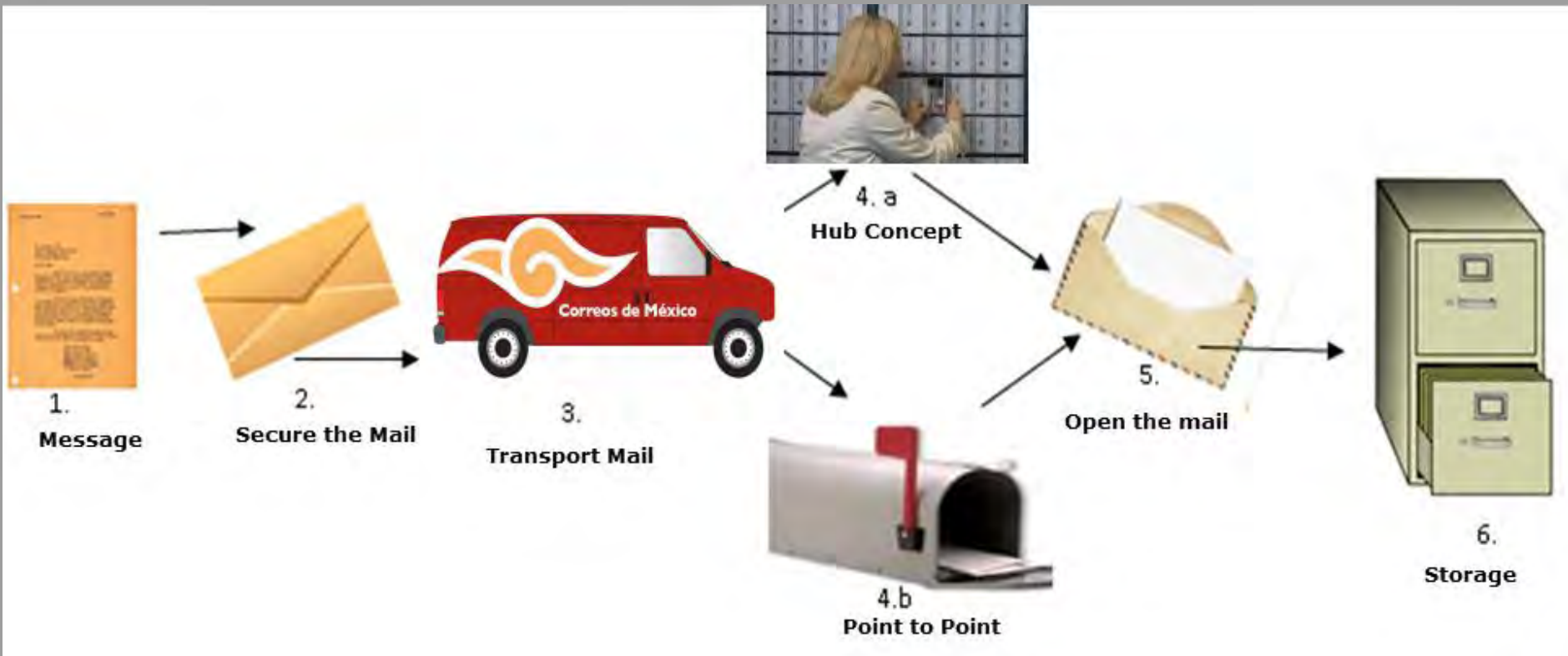
- 5) The communication of status messages between NPPOs should follow UN/CEFACT recommended standard messages.

- 6) NPPOs are responsible for developing and maintaining their systems for exchanging ePhyto data. NPPO should notify affected NPPOs as soon as possible when a national systems message is suspended due to maintenance or unexpected system failure.

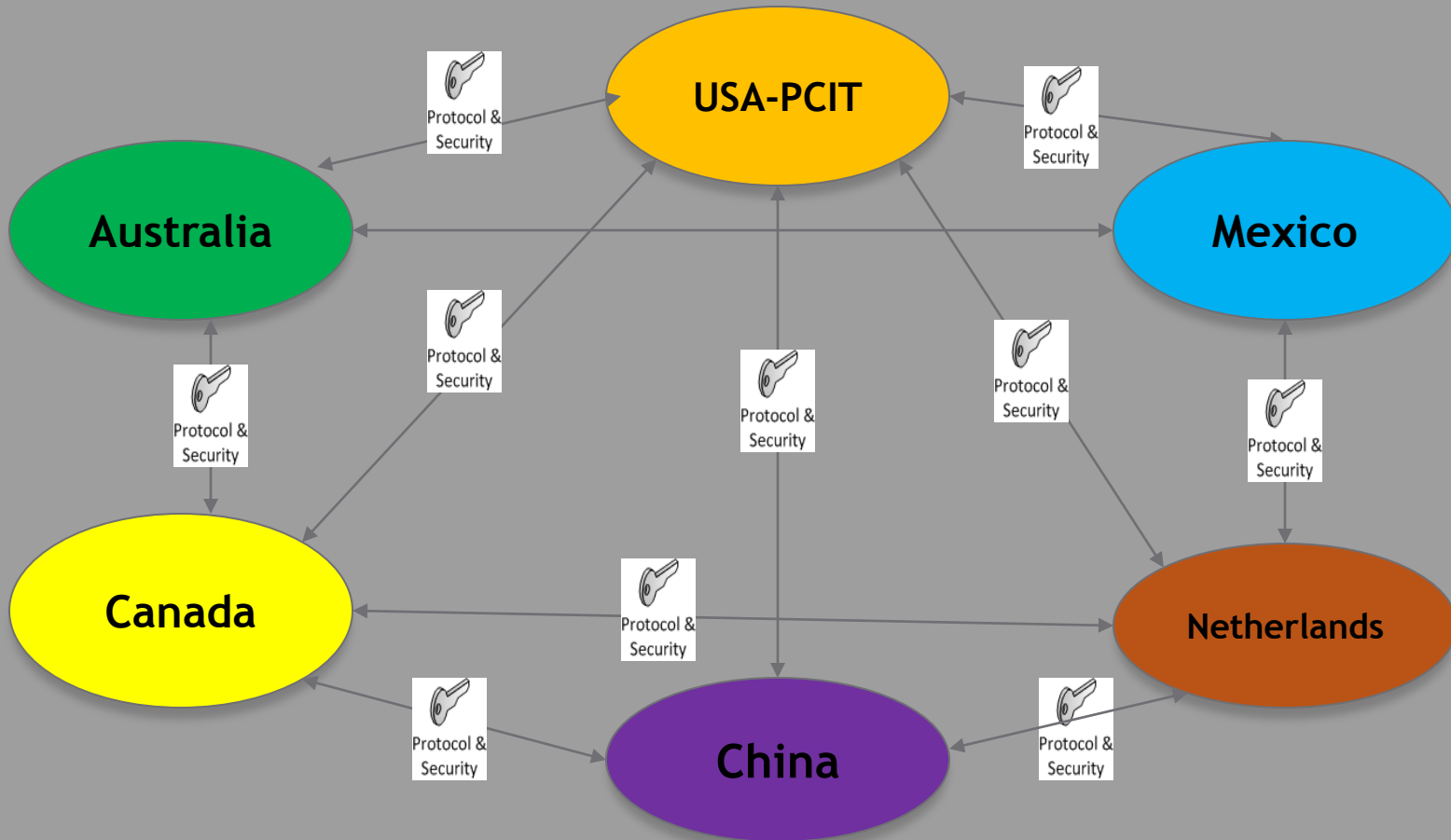
PCIT ePhyto Security Architecture

- APHIS-PCIT messages are sent in Simple Object Access Protocol (SOAP)
- Transmitted using Secure Sockets Layer (SSL)
- Hypertext Transfer Protocol Secure (HTTPS)
- In the future - Digital signatures will be based on 509 certificates

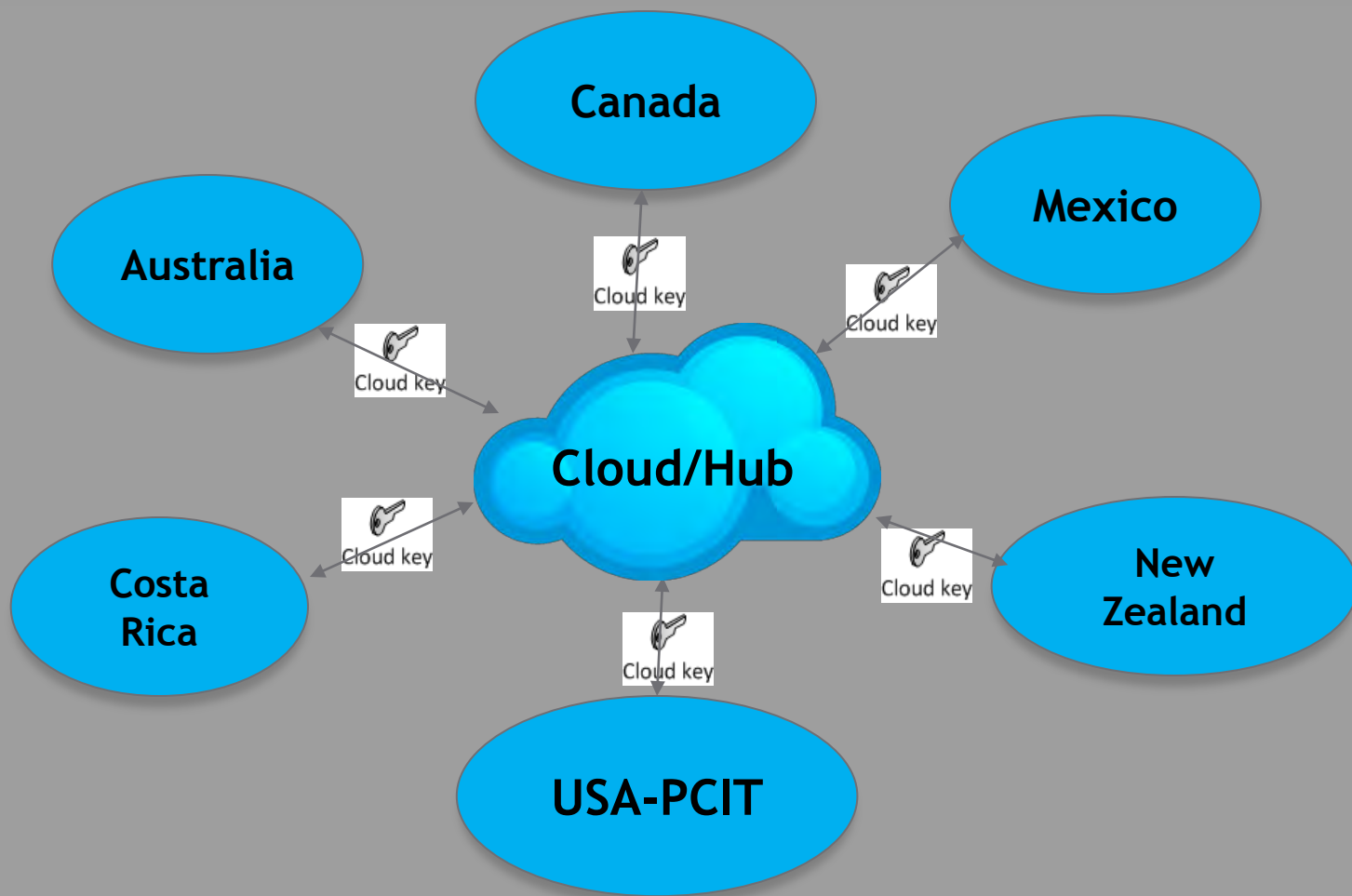
Point to Point vs Single Point (Hub) Concept



*Point to Point (4.b)



*Single Point System (Hub) (4.a)



ePhyto Development Challenges

- Everybody does ePhyto differently...
- Costly (\$\$\$\$\$) and takes up a lot of time and resources
- Continual evolving of ePhyto SPS XML message standard
- Non-uniform web security mechanism (digital signatures, encryptions)
- Attachments

Next Steps

- The process must be made simpler and become standardized. Don't reinvent the wheel...
- NAPPO countries should begin and maintain a dialogue on how we are going to standardize ePhyto functions as a region. Updates, upgrades, communication etc.
- Evolve to Global Exchange System (a.k.a. Hub model) with Cloud Technology which would make everyone follow the same rules and help to validate the messages
- Continuously update the Hub with changes from IPPC so that we are all on the same page
- Reach out and add more trading partners



QUESTIONS ?

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