THALES

RESEARCH & TECHNOLOGY (UK) LTD

SECure CONtainer Data Device standardisation

Michael Naylor

10 September 2009

Conference on Maritime Container Security, Bremen

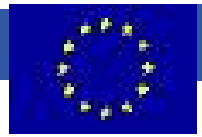
Thales: Around the World

- World leader in mission-critical information systems
- Operations in 50 countries
- 68,000 employees worldwide
- Serving three core markets: Defence, Aerospace and Space, and Security
- £12.7 billion annual revenues

Leveraging a global presence and spanning the entire value chain, Thales plays a pivotal role in making the world a safer place

SECCONDD Background

European Commission



THALES

SELEX Communications
a Finmeccanica Company

COTECNA

cen

HM Revenue & Customs

SECCONDD = SECure CONtainer Data Device standardisation

SECCONDD was a PASR 2005 supporting activity

Objective: to initiate the standardisation of interfaces for Secure or Smart Containers

Comprehensive, unbiased study of requirements and solutions was completed and delivered to the EC

The need for Secure Containers

The need for Secure Containers

Cargo Containers can carry up to 40 tonnes of material: it is easy to hide dangerous materials within this

Scanners have limited effectiveness against fully loaded containers

Containers can take several hours to manually search

Containers are exposed to long periods under threat from criminal exploitation

Existing sealing methods are not adequate to protect against intrusion

Topics Addressed by SECCONDD

Scenarios

- The primary and secondary security threats and other needs of the user

Data

- The data that must be generated, stored and transferred across the interface

Interrogation

- Where the Goods Data Device needs to be and can be interrogated

Protection

- The need to protect the data against electronic and physical attacks

Constraints

- Real life limitations such as energy use, cost, commercial pressures, regulation etc

Interface protocols

- Selection or design of the optimum interfaces that meet the requirements above

SECCONDD Requirements*

Covers trade, handlers and law enforcement authority (LEA) requirements

Highly secure and tamper resistant

Re-useable, long life and low cost

Deployable worldwide

Both short range and long range communications

Position location

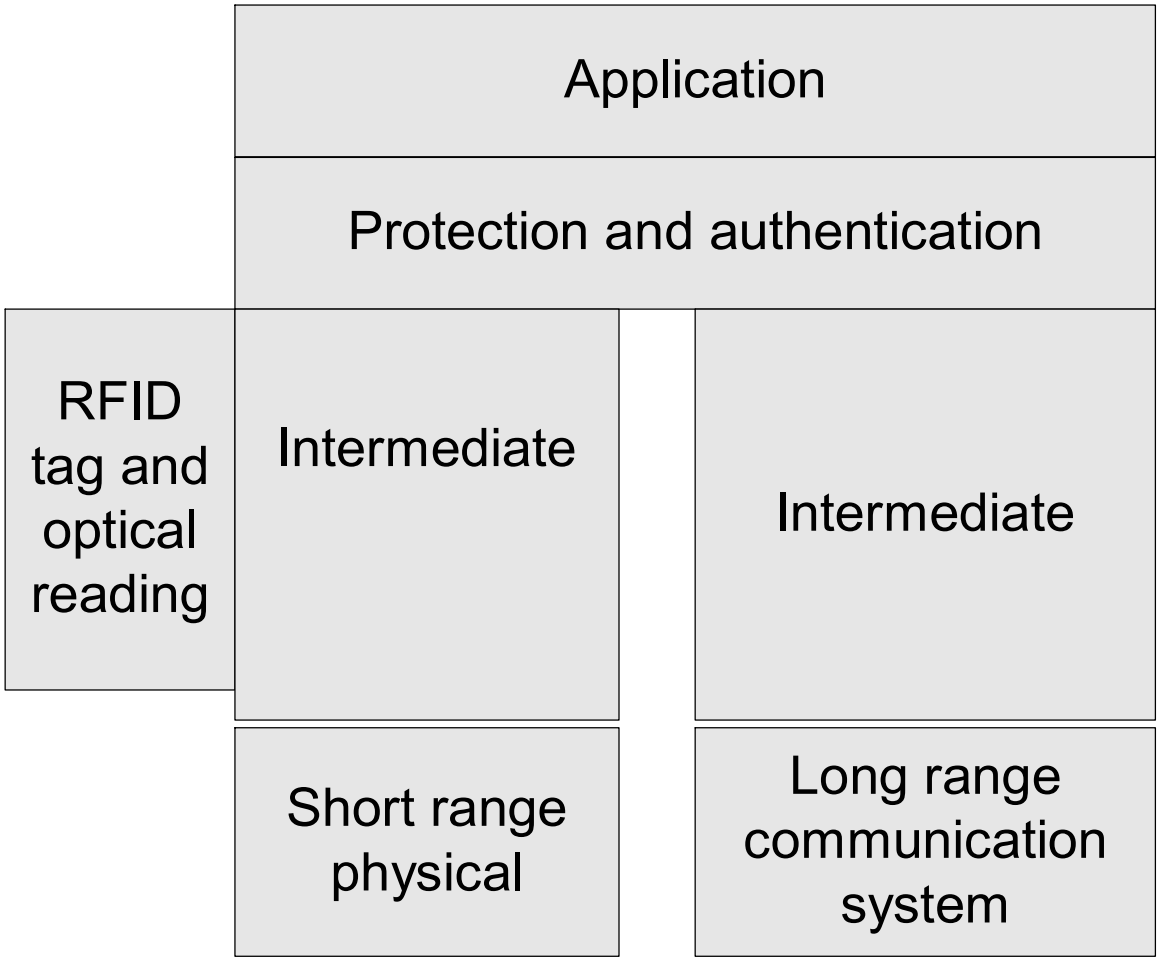
Long term data storage

Accommodates a range of internal and external sensors

*summarised from SECCONDD Final Report

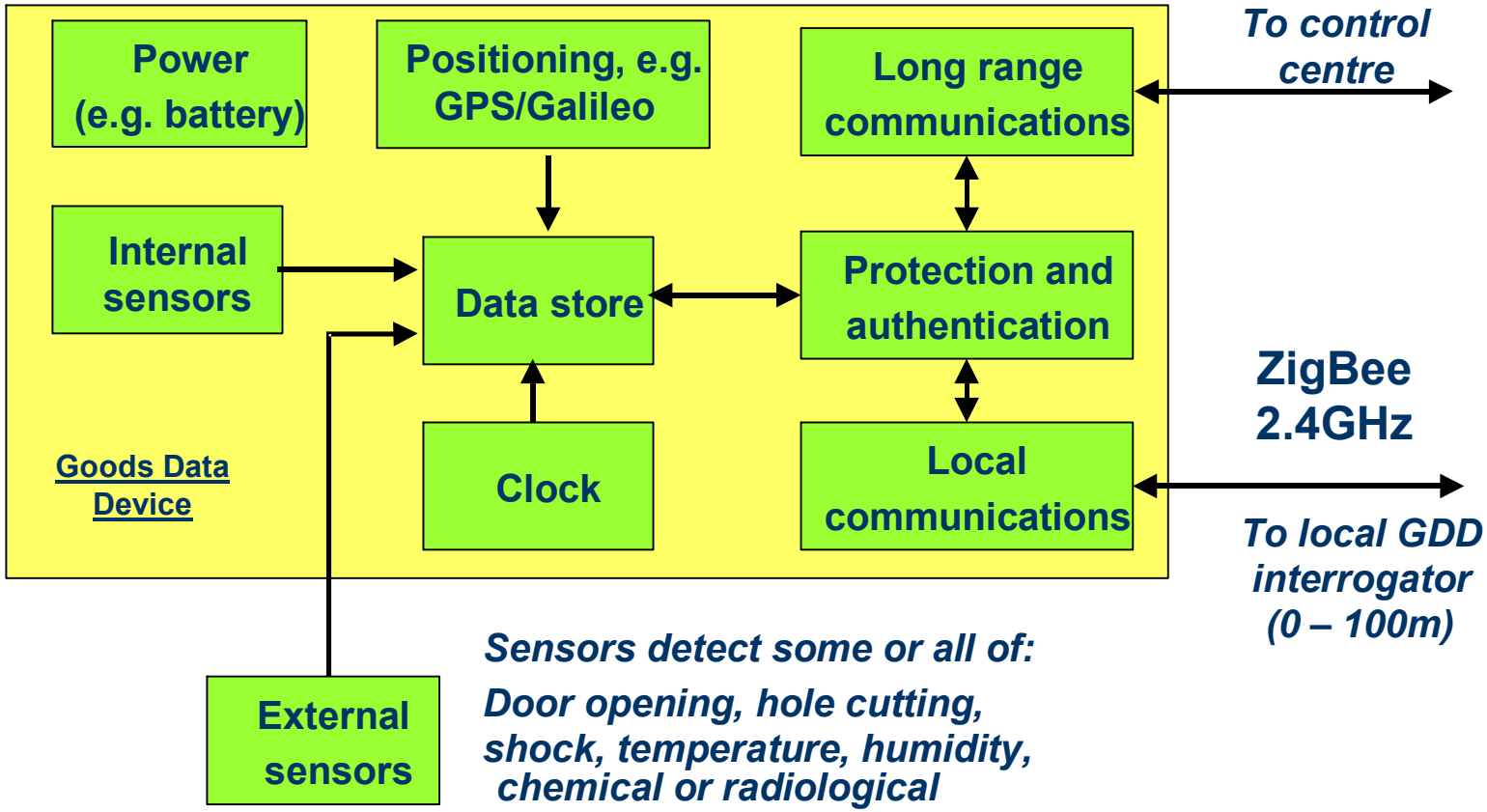
SECCONDD is a major step forward from the existing ISO 18185 electronic seal standard

SECCONDD Protocol Stack

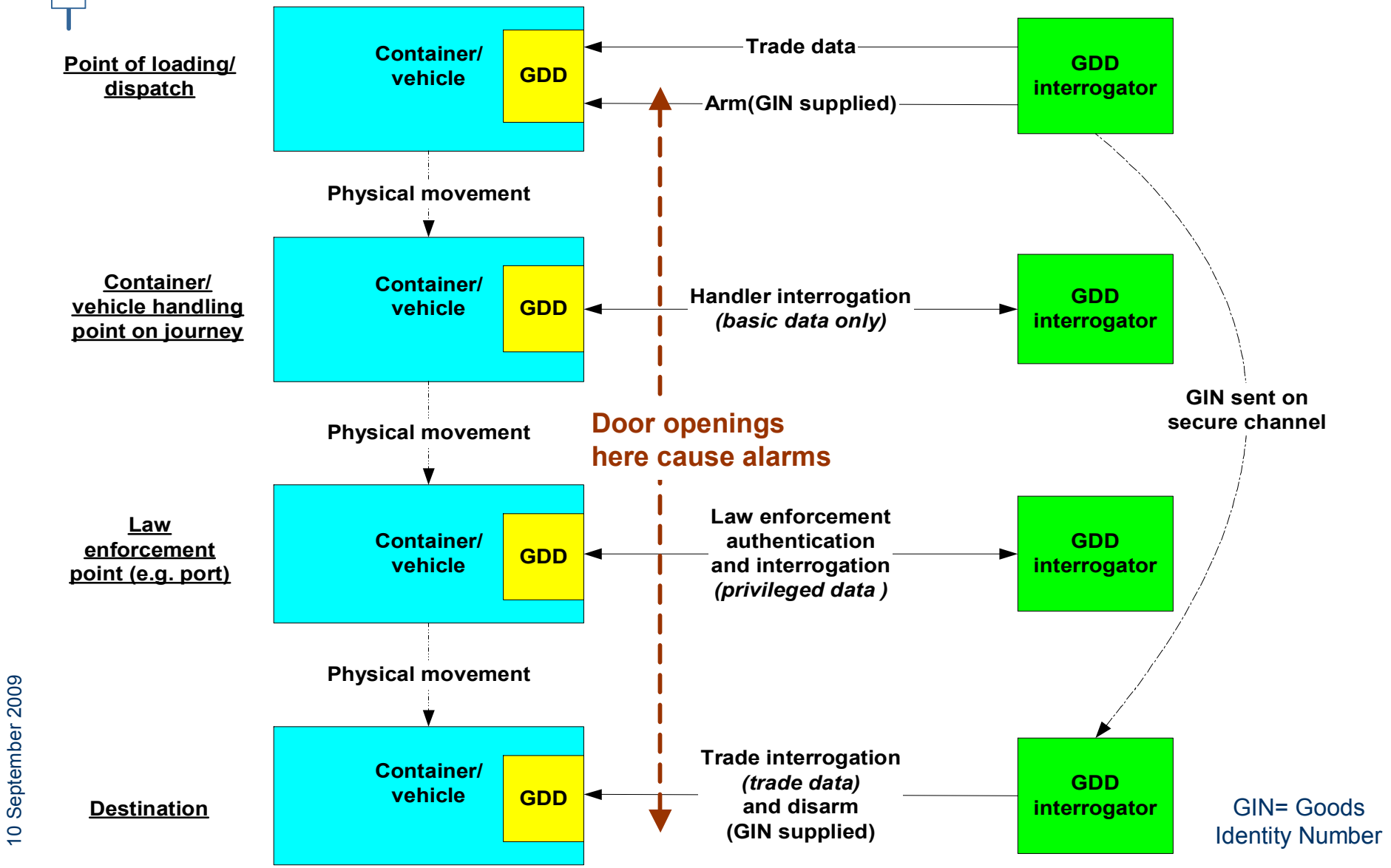


Data Link, Network and Transport layers:

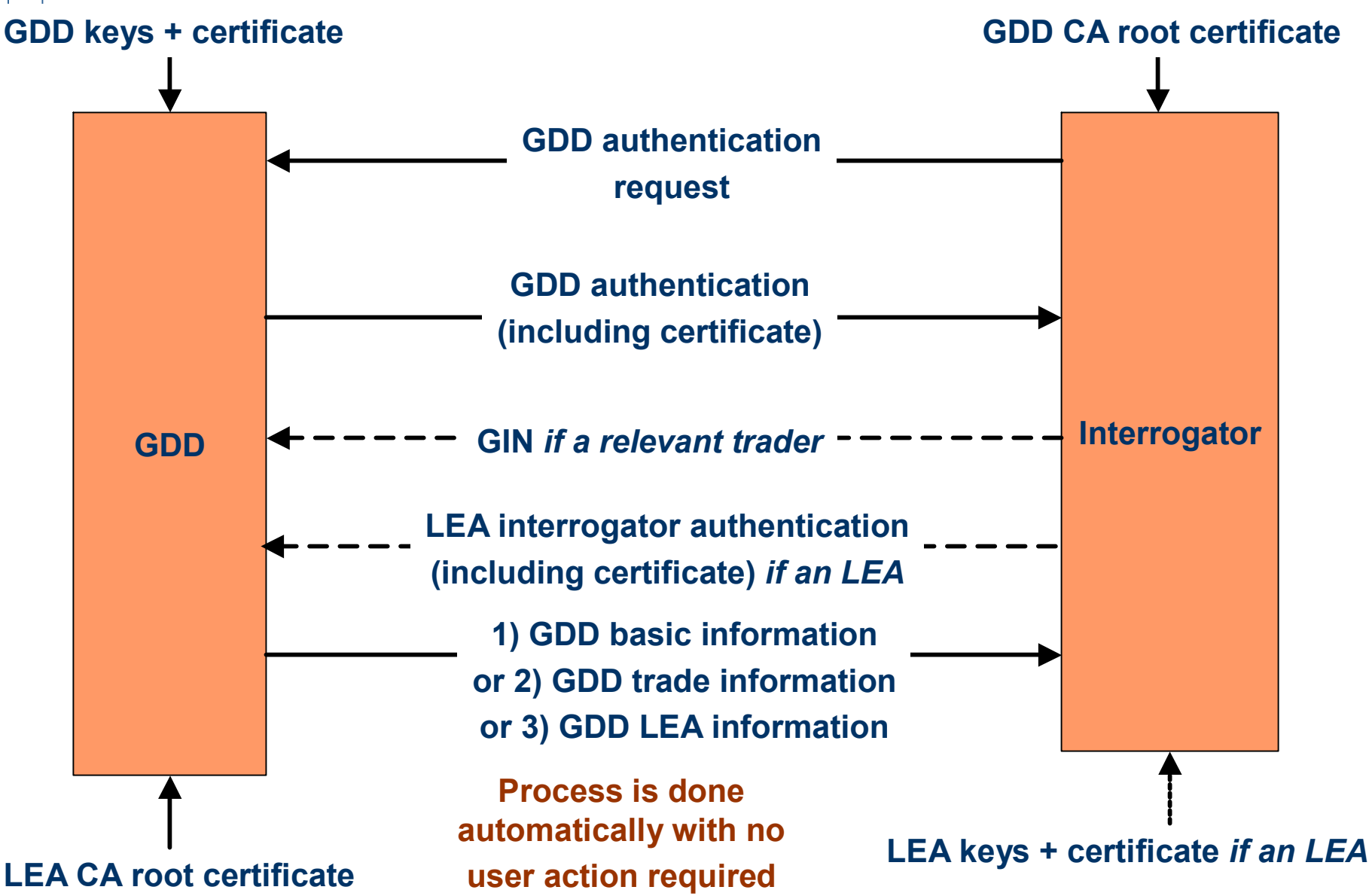
Goods Data Device



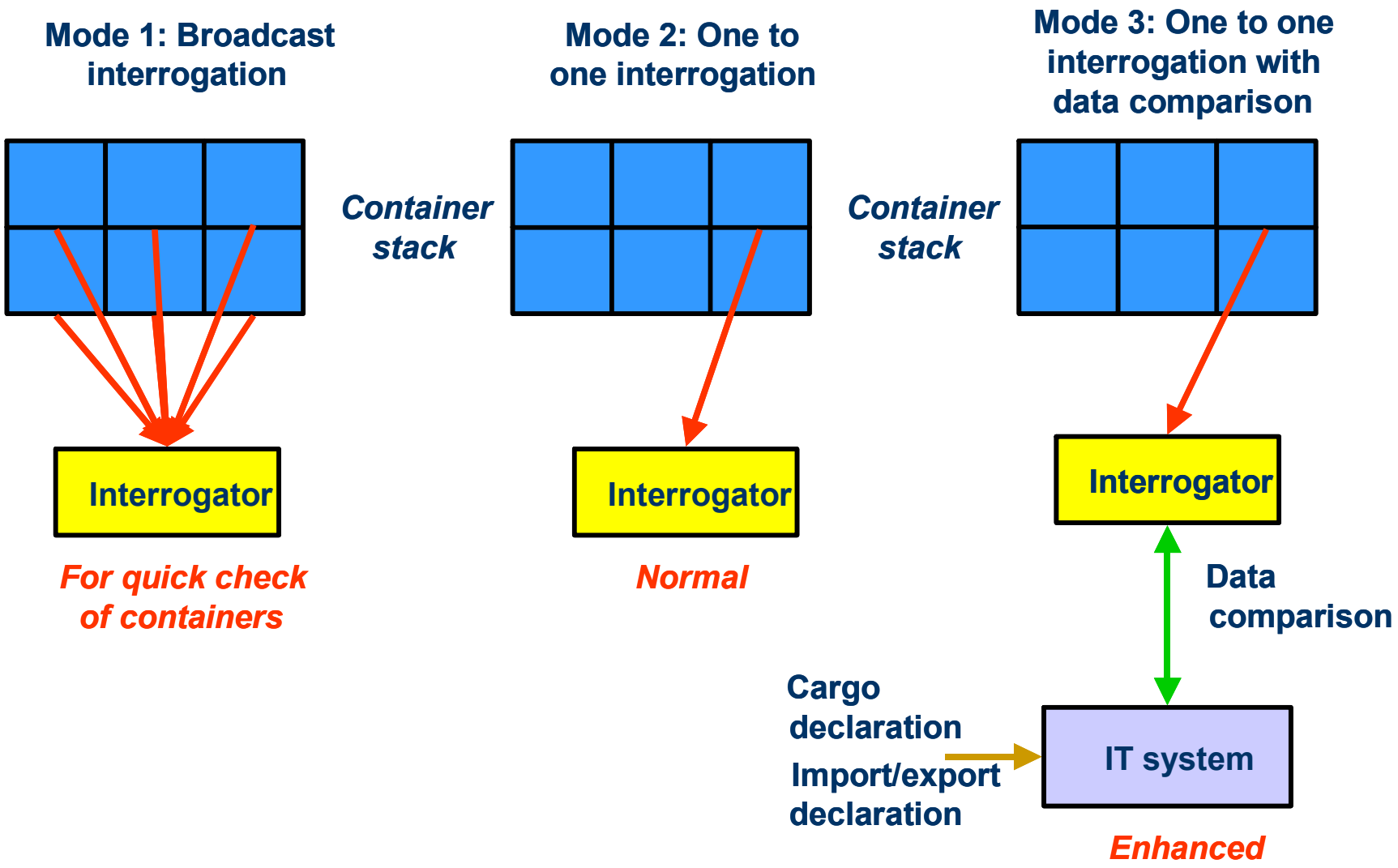
GDD Types of Interrogation



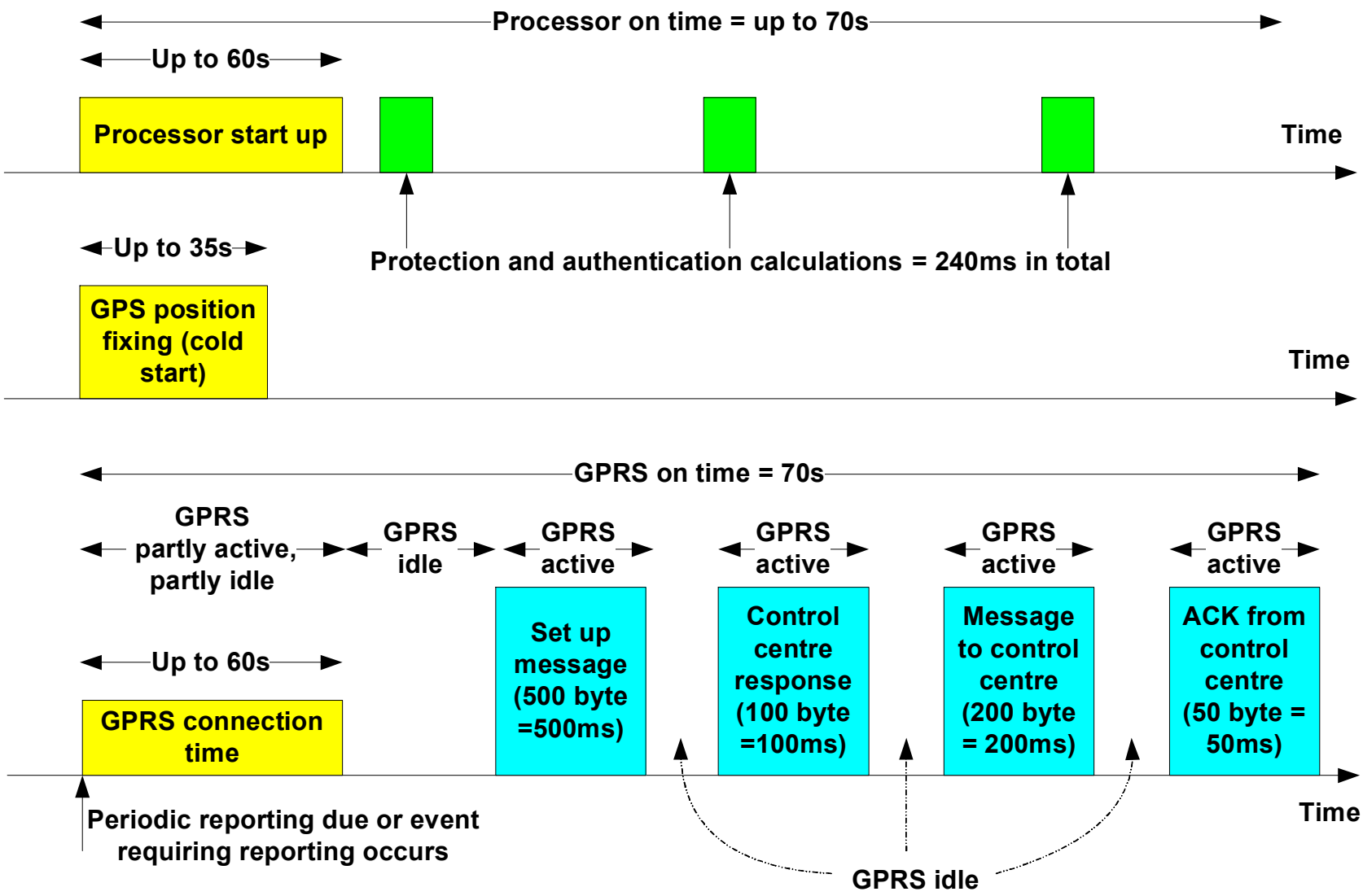
Authentication of GDD and Interrogator



Short Range Communications Modes



Long Range Communications



Example of Long Range Tracking

THALES

SECCONDD: Summary

As part of the European Commissions Preparatory for Security Research, SECCONDD has defined a comprehensive and secure communications interface between secure containers and the infrastructure

It is a major advance on the current ISO standard for electronic seals: ISO 18185 and is a good starting point for further standardisation initiatives

Final report including the recommended standard is available by sending email request to:
SECCONDD.trtuk@thalesgroup.com

SECCONDD: Way Forward

Together with the planned introduction of 100% scanning, SECCONDD could be one part of a layered container security approach to meet US and EU concerns about security

SECCONDD is a good starting point for international standardisation initiatives for secure containers

A logical next step would be to implement and pilot a prototype system, to include suitable sensor technology

Note that the EC has recognised the importance of container tracking and monitoring in its latest FP7 security call

THALES

RESEARCH & TECHNOLOGY (UK) LTD

Questions?