



4SYNERGY



Defence Materiel Organisation
Ministry of Defence

Classification and Signing LibreOffice

ON A PERSONAL BASES

FBIT

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16-10-2017



Agenda

1. The problem
2. About collaboration
 - TSCP (focus F35)
 - The military operation
 - Complexity of collaboration
 - Organizing trust
 - NATO working groups (FMN + Stanag 4774)
3. ABAC architecture
 - Attributes on people and data
 - Hardening of those attributes (organizing trust)
4. Built in LibreOffice
 - First implementation SHA256
 - Second implementing TSCP controls for IP and EC on document level
 - Third investigation of regulatory compliance (IP, EC, Privacy, Sensitivity and Archiving)
 - Fourth implementation regulatory controls on paragraph level
5. Additional implementations
 - Export to and signing of PDF (other presentation)
 - Implementation of PAdES and XAdES (for archiving)



The Problem

Sharing Information with

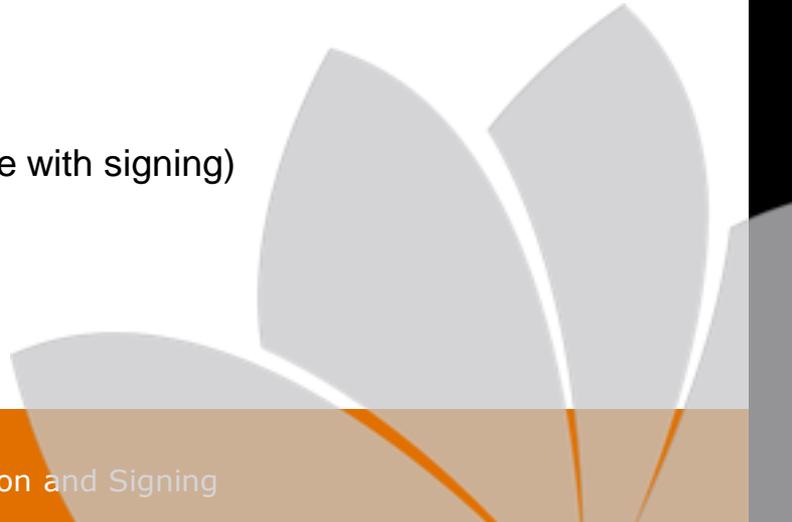
- So many nationalities
- So many interest groups
- So many groups with different trust levels
- From one single infrastructure

Sharing information on basis of

- Need to know (multiple levels of sensitivity aka security)
- Duty to share
- Pushing
- Pulling

The Solution

- Add attributes on people
- Add attributes on information (this is data classification)
- Harden the attributes on the information (this can be done with signing)
- Release info on bases of those (hardened) attributes
- Release info on initiative sender OR receiver
- Additional benefits:
 - good practice for preventing data leakage
 - good opportunity for complying to GDPR





4 SYNERGY

Fekke Bakker

Expertise in Governance, Privacy, Security en Auditing

35 years experience in IT and Security

- Leadership,
- Management,
- Innovation,
- Security,
- Advice



Ministry of Defence



Certified Information Systems Auditor
An ISACA® Certification



Free Social Business IT

FSBIT

Dutch National Representative in TSCP (www.tscp.org)

- Intellectual Property
- Export laws
- Privacy up to Anonymity
- Organized and Demonstrable Trust
- Scalable, granular, in maintainable



Overheden	Aerospace & Defence	Technologie partners
		



Now

Consulting Partner at 4 SYNERGY



About Collaboration

Example

Lockheed Martin F-35 Lightning II

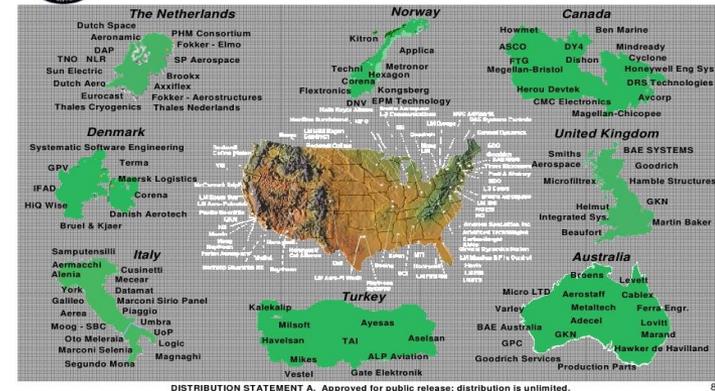
- Many nations
- Many companies

How?

See www.tscp.org



Global Production System



Importance Secure Credentials Example



Future business depends on trust
Trust based on secure credentials

Present project F-35
Dutch revenues
Every invested Euro comes back twice

	Numbers in Millions	NL Procurement	NL Sales
Development		€800	\$972
Production		€4.500	\$9.000
Already contracted			\$5.000
Maintenance			\$15.000-\$20.000

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

Italy

Italian Industrial Partners

Additional Industrial Participation
PACO - Aero
SE Cella - Vitracel, Rotome
Heavy Integri Crane - Avioleg
Localized Enclosure - Aeromaur
Bulk Arms Loader - Oto Melara

BORGOMANERO
Meccer

GENDA
Piaggio Aero

SPEZIA
Oto Melara
Elettronica Melara

TURIN
Alenia Aeronautica
Selex Galileo

CASELLA
Moog Casella

FOLIGNO
OMA
PALERMO
Galileo Avionica

SARONNO
Rotodyne

MILAN
Secondo Mona
Aerea
York

ORTONA
Sampurnelli

Electronic Warfare Components
Selex Galileo

Landing Aids Down Converter
Selex Comms

APRILIA
Avioleg
Aero Selkur

ROME
Selex SI
Elettronica
Gemelli

CISTERNA DI LATINA
POMEZIA
Sitelis (Communication)
(Marconi)

Locations

APRILIA
Avioleg
Aero Selkur

ROME
Selex SI
Elettronica
Gemelli

LOGIC
MEGA Italia
S3LOG
Selex Communication (Marconi)
Vibrocact

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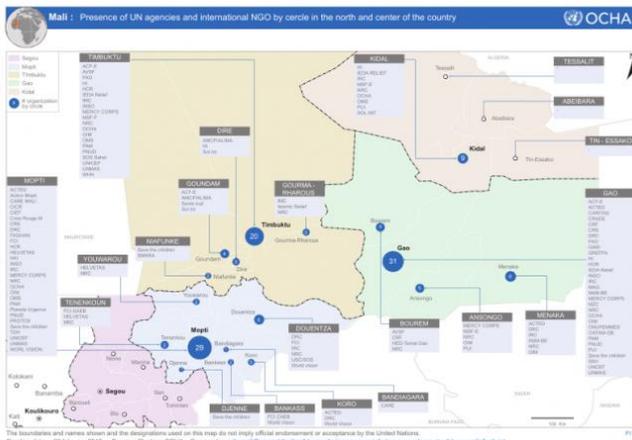


About collaboration

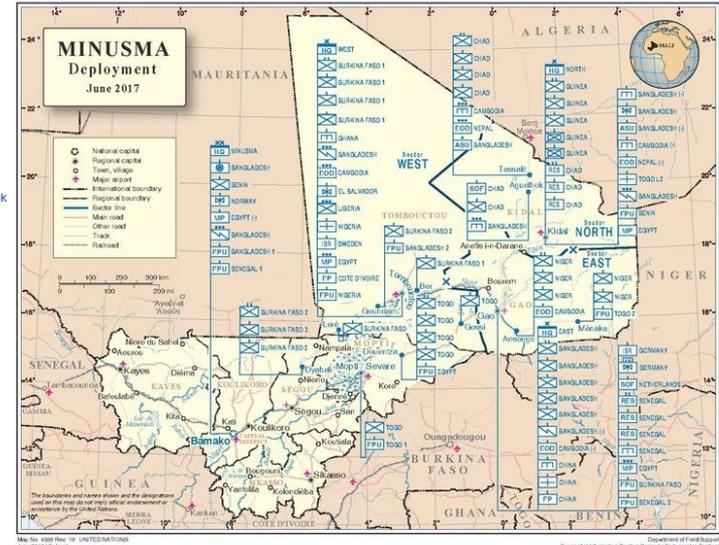
Example

The Military Operation

- Many sovereign nations
- Many army's
- Many Many NGO's



- Militairen** [bewerken]
- Bangladesh
 - Benin
 - Burkina Faso
 - Cambodja
 - Duitsland
 - Finland
 - Frankrijk
 - Ghana
 - Guinee
 - Ivoorkust
 - Jordanië
 - Liberia
 - Mauritanië
 - Nederland
 - Niger
 - Nigeria
 - Senegal
 - Sierra Leone
 - Tsjaad
 - Togo
 - Verenigd Koninkrijk
 - Verenigde Staten
 - Zweden
- Politie** [bewerken]
- Bangladesh
 - België
 - Benin
 - Burkina Faso
 - Burundi
 - Canada
 - Chili
 - Duitsland
 - Egypte
 - Frankrijk
 - Guinee
 - Italië
 - Ivoorkust
 - Jordanië
 - Kameroen
 - Nederland
 - Niger
 - Nigeria
 - Rwanda
 - Senegal
 - Tsjaad
 - Togo
 - Verenigde Staten

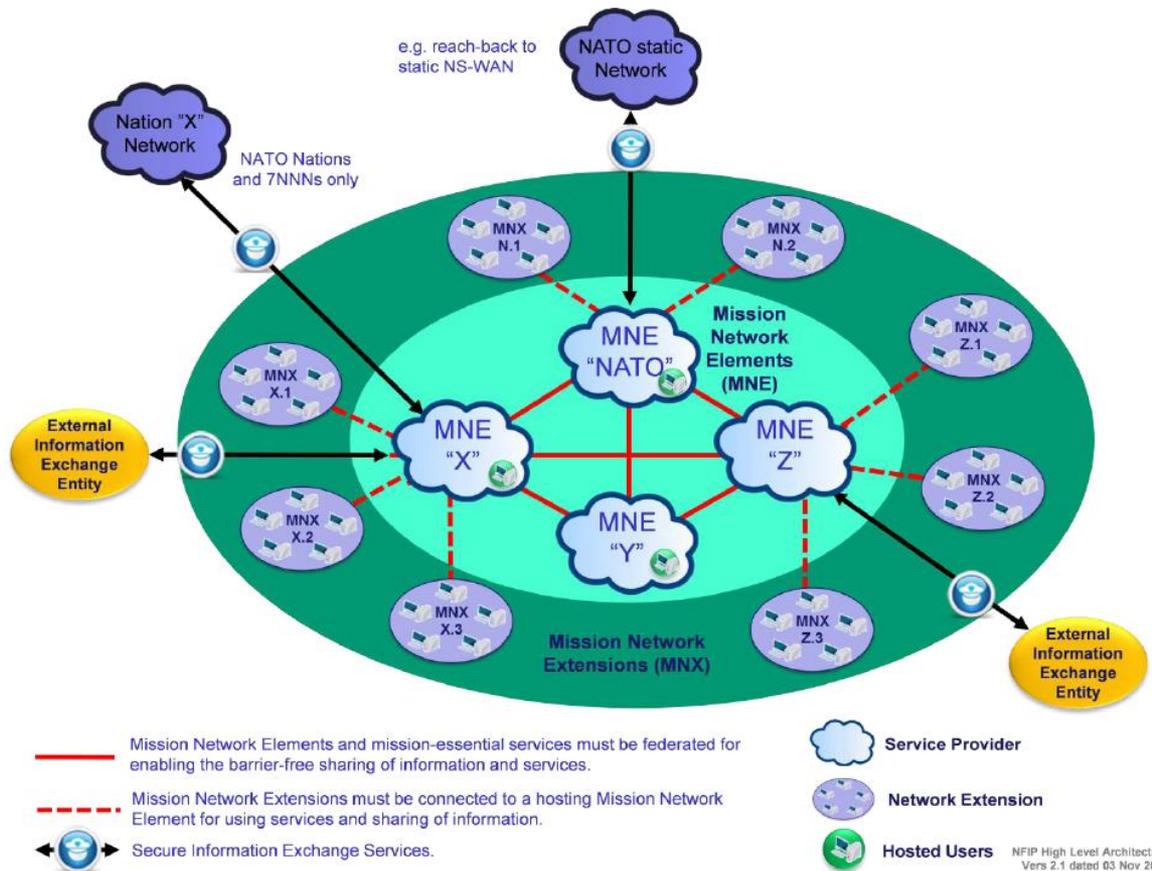


Citation 2017-10-06:
<https://www.flickr.com/photos/minusma/12192410766>
 Photo: MINUSMA/Marco Dormino



Complexity of collaboration

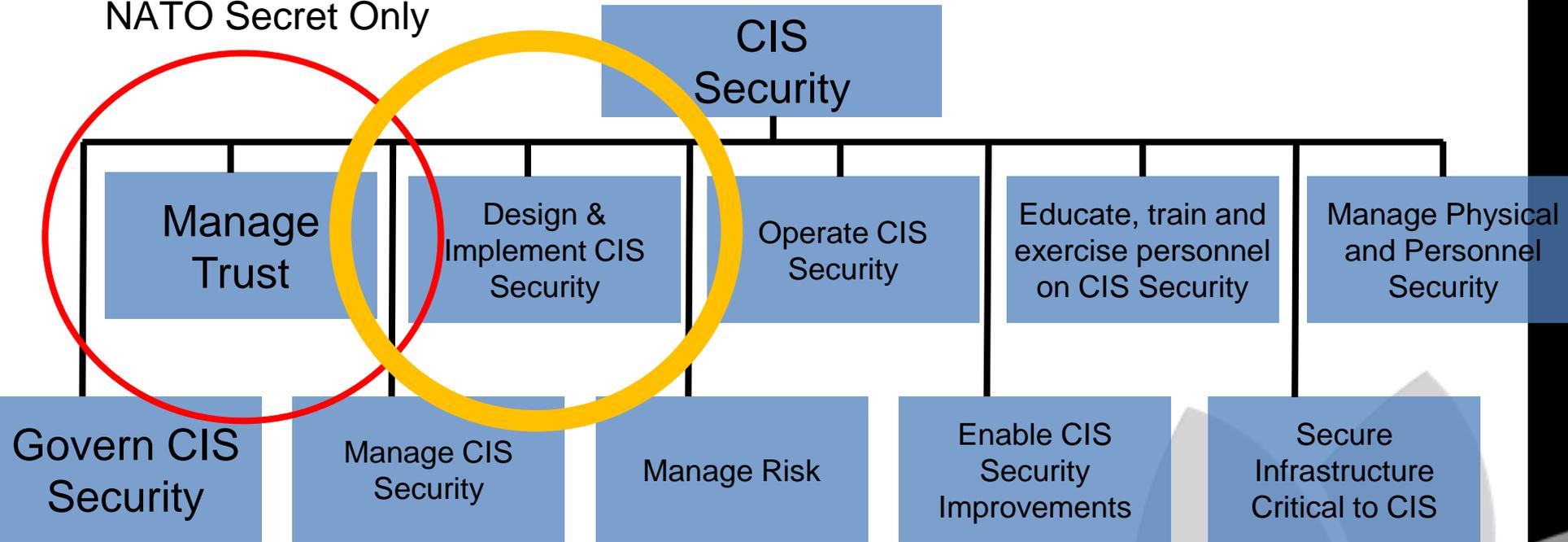
Nato's Federated Mission Networking NATO Secret Only





Complexity of collaboration

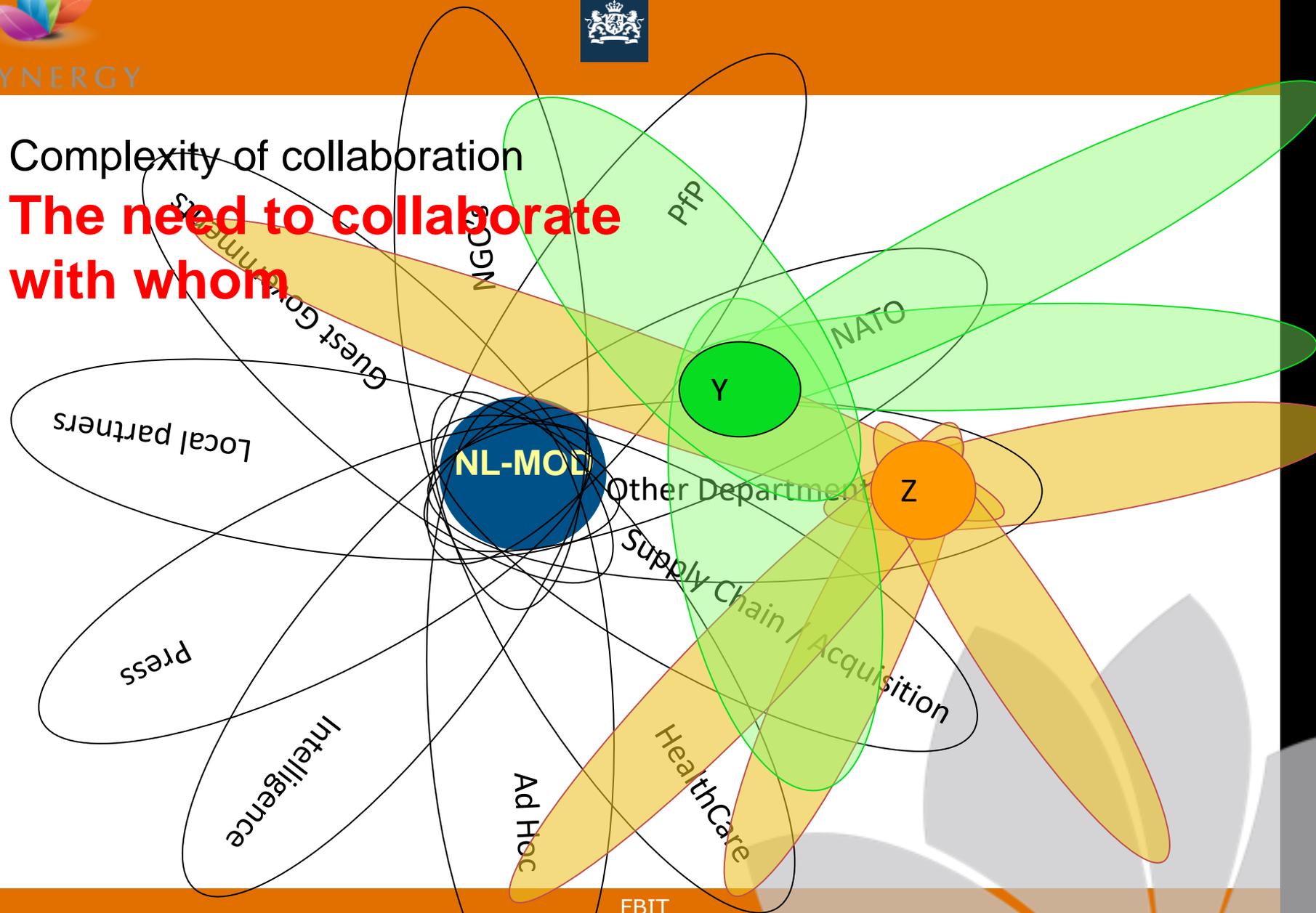
Nato's Federated Mission Networking
NATO Secret Only





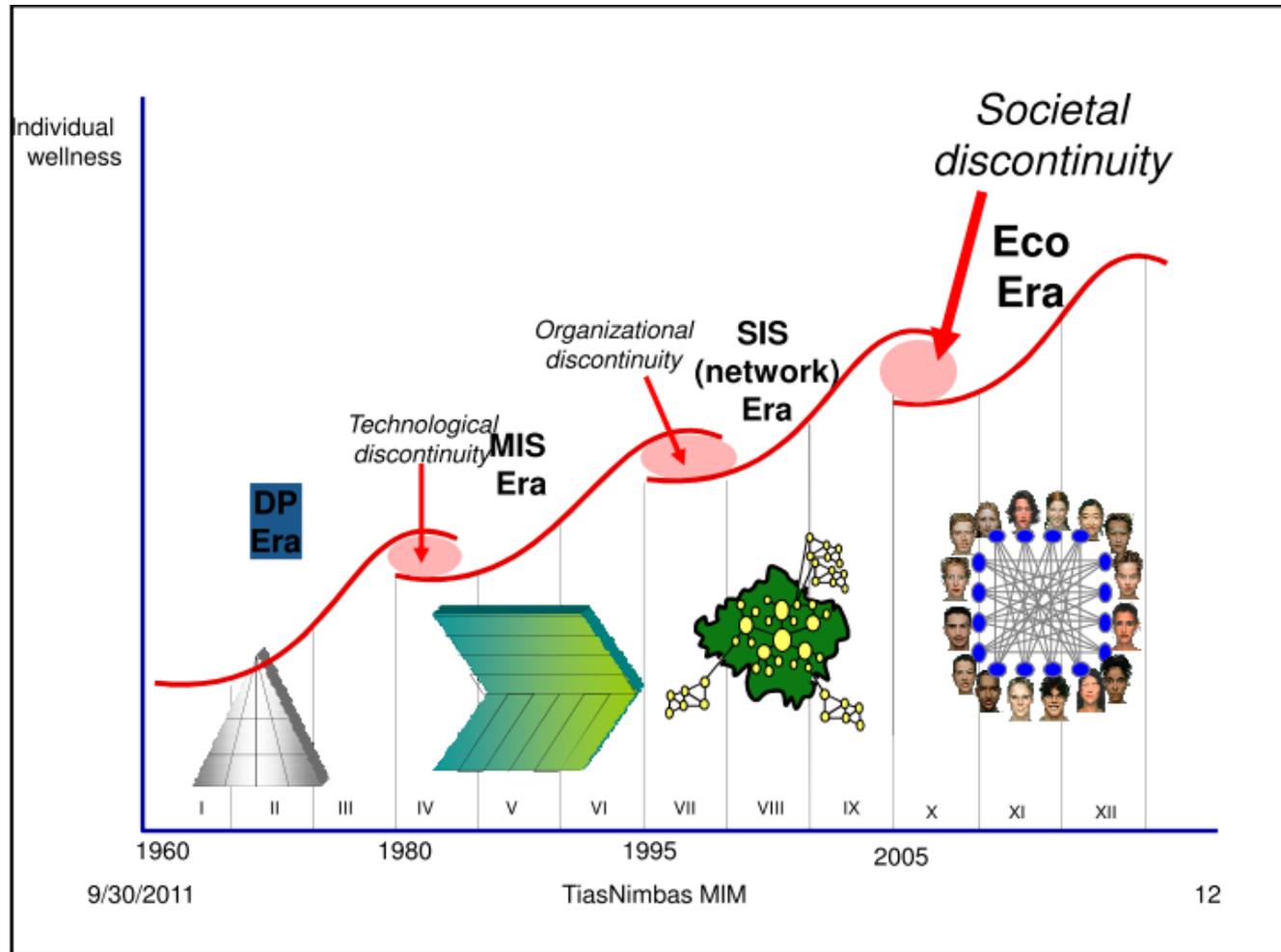
Complexity of collaboration

The need to collaborate with whom





Complexity of collaboration





Complexity of Collaboration

Organizing Trust

- Infrastructure (incl **assurance for multiple levels**)
- Procedures (incl **assurance for multiple levels**)

The Model:

Multiple Levels of Assurance (LoA)

- More sensitive information
need higher LoA → more expensive
 - Scalability demands as low cost as possible
 - Every organization only need 1 LoA
 - **Interaction** between different LoA is not only possible, but also **a necessity**
 - **Attribute Based Access Control** makes this possible
- On data: this is data classification**
Assurance : this is signing



Attribute Based Access Controls

First: What does one need from IT?

1. Ability to rely on your (partners) information
2. If necessary, ability to keep your (partners) information secret

For sustaining trust

3. Followed by procedures for accountability and auditability

Then, you can have trusted connections with partners



Attribute Based Access Control

IS ABOUT GRANTING ACCESS TO INFORMATION BASED ON

- Attributes on people (screening, role, partner, etc)
- **Attributes on information** (sensitivity, subject, contracts, etc)

THIS IS DATA CLASSIFICATION

Usefull attributes are derived from applicable policies like

- Export Controls
- Privacy
- Sensitivity
 1. from Intellectual Property (IP)
 2. from military or state secrets
- Archiving

Additional policies? Think about:

- Financial laws
- Medical laws
- Laws about intelligence
- Laws about Law Enforcing

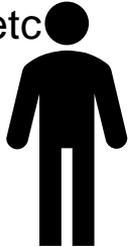


Built in LibreOffice

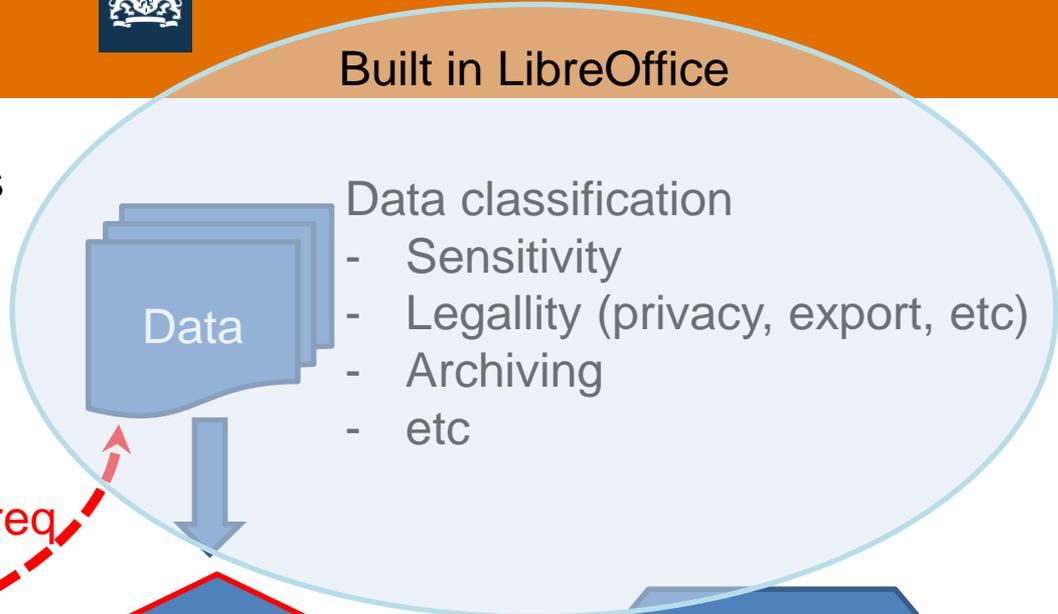
Attribute Based Access Controls

Identity management

- Screening
- Role
 - Organisation
 - Project X
 - etc



Data req



Assurance

- Policies
- Legal
 - Confidential
 - Internal things
 - etc

Workstation

- Health
- Crypto support
- Geographic location
- etc





Built in LibreOffice

1. Hardening data and the corresponding labels with SHA256
2. Data labels on document level for
 - a. Intellectual Property
 - b. Export Controls
3. Data labels for
 - a. Privacy
 - b. (Military) Sensitivity
 - c. Archiving
4. Data labels on paragraph level

Documented by
- Olivier Hatlot
- Cor Nouws

Technical details : Presentation Per Paragraph signatures by Ashod Nakashian

Format (military) sensitivity :

[Policy Authority] , [Sensitivity Level] , [Duration] , [Special Markings] , start of paragraph.....



Built in LibreOffice

Additional Implemented

- PDF Advanced Digital Signature (PAdES) standard
- XML Advanced Digital Signature (XAdES) standard
- Signing of existing PDF



Summary

Electronic collaboration is emerging
Network separation is not scalable nor granular
Attribute Based Access Controls are

For that one need the attributes

- Connected to the data
- Connected to the user
- Can also be connected to devices

For that one need policies

- To be edited by the business
- To be enforced

Attributes on data are implemented in LibreOffice

- Adaptable by “classification source file”



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Questions

Extra slide
Barrier without effective assurance



Barrier without hardening