WORKSHOP C

SESSION TWO

Presentation 4

Secured data collection

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CITA 2013 Session 2 of Workshops

Workshop C: Advances in Test Equipment

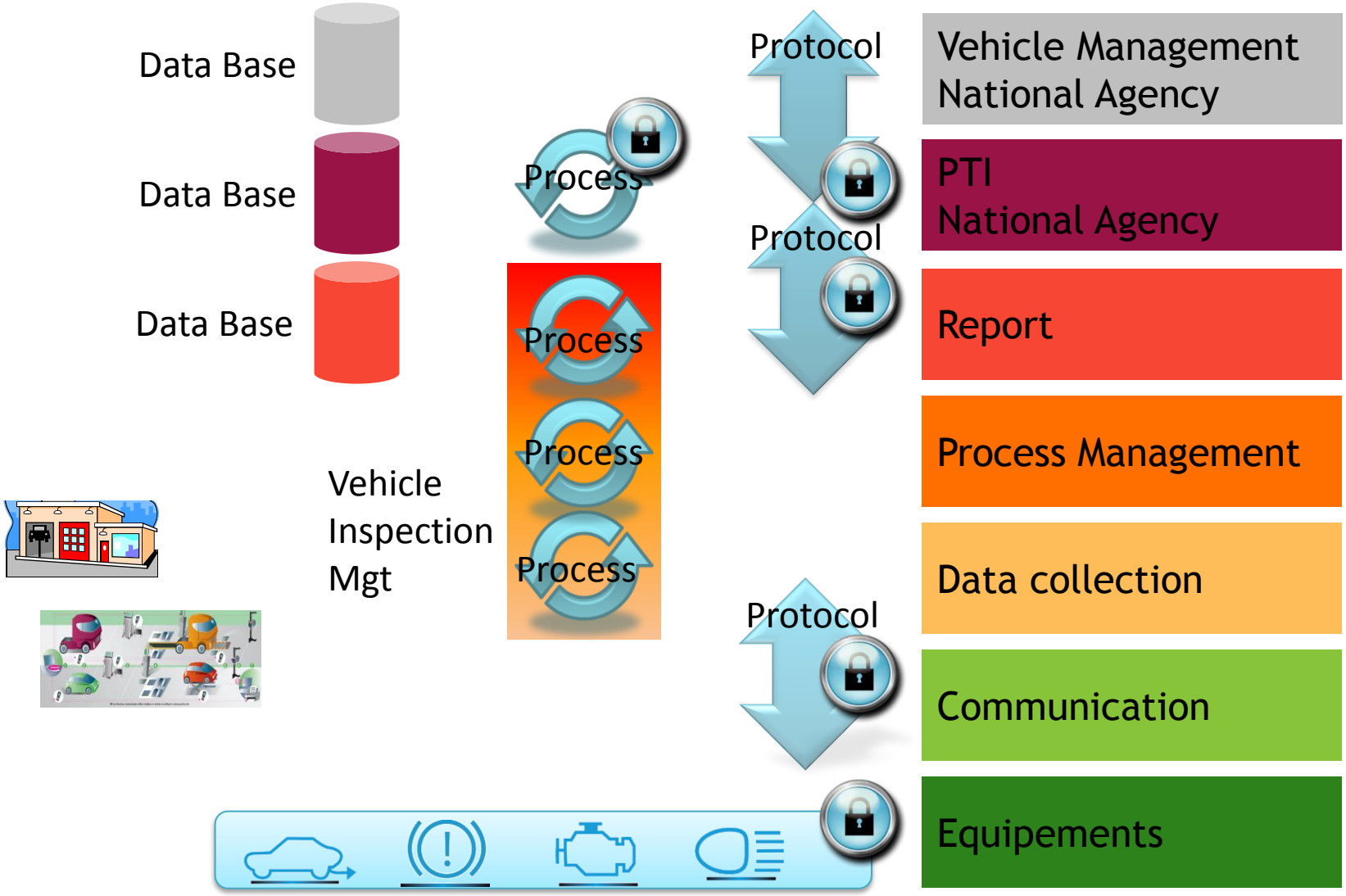
Secured Data collection

Georges PETELET: CAPELEC, Business Developer

OTCLan

SECURED

GLOBAL ARCHITECTURE, VARIOUS LAYERS



DATA TRANSMISSION: WAY TO ONE STANDARD

Isotec

Private A

Modula

ate C

Private B

Data profile

GIEGData

2000

GIEGNET Mono

Stoped since 1/1/2008

Data allocation after test

Serial mode transmission

GIEGNET Multi Carte grises

Protocol definition

Non Certified
Non secured

Vehicle selected from list
test performed
data allocated to vehicle pre selected)

2007

GIEGLan

File sharing & data exchange

2013

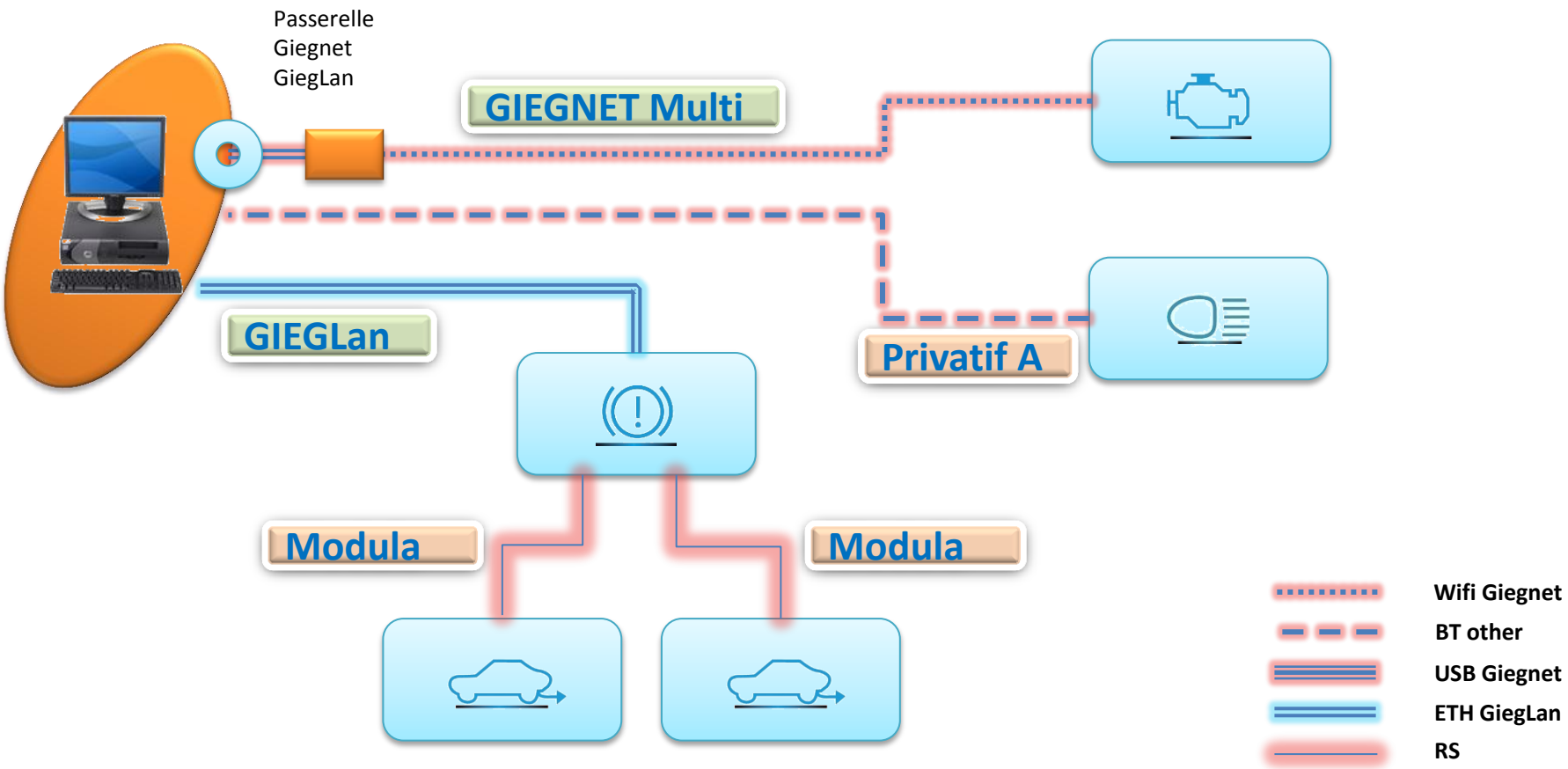
OTCLan

Specified by SR/V
Under approval
Mandatory
Secured

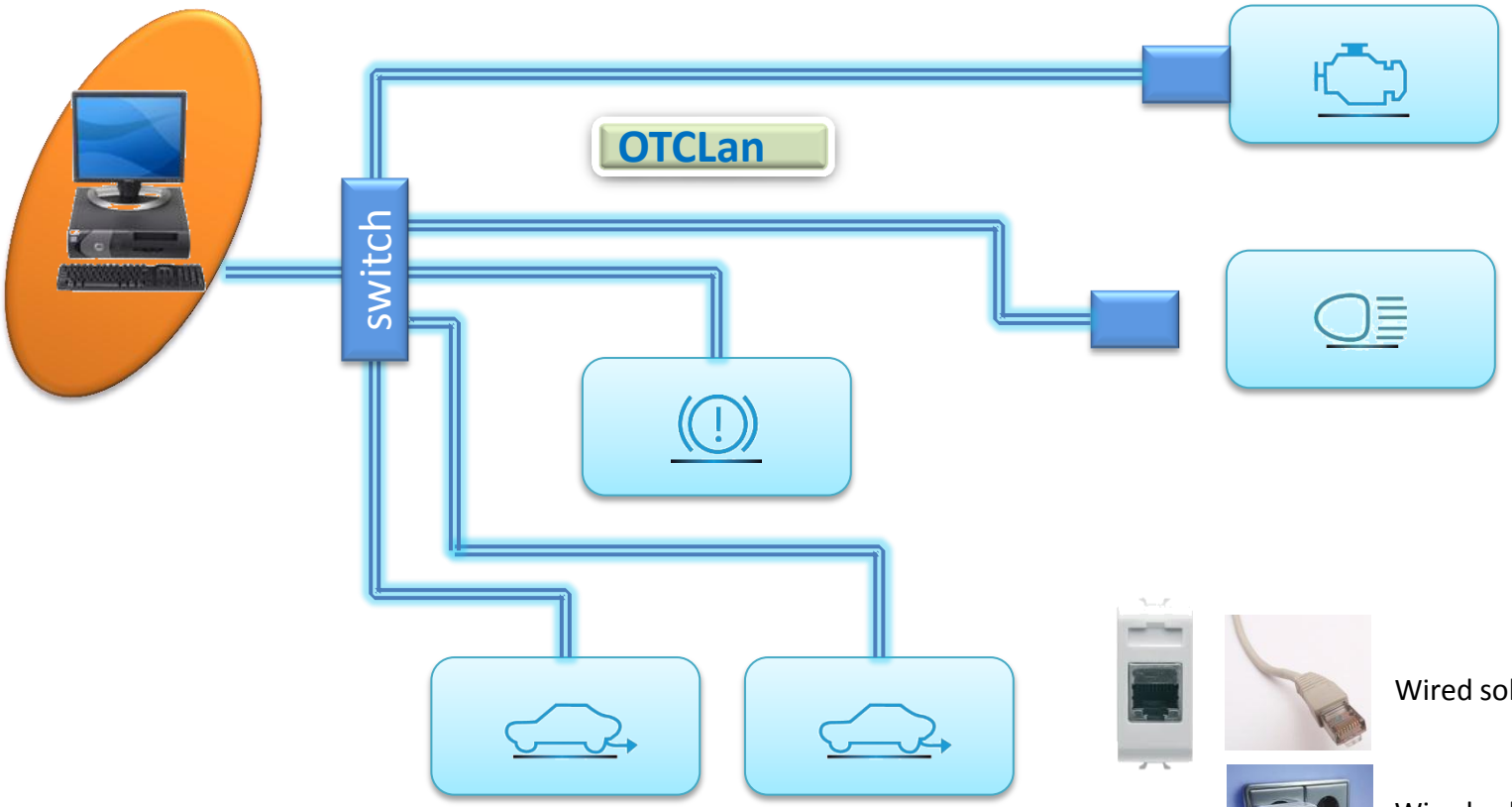
Data profile

OTCLanData

PTI CENTER ARCHITECTURE …. BEFORE



PTI CENTER ARCHITECTURE …. AFTER



Wired solution: Ethernet

Wired solution : CPL power line communications system

Wireless solution: Wifi

OTCLAN : TRACEABILITY ET SECURITY

HW
- Equipement traceability
- Approval traceability
- Calibration traceability

SW
- SW traceability (version, approval)
- Protocol traceability (version, approval)

TEST
- Test traceability (date, duration)
-

Integrity
- SHA-1 data footprint

Encryption
- Encryption: RC4

Control
- Authentication
- OTC storage & control

Traceability

Data

Vehicle Identification

Security for Data and exchange

OTCLAN

OTCLAN : TRACEABILITY ET SECURITY

G	Gas analyser
O	Opacimeter
F	Brake tester
S	Suspension tester
R	Side slip
P	Headlightbeam tester
A	Turning plate
E	EOBD reader
D	Decelerometer

And other …

Open Specifications

Approval:

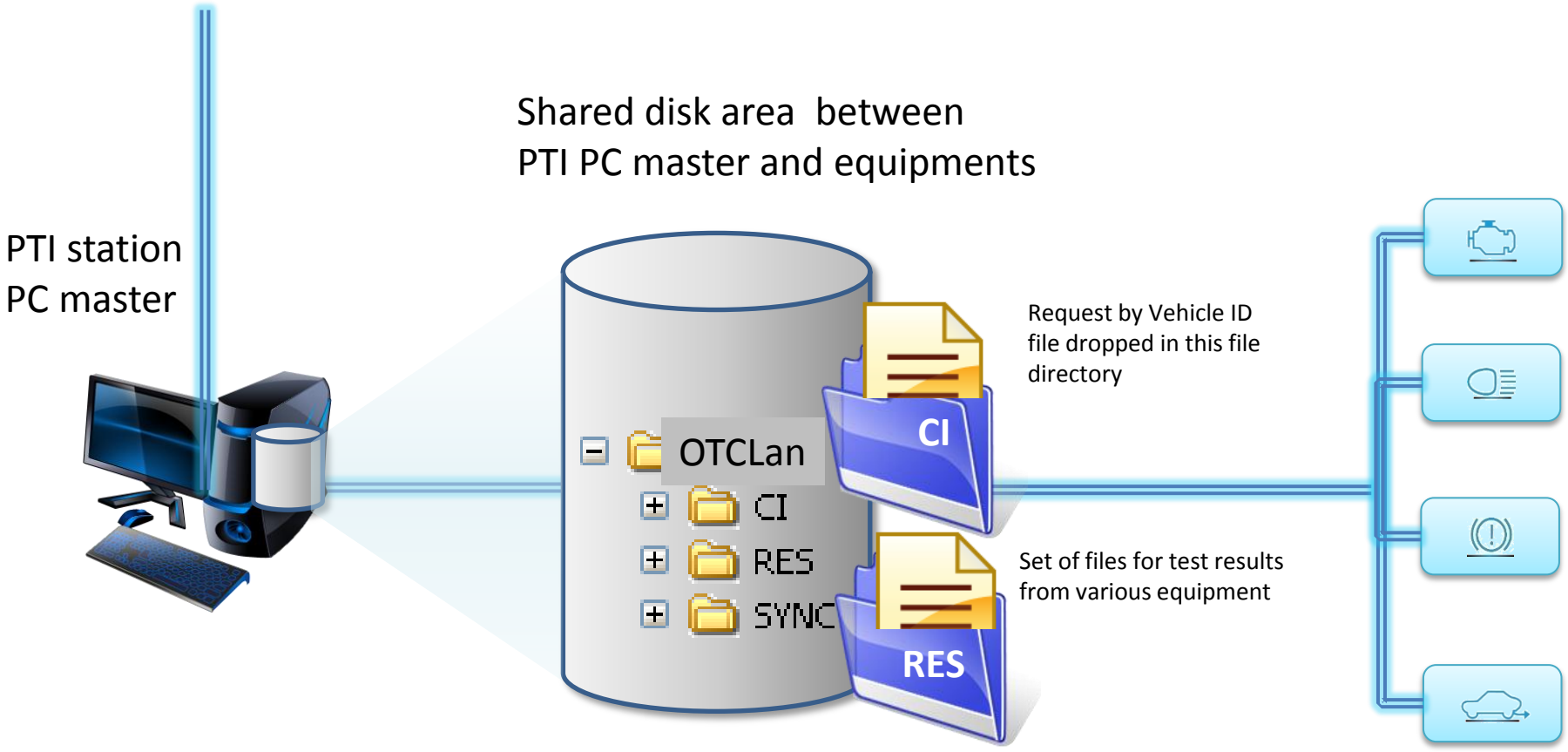
- ✓ security
- ✓ Completeness
- ✓ compatibility
- ✓ Interoperability

On line tool

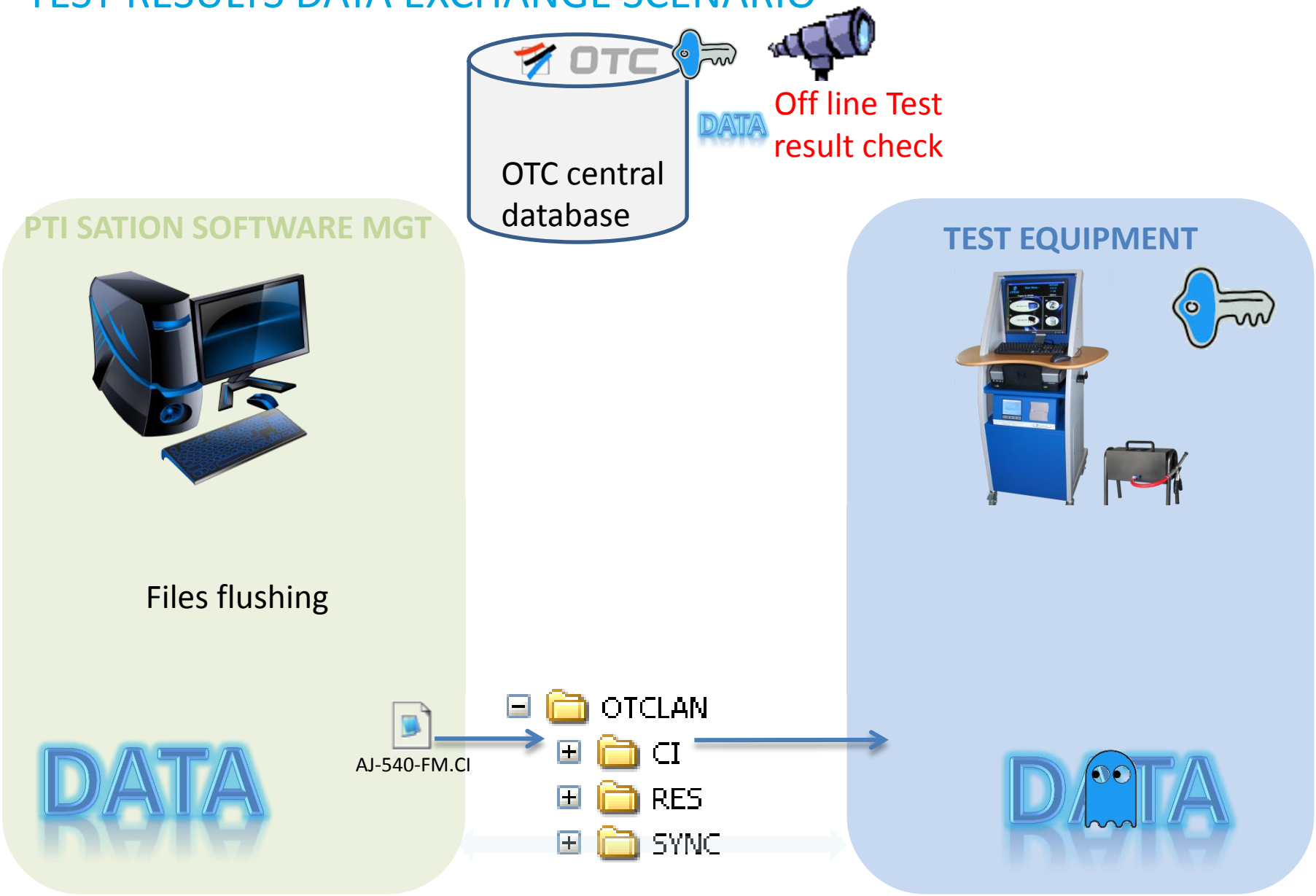
- ✓ Pre test
- ✓ debugger

DATA TRANSMISSION: OPERATING

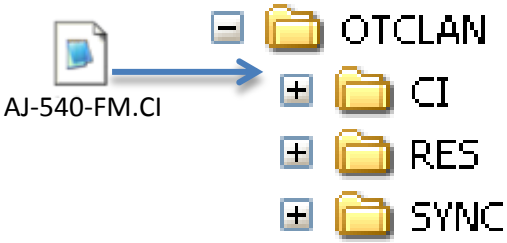
File sharing & data exchange



TEST RESULTS DATA EXCHANGE SCENARIO



EXAMPLE:



AJ540FM.CI vehicle file which starts the mechanism

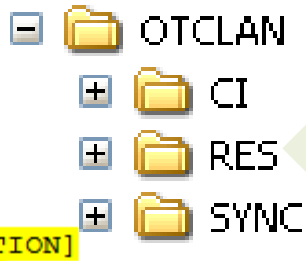
```
[CI]
C001=AJ-540-FM
C002=01021990
C003=ES
C004=A
C005=N
C006=RENAULT
C007=LAGUNA
C008=M13333333333
C009=1500
C010=5
C011=VP
C012=01012012101009
[CRC]
EMPREINTE=9C00C202322D62A11766DC173A341B3ECFDADCA5
```

Vehicle Identification

Traceability

Security for Data and exchange

EXAMPLE:

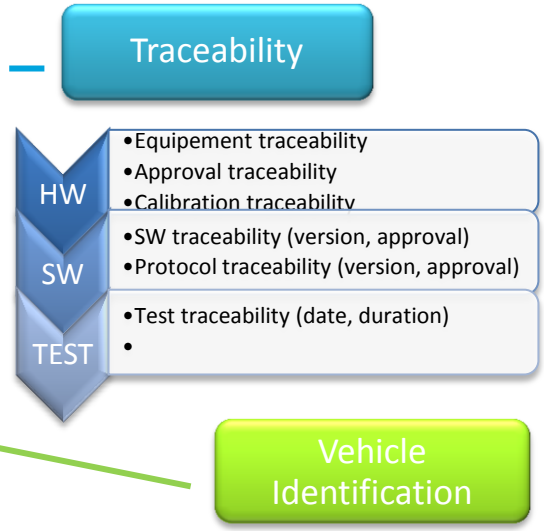



```
[IDENTIFICATION]
PE01=CAPELEC
PE02=CAP3200GAZ
PE03=LNE6688REV3
PE04=04256
PE05=V1.11
PE06=27032012
PE07=adg01
PE08=AJ540FM
PE09=01072015151450
PE10=01072019151830
PE11=ABpp.ss
[MESURES]
PEM01=C
PEM02=089
PEM03=2568
PEM04=14.98
PEM05=0.96
PEM06=750
PEM07=1.89
PEM08=15.35
PEM09=1.95
PEM10=1023
[CRC]
EMPREINTE=246EBEC227D58BFC90B2758D1E4AF336D8BFB02
CONDENSAT=
```

##1234567890##

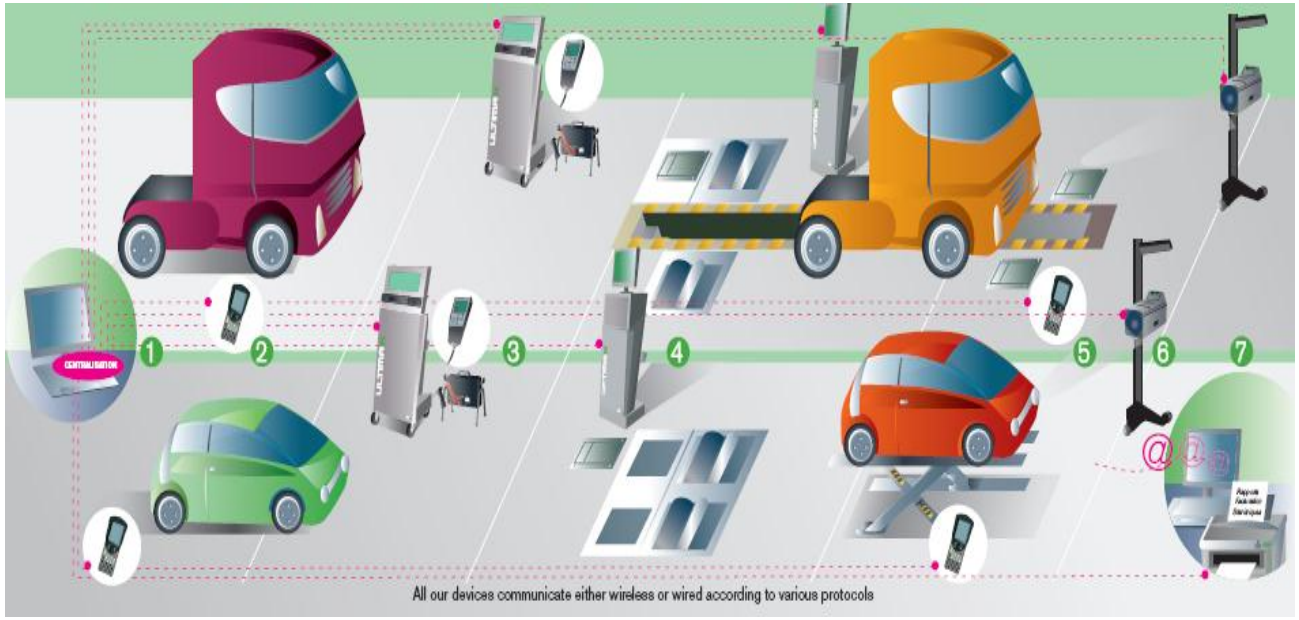
```
[IDENTIFICATION]
PE01=CAPELEC
PE02=CAP3200GAZ
PE03=LNE6688REV3
PE04=04256
PE05=V1.11
PE06=27032012
PE07=adg01
PE08=AJ540FM
PE09=01072015151450
PE10=0107##1234567890##2019151830
PE11=ABpp.ss
[MESURES]
PEM01=C
PEM02=089
PEM03=2568
PEM04=14.98
PEM05=0.96
PEM06=750
PEM07=1.89
PEM08=15.35
PEM09=1.95
PEM10=1023
[CRC]
EMPREINTE=246EBEC227D58BFC90B2758D1E4AF336D8BFB025
CONDENSAT=
```

AD477A6168D163A14767C8578A9E679771CD777973FE6D644F5460C0777D0D588C2866258
9357D248747A0723E3292EC510DF6075CCE91B8A9B7BB3AC69771E134E968D1298BD025350
528B5FFB3C9CFB39F1C0EB28B0C966C6932F5E06883DDF22D6E8D8143D15B877661948610D8
85AABA56ED8A8B77FD59408218B1BC0606701B87B8C2A6E6C6781D775B33E7F2711F4E8C7C
5DCB3388E495C8677AAEAF3C24D032E2D4A54C901885AA9C85E56F71CDEDF47528C394D8D6
C1C6303A2989001B878C20A7B588176DB5EE8904436B050CBBAC8538DBA5805F69CCAEDAEF
23B887CD7688543697374E98569C2B851FA87BFD74AE3AB88406EA09BB73598F30E64A969CE
66FF30A149EA52E63557A99711B15E86568279B3736B61A54EA7F3CB9DA506ECA339FA07CEB
E66D12EFB37AB773C509238E6A2C3099D0B2511C4A40D2CFBF9359EC38B5125E57A0DB992E
310B4B5E6B30358734A018DE495621E99F33B93AF3CA9B6E8C4ABF143BB886BF00EAA



- Encryption is done on the yellow part
  - + Data foot print (computed on the yellow part)
  - + CONDENSAT tag
  - + Random data (from the equipment)
- So on the global purple area

Vehicle Inspection Management



Gateway to

PTI National Agency

Report

Process Management

Data collection

Communication

Equipment

Solution for heavy duty and light vehicles

Software Management: Mono or multiple centers

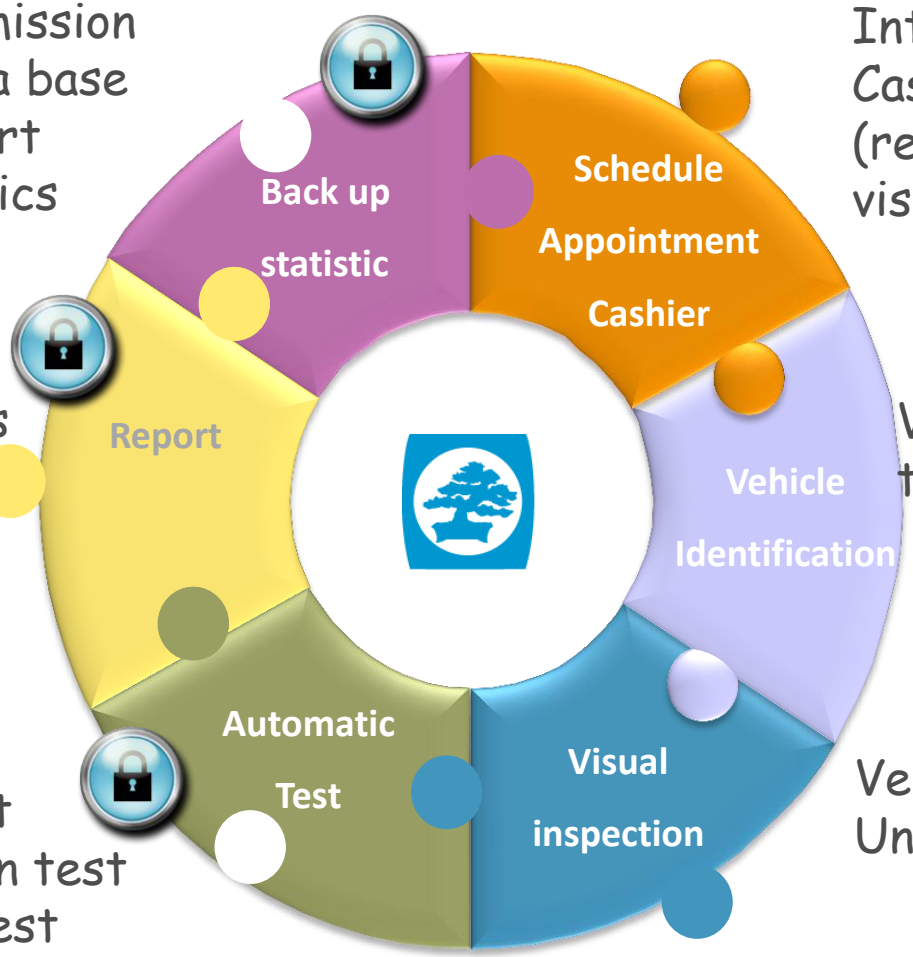
- Test Phase

Vehicle Inspection Process Software

Capelec

Result transmission
Back up/ data base
Activity report
Tests statistics

Internet booking (opt)
Cashier Treatment (opt)
(regarding the type of visit/vehicle)

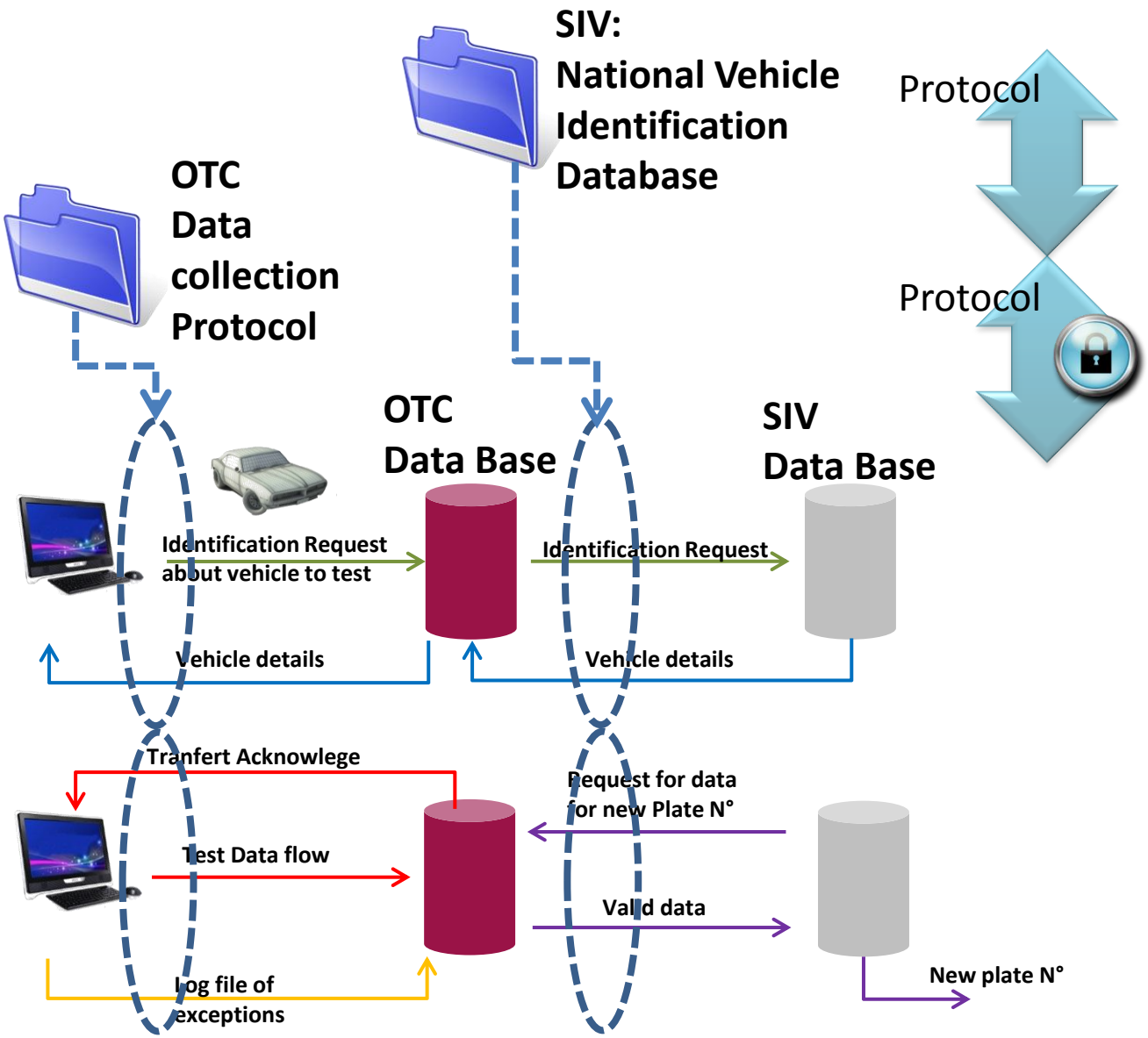


Report printing
legal documents

Vehicle Identification Test
token in the queuing system

Brake test
Suspension test
Sideslip test
Gas/smoke analysis, EOBD test
Headlight test

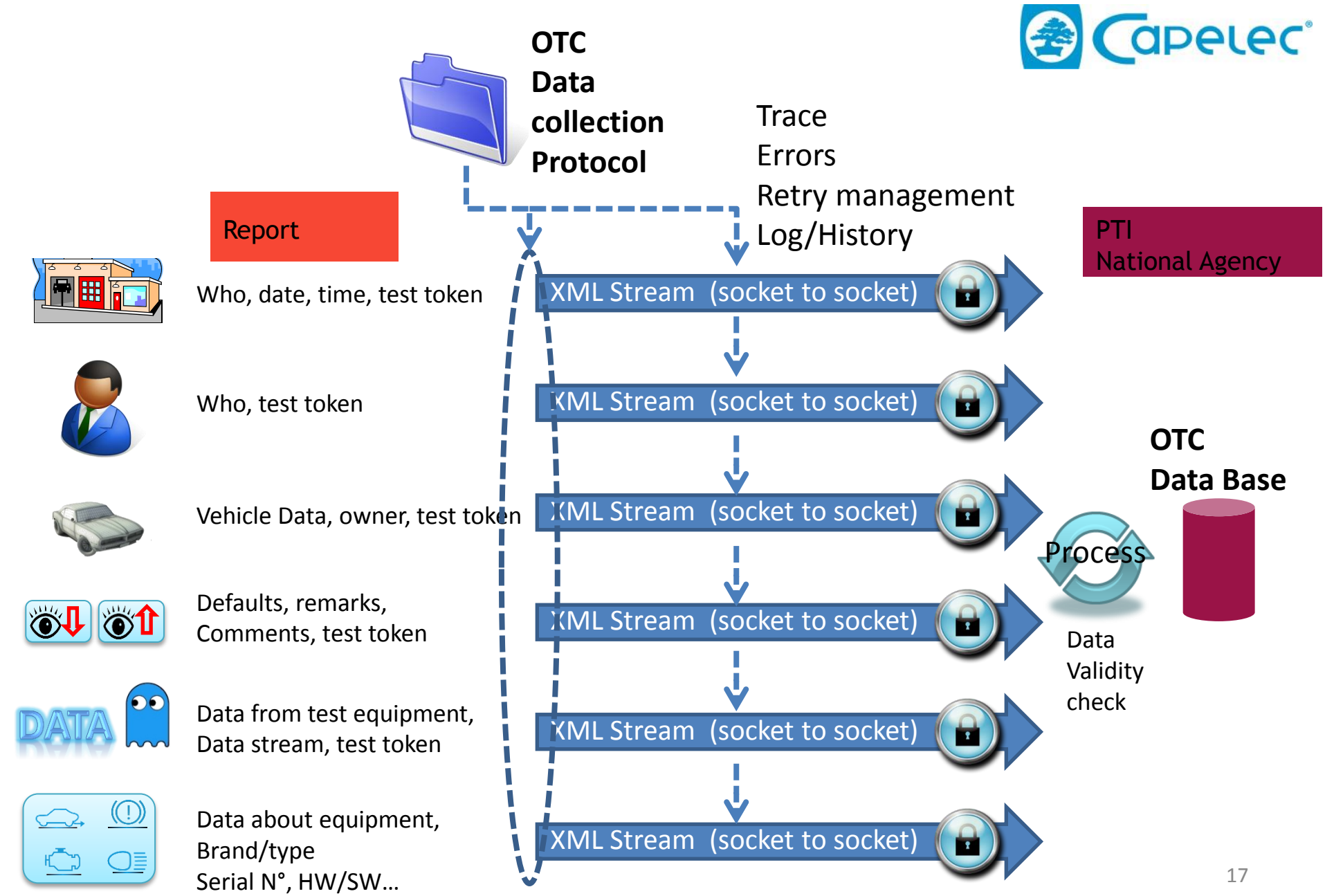
Vehicle document check
Under carriage inspection



Vehicle Management
National Agency

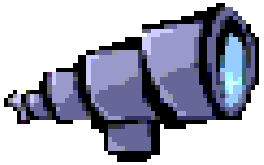
PTI
National Agency

Report

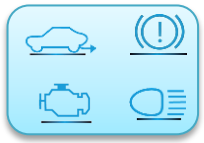

OTC
Data
collection
Protocol
Trace
Errors
Retry management
Log/History
Report
PTI
National Agency
Who, date, time, test token
Who, test token
Vehicle Data, owner, test token
Defaults, remarks,
Comments, test token
Data from test equipment,
Data stream, test token
Data about equipment,
Brand/type
Serial N°, HW/SW…
XML Stream (socket to socket)
XML Stream (socket to socket)
XML Stream (socket to socket)
XML Stream (socket to socket)
XML Stream (socket to socket)
XML Stream (socket to socket)
OTC
Data Base
Process
Data
Validity
check
DATA

OTC Data collection Protocol

PTI
National Agency



Off line Test result check

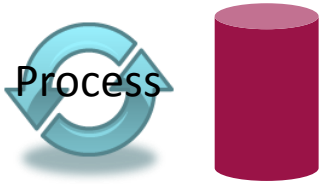


Tracks
Errors
Retry management
Log/History

Log file of exceptions (human modification)

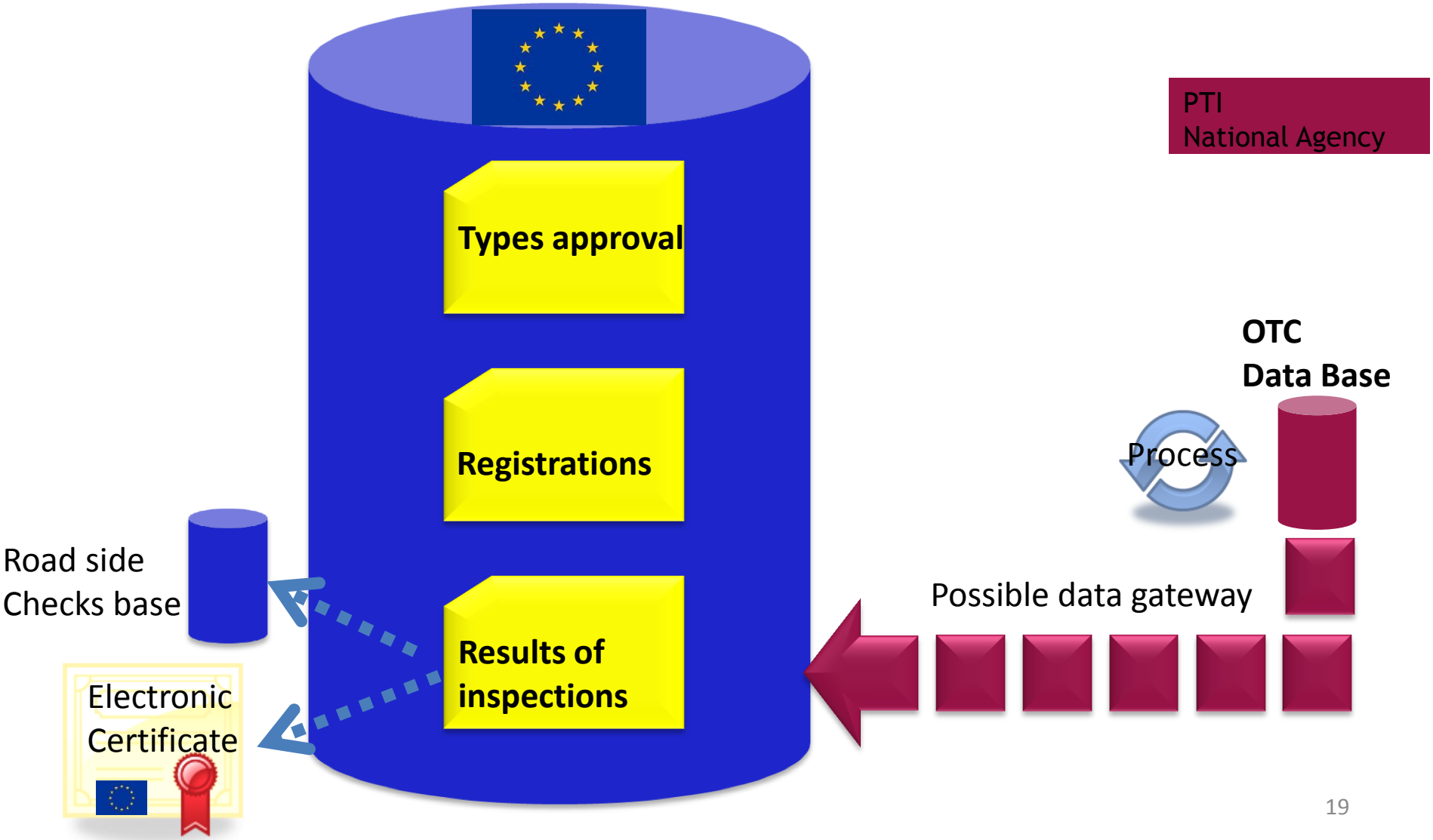
Statistics

OTC Data Base



European Commission

ROADWORTHINESS PACKAGE expectation



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Workshop C: Advances in Test Equipment

Secured Data collection

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For further information or feedback please contact :
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