Digital Objects Identify Management in Transport Systems based on 5G/LTE networks

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What circumstances affect the User of Transport Systems Services?
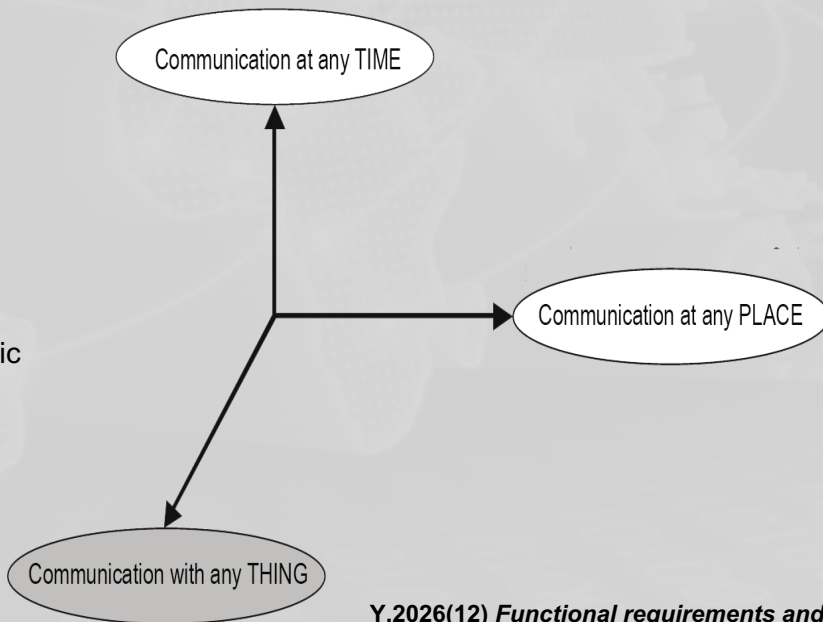
Time's Circumstances:
in move;
at night;
daytime

Communication's Circumstances:
between computers or any gadget;
between people without using a computing devices;
between a person and a thing using standard equipment;
between things including objects that on move as well as on static

Place's Circumstances:
outdoors;
inside the room (away from the computer or any gadget);
at computer or gadget;
at any object that in move or in static

Communication at any TIME

Communication at any PLACE

Communication with any THING

Y.2026(12) *Functional requirements and architecture of the next generation network for support of ubiquitous sensor network applications and services*

What communication conditions for the User does need to provide?

Forming the basis of a convergent environment in which:

1. **any user**
2. at **any time (day/night-time)**
3. on **any place (anywhere)**
4. using **any own identifier** (**s**) and
5. **own device** (s)
6. from **any chosen operator**
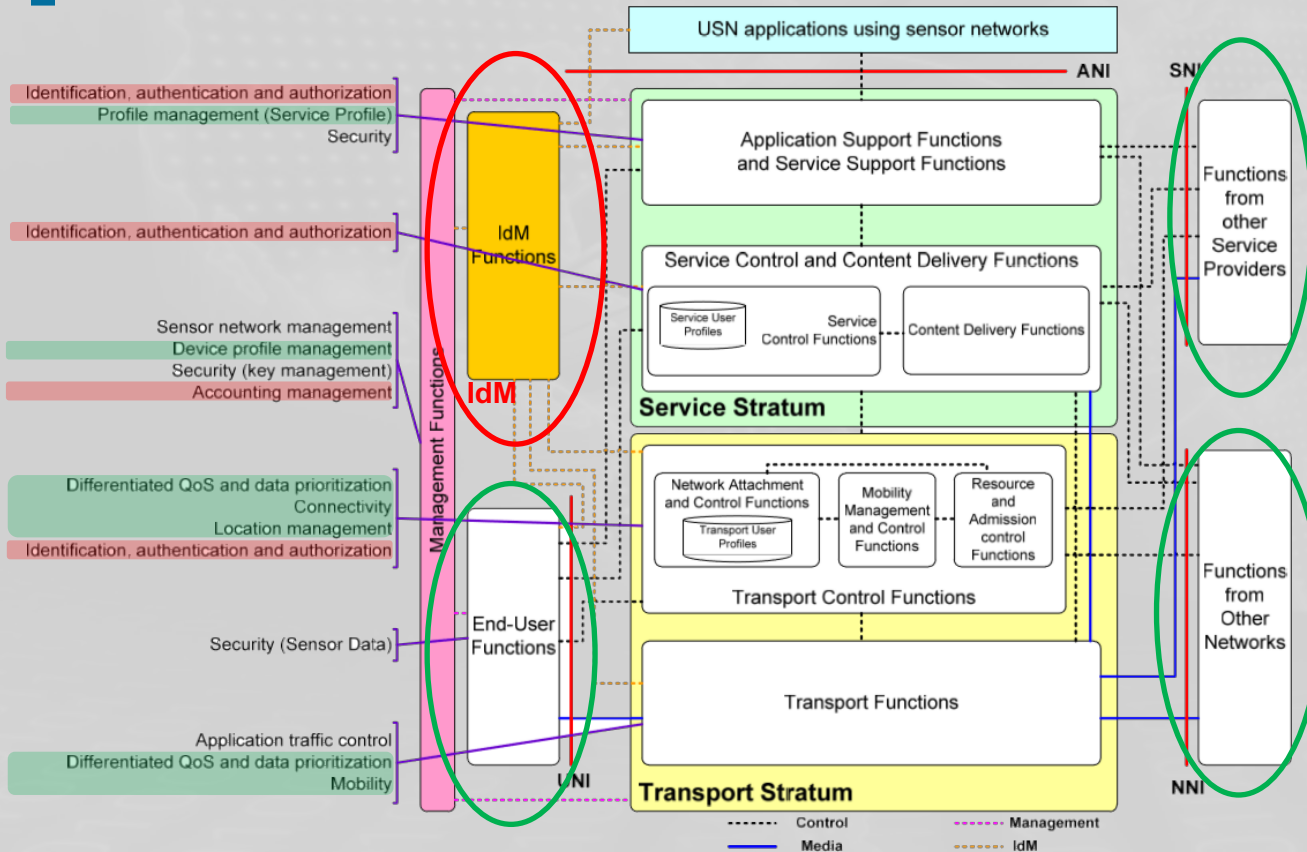7. the necessary **service**

"here and now"

What is it **"here and now**"?

specific place of location
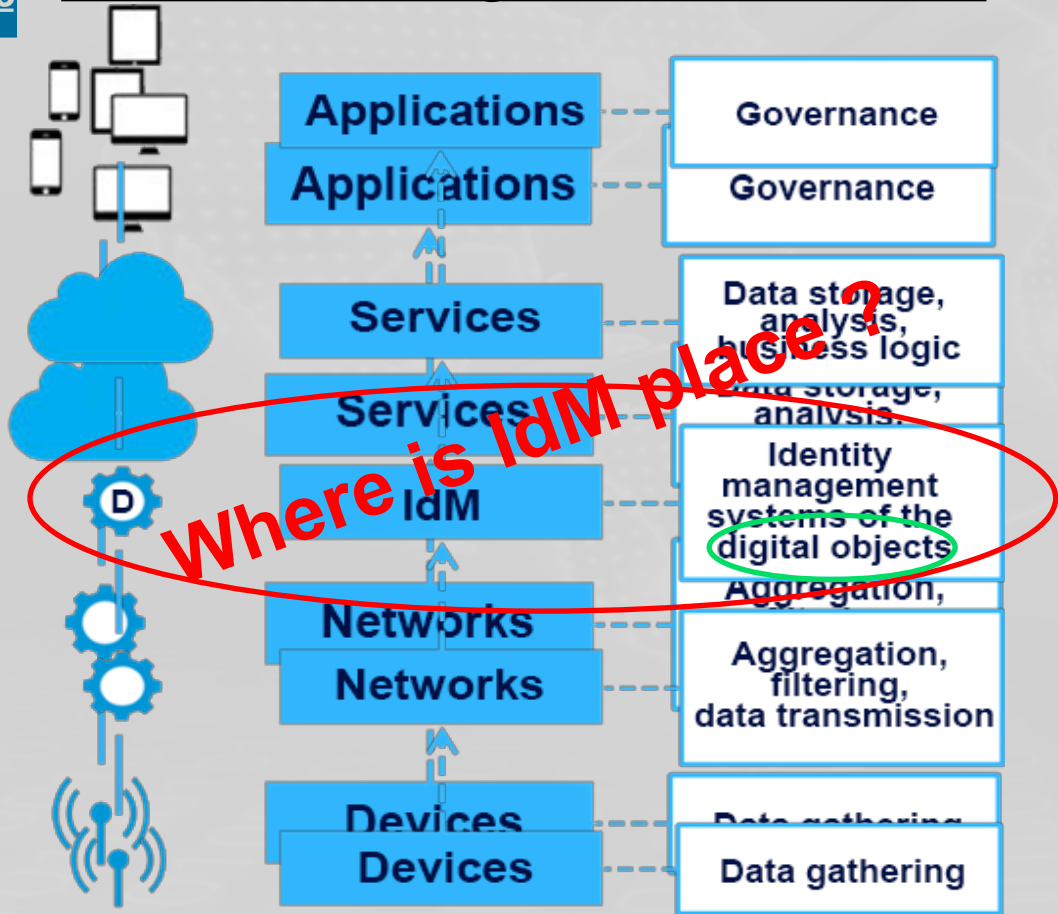
specific time interval

Overall functional architecture model

Y.2026 (12)
Functional requirements and architecture of the next generation network for support of ubiquitous sensor network applications and services

ANI	Application Network Interface
USN	Ubiquitous Sensor Network
UNI	User network interface
SNI	Service node interface
NNI	Network-to-network interface
IdM	ID Management

Place IdM in the general architecture
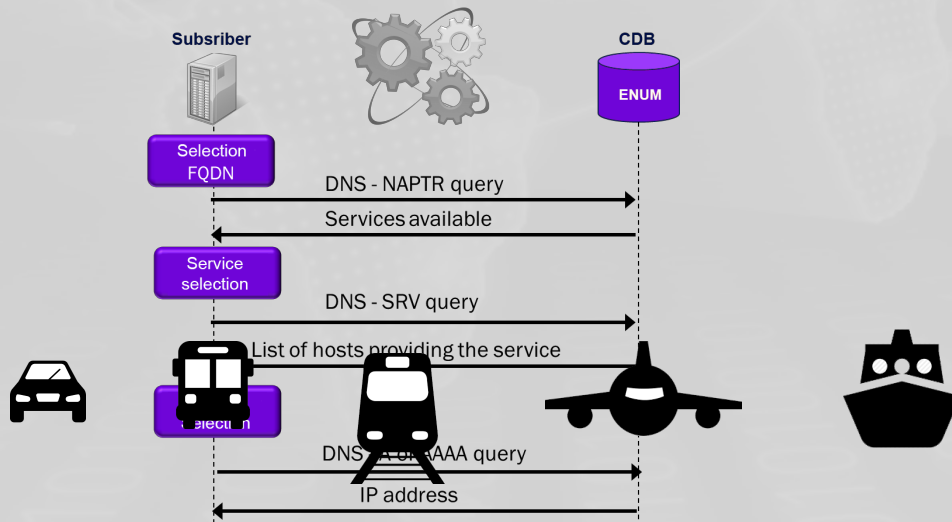

What is a basic ID?

ID = MSISDN

Place of IDs, convergence of IDs, and their diversity

MAC

MSISDN

NAPTR records
$ORIGIN domain.iot.uz
NATPR 10 100 ''s'' ''service+protocol'' .....

Subsriber

CDB

ENUM

Selection
FQDN

DNS - NAPTR query

Services available

Service
selection

DNS - SRV query

List of hosts providing the service

Selection

DNS - A or AAAA query

IP address

Generations of the IdM systems

Only the basic function of the IdM (i.e. MNP or IMEI) and the supporting portability, fight against counterfeiting, smuggling, fraud, fishing etc.

1G

2G

There are advanced functions for processing complex transactions (npdi, dynamic number portability correction) within mobile and fixed networks, roaming and geolocation, support for non-geographic and nomadic numbers

3G

Creation of a unified and integrated data environment and decision-making policy using prediction algorithms, support for all types of subscriber's IDs at any time and in any place, including personalization of subscriber services

Formation of the basis of a convergent environment in which any user at any time, in any place, using any own ID (s) and own device (s), can receive from any chosen operator the necessary service "here and now" …. on the ENUM platform

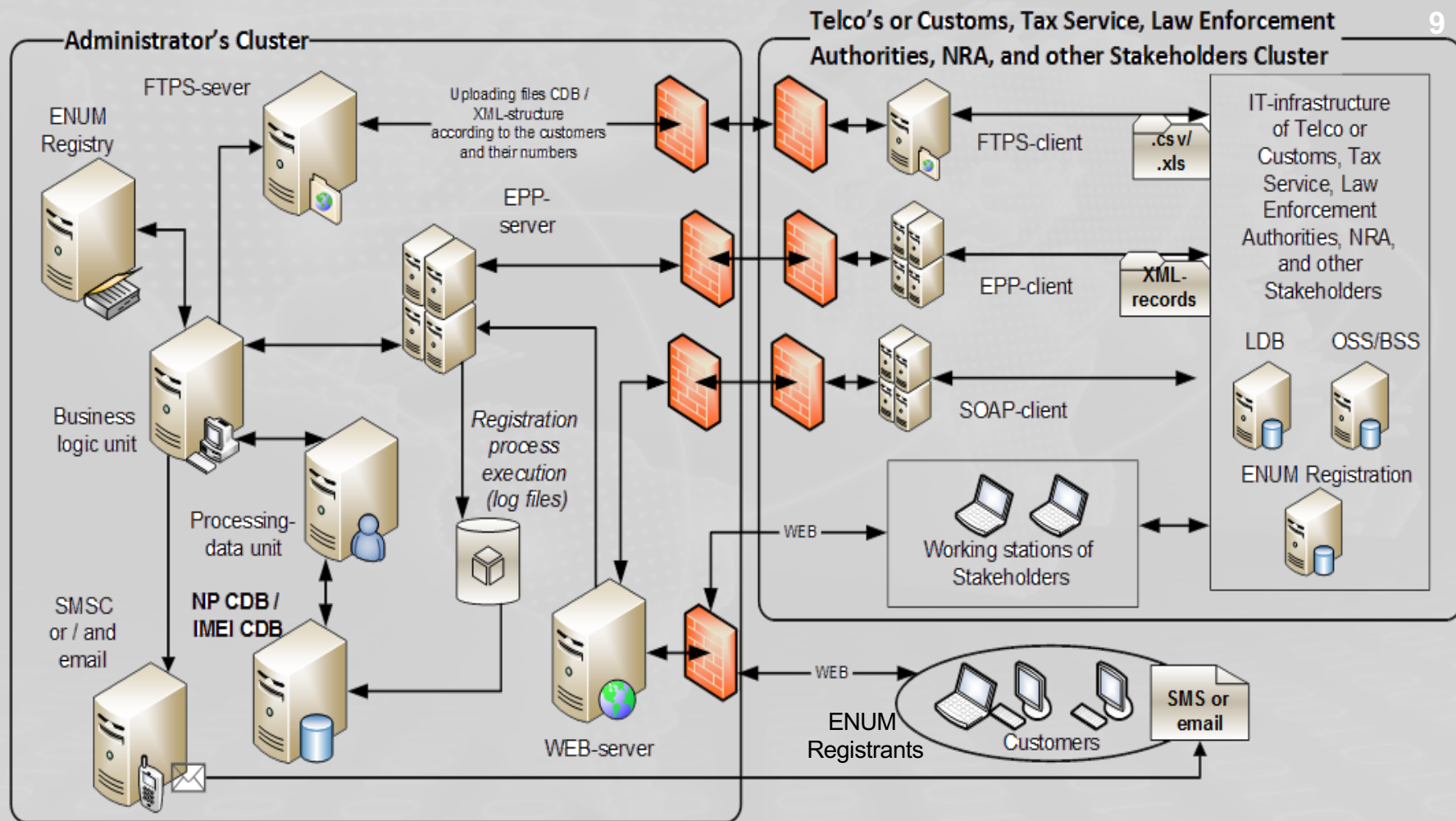# *Functionality of the IdM systems for Transport Systems*

(1) any user

(2) at any time

(3) in any place

(4) with any own identifier (s)

(5) with own device (s)

(6) in the network of any chosen operator

(7) can get any services

<u>here & now</u>

Check-in

Rescues

Tracking

Booking

Security

e-commerce

Administrator's Cluster

ENUM Registry

FTPS-sever

Uploading files CDB / XML-structure according to the customers and their numbers

EPP-server

Business logic unit

Registration process execution (log files)

Processing-data unit

NP CDB / IMEI CDB

SMSC or / and email

WEB-server

ENUM Registrants

Telco's or Customs, Tax Service, Law Enforcement Authorities, NRA, and other Stakeholders Cluster

FTPS-client

.csv/.xls

EPP-client

XML-records

SOAP-client

IT-infrastructure of Telco or Customs, Tax Service, Law Enforcement Authorities, NRA, and other Stakeholders

LDB   OSS/BSS

ENUM Registration

Working stations of Stakeholders

WEB

WEB

Customers

SMS or email

Thanks!
Questions?

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