

# Standardization for Web of Things in ITU-T SG20

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## What is SG20 currently working on:

### Internet of things (IoT)

- Drones for IoT
- IoT requirements for **edge computing**
- **Artificial Intelligence** and IoT
- Smart Manufacturing - **Industrial Internet of things**
- **Blockchain** and IoT
- IoT for **developing countries**
- **Intelligent Transport Systems (ITS)** based on IoT
- **Privacy and trust** of IoT systems
- **Interoperability**

### Smart cities and communities

- **Open Data** in Smart Cities
- **Use cases, requirements and architectures** for Smart cities and communities
- **Smart Services in rural communities**
- **Disaster notification** of the population in smart cities and communities
- **Smart Tourist** destinations
- *Smart City Infrastructure*

### Data management & processing

- Data structure and data transfer protocol for **automotive emergency response system**
- Function description and metadata of Spatio-temporal Information Service for SSC
- *Integrity*

# ITU-T SG20 Structure

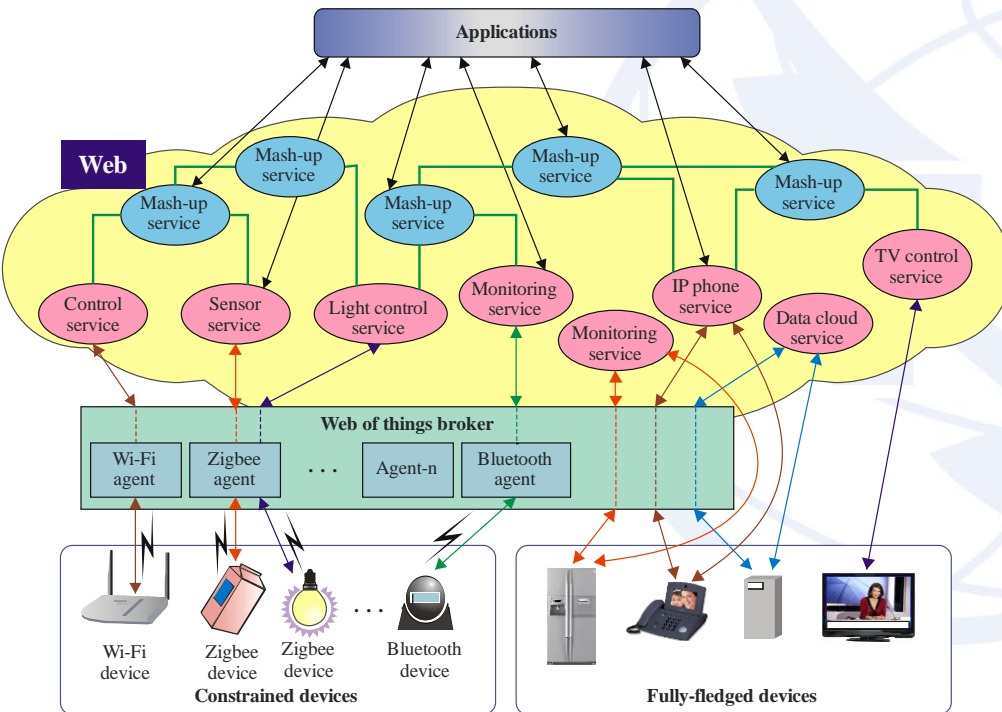
- Internet of things (IoT) and smart cities and communities (SC&C)

Acronym		Title
WP1	<a href="#"><u>Q1/20</u></a>	End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C
	<a href="#"><u>Q2/20</u></a>	Requirements, capabilities, and use cases across verticals
	<a href="#"><u>Q3/20</u></a>	Architectures, management, protocols and Quality of Service
	<a href="#"><u>Q4/20</u></a>	<b>e/Smart services, applications and supporting platforms</b>
WP2	<a href="#"><u>Q5/20</u></a>	Research and emerging technologies, terminology and definitions
	<a href="#"><u>Q6/20</u></a>	Security, privacy, trust and identification for IoT and SC&C
	<a href="#"><u>Q7/20</u></a>	Evaluation and assessment of Smart Sustainable Cities and Communities

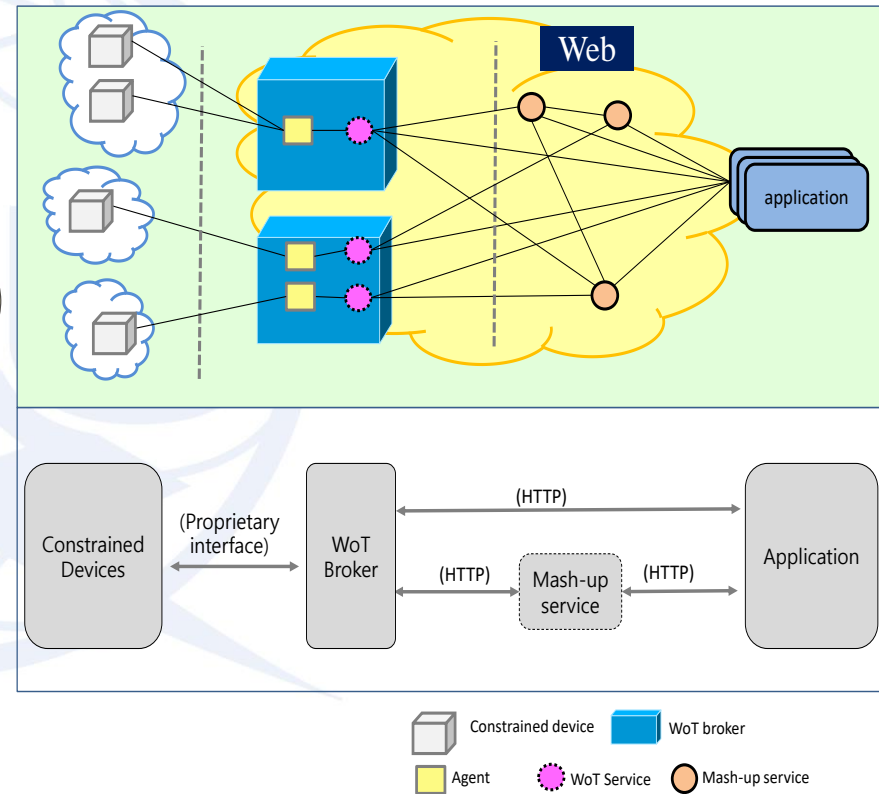
# Web of Things

- Y.4400 (07/2012) Framework of the web of things
- Y.4414 (11/2015) Web of things service architecture
- Y.4415 (06/2018) Architecture of web of objects-based virtual home network
- Y.4452 (09/2016) Functional framework of web of objects
- Y.eHealth-Semantic, Architecture of web of objects based semantic mediation model in eHealth service

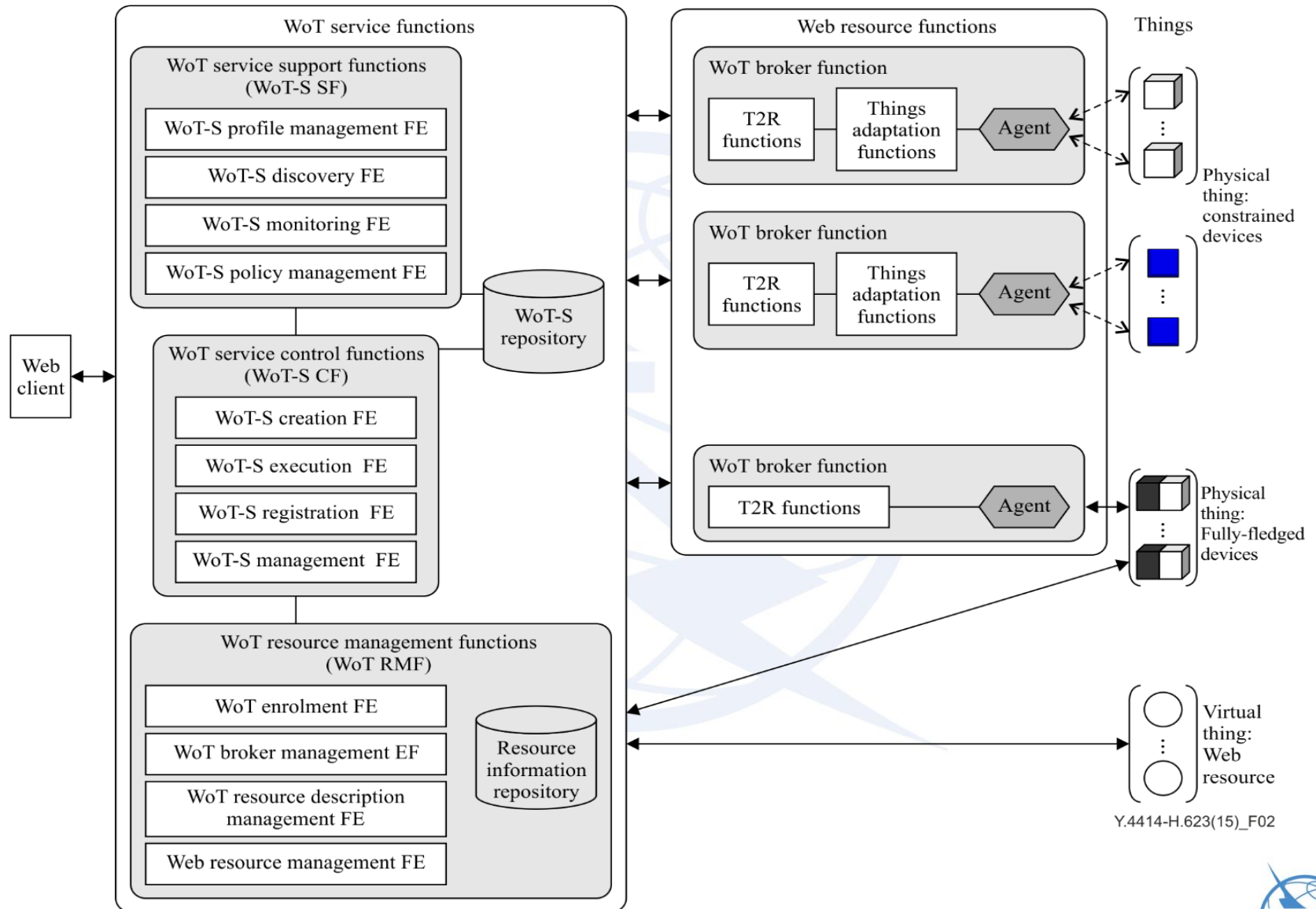
# Y.4400 - Framework of the web of things



Y.2063(12)\_F8-1



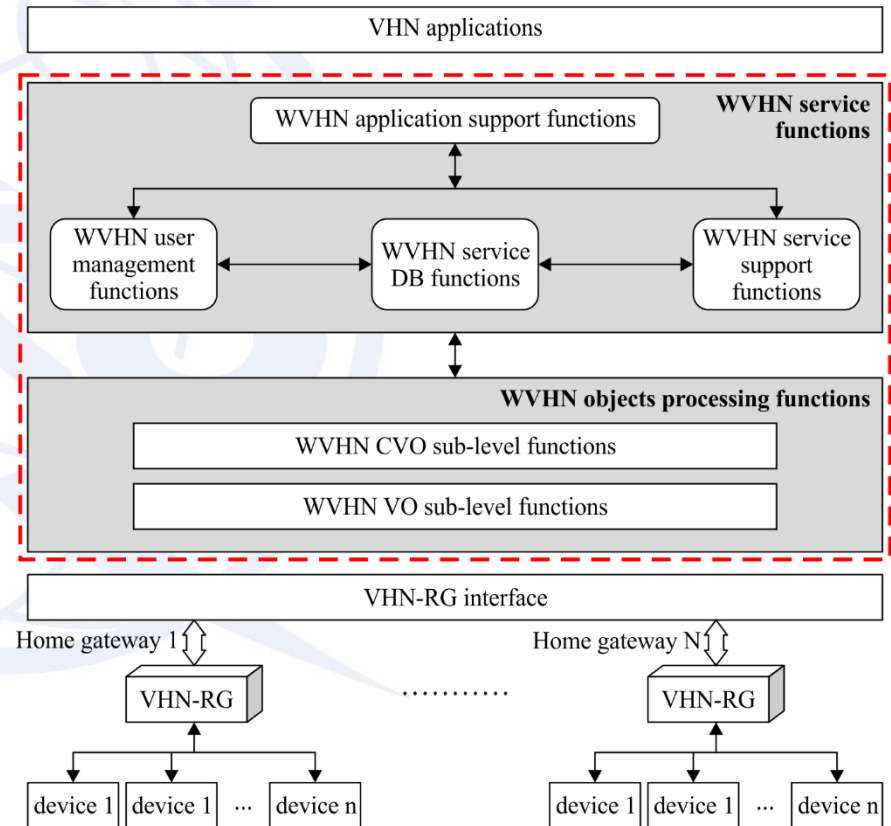
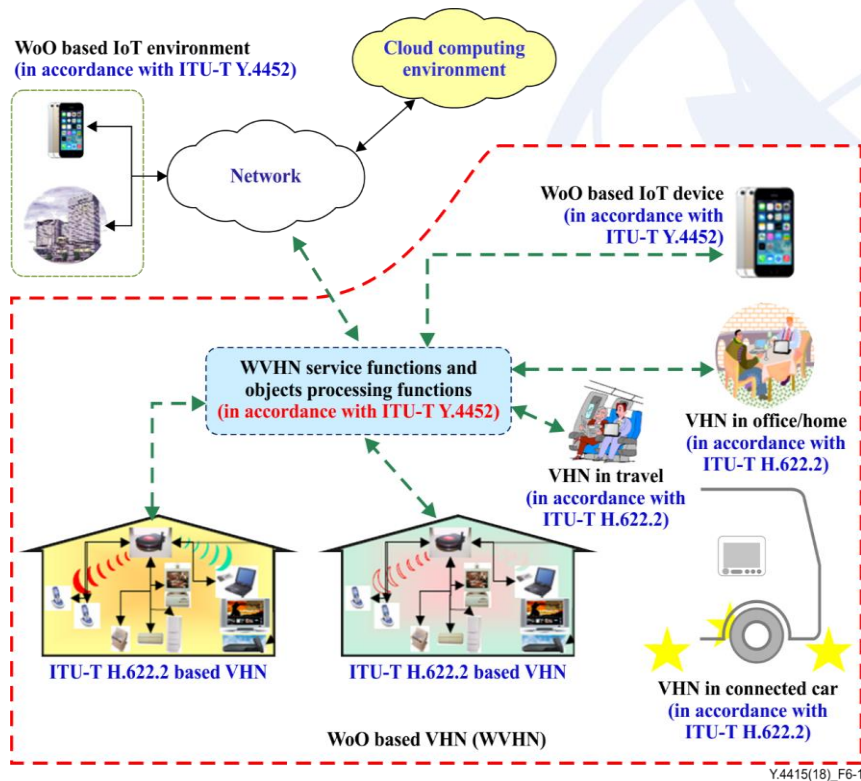
# Y.4414 - Web of things service architecture



Y.4414-H.623(15)\_F02



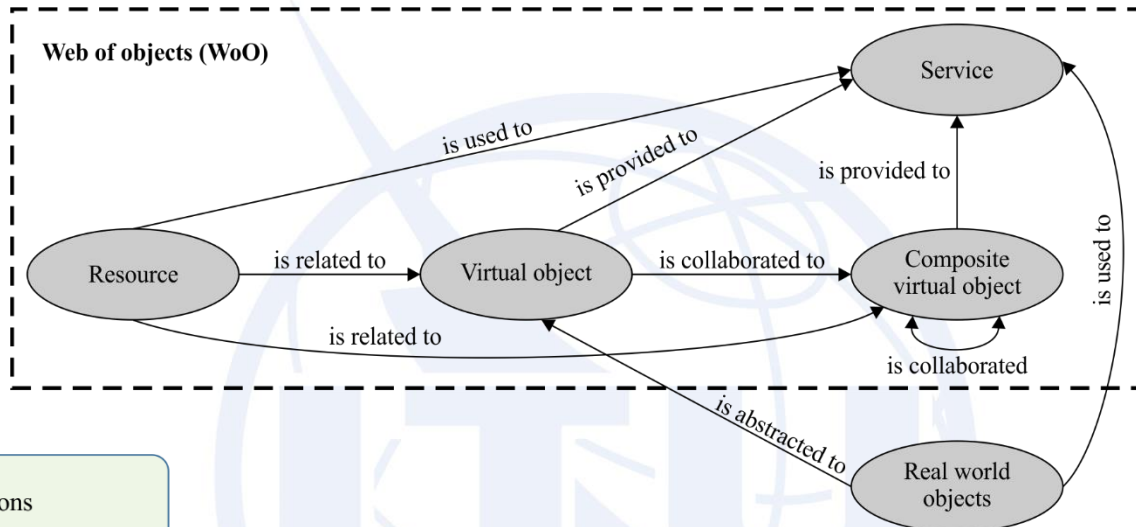
# Y.4415 - Architecture of web of objects-based virtual home network



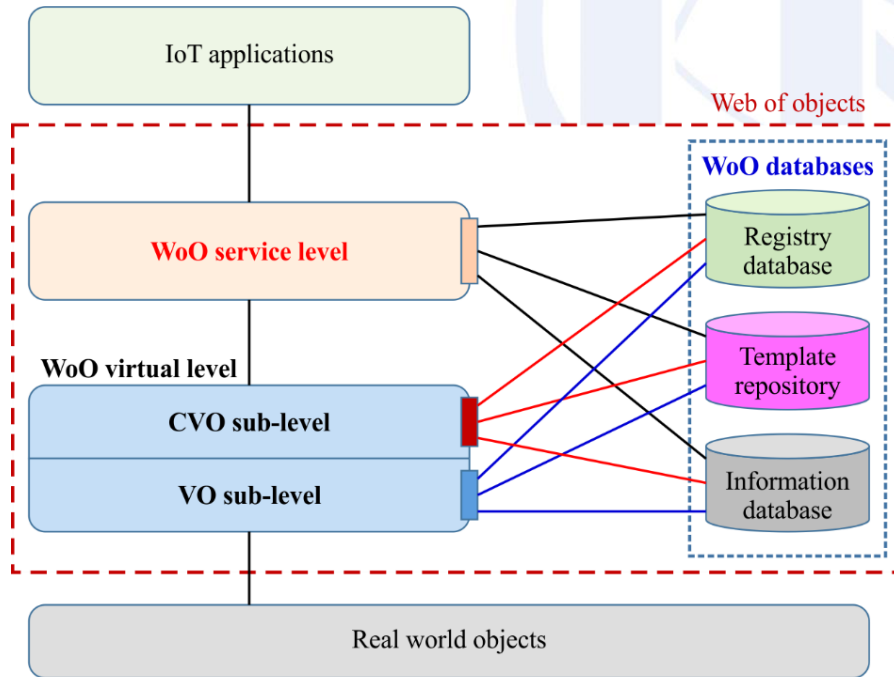
**Scope of this Recommendation**



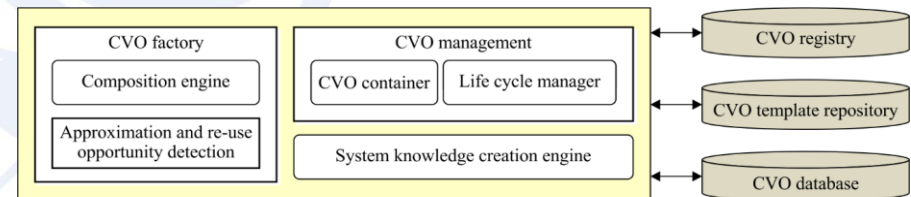
# Y.4452 - Functional framework of web of objects



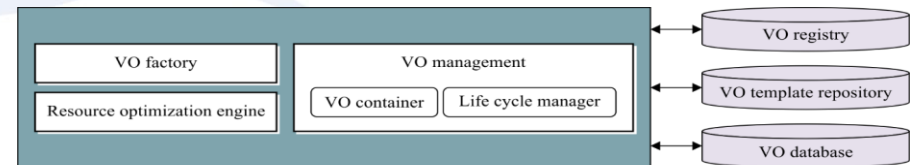
Y.4452(16)\_F6-1



Y.4452(16)\_F7-1



Y.4452(16)\_F7-3

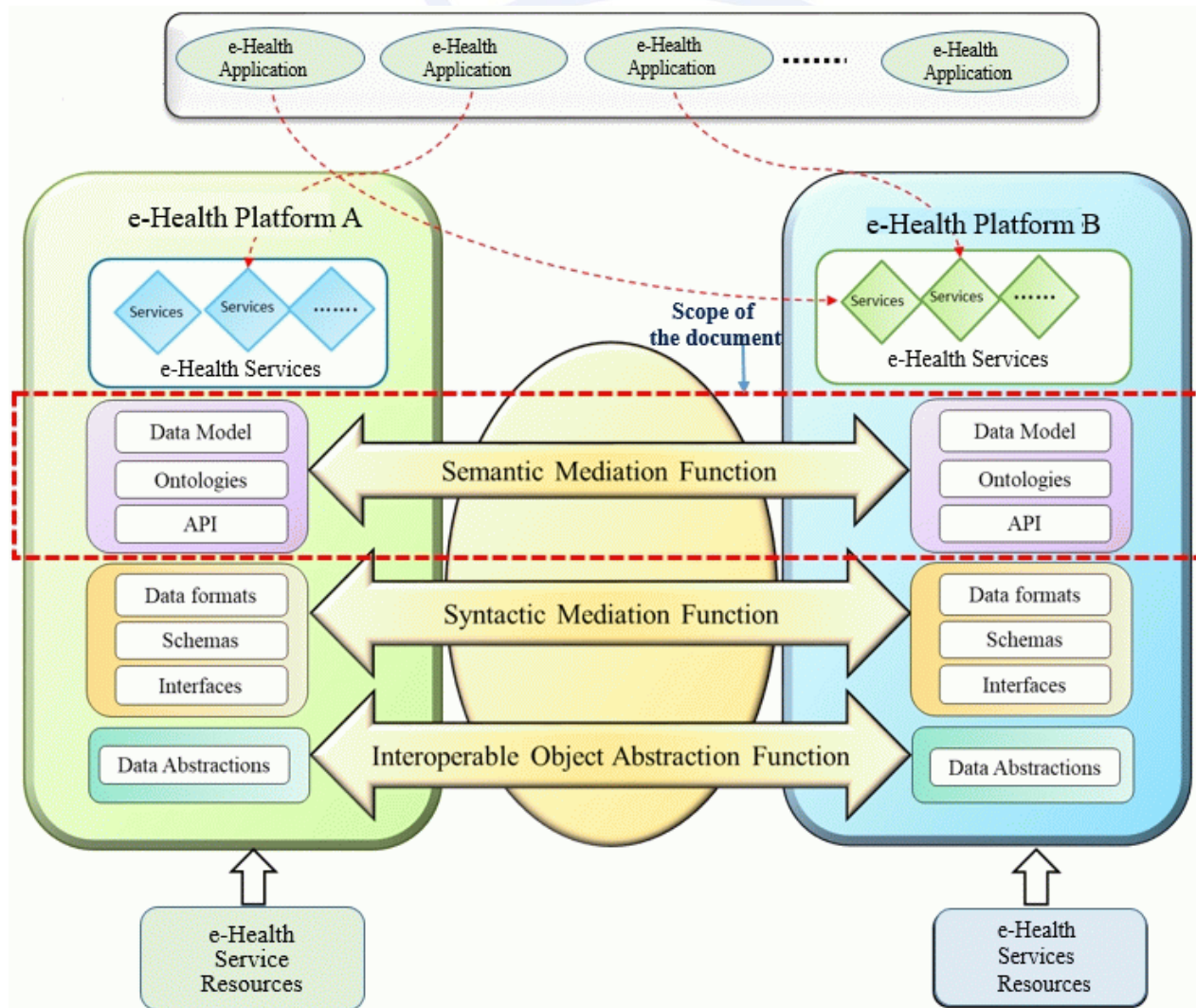


Y.4452(16)\_F7-2





# Y.eHealth-Semantic - Architecture of web of objects based semantic mediation model in eHealth service

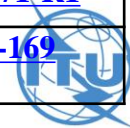


# ITU-T FG-DPM - list of Deliverables

All 15 Deliverables: <https://www.itu.int/pub/T-FG-DPM>

Deliverable	Title	Output document
<b>D0.1</b>	Technical Specification “Data Processing and Management for IoT and Smart Cities and Communities: Vocabulary”	<a href="#">FG-DPM-O-172-R2</a>
<b>D0.2</b>	Technical Report “Data Processing and management for IoT and smart cities and communities: methodology for data processing and management concept building”	<a href="#">FG-DPM-O-173-R1</a>
<b>D1.1</b>	Technical Specification “Use case analysis and requirements for data processing and management to support IoT and smart cities and communities”	<a href="#">FG-DPM-O-174-R1</a>
<b>D2.1</b>	Technical Specification “Data processing and management framework for IoT and smart Cities and communities”	<a href="#">FG-DPM-O-175-R3</a>
<b>D2.3</b>	Technical Report “Web based data model for IoT and smart city”	<a href="#">FG-DPM-O-176</a>
<b>D3.2</b>	Technical Specification “SensorThings API – Sensing”	<a href="#">FG-DPM-O-156</a>
<b>D3.3</b>	Technical Specification “Framework to support data interoperability in IoT environments”	<a href="#">FG-DPM-O-157</a>
<b>D3.5</b>	Technical Report “Overview of blockchain for supporting IoT and SC&C in DPM aspects”	<a href="#">FG-DPM-O-151</a>
<b>D3.6</b>	Technical Specification “Blockchain-based data exchange and sharing for supporting IoT and SC&C”	<a href="#">FG-DPM-O-177</a>
<b>D3.7</b>	Technical Specification “Blockchain-based data management for supporting IoT and SC&C”	<a href="#">FG-DPM-O-152</a>
<b>D3.8</b>	Technical Specification “Identity framework in blockchain to support DPM for IoT and SC&C”	<a href="#">FG-DPM-O-178</a>
<b>D4.1</b>	Technical Report “Framework for security, privacy, risk and governance in data processing and management”	<a href="#">FG-DPM-O-170-R1</a>
<b>D4.3</b>	Technical Report “Overview of technical enablers for trusted data”	<a href="#">FG-DPM-O-168-R2</a>
<b>D4.4</b>	Technical Report “Framework to support data quality management in IoT”	<a href="#">FG-DPM-O-171-R1</a>
<b>D5</b>	Technical Specification “Data economy: commercialization, ecosystem and impact assessment”	<a href="#">FG-DPM-O-169</a>

FG-DPM: Focus Group on Data Processing and Management for IoT and SC&C



# The way forward

- Re-chartering in ITU-T and W3C for WoT related topics
  - Potential work items in ITU-T SG20 new study period (2021-2024)
    - Interoperability (Question C)
    - Data processing and management (Question D)
  - W3C
    - web applications, Re-use Apps, TD(Thing Description) - common language
- Collaboration with W3C
  - JCA(Joint Coordination Activity)-IoT SC&C
    - 25-26 June 2020 (webinar) - presentation, suggestion, complementary work
  - ITU-T A.5 (Generic procedures for including references to documents of other organizations in ITU-T Recommendations)
  - Example: collaboration with oneM2M (common service platform) in ITU-T

