

DeviceWebAPI and other standardization status of OMA CD WG

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Evolution of OMA to OMA SpecWorks

- OMA has its evolution to OMA SpecWorks in March 27th, this year
- IPSO Alliance is merged into OMA and changed to IPSO WG
- Device Web API Consortium Members in OMA SpecWorks:
 - Full Members: KDDI, NTT DoCoMo, Open Source Alliance, Softbank
 - Associate Members: ETRI, Vuzix
 - CD WG: NTT DoCoMo, Open Source Alliance, Vuzix, ETRI



OMA CD WG introduction

- Chair: Min-gyu Han, OSA
- Meeting:
 - Oct. 8th ~ Oct. 12th, 2018 (BoD, WGs - Austin, TX, US)
 - Apr. 1st ~ Apr. 5th, 2019 (BoD, WGs - Porto, Portugal)
 - 2~3days of Jun. 2019 (CD WG – Tentative)
 - 5 days of Oct. 2019 (BoD, WGs – Seoul, Korea)
 - Monthly Conference call
- Current WIs

WI	Name	Initial
W0309	Device Web API – PCH	DWAPI
W0332	Device Web API – 3DP	DWAPI-3DP
W0293	Generic Open Terminal API Framework	GotAPI
W0316	Generic Open Terminal API	
W0244	Social Network Web v1.0	SNeW
W0277	Social Network Web v1.1	
W0338	3D Contents creation service API	3DCAPI

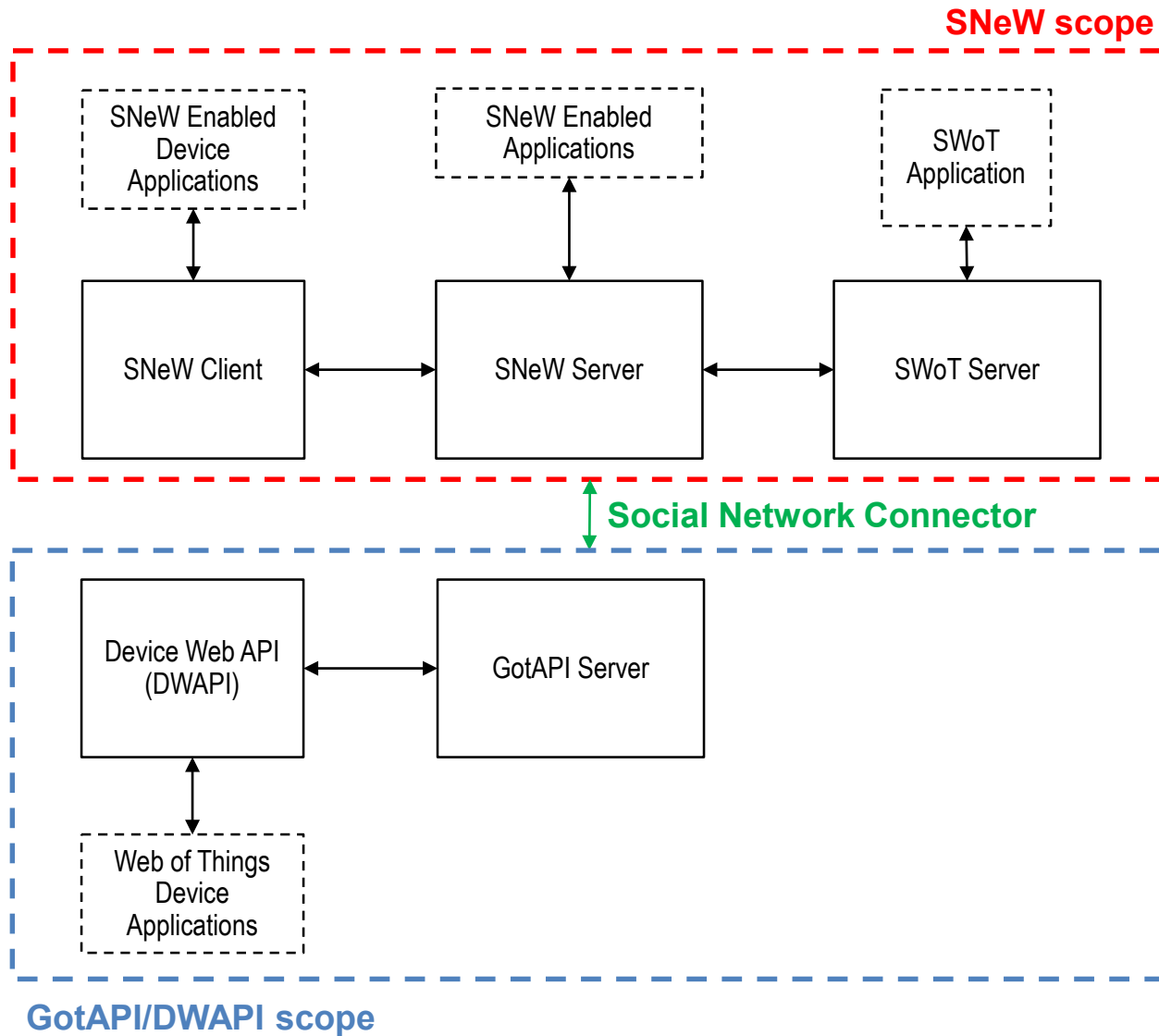
OMA CD WI Status – GotAPI and DWAPIs

- Generic Open Terminal API
 - GotAPI 1.0: Approved (Aug. 22th, 2018)
 - GotAPI 1.1: Approved (Aug. 22th, 2018)
- Device Web APIs
 - DWAPI 1.0: Approved (Aug. 22th, 2018)
 - DWAPI-3DP 1.0: Approved (Early of Nov., 2018 - Tentative)
- Open Issues:
 - How to capture market/industry needs
 - How to make upgrade framework
 - How to expand device range
 - How to extend APIs

OMA CD WI Status – SNeW and SWoT

- Social Network Web
 - SNeW 1.0: Approved (Apr. 13th, 2016)
 - SNeW 1.1: Draft (Current)
- Social Web of Things (SWoT)
 - Currently, SWoT is WP
 - CD decides to make TS of SWoT
- Open Issues:
 - How to capture market/industry needs
 - How to form service & API framework
 - How to interface with device platform such as GotAPI and LwM2M
 - How to interface with SNSs

SNeW and GotAPI/DWAPI



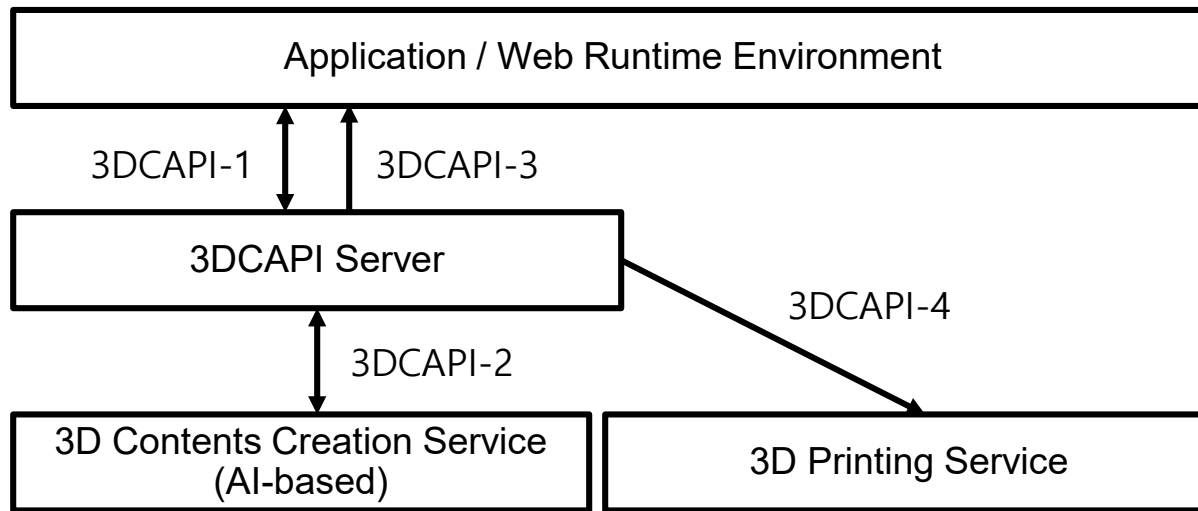
OMA CD New WI – 3DCAPI Background

- Many kinds of AI technologies are used to create or convert 2D image to 3D model and are developing as converting engines of on-line services.
 - There are needs to get 3D contents from original 2D images without using complex off-line tools and 3D modeling expert.
- 3D printer service is going popular due to its price going down
 - It bring us that 2D image is needed to convert to 3D image
- In the professional area, Game Services need to convert 2D to 3D
 - Mostly, their initial image is 2D but working image in game is 3D. It means they have need to convert 2D to 3D during developing phase
- Therefore, making 3DCAPI will provide convenient and effective environments to developers including game area.

OMA CD New WI – 3DCAPI Use Cases

- Service discovery: Request information to 3DCAPI Server for getting service list
- Service connecting: Request service connecting from user to 3DCAPI Server
- File transfer: Request file transfer to 3DCAPI Server and receive the results
- Setting attributes: Setting creating options to 3DCAPI Server
- Snap shot: Getting snap shot image of current progress of converting
- File receive: Get the created file from 3DCAPI Server
- 3D Printing: Request 3D printing to DWAPI-3DP enabler

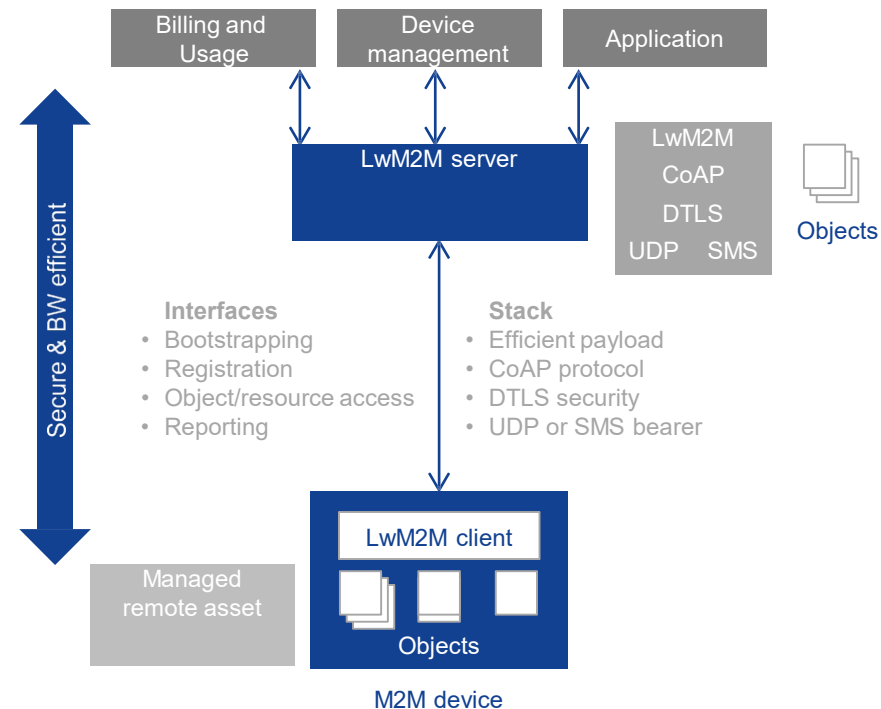
OMA CD New WI – Conceptual Arch of 3DCAPI



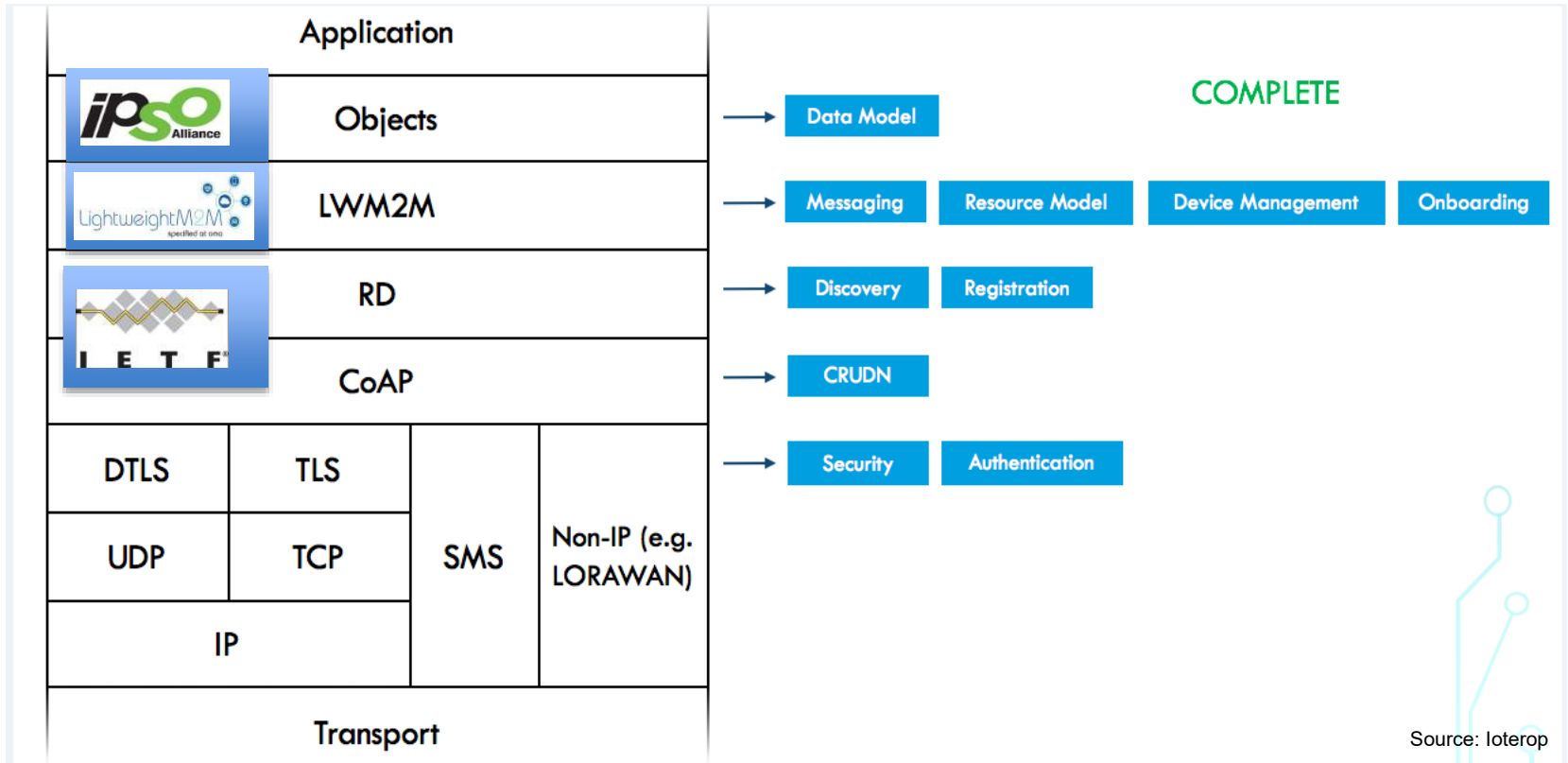
- 3DCAPI-1: interface between App/Web Runtime and 3DCAPI Server
- 3DCAPI-2: interface between 3DCAPI Server and 3D Contents Creation Service
- 3DCAPI-3: interface between 3DCAPI Server and App/Web Runtime
- 3DCAPI-4: interface between 3DCAPI Server and 3D Printing Service such as DWAPI-3DP enabler

Other WIs of OMA – LwM2M Introduction

- OMA recommends utilization of LwM2M for both data plane (data reporting and device actuation) as well as device management due to benefits such as:
 - Increased bandwidth efficiency based on COAP bandwidth optimization
 - Transport-agnostic design that supports
 - UDP, TCP, SMS
 - Developer toolkit for application development
 - DTLS-based security based on CoAP (IETF)
 - Low power client foot print designed for battery constrained devices
- LwM2M provides core functionalities as following:
 - Boot-strapping, Device Configuration, Firmware Update, Diagnostics, Connection Management, Control, Data Reporting, Lock & Wipe



Other WIs of OMA – LwM2M Protocol Stack



Future Plan 2019

- New WIs Plan
 - IoT Auth Service API based on Blockchain (2019)
 - GotAPI/DWAPI interface with LwM2M (2019)
- External Relationship
 - W3C: GotAPI/DWAPI, SNeW
 - oneM2M: GotAPI/DWAPI
 - MPEG: 3DCAPI
- Business Opportunity
 - Industrial Day Event during CD WG Interim
 - Co-op with Device Web API Consortium

Спасибо! 谢谢! 감사합니다.

Pěkně děkuji. Danke schön! Thank you!

Merci beaucoup. Muchas gracias.

Hvala lijepa. ありがとうございます。

Dziękuję. ขอบคุณครับ. Terima kasih.

Талархлаа. Cảm ơn chi.

अतिकृतज्ञ होना Hálás vagyok.