

## Telecom Carrier SDN Solution

# M2M Solutions over SDN

**NEC M2M solutions enable Telecom Carrier to optimize Telecom Carrier's Network infrastructure for M2M services.**

**M2M traffic has different characteristics and should be optimized.**

### Background

In past 5 years, M2M market volume in Japan has gradually expanded and it became double. However, M2M market volume growth is lower than expected by market analyst's report. Therefore, we need to build solution of the "GAP".

### Solution Concept

NEC thought that the reason why there is a "GAP" is current Telecom Operator's network are designed for cell-phone and smartphones, but M2M traffic has different characteristics from that. NEC propose M2M traffic should be optimized by SDN.

#### Reduce CAPEX and OPEX

##### Reduce Network investments

As we mentioned above, M2M traffic has different characteristics. For example, C-plan traffic load is quite huge even though U-plan consumption is lower than smartphone traffic.

If Operators invest network infrastructures based on C-Plan load, it's difficult to get a return on investment. NEC SDN solutions solve the problem by realizing CAPEX/OPEX reduction.

#### Interworking with M2M platform

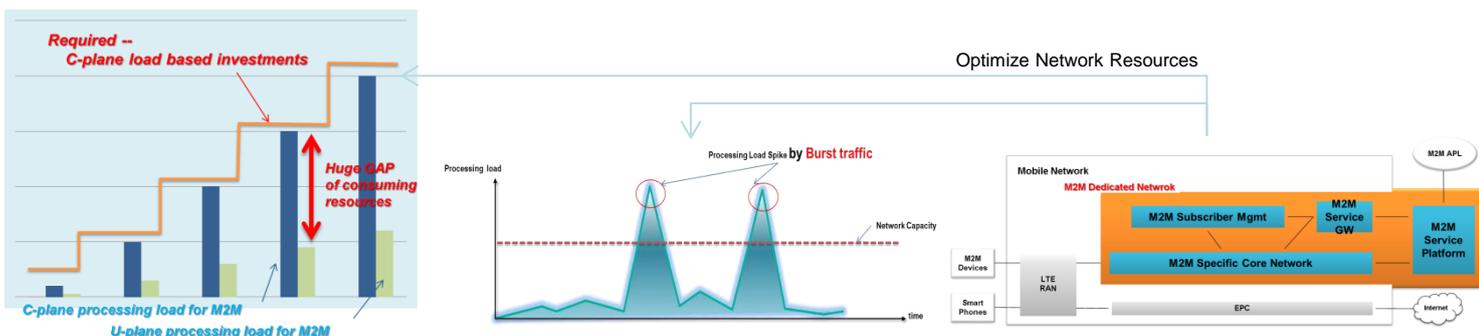
##### Reduce C-Plane loads and manage "Traffic burst"

In case of M2M services, main traffic model is "batch processing". It means time to occur M2M traffic is quite limited and traffic bursts tend to happen. If M2M PF gives NW infra. traffic forecast and SLA for each M2M services, NEC SDN solution can reduce ineffectual C-Plane loads and manage traffic bursts due to priority control per M2M services. The architecture is under discussion in 3GPP and NEC joins the activity.

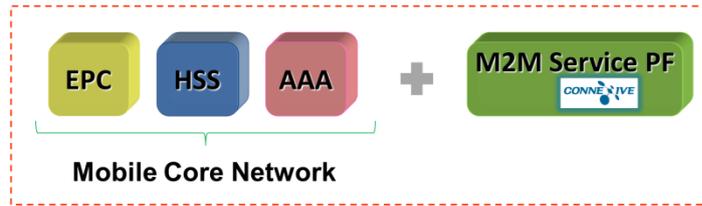
#### M2M Dedicated Network

##### Propose dedicated NW for M2M

NEC proposes to implement dedicated network for M2M services. In order to realize Network which generate profit from low ARPU for M2M. We believe that unnecessary functions (for example voice service, mobility management) deletion and efficient operation are realized by dedicated M2M NW.



## M2M Dedicated Network



- Reducing M2M Traffic loads using interworking between Mobile Core Network and M2M Service Platform



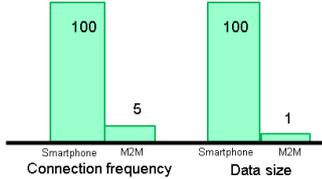
## M2M Solutions over SDN



- Complicated Network to Simple Network by SDN
- Quick Deployment with streamlined functions only

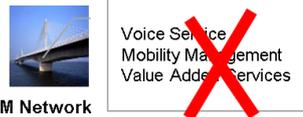
### 1) Efficient Resource Investment

CAPEX reduction based on required resources by using SDN



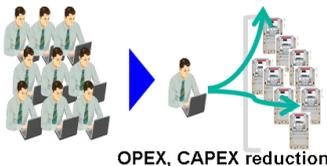
### 2) Streamlined Functions

Unnecessary functions to be removed



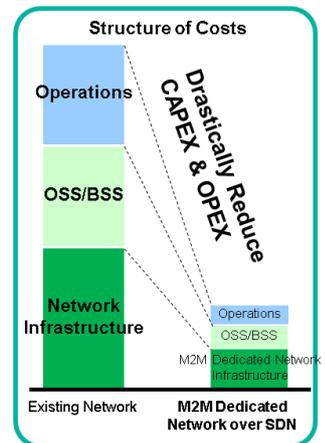
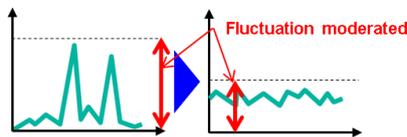
### 3) Simple Operations

One time registration for bulk processing



### 4) Centralized Control

M2M PF to control any sensor's communication



NEC Corporation  
2<sup>nd</sup> Carrier Service Division

<Address>  
2<sup>nd</sup> Tamachi building, 14-1, Shiba 4-chome,  
Minato-ku, Tokyo, Japan

<Contacts >  
contact@m2m.jp.nec.com