"SRv6 MUP" Updates 2025
A MUP Architecture Implementation Progress

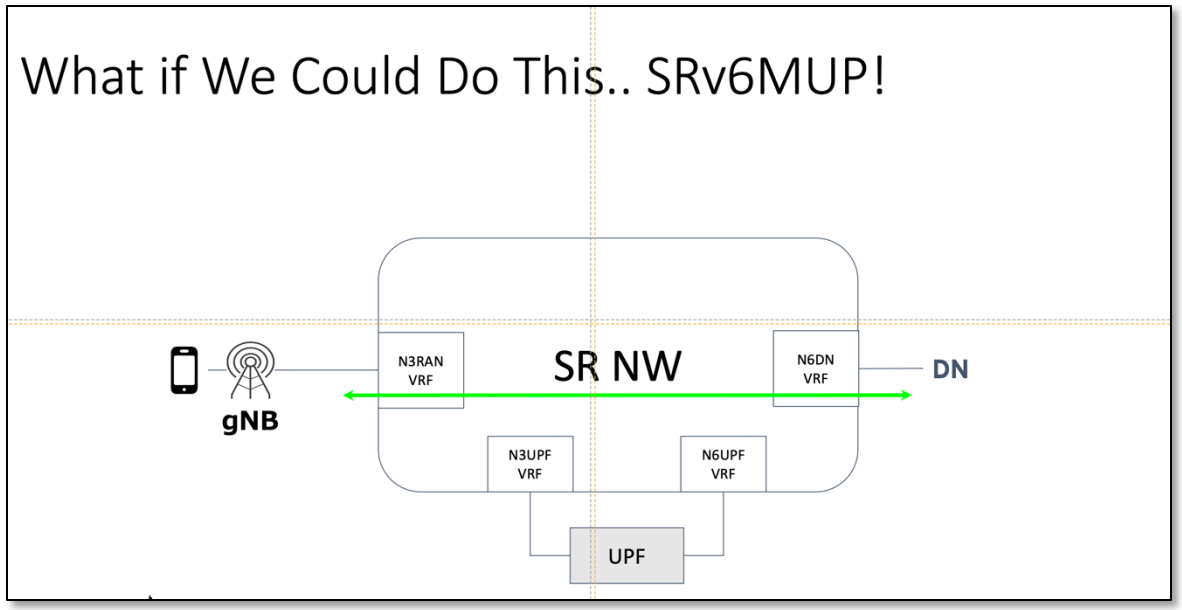
Satoru Matsushima
SoftBank

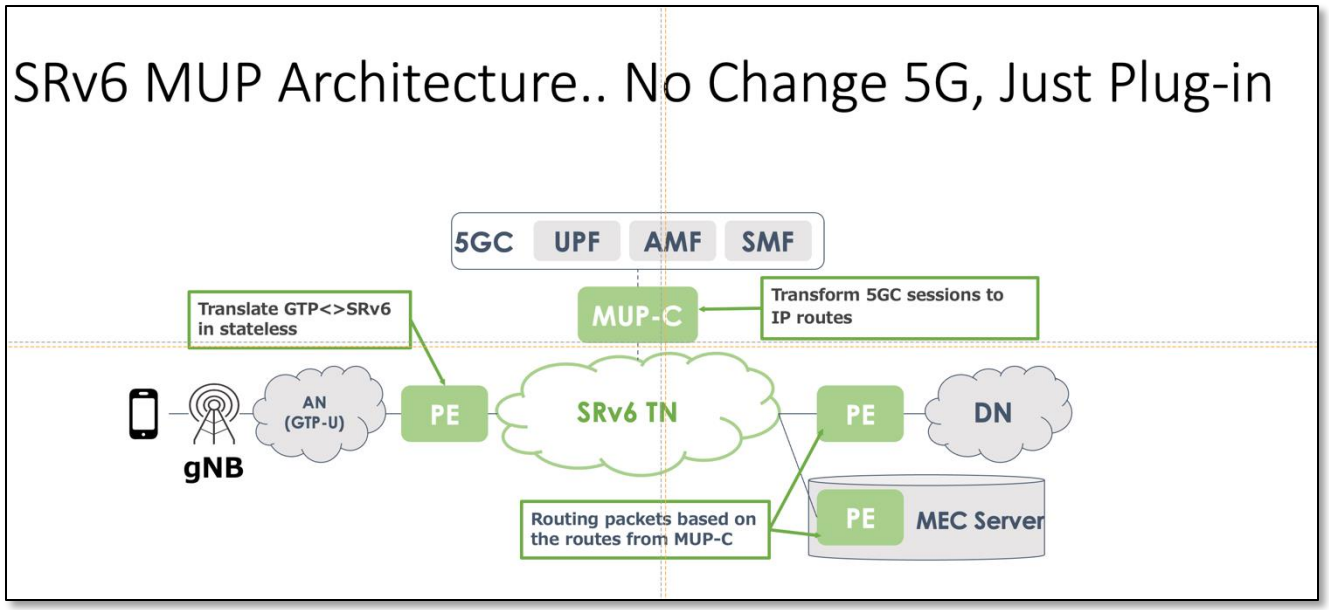
MPLS&SRV6AINET WORLD25

SoftBank

MUP Introduction in MPLSWC2022

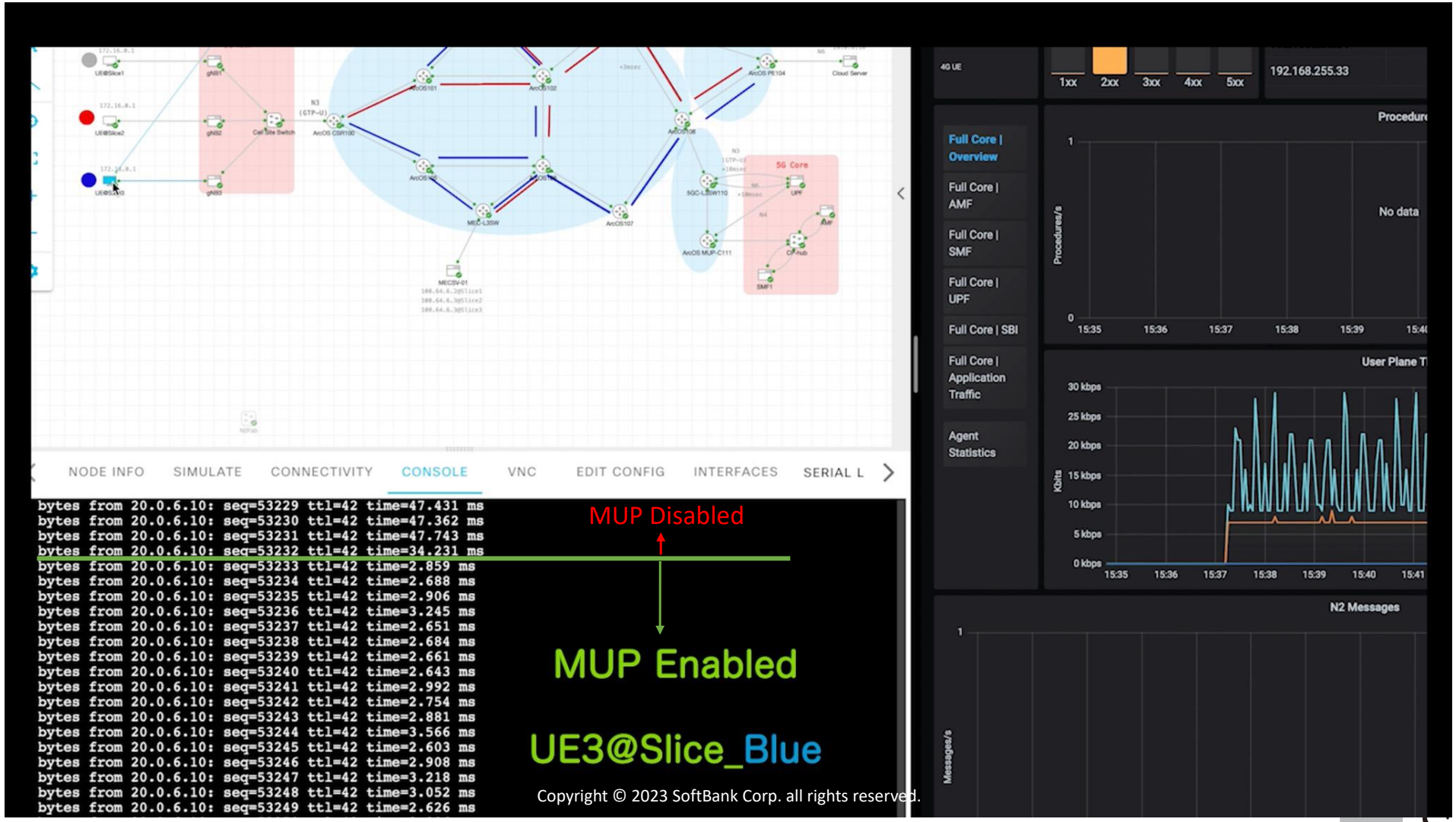
MPLS SD&AI NET WORLD22





SRv6 MUP Application: End-to-End Slicing

MPLS SD&AI NET WORLD23



Copyright © 2023 SoftBank Corp. all rights reserved.

SoftBank

Involves Multiple Implementations w/ Interoperability

ARRCUS NETWORK DIFFERENT

BBSakuraNetworks

CISCO

古河電工

SoftBank

GoBGP

exa

IETF Hackathon

BGP-MUP SAFI Implementation and Interop

IETF 116

25-26 March 2023

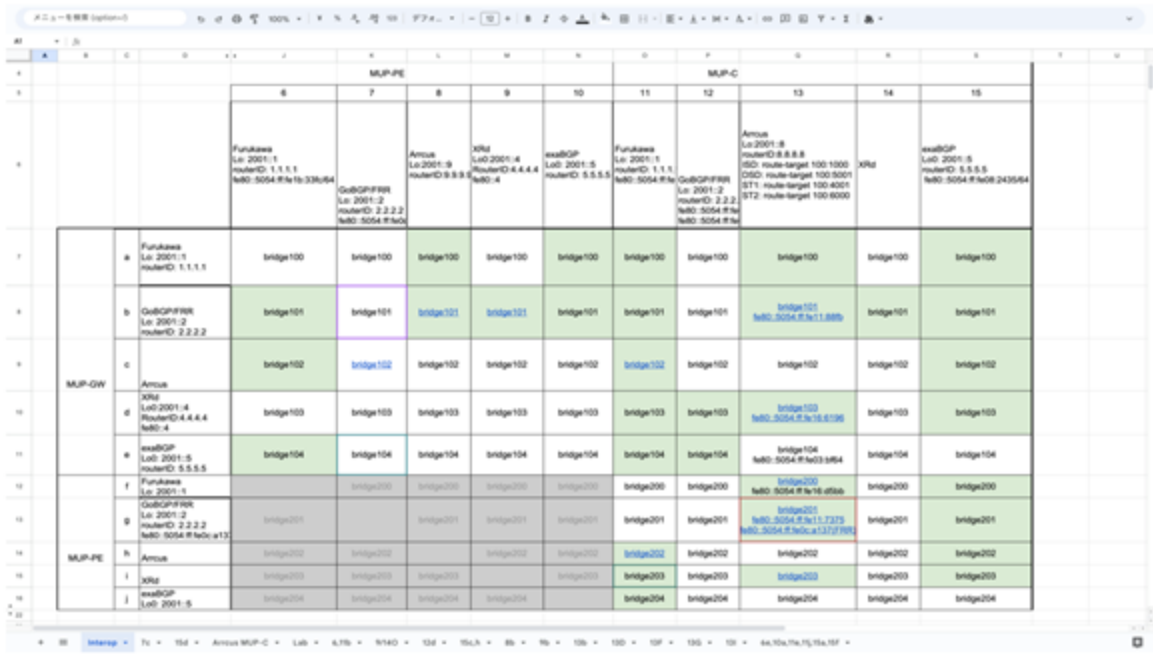
Yokohama

Hackathon Plan

Let's implement a new BGP SAFI and do the Interop togethe

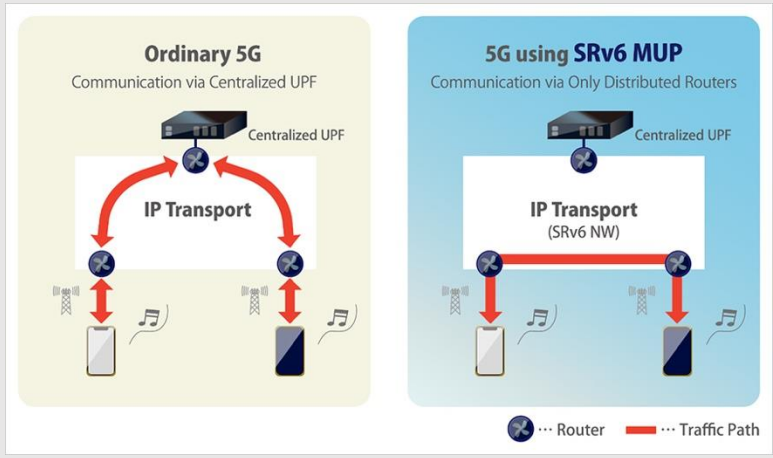
- MUP Architecture and BGP-MUP SAFI
  - https://datatracker.ietf.org/doc/draft-mhkk-dmm-sr architecture/
  - https://datatracker.ietf.org/doc/draft-mpmz-bess-mu
- Participated BGP developers
  - Arrcus
  - Cisco
  - ExaBGP
  - FRR
  - Furukawa
  - GoBGP
  - (Open BMP)

The Interop Matrix



https://github.com/IETF-Hackathon/ietf116-project-presentations/blob/pdfs-from-html/ietf-116-hackathon-bgp-mup-safi-interop.pdf

THIS YEAR UPDATE (1)



SRv6 MUP Use Case

Low Latency Device-to-Device Communication

Remote Ensembles:
Professional Musicians Played in a Public Music Event

HAMAMATSU JAZZ WEEK

5G SoftBank × SYNCROOM

SRv6MUP
Disabled/Enabled 5G

SoftBank 光

FTTH Internet

Instruments:
Piano, Saxophone

Instruments:
Drums, E.Guiter

SoftBank

The World First Musicians

Played Remote Ensembles through 5G/Smartphone App in Public

SoftBank 5G × SYNCROOM

KAWARAI Mitsuru

Drums

YOSHIZAWA Yuji

Piano

ARAKAWA Mana

Saxophone

KURODA Emine

E.Guiter

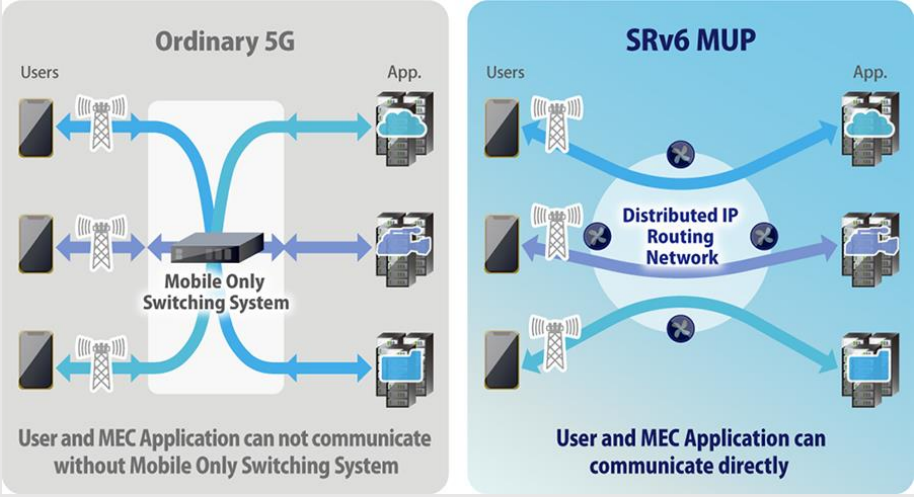
SoftBank

BEFORE
(without MUP)

AFTER
(with MUP)

SoftBank

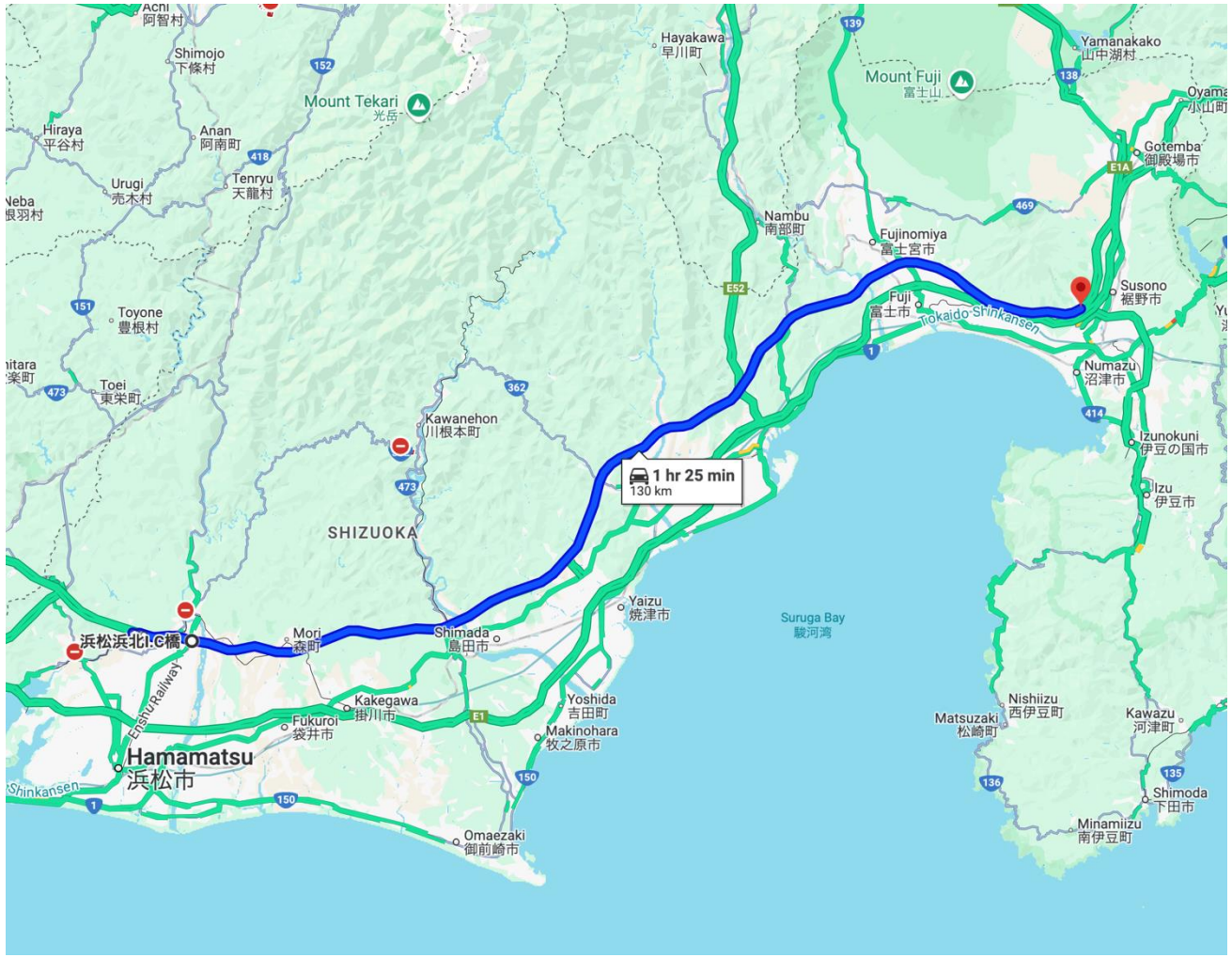
THIS YEAR UPDATE (2)

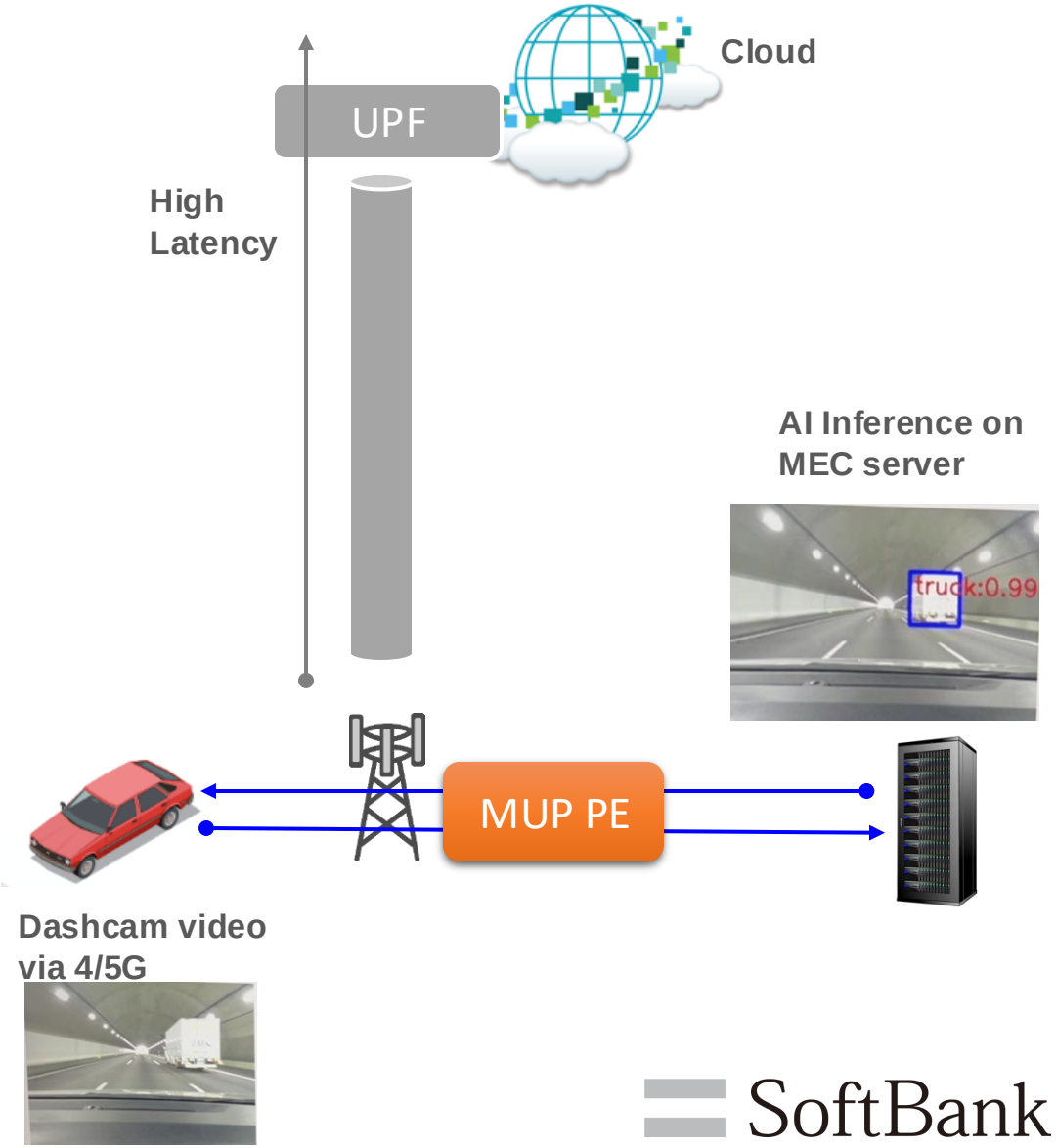


SRv6 MUP Use Case

MEC Application deployment in 4/5G.

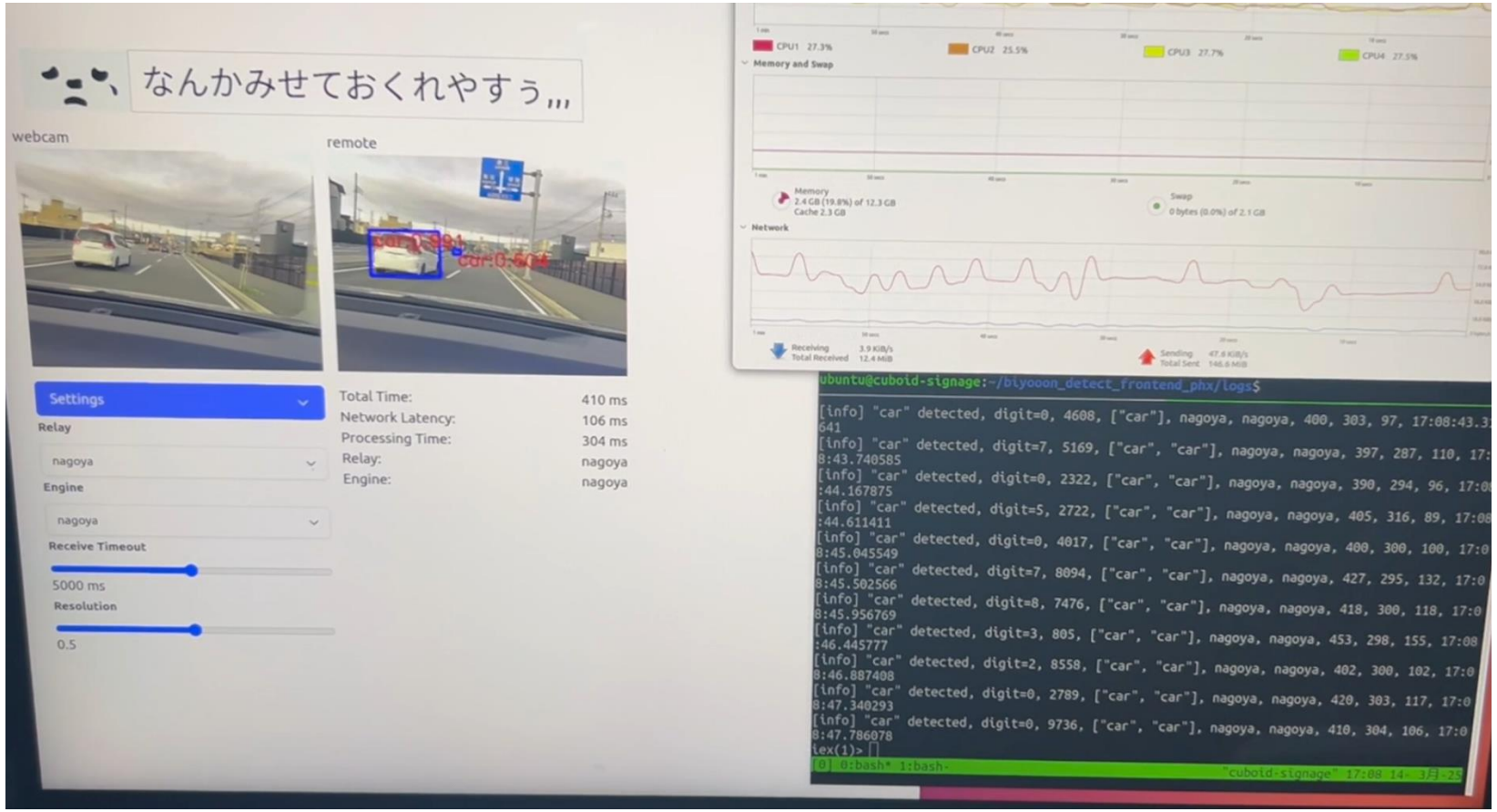
A V2N Trial: AI Dashcam w/ MEC servers
through SRv6 MUP enabled 4/5G





SoftBank

V2N AI Dashcam Demo Video



SoftBank

MORE UPDATES

SoftBank

We want to share
the MUP experience
with
operators/vendors.

Please contact:

Summary

- SRv6 MUP, as a MUP Architecture implementation, has been extending its coverage and ecosystem:
  - No change required to 5G specs and equipment.
  - Incorporates VPN PEs into MUP networks
  - Involves multiple vendors implementation with interoperability

- Proven Track Records Leading to Realistic Feasibility
  - Significant reduced latency by SRv6 MUP enables remote ensemble at publicly presentable level,
  - SRv6 MUP and MEC enables AI Dashcam as a feasible V2N use case.

Thank you

Question/Comments?

SoftBank

SRv6 MUP Field Trial in Commercial 5G

SoftBank | About Us

News | Company Info | Vision and Strategy | Investor Relations | Sustainability

SoftBank Corp. Starts SRv6 MUP Field Trial in Commercial 5G Network

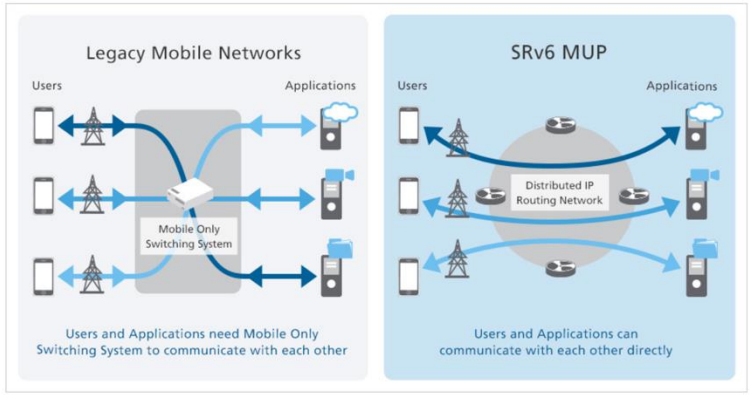
February 24, 2023
SoftBank Corp.

SoftBank Corp. ("SoftBank") today announced that it has started a field trial of Segment Routing IPv6 Mobile User Plane (SRv6 MUP*1) in its commercial 5G Network. The trial started on February 13, 2023. SoftBank-led SRv6 MUP can deliver 5G Multi-access Edge Computing (MEC) and network slicing with unprecedented cost-efficiency and operational advantages over legacy technologies. SoftBank is pursuing an accelerated introduction of SRv6 MUP in its commercial services.

SoftBank will exhibit an advanced demonstration of MEC and network slicing on SRv6 MUP, proving the operational ease of delivering network slicing to MEC when SRv6 MUP is used instead of conventional mobile user plane (U-plane) technologies. The demo will be hosted in the booth*2 of Arrcus Inc. at Mobile World Congress Barcelona (MWC Barcelona) in Spain from February 27 to March 2, 2023. MWC Barcelona is the largest and most influential event for the connectivity ecosystem.

SoftBank will continue the development of SRv6 MUP to deliver highly efficient MEC and network slicing in collaboration with other operators and different industry players around the world.

Image of SRv6 MUP



https://www.softbank.jp/en/corp/news/press/sbkk/2023/20230224_01/

SoftBank

Remote Ensemble over MUP enabled Public 5G

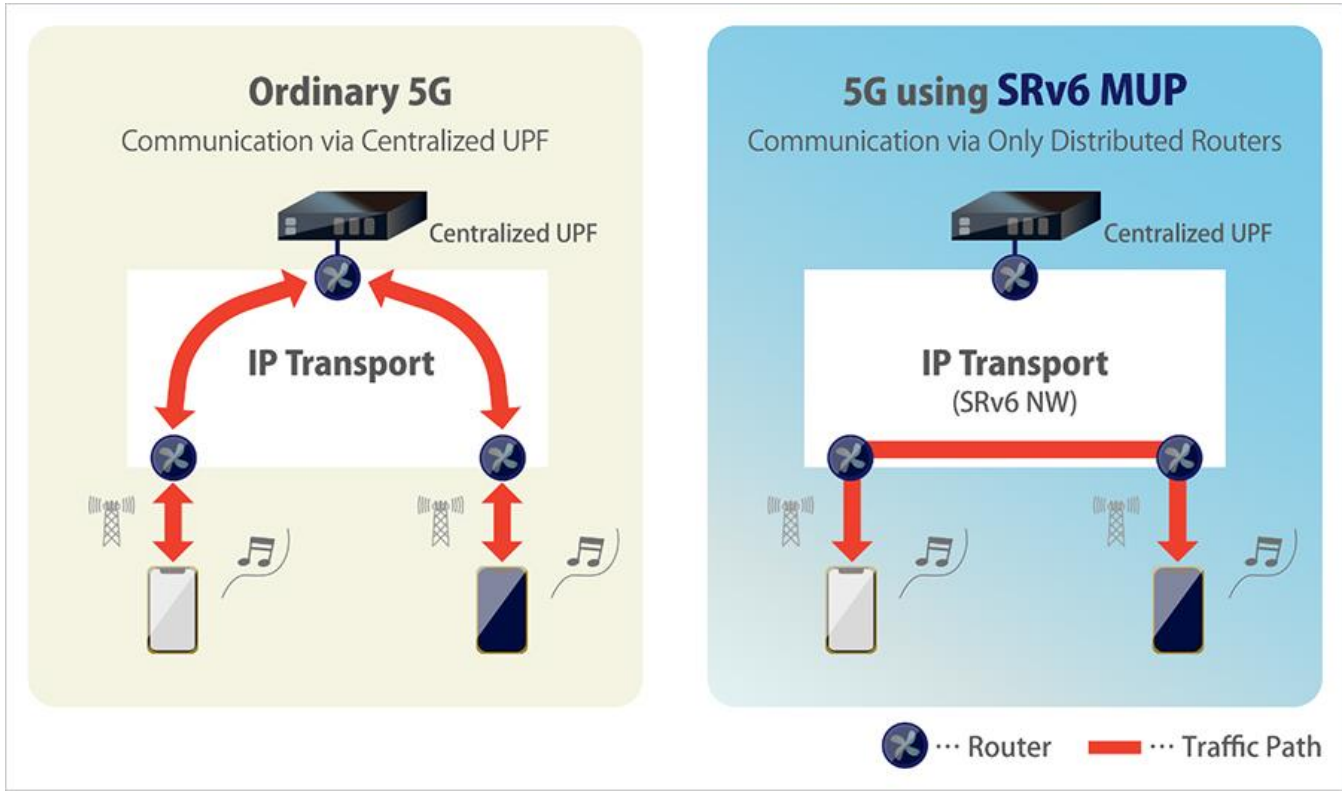
SoftBank Corp. and Yamaha Conducting Joint Verification Trials for Remote Ensembles on SoftBank's Commercial 5G Network Using SRv6 MUP

August 7, 2023
SoftBank Corp.

SoftBank Corp. ("SoftBank") and Yamaha Corporation ("Yamaha") announced they started joint verification trials for Yamaha's remote ensemble service "SYNCROOM" on SoftBank's 5G commercial network using Segment Routing IPv6 Mobile User Plane (SRv6 MUP).

"SYNCROOM" usage scenarios

SYNCROOM



https://www.softbank.jp/en/corp/news/press/sbkk/2023/20230807_01/

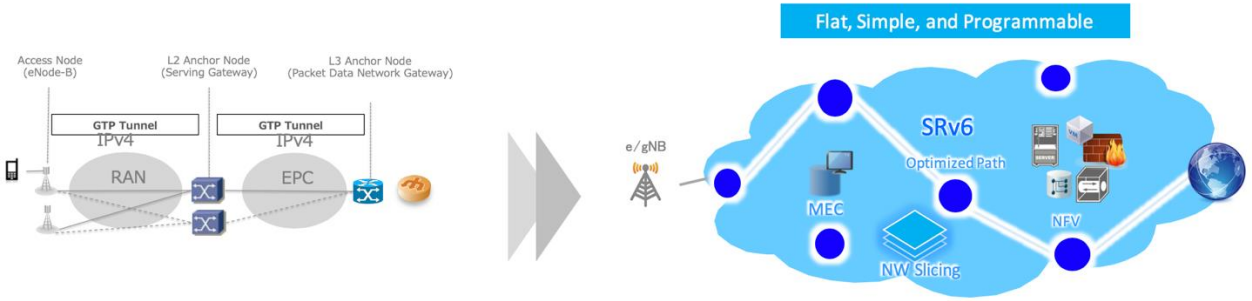
SoftBank

6 Years Ago

MPLS+SDN+NFVWORLD
@PARIS2018

What if SRv6 Becomes An Alternative of GTP-U Tunnel?

- ~~Well fragmented to RAN, EPC and SGi.~~
- ~~Per-session tunnel creation and handling.~~
- ~~Non-optimal data-path.~~
- **IPv6 integrates networks of the mobile and others.**
- **A SID represents data-plane role and function.**



5 Years Ago

SoftBank mobile the Internet energy robot Corporation Company / IR

My SoftBank ショップ メニュー

Company / IR news Company information Growth strategy IR information CSR Human resource measures and recruitment

Press release 2019

Started operation of "SRv6 (segment routing IPv6)" in mobile IP network

New Technologies for Network Innovation in the 5G Era

April 24, 2019 Softbank Corporation

SOFTBANK CORP. (Hereinafter referred to as "SOFTBANK") is a new technology that realizes simpler and scalable network configuration in mobile IP networks and implements various functions for the 5th generation mobile communication system (5G) era We introduced SRv6 (segment routing IPv6) and began full-scale operation on a commercial network from April 2019.

SoftBank

EoF

SoftBank