MUP
A Mobile User Plane Network Evolution using Segment Routing

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SoftBank

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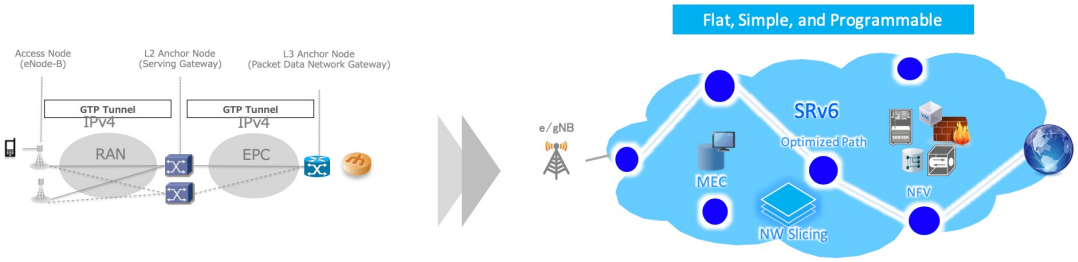
5 Years Ago

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.**



4 Years Ago

SoftBank mobile the Internet energy robot Corporation Company / IR

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.

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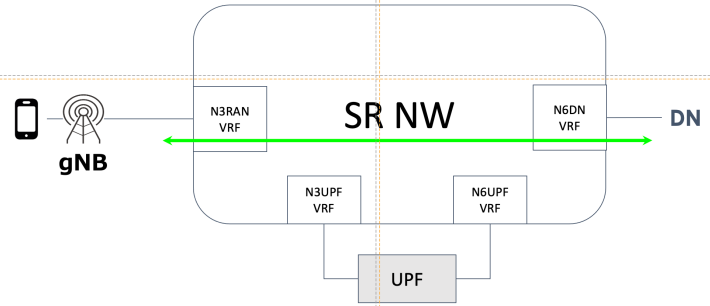
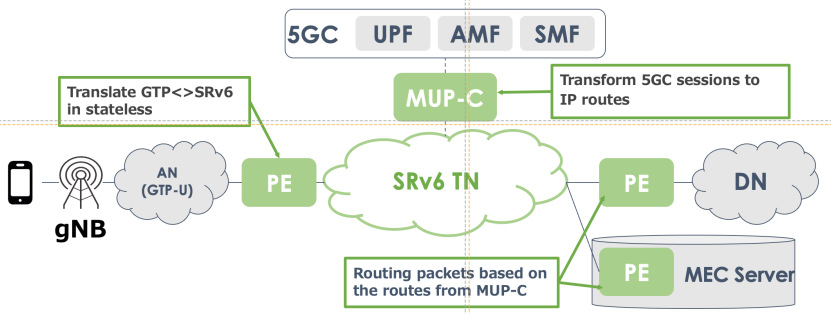
MPLSWC2022 in Last Year

MPLS SD&AI NET WORLD22

What if We Could Do This.. SRv6MUP!



SRv6 MUP Architecture.. No Change 5G, Just Plug-in



THIS YEAR

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

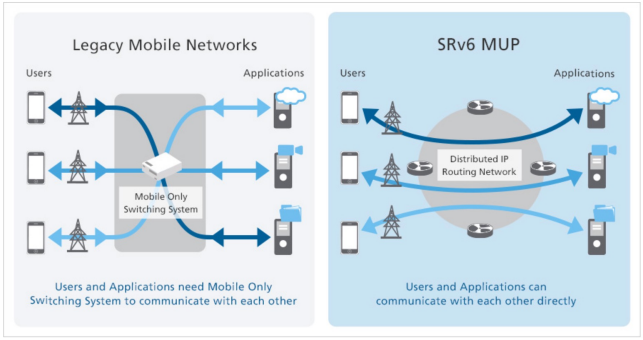
February 24, 2023
SoftBank Corp.

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/

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MUP Work in Progress in IETF together with the partners

Workgroup: Internet Engineering Task Force
Internet-Draft:
draft-mhkk-dmm-srv6mup-architecture-05
Published: 13 March 2023
Intended Status: Standards Track
Expires: 14 September 2023

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Mobile User Plane Architecture using Segment Routing for Distributed Mobility Management

Abstract

This document defines the Mobile User Plane (MUP) architecture using Segment Routing (SR) for Distributed Mobility Management. The requirements for Distributed Mobility Management described in [RFC7333] can be satisfied by routing fashion.

BGP-MUP Interop Hackathon at IETF116

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

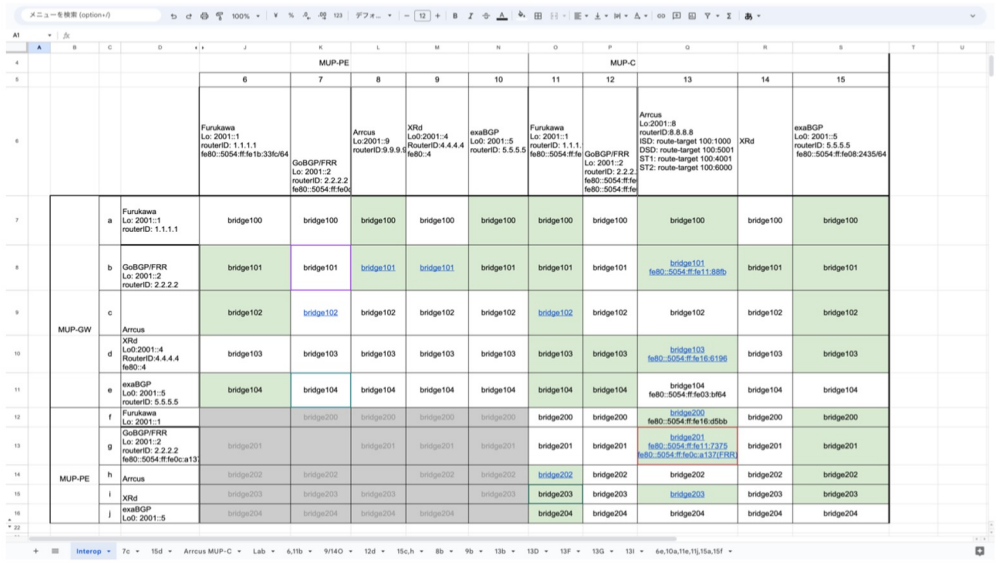
Yokohama

Hackathon Plan

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

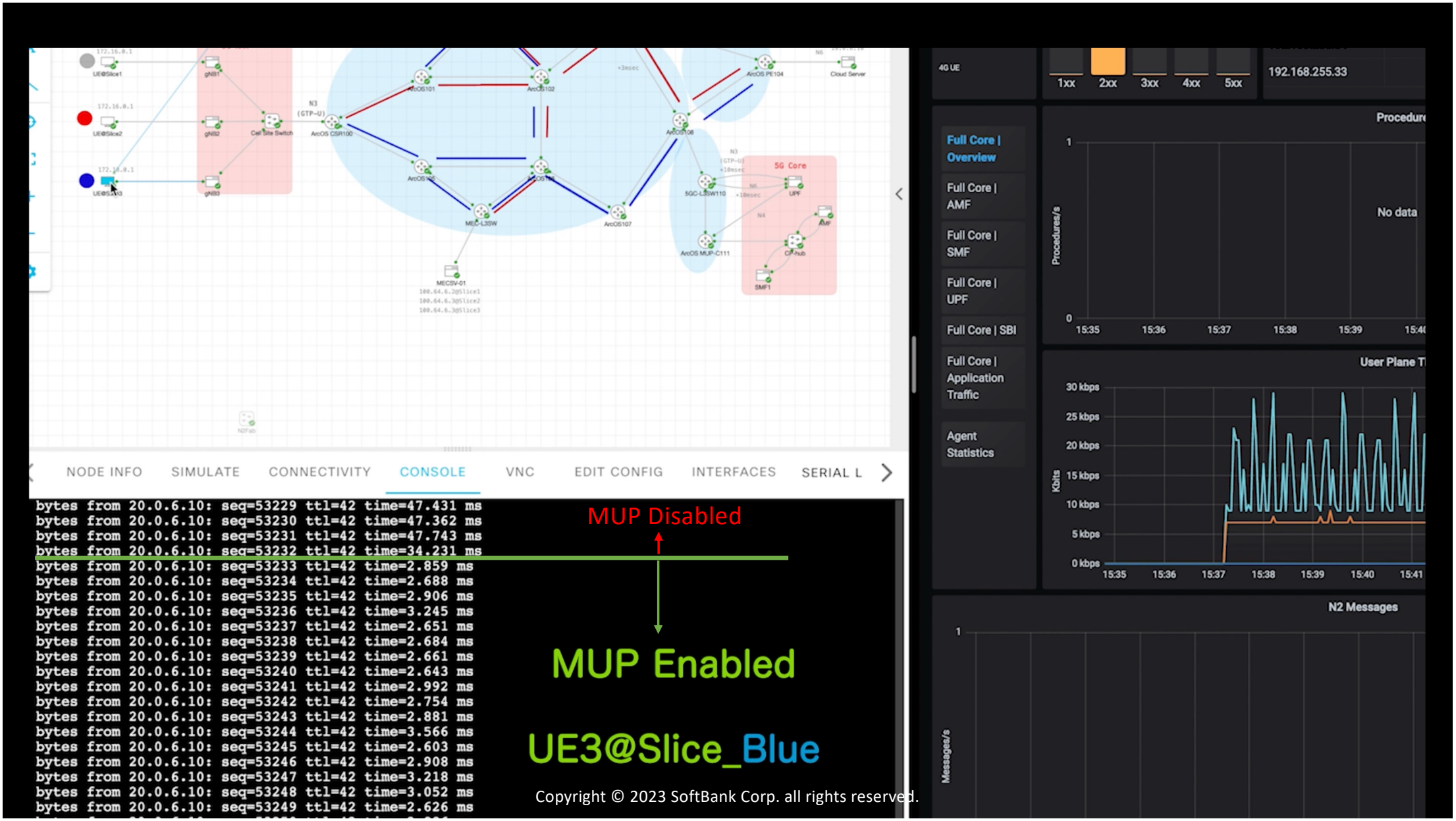
- MUP Architecture and BGP-MUP SAFI
  - https://datatracker.ietf.org/doc/draft-mhkk-dmm-sr architecture/
  - https://datatracker.ietf.org/doc/draft-mpmz-bess-mu
- Participated BGP developers
  - Arrcus
  - Cisco
  - ExaBGP
  - FRR
  - Furukawa
  - GoBGP
  - (Open BMP)

The Interop Matrix

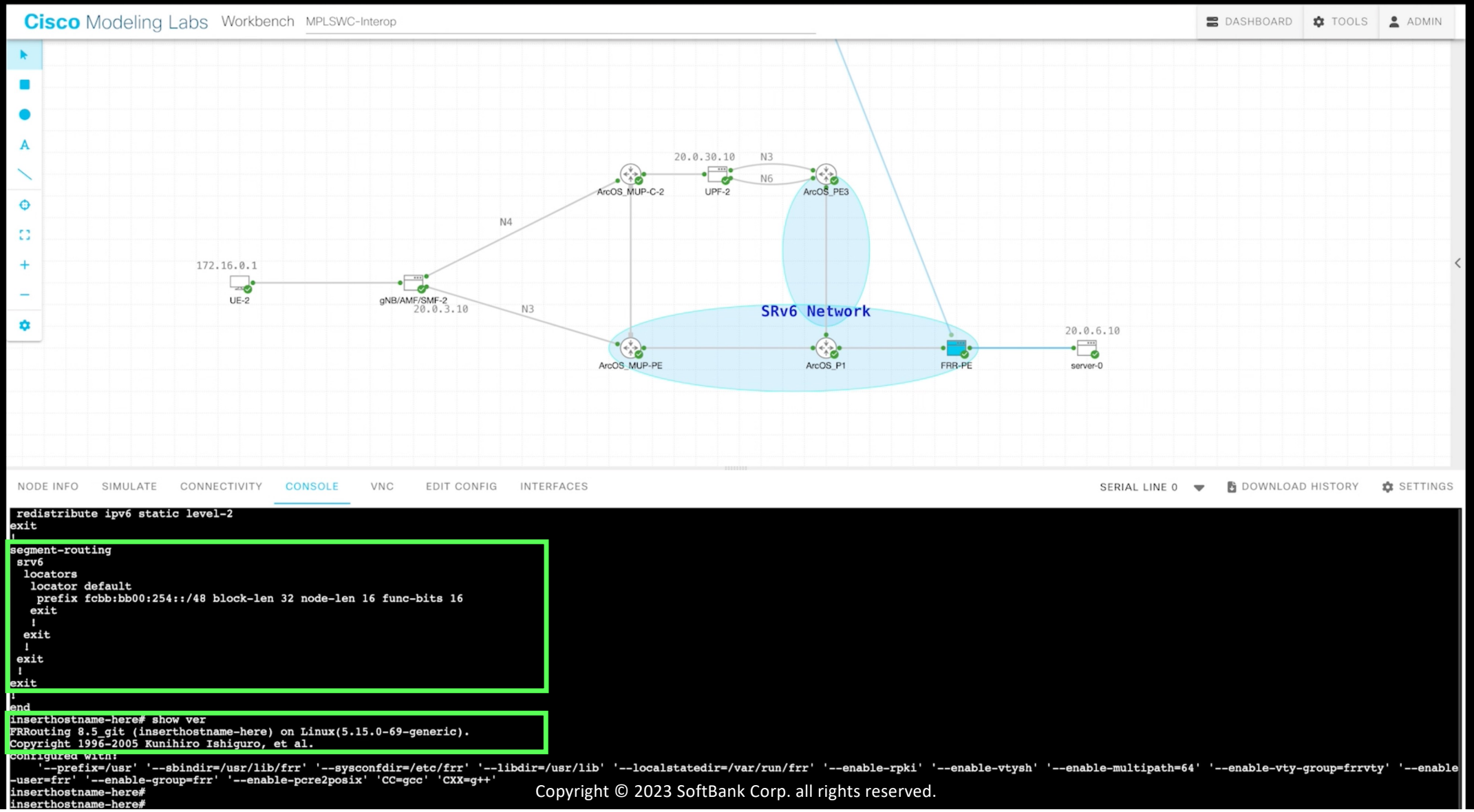


https://github.com/IETF-Hackathon/ietf116-project-presentations/blob/pdfs-from-html/ietf-116-hackathon-bgp-mup-safi-interop.pdf

Demo Movie “MUP for 5G/IP Slicing with MEC”



Demo Movie “MUP Interop for Normal VPN PE”



Thank you

Question/Comments?

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EoF