Connection to LHCONE from Japan

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- Network for HEP community in Japan, operated by KEK

- Formerly, it had some international links and domestic members are connected by dedicated serial links about 64k to 512k.

- Recently, most of the connection are implemented as VC on NREN.

- A member of HEPnet-J is planning to connect LHCONE.

Three NRENs in Japan

- SINET

- JGN-X

- MAFFIN

- SINET is the primary option of the HEP community in Japan

  - They care our demand, not only bandwidth but also destination.

  - Number of JGN-X's access points are limited.

  - In the case of KEK, nearest JGN-X AP has only 1Gbps uplink to Tokyo.

Logical map around AS2505
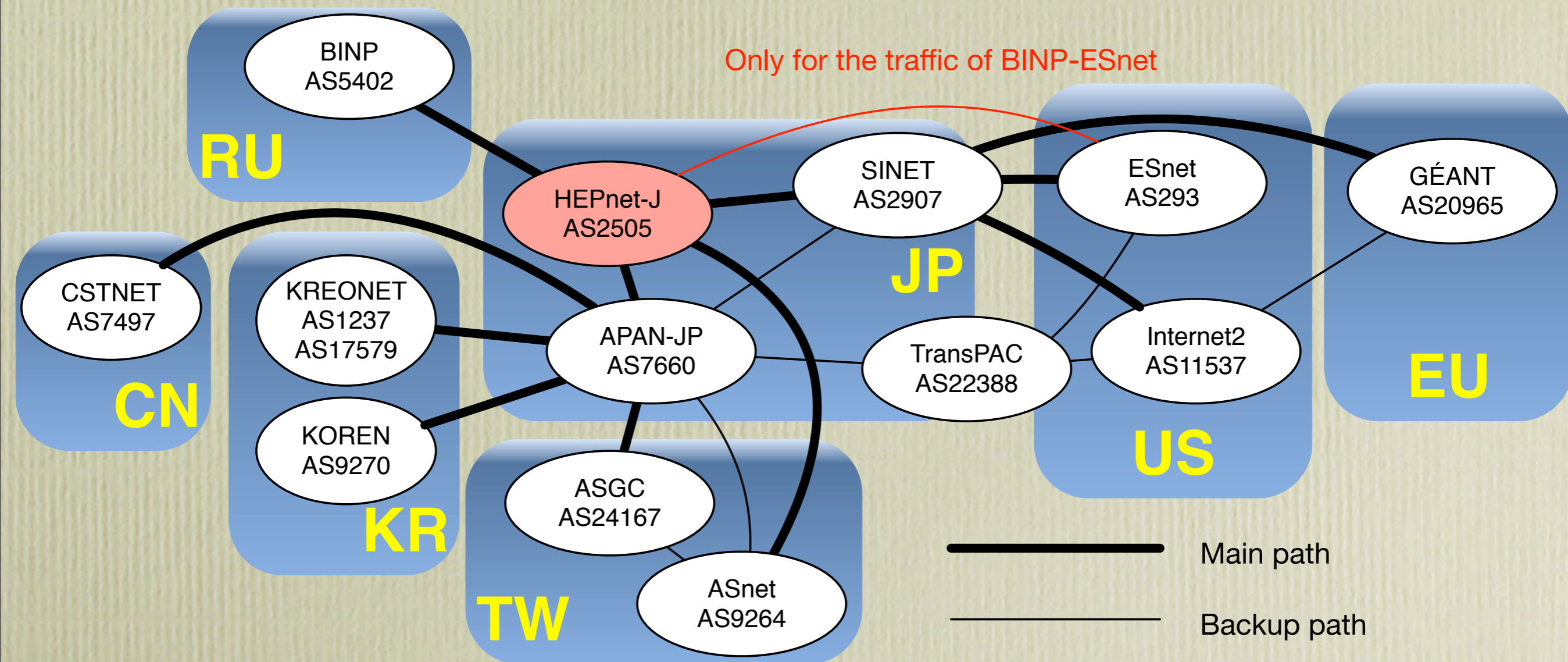
ATLAS Tier-2 by ICEPP in the University of Tokyo

- Upstream was CCIN2P3, at the beginning stage.

- Currently it uses the third link of SINET to US.

  - No.1: LA, No.2: NYC, No3: WIX

- VRF is implemented on the SINET router.

- BGP peer to LHCONE is operated by SINET.

- IP addresses are of the University of Tokyo, not of HEPnet-J.

- Network connection is already established, and operated well.

Planning ALICE Tier-2 by Hiroshima University

- The facility will be placed in AS2505

- Expected upstream is Tier-1 in KISTI in Korea.

- The path from JP to KR is managed by JGN-X.

- The peer of APAN-JP(AS7660) and KREONET(AS1237) uses this link, and we can use as an general purpose internet.

  - no need of paperwork

- Making a closed network by VRF requires paperwork for JGN-X, it may be harder rather than using SINET+APAN-JP.

  - Especially for the project which doesn't progress according to the proposed schedule.

  - **Life doesn't go the way we want it to.**

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Belle II and KEK

- The Belle II experiment in KEK will use a distributed computing model similar to that of LHC.

- Large sites of collaborators are connected to LHCONE, except two sites.

  - KEK and PNNL

- A scheme like LHCONE is needed.

VC for Belle II

- Provided by ESnet and SINET

- Connects PNNL and KEK

- Opened August 2013, as Layer 2 VPN.

- Changed to Layer 3 by VRF and BGP at last August.

- Currently BGP is running on VRF in SINET, but it will be moved on VRF in KEK.

  - KEK allocated a router for that at last week

Summary

- Connections to LHCONE from Japan

  - ATLAS Tier-2 by ICEPP (running)

    - SINET + GÉANT

  - ALICE Tier-2 by Hiroshima-Univ. (planning)

    - HEPnet-J + SINET + APAN-JP + JGN-X

  - Belle II, KEK (discussing)

    - HEPnet-J + SINET + ESnet + ???