Asian Internet Interconnection Initiatives

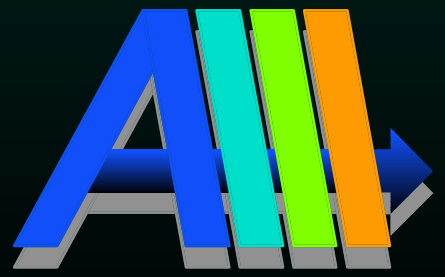
Status Report on

Tomomitsu Baba

Nara Institute of Science and Technology

Overview

- current AI3 routing
- operation challenges
- experiences
- research issues
- AI3 routing in future (?)



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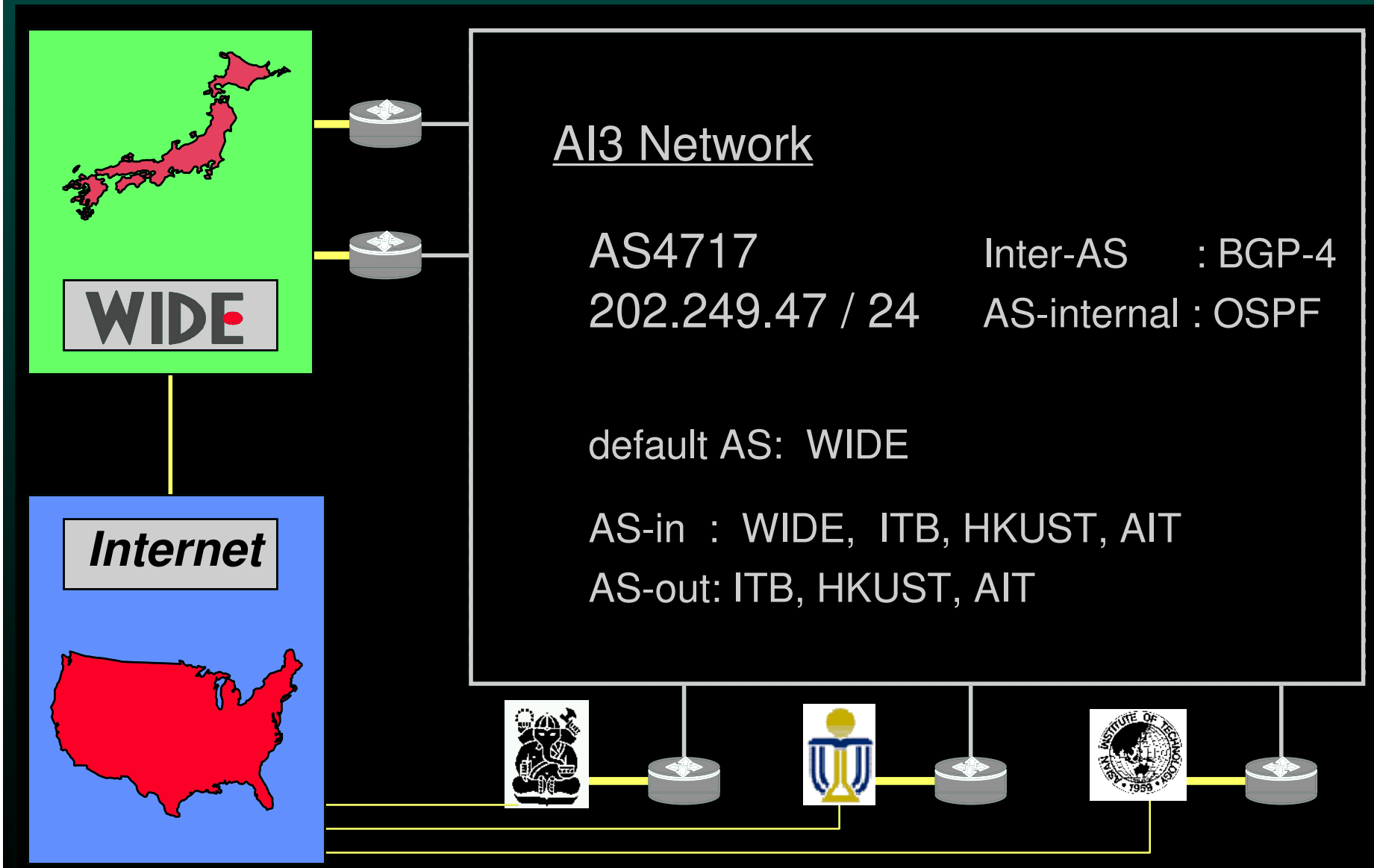
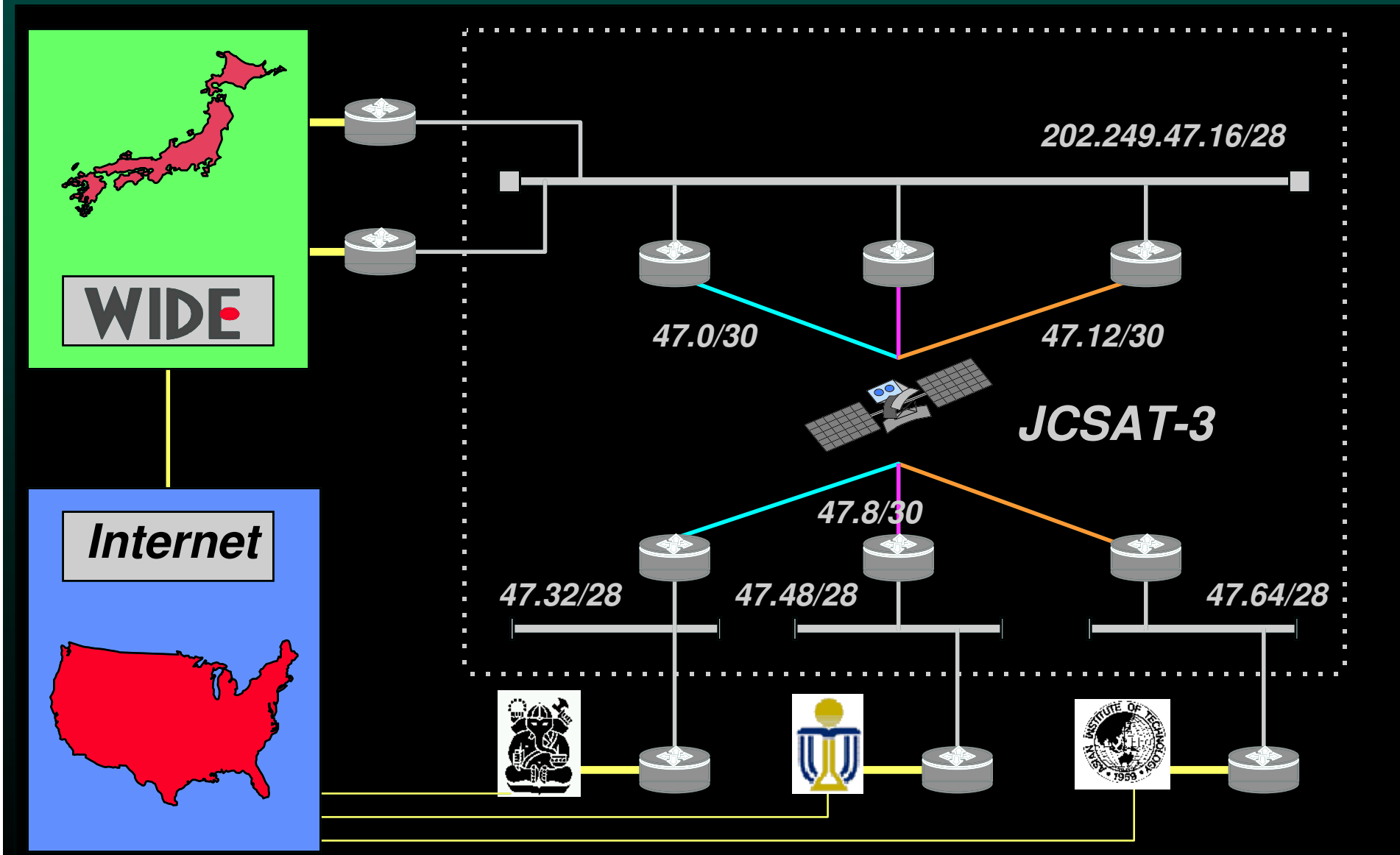
AI3 network topology (1)

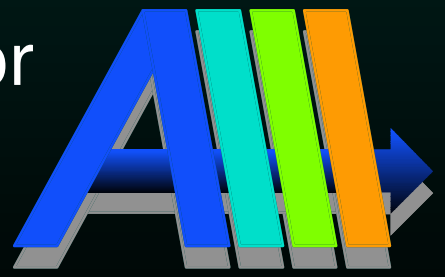


AI3 network topology (2)



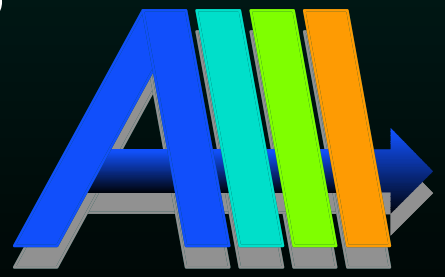
BGP-4 routing

- EBGP speakers
  - AI3 gateway to peer with partner AS
  - GateD 3.5.x (BSD/OS 2.1)
    - 3.5 Beta4 is recommended
  - two-way peering with WIDE AS
- IBGP speakers
  - topology style is fully meshed
  - still cannot use BGP route reflector



Operation challenges (1)

- Action Goal
  - learning BGP-4 operation
  - investigation on technical limitations
  - implementation of its robustness on routing
- two-way peering with WIDE AS
- construction of private AS65433



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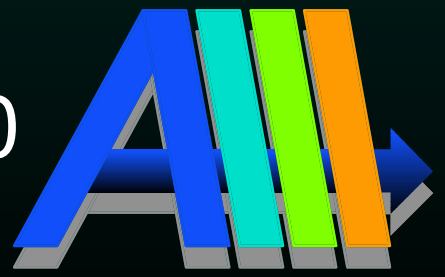
Operation challenges (2)

- two-way peering with WIDE AS
  by using local-pref and MED
  - WIDE AS
    - Baynetwork ASN with FDDI and 100Base-TX
    - Cisco 4500 with 10Base-T x 2
  - AI3 AS
    - GateD on AI3 JP gateway
    - Hitachi NP200 (GateD 3.5.5)
- Primary peer is ASN and NP200



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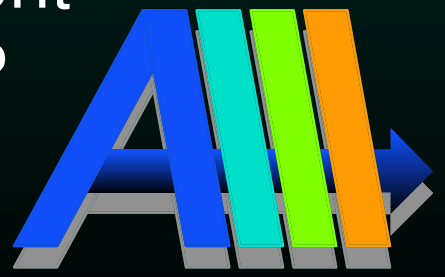
Operation challenges (3)

- construction of private AS
  - experimental AS
    - free to experiment on routing, but...
  - failed to advertize the aggregated address
    - contributing routes couldn’t be generated!
    - experimental dynamic routes often disappeared. should be static.
  - we need to know how to experiment on routing easily without loss of IP connectivity



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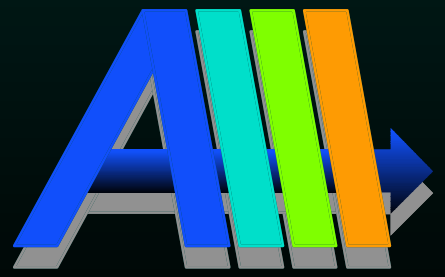
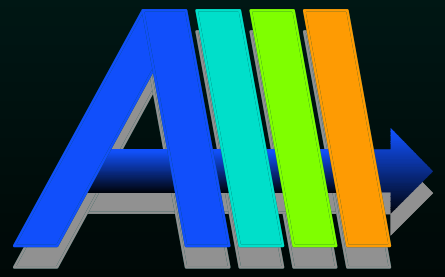
Experiences via routing operation

- BGP dampening
  - Penalty owned by MCI and other ISPs
  - I don’t know the dampening mechanism in detail yet.
- lack of tuning on BGP parameters



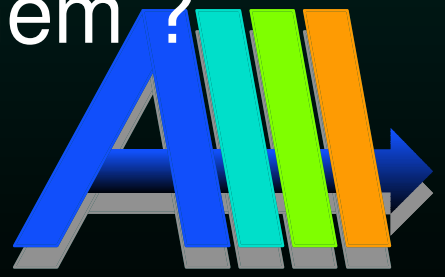
Research issues

- easy debugging/monitoring tools for BGP-4
- BGP-4 visualization
- policy-based administration for AS



AI3 routing in future

- Experiment vs. Operation
  - we prefer experiments/researches actions from operation
  - on the other hand, lots of people really depends on AI3.NET and it's also important to archieve the real traffic
- How will we balance between them ?



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Summary

- Let's experiment/research on routing more and share experiences with each other
- However, the operation should be also treated as important one
- We have to solve this problem and go in advance somehow.

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