



International Civil Aviation Organization

Fourth ATN Transition Task Force Meeting

Mumbai, India, 8 – 12 April 2002

Agenda Item 3: Review ATN technical documents and transition issues

ROUTING POLICY (IDRP)

(Presented by Japan)

SUMMARY

The IDRP routing policy in ASIA/PAC region has been studied and it is pointed out that there are some (G/G as well as A/G) to be clarified in the development of policy.

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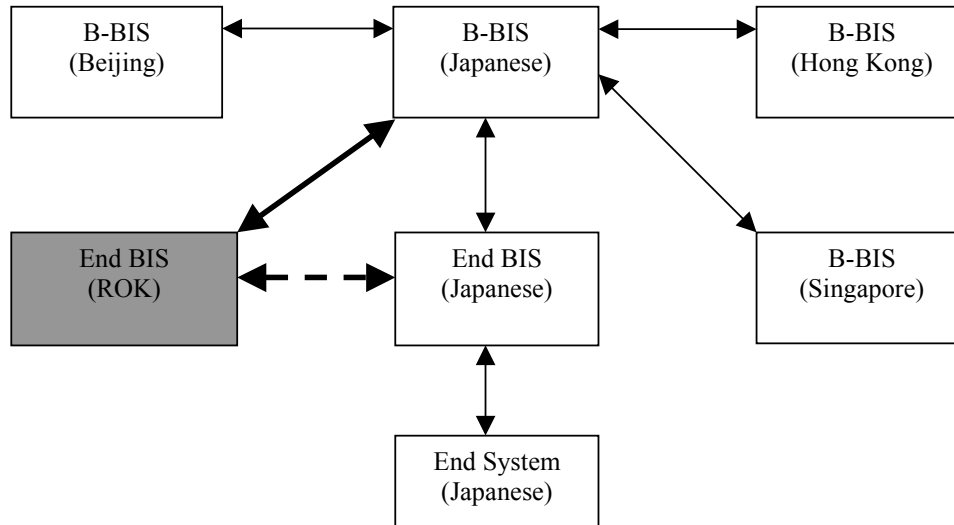
1. Background
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1. BACKGROUND

1.1 The messages are routed over the ATN via Routers. In the ASIA/PAC region, the routing architecture is proposed as a network hierarchy of Backbone and Non-Backbone BISs. As pointed out in the paper presented at Chiang Mai meeting, there is an ambiguity of the roles of G/G Backbone BIS and (Ground) End BIS. Such an ambiguity leads to a question whether a State relay a message to the neighboring domain from/to End BIS or B-BIS (e.g. Japanese End-BIS to ROK End BIS or Japanese End BIS – Japanese B-BIS – ROK End BIS?) Another point missing in the current policy development is the aspect of A/G messaging over the ground network. This also leads to a question whether B-BIS or End BIS has to handle the routing, and if a State is without B-BIS, how to handle the A/G messages reached from the A/G router. There should be clarifications on these questions. The paper points out the causes of such questions.

2. B-BIS or End BIS

2.1 In the following figure, it is pointed out whether Japan has to route messages between ROK and Japan through Japanese End BIS – Japanese B-BIS – ROK End BIS or Japanese End BIS–ROK End BIS.



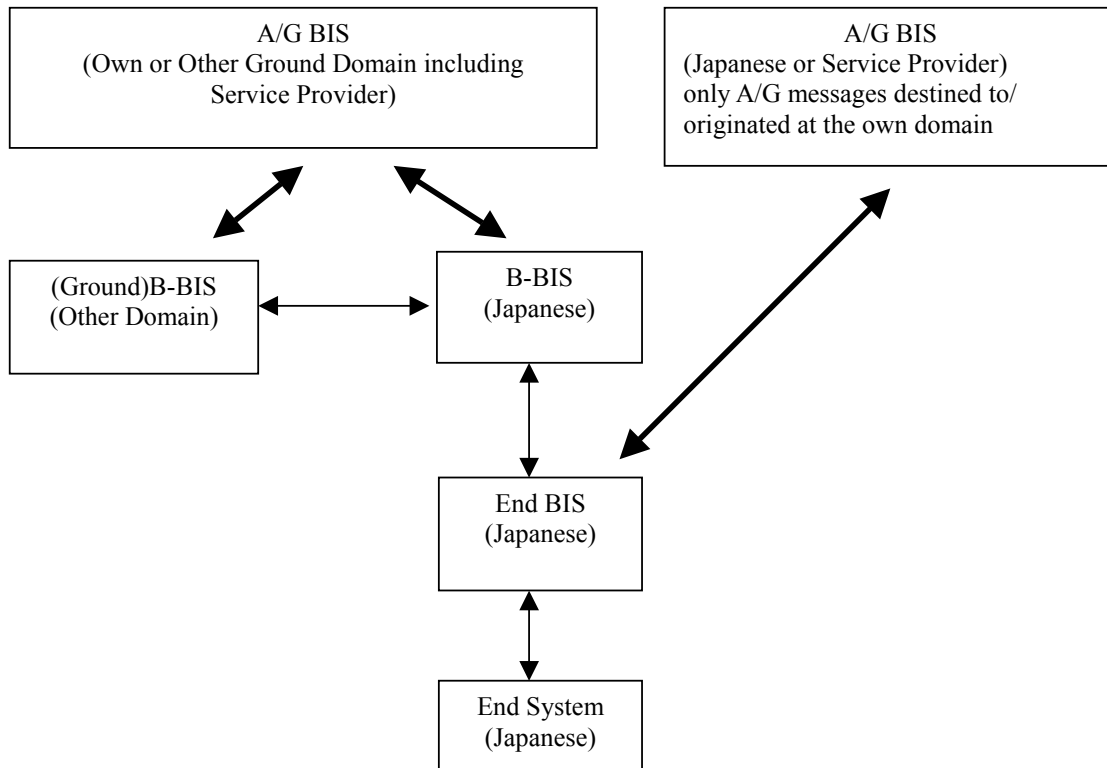
2.2 This kind of question will be asked by any State to provide B-BIS. The answer to the question will be Japan has to route messages between ROK and Japan through Japanese End BIS – Japanese B-BIS – ROK End BIS. The reasons of such an answer will be

- Routing among the domains has to be independent to the routing policy of each domain. Since the routing policy of inter-domain is imposed on the B-BIS, the routing through B-BIS for inter-domain is the answer.(each End BIS, regardless whether the domain has a B-BIS or not, is connected to B-BIS(s) with a same privilege)
- For the implementation consideration, the End BIS should be free from the inter-domain routing in the ASIA/PAC region. (for instance, handling ROK-Japan routing as an exception in the above example will complicate the implementation)

3. A/G communication messages through B-BIS or End BIS

3.1 Some States in the ASIA/PAC region may receive and send messages of the A/G communications. If the messages are solely destined to or originated at the State, the End BIS can be accepting or sending the message from/to via B-BIS or directly from/to A/G BIS. The following figure shows the Japanese case as an example. There may be another cases in the A/G communications;

- 1) The A/G communication message received by a State may include messages destined to other ground domains, (if a Service Provider gives the services, the case may not happen),
- 2) A/G communication messages are routed through Ground B-BIS in the other domains to the End Systems,
- 3) The State sending or receiving A/G communication messages destined to or originated at the other domains, may not have a B-BIS nor A/G router to receive or send in the domain.

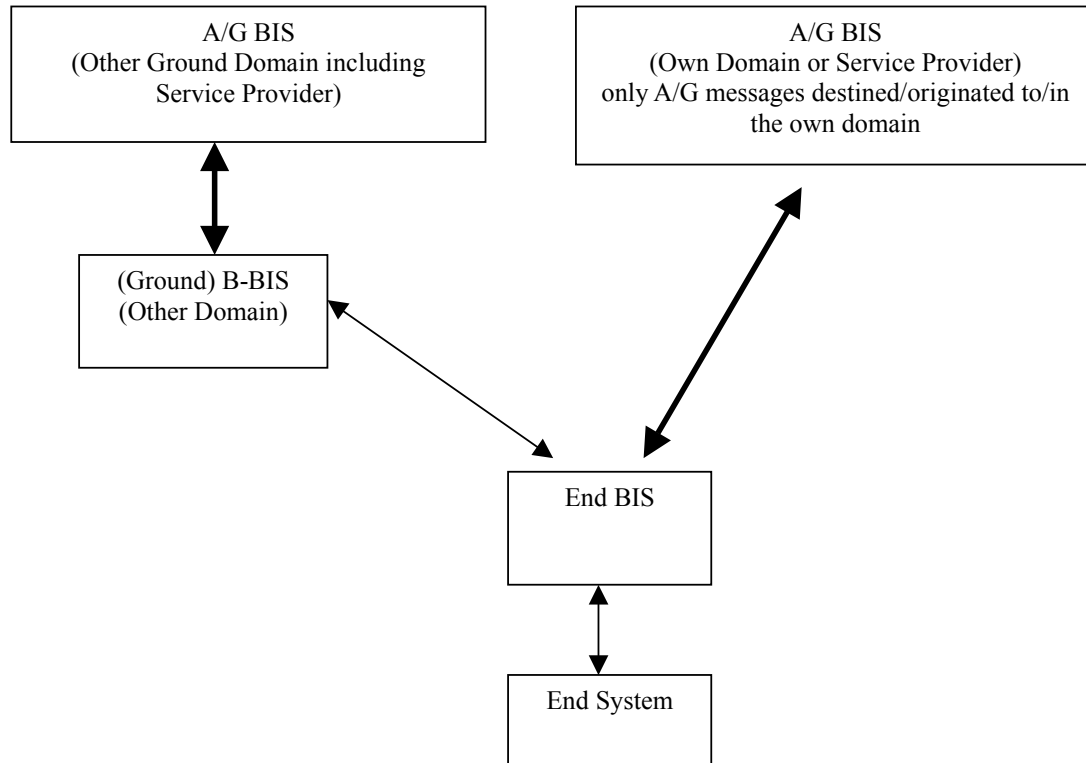


In case 1), the A/G communication messages have to be routed through B-BIS. This requires that

- the State has to have a B-BIS, and
- A/G router has to route the messages to/from the B-BIS

As a consequence, any State without B-BIS can not receive or send A/G messages destined to other domains. The solution can only be provided by a Service Provider.

The case for A/G communication messaging in the State without B-BIS is shown in the following figure.



As a part of routing policy, the State with B-BIS has to route the A/G messages, which is not destined to or originated at its own domain, through B-BIS, not through End BIS of its own domain.