International Civil Aviation Organization and the Directorate General of Air Communication, Indonesia

SIXTH MEETING OF AERONAUTICAL TELECOMMUNICATION NETWORK (ATN) TRANSITION TASK FORCE OF APANPIRG

Bali, Indonesia, 26-30 April 2004

Agenda Item 5: Review Table and Chart for the ground-to-ground part of the CNS FASID - ATN Routers

REVIEW OF TABLE CNS-1B AND CHART CNS-2 OF ASIA/PAC FASID

(Presented by the Secretariat)

SUMMARY

This paper presents Table CNS-1B and Chart CNS-2 for review by the meeting.

1. INTRODUCTION

1.1 The ASIA/PAC ATN Transition Plan was adopted by APANPIRG/12 in its Conclusion 12/14 in August 2001.

1.2 Subsequently, an amendment proposal APAC 02/6-COM was processed in August 2002. States were notified of the approval of the proposal in November 2002. The Table CNS 1B and Chart CNS 2 have been included in soft copy of Part IV, CNS of the ASIA/PAC FASID.

1.3 The Table and Chart were reviewed by the ATN Transition Task Force meeting held in June 2003. Result of the review of the Table and Chart are provided in Attachments 1 and 2, respectively.

2. DISCUSSION

2.1 In order to progress implementation of the CNS/ATM systems, particularly the ATN ground-to-ground infrastructure, APANPIRG developed an ATN Transition Plan with a view to gradually replace the current AFTN with AMHS and to introduce other ATN applications in an evolutionary manner in various phases.

2.2 The existing AFTN circuits and the signalling speed will not be suitable to be used for transition to ATN without upgrading the circuit capacity. These upgrades will need to be in the form of high-speed links and the use of appropriate communication protocols which are compatible with the ATN lower

level. It is also therefore required to implement trunk circuits interconnecting the designated Back Bone Boundary Intermediate System (BBIS) routers to handle both ground- to- ground and air-ground traffic.

2.3 In accordance with ATN Transition Plan, the ground-to-ground ATN transition in the ASIA/PAC region is expected to be implemented in three phases as follows:

Phase I: Upgrading of the existing AFTN circuits between the designated BBIS sites using X.25 protocol or any other mutually agreed protocol such as frame relay.

Phase II: Implementation of BBIS routers at designated locations.

Phase III: Implementation of BIS routers that will connect associated BBIS routers.

2.4. Upon implementation of the above three phases, ATN applications such as AMHS, AIDC, FIS and ADS, CPDLC would be introduced gradually based on operational requirements specified in ASIA/PAC FASID.

3. ACTION BY THE MEETING

3.1 The meeting is expected to review the Attachments 1 and 2 and propose changes, where necessary.

TABLE CNS 1B – ATN ROUTER PLAN

Explanation of the Table

Column

1	Administration – the name of the Administration, State or Organization responsible for management of the router
2	Location of Router
3	Type of Router: BBIS - Backbone Boundary Intermediate System BIS - Boundary Intermediate System
4	Type of Interconnection: Inter – Regional Intra – Regional Sub – Regional
5	Interconnection, Connected to router of: name of the location of the correspondent router
6	Link Speed – Speed requirements of the interconnecting link
7	Link Protocol – Protocol requirements for the interconnecting link
8	Target Date of Implementation – date of implementation of the router
9	Remarks

Table CNS-1B – ATN ROUTER PLAN

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
American Samoa	Pago Pago	BIS	Sub-Regional	United States	9600bps	X.25	2005	
Australia	Brisbane	BIS	Sub-Regional	East Timor	9600 bps	X.25	2005	
		BIS	Sub-Regional	Fiji	9600bps	X.25	2005	
		BIS	Sub-Regional	Indonesia	9600bps	X.25	2005	
		BBIS	Intra-Regional	Japan	64000bps	X.25	2005	
		BIS	Sub-Regional	Nauru	9600bps	X.25	2005	
		BIS	Sub-Regional	New Zealand	9600bps	X.25	2005	
		BIS	Sub-Regional	Papua New Guinea	9600bps	X.25	2005	
		BBIS	Intra-Regional	Singapore	64000bps	X.25	2005	
		BIS	Sub-Regional	Solomon Islands	9600bps	X.25	2005	
		BBIS	Inter-Regional	United States	64000bps	X.25	2005	
		BIS	Sub-Regional	Vanuatu	9600bps	X.25	2005	
Bangladesh	Dhaka	BIS	Sub-Regional	India	9600bps	X.25	2005	
		BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
Bhutan	Paro	BIS	Sub-Regional	India	9600bps	X.25	2005	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Brunei Darussalam	Brunei	BIS	Sub-Regional	Malaysia	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
Cambodia	Phnom Penh	BIS	Sub-Regional	Thailand	9600bps	X.25	2003	
China	Beijing	BIS	Sub-Regional	DPR Korea	9600bps	X.25	2005	
		BBIS	Intra-Regional	Hong Kong, China	64000bps	X.25	2005	
		BBIS	Intra-Regional	India	64000bps	X.25	2005	
		BBIS	Intra-Regional	Japan	64000bps	X.25	2005	
		BIS	Sub-Regional	Macau, China	9600bps	X.25	2005	
		BIS	Sub-Regional	Mongolia	9600bps	X.25	2005	
		BIS	Sub-Regional	Myanmar	9600bps	X.25	2005	
		BIS	Sub-Regional	Nepal	9600bps	X.25	2005	
		BIS	Sub-Regional	Pakistan	9600bps	X.25	2005	
		BIS	Sub-Regional	Republic of Korea	9600bps	X.25	2005	
		BBIS	Inter-Regional	Russian Federation	19200bps	X.25	2005	
		BIS	Sub-Regional	Taibei	9600bps	X.25	2005	
		BBIS	Intra-Regional	Thailand	64000bps	X.25	2005	
	Taibei	BIS	Sub-Regional	Hong Kong, China	9600bps	X.25	2005	
		BIS	Sub-Regional	Japan	9600bps	X.25	2005	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Hong Kong, China	Hong Kong	BBIS	Intra-Regional	China	64000bps	X.25	2005	
		BIS	Sub-Regional	Macau, China	9600bps	X.25	2005	
		BBIS	Intra-Regional	Japan	64000bps	X.25	2004	
		BIS	Sub-Regional	Philippines	9600bps	X.25	2005	
		BIS	Sub-Regional	Taibei	9600bps	X.25	2005	
		BBIS	Intra-Regional	Thailand	64000bps	X.25	2003	
		BIS	Sub-Regional	Viet Nam	9600bps	X.25	2005	
Macau, China	Macau	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	Hong Kong, China	9600bps	X.25	2005	
Cook Islands	Rarotonga	BIS	Sub-Regional	New Zealand	9600bps	X.25	2005	
DPR Korea	Pyongyang	BIS	Sub-Regional	China	9600bps	X.25	2005	
East Timor	Dili	BIS	Sub-Regional	Australia	9600bps	X.25	2005	
Fiji	Nadi	BBIS	Sub-Regional	Australia	9600bps	X.25	2005	
		BIS	Sub-Regional	Kiribati	9600bps	X.25	2005	
		BIS	Sub-Regional	New Caledonia	9600bps	X.25	2005	
		BIS	Sub-Regional	Tuvalu	9600bps	X.25	2005	
		BBIS	Inter-Regional	United States	9600bps	X.25	2005	
		BIS	Sub-Regional	Wallis Islands	9600bps	X.25	2005	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
French Polynesia	Papeete	BIS	Sub-Regional	New Zealand	9600bps	X.25	2005	
India	Mumbai	BIS	Sub-Regional	Bangladesh	9600bps	X.25	2005	
		BIS	Sub-Regional	Bhutan	9600bps	X.25	2005	
		BBIS	Intra-Regional	China	64000bps	X.25	2005	
		BBIS	Inter-Regional	Kenya	19200bps	X.25	2005	
		BIS	Sub-Regional	Nepal	9600bps	X.25	2005	
		BBIS	Inter-Regional	Oman	19200bps	X.25	2005	
		BIS	Sub-Regional	Pakistan	9600bps	X.25	2005	
		BBIS	Intra-Regional	Singapore	64000bps	X.25	2005	
		BIS	Sub-Regional	Sri Lanka	9600bps	X.25	2005	
		BBIS	Intra-Regional	Thailand	64000bps	X.25	2005	
Indonesia	Jakarta	BIS	Sub-Regional	Australia	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
Japan	Tokyo	BBIS	Intra-Regional	Australia	64000bps	X.25	2005	
		BBIS	Intra-Regional	China	64000bps	X.25	2005	
		BBIS	Intra-Regional	Hong Kong, China	64000bps	X.25	2004	
		BBIS	Inter-Regional	Europe	64000bps	X.25	2005	
		BIS	Sub-Regional	Republic of Korea	9600bps	X.25	2005	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Japan (Cont'd)	Tokyo	BIS	Sub-Regional	Republic of Korea	9600bps	X.25	2005	
		BIS	Sub-Regional	Republic of Korea	9600bps	X.25	2005	
		BBIS	Inter-Regional	Russia Federation	64000bps	X.25	2005	
		BBIS	Intra-Regional	Singapore	64000bps	X.25	2005	
		BIS	Sub-Regional	Taibei	9600bps	X.25	2005	
		BBIS	Inter-Regional	United States	64000bps	X.25	2004	
Kiribati	Tarawa	BIS	Sub-Regional	Fiji	9600bps	X.25	2005	
Lao PDR	Vientiane	BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
		BIS	Sub-Regional	Viet Nam	9600bps	X.25	2005	
Malaysia	Kuala Lumpur	BIS	Sub-Regional	Brunei	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
		BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
Maldives	Male	BIS	Sub-Regional	Sri Lanka	9600bps	X.25	2005	
Marshall Islands	Majuro	BIS	Inter-Regional	United States	9600bps	X.25	2005	
Micronesia Federated State of	Chuuk	BIS	Inter-Regional	United States	9600bps	X.25	2005	
	Kosrae	BIS	Inter-Regional	United States	9600bps	X.25	2005	
	Ponapei	BIS	Inter-Regional	United States	9600bps	X.25	2005	
	Yap	BIS	Inter-Regional	United States	9600bps	X.25	2005	
Mongolia	Ulaanbaatar	BIS	Sub-Regional	China	9600bps	X.25	2005	

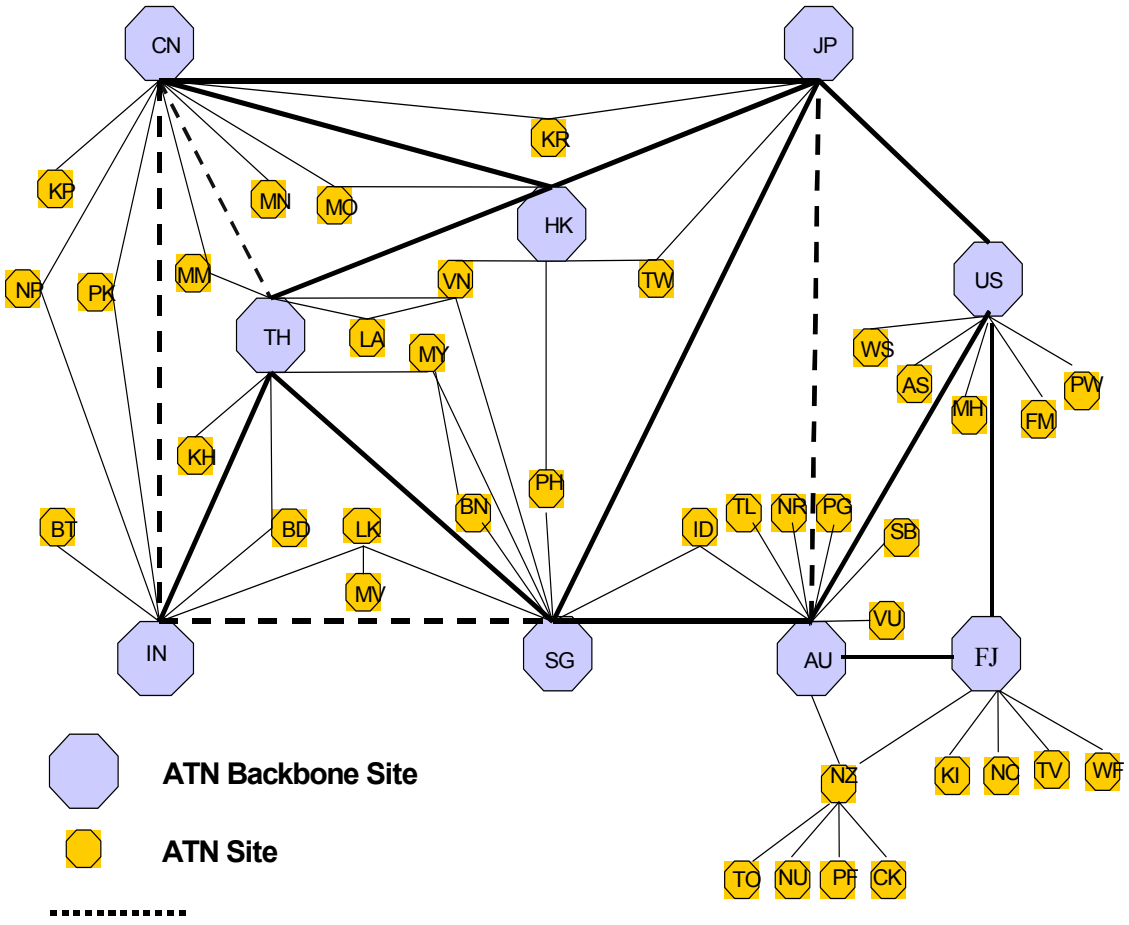
Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Myanmar	Yangon	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
Nauru	Nauru	BIS	Sub-Regional	Australia	9600bps	X.25	2005	
Nepal	Kathmandu	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	India	9600bps	X.25	2005	
New Caledonia	Noumea	BIS	Sub-Regional	Fiji	9600bps	X.25	2005	
New Zealand	Christchurch	BIS	Sub-Regional	Australia	9600bps	X.25	2005	
		BIS	Sub-Regional	Cook Is	9600bps	X.25	2005	
		BIS	Sub-Regional	Fiji	9600bps	X.25	2005	
		BIS	Sub-Regional	French Polynesia	9600bps	X.25	2005	
		BIS	Sub-Regional	Niue	9600bps	X.25	2005	
		BIS	Sub-Regional	Tonga	9600bps	X.25	2005	
Niue Islands	Niue	BIS	Sub-Regional	New Zealand	9600bps	X.25	2005	
Pakistan	Karachi	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	India	9600bps	X.25	2005	
Palau	Koror	BIS	Inter-Regional	United States	9600bps	X.25	2005	
Papua New Guinea	Port Moresby	BIS	Sub-Regional	Australia	9600bps	X.25	2005	
Philippines	Manila	BIS	Sub-Regional	Hong Kong, China	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Republic of Korea	Seoul	BIS	Sub-Regional	China	9600bps	X.25	2005	
		BIS	Sub-Regional	Japan	9600bps	X.25	2005	
Samoa	Apia	BIS	Inter-Regional	United States	9600bps	X.25	2005	
Singapore	Singapore	BBIS	Intra-Regional	Australia	64000bps	X.25	2005	
		BBIS	Inter-Regional	Bahrain	19200bps	X.25	2005	Updating AFTN by 2005
		BIS	Sub-Regional	Brunei	9600bps	X.25	2005	
		BBIS	Intra-Regional	India	64000bps	X.25	2005	
		BIS	Sub-Regional	Indonesia	9600bps	X.25	2005	
		BBIS	Intra-Regional	Japan	64000bps	X.25	2005	
		BIS	Sub-Regional	Malaysia	9600bps	X.25	2005	
		BIS	Sub-Regional	Philippines	9600bps	X.25	2005	
		BIS	Sub-Regional	Sri Lanka	9600bps	X.25	2005	
		BBIS	Intra-Regional	Thailand	64000bps	X.25	2005	
		BBIS	Inter-Regional	United Kingdom	19200bps	X.25	2005	
		BIS	Sub-Regional	Viet Nam	9600bps	X.25	2005	
Solomon Islands	Honiara	BIS	Sub-Regional	Australia	9600bps	X.25	2005	
Sri Lanka	Colombo	BIS	Sub-Regional	India	9600bps	X.25	2005	64 Kbps
		BIS	Sub-Regional	Maldives	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	Already implemented 9600 bps circuit

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
Thailand	Bangkok	BIS	Sub-Regional	Bangladesh	9600bps	X.25	2005	
		BIS	Sub-Regional	Cambodia	9600bps	X.25	2003	
		BBIS	Intra-Regional	China	64000bps	X.25	2005	
		BBIS	Intra-Regional	Hong Kong, China	64000bps	X.25	2003	
		BBIS	Intra-Regional	India	64000bps	X.25	2005	
		BBIS	Inter-Regional	Italy	19200bps	X.25	2005	
		BIS	Sub-Regional	Lao PDR	9600bps	X.25	2005	
		BIS	Sub-Regional	Malaysia	9600bps	X.25	2005	
		BIS	Sub-Regional	Myanmar	9600bps	X.25	2005	
		BBIS	Intra-Regional	Singapore	64000bps	X.25	2005	
		BIS	Sub-Regional	Viet Nam	9600bps	X.25	2005	
Tonga	Tongatapu	BIS	Sub-Regional	New Zealand	9600bps	X.25	2005	
Tuvalu	Funafuti	BIS	Sub-Regional	Fiji	9600bps	X.25	2005	
United States	Oakland	BIS	Inter-Regional	American Samoa	9600bps	X.25	2005	
		BBIS	Inter-Regional	Australia	64000bps	X.25	2005	
		BIS	Inter-Regional	Fiji	9600bps	X.25	2005	
		BBIS	Inter-Regional	Japan	64000bps	X.25	2004	
		BIS	Inter-Regional	Marshall Islands	9600bps	X.25	2005	

Administration	Location of Router	Type of Router	Type of Interconnection	Interconnection, Connected to router of:	Link Speed	Link Protocol	Target date of Implementation	Remarks
1	2	3	4	5	6	7	8	9
United States (Cont'd)	Oakland	BIS	Inter-Regional	Micronesia, Federated State of	9600bps	X.25	2005	
		BIS	Inter-Regional	Palau	9600bps	X.25	2005	
		BIS	Inter-Regional	Samoa	9600bps	X.25	2005	
Vanuatu	Port Vila	BIS	Sub-Regional	Australia	9600bps	X.25	2005	
Viet Nam	Ho-Chi-Minh	BIS	Sub-Regional	Hong Kong, China	9600bps	X.25	2005	
		BIS	Sub-Regional	Lao PDR	9600bps	X.25	2005	
		BIS	Sub-Regional	Singapore	9600bps	X.25	2005	
		BIS	Sub-Regional	Thailand	9600bps	X.25	2005	
Wallis Islands	Wallis	BIS	Sub-Regional	Fiji	9600bps	X.25	2005	

Chart CNS 2 - ATN Router Plan



Note for codes used in the Chart CNS – 2

Appendix to Chart CNS 2 - ATN Router Plan

Country	ISO Code	Country	ISO Code
American Samoa	AS	Mongolia	MN
Australia	AU	Myanmar	MM
Bangladesh	BD	Nauru	NR
Bhutan	BT	Nepal	NP
Brunei Darussalam	BN	New Caledonia	NC
Cambodia	KH	New Zealand	NZ
China	CN	Niue	NU
Cook Islands	CK	Pakistan	PK
DPR. Korea	KP	Palau	PW
East Timor	TL	Papua New Guinea	PG
Fiji	FJ	Philippines	PH
French Polynesia	PF	Samoa	WS
Hong Kong, China	HK	Singapore	SG
India	IN	Solomon Islands	SB
Indonesia	ID	Sri Lanka	LK
Japan	JP	Taibei	TW
Kiribati	KI	Thailand	TH
Korea, Republic of	KR	Tonga	TO
Lao	LA	Tuvalu	TV
Macau China	MO	United States	US
Malaysia	MY	Vanuatu	VU
Maldive Islands	MV	Viet Nam	VN
Marshall Islands	MH	Wallis and Futuna Islands	WF
Micronesia, Federated States of	FM		