International Civil Aviation Organization

THE SECOND MEETING OF AERONAUTCAL COMMUNICATION SERVICE (ACS) IMPLEMENTATION CO-ORDINATION GROUP OF APANPIRG (ACSICG/2)

Bangkok, Thailand, 20 - 22 May 2015

Agenda Item 4:   **e-ANP - overview and need for specific requirements**

REVIEW FASID TABLE FOR AMHS PLANNING AND OTHER AFS RELATED TABLES

(Presented by the Secretariat)

SUMMARY
This paper presents the outcome of the eANP working group on the recommendations for AFS related tables. The meeting is invited to review proposed tables and update any information contained in the revised tables if necessary.

1.   Introduction

1.1   In accordance with Decision 18/23 of CNS Sub-group of APANPIRG regarding the development of CNS part of future e-ANP, the first meeting of the e-ANP working group nominated by Administrations/States met at ICAO APAC Regional Office, Bangkok, Thailand from 8 to 10 April 2015.   Prior to this meeting, two teleconferences on the same subject were organized in early 2015.

1.2   The meeting was attended by 12 participants from Cambodia, China, India, Japan, Malaysia, Papua New Guinea, Singapore, Thailand and USA.

1.3   The outcome of the meeting relevant to the AFS planning tables and specific requirements to APAC region is discussed in this paper and for review by this meeting.

2.   Discussion

2.1   The e-ANP WG/1 meeting reviewed the tasks and background information presented by the Secretariat through WP/02, WP/03 and a presentation.   An initial gap analysis was provided in WP04 between harmonized templates and current tables.

2.2   The meeting noted the objective and purpose of the regional ANPs highlighted below:

a)   the ANPs provide for the planning and implementation of air navigation systems within a specified region(s), in accordance with the agreed global and regional planning framework. They are developed to meet those needs of specific areas not covered in the worldwide provisions. The development and maintenance of the ANPs is undertaken by ICAO PIRGs with the assistance of the ICAO Secretariat;

b)   the ANPs are used as a repository document for the assignment of responsibilities to States for the provision of air navigation facilities and services within a specified area in accordance with Article 28 of the Convention on International Civil Aviation (Doc 7300);

c)   the ANPs contain requirements related to the facilities and services to be implemented by States in accordance with regional air navigation agreements. The ANPs contain provisions that States can follow in planning the provision of their air navigation facilities and services, with the assurance that facilities and services furnished in accordance with the plan will harmonise with those of other States for an integrated system adequate for the foreseeable future;

d)   The procedural parts of ANPs are published in the ICAO Regional Supplementary Procedures (SUPPs) (Doc 7030);

e)   the ANPs may serve as a basis for air navigation service charges which are levied for services provided or made available to users, in accordance with ICAO's Policies on Charges for Airports and Air Navigation Services (Doc 9082) and ICAO Manual on Air Navigation Services Economics (Doc 9161); and

f)   the ANPs support the performance-based approach to planning adopted by ICAO to measure the efforts made by States in implementing the agreed requirements.

2.3   The definition of air navigation deficiency also has very close relation with the regional ANP.

2.4   The meeting recalled that The 12th Air Navigation Conference (AN-Conf/12) developed Recommendation 6/1 - Regional Performance Framework – Planning Methodologies and Tools, regarding the alignment of regional Air Navigation Plans (ANP) with the Fourth Edition of the Global Air Navigation Plan (GANP) (Doc 9750).   It was also informed that the some common and harmonized text and templates for new e-ANP Vol. I, Vol. II and Vol. III had been reviewed by Air Navigation Commission and approved by the ICAO Council in June 2014.

e-ANP Vol. I

2.5   Thailand did an initial analysis to the existing information of CNS Part (Part IV) in the current Basic ANP and proposed to make necessary amendments to the provisions to be retained in the Part III of new e-ANP as regional specific requirement.   The meeting reviewed the proposal and made recommendations for keeping some important contents separately in the different volumes of the new e-ANP.   Some out of dated APANPIRG Conclusion were suggested to be no longer kept in the e-ANP.   The detailed proposal with a table of justification resulted from discussions by the meeting is provided in the Appendix B to the meeting Report. This would be added into Vol. I as regional specific requirement.

e-ANP Vol. II   - common template parts

2.6   The meeting reviewed four new templates for the CNS part adopted by the Council.

2.6.1   The meeting reviewed populated **TABLE CNS II-1 - AERONAUTICAL FIXED TELECOMMUNICATIONS NETWORK (AFTN) PLAN** initially input by India based on the latest available information.   The Table CNS II-1 agreed by the meeting is provided in **Appendix C** to the Report for consideration by CNS SG/19 meeting. This table is no longer same as one approved by APANPIRG/25 meeting in terms of format and also slightly different with the global adopted template (with location indicators). This revised table is provided in the attachment to this working paper which still remains as Appendix C.

2.6.2   The meeting also reviewed the **TABLE CNS II-2 - REQUIRED ATN INFRASTRUCTURE ROUTING PLAN** presented by China with assistance from India. The agreed Table CNS II-2 is provided in the **Appendix D** to the meeting Report for further consideration by CNS SG/19 meeting. This table is also provided in the Attachment (as Appendix D) for further update before presentation to CNS SG/19 meeting.

2.6.3   Singapore presented the initial input for new **Table CNS II-3- ATS Direct Speech Circuits Plan** based on existing information and required format. Considering the current table had not been updated since 2006, it was recommended that Secretariat to issue a State Letter asking States/Administrations to verify the relevant information based on the operational requirement. The further updated table will be presented to CNS SG/19 for consideration.   ACTION ITEM/1 for Secretariat to follow up. (State letter was issued)

e-ANP Vol. II   - Regional Specific Requirements

2.7   The meeting further reviewed the rest of CNS Tables in the Part IV of FASID (Doc 9673 Vol. II). The following Table were reviewed:

- Table CNS 1C - AMHS Routing Plan (merged into a new planning table with information in Table 1B) (Aug. 2012 updated & being updated 2015); NOTE: this table would be disappeared in new e-ANP and merged into e-ANP Vol. II Table CNS II-2

- Table CNS 1E - AIDC Implementation Plan (Aug.2012 updated);

- Table CNS 2 - AMS and AMSS (2007 updated);

- Table CNS 3 - Radio Navigation Aids (2006 updated);

- Table CNS 4A - Surveillance System (Aug. 2010 updated); and

- Table CNS 4B - ATS Automation System (Aug. 2010 updated)

2.7.1   The meeting considered that the Table CNS 1C – AMHS Routing Plan which was just updated through APANPIRG/25 Conclusion 25/29. This table had not been included in the harmonized template approved by the Council. The meeting did not recommend for keeping this Table in the e-ANP however recommended to refer to ACSICG/2 meeting scheduled for 20-22 May 2015 for further consideration. Justification for keeping such planning table is expected from ACSICG. The meeting is invited to note maintenance of the table would be discontinued if no strong justification is provided by ACSICG.

2.7.2   The meeting considered that the information contained in the current Table CNS 1E – AIDC Implementation Plan should be kept as regional specific requirements as implementation of AIDC had been identified as one of priorities by APANPIRG. The meeting recommended referring this Table for further refinement in terms for format and essential planning information by AIDC Task Force (APA TF/1) meeting scheduled for 16-18 June 2015.

3.   Action by the Meeting

3.1   The meeting is invited to

          a)   note the information contained in this paper;

          b)   review and further update the information in the Appendice C and D;

          c)   discuss the justification if AMHS routing plan table is still required; and

          d)   note the recommendation to keep CNS Table 1E – AIDC Implementation Plan
                   as regional specific requirements and its format and contents going to be
                   reviewed by the AIDC Task Force scheduled for 16-18 June 2015.

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**TABLE CNS II-1 - AERONAUTICAL FIXED TELECOMMUNICATIONS
NETWORK (AFTN) PLAN**

EXPLANATION OF THE TABLE

Column

1   The AFTN Centres/Stations of each State are listed alphabetically. Each circuit appears twice in the table. The categories of these facilities are as follows:

      M -   Main AFTN COM Centre
      T -   Tributary AFTN COM Centre
      S -   AFTN Station

2   Category of circuit:

      M -   Main trunk circuit connecting Main AFTN communication centres.
      T -   Tributary circuit connecting Main AFTN communication centre and Tributary AFTN Communications Centre.
      S -   AFTN circuit connecting an AFTN Station to an AFTN Communication Centre.

3   Type of circuit provided:

      LTT/a   -   Landline teletypewriter, analogue (e.g. cable, microwave)
      LTT/d   -   Landline teletypewriter, digital (e.g. cable, microwave)
      LDD/a -   Landline data circuit, analogue (e.g. cable, microwave)
      LDD/d -   Landline data circuit, digital (e.g. cable, microwave)
      SAT/a/d -   Satellite link, with /a for analogue or /d for digital

4   Circuit signalling speed in bits/s.

5   Circuit protocols

6   Data transfer code (syntax):

      ITA-2   -   International Telegraph Alphabet No. 2 (5-unit Baudot code).
      IA-5   -   International Alphabet No. 5 (ICAO 7-unit code).
      CBI   -   Code and Byte Independency (ATN compliant).

7   Remarks

TABLE CNS II-1 - AERONAUTICAL FIXED TELECOMMUNICATIONS NETWORK (AFTN) PLAN

State/Station	Category	Requirement				Remarks
		Type	Signaling Speed	Protocol	Code	
1	2	3	4	5	6	
Afghanistan						
Kabul						
Karachi	S	Sat/d	2400 bps	None	IA-5	
Tehran	S	LDD/d	2400 bps	None	IA-5	
American Samoa						
Pago Pago						
Salt Lake City/KSLC	S	LDD/d	2400 bps	IP	IA-5	
Australia						
Brisbane/YBBB						
Christchurch/NZCH	T	LDD/d	9600 bps	X.25	IA-5	MPLS VPN 64 Kbps/AMHS-IPS 2017
Honiara/AGGG	S	LDD/d	N/A	HTTP	IA-5	INTERNET
Jakarta/WIII	S	IP-VPN	64 Kbps	AMHS/IPS	IA-5	2015
Nadi/NFFN	M	LDD/d	64 Kbps	AMHS/OSI	IA-5	
Nauru/ANAU	S	LDD/d	N/A	HTTP	IA-5	INTERNET
Port Moresby/AYPM	S	LDD/d	128 Kbps	IP	IA-5	
Port Vila/NVVV	S	LDD/d	N/A	HTTP	IA-5	INTERNET
Dili/WPDL	S	LDD/d	N/A	HTTP	IA-5	INTERNET

Santiago/SCSC	M	LDD/d	2400 bps	X.25	IA-5	
Singapore/WSSS	M	LDD/d	64 Kbps	X.25	IA-5	IP/VPN AMHS/OSI 2015
United States/KSLC	M	LDD/d	64 Kbps	X.25	IA-5	IP/VPN AMHS/IPS2017
Johannesburg	M	LDD/d	64Kbps	X.25	IA-5	
BANGLADESH						
Dhaka/VGHS						
Bangkok/VTBB	S	SAT/d	32 kbps	None	IA-5	
Kolkata/VECC	S	LDD/d	64Kbps	X.25	IA-5	
Bhutan						
Paro/VQPR						
Mumbai /VABB	S	Sat/a	300 baud	None	IA-5	
Brunei DARUSSALAM						
Brunei /WBSB						
Singapore/WSSS	S	LDD/d	64Kbps	X.25	IA-5	
Kuala Lumpur/WMKK	S	LDD/d	9600 bps	X.25	IA-5	
CAMBODIA						
Phnom Penh/VDPP						
Bangkok/VTBB	S	Sat/d	64Kbps	None	IA-5	
China						

Beijing /ZBBB						
Bangkok/VTBB	M	Sat/d	2400 bps	X.25	IA-5	
Guangzhou/ZGGG	M	LDD/d	64Kbps	X.25	IA-5	
Karachi/OPKC	M	LDD/d	2400 bps	X.25	IA-5	
Kathmandu/VNKT	S	Sat/d	300 bps	None	IA-5	
Russian Federation/UHHH	M	LDD/d	64 kbps	X.25	IA-5	
Pyongyang/ZKKK	S	LDD/D	64 kbps	X.25 or IP	IA-5	
Seoul/RKSS	S	Sat/d	9600 bps	X.25	IA-5	
Fukuoka/RJJJ	S	LDD/d	9600 bps	X.25	IA-5	
Ulaan Baatar/ZMUB	S	LDD/d	9600 bps	None	IA-5	
Yangon/VYYY	S	LDD/d	64 kbps	none	IA-5	
Guangzhou/ZGGG						
Beijing/VTBB	M	LDD/d	64Kbps	X.25	IA-5	
Hanoi/VVNB	S	Sat/d	2400bps	None	IA-5	
Hongkong/VHHH	M	LDD/d	2400bps	None	IA-5	
Macau/VMMC	S	LDD/d	2400bps	None	IA-5	
Sanya/ZJSY	S	LDD/d	2400bps	None	IA-5	
HAIKOU/ZJHK						
Guangzhou/ZGGG	S	LDD/d	2400bps	None	IA-5	
Hongkong/VHHH	S	LDD/a	2400bps	None	IA-5	
TAIBEI/RCTP						
Hongkong/VHHH	S	LDD/a	2400bps	X.25	IA-5	
Manila/ RPLL	S	LDD/d	300bps	None	ITA-2	
Fukuoka/RJJJ	S	LDD/d	64Kbps	X.25	IA-5	

Hongkong China/VHHH						
Hongkong/VHHH						
Bangkok/VTBB	M	LDD/a	64 Kbps	X.25	IA-5	
Guangzhou/ZGGG	M	LDD/a	2400bps	None	IA-5	
Ho- Chi- Minh/VVTS	S	LDD/a	2400bps	None	IA-5	
Macau/VMMC	S	LDD/a	64 Kbps	X.25	IA-5	
Manila/ RPLL	S	LDD/a	9600bps	X.25	IA-5	
HAIKOU/ZJHK	S	LDD/a	4800bps	None	IA-5	
TaiBei/RCTP	S	LDD/a	4800bps	X.25	IA-5	
Fukuoka/RJJJ	M	LDD/a	9600bps	X.25	IA-5	
Macau China						
Macau/VMMC						
Hongkong/VHHH	S	LDD/a	64 Kbps	X.25	IA-5	
Guangzhou/ZGGG	S	LDD/d	2400 bps	None	IA-5	
COOK ISLANDS						
RAROTONGA /NCRG						
Christ church/NZCH	S	LDD/d	2400 bps	X.25	IA-5	
DPR Korea						
Pyongyang/ZKKK						
Beijing/ZBBB	S	64 kbps	X.25 or IP	IA-5		
FIJI						
Nadi/NFFN						

Brisbane/YBBB	M	LDD/d	64 Kbps	AMHS/OSI	IA-5	
Funafuti/NGFU	S	Sat/d	64 kbps	X.25 or IP	IA-5	
Noumea/NWWW	S	Sat/d	9600 bps	IP	IA-5	
Tarawa/NGTT	S	SAT/d	Internet	VPN	IA-5	
United States/KSLC	M	LDD/d	9600 bps	X.25	IA-5	
Wallis Is./NLWW	S	Sat/d	9600 bps	IP	IA-5	
FRENCH POLYNESIA (France)						
Papeetee (NTAA)						
Christ church/NZCH	S	LDD/d	64 Kbps	X.25	IA-5	
India						
Mumbai/VABB						
Bangkok/VTBB	M	LDD/d	64 Kbps	X.25	IA-5	
Kolkata/VECC	S	LDD/d	64 Kbps	X.25	IA-5	
Colombo/VCCC	S	LDD/d	64 Kbps	X.25	IA-5	
Karachi/OPKC	M	Sat/d	2400bps	None	IA-5	
Kathmandu /VNKT	S	Sat/a	50 Bauds	None	ITA-2	
Muscat/OOMS	M	Sat/a	300 bauds	None	ITA-2	
Nairobi/HKNA	M	Sat/A	50 bauds	None	ITA-2	
Paro/VQPR	S	Sat/a	300 Bauds	None	ITA-2	
Singapore/WSSS	M	LDD/d	64 Kbps	X.25	IA-5	
Kolkata/VECC						
Dhaka/VGZR	S	LDD/d	64 Kbps	None	IA-5	

Mumbai	S	LDD/d	64 Kbps	X.25	IA-5	
Delhi/VIDP						
Tashkent UTTT	S	Sat/a	50 bauds	None	ITA-2	
Chennai /VOMM						
Kuala Lumpur /WMKK	S	LDD/d	64 Kbps	None	IA-5	
Indonesia						
Jakarta/WIII						
Brisbane/YBBB	S	IP-VPN	64 Kbps	AMHS/IPS	IA-5	
Singapore/WSSS	S	LDD/d	128 kbps	X.25	IA-5	
Japan						
FUKUOKA - M/RJJJ	M	LDD/d	64 kbps	X.25	IA-5	
Beijing/ZBBB	M	LDD/a	9600 bps	X.25	IA-5	
Hong Kong/VHHH	M	LTT	64 kbps	X.25	IA-5	
Russian Federation/UUUU	S	LDD/d	9600 bps	X.25	IA-5	
Seoul/RKSS	M	LDD/d	64 kbps	X.25	IA-5	
Singapore/WSSS	M	LDD/d	64 kbps	X.25	-	
United States/KSLC	S	LDD/d	64 kbps	X.25	IA-5	
Taibei/RCTP						
KIRIBATI						
TARAWA - S/NGTT						
Nadi/NFFN	S	SAT/d	Internet	VPN	IA-5	

LAO PDR						
VIENTIANE - S/VLVT						
Bangkok/VTBB	S	SAT/d	32 kbps	None	IA-5	
Hanoi/VVNB	S	SAT/d	2400 bps	None	IA-5	
MALAYSIA						
KUALA LUMPUR-S/WMKK						
Bangkok/VTBB	S	SAT/d	64 kbps	None	IA-5	
Brunei/WBSB	S	LDD/d	9600 bps	X.25	IA-5	
Chennai/VOMM	S	LDD/d	9600 bps	X.25	IA-5	
Singapore/WSSS	S	SAT/d	64 kbps	X.25	IA-5	
MALDIVES						
MALE - S/VRMM						
Colombo/VCCC	S	SAT/d	9600 bps	X.25	IA-5	
MARSHALL ISLAND						
MAJURO - S/PKMJ						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
MICRONESIA						
FEDERATED						
STATE OF						
CHUUK - S/PTKK						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
KOSRAE - S/PTSA						

United States/KSLC	S	Internet	64 kbps	IP	IA-5	
PONAPEI - S/PTPN						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
YAP - S/PTYA						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
MONGOLIA						
ULAANBAATAR-S/ZMUB						
Beijing/ZBBB	S	LDD/d	64 kbps	None	IA-5	
Russian Federation/UIII	S	LDD/d	9600 bps	X.25	IA-5	
MYANMAR						
YANGON - S/VYYY						
Bangkok/VTBB	S	SAT/d	48 kbps	none	IA-5	
Beijing/ZBBB	S	LDD/d	64 kbps	none	IA-5	
NAURU						
NAURU - S/ANAU						
Brisbane/YBBB	S	LDD/d	N/A	HTTP	IA-5	INTERNET
NEPAL						
KATHMANDU - S/VNKT						
Beijing/ZBBB	S	SAT/d	300 baud	None	IA-5	
Mumbai/VABB	S	SAT/a	50 baud	None	ITA-2	

NEW CALEDONIA						
(FRANCE)						
NOUMEA - S/NWWW						
Nadi/NFFN	S	SAT/d	9600 bps	IP	IA-5	
NEW ZEALAND						
CHRISTCHURCH-T/NZCH						
Faleolo/NSFA	S	LDD/d	2400 bps	X.25	IA-5	
Brisbane/YBBB	T	LDD/d	2400 bps	X.25	IA-5	MPLS VPN 64 Kbps/AMHS-IPS 2017
Niue/NIUE	S	E mail				
Papeete/NTAA	S	SAT/d	256 kbps	IP	IA-5	
Rarotonga/NCRG	S	LDD/d	2400 bps	X.25	IA-5	
Tongatapu/NFTF	S	LDD/d	2400 bps	X.25	IA-5	
USA/KSLC	M	LDD/d	9600 bps	X.25	IA-5	
NIUE IS						
NIUE - S/NIUE						
Christchurch/NZCH	S					
PAKISTAN						
KARACHI - M/OPKC						
Beijing/ZBBB	M	LDD/d	2400 bps	None	IA-5	
Mumbai/VABB	M	SAT/d	2400 bps	None	IA-5	
Kabul/OAKB	S	SAT/d	2400 bps	None	IA-5	
Kuwait/OKBK	M	LDD/d	2400 bps	None	IA-5	

PALAU						
KOROR - S/PTRO						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
PAPUA NEW GUINEA						
PORT MORESBY-S/AYPM						
Brisbane/YBBB	S	LDD/d	128 Kbps	IP	IA-5	
PHILIPPINES						
MANILA - S/RPLL						
Hong Kong/VHHH	S	LDD/a	9600 bps	X.25	IA-5	
Singapore/WSSS	S	LDD/d	64 kbps	X.25	IA-5	
Taibei/RCTP	S	LDD/d	300 baud	None	ITA-2	
REPUBLIC OF KOREA						
SEOUL - S/RKSS						
Beijing/ZBBB	s	SAT/d	9600 bps	X.25	IA-5	
Fukuoka/RJJJ	S	LDD/d	9600 bps	X.25	IA-5	
SAMOA						
FALEOLO - S/NSFA						
Chistchurch/NZCH	S	LDD/d	2400 bps	X.25	IA-5	
SINGAPORE						
SINGAPORE-M/WSSS						
Bahrain/OBBI	M	LTT/d	64 Kbps	X.25	IA-5	
Bangkok/VTBB	M	LDD/d	64 kbps	X.25	IA-5	

Brisbane/YBBB	M	LDD/d	64 Kbps	X.25	IA-5	IP/VPN AMHS/OSI 2015
Brunei/WBSB	S	LDD/d	64kbps	X.25	IA-5	
Colombo/VCCC	S	LDD/d	64 kbps	X.25	IA-5	
Ho-Chi-Minh/VVTS	S	LDD/d	128 Kbps	X.25	IA-5	
Jakarta/WIII	S	LDD/d	128 Kbps	X.25	IA-5	
Kuala Lumpur/WMKK	S	SAT/d	64 Kbps	X.25	IA-5	
Mumbai/VABB	M	LDD/d	64kbps	X.25	IA-5	
London/EGGG	M	LDD/d	128 kbps	None	IA-5	
Manila/RPLL	S	LDD/d	64 kbpx	X 25	IA-5	
Fukuoka/RJJJ	M	LDD/d	64 kbps	X.25	IA-5	
SOLOMON IS.						
HONIARA - S/AGGG						
Brisbane/YBBB	S	LDD/d	N/A	HTTP	IA-5	INTERNET
SRI LANKA						
COLOMBO - M/VCCC						
Mumbai/VABB	M	LDD/d	64 kbps	X.25	IA-5	
Male/VRMM	S	SAT/d	32 kbps	None	IA-5	
Singapore/WSSS	S	LDD/d	64 kbps	X.25	IA-5	
THAILAND						
BANGKOK - M/VTBB						
Beijing/ZBBB	M	SAT/d	2400 bps	X.25	IA-5	
Mumbai/VABB	M	LDD/d	64 kbps	X.25	IA-5	
Dhaka/VGHS	S	SAT/d	32 kbps	None	IA-5	
Ho-Chi-Minh/VVTS	S	SAT/d	2400 bps	None	IA-5	

Hong Kong/VHHH	M	LDD/a	64 Kbps	X.25	IA-5	
Kuala Lumpur/WMKK	S	SAT/d	64 kbps	None	IA-5	
Phnom Penh/VDPP	S	SAT/d	64 kbps	None	IA-5	
Rome/LIII	M	LDD/d	64 kbps	X.25	IA-5	
Singapore/WSSS	M	LDD/d	64 kbps	X.25	IA-5	
Vientiane/VLVT	S	SAT/d	32 kbps	None	IA-5	
Yangon/VYYY	S	SAT/d	48 kbps	None	IA-5	
TIMOR LESTE						
DILI/WPDL						
Brisbane/YABB	S	LDD/d	N/A	HTTP	IA-5	INTERNET
TONGA						
TONGATAPU - S/NFTF	S					
Cristchurch/NZCH		LDD/d	2400 bps	X.25	IA-5	
TUVALU						
FUNAFUTI - S/NGFU						
Nadi/NFFN	S	SAT/d	32 kbps	None	IA-5	
UNITED STATES						
USA-M/KSLC						
Brisbane/YBBB	M	LDD/d	64 Kbps	X.25	IA-5	IP/VPN AMHS/IPS2017
Christchurch	S	LDD/d	9600 bps	X.25	IA-5	
Chuuk/PTKK	S	Internet	64 kbps	IP	IA-5	
Koror/PTRO	S	Internet	64 kbps	IP	IA-5	
Kosrae/PTSA	S	Internet	64 kbps	IP	IA-5	

Majuro/PKMJ	S	Internet	64 kbps	IP	IA-5	
Nadi/NFFN	M	LDD/d	9.6 kbps	X.25	IA-5	
Pago Pago/NSTU	S	SAT/d	2400 bps	IP	IA-5	
Ponapei/PTPN	S	Internet	64 kbps	IP	IA-5	
Fukuoka/RJJJ	M	LDD/d	64 kbps	X.25		
Yap/PTYA	S	Internet	64 kbps	IP	IA-5	
VANUATU						
PORT VILA - S/NVVV						
Brisbane/YBBB	S	LDD/d	N/A	HTTP	IA-5	INTERNET
VIET NAM						
HANOI-S/VVNB						
Vientiane/VLVT	S	SAT/d	2400 bps	None	IA-5	
Ho-Chi-Minh/VVTS	S	SAT/d	9600 bps	None	IA-5	
Guangzhou/ZGGG	M	SAT/d	2400 bps	None	IA-5	
HO-CHI-MINH - S/VVTS						
Bangkok/VTBB	S	SAT/d	2400 bps	None	IA-5	
Hanoi/VVNB		SAT/d	9600 bps	None	IA-5	
Hong Kong/VHHH	S	LDD/a	2400 bps	None	IA-5	
Singapore/WSSS	S	LDD/d	128 Kbps	X.25	IA-5	
WALLIS IS. (FRANCE)						
WALLIS - S/NLWW						
Nadi/NFFN	S	SAT/d	9600 bps	IP	IA-5	

TABLE CNS II-1 - AERONAUTICAL FIXED TELECOMMUNICATIONS NETWORK (AFTN) PLAN

| State/Station | Category | Requirement | | | | Remarks |
		Type	Signaling Speed	Protocol	Code	
1	2	3	4	5	6	
Afghanistan						
Kabul						
Karachi	S	Sat/d	2400 bps	None	IA-5	
Tehran	S	LDD/d	2400 bps	None	IA-5	
American Samoa						
Pago Pago						
Salt Lake City/KSLC	S	LDD/d	2400 bps	IP	IA-5	
Australia						
Brisbane/YBBB						
Christchurch/NZCH	T	LDD/d	9600 bps	X.25	IA-5	MPLS VPN 64 Kbps/AMHS-IPS 2017
Honiara/AGGG	S	LDD/d	N/A	HTTP	IA-5	INTERNET
Jakarta/WIII	S	IP-VPN	64 Kbps	AMHS/IPS	IA-5	2015
Nadi/NFFN	M	LDD/d	64 Kbps	AMHS/OSI	IA-5	
Nauru/ANAU	S	LDD/d	N/A	HTTP	IA-5	INTERNET
Port Moresby/AYPM	S	LDD/d	128 Kbps	IP	IA-5	
Port Vila/NVVV	S	LDD/d	N/A	HTTP	IA-5	INTERNET
Dili/WPDL	S	LDD/d	N/A	HTTP	IA-5	INTERNET

Santiago/SCSC	M	LDD/d	2400 bps	X.25	IA-5	
Singapore/WSSS	M	LDD/d	64 Kbps	X.25	IA-5	IP/VPN AMHS/OSI 2015
United States/KSLC	M	LDD/d	64 Kbps	X.25	IA-5	IP/VPN AMHS/IPS2017
Johannesburg	M	LDD/d	64Kbps	X.25	IA-5	
BANGLADESH						
Dhaka/VGHS						
Bangkok/VTBB	S	SAT/d	32 kbps	None	IA-5	
Kolkata/VECC	S	LDD/d	64Kbps	X.25	IA-5	
Bhutan						
Paro/VQPR						
Mumbai /VABB	S	Sat/a	300 baud	None	IA-5	
Brunei DARUSSALAM						
Brunei /WBSB						
Singapore/WSSS	S	LDD/d	64Kbps	X.25	IA-5	
Kuala Lumpur/WMKK	S	LDD/d	9600 bps	X.25	IA-5	
CAMBODIA						
Phnom Penh/VDPP						
Bangkok/VTBB	S	Sat/d	64Kbps	None	IA-5	
China						

Beijing /ZBBB						
Bangkok/VTBB	M	Sat/d	2400 bps	X.25	IA-5	
Guangzhou/ZGGG	M	LDD/d	64Kbps	X.25	IA-5	
Karachi/OPKC	M	LDD/d	2400 bps	X.25	IA-5	
Kathmandu/VNKT	S	Sat/d	300 bps	None	IA-5	
Russian Federation/UHHH	M	LDD/d	64 kbps	X.25	IA-5	
Pyongyang/ZKKK	S	LDD/D	64 kbps	X.25 or IP	IA-5	
Seoul/RKSS	S	Sat/d	9600 bps	X.25	IA-5	
Fukuoka/RJJJ	S	LDD/d	9600 bps	X.25	IA-5	
Ulaan Baatar/ZMUB	S	LDD/d	9600 bps	None	IA-5	
Yangon/VYYY	S	LDD/d	64 kbps	none	IA-5	
Guangzhou/ZGGG						
Beijing/VTBB	M	LDD/d	64Kbps	X.25	IA-5	
Hanoi/VVNB	S	Sat/d	2400bps	None	IA-5	
Hongkong/VHHH	M	LDD/d	2400bps	None	IA-5	
Macau/VMMC	S	LDD/d	2400bps	None	IA-5	
Sanya/ZJSY	S	LDD/d	2400bps	None	IA-5	
HAIKOU/ZJHK						
Guangzhou/ZGGG	S	LDD/d	2400bps	None	IA-5	
Hongkong/VHHH	S	LDD/a	2400bps	None	IA-5	
TAIBEI/RCTP						
Hongkong/VHHH	S	LDD/a	2400bps	X.25	IA-5	
Manila/ RPLL	S	LDD/d	300bps	None	ITA-2	
Fukuoka/RJJJ	S	LDD/d	64Kbps	X.25	IA-5	

Hongkong China/VHHH						
Hongkong/VHHH						
Bangkok/VTBB	M	LDD/a	64 Kbps	X.25	IA-5	
Guangzhou/ZGGG	M	LDD/a	2400bps	None	IA-5	
Ho- Chi- Minh/VVTS	S	LDD/a	2400bps	None	IA-5	
Macau/VMMC	S	LDD/a	64 Kbps	X.25	IA-5	
Manila/ RPLL	S	LDD/a	9600bps	X.25	IA-5	
HAIKOU/ZJHK	S	LDD/a	4800bps	None	IA-5	
TaiBei/RCTP	S	LDD/a	4800bps	X.25	IA-5	
Fukuoka/RJJJ	M	LDD/a	9600bps	X.25	IA-5	
Macau China						
Macau/VMMC						
Hongkong/VHHH	S	LDD/a	64 Kbps	X.25	IA-5	
Guangzhou/ZGGG	S	LDD/d	2400 bps	None	IA-5	
COOK ISLANDS						
RAROTONGA /NCRG						
Christ church/NZCH	S	LDD/d	2400 bps	X.25	IA-5	
DPR Korea						
Pyongyang/ZKKK						
Beijing/ZBBB	S	64 kbps	X.25 or IP	IA-5		
FIJI						
Nadi/NFFN						

Brisbane/YBBB	M	LDD/d	64 Kbps	AMHS/OSI	IA-5	
Funafuti/NGFU	S	Sat/d	64 kbps	X.25 or IP	IA-5	
Noumea/NWWW	S	Sat/d	9600 bps	IP	IA-5	
Tarawa/NGTT	S	SAT/d	Internet	VPN	IA-5	
United States/KSLC	M	LDD/d	9600 bps	X.25	IA-5	
Wallis Is./NLWW	S	Sat/d	9600 bps	IP	IA-5	
FRENCH POLYNESIA (France)						
Papeetee (NTAA)						
Christ church/NZCH	S	LDD/d	64 Kbps	X.25	IA-5	
India						
Mumbai/VABB						
Bangkok/VTBB	M	LDD/d	64 Kbps	X.25	IA-5	
Kolkata/VECC	S	LDD/d	64 Kbps	X.25	IA-5	
Colombo/VCCC	S	LDD/d	64 Kbps	X.25	IA-5	
Karachi/OPKC	M	Sat/d	2400bps	None	IA-5	
Kathmandu /VNKT	S	Sat/a	50 Bauds	None	ITA-2	
Muscat/OOMS	M	Sat/a	300 bauds	None	ITA-2	
Nairobi/HKNA	M	Sat/A	50 bauds	None	ITA-2	
Paro/VQPR	S	Sat/a	300 Bauds	None	ITA-2	
Singapore/WSSS	M	LDD/d	64 Kbps	X.25	IA-5	
Kolkata/VECC						
Dhaka/VGZR	S	LDD/d	64 Kbps	None	IA-5	

Mumbai	S	LDD/d	64 Kbps	X.25	IA-5	
Delhi/VIDP						
Tashkent UTTT	S	Sat/a	50 bauds	None	ITA-2	
Chennai /VOMM						
Kuala Lumpur /WMKK	S	LDD/d	64 Kbps	None	IA-5	
Indonesia						
Jakarta/WIII						
Brisbane/YBBB	S	IP-VPN	64 Kbps	AMHS/IPS	IA-5	
Singapore/WSSS	S	LDD/d	128 kbps	X.25	IA-5	
Japan						
FUKUOKA - M/RJJJ	M	LDD/d	64 kbps	X.25	IA-5	
Beijing/ZBBB	M	LDD/a	9600 bps	X.25	IA-5	
Hong Kong/VHHH	M	LTT	64 kbps	X.25	IA-5	
Russian Federation/UUUU	S	LDD/d	9600 bps	X.25	IA-5	
Seoul/RKSS	M	LDD/d	64 kbps	X.25	IA-5	
Singapore/WSSS	M	LDD/d	64 kbps	X.25	-	
United States/KSLC	S	LDD/d	64 kbps	X.25	IA-5	
Taibei/RCTP						
KIRIBATI						
TARAWA - S/NGTT						
Nadi/NFFN	S	SAT/d	Internet	VPN	IA-5	

LAO PDR						
VIENTIANE - S/VLVT						
Bangkok/VTBB	S	SAT/d	32 kbps	None	IA-5	
Hanoi/VVNB	S	SAT/d	2400 bps	None	IA-5	
MALAYSIA						
KUALA LUMPUR-S/WMKK						
Bangkok/VTBB	S	SAT/d	64 kbps	None	IA-5	
Brunei/WBSB	S	LDD/d	9600 bps	X.25	IA-5	
Chennai/VOMM	S	LDD/d	9600 bps	X.25	IA-5	
Singapore/WSSS	S	SAT/d	64 kbps	X.25	IA-5	
MALDIVES						
MALE - S/VRMM						
Colombo/VCCC	S	SAT/d	9600 bps	X.25	IA-5	
MARSHALL ISLAND						
MAJURO - S/PKMJ						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
MICRONESIA						
FEDERATED						
STATE OF						
CHUUK - S/PTKK						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
KOSRAE - S/PTSA						

United States/KSLC	S	Internet	64 kbps	IP	IA-5	
PONAPEI - S/PTPN						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
YAP - S/PTYA						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
MONGOLIA						
ULAANBAATAR-S/ZMUB						
Beijing/ZBBB	S	LDD/d	64 kbps	None	IA-5	
Russian Federation/UIII	S	LDD/d	9600 bps	X.25	IA-5	
MYANMAR						
YANGON - S/VYYY						
Bangkok/VTBB	S	SAT/d	48 kbps	none	IA-5	
Beijing/ZBBB	S	LDD/d	64 kbps	none	IA-5	
NAURU						
NAURU - S/ANAU						
Brisbane/YBBB	S	LDD/d	N/A	HTTP	IA-5	INTERNET
NEPAL						
KATHMANDU - S/VNKT						
Beijing/ZBBB	S	SAT/d	300 baud	None	IA-5	
Mumbai/VABB	S	SAT/a	50 baud	None	ITA-2	

NEW CALEDONIA						
(FRANCE)						
NOUMEA - S/NWWW						
Nadi/NFFN	S	SAT/d	9600 bps	IP	IA-5	
NEW ZEALAND						
CHRISTCHURCH-T/NZCH						
Faleolo/NSFA	S	LDD/d	2400 bps	X.25	IA-5	
Brisbane/YBBB	T	LDD/d	2400 bps	X.25	IA-5	[MPLS VPN 64 Kbps/AMHS-IPS 2017](#)
Niue/NIUE	S	E mail				
Papeete/NTAA	S	SAT/d	256 kbps	IP	IA-5	
Rarotonga/NCRG	S	LDD/d	2400 bps	X.25	IA-5	
Tongatapu/NFTF	S	LDD/d	2400 bps	X.25	IA-5	
USA/KSLC	M	LDD/d	9600 bps	X.25	IA-5	
NIUE IS						
NIUE - S/NIUE						
Christchurch/NZCH	S					
PAKISTAN						
KARACHI - M/OPKC						
Beijing/ZBBB	M	LDD/d	2400 bps	None	IA-5	
Mumbai/VABB	M	SAT/d	2400 bps	None	IA-5	
Kabul/OAKB	S	SAT/d	2400 bps	None	IA-5	
Kuwait/OKBK	M	LDD/d	2400 bps	None	IA-5	

PALAU						
KOROR - S/PTRO						
United States/KSLC	S	Internet	64 kbps	IP	IA-5	
PAPUA NEW GUINEA						
PORT MORESBY-S/AYPM						
Brisbane/YBBB	S	LDD/d	128 Kbps	IP	IA-5	
PHILIPPINES						
MANILA - S/RPLL						
Hong Kong/VHHH	S	LDD/a	9600 bps	X.25	IA-5	
Singapore/WSSS	S	LDD/d	64 kbps	X.25	IA-5	
Taibei/RCTP	S	LDD/d	300 baud	None	ITA-2	
REPUBLIC OF KOREA						
SEOUL - S/RKSS						
Beijing/ZBBB	s	SAT/d	9600 bps	X.25	IA-5	
Fukuoka/RJJJ	S	LDD/d	9600 bps	X.25	IA-5	
SAMOA						
FALEOLO - S/NSFA						
Chistchurch/NZCH	S	LDD/d	2400 bps	X.25	IA-5	
SINGAPORE						
SINGAPORE-M/WSSS						
Bahrain/OBBI	M	LTT/d	64 Kbps	X.25	IA-5	
Bangkok/VTBB	M	LDD/d	64 kbps	X.25	IA-5	

Brisbane/YBBB	M	LDD/d	64 Kbps	X.25	IA-5	IP/VPN AMHS/OSI 2015
Brunei/WBSB	S	LDD/d	64kbps	X.25	IA-5	
Colombo/VCCC	S	LDD/d	64 kbps	X.25	IA-5	
Ho-Chi-Minh/VVTS	S	LDD/d	128 Kbps	X.25	IA-5	
Jakarta/WIII	S	LDD/d	128 Kbps	X.25	IA-5	
Kuala Lumpur/WMKK	S	SAT/d	64 Kbps	X.25	IA-5	
Mumbai/VABB	M	LDD/d	64kbps	X.25	IA-5	
London/EGGG	M	LDD/d	128 kbps	None	IA-5	
Manila/RPLL	S	LDD/d	64 kbpx	X 25	IA-5	
Fukuoka/RJJJ	M	LDD/d	64 kbps	X.25	IA-5	
SOLOMON IS.						
HONIARA - S/AGGG						
Brisbane/YBBB	S	LDD/d	N/A	HTTP	IA-5	INTERNET
SRI LANKA						
COLOMBO - M/VCCC						
Mumbai/VABB	M	LDD/d	64 kbps	X.25	IA-5	
Male/VRMM	S	SAT/d	32 kbps	None	IA-5	
Singapore/WSSS	S	LDD/d	64 kbps	X.25	IA-5	
THAILAND						
BANGKOK - M/VTBB						
Beijing/ZBBB	M	SAT/d	2400 bps	X.25	IA-5	
Mumbai/VABB	M	LDD/d	64 kbps	X.25	IA-5	
Dhaka/VGHS	S	SAT/d	32 kbps	None	IA-5	
Ho-Chi-Minh/VVTS	S	SAT/d	2400 bps	None	IA-5	

Hong Kong/VHHH	M	LDD/a	64 Kbps	X.25	IA-5	
Kuala Lumpur/WMKK	S	SAT/d	64 kbps	None	IA-5	
Phnom Penh/VDPP	S	SAT/d	64 kbps	None	IA-5	
Rome/LIII	M	LDD/d	64 kbps	X.25	IA-5	
Singapore/WSSS	M	LDD/d	64 kbps	X.25	IA-5	
Vientiane/VLVT	S	SAT/d	32 kbps	None	IA-5	
Yangon/VYYY	S	SAT/d	48 kbps	None	IA-5	
TIMOR LESTE						
DILI/WPDL						
Brisbane/YABB	S	LDD/d	N/A	HTTP	IA-5	INTERNET
TONGA						
TONGATAPU - S/NFTF	S					
Cristchurch/NZCH		LDD/d	2400 bps	X.25	IA-5	
TUVALU						
FUNAFUTI - S/NGFU						
Nadi/NFFN	S	SAT/d	32 kbps	None	IA-5	
UNITED STATES						
USA-M/KSLC						
Brisbane/YBBB	M	LDD/d	64 Kbps	X.25	IA-5	IP/VPN AMHS/IPS2017
Christchurch	S	LDD/d	9600 bps	X.25	IA-5	
Chuuk/PTKK	S	Internet	64 kbps	IP	IA-5	
Koror/PTRO	S	Internet	64 kbps	IP	IA-5	
Kosrae/PTSA	S	Internet	64 kbps	IP	IA-5	

Majuro/PKMJ	S	Internet	64 kbps	IP	IA-5	
Nadi/NFFN	M	LDD/d	9.6 kbps	X.25	IA-5	
Pago Pago/NSTU	S	SAT/d	2400 bps	IP	IA-5	
Ponapei/PTPN	S	Internet	64 kbps	IP	IA-5	
Fukuoka/RJJJ	M	LDD/d	64 kbps	X.25		
Yap/PTYA	S	Internet	64 kbps	IP	IA-5	
VANUATU						
PORT VILA - S/NVVV						
Brisbane/YBBB	S	LDD/d	N/A	HTTP	IA-5	INTERNET
VIET NAM						
HANOI-S/VVNB						
Vientiane/VLVT	S	SAT/d	2400 bps	None	IA-5	
Ho-Chi-Minh/VVTS	S	SAT/d	9600 bps	None	IA-5	
Guangzhou/ZGGG	M	SAT/d	2400 bps	None	IA-5	
HO-CHI-MINH - S/VVTS						
Bangkok/VTBB	S	SAT/d	2400 bps	None	IA-5	
Hanoi/VVNB		SAT/d	9600 bps	None	IA-5	
Hong Kong/VHHH	S	LDD/a	2400 bps	None	IA-5	
Singapore/WSSS	S	LDD/d	128 Kbps	X.25	IA-5	
WALLIS IS. (FRANCE)						
WALLIS - S/NLWW						
Nadi/NFFN	S	SAT/d	9600 bps	IP	IA-5	

TABLE CNS II-2 - REQUIRED ATN INFRASTRUCTURE ROUTING PLAN

EXPLANATION OF THE TABLE

Column

1   Name of the Administration and Location of the ATN Router

2   Type of Router (in end systems (ES) of the Administration shown in column 1)

3   Type of Interconnection:

   Inter-Regional: Connection between different Regions/ domains
   Intra-Regional: Connection within a Region/ domain.

4   Connected Router: List of the Administration and location of the ATN routers to be connected with the router shown in column 1)

5   Bandwidth: Link Speed expressed in bits per second (bps)

6   Network Protocol: If Internet Protocol Suite is used, indicate version of IP (IPv4 or IPv6)

7   Via: The media used to implement the interconnection of the routers. (in case of IP service bought from a service provider, indicate VPN)

8   Remarks

TABLE CNS II-2 REQUIRED ATN INFRASTRUCTURE ROUTING PLAN

Chapter 1 EXPLANATION OF THE TABLE

Column

1   Name of the Administration and Location of the ATN Router
2   Type of Router (in end systems (ES) of the Administration shown in column 1)
3   Type of Interconnection:
    Inter Regional: Connection between different Regions/ domains
    Intra Regional: Connection within a Region/ domain.
4   Connected Router: List of the Administration and location of the ATN routers to be connected with the router shown in column 1.
5   Bandwidth: Link Speed expressed in bits per second (bps)
6   Network Protocol: If Internet Protocol Suite is used, indicate version of IP (IPv4 or IPv6)
7   Via: The media used to implement the interconnection of the routers. (in case of IP service bought from a service provider, indicate VPN)
    DDN (public telecomm leased line)
    VSAT
    VPN
8   Remarks

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
Afghanistan	BIS	Intra-Regional	Pakistan	64000bps	IPS		Intra-domain
Kabul	BIS	Inter-Regional	Iran	9600 bps	IPS		
American Samoa			United States				Intra-domain
Pago Pago							
Australia	BBIS	Intra-Regional	Fiji	64000 bps	CLNP/IP-SNDCF		
Brisbane	BIS	Intra-Regional	Indonesia	64000 bps	X.25/IP SNDCF		
	BBIS	Intra-Regional	Japan	64000 bps	IP/SNDCF		Not implemented
			Nauru		IPS		Intra-domain
	BIS	Intra-Regional	New Zealand	64000 bps	IPS		Implemented

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
			Papua New Guinea	64000 bps	IPS		Intra-domain/Implemented
	BBIS	Intra-Regional	Singapore	64000 bps	CLNP/IP-SNDCF		
	BBIS	Inter-Regional	South Africa	64000 bps	TBD		Not implemented
			Solomon Islands		IPS		Intra-domain
			Timor Leste		IPS		Intra-domain
			Vanuatu		IPS		Intra-domain
	BBIS	Inter-Regional	United States	64000 bps	IPS/SNDCF		
Bangladesh Dhaka	BIS	Intra-Regional	India	64000 bps	IPS		
	BIS	Intra-Regional	Thailand	9600 bps	X.25		
Bhutan Paro	BIS	Intra-Regional	India	9600 bps	IPS		
Brunei Darussalam Brunei	BIS	Intra-Regional	Malaysia	64000 bps	IPS		
	BIS	Intra-Regional	Singapore	9600 bps	X.25		Circuit implemented
Cambodia Phnom Penh	BIS	Intra-Regional	Thailand	9600 bps	X.25		
China Beijing	BIS	Intra-Regional	DPR Korea	9600 bps	X.25		Router Implemented
	BBIS	Intra-Regional	Hong Kong, China	64000 bps	X.25		Router Implemented
	BBIS	Intra-Regional	India	64000 bps	IPS		
	BBIS	Intra-Regional	Japan	64000 bps	IPS/SNDCF		
	BBIS	Inter-Regional	Kuwait	64000 bps	X.25		Router Implemented
	BIS	Intra-Regional	Macau, China	64000 bps	X.25		Implemented
	BIS	Intra-Regional	Mongolia	9600 bps	X.25		Router Implemented

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
	BIS	Intra-Regional	Myanmar	9600 bps	IPS		Router Implemented
	BIS	Intra-Regional	Nepal	9600 bps	X.25		Router Implemented
	BIS	Intra-Regional	Pakistan	64000 bps	X.25		Router Implemented
	BIS	Intra-Regional	Republic of Korea	64000 bps	X.25		Implemented
	BBIS	Inter-Regional	Russian Federation	64000 bps	X.25		Router Implemented
	BBIS	Intra-Regional	Thailand	64000 bps	X.25		Router Implemented
	BIS	Intra-Regional	Vietnam	9600 bps	X.25		
Taibei	BIS	Intra-Regional	Hong Kong, China	64000 bps	X.25		
	BIS	Intra-Regional	Japan	64000 bps	IPS/SNDCF		
Hong Kong, China	BBIS	Intra-Regional	China	64000 bps	X.25		
Hong Kong	BIS	Intra-Regional	Macau, China	64000 bps	X.25		Implemented
	BBIS	Intra-Regional	Japan	64000 bps	IP/SNDCF		
	BIS	Intra-Regional	Philippines	64000 bps	X.25/IPS		
	BBIS	Intra-Regional	Taibei	64000 bps	X.25		
	BBIS	Intra-Regional	Thailand	64000 bps	X.25		Implemented
	BIS	Intra-Regional	Viet Nam	64000 bps	X.25		
Macau, China	BIS	Intra-Regional	China	64000 bps	X.25		Implemented
Macau	BIS	Intra-Regional	Hong Kong, China	64000 bps	X.25		Implemented
Cook Islands Rarotonga			New Zealand	9600 bps	IPS		Intra-domain
DPR Korea Pyongyang	BIS	Intra-Regional	China	9600 bps	X.25		

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
Fiji Nadi	BBIS	Intra-Regional	Australia	64000 bps	CLNP/IP-SNDCF		
			Kiribati	64000 bps	IPS		Intra-domain
	BIS	Intra-Regional	New Caledonia				Intra-domain
			Tuvalu		IPS		Intra-domain
	BBIS	Inter-Regional	United States	9600 bps	X.25		Circuit implemented
			Wallis Islands				Intra-domain
French Polynesia Papeete			New Zealand	9600 bps	IPS		Intra-domain
India Mumbai	BIS	Intra-Regional	Bangladesh	64000 bps	IPS		
	BIS	Intra-Regional	Bhutan	9600 bps	IPS		
	BBIS	Intra-Regional	China	64000 bps	IPS		
	BIS	Inter-Regional	Kenya	9600 bps	TBD		
	BIS	Intra-Regional	Nepal	64000 bps	IPS		
	BIS	Inter-Regional	Oman	9600 bps	IPS		Interoperability trials in Q2/2012
	BIS	Intra-Regional	Pakistan	64000 bps	IPS		Interoperability test completed in 2010. Trial operations in progress.
	BBIS	Intra-Regional	Singapore	64000 bps	X.25		Circuit Implemented
	BIS	Intra-Regional	Sri Lanka	9600 bps	IPS		
	BBIS	Intra-Regional	Thailand	64000 bps	X. 25		Trials Commence from Q2/2012
Indonesia Jakarta	BIS	Intra-Regional	Australia	64000bps	IPS		
	BIS	Intra-Regional	Singapore	19200 bps	IPS		

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
Japan Tokyo	BBIS	Intra-Regional	Australia	64000 bps	X.25/IP-SNDCF		Not implemented
	BBIS	Intra-Regional	China	64000 bps	X.25/IP-SNDCF		Implement gradually from 2016 on-wards
	BBIS	Intra-Regional	Hong Kong, China	64000 bps	IP/SNDCF		Implement gradually from 2016 on-wards
	BBIS	Inter-Regional	Europe	64000 bps	X.25/IP-SNDCF		Implement gradually from 2016 on-wards
	BIS	Intra-Regional	Republic of Korea	64000 bps	X .25/IP-SNDCF		
	BBIS	Inter-Regional	Russia Federation	64000 bps	X.25/IP-SNDCF		Implement gradually from 2016 on-wards
	BBIS	Intra-Regional	Singapore	64000 bps	IPS-SNDCF		Implement gradually from 2016 on-wards
	BIS	Intra-Regional	Taibei	64000 bps	X.25/IP-SNDCF		Implement gradually from 2016 on-wards
	BBIS	Inter-Regional	United States	64000 bps	X.25/IP-SNDCF		Circuit implemented
Kiribati Tarawa	BIS	Intra-Regional	Fiji	64000 bps	IPS		Intra-domain
Lao PDR Vientiane	BIS	Intra-Regional	Thailand	64000 bps	IPS		VSAT
	BIS	Intra-Regional	Viet Nam	9600 bps	X.25		
Malaysia Kuala Lumpur	BIS	Intra-Regional	Brunei	64000 bps	IPS		
	BIS	Intra-Regional	Singapore	64000 bps	IPS		
	BIS	Intra-Regional	Thailand	64000 bps	IPS		
Maldives Male	BIS	Intra-Regional	Sri Lanka	64000 bps	X.25		

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
Marshall Islands Majuro		Inter-Regional	United States	64000 bps	IP	VPN	VPN over Internet/ Intra-domain
Micronesia Federated State of Chuuk Kosrae Ponapei Yap		Inter-Regional	United States	64000 bps	IP	VPN	VPN over Internet/ Intra-domain
		Inter-Regional	United States	64000 bps	IP	VPN	VPN over Internet/ Intra-domain
		Inter-Regional	United States	64000 bps	IP	VPN	VPN over Internet/ Intra-domain
		Inter-Regional	United States	64000 bps	IP	VPN	VPN over Internet/ Intra-domain
Mongolia Ulaanbaatar	BIS	Intra-Regional	China	9600 bps	X.25		
Myanmar Yangon	BIS	Intra-Regional	China	9600 bps	IPS		
	BIS	Intra-Regional	Thailand	9600 bps	IPS		
Nauru Nauru			Australia				Intra-domain
Nepal Kathmandu	BIS	Intra-Regional	China	9600bps	X.25		
	BIS	Intra-Regional	India	64000 bps	IPS		
New Caledonia Noumea			Fiji				Intra-domain
New Zealand Christchurch	BIS	Intra-Regional	Australia	64000 bps	IPS		

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
			Cook Is.	24000 bps	IPS		Intra-domain
			French Polynesia	9600 bps	IPS		Intra-domain
			Samoa	2400 bps	IPS		Intra-domain
			Tonga	85000 bps	IPS		Intra-domain
	BIS	Inter-Regional	USA	64000 bps	IPS		
Pakistan Karachi	BIS	Intra-Regional	Afghanistan	64000 bps	IPS		
	BIS	Intra-Regional	China	64000 bps	X.25		
	BIS	Intra-Regional	India	64000 bps	IPS		Interoperability test completed in 2010. Trial operations in progress.
	BIS	Inter-Regional	Oman	64000 bps	-		
	BIS	Inter-Regional	Iran	64000 bps	-		
	BIS	Inter-Regional	Kuwait	64000 bps	-		
Palau Koror		Internet	United States	64000 bps	IP		Intra-domain
Papua New Guinea Port Moresby			Australia	64000 bps	IPS		Intra-domain
Philippines Manila	BIS	Intra-Regional	Hong Kong, China	64000 bps	X.25/IPS		Circuit Implemented
	BIS	Intra-Regional	Singapore	64000 bps	IPS		
Republic of Korea Seoul	BIS	Intra-Regional	China	64000 bps	X.25		Implemented
	BIS	Intra-Regional	Japan	64000 bps	X.25		
Samoa Faleolo			New Zealand	2400 bps	IPS		Intra-domain

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
Singapore Singapore	BBIS	Intra-Regional	Australia	64000 bps	CLNP/IP-SNDCF		
	BBIS	Inter-Regional	Bahrain	64000 bps	IPS		
	BIS	Intra-Regional	Brunei	9600bps	IPS		
	BBIS	Intra-Regional	India	64000 bps	X.25		Implemented
	BIS	Intra-Regional	Indonesia	19200bps	IPS		
	BBIS	Intra-Regional	Japan	64000 bps	IPS/SNDCF		
	BIS	Intra-Regional	Malaysia	64000 bps	IPS		
	BIS	Intra-Regional	Philippines	64000 bps	IPS		
	BIS	Intra-Regional	Sri Lanka	64000 bps	IPS		
	BBIS	Intra-Regional	Thailand	64000 bps	X.25		Implemented
	BBIS	Inter-Regional	United Kingdom	64000 bps	IPS		Implemented
	BIS	Intra-Regional	Viet Nam	9600 bps	X.25		
Solomon Islands Honiara			Australia		IPS		Intra-Domain
Sri Lanka Colombo	BIS	Intra-Regional	India	9600 bps	IPS		
	BIS	Intra-Regional	Maldives	64000 bps	X.25		
	BIS	Intra-Regional	Singapore	64000 bps	IPS		
Thailand Bangkok	BIS	Intra-Regional	Bangladesh	32000 bps	IPS		VSAT
	BIS	Intra-Regional	Cambodia	32000bps	IPS		VSAT
	BBIS	Intra-Regional	Beijing, China	64000 bps	X.25		
	BBIS	Intra-Regional	Hong Kong, China	64000 bps	X.25		Implemented
	BBIS	Intra-Regional	India	64000 bps	X.25		

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
	BBIS	Inter-Regional	Italy	64000 bps	X.25		
	BIS	Intra-Regional	Lao PDR.	32000 bps	IPS		VSAT
	BIS	Intra-Regional	Malaysia	64000 bps	IPS		
	BIS	Intra-Regional	Myanmar	32000 bps	IPS		VSAT
	BBIS	Intra-Regional	Singapore	64000 bps	X.25		Implemented
	BIS	Intra-Regional	Viet Nam	32000 bps	IPS		VSAT
Timor Leste Dili			Australia		IPS		Intra-domain
Tonga Tongatapu			New Zealand	9600 bps	IPS		Intra-domain
Tuvalu Funafuti			Fiji		IPS		Intra-domain
United States Salt Lake City	BBIS	Inter-Regional	Australia	64000 bps	IPS/SNDCF		
			American Samoa				Intra-domain
	BBIS	Inter-Regional	Fiji	9600 bps	X.25		Circuit implemented
	BBIS	Inter-Regional	Japan	64000 bps	IPS/SNDCF		Circuit implemented
		Internet	Marshall Islands	64000 bps	IP		Intra-domain
		Internet	Micronesia, Federated State of	64000 bps	IP		Intra-domain
	BIS	Inter-Regional	New Zealand	64000 bps	IPS		Circuit Implemented
		Internet	Palau	64000 bps	IP		Intra-domain
Vanuatu			Australia		IPS		Intra-domain

Administration and Location	Type of Router	Type of Interconnection	Connected Router	Bandwidth	Network Protocol	Via	Remarks
1	2	3	4	5	6	7	8
Port Vila							
Viet Nam Ho Chin Minh/Hanoi	BIS	Intra-Regional	China	9600 bps	X.25		
	BIS	Intra-Regional	Hong Kong, China	64000 bps	X.25		
	BIS	Intra-Regional	Lao PDR.	9600 bps	X.25		
	BIS	Intra-Regional	Singapore	9600 bps	X.25		
	BIS	Intra-Regional	Thailand	9600 bps	X.25		
Wallis Islands			Fiji				Intra-domain