ONE-DAY PACIFIC SMALL ISLAND DEVELOPING STATES (PSIDS)

20 September, 2024

Guam, USA

PACIFIC SMALL ISLAND DEVELOPING STATES (PSIDS) COORDINATION AND PLANNING

1. Coordination:
   a) Point of contacts (POCs) with phone number and email addresses
   b) Facility address
   c) Facility phone numbers
2. Existing facilities and infrastructure:
   a) Equipment space
   b) Power supply
   c) Cable access for Telco/Internet
   d) Equipment proximity
   e) Internet access bandwidth and performance

PSIDS COORDINATION AND PLANNING (Cont'd)

3. Current operational service:
   a) Any issue(s) with current operational service using IDD and Aeronautical Information System Replacement (AISR) over Internet
   b) Current Internet bandwidth can support additional service?
   c) Any other issues?
   d) Monthly service cost for both voice and Internet
   e) Local service providers point of contact

PSIDS COORDINATION AND PLANNING (Cont'd)

4. Planned upgrades?
   a) Data: AIDC, FF-ICE, IWXXM
   b) Voice service: dedicated voice channel
   c) New connections
5. Constraints:

   Any issue(s) with implementing new service: CRV or satellite-based Internet service

FAA ADJACENT FIRS IN THE PACIFIC

1. Majuro
2. Palau
3. Nauru
4. Samoa
5. Tahiti
6. Federal States of Micronesia:
    a) Chuuk
    b) Kosrae
    c) Kwajalein
    d) Pohnpei
    e) Yap

Creation of Asia/Pacific IP Network

In 2013 Asia/Pac ATNICG met as a Working Group to determine a way forward:

1. Develop a network infrastructure to replace point to point circuits between ANSPs
2. Support voice services without Voice/Data multiplexing
3. Allow ‘any to any’ AMHS communication
4. Provide sufficient and scalable bandwidth
5. Provide a common equipment infrastructure
6. Maintain operational costs when compared to point-to-point circuits
7. Provide service performance and integrity
8. Comply with ICAO Doc. 9896 for ATN IPS
9. One end to end service provider versus multiple vendors

Common aeRonautical Virtual Private Network (CRV)

1. ICAO Asia/Pac APANPIRG adopted the CRV concept recommended by ATNICG
2. 18 Pioneer States joined a CRV Task Force (TF) to evaluate requirements with support from the ICAO Technical Cooperation Bureau (TCB)
3. CRV TF developed service requirements, a standard Contract and solicited vendors
4. In 2017 a winning vendor was selected and in early 2019 Australia, Fiji, New Zealand and USA performed extensive network performance testing
5. Japan initiated the first CRV connection (with USA) in February 2019

CRV PLANNING

1. The current CRV contract is set to expire by December 2028
2. CRV OG is determining if the contract can be renewed or if a new bidding process must be opened
3. ICAO Middle Eastern and African regions are looking to join the CRV
4. CRV is considered to be an underlying IP network for System Wide Information Management (SWIM) services

WHY DO WE NEED A COMMON INTERNET PROTOCOL (IP) NETWORK ?

Most of us are dealing with the following issues when communicating between ANSPs:

1. Voice service using Voice/Data Multiplexer:
   a) Proprietary standard of voice/data multiplexer required using the same equipment at both ends
   b) Low voice quality due to compression from full 64kbps
   c) Obsolete equipment which is no longer supportable by industry
2. X.25 protocol for AFTN/AMHS
   a) Limited bandwidth (mostly peaks at 9.6Kbps)
   b) Unable to support attachments (IWXXM, FIXM, AIXM)
   c) Depends on other ANSPs to convert AFTN/AMHS
3. Half circuit arrangement
   a) Cumbersome coordination dealing with at least two vendors and selection of compatible equipment
   b) Industry has begun to phase out half/dedicated circuits since 2017
   c) Bandwidth scalability is difficult

WHY DO WE NEED A COMMON INTERNET PROTOCOL (IP) NETWORK ?

Why should one replace/upgrade telecommunication service:

1. Voice switching equipment is still operational and supportable
   a) Leased VoIP equipment that converts seamlessly between legacy signal and VoIP for transport
   b) Higher voice quality supporting G.711 64kbps (no compression) of voice channel
   c) Fully maintainable equipment provided by vendor
2. AFTN/AMHS distribution
   a) Provide bandwidth of at least 64Kbps per channel
   b) Supports encapsulation of X.25 for AFTN, if needed
   c) Supports attachments (IWXXM, FIXM, AIXM) using AMHS
3. CRV environment
   a) Only one vendor for all operational and maintenance issues, PCCW Global
   b) Using MPLS technology to route traffic which is faster and more efficient than simple IP
   c) Bandwidth is scalable
   d) Potential satellite-based Internet service

ICAO

THANK YOU