



**FANS Interoperability Team Meeting
(FIT/27)
VIRTUAL
28 – 29 July 2020**

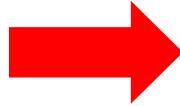
Agenda Item Comments from ANSPs / Network Performance presentations

REDDIG II & CRV Network interconnection

Presented by DGAC Chile

Timeline

- ❖ June 28 to 29 of the 2017.
- ❖ January 17 of the 2018.
- ❖ August 1 to 2 of the 2018.



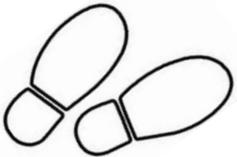
Interruption of the flow of ATS messages

- Flight Plans
- Transfer
- Acceptance

Between the Oceanic Control Centers of Auckland and Santiago.



The failures in the operational message circuit occurred, at all times, north of the Lima COM Center until Atlanta COM Center inclusive.



August 2018, DGAC requested ICAO South American Regional Office to take proper measures in order to prevent failures in the AFTN / AMHS System.



The ICAO South American Office responded diligently and announced that it would take actions to prevent future failures.

At this time a need arises!!!

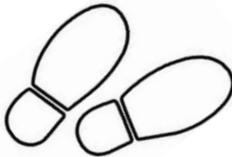
During the SAM Region Implementation Group Meeting (SAM IG/23 - Lima, from May 20 to 24, 2019).



ICAO proposing to use the REDDIG II backup network (MPLS) to provide an alternative link for communications that are currently routed through the MEVA III - REDDIG II interconnection, specifically AMHS connections between Atlanta COM Center with the COM Centers of Brasilia, Caracas and Lima.



FAA expressed interest in the proposal and indicated their intention to obtain access to REDDIG terrestrial network (MPLS) by means of the telecommunications provider CenturyLink.



**At the Twenty-Third (extraordinary) Meeting of the
Coordination Committee (RCC / 23) (Teleconference, August
21, 2019)**

The FAA (Federal Aviation Administration) request to implement additional nodes (Atlanta and Salt Lake City) of the REDDIG II terrestrial network (MPLS) was analyzed and approved, directly contracting the CenturyLink provider, to access REDDIG, without involving costs for the participants of the RLA / 03/901 Regional Project.)

During the Twenty-Fourth Meeting of the REDDIG Coordination Committee -RCC/ 24 (Lima, 03 to 06 March 2020).

- The FAA made a presentation on the status of implementation of the United States interconnections with the regional IP networks (CRV, PENS and REDDIG II).

- CRV from the APAC Region.
- PENS from the EUR Region.
- REDDIG II from the SAM Region.

- **All the regional IP networks use telecommunications provider services (MPLS) that could provide interconnectivity between them.**



Very good Idea!!!!

Meeting Action Item RCC/24 24-3.

States that the Secretariat will proceed with the administrative procedures necessary for the holding of a meeting in Lima, with the participation of ICAO Officers and telecommunication providers of APAC, EUR and SAM Regional IP networks. The meeting was scheduled to take place in the second half of 2020.

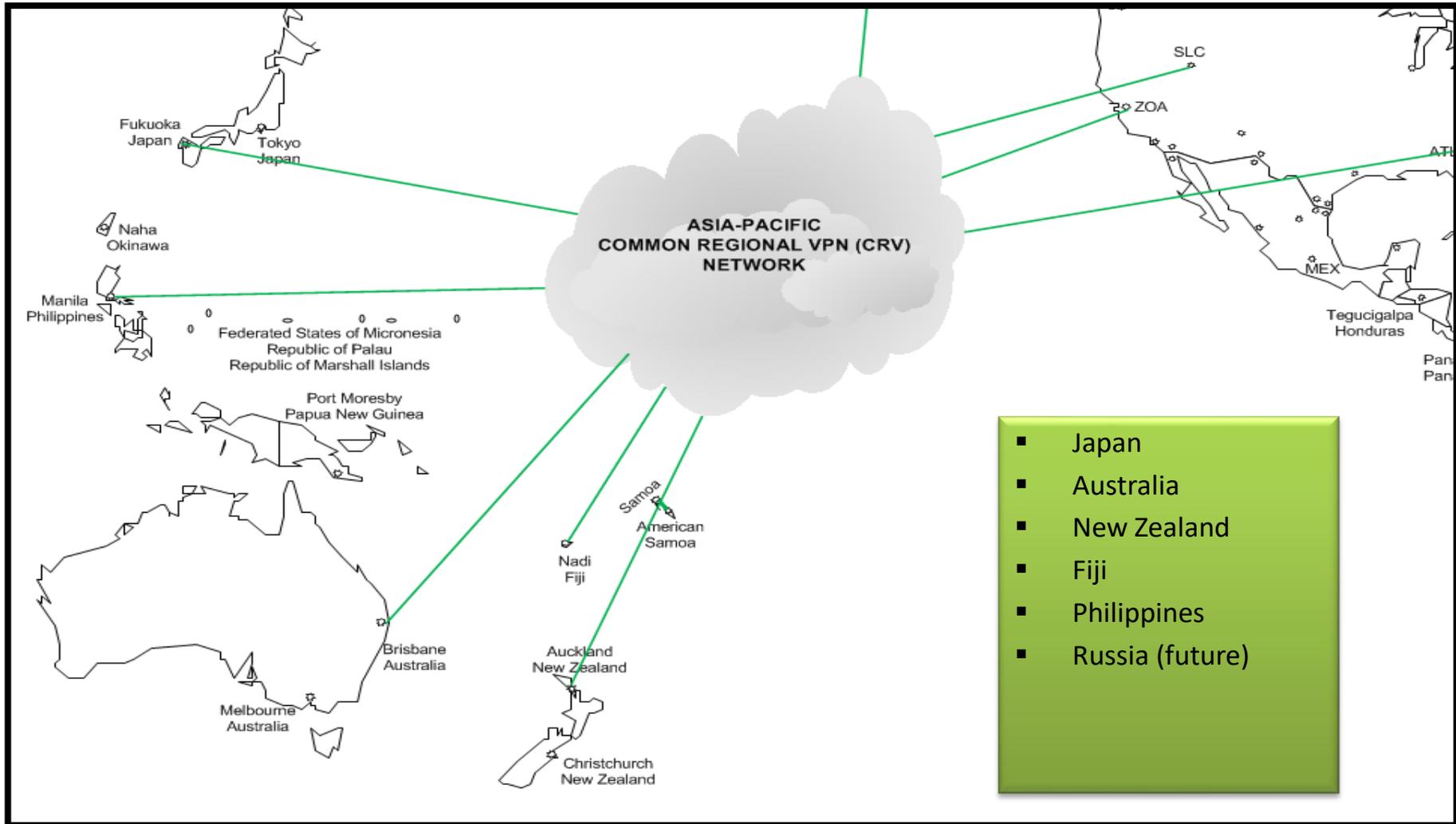


BUT!!!!!!

As an alternative prior to the future interconnection of the telecommunications service providers of the Regions, the FAA and the Chilean DGAC are initiating an agreement to establish an AMHS connection (in Protocol P1) using the terrestrial MPLS network, once they are installed the FAA nodes.

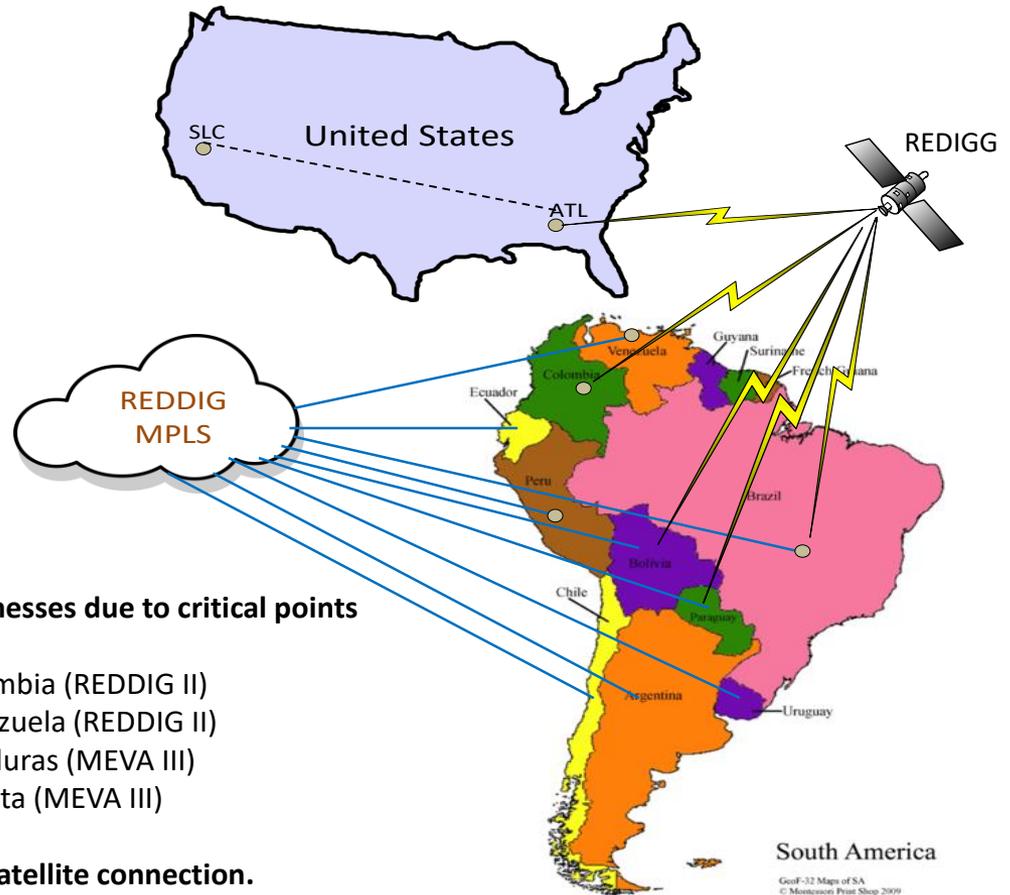
All these actions are coordinated by the ICAO SAM Regional Office in Lima.

Current CRV Connections



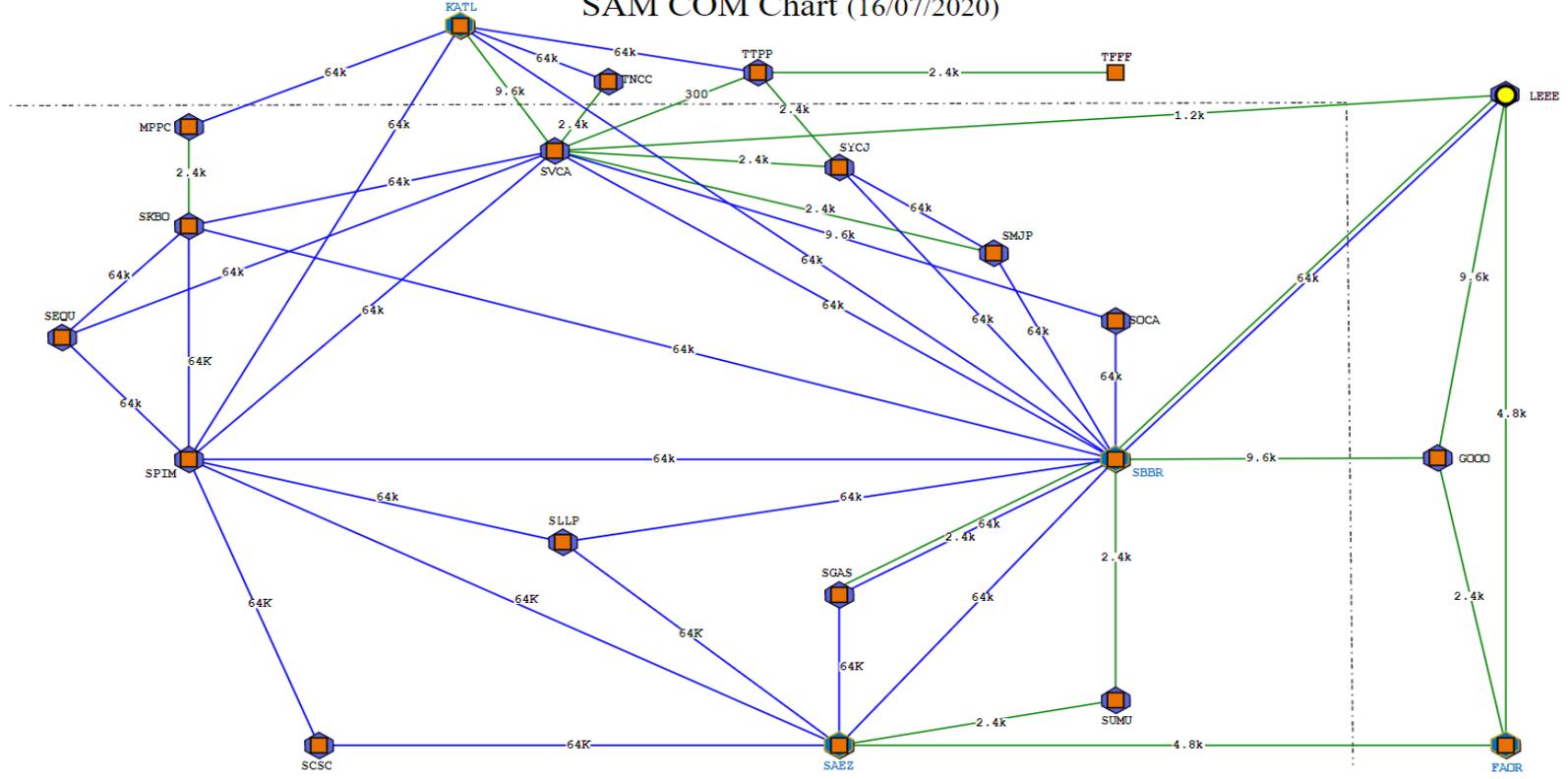
Current Satellite REDDIG II Connections

SATELLITE - PRINCIPAL MPLS - BACKUP
Argentina*
Bolivia
Brasil (Curitiba)
Brasil (Manaus)
Brasil (Recife)
Brasil (Brasilia)
Chile
Colombia (MEVA III) in REDDIG II
Ecuador
French Guyana
Guyana
Paraguay
Peru
Suriname
Trinidad and Tobago
Uruguay
Venezuela (MEVA III) in REDDIG II
Honduras (REDDIG II) in MEVA III



MEVA III, only Satellite

SAM COM Chart (16/07/2020)



	CIDIN/AFTN COM Centre		Fully Meshed Island		9.6k - CIDIN Link with Line Speed		9.6k - AMHS Link with Line Speed
	AFTN COM Centre		AMHS Gateway to SITA		9.6k - AFTN Link with Line Speed		9.6k - AMHS-EUROCONTROL/NM Link with Line Speed
	AMHS COM Centre		PENS		Path		

Example:

FPL from Chile to New Zealand

Chile (SCSC) – Perú (SPIM) – Colombia (SKBO) – Honduras (MPPC) – Atlanta (KATL) – Salt Lake City (KSLC) - New Zealand (NZCH)
 – Venezuela (SVCA) - Honduras (MPPC) - Atlanta (KATL) – Salt Lake City (KSLC) - New Zealand (NZCH)

United State in REDDIG II (MPLS)

Scope

- Implementation of Carrier Ethernet connectivity from ATL and SLC to the REDDIG MPLS network to provide diversity for backup to the MEVA-REDDIG satellite interconnection for the exchange of voice and data requirements in the Caribbean and South American Region.

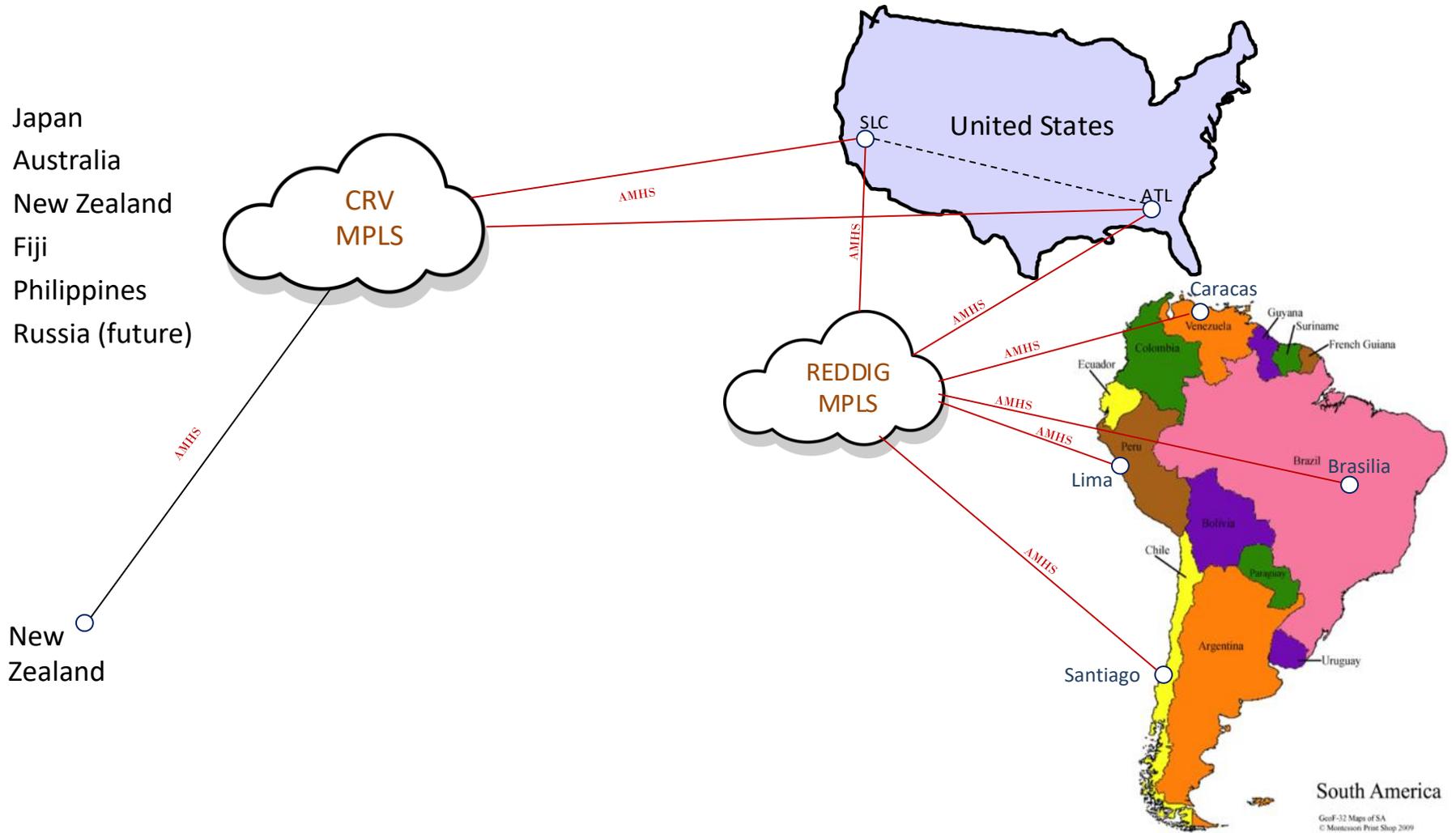
Benefits

- The direct AMHS connection between Chile and the FAA, over the REDDIG II MPLS infrastructure, will allow the elimination of possible failure points in the Region and allow more direct access to New Zealand and Tahiti.
- The incorporation of the FAA into REDDIG II (MPLS) will allow other States to optimize their communications with other States outside of REDDIG II
- Increased bandwidth, 10 megabyte connections
- Dual connections.



CRV and REDDIG

- Japan
- Australia
- New Zealand
- Fiji
- Philippines
- Russia (future)



South America

GeoF-32 Maps of SA
© Montecore Print Shop 2009

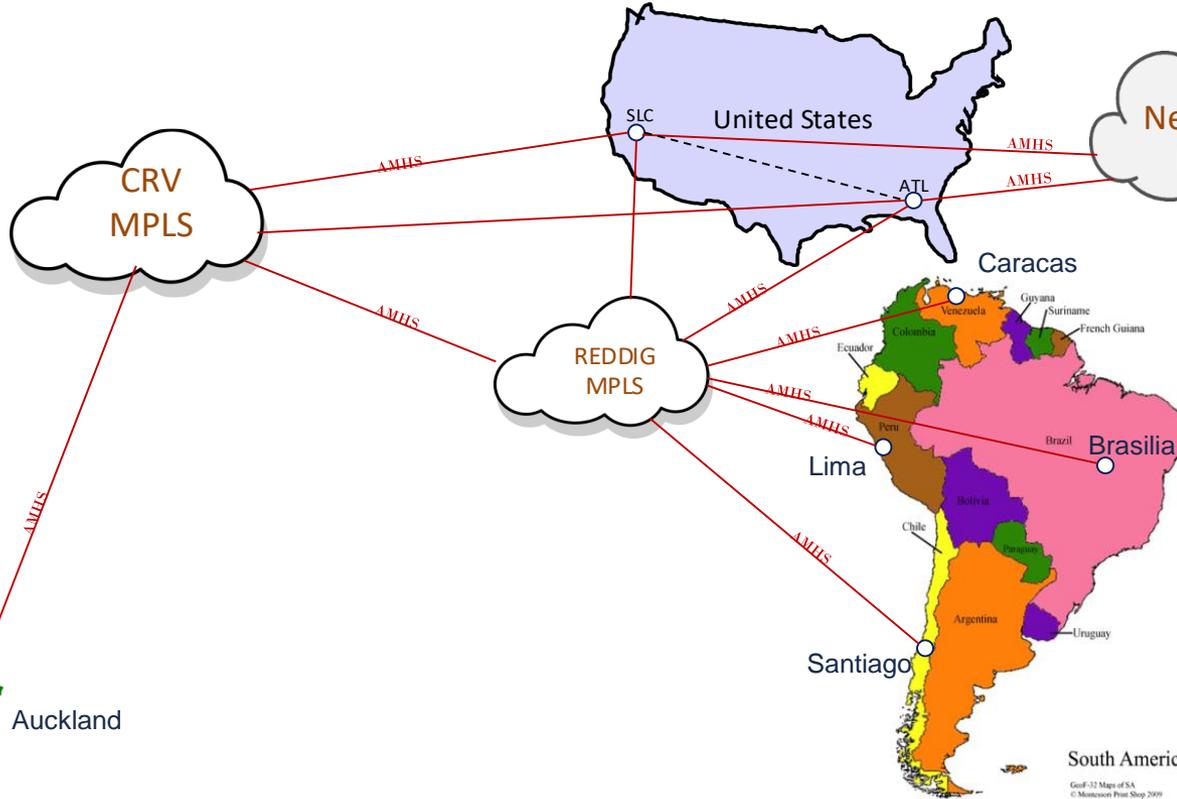
CRV, REDDIG, NewPENS

Eurocontrol



Asia Pacific

- Japan
- Australia
- Fiji
- Philippines
- Russia (future)



New Zealand Auckland

Thank you!!!

Questions?