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SUSTAINABLE FUTURE.

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Space Based ADS-B

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Aireon is the world's leading provider of space-based automatic dependent-surveillance broadcast (ADS-B) data to the global aviation community

Headquarters
McLean, Virginia
USA

Global Offices
Belgium, Switzerland, and Thailand

Employees
Nearly 100

Best-in-Class aerospace investors

NAV CANADA

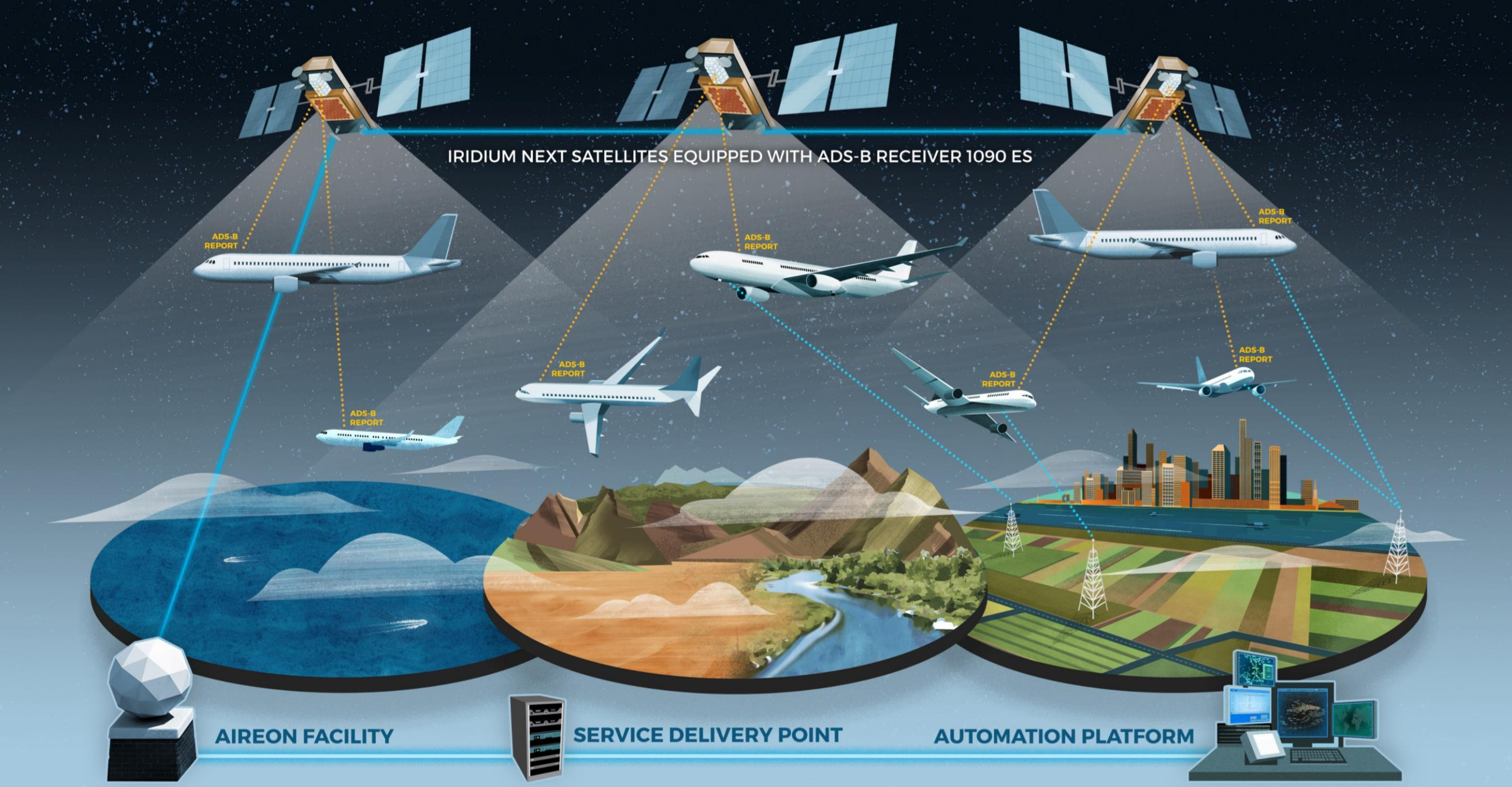
iridium

NATS

enav

IAA

NAVIAIR



PROPRIETARY

Technical Performance Metrics

Availability

- The probability a system can perform its intended function when needed

Availability of ≥ 99.9%

Latency

- The time needed to process and deliver ASTERIX formatted target reports

Latency ≤ 1.5s (99th percentile)

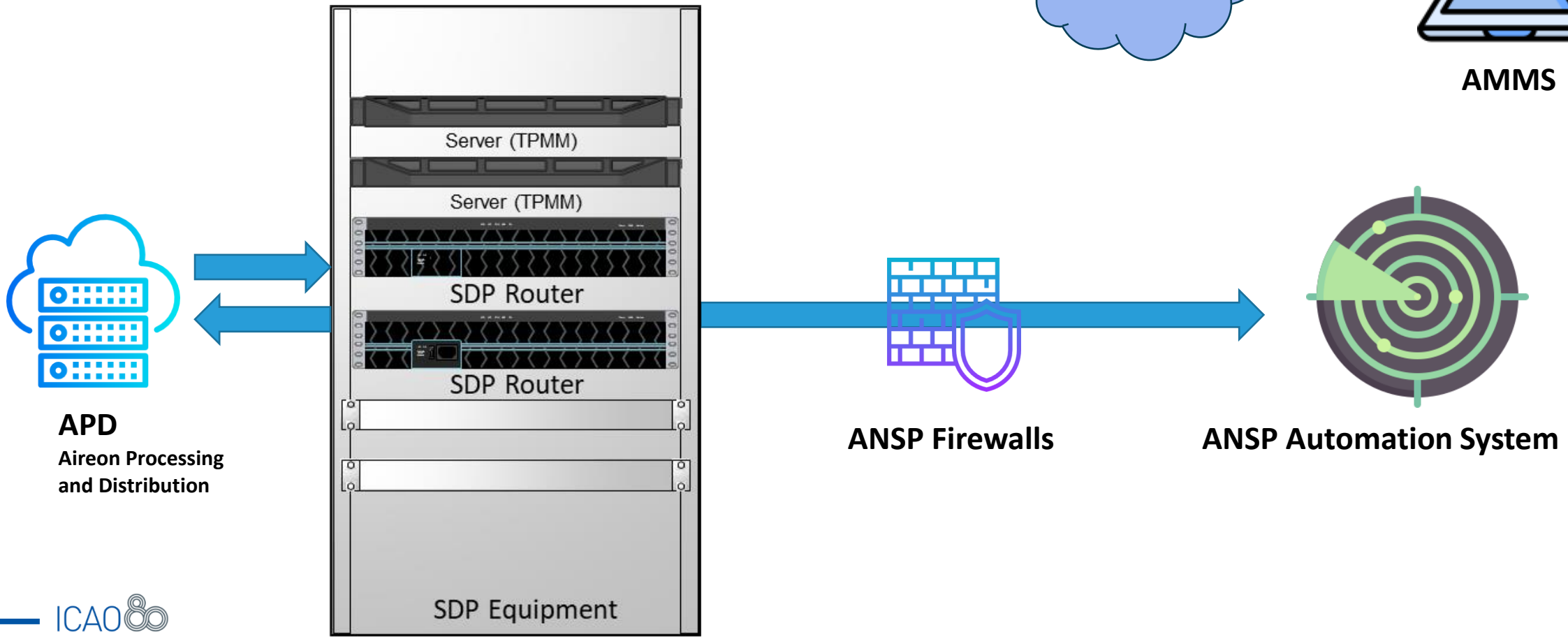
Probability of Update Interval

- The likelihood a surveillance system provides an ASTERIX formatted target report over a defined time period

Probability of Update ≥ 96% for an Update Interval of 8 seconds

Service Delivery Point (SDP)

The demarcation point between Aireon and ANSP



Space-based ADS-B – CRV Implementation

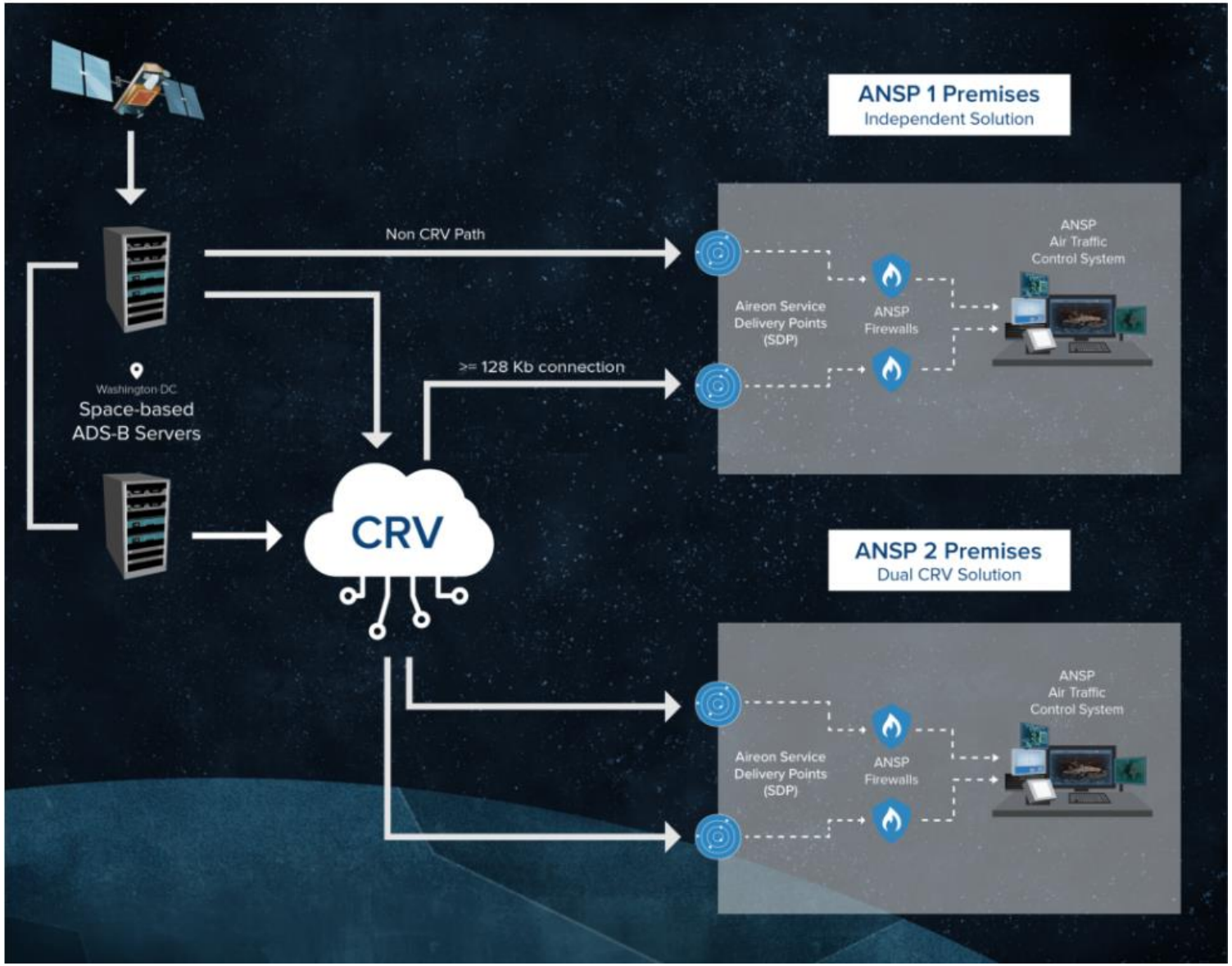
Background

- In 2019 Aireon signed a contract with NSPL for SB ADS-B data services for the complete PNG FIR.
- The architecture included 2x MPLS connections from US to PNG.
- These connections were very expensive and not very reliable (especially “the last mile”).
- Aireon together with NSPL and PCCW investigated the leveraging of the CRV Network to deliver SB ADS-B data in a more cost effective and reliable way.
- Aireon established the dual tunnels from US to HK.
- NSPL with PCCW established a dual connection for the CRV Network – one line being MPLS and the second line being Satellite.
- These CRV connection were able to support more than just SB ADS-B and therefore were much more cost effective.
- The reliability of the connections was improved as the satellite connectivity provided an independent path without the last mile impact.
- Latency for both the Satellite connection and MPLS lines was well within the target limits.

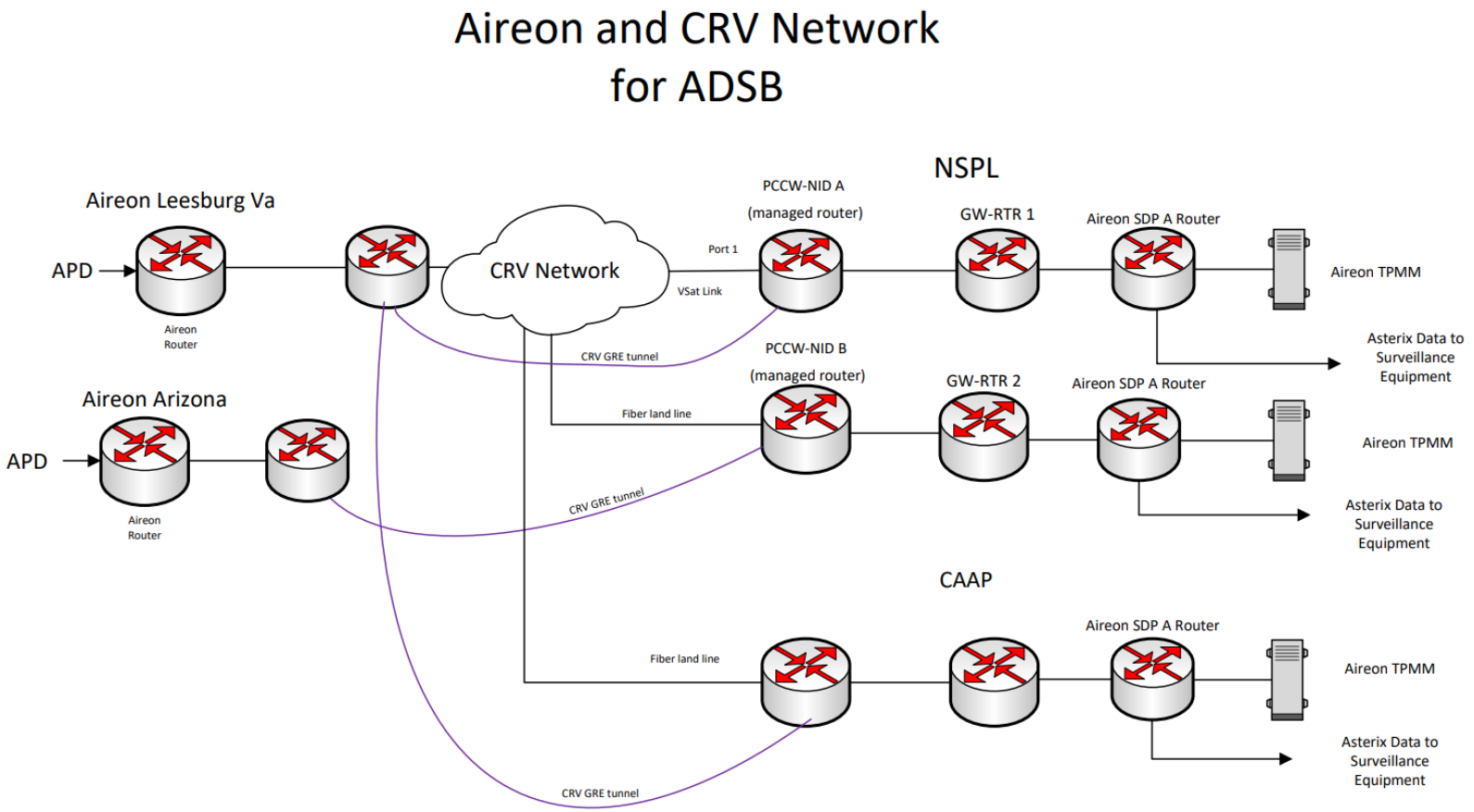
Benefits

- Most Asia-Pacific ANSPs already have a CRV connection and have available bandwidth to support SB ADS-B services on the existing CRV service.
- The lead-time to deploy the CRV is most often significantly less than a dedicated MPLS line due to the tunnel already being established.
- The cost can be cheaper than dedicated MPLS lines due to the multiple services that are provisioned through the single connection especially in some States.
- The CRV can support or overcome other issues such as “last mile challenges” by providing Satellite connectivity
- Limited bandwidth is required for SB ADS-B in normal operational service.

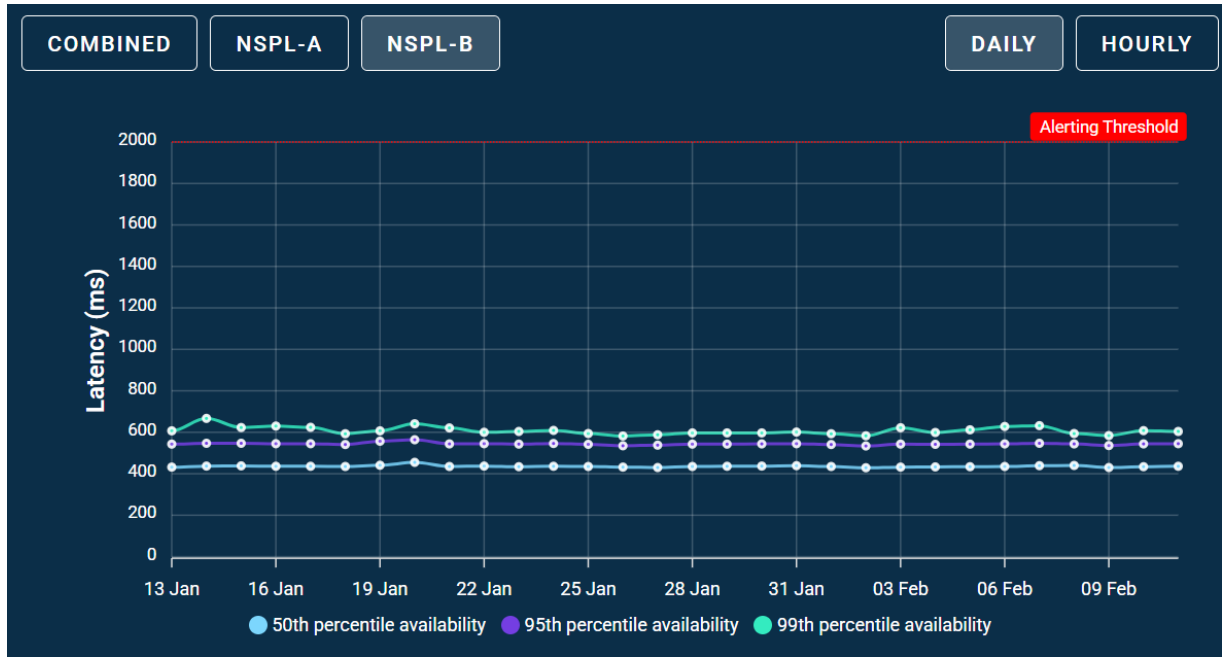
CRV Architecture



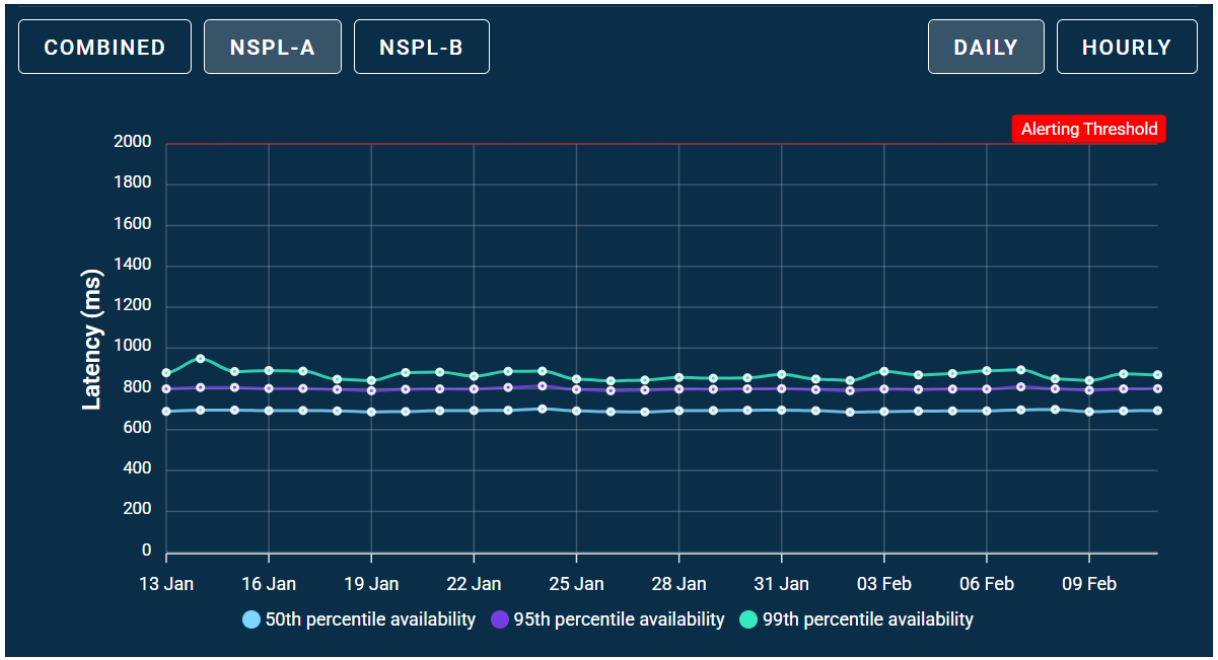
CRV Architecture



Performance Latency – MPLS / SATELITTE



MPLS CRV Link



Satellite CRV Link

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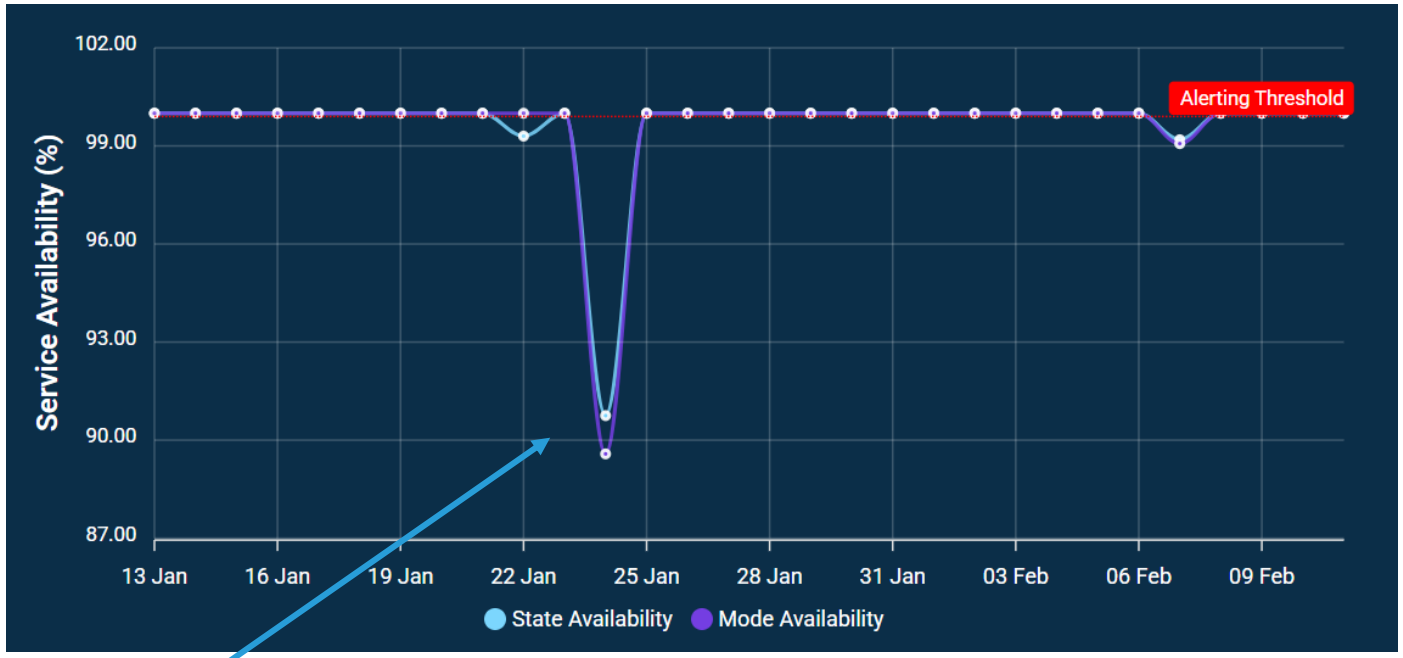
Performance Availability – CRV



CRV Availability

Planned outage otherwise excellent availability

Summary

- Leveraging the CRV Network can support:
  - Expediting of connectivity
  - Cost efficiencies
  - Reliability improvements

Thank You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