

During the development of ADS latency monitoring in 2008 it was noted that the performance of the B777 fleets were considerably below what was expected. An assessment of all delayed reports greater than 90 seconds demonstrated that there was a significant correlation between the downlink delays and areas of transition from VHF to SATCOM RGS for B777 aircraft. This correlation did not exist for B744 or A340 aircraft. The performance of B777 and A340 aircraft when the delays due to B777 RGS transition are excluded are similar. The following figures demonstrate the analysis.

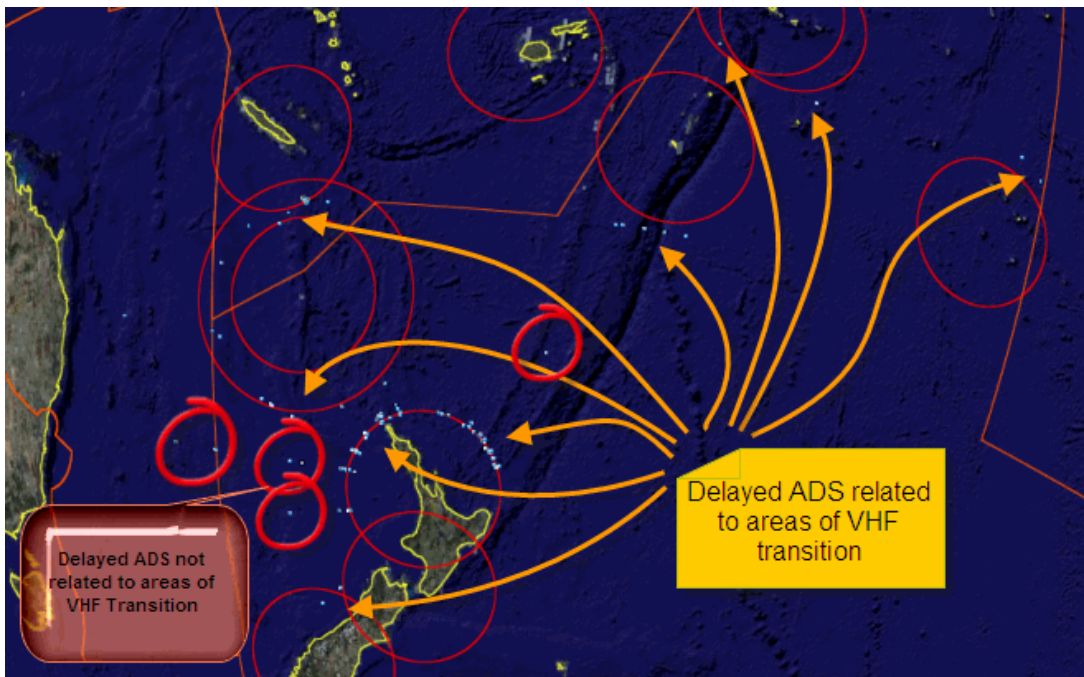


Figure 1. Geographic plot of B777 delayed ADS reports and VHF transition areas

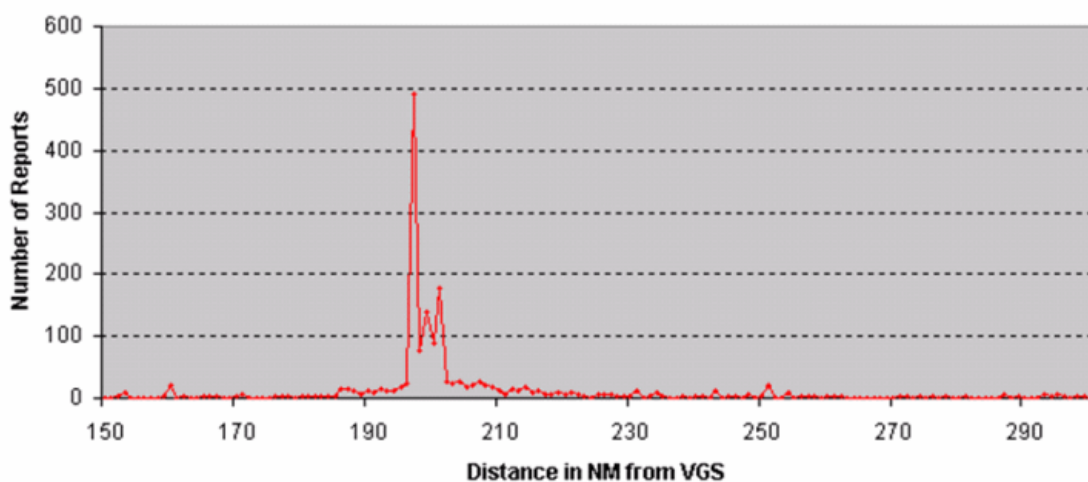


Figure 2. Plot of B777 delayed reports against distance from nearest VHF ground station.

Boeing have investigated this problem report and identified an issue with the B777 when transitioning from SITA VGS into SATCOM. A fix has been made and will be released to the B777 fleets when the AIMS BP14 upgrade becomes available from the end of 2009.

Update 9 August 2010. The BP14 upgrade for AIMS-2 aircraft became available 1st quarter 2010. In NZZO we have seen two fleets implement the BP14 and significant performance improvements have been observed. Figure 5 below illustrates the performance improvement seen on the fleets that have installed BP14. This fleet completed the BP14 upgrade in March 2010. The fleet is now consistently meeting the SPR requirements and the performance improvement is clearly visible between February (pre-BP14) and other months (post BP-14).

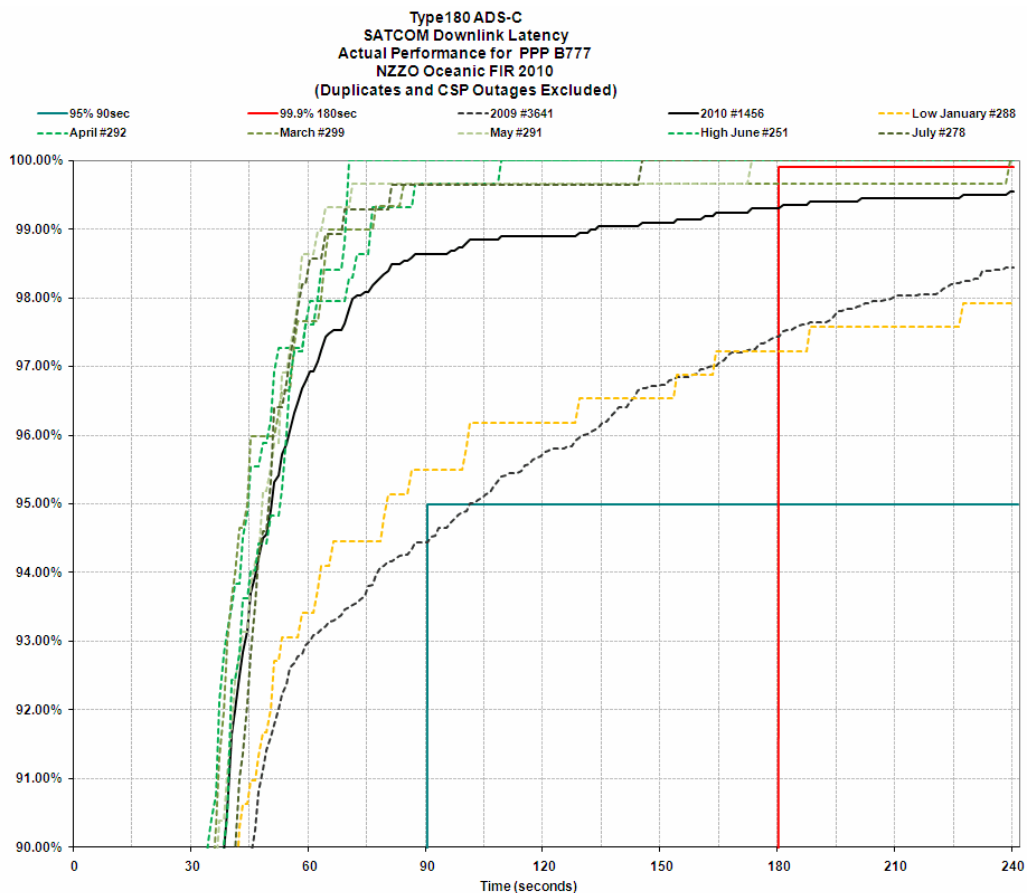


Figure 5. B777 latency POST BP14 upgrade.

The BP14 upgrade is not yet available for AIMS-1 aircraft, and is now expected 3rd quarter 2010. Remaining B777 operators in NZZO that have not yet implemented BP14 are either operating a mix of AIMS-1 and AIMS-2 aircraft or are all AIMS-1 aircraft.

An assessment of current performance with that seen earlier in 2010 before BP14 was installed on two fleets operating in NZZO and the R15 GES upgrade was installed shows that significant performance improvement has been made. This is illustrated in Figure 6.

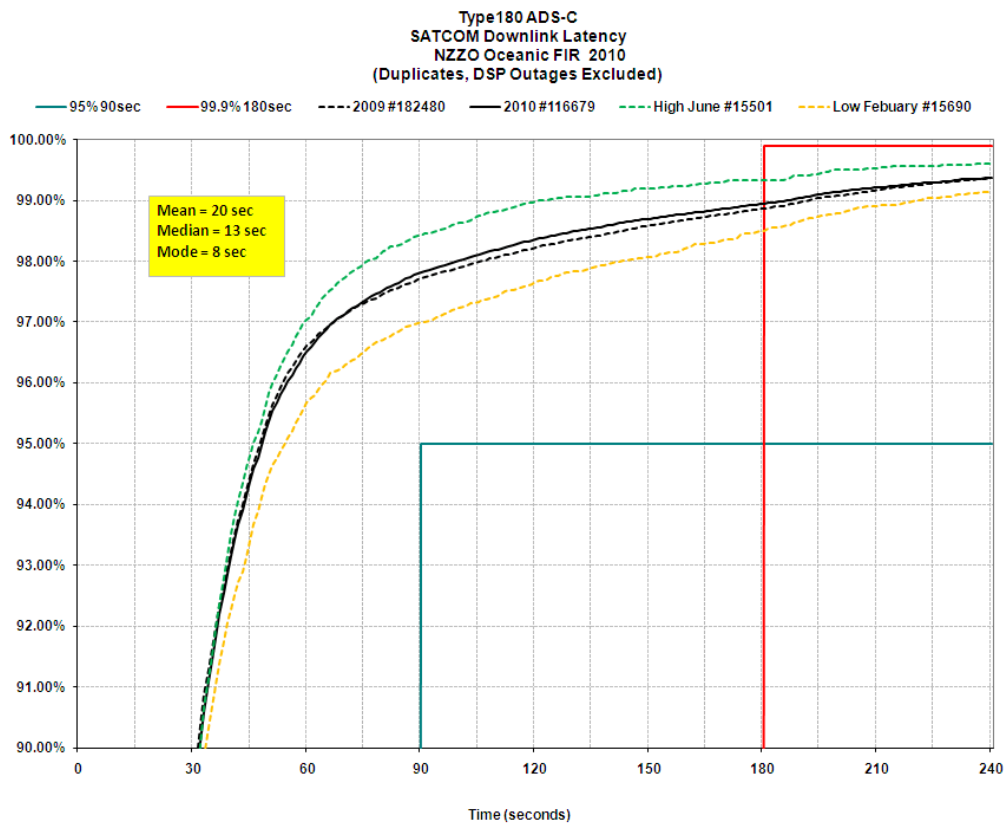


Figure 6. SATCOM latency PRE/POST BP14 R15 GESupgrade.