

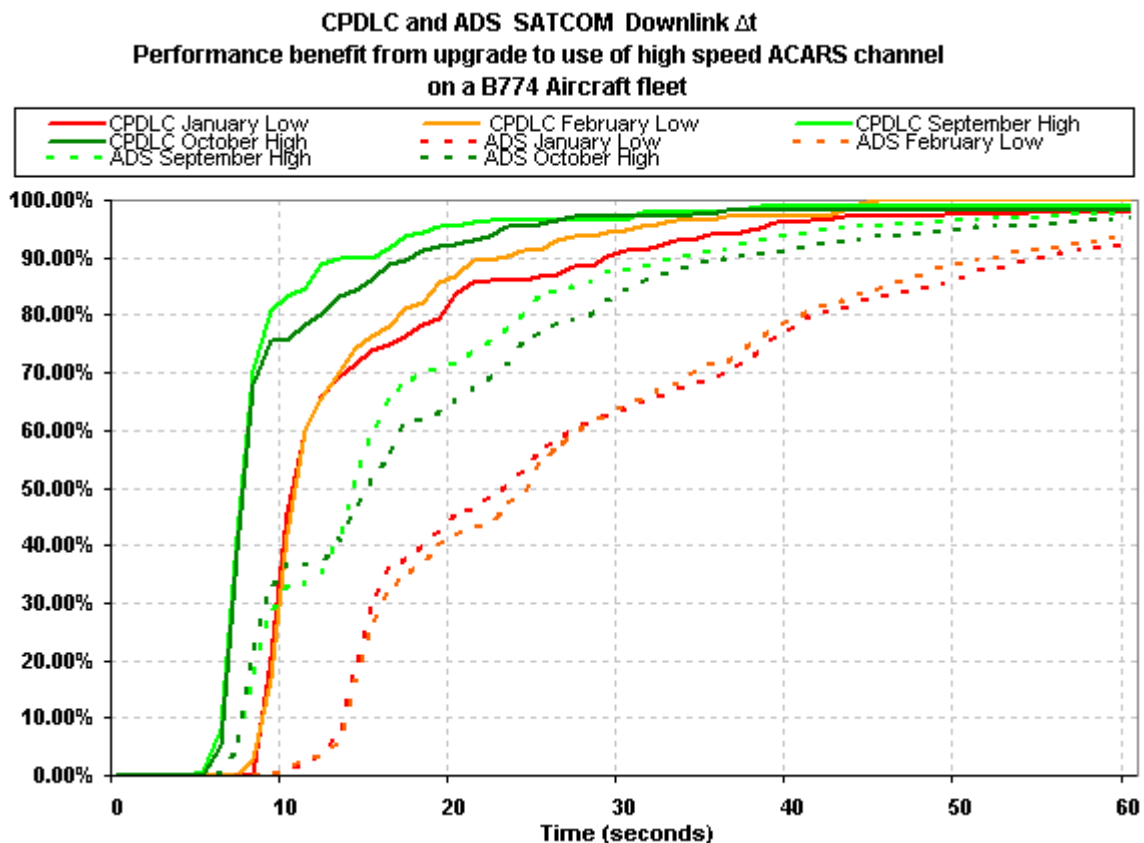
Performance Impact of High and Low Speed ACARS Channel use

There are low speed (600 bps and 1200 bps) and high speed (10500 bps) data rates defined for the P, R, and T channels.

Some AESs are capable of low speed SATCOM only. Other AESs are capable of both high speed and low speed. However, not all aircraft that are capable of high speed operation have enabled the use of high speed SATCOM and, instead operate in low speed only.

The INMARSAT sponsored SATCOM Improvement Team is recommending to those airlines that are using low speed SATCOM channels to change to the high speed channels where possible. Low or High speed channel use is selectable by individual airlines in the aircrafts Operational Requirements Table (ORT).

Significant performance benefits accrue with the use of the high speed channels as illustrated in the following graph. In order to achieve the performance required for the application of reduced separations airlines use of the low speed channels should be avoided.



ANSP can assess ACARS channel speed use by evaluating the monthly downlink times for ADS reports via SATCOM. For users of high speed channels ANSP will consistently see a small percentage of reports in the 6-8 second time bands. Low speed channels users usually have very few reports less than 10 seconds. The table below shows typical results from low speed and high speed users.

t"	Typical High Speed		Typical Low Speed	
	Δt Down #	Δt Down %	Δt Down #	Δt Down %
0	0	0.00%	0	0.00%
1	0	0.00%	0	0.00%
2	0	0.00%	0	0.00%
3	0	0.00%	0	0.00%
4	0	0.00%	0	0.00%
5	0	0.00%	0	0.00%
6	8	0.38%	0	0.00%
7	163	7.84%	0	0.00%
8	676	32.52%	0	0.00%
9	1023	49.21%	0	0.00%
10	1095	52.67%	0	0.00%
11	1108	53.29%	0	0.00%
12	1129	54.30%	2	1.34%
13	1232	59.26%	11	7.38%
14	1447	69.60%	19	12.75%
15	1571	75.57%	26	17.45%
16	1665	80.09%	42	28.19%
17	1723	82.88%	60	40.27%
18	1744	83.89%	76	51.01%
19	1758	84.56%	81	54.36%
20	1772	85.23%	81	54.36%

ANSP should identify those airlines using the low speed channels and stakeholders should work with those airlines to achieve an upgrade to the high speed channels.