

System performance Data Analysis

Based on the data monitoring since September 2010 to December 2010, the System Performance Data including the uplink, down link and the success rate as follows:

1. SEPTEMBER 2010

a. Uplink Message Delivery Time

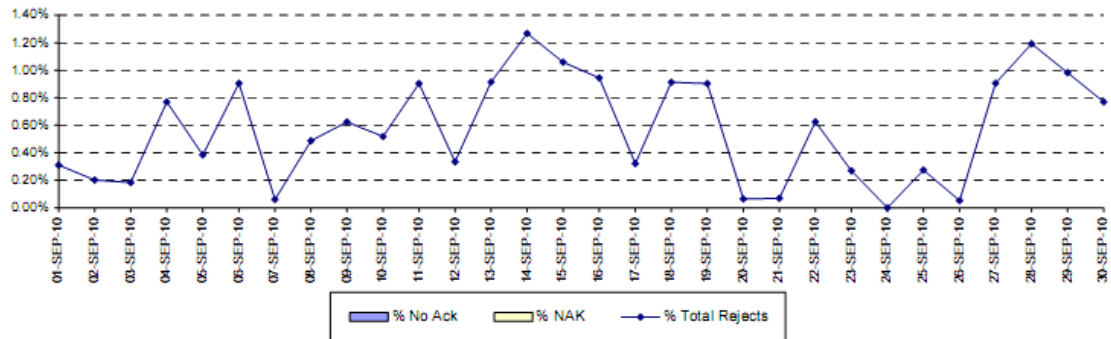
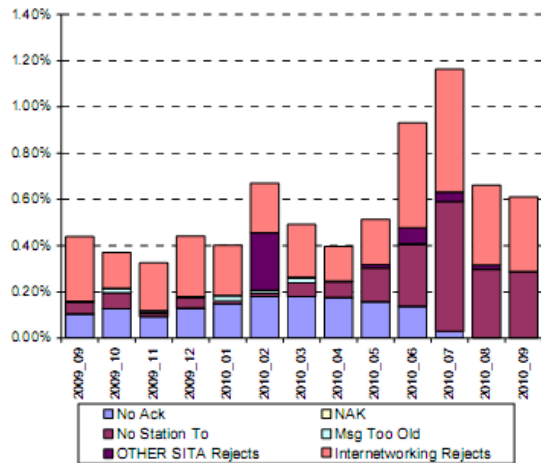
Uplink Message Delivery Time	10 s	20 s	30 s	40 s	60 s	120 s	180 s	360 s	>360 s
ATS Provider	59.41%	85.91%	91.47%	92.25%	94.81%	98.39%	99.57%	99.98%	100.00%
AFN (Log-on)	74.71%	87.75%	90.13%	91.04%	92.96%	98.84%	99.30%	99.91%	100.00%
CPDLC	67.31%	87.93%	91.13%	91.77%	93.75%	98.79%	99.82%	99.99%	100.00%
ADS	55.62%	85.11%	91.69%	92.51%	95.31%	98.23%	99.51%	99.98%	100.00%

b. Down link Message Delivery Time

Downlink Message Delivery Time	10 s	20 s	30 s	40 s	60 s	120 s	180 s	360 s	>360 s
ATS Provider	47.18%	75.78%	86.86%	90.44%	95.04%	97.91%	98.58%	99.29%	100.00%
AFN (Log-on)	38.81%	72.11%	82.40%	89.33%	94.54%	98.07%	98.74%	99.40%	100.00%
CPDLC	54.92%	83.76%	90.55%	93.28%	96.81%	98.86%	99.23%	99.68%	100.00%
ADS	44.75%	72.57%	85.78%	89.27%	94.27%	97.44%	98.26%	99.09%	100.00%

c. Success rate

Uplink Performance	ATS Provider		
	Sep-10	Last 3 Month	Last 12 Month
Uplink Success Rate	99.39%	99.20%	99.41%
Total (No Ack + NAK) Reject Rate	0.00%	0.01%	0.11%
No Ack (VHF)	0.00%	0.00%	0.01%
NAK (VHF)	0.00%	0.00%	0.00%
No Ack (Satcom)	0.00%	0.02%	0.27%
NAK (Satcom)	0.00%	0.00%	0.00%
No Station to	0.29%	0.38%	0.16%
Not Logged On	0.00%	0.00%	0.00%
Msg Too Old	0.00%	0.00%	0.01%
Other SITA Rejects	0.00%	0.02%	0.03%
Internetworking Rejects	0.32%	0.40%	0.28%



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2. OCTOBER 2010

a. Uplink Message Delivery Time

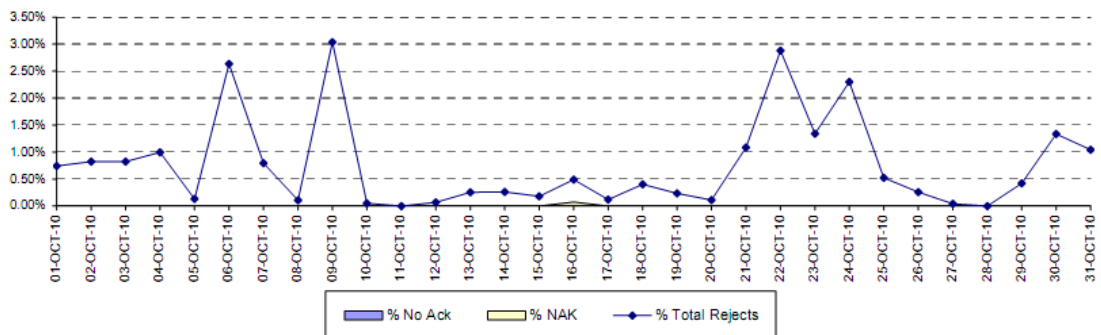
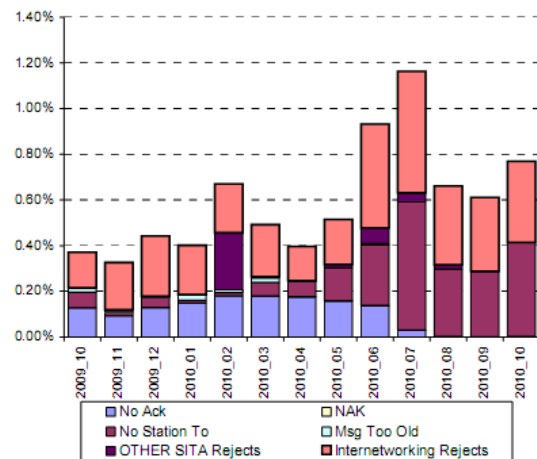
Uplink Message Delivery Time	10 s	20 s	30 s	40 s	60 s	120 s	180 s	360 s	>360 s
ATS Provider	56.86%	84.38%	90.39%	91.25%	94.25%	98.23%	99.54%	99.99%	100.00%
AFN (Log-on)	72.65%	87.04%	89.67%	90.49%	92.74%	98.72%	99.35%	100.00%	100.00%
CPDLC	64.54%	86.88%	90.42%	91.14%	93.43%	98.80%	99.78%	100.00%	100.00%
ADS	52.90%	83.31%	90.45%	91.36%	94.65%	98.00%	99.48%	99.99%	100.00%

b. Down link Message Delivery Time

Downlink Message Delivery Time	10 s	20 s	30 s	40 s	60 s	120 s	180 s	360 s	>360 s
ATS Provider	45.04%	74.11%	85.45%	89.73%	94.58%	97.73%	98.42%	99.22%	100.00%
AFN (Log-on)	40.07%	72.50%	81.52%	88.26%	94.27%	97.87%	98.62%	99.49%	100.00%
CPDLC	52.33%	82.35%	89.40%	93.09%	96.37%	98.70%	99.08%	99.54%	100.00%
ADS	42.20%	70.28%	84.11%	88.31%	93.75%	97.23%	98.06%	99.02%	100.00%

c. Success Rate

Uplink Performance	ATS Provider		
	Oct-10	Last 3 Month	Last 12 Month
Uplink Success Rate	99.23%	99.32%	99.38%
Total (No Ack + NAK) Reject Rate	0.00%	0.00%	0.10%
No Ack (VHF)	0.00%	0.00%	0.00%
NAK (VHF)	0.00%	0.00%	0.00%
No Ack (Satcom)	0.00%	0.00%	0.24%
NAK (Satcom)	0.00%	0.00%	0.00%
No Station to	0.41%	0.33%	0.19%
Not Logged On	0.00%	0.00%	0.00%
Msg Too Old	0.00%	0.00%	0.01%
Other SITA Rejects	0.00%	0.01%	0.03%
Internetworking Rejects	0.36%	0.34%	0.29%



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3. NOVEMBER 2010

a. Uplink Message Delivery Time

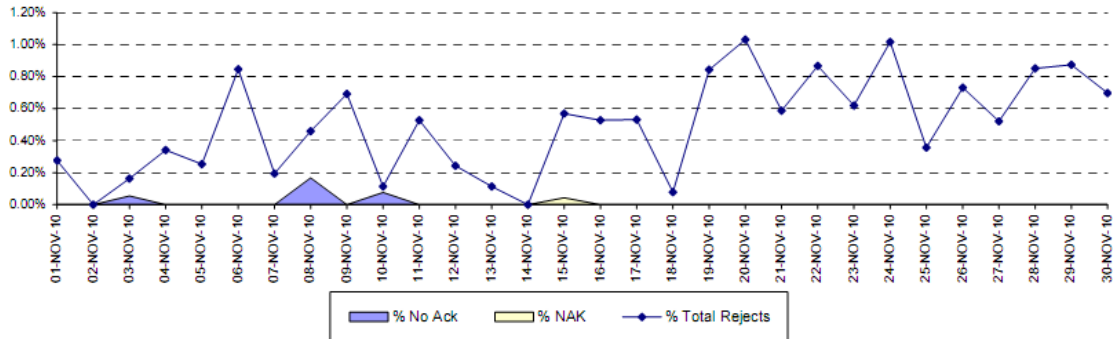
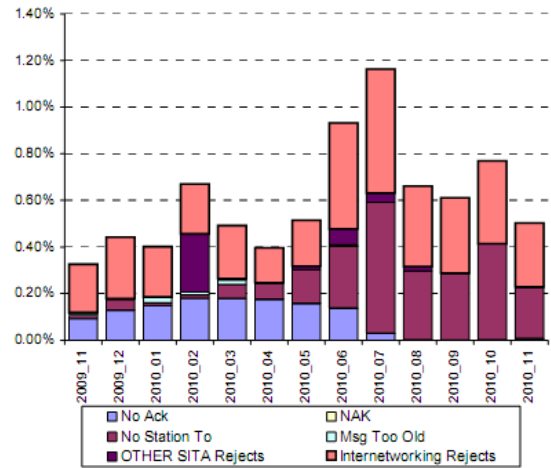
Uplink Message Delivery Time	10 s	20 s	30 s	40 s	60 s	120 s	180 s	360 s	>360 s
ATS Provider	56.92%	84.10%	90.25%	91.07%	94.10%	98.19%	99.52%	99.99%	100.00%
AFN (Log-on)	73.39%	88.07%	90.59%	91.39%	93.55%	98.81%	99.51%	99.98%	100.00%
CPDLC	66.13%	87.37%	90.88%	91.66%	93.61%	98.77%	99.79%	100.00%	100.00%
ADS	52.06%	82.56%	89.99%	90.84%	94.33%	97.92%	99.42%	99.98%	100.00%

b. Down link Message Delivery Time

Downlink Message Delivery Time	10 s	20 s	30 s	40 s	60 s	120 s	180 s	360 s	>360 s
ATS Provider	45.21%	74.11%	85.20%	89.63%	94.58%	97.82%	98.55%	99.39%	100.00%
AFN (Log-on)	37.98%	70.60%	80.81%	88.29%	94.11%	98.03%	98.75%	99.54%	100.00%
CPDLC	52.50%	82.21%	89.55%	93.01%	96.56%	98.66%	99.16%	99.66%	100.00%
ADS	42.86%	70.74%	83.81%	88.20%	93.70%	97.38%	98.21%	99.24%	100.00%

c. Success Rate

Uplink Performance	ATS Provider		
	Nov-10	Last 3 Month	Last 12 Month
Uplink Success Rate	99.50%	99.37%	99.37%
Total (No Ack + NAK) Reject Rate	0.01%	0.00%	0.09%
No Ack (VHF)	0.00%	0.00%	0.00%
NAK (VHF)	0.00%	0.00%	0.00%
No Ack (Satcom)	0.02%	0.01%	0.21%
NAK (Satcom)	0.00%	0.00%	0.00%
No Station to	0.22%	0.31%	0.20%
Not Logged On	0.00%	0.00%	0.00%
Msg Too Old	0.00%	0.00%	0.01%
Other SITA Rejects	0.00%	0.00%	0.03%
Internetworking Rejects	0.27%	0.32%	0.30%



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4. DECEMBER 2010

a. Uplink Message Delivery Time

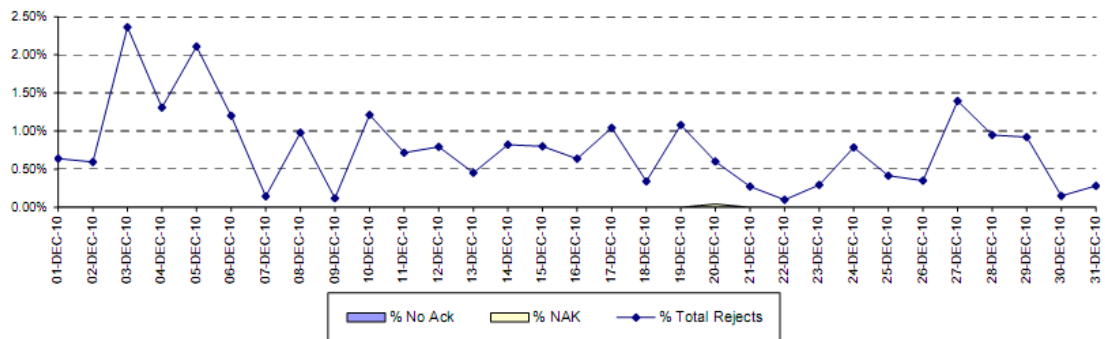
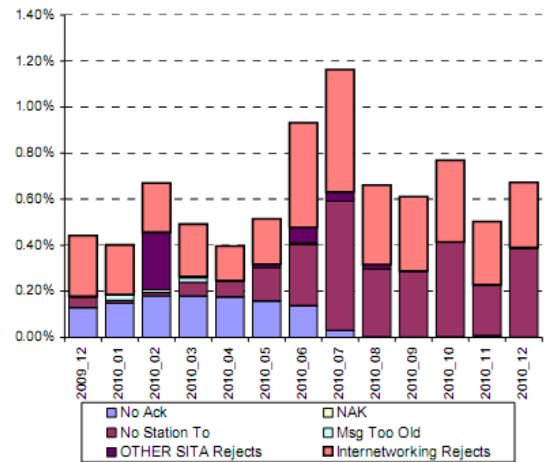
Uplink Message Delivery Time	10 s	20 s	30 s	40 s	60 s	120 s	180 s	360 s	>360 s
ATS Provider	55.65%	83.29%	89.67%	90.59%	93.68%	97.94%	99.37%	99.99%	100.00%
AFN (Log-on)	71.56%	86.38%	89.35%	90.19%	92.24%	98.59%	99.33%	99.93%	100.00%
CPDLC	65.28%	86.73%	90.26%	91.01%	93.27%	98.44%	99.61%	99.99%	100.00%
ADS	50.71%	81.77%	89.49%	90.48%	93.96%	97.70%	99.29%	99.99%	100.00%

b. Down link Message Delivery Time

Downlink Message Delivery Time	10 s	20 s	30 s	40 s	60 s	120 s	180 s	360 s	>360 s
ATS Provider	45.21%	75.32%	85.94%	89.98%	94.49%	97.85%	98.64%	99.34%	100.00%
AFN (Log-on)	39.85%	74.35%	83.09%	88.93%	94.18%	97.92%	98.77%	99.61%	100.00%
CPDLC	53.36%	83.32%	89.96%	93.32%	96.53%	98.81%	99.21%	99.65%	100.00%
ADS	41.80%	71.31%	84.28%	88.40%	93.47%	97.35%	98.16%	99.14%	100.00%

c. Success Rate

Uplink Performance	ATS Provider		
	Dec-10	Last 3 Month	Last 12 Month
Uplink Success Rate	99.33%	99.35%	99.35%
Total (No Ack + NAK) Reject Rate	0.00%	0.00%	0.08%
No Ack (VHF)	0.00%	0.00%	0.00%
NAK (VHF)	0.00%	0.00%	0.00%
No Ack (Satcom)	0.00%	0.01%	0.19%
NAK (Satcom)	0.00%	0.00%	0.00%
No Station to	0.39%	0.34%	0.23%
Not Logged On	0.00%	0.00%	0.00%
Msg Too Old	0.00%	0.00%	0.00%
Other SITA Rejects	0.00%	0.00%	0.03%
Internetworking Rejects	0.28%	0.30%	0.30%



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Overall System Performance Data 2010

a. AVAILABILITY NETWORK

Availability network	Standard	2010 (%)											
		Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Des
vhf access	99.90%	99.99	98.70	99.53	94.96	96.57	98.30	98.71	94.11	99.99	99.74	99.60	99.24
SATCOM access	99.90%	100	99.98	100	100	100	99.98	100	100	100	100	100	100

b. DATALINK TRAFFIC (GROUND TRAFFIC, UPLINK-DOWNLINK)

Customer	2010											
	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Des
LOG-ON	12,566	11,623	12,725	12,117	12,213	11,717	13,181	12,156	12,480	14,466	15,976	15,156
CPDLC	54,266	44,606	49,381	48,822	52,958	48,827	49,581	49,537	49,723	55,989	59,313	61,876
ADS	134,017	140,812	142,808	148,457	143,181	132,670	136,549	150,446	150,058	162,265	173,583	173,441

c. RELIABILITY PERFORMANCE

Success message delivery	2010 (%)											
	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Des
LOG-ON	99.49	99.26	99.89	99.33	98.83	97.69	97.15	97.99	98.54	97.78	98.80	97.94
CPDLC	99.53	99.18	99.45	99.52	99.45	98.65	97.91	98.75	98.73	98.56	99.15	98.70
ADS	99.64	99.38	99.59	99.66	99.56	99.37	99.84	99.66	99.69	99.61	99.66	99.65
TOTAL	99,55	99,27	99,64	99,50	99,28	98,57	98,30	98,80	98,99	98,65	99,20	98,76

d. UPLINK TIME PERFORMANCE (VHF DL + SATCOM)

Uplink. End to end round trip	Stand	2010 (%)											
		Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Des
in 120 seconds	95%	98.18	97.64	97.42	97.50	97.98	98.01	98.31	98.31	98.39	98.23	98.19	97.74
in 360 seconds	99%	99.88	99.66	99.81	99.83	99.89	99.89	99.98	99.98	99.98	99.99	99.99	99.97

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e. DOWNLINK TIME PERFORMANCE (VHF DL + SATCOM)

Downlink	Standard	2010 (%)											
		Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Des
in 60 seconds	95%	94.33	93.36	93.80	93.37	94.08	94.39	94.64	94.49	95.04	94.58	94.58	94.49
in 180 seconds	99%	98.14	97.67	97.91	97.60	98.02	98.12	98.28	98.29	98.58	98.42	98.55	98.54