

DATA LINK IMPLEMENTATION

THE SEYCHELLES EXPERIENCE...



SCOP E

- Seychelles FIR/service provided pre-2010
- Moving to Data Link/how it came about
- “Implementing” Data Link
- Benefits of Data Link for FSSS
- Limitation
- Future Development



Seychelles FIR

The Seychelles FIR (FSSS) stretches over 2.6 million square Km over the Indian Ocean.

Being an oceanic airspace we are faced with the issue of having no surveillance and HF communication as the main communication media.



Moving to Data Link

- Acquisition of New Flight Data Processing System (FDPS)
- Additional Feature (ADS-C & CPDLC)
- Can be used with Aircraft equipped with FANS 1/A
- A decision was made to take advantage of such capability to enhance the service



“Implementing” Data Link

- Having an ATM system
- Identifying a Communication Service Provider (CSP)
 - SITA, ARINC... Contract Agreement
 - Provide the ANSP with ACARS Parameters
 - ANSP selects an AFN address (FSSS)
- Conduct trial with equipped Aircraft (FPL)
- Assessment of Test Result/identify issues
- Resolving associated issues



“Implementing” Data Link

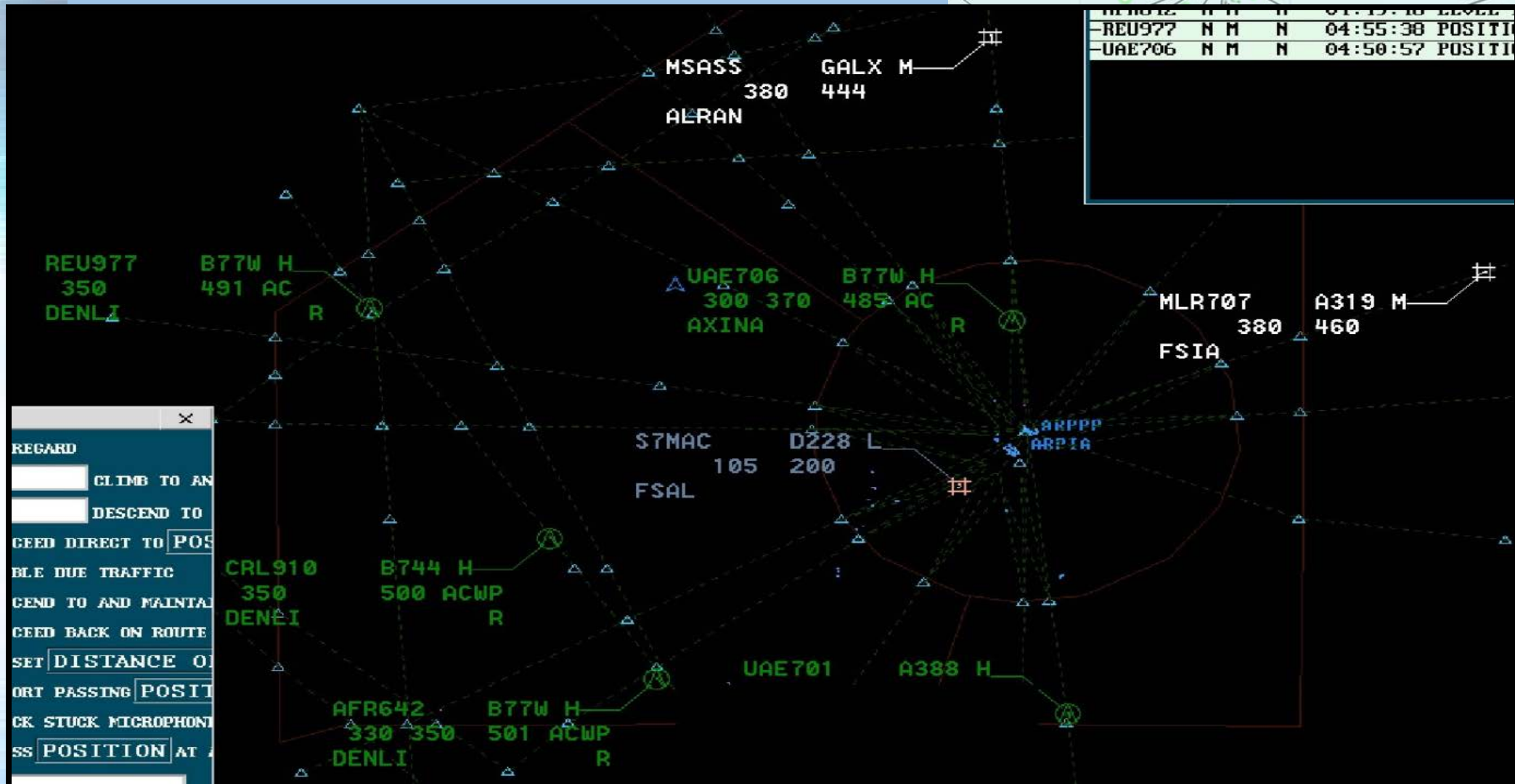
- With supplier, CSP and the airline industry attempt to mitigate all the issues and set up control procedures for those which could not be mitigated
- Decision to go operational- Operation requirement
- **YES**- ATCO Training (Theory & SIM/SOP/Publication (AIP))
- OJT
- Continuous monitoring (system/SOP/ATCO's Proficiency)
- Assessment of post implementation reports

Operational Benefits

- ADS-C

- Position monitoring
- Conformance monitoring
- Enhanced situational awareness
- Correlation of FPL data
- Early logon assist in detecting wrong coordination
- Aircraft tracking ability (Emergency)

Operational Benefits



Operational Benefits

ADS CALLSIGN: CRL910 X

CONTRACTS: FANS1



Operational Benefits

- **CPDLC**

- Enhance Communication
- Reduce Readback/Hearback errors
- Hence reduce Pilot/Controller workload



Operational Benefits

CALLSIG	U	AL	RE	HOUR	TEXT UPLINK
-AFR642	N	U	NE	04:46:15	STANDBY
-AFR642	N	A	W/U	04:46:53	CLIMB TO AND MAINTAIN F350 ; REPORT LE->
-AFR642	L	N	NE	04:48:33	NEXT DATA AUTHORITY FMMM
-CRL910	L	N	NE	04:48:38	NEXT DATA AUTHORITY FMMM
-UAE701	L	N	NE	04:49:13	NEXT DATA AUTHORITY FIMM
-UAE701	L	N	NE	04:58:53	END SERVICE

CALLSIG	U	AL	RE	HOUR	TEXT DOWLINK
-AFR642	N	L	Y	04:44:17	REQUEST CLIMB TO F350
-AFR642	N	M	N	04:47:13	WILCO
-AFR642	N	M	N	04:49:48	LEVEL F350
-REU977	N	M	N	04:55:38	POSITION REPORT 1 24.3S 45 10.2E 04:55->
-UAE706	N	M	N	04:50:57	POSITION REPORT 3 20.0S 55 32.2E 04:50->



Operational Benefits

SECTOR LIST															X
RV	AC	CALLSIG	SSR	NAV_EQUIP	TYPE	EOBT	DEP	DEST	RFL	BOUNDARY POINT	BOUNDARY POINT	FREE TEXT	9		
C	EQ	AC	AFR642	0670	SWYDE2E3FG	B77W	1955	LFPO	FMEE	290	*330	ITLOX 0352	*350	----- 0508	FLCK
S	EQ		SEY261	3450	SWYDE2FGHI	A320	0115	VABB	FSIA	360	*340	CLAVA 0522	*340	----- 0554	KMCP
C	EQ	AC	CRL910	0664	SWYDE1FGHI	B744	2020	LFPO	FMEE	310	*350	ITLOX 0415	*350	----- 0530	CLDC
S	EQ		MSASS	0002	SWYDE2E3FG	GALX	0140	OMDW	FIMP	350	*380	AXINA 0432	*380	----- 0535	CHJL
C	EQ	AF	UAE701	0177	SW	A388	2000	OMDB	FIMP	380	*380	AXINA 0254	*380	----- 0352	BPAC
S	EQ		MLR707	3416	SWYDFGHIR	A319	0230	VCBI	FSIA	360	*380	OTKIR 0524	*380	----- 0535	DGMQ
C	EQ	AC	REU977	0666	SWYDE1E2E3	B77W	2050	LFPG	FMEE	310	*350	ITLOX 0453	*350	----- 0610	LSJP
C	EQ	AC	UAE706	2343	SWYDE2E3GH	B77W	0435	FSIA	OMDB	370	*370	UDLET 0509	*370	----- 0607	PQFL
-	EQ		XLF1350	0745	SWYDFGHIJ3	A332	2255	LFML	FMEE	330	*390	ITLOX 0636	*390	----- 0754	QRAS
RV	AC	CALLSIG	SSR	NAV_EQUIP	TYPE	EOBT	DEP	DEST	RFL	BOUNDARY POINT	BOUNDARY POINT	FREE TEXT	0		

Limitation

- **System**

- Reliance on IP Link (slow/loss link)
- Limited pre-formatted message
- Lack of audio alert for incoming messages

Limitations

- **Operation**

- Procedural environment
- Require continuous monitoring of Screen
- Not all aircraft are equipped/no mandate
- Increase communication means

Future Development

- Interest in AIREON global ADS-B coverage
- CPDLC will remain primary means of Communication





Any Question ?