

# Aurora Update

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***NATS***

NATS Private

# Project Aurora



## Project Aurora

- Joint project with AVINOR

## Objectives

- Compliance with Reg. (EU) 73/2010
- CAP 1054

# Project Status

## Testing

- Product Qualification Testing Complete
- Site Acceptance Testing Complete
- UAT Testing Complete
- Regression testing in progress

## Templates

- All AIP Templates Production Completed
- Template reviews in progress

## Data Migration

- Pre Migration Tasks - All 50 Tasks have been completed
- Post Migration Tasks – All 44 Tasks have been completed – Verification in progress

# Project Status

## Documentation

- Capturing all the evidence to demonstrate compliance is work in progress

## Training

- SME training complete

## Transition into service

Four Transition Events have been defined that align with published AIRAC cut-off dates, as follows:

- 15/06/2018: Commencement of Parallel Operations in which Nucleus continues as the primary AIS provision system, with Aurora shadowing so that their outputs can be compared in detail; (AIRAC 10/2018)
- 10/08/2018: Switch from Nucleus to Aurora System in which Aurora becomes the primary AIS provision system with Nucleus shadowing so that their outputs can be compared in detail}; (AIRAC 12/2018)
- 05/10/18: Commencement of Single System Operations, in which Aurora continues as the primary AIS provision system and Nucleus core components are retired from service; and (AIRAC 01/2019)
- 26/10/2018: Opening the Data Originator Portal, also initiating the Approver's process on the AIS system, and retiring the remaining Nucleus components. (AIRAC 02/2019)

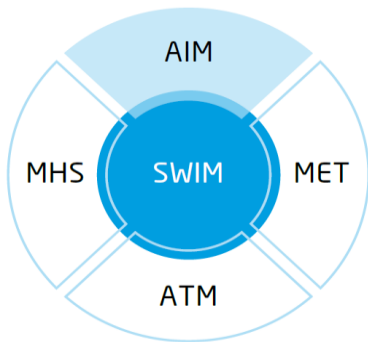
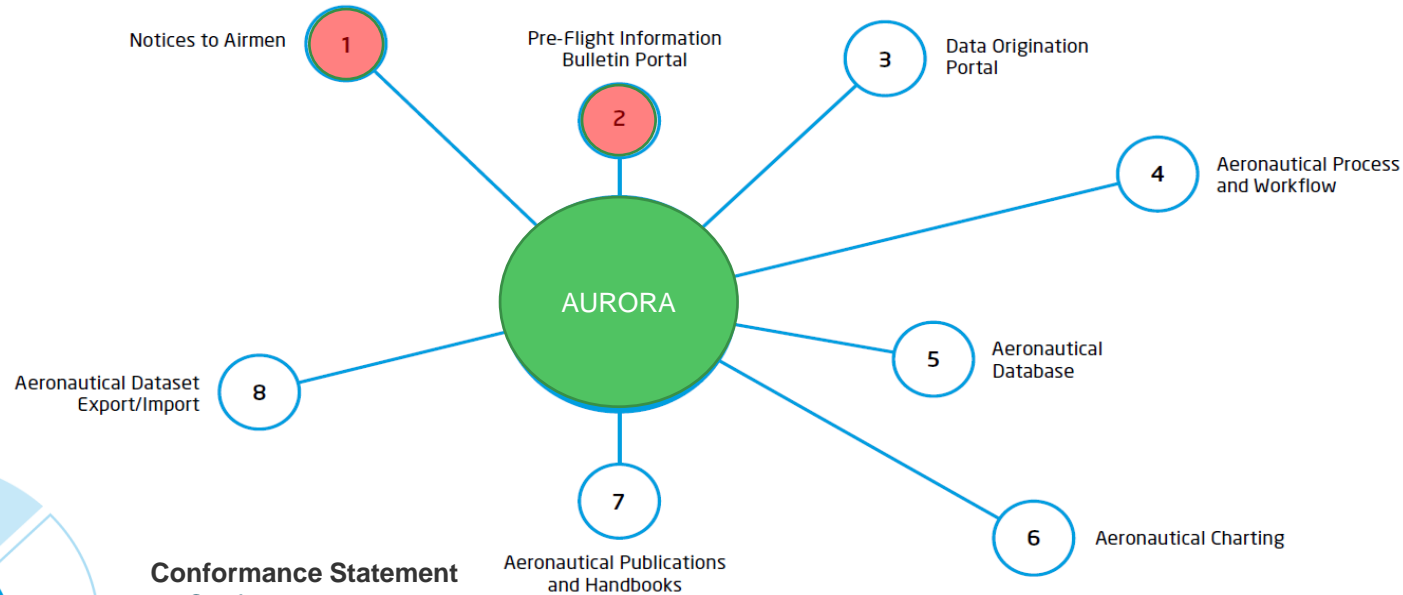
# Chart Migration

- Once the system is in operation we can start to migrate the charts from the current system into the Aurora system
- There are over 1,250 charts in the AIP
- This will be completed on chart type basis. e.g All SID charts
- Changes will be managed in the current software until that specific chart has been converted in Aurora. Compliance will be achieved by additional checking.
- This activity will take up to 4 years to complete

# The Portal

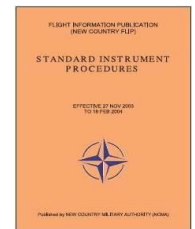
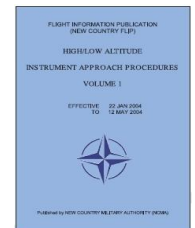


# The Concept



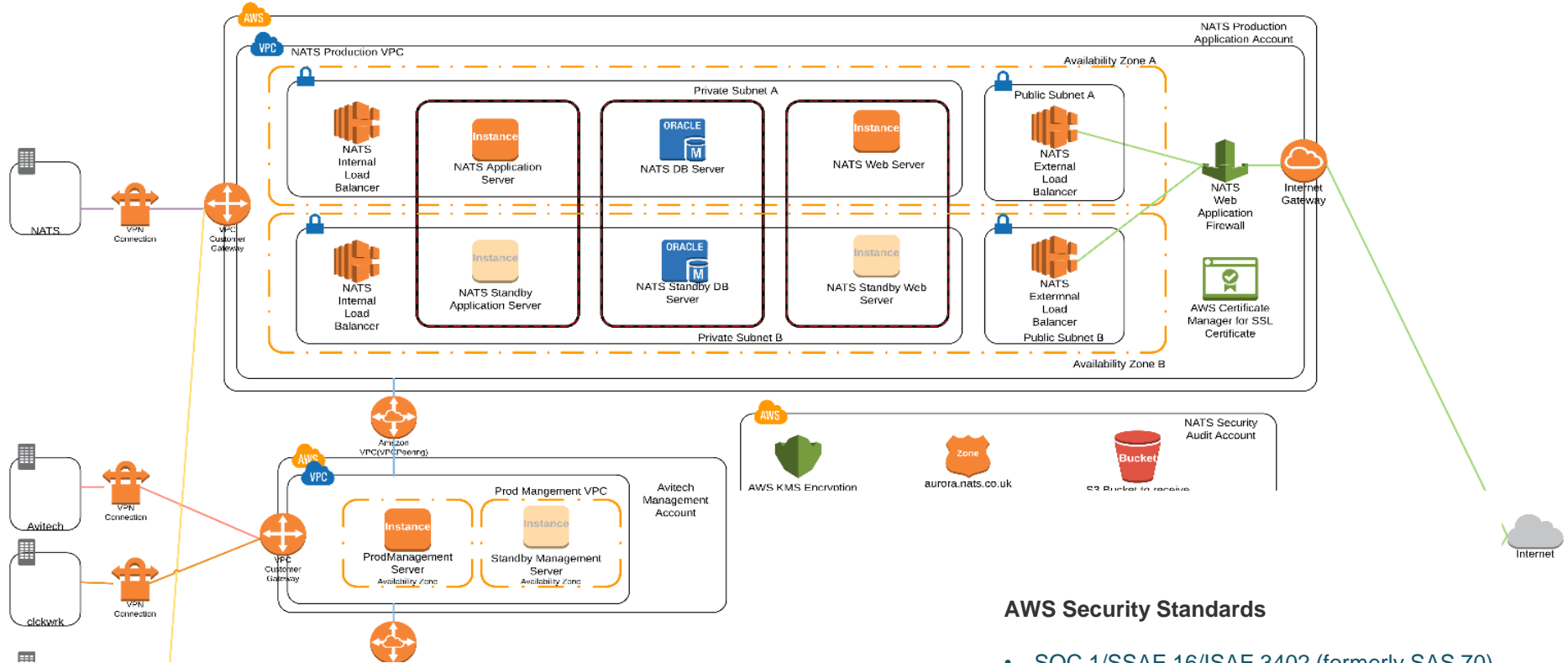
### Conformance Statement

- Conforms to:
- ICAO Annex 15, ICAO Annex 4
- European Commission Regulation No. 73/2010 (ADQ)
- Eurocontrol Static Data Procedures (SDP)
- AIXM 4.5 and AIXM 5.1
- RTCA/EUROCAE DO-272B/ED-99B, DO-276A/ED-98A and DO-291A/ED-119A, and DO-200A/ED-76.
- STANAG 3970 – Contents and Format of FLIP Terminal High/Low IAP, IDP and AD Diagrams/Layouts
- STANAG 7005 – Exchange of FLIP
- STANAG APATC-1(A)
- CENOR FLIP Product Specification





# The Back End



## AWS Security Standards

- SOC 1/SSAE 16/ISAE 3402 (formerly SAS 70)
- SOC 2
- SOC 3
- FISMA, DIACAP, and FedRAMP
- DOD CSM Levels 1-5
- PCI DSS Level 1
- ISO 9001 / ISO 27001
- ITAR
- FIPS 140-2
- MTCS Level 3

## SECURITY

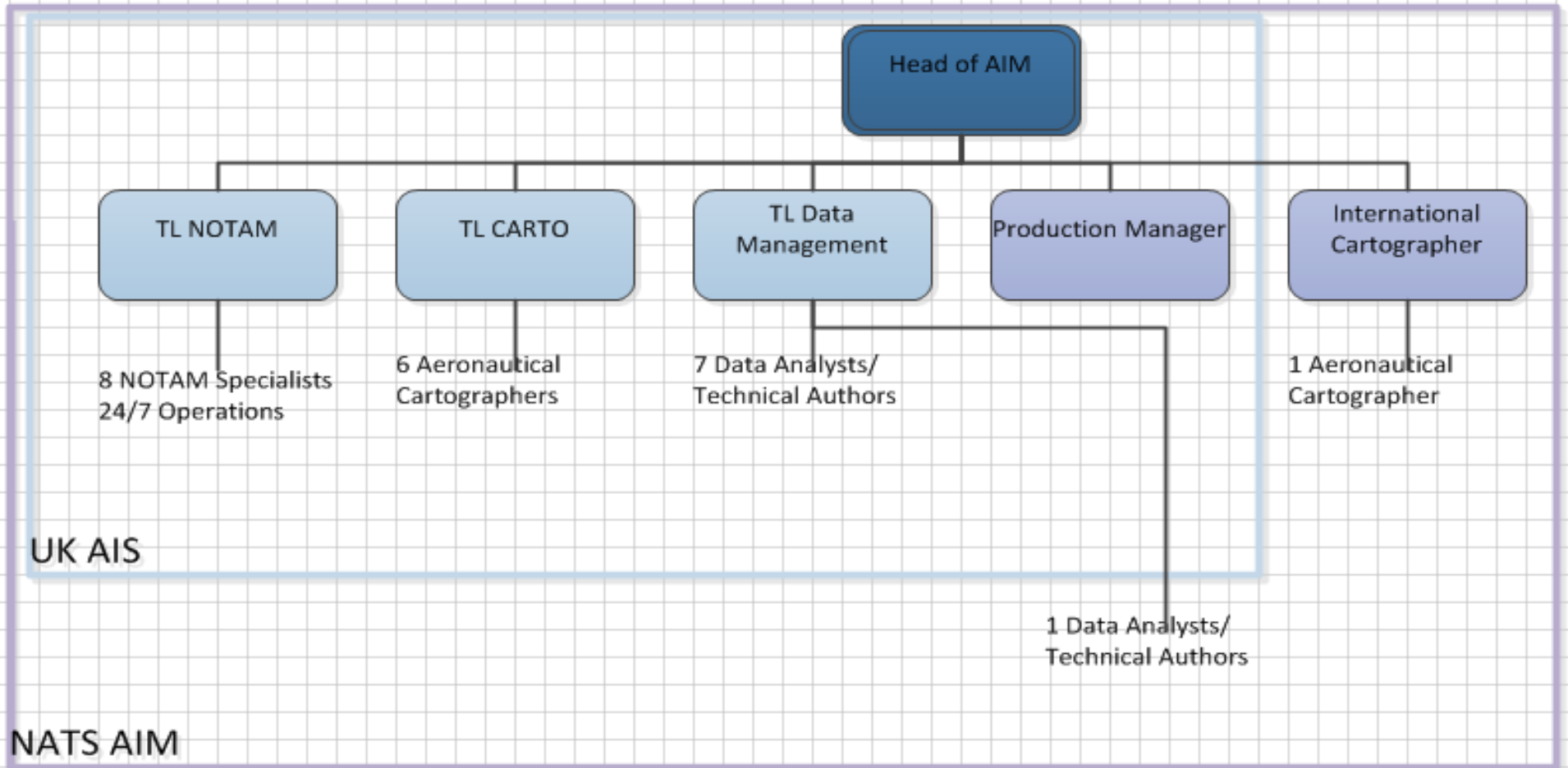
The system sits in a Virtual Private Cloud (VPC) on the Amazon Web Services, which ensures total segregation from other customers .

By default there are no external access points allowing access to the defined VPCs and Networks. Access connectivity is built by Virtual Private Networks (VPNs) to the back office and provided to Public Internet via Web Application Firewalls.

# The Business End

- 13 AIRACS pa (every 28 days)
- 45,000 NOTAMs (10,000 Military)
- AIP
  - 3600 Textural pages (~600 per AIRAC)
  - 1250 Aeronautical charts (~120 per AIRAC)
    - 0 printed pages pa
  - 8 1:250k VFR charts
  - 3 1:500k VFR charts
  - 1 1:50k London Helicopter Chart
    - 50,000 copies sold
    - eVFR commercial

# The Team

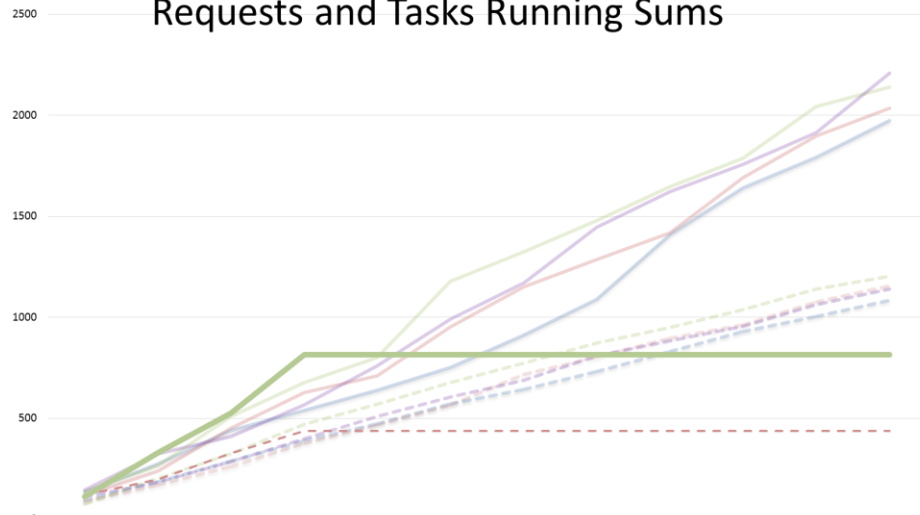


# The Challenge



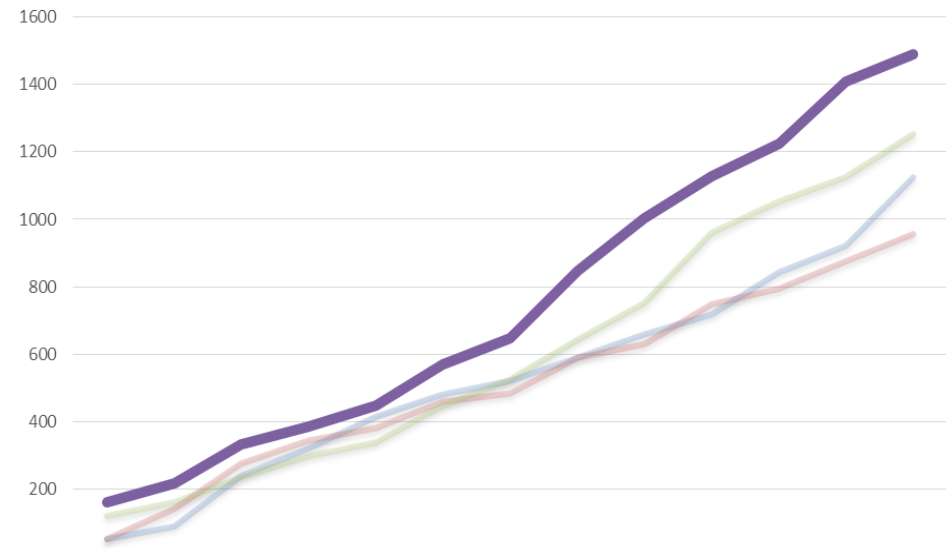
NATS seek operational efficiencies from Aurora through meeting year on year increases in production levels and regulatory requirements whilst maintaining current manpower levels and providing a growing numbers of output demands.

### Requests and Tasks Running Sums



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014 - Requests	94	186	288	388	473	570	642	730	830	928	1004	1083
2014 - Tasks	135	277	441	541	640	751	912	1089	1408	1639	1790	1972
2015 - Requests	91	169	260	376	467	567	717	803	896	962	1076	1156
2015 - Tasks	119	239	452	628	710	952	1151	1286	1418	1691	1897	2035
2016 - Requests	77	203	324	470	571	678	773	874	951	1038	1141	1203
2016 - Tasks	138	267	508	676	801	1178	1325	1479	1646	1787	2044	2140
2017 - Requests	114	185	287	398	508	607	689	810	884	956	1062	1139
2017 - Tasks	147	325	410	568	761	992	1171	1445	1621	1758	1913	2207
2018 - Requests	121	199	328	439	439	439	439	439	439	439	439	439
2018 - Tasks	114	330	527	815	815	815	815	815	815	815	815	815

### AIRAC Chart Amendments by Running Sum



	1	2	3	4	5	6	7	8	9	10	11	12	13
2014	54	94	243	324	419	484	523	593	662	719	845	922	1125
2015	52	141	276	343	382	460	485	589	631	749	796	876	958
2016	120	159	236	298	339	447	526	644	752	960	1053	1126	1254
2017	161	218	332	386	447	570	646	847	1004	1128	1223	1407	1488

# The Demo

