

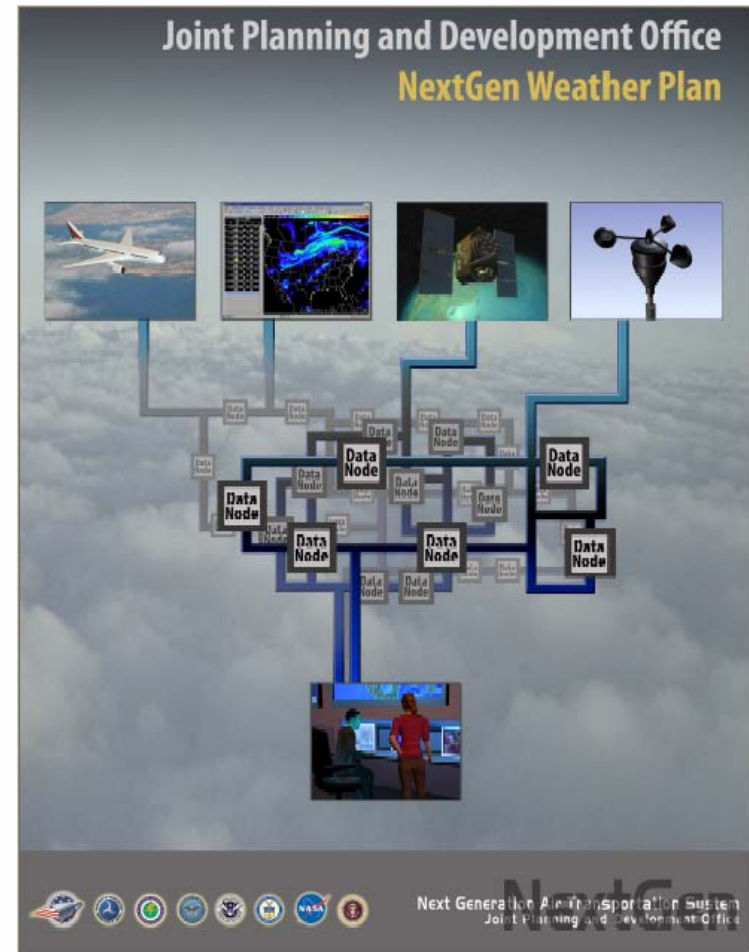
The 4-D Cube and You

Friends and Partners of Aviation Weather
Tom Ryan, FAA
Jason Tuell, NOAA

- Accomplishments
- Who is doing the work?
- What is the 4-D Weather Data Cube?
- Roadmap to IOC
- What's in the cube at IOC
- What's next after IOC
- Opportunities for Industry

Accomplishments

- NextGen Weather Plan
- WXXM v1.1
- IOC Contents defined
- SAS definition
- Draft high level architecture



Who is Doing the Work?

- NextGen Network Enabled Weather (NNEW) IOC Development Team
 - Environmental Information Team – What’s in the Cube
 - IT and Enterprise Services Team – Cube “plumbing”
 - Policy Team – Governance, cost apportionment, data access
 - Demonstration Team – Coordination of weather demos
 - Requirements Development Team – functional and performance requirements
 - Integrated Science Roadmap Team

What is the 4-D Weather Data Cube?

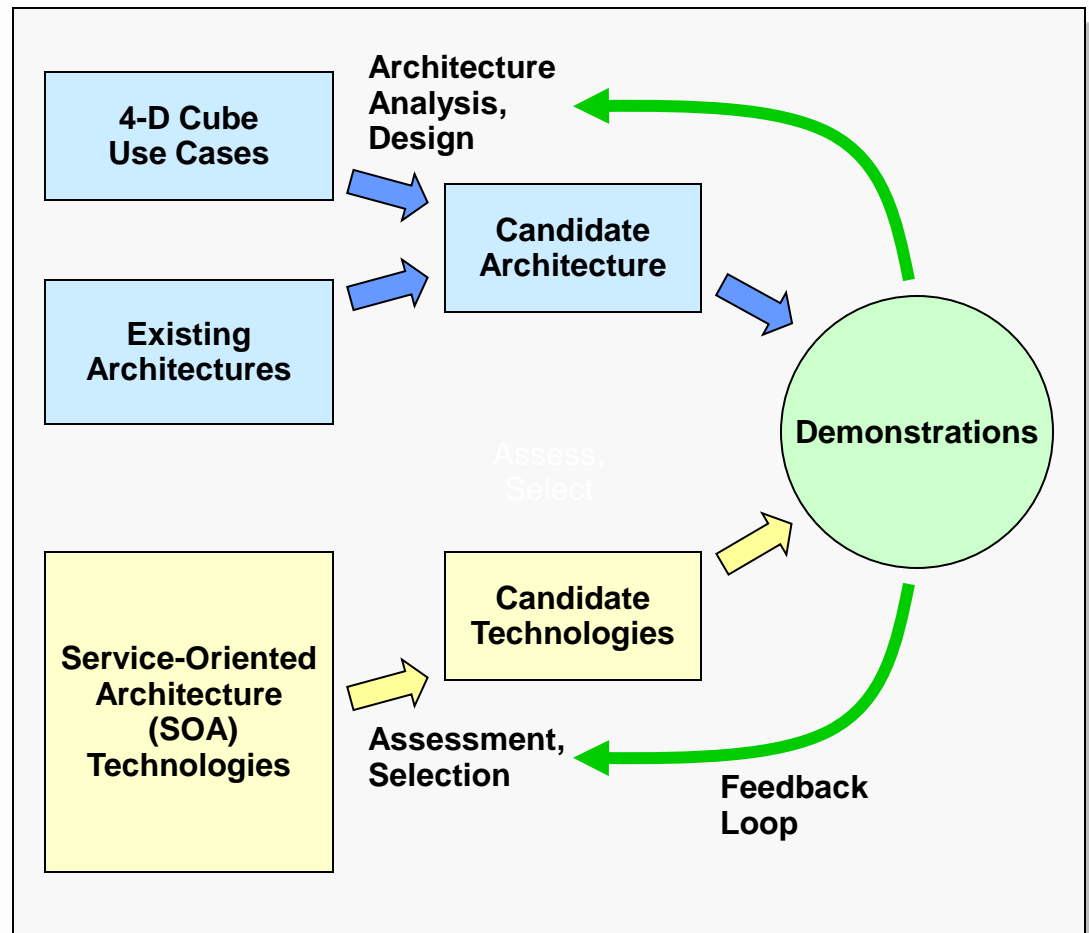
- The 4-D Weather Data Cube is a virtual repository of weather data including observations, analyses, and forecasts
 - Focus for IOC is on aviation parameters including convection, icing, turbulence, ceiling & visibility, and winds
 - A portion of this cube will be designated as the SAS
 - Some “products” will no doubt be part of the cube in the foreseeable future

What is the 4-D Weather Data Cube?

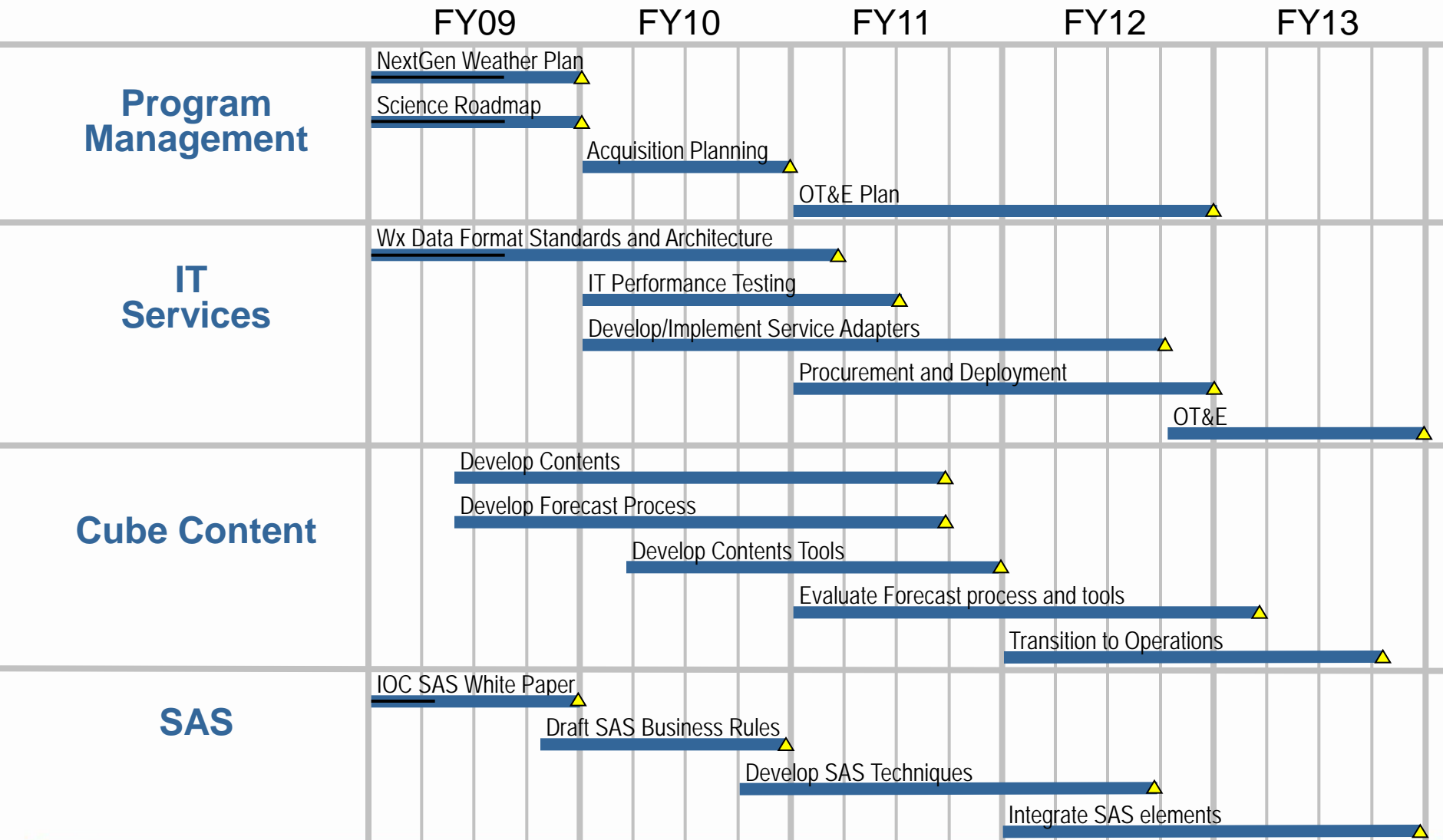
Activities

- **Service-Oriented Architecture (SOA) for the 4-D Weather Cube**
- **Standard Weather Data Formats**
 - Gridded data
 - Non-gridded data
- **Data Dissemination Services**
 - Open Geospatial Consortium
 - JET/JMBL
- **Demonstrations**

Design Methodology Top-Down + Bottom-Up



IOC Roadmap



What's in the Cube at IOC?

Observations/Diagnostics:

- Radar
- Other Ground-based Observations
- Airborne Observations
- Space-based Observations
- Diagnostics

What's in the Cube at IOC?

Forecasts

	Convection	C&V	Icing	Turbulence	Winds
AIRMET		X	X	X	
SIGMET	X		X	X	
TAFs	X	X			X
Models	X	X			X
CCFP	X				
G-AIRMET		X	X	X	
FIP			X		
CIWS fcst	X				
GTG				X	

After IOC

- Significant R&D on MOC requirements
 - Modeling improvements
 - Icing, turbulence and convective forecast improvements
- IT enhancements
 - Increase in capacity and performance of IT infrastructure

Opportunities for Industry

- Opportunities for support contractors to FAA and NWS
- Opportunities for systems integrators to build the IT portion of the cube
- Need more participation from weather data providers on potential participation in the cube
 - Why not?

Summary

- Significant work accomplished in last year
 - Robust, detailed plan to deliver 4-D Cube in 2013
- IOC contents defined along with working definition of the SAS
- IT data services and standards defined in FY10