

The 4-Dimensional Weather Data Cube

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12 May 2009



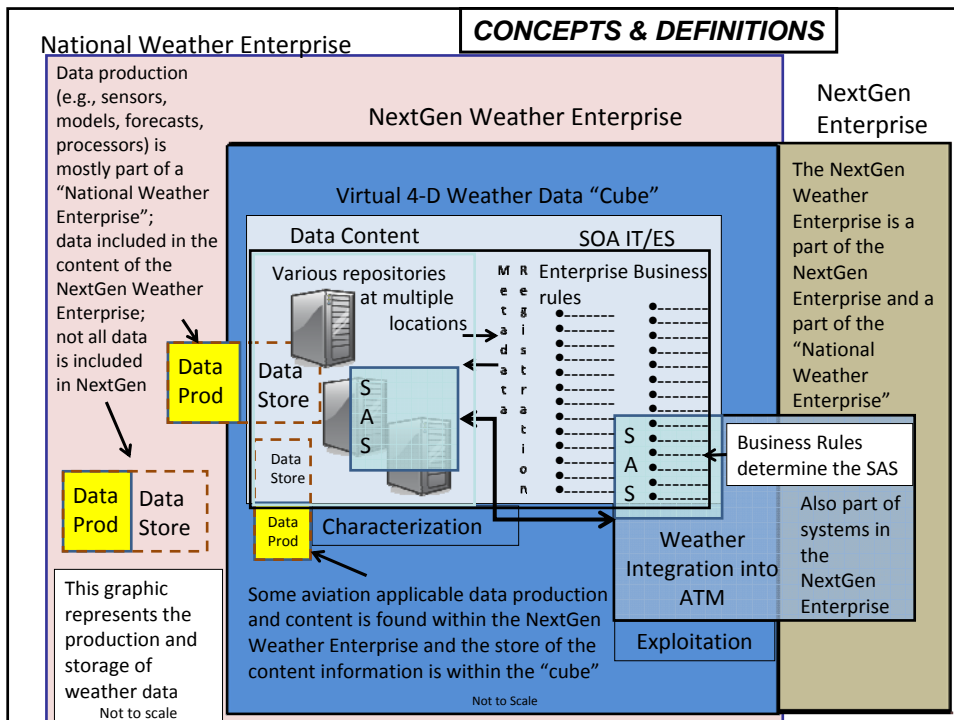
Presentation Outline

- What is the 4-D Weather (Wx) Data Cube?
- The 4-D Wx Data Cube Interagency Plan
- Demonstrations



What is this 4-D Wx Data Cube?

- A net-centric, virtual, data repository of aviation weather data
- Developed via Multiagency & Industry efforts
- Available via Open Standards
- First operational capability in 2013



NextGen Roadmap

Task Name	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
NextGen Weather IOC (2013)															
NextGen Weather Intermediate (2016)															
NextGen Weather FOC (2022)															

- Initial Operational Capability (2013)
 - Integrated environmental information sources
 - Meteorologist oversight of gridded data
 - Common data standards and protocols
 - Initial integration of diverse weather elements into decision support tools
- Intermediate Capability (2016)
 - Improved modeling and science enables higher resolution more accurate information
 - Full Network compatibility of environmental information
 - Direct integration of weather into Air Traffic Management Systems
- Full Operational Capability (2022)
 - All NextGen requirements met and benefits achieved
 - High resolution, nested scale forecasts available for all elements
 - Full network connectivity ensures consistent information use across service areas and user groups

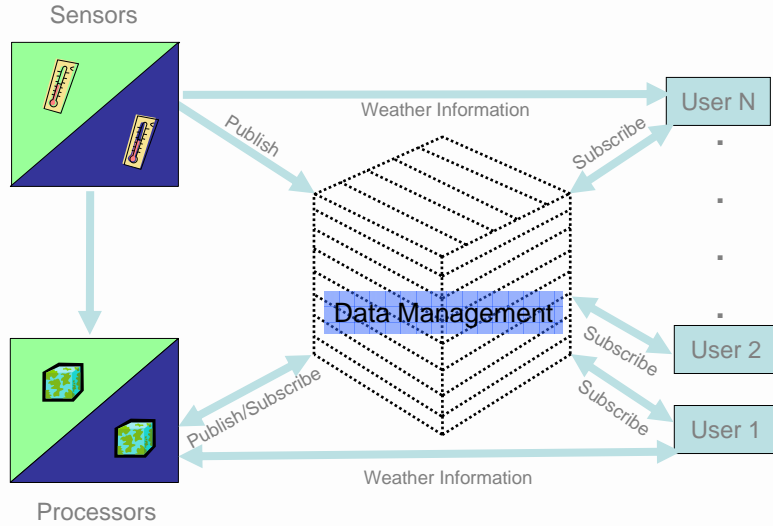


IOC - 2013

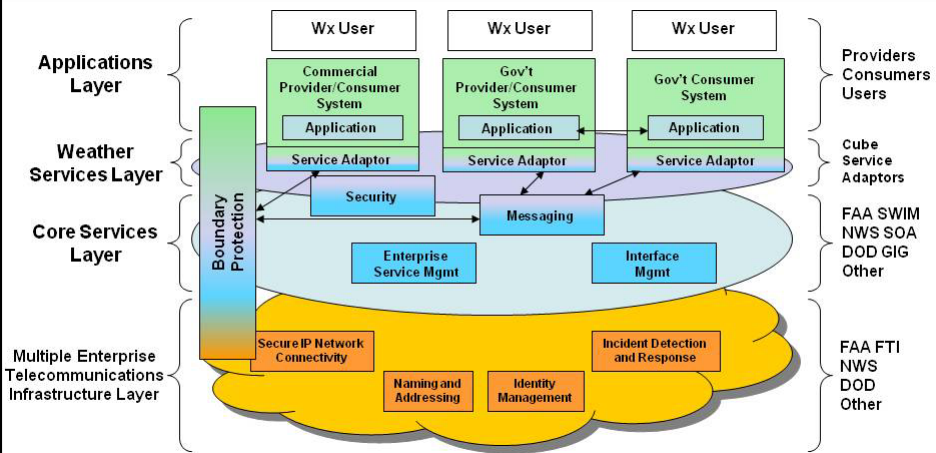
- IOC IT definition
 - Ability to exchange data using defined data services, standards and formats between Government and Industry data repositories
- IOC Contents definition
 - Convection
 - Icing
 - Turbulence
 - Ceiling and Visibility
 - Winds



Virtual 4-D Wx Data Cube



The Multi-Tiered Framework



4-D Weather Data Cube Plan

- Documents the NextGen weather concept
- Identifies the roles and responsibilities of the agencies
 - Implementing a 4-D Weather Data Cube
 - Planning for integration into Decision Support Tools
 - Identification of the policy and governance issues
 - Providing a science roadmap for aviation weather
- The initial version
 - Defines the work
 - Addresses risks
 - Includes timelines to achieve initial operational status for the Cube.



Demonstrations

- Yearly IT demonstrations are planned
 - Scope will increase each year as additional capabilities are developed
 - FY09: Multi-agency interoperability/NEO data sharing, initial subset of products defined for IOC
 - FY10: Federation and fault tolerance of registries/repositories, many of the Wx products defined for IOC
- Regular NextGen Demos
- Participation in OGC Web Services Testbeds



Summary

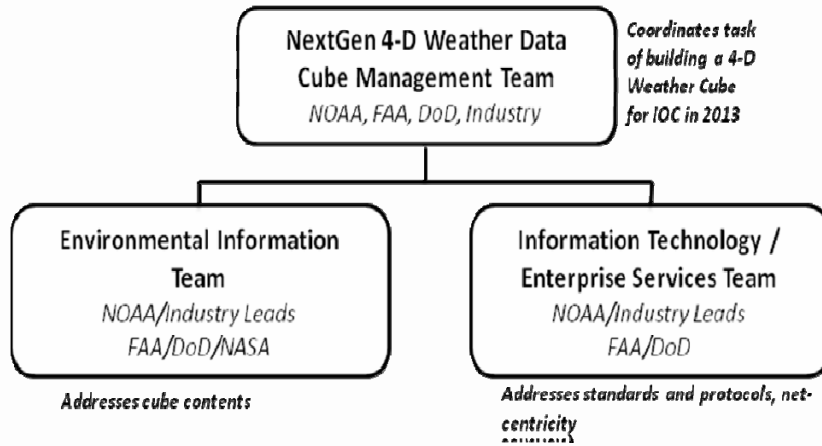
- A net-centric, virtual, data repository of aviation weather data
- NextGen Wx Plan delivered to JPDO and Agencies
 - Contains fully integrated schedule with Agency interdependent activities
- Plan Execution under way
- Regular Demonstrations



Back Up



4-D Weather Data Cube Plan



The Multi-Tiered Framework Within the FAA

