AWIPS-II Data Delivery Project Overview

NOAA Environmental Data Management Conference

May 16, 2012

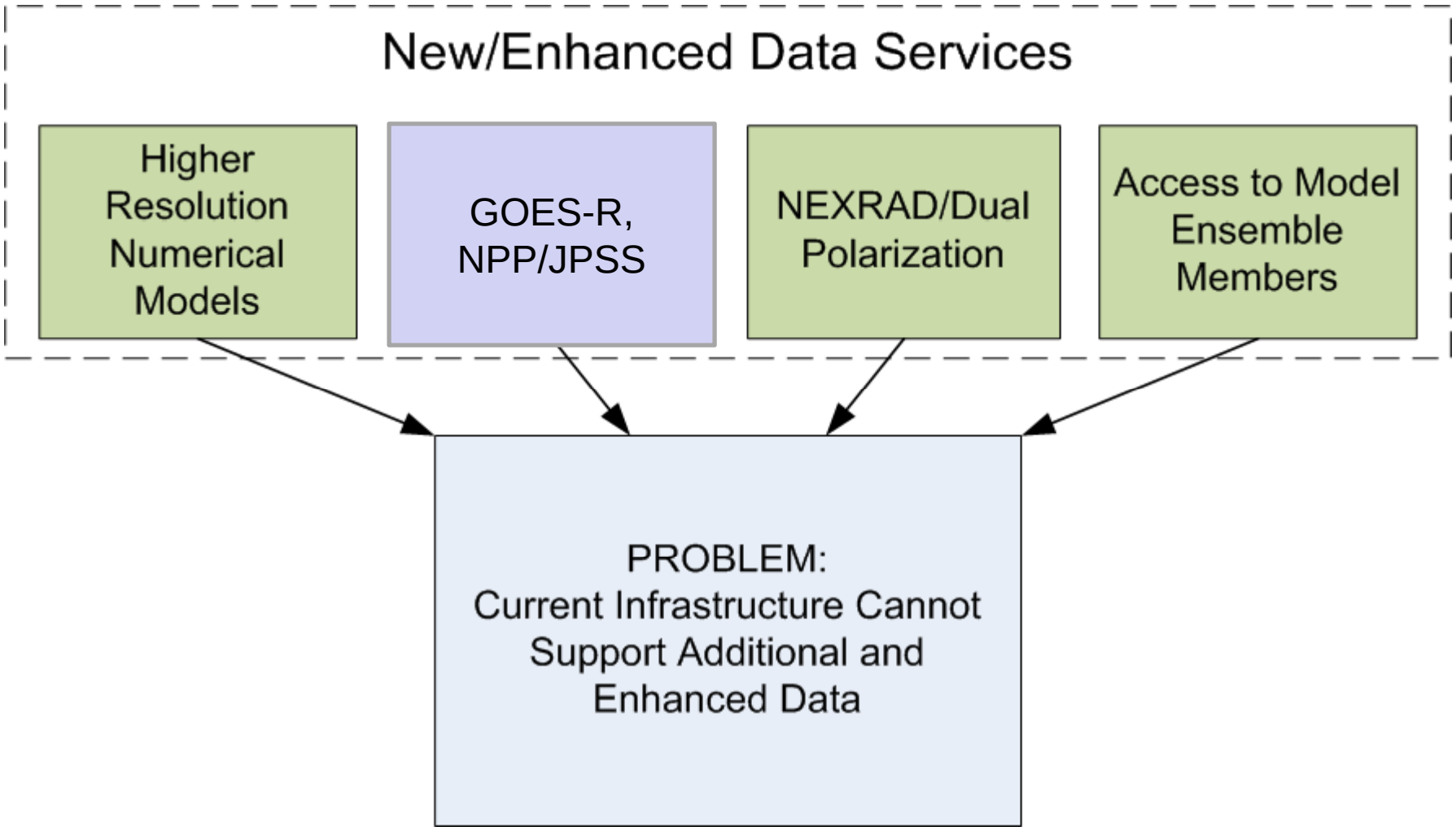
Outline

- Project Background
- Motivation
- Key Technologies/High Level Architecture
- Outcomes
- Data Integration Challenges
- Demo

AWIPS Program Overview

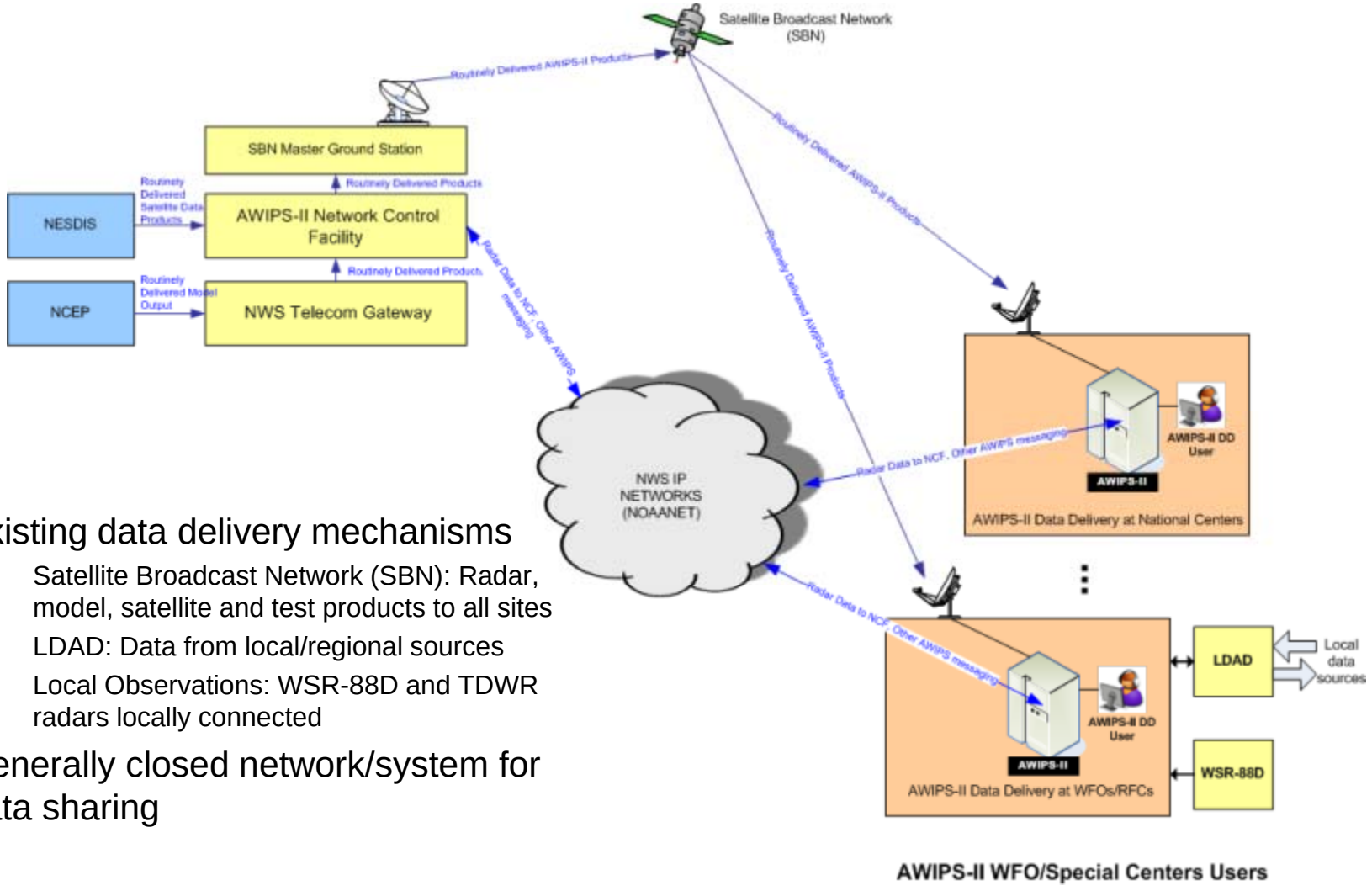
- AWIPS Product Improvement -
  - AWIPS II Migration: Migrate existing AWIPS capabilities to a modern, robust software architecture (e.g., Service Oriented Architecture (SOA)) to unify stove piped applications into single framework
  - AWIPS II Extended: Improving services to enable Weather Ready Nation
    - Extend AWIPS II architecture to the entire NWS weather enterprise: NAWIPS Migration and Thin Client
    - Extend AWIPS capabilities to meet major future mission challenges: **Data Delivery**, Collaboration, and Information Generation
- Program Manager: Tim Hopkins, NWS/OST
- AWIPS II Extended Project Manger: Steve Schotz NWS/OST
- Contracting Officer: Ed Tennant, AGO
- Primary Contract: Raytheon Technical Services

Motivation for Data Delivery

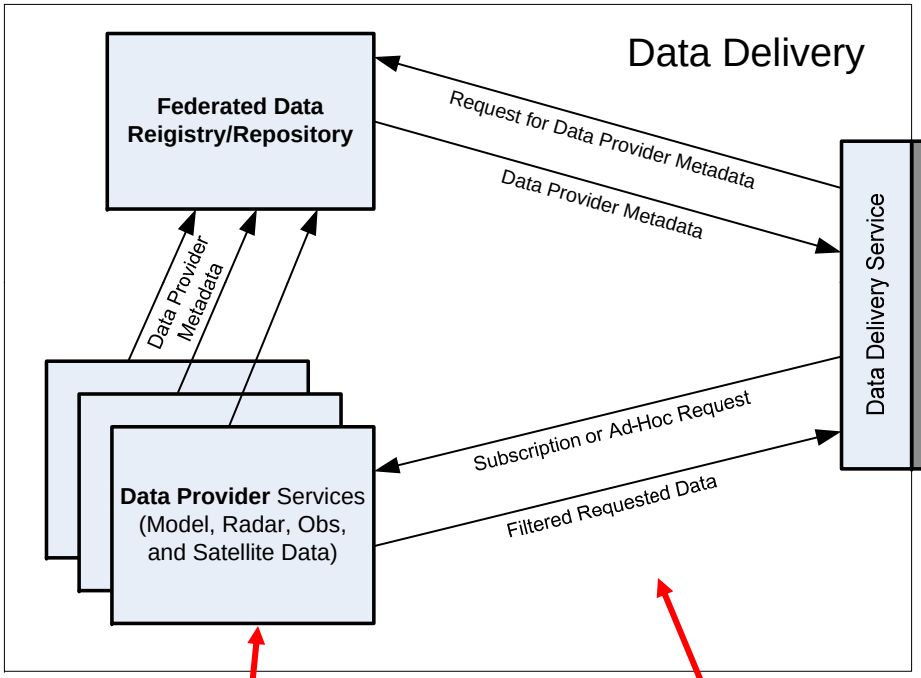


Background – Existing AWIPS Data Delivery

- Existing data delivery mechanisms
  - Satellite Broadcast Network (SBN): Radar, model, satellite and test products to all sites
  - LDAD: Data from local/regional sources
  - Local Observations: WSR-88D and TDWR radars locally connected
- Generally closed network/system for data sharing



Key Components, Technologies and Interactions



Integrated into AWIPS-II enterprise

Key Features

- **Access to data not routinely delivered via SBN**
- **"Smart pull" technologies for data access**
  - **On an ad-hoc basis**
  - **Through subscription services**
- **Subset temporally, spatially, and/or parametrically**

IOC Data Providers

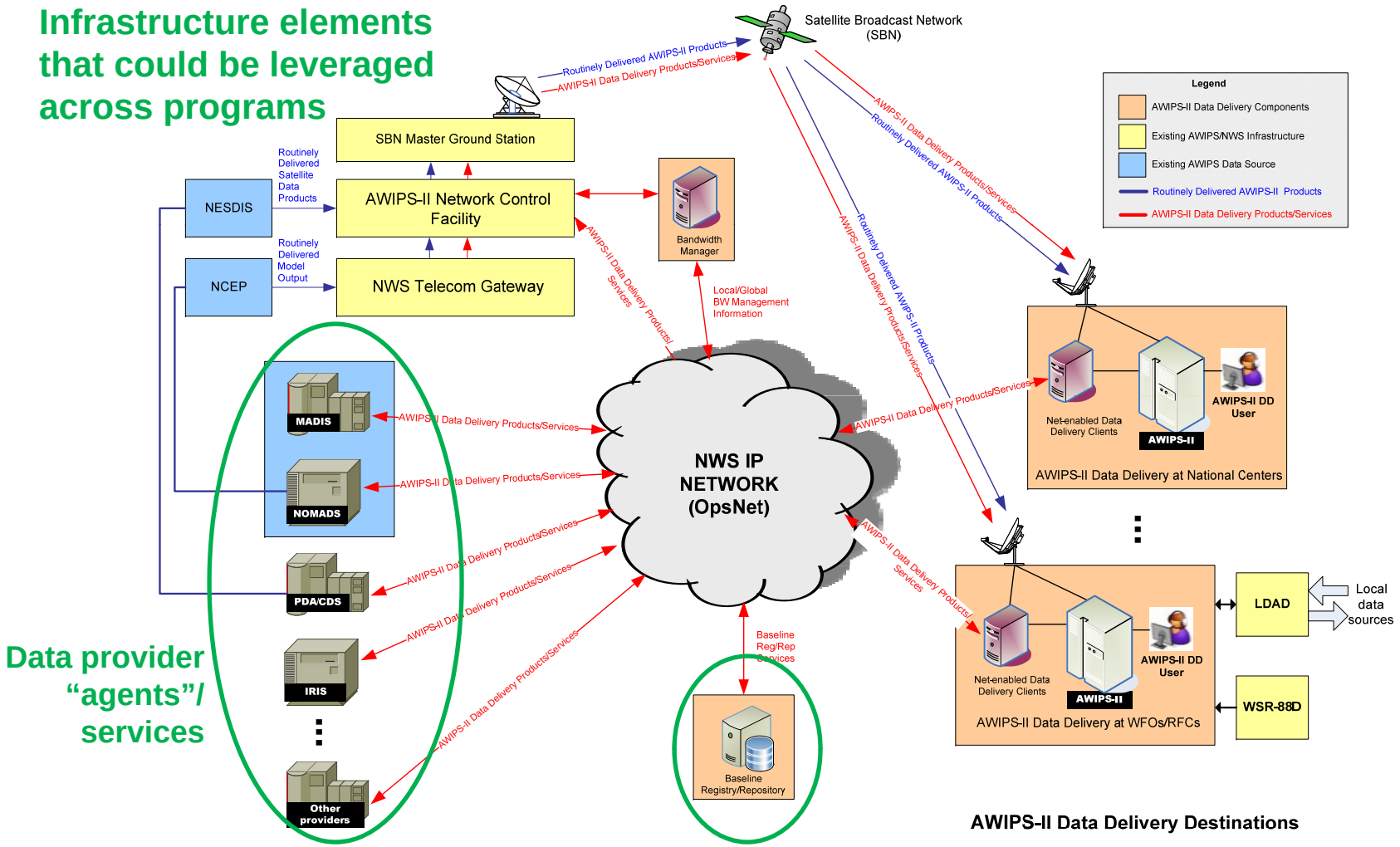
- MADIS (observations)
- NOMADS (model data)

Standards-based approach

- OGC Web Services (WCS, WFS)
- ISO metadata
- ebXML Registry

High Level Architecture

Infrastructure elements that could be leveraged across programs



Project Schedule

Data Integration Challenges

- Standards immaturity (OGC, ISO 19115) – few or no reference implementations
- Diversity of data providers and their ability to uniformly provide web services that support discovery and data access requirements
- Differing program missions, resources, and schedules make inter-project coordination difficult