

AWIPS/NOAA Port System

2004 Direct Readout Conference - Miami

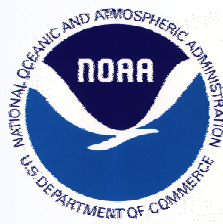
William E. Brockman

Short & Associates

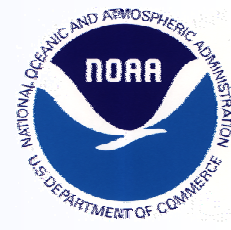
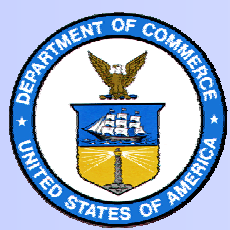
December 10, 2004



Thanks



Thanks to Chuck Piercy, National Weather Service, AWIPS Program, for the information contained in this presentation

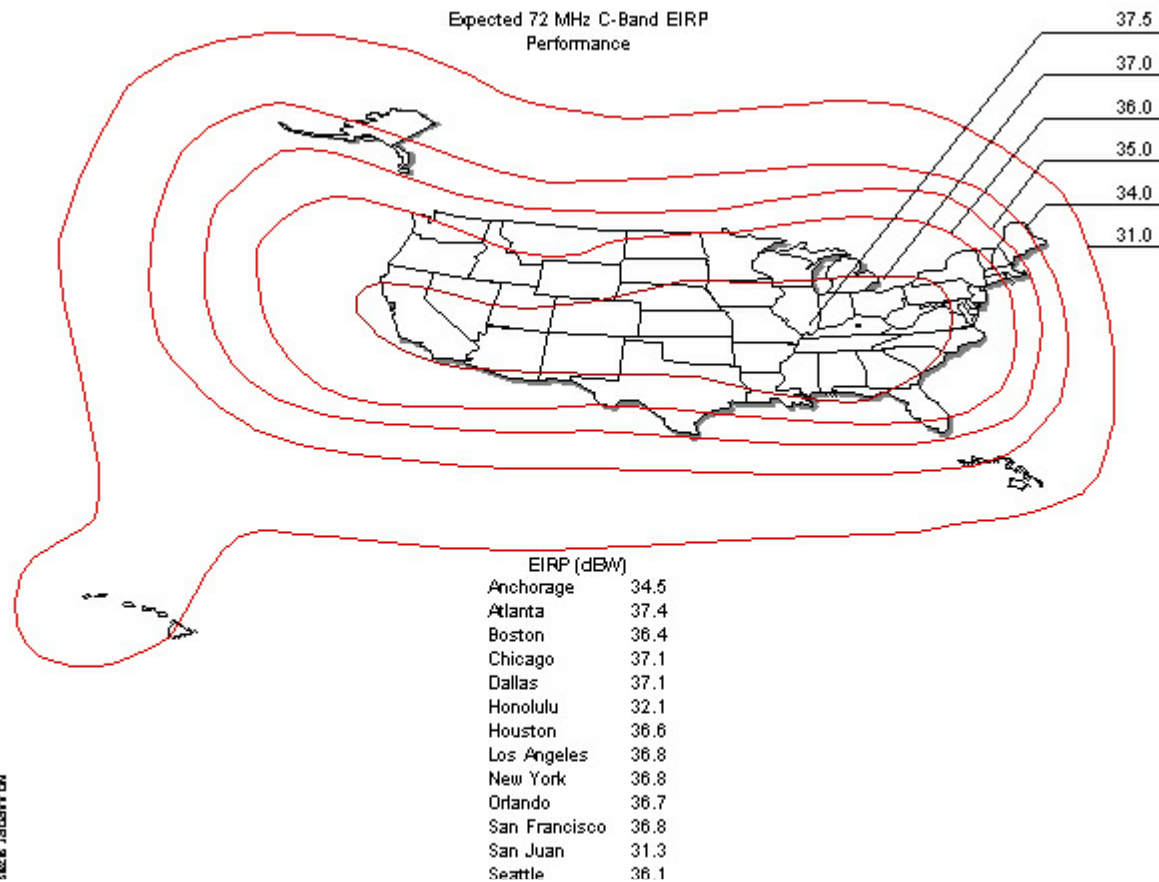


OVERVIEW

- **NOAAPORT Satellite Broadcast System (SNB) provides one way satellite communications of hydrometeorological data and information throughout the United States.**
- **Uses commercial C-band transponder on SpaceNet IV to provide 4 discrete channels of NOAA satellite imagery, text, and Grid point data with an availability of 99.5%.**

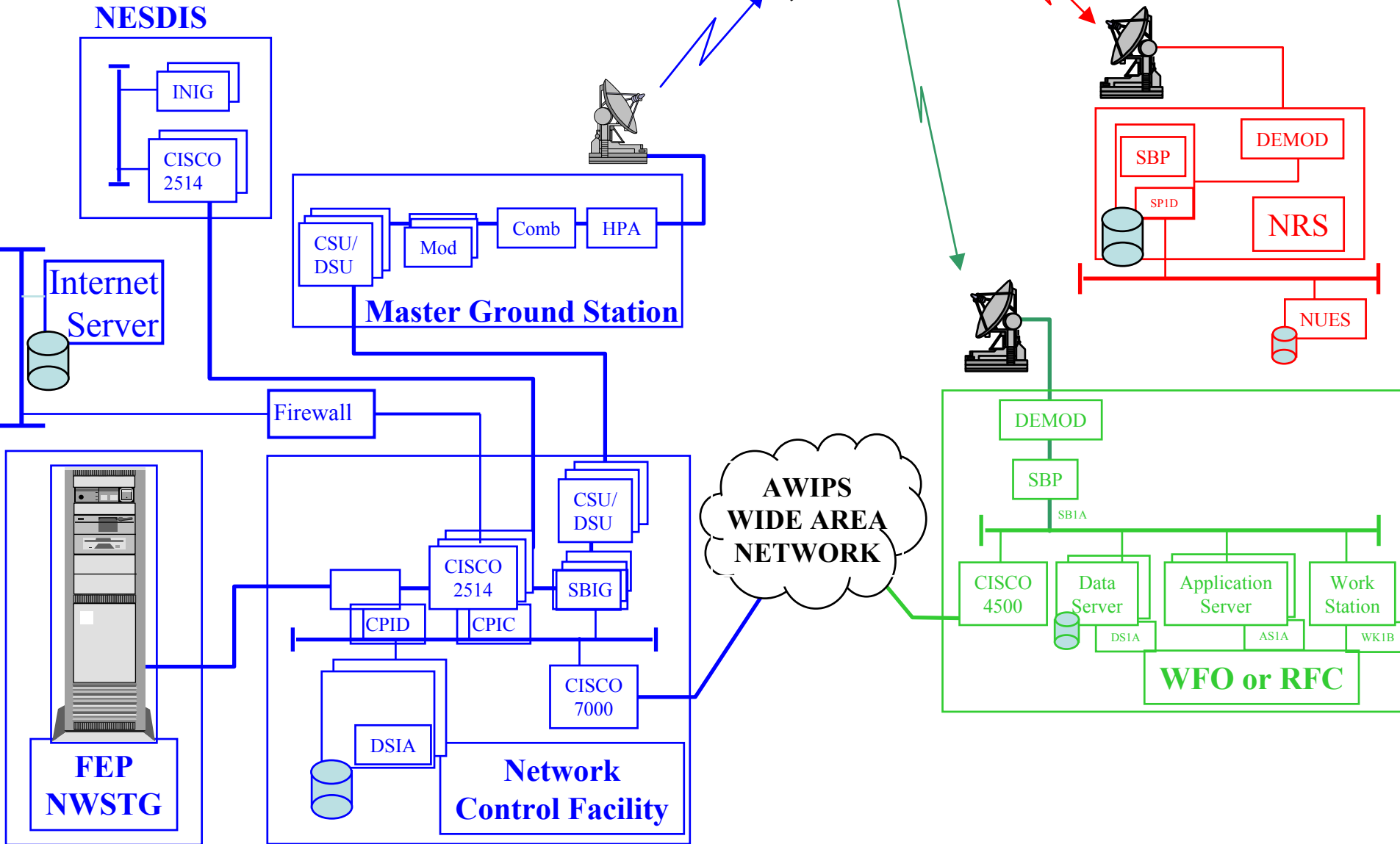
GOES-East	1.536 Mbps
GOES-West	1.536 Mbps
NCEP/NWSTG	1.536 Mbps
Non-GOES Imagery / DCP Data	768 Kbps

AMC-4 Transponder 13 Coverage

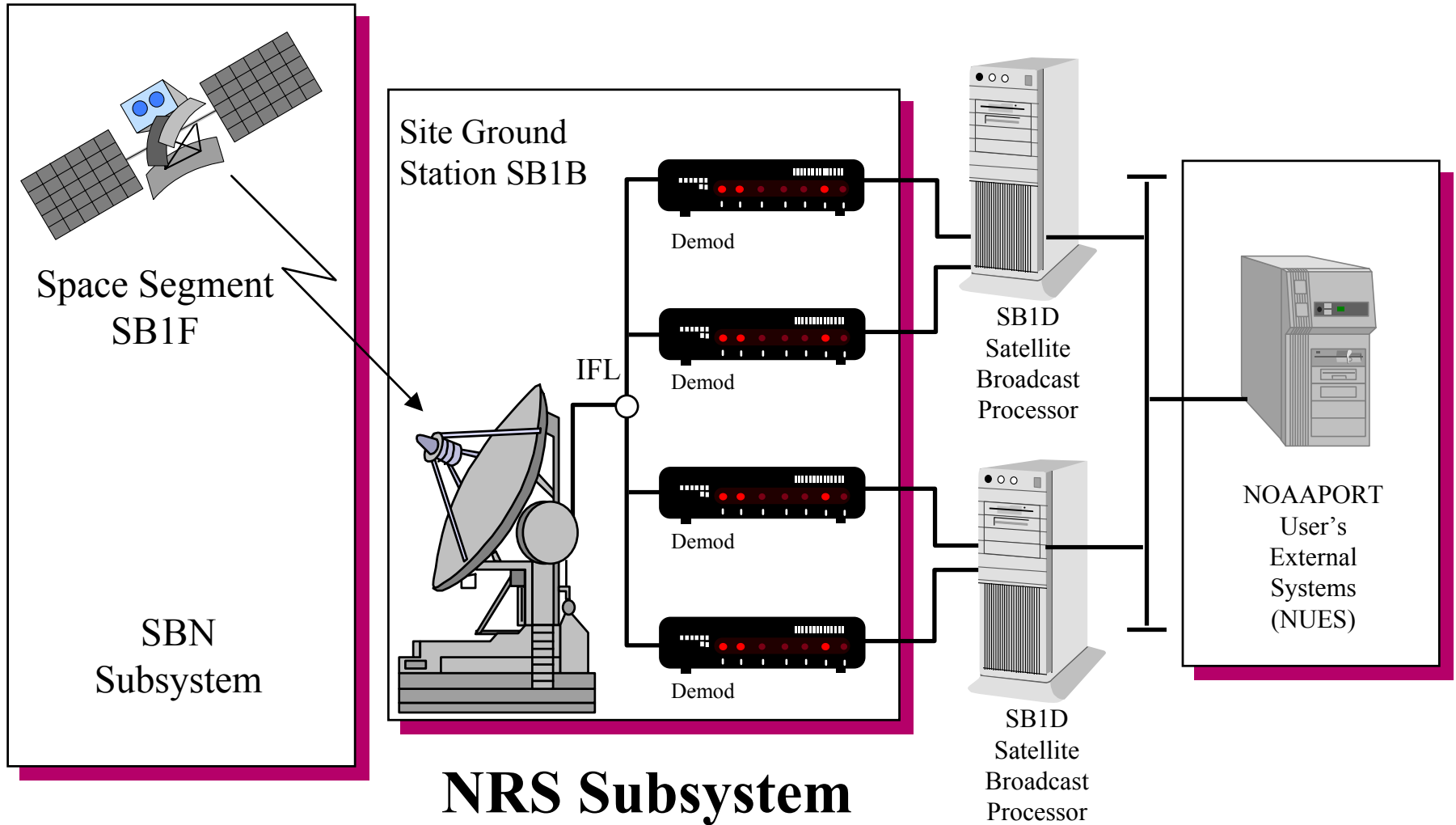


AWIPS SATELLITE BROADCAST NETWORK

AMC-4

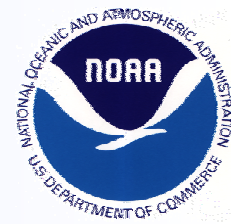


NOAAPORT Receive System Relationship to SBN and User's System (4 channel)



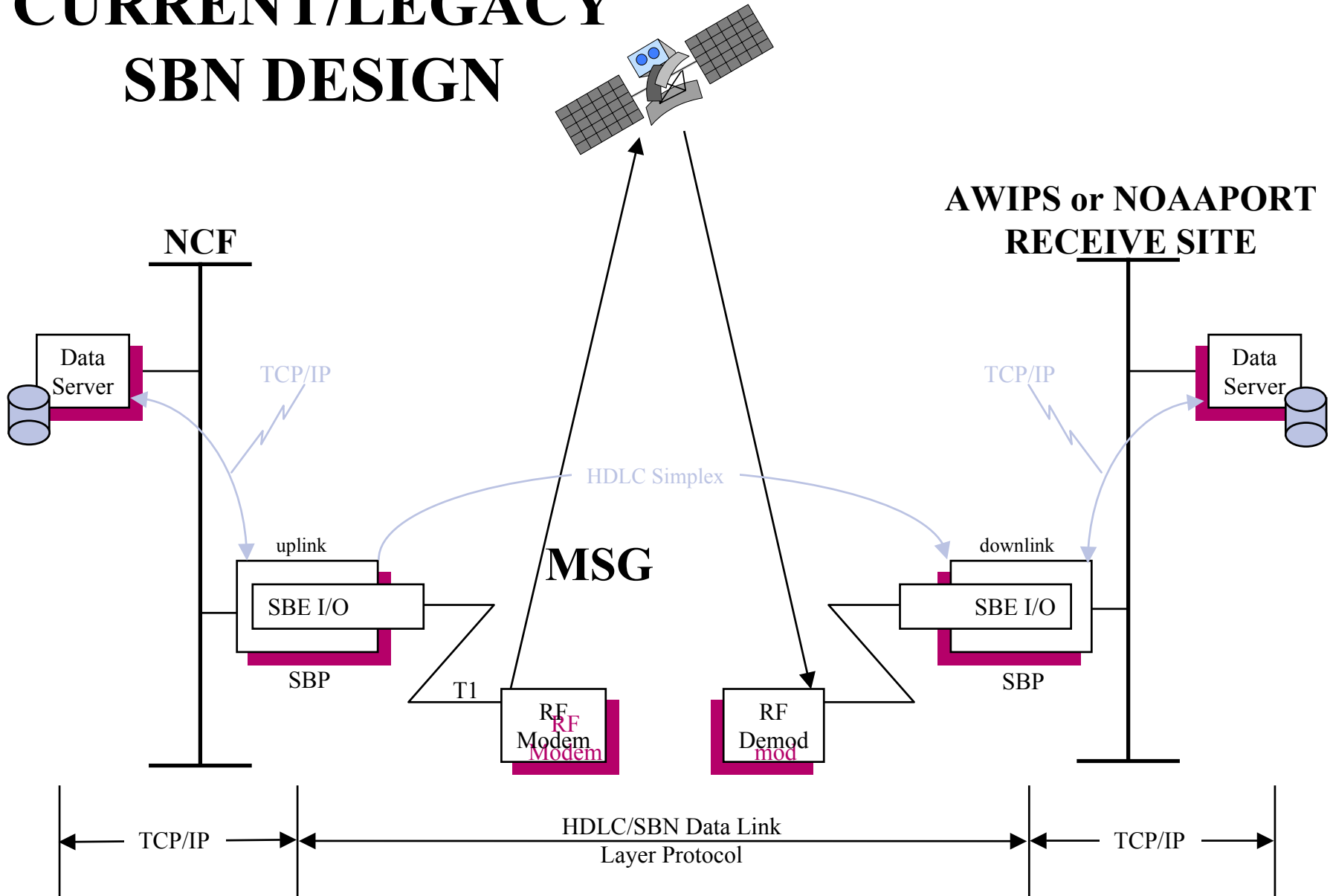


Original / Legacy NOAAPORT Data Streams



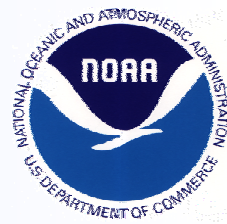
- **The GOES EAST data stream consists of imagery data from the GOES EAST satellite and includes visible (VIS), infrared (IR), and water vapor (WV) images for the eastern Conterminous United States (CONUS), Supernational composite, Northern Hemisphere (NH) composite, and Puerto Rico National and Puerto Rico Regional areas.**
- **The GOES WEST data stream consists of imagery data from the GOES WEST satellite and includes VIS, IR, and WV images for Western CONUS, Supernational composites, NH composite, Alaska, and Hawaii National and Regional areas.**
- **The National Centers for Environmental Prediction (NCEP)/ National Weather Service Telecommunication Gateway (NWSTG) data stream provides NCEP model output; observations, forecasts, watches, and warnings generated by the NWS forecast offices; and most observational data from the NWSTG.**
- **GMS/GOES-W/GOES-E/Meteosat composite imagery in polar stereographic projection over the Northern Hemisphere, Superset of DCP products, Other products**

CURRENT/LEGACY SBN DESIGN





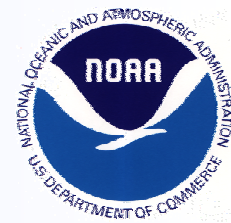
NOAAPort Evolution Plan



- **The current NOAAPORT T1 discrete circuit technology is being replaced with an open standard, open source, scalable design, specifically Digital Video Broadcast- Satellite (DVB-S).**
- **After the deployment of DVB-S, the NOAAPORT broadcast may be easily up-scaled to meet the demand when new science data becomes available and delivery to the NWS field is required.**
- **7 of 11 Phases have been completed. Remaining 4 Phases to be completed in the next few months**

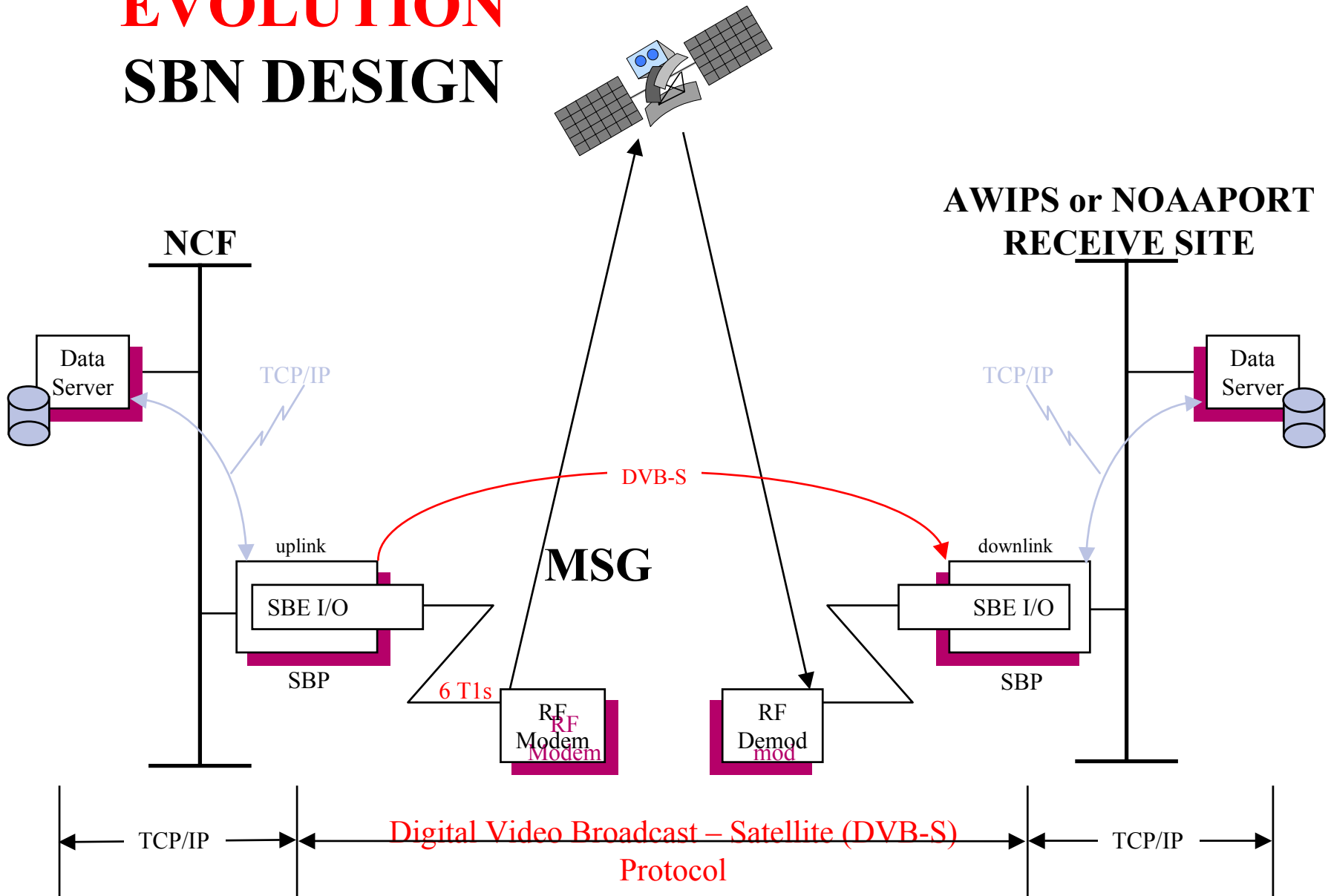


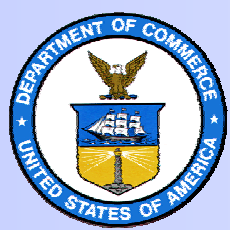
Completed NOAAPort Evolution Phases



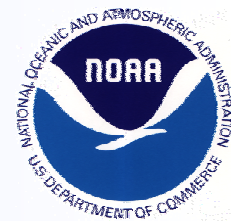
- **Phase 1: Post a technical report on the NOAAPORT web page**
- **Phase 2: Compress all products on both GOES East and GOES West using the open source (zlib) compression algorithm.**
- **Phase 3: Combine both GOES East and GOES West data feeds on both GOES East and GOES West channels.**
- **Phase 4: Cease transmission of GOES data on former GOES West channel.**
- **Phase 5: Use the transponder space from the vacated GOES channel to test the DVB-S technology over the NOAAPORT link.**
- **Phase 6: Begin transmission of additional gridded data on a new NWSTG2 logical channel using DVB-S technology.**
- **Phase 7: Eliminated. Overtaken by events.**

EVOLUTION SBN DESIGN





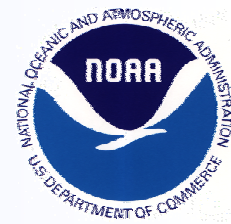
Remaining NOAAPort Evolution Phases



- **Phase 8: Transmission of all datastreams on a single channel with an equivalent 6 T1 capacity. The single channel will be on the same satellite but on a different transponder using DVB-S technology. [Scheduled 1/17/05]**
- **Phase 9: Shut down all old NOAAPORT channels. All NOAAPORT users must have DVB-S capability by this date. [Scheduled 2/28/05]**
- **Phase 10: Depending on the internal NWS performance level of the new DVB-S channel/transponder, decision whether to migrate the single DVB-S channel back to the original transponder and reuse the legacy NOAAPORT channel frequencies. If the decision to migrate back to the old transponder is made, dual DVB-S space segment operation will be on both transponders. [Scheduled 3/7/05]**
- **Phase 11: If the decision was made to migrate the DVB-S NOAAPORT transmission back to the old transponder in Phase 10, NOAAPORT transmission on the new transponder will cease. [Scheduled 3/31/05]**



NOAAPort Web Page



FTP/HTTP Services for obtaining Weather Data and Products - U.S. Government Weather Internet Se - Microsoft Internet Explorer

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NOAAPORT USER'S PAGE

What's New - in the NOAAPORT Program.

[NOAAPORT Technical Contacts](#) - NWS Technical Points of Contact.

[NOAAPORT Program Overview](#) - An Overview of the NOAAPORT Program.

[NOAAPORT Reference Documentation](#) - Downloadable NOAAPORT Reference Documentation.

[NOAAPORT Data Requirements](#) - Office of Climate, Water, and Weather Services, Integrated Operations Branch, NOAAPORT Page.

[Satellite Information](#) - Receiving Antenna Alignment Information.

[Receiver Characteristics](#) - Technical Characteristics of the NOAAPORT Receiver.

[Data Management Notices](#) - from the NWS Telecommunication Operations Center.

[NOAAPORT Data Characteristics](#) - Technical Characteristics of the NOAAPORT Data Stream.

[Sample Products](#) - NOAAPORT Data Samples.

[Manufacturers List](#) - of NOAAPORT Receive Systems.

[NOAAPORT Acronyms](#) - The NOAAPORT Glossary.

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