AWIPS/NOAA Port System

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William E. Brockman

Short & Associates

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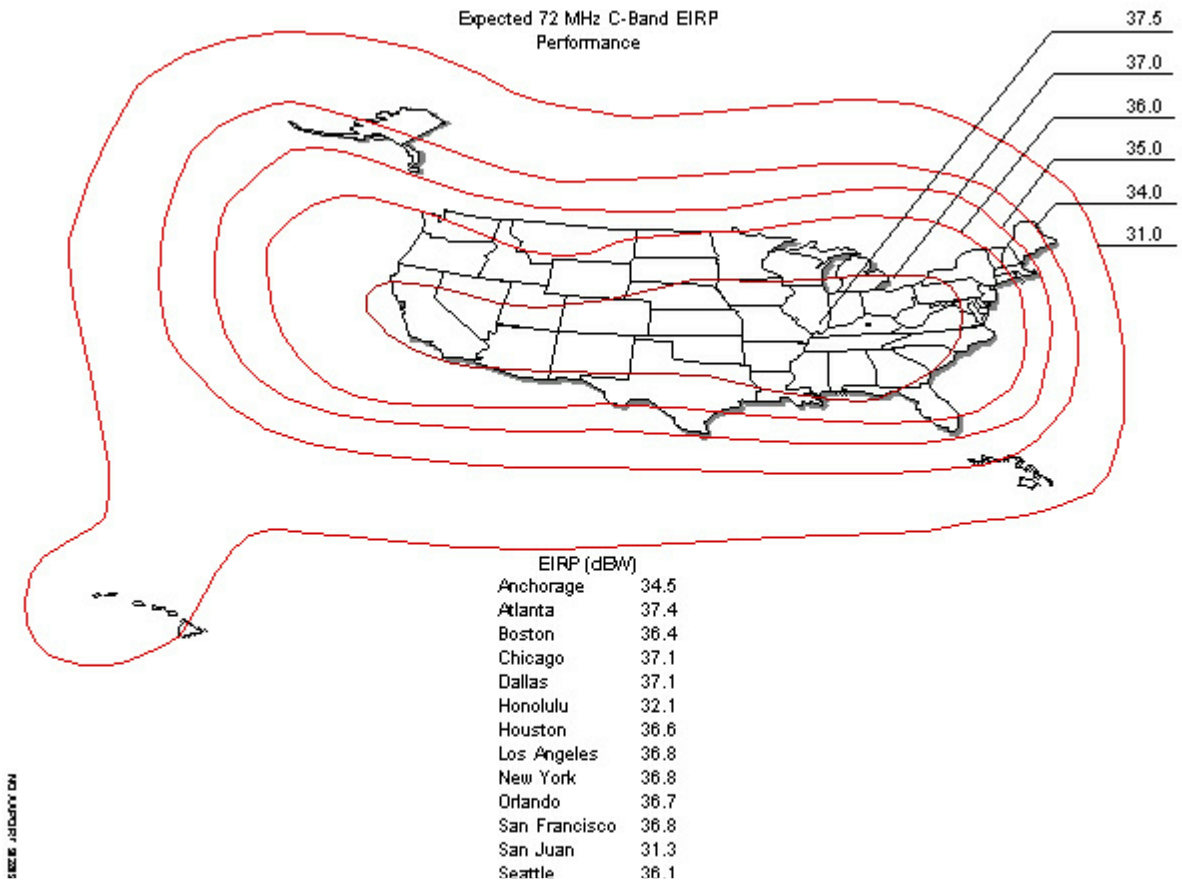
OVERVIEW

- **NOAAPORT Satellite Broadcast System (SNB) provides one way satellite communications of hydrometeorological data and information throughout the United States.**

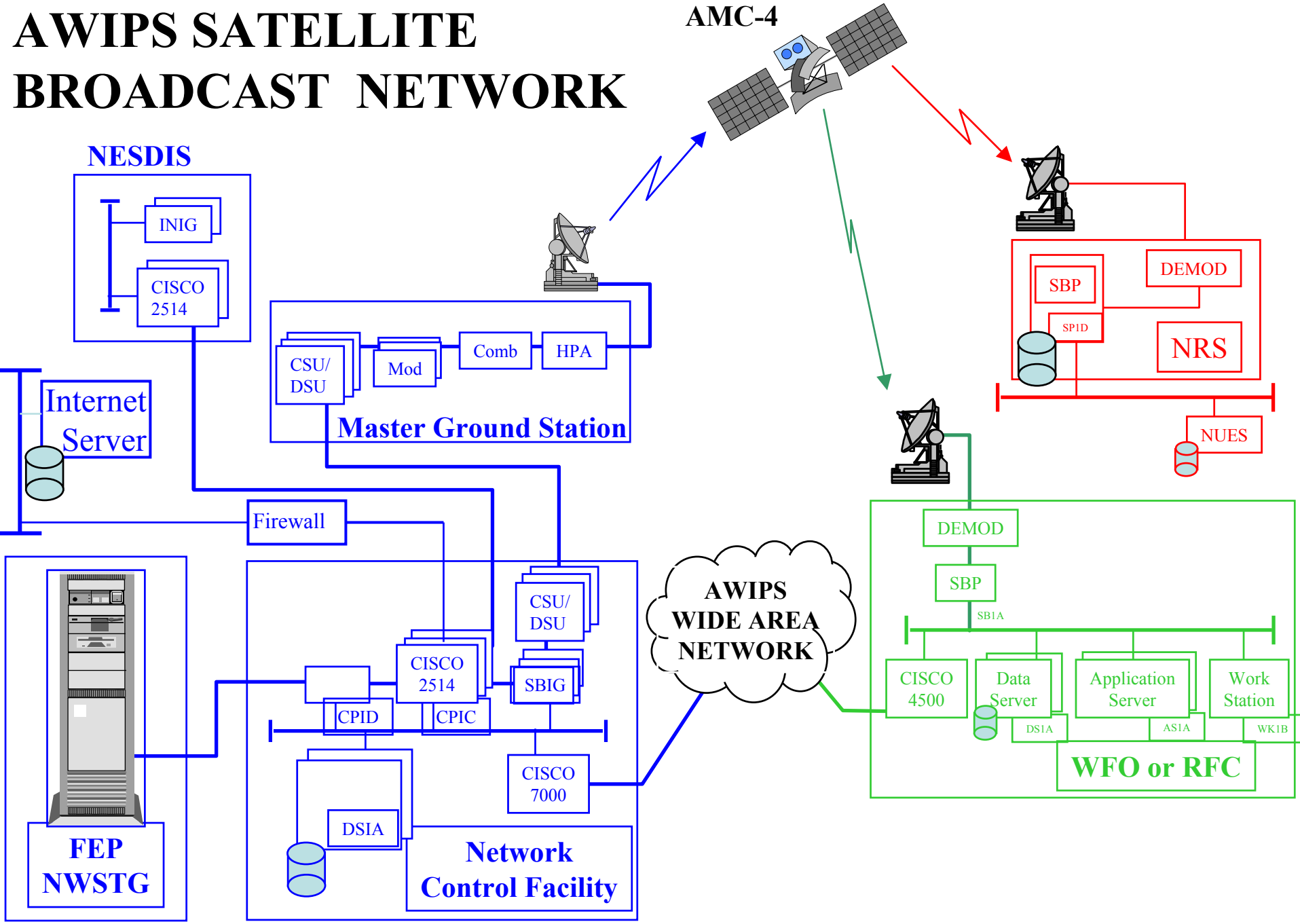
- **Uses commercial C-band transponder on SpaceNet IV to provide 4 discrete channels of NOAA satellite imagery, text, and Grid point data with an availability of 99.5%.**

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

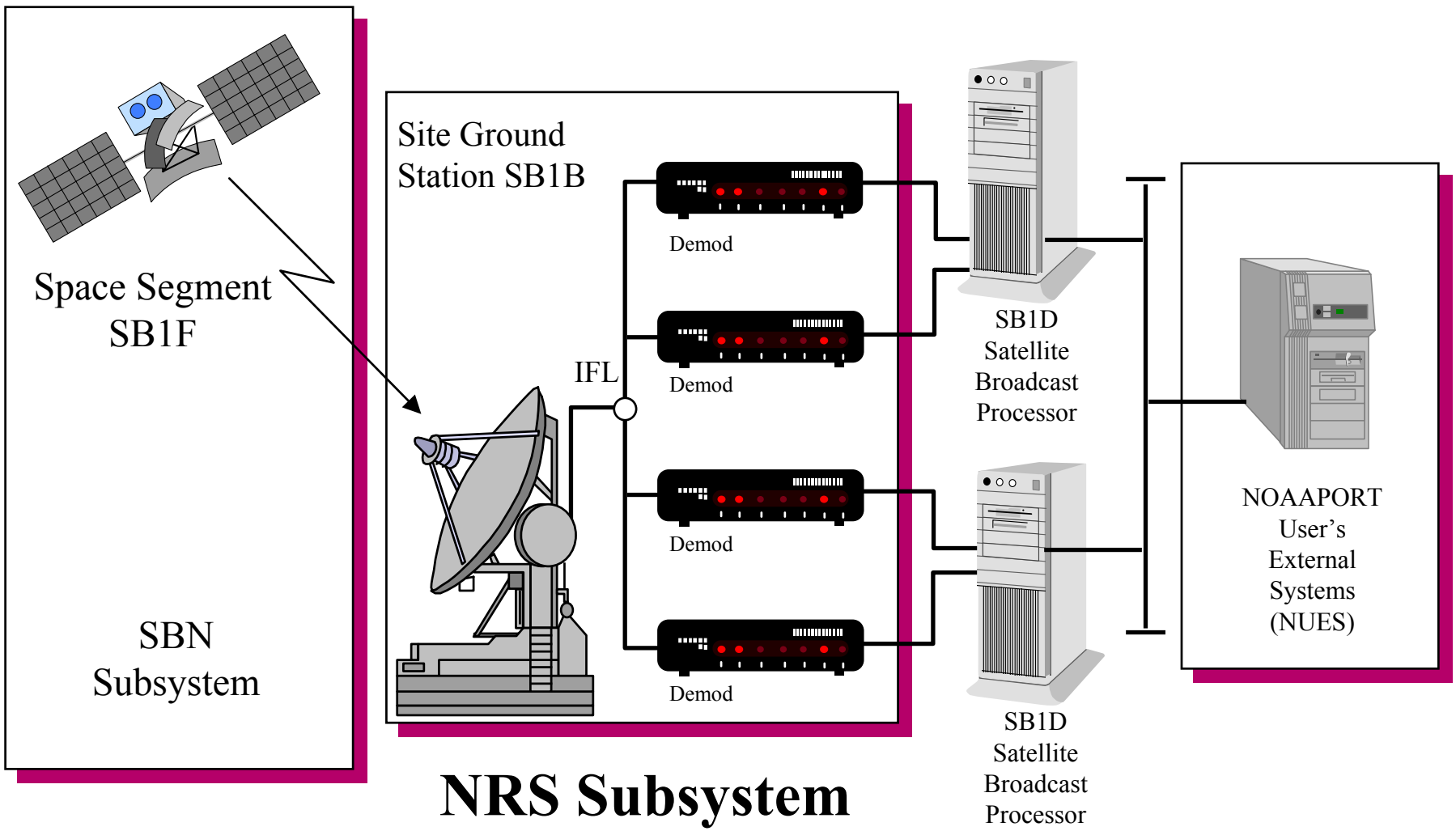
AMC-4
Transponder 13 Coverage



AWIPS SATELLITE BROADCAST NETWORK



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



Original / Legacy NOAAPORT Data Streams

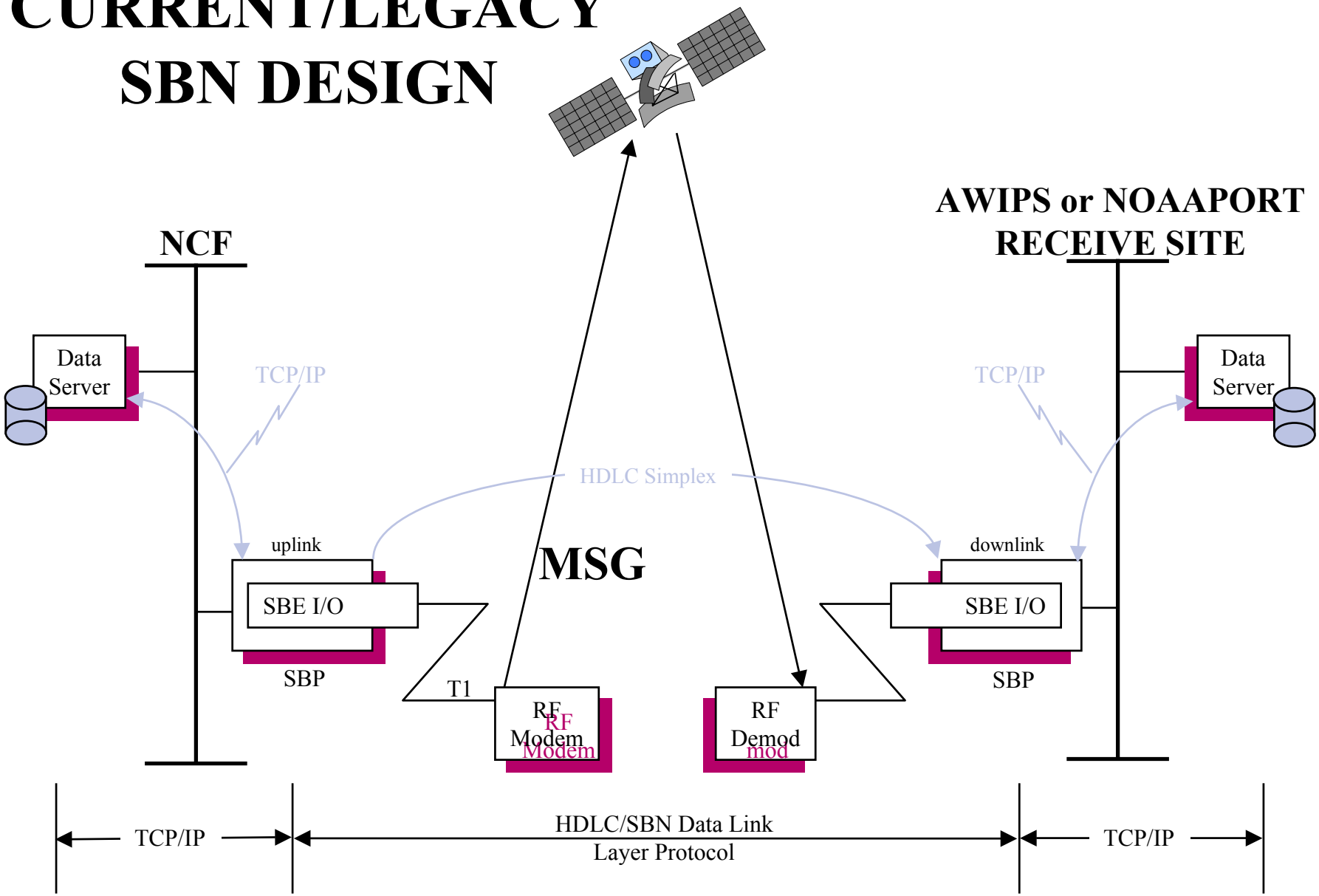
- The GOES EAST data stream consists of imagery data from the GOES EAST satellite and includes visible (VIS), infrared (IR), and water vapor (WV) images for the eastern Conterminous United States (CONUS), Supernational composite, Northern Hemisphere (NH) composite, and Puerto Rico National and Puerto 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



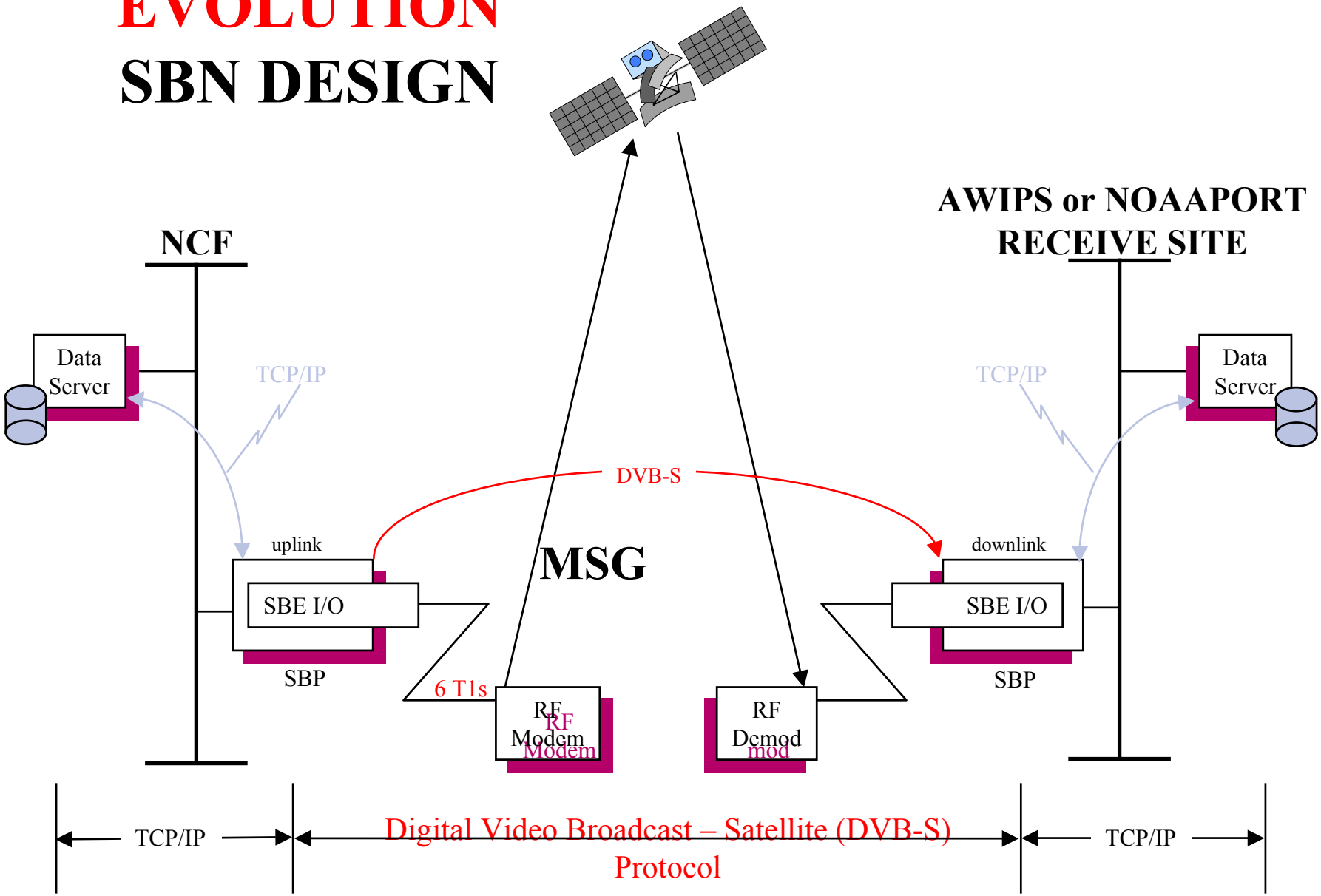
NOAAPort Evolution Plan

- 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