



National Oceanic and Atmospheric Administration's (NOAA)
Office of Dissemination
NWS Ground Readiness Project (GRP)

NWS GRB/H-8 Antenna Systems Project Overview

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NWS GRB/H8 Antenna Systems Project



Topics

- GRB/H8 Project Overview
- NWS Sites Receiving GRB/H8 Antenna Systems
- NWS Geostationary Weather Satellite Antenna System (GWSAS) Overview
 - High Level System Overview
 - System Deployment
 - Software
 - Hardware
 - System Local and Remote Access
 - Installed Equipment



NWS GRB/H8 Antenna Systems Project



GRB/H8 Project Overview

The GRB/H8 antenna project is replacing today's NWS Geostationary Operational Environmental Satellite (GOES) and Multi-Functional Transport Satellite (MTSAT) antenna systems for the GOES-R and Himawari series of satellites. NWS antennas systems will ingest and process GOES-R and H8 Re-broadcast data.

- NWS antenna systems were installed during 2015-2016 and all antennas are operable, ingesting data from GOES-16 and H8
- Interface with NWS networks for:
 - ✓ Product distribution to NWS forecaster workstations (i.e., Advanced Weather Interactive Processing System (AWIPS) & N-AWIPS)
 - ✓ Product distribution to other key NWS field offices and NCEI
 - ✓ Local and remote monitoring via dashboards
 - ✓ Local and remote troubleshooting via secure SSH and IPsec VPN tunnel
- Run basic algorithms (for imagery and Level 2 products) – *future*

The GRB/H8 Antenna System Project provides continuity of operations— ensuring the very-near-real-time access provided to NWS users (via today's GOES GVAR and MTSAT services) will extend into the GOES-R/GRB and Himawari era.



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NWS Sites - GVAR/MTSAT → GOES-R/HimawariCast

	Office	Location	Have GOES Antennas	Had MTSAT Antennas	Installed	
					GOES-R Antennas*	Himawari – Cast Antennas
1	WFO-Sand Lake	Anchorage, AK	X		W	TBD
2	Aviation Weather Center	Kansas City, MO	X (3)		E, W, S	
3	National Hurricane Center	Miami, FL	X (3)		E, W, S	
4	Inouye Regional Center	Ford Island, HI	X Ewa Beach	X Ewa Beach	W	X
5	Space Weather Prediction Center	Boulder, CO	X (3)		E, W, S	
6	Storm Prediction Center	Norman, OK	X (2)		E, W, S	
7	NOAA Center for Weather and Climate Prediction (CPC, NCO, OPC, WPC)	College Park, MD			E, W, S	
8	Weather Forecast Office, Guam	Barrigada, GU		X		X

* E – GOES-R East, W- GOES-R West, S- GOES-R Spare



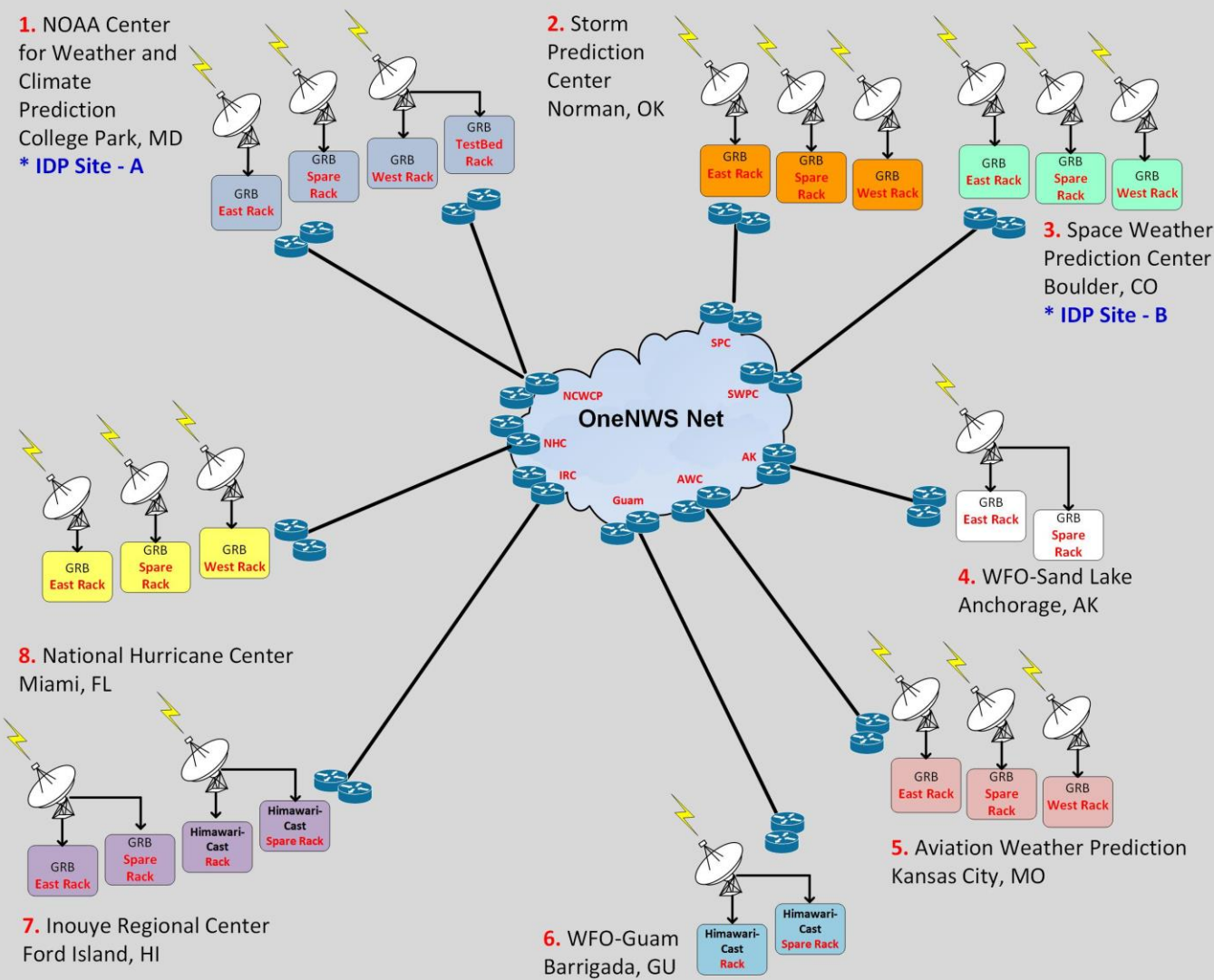
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NWS GWSAS CONUS & OCONUS



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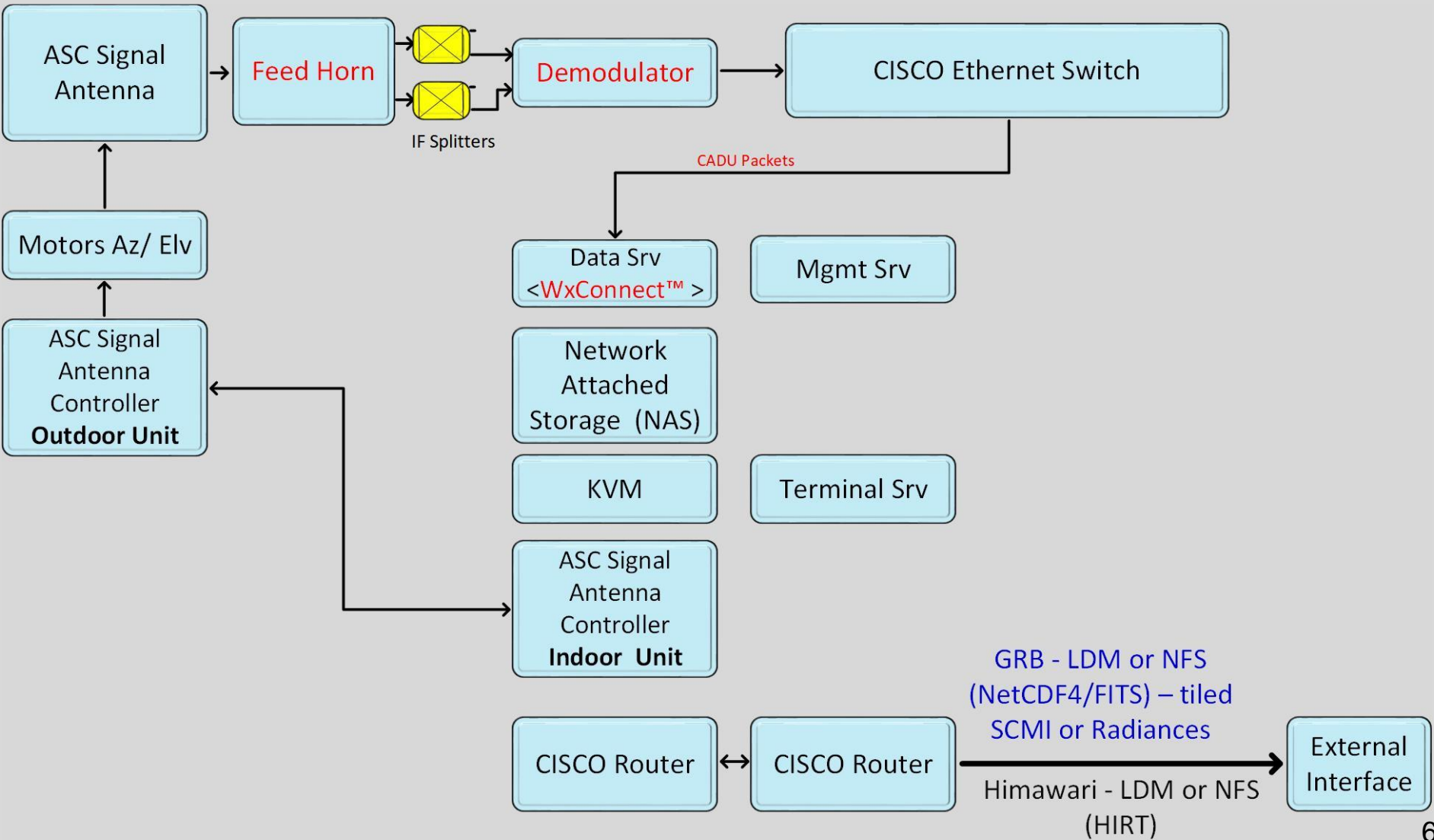
NWS GWSAS Site Integration





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NWS GRB & HimawariCast GWSAS System Overview

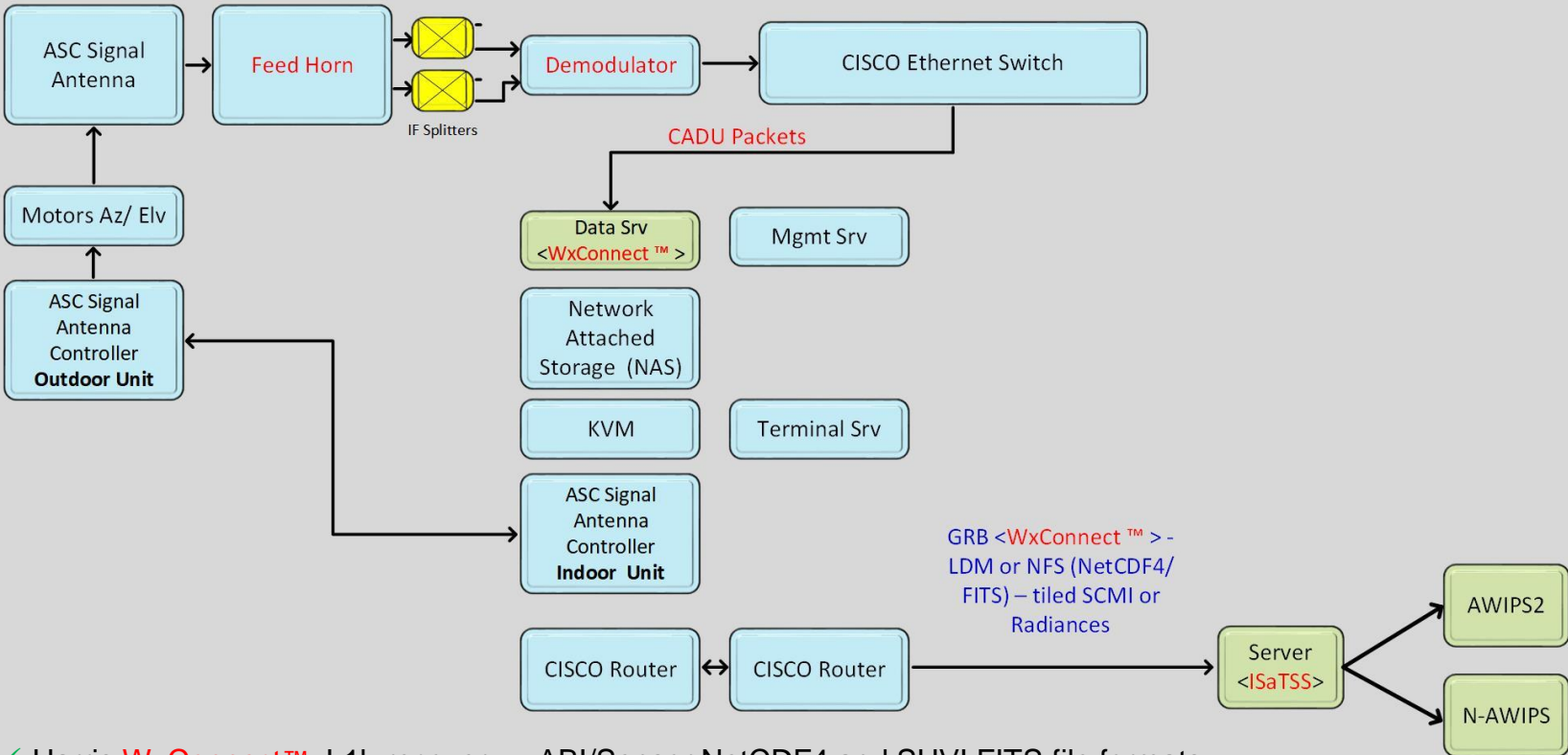




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NWS GRB GWSAS/ISatSS Site Integration

National Hurricane Center (NHC), Aviation Weather Center (AWC) & Storm Prediction Center (SPC)

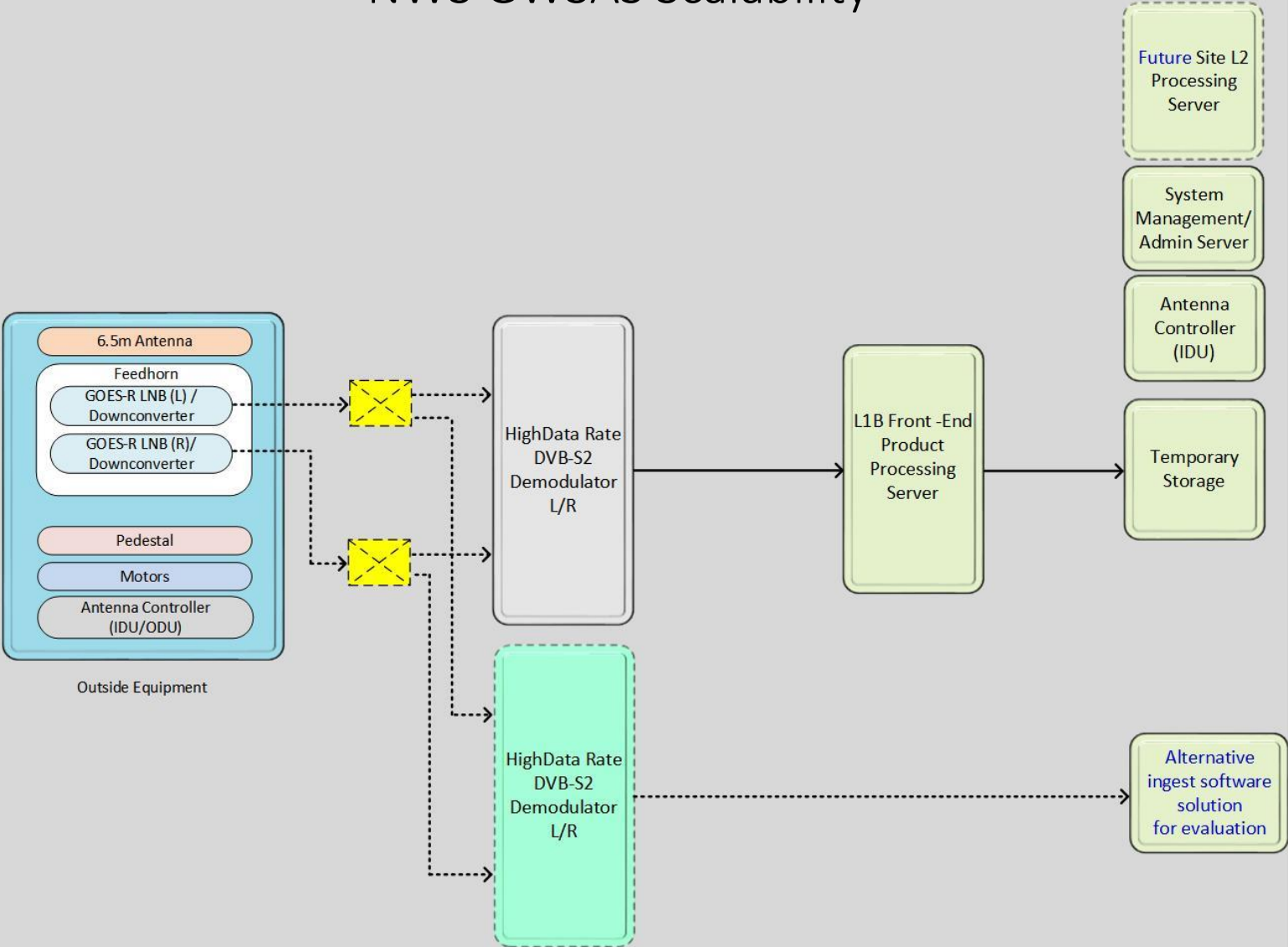


- ✓ Harris **WxConnect™**: L1b recovery > ABI/Sensor NetCDF4 and SUVI FITS file formats
 - Data export – SCMI or Radiances
- ✓ ISaTSS: Site specific localization



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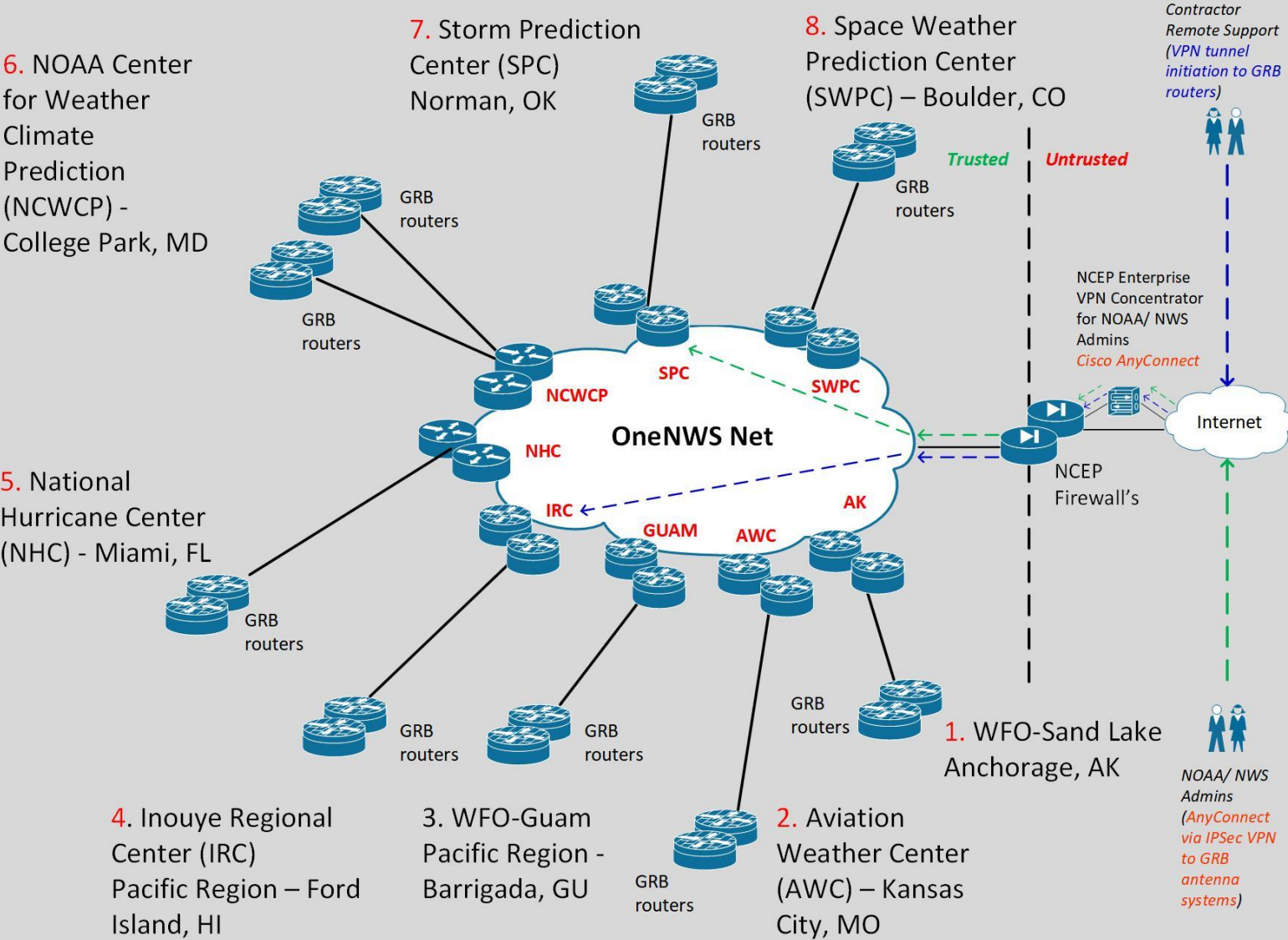
NWS GWSAS Scalability





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NWS GRB/HimawariCast GWSAS User Remote Access





NWS GRB/H8 Antenna Systems Project

NWS GWSAS Local Dashboard Login GUI

HARRIS

WxConnect™ Login WFO RACK1

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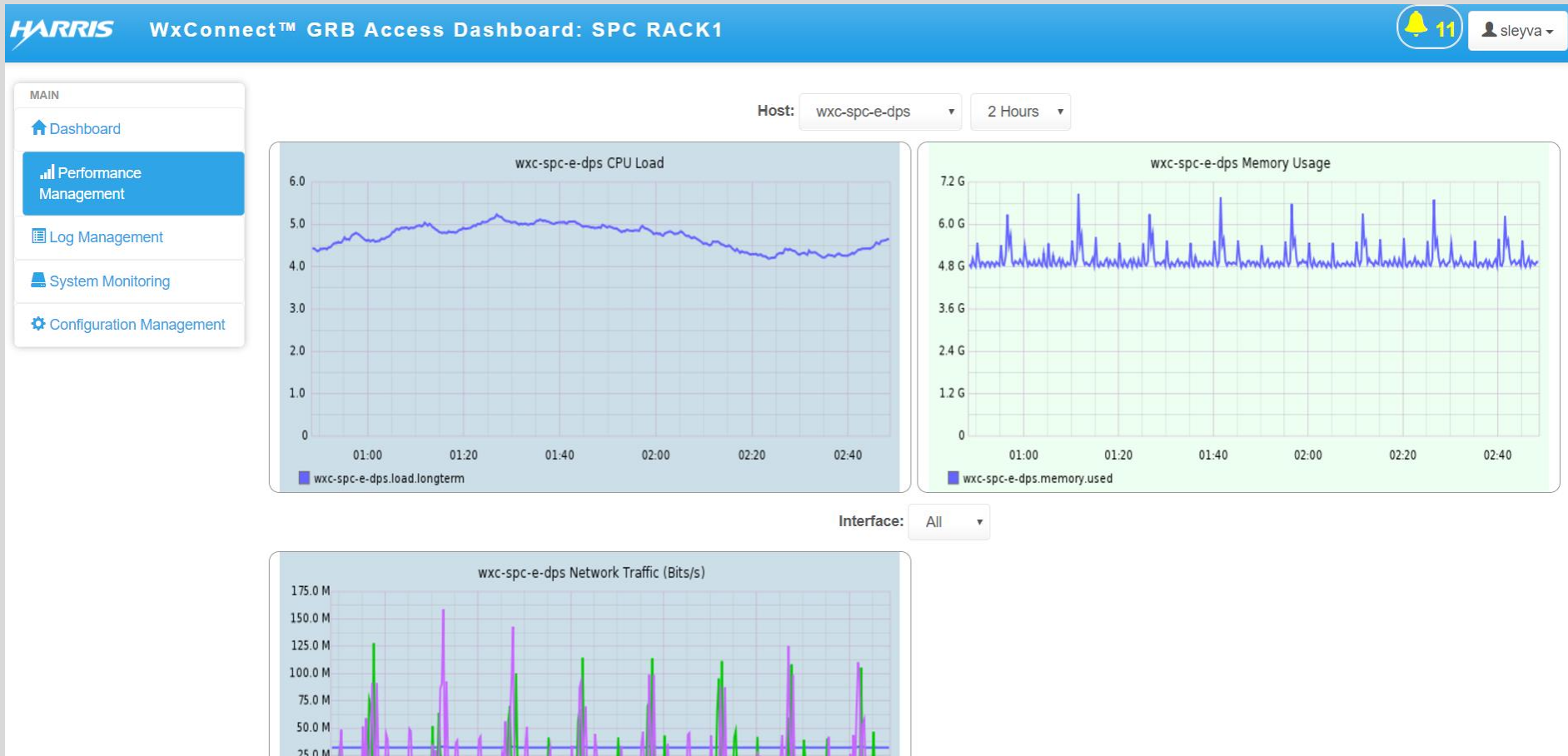
NWS GWSAS Local Dashboard





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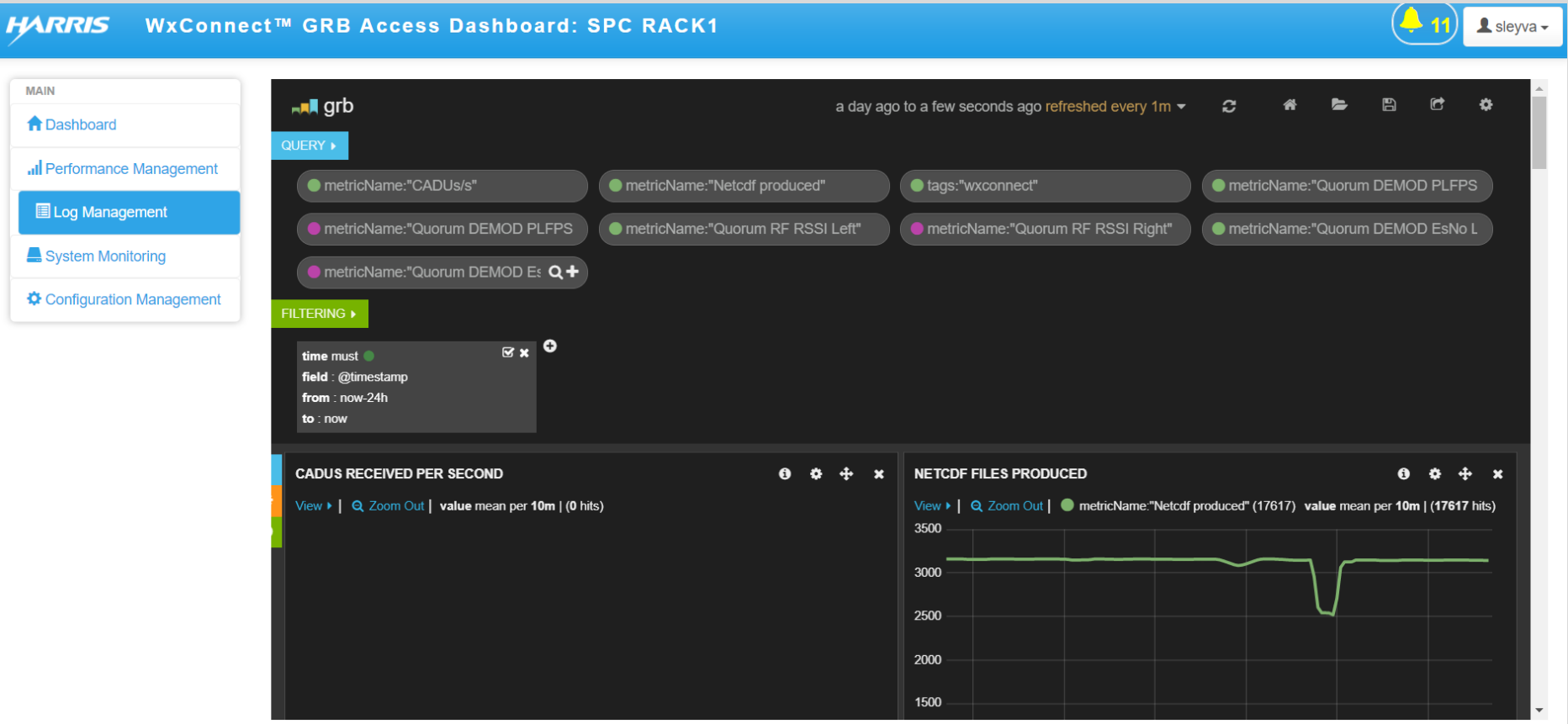
NWS GWSAS Local Dashboard System Performance GUI





NWS GRB/H8 Antenna Systems Project

NWS GWSAS Local Dashboard Log Management GUI





NWS GRB/H8 Antenna Systems Project

NWS GWSAS Local Dashboard System Monitoring GUI

HARRIS

WxConnect™ GRB Access Dashboard: SPC RACK1

11

sleyva

MAIN

Dashboard

Performance Management

Log Management

System Monitoring

Configuration Management

CheckMK

1.2.515p4

Main Overview

sleyva (user) 22:51

Tactical Overview

Hosts	Problems	Unhandled
10	0	0
Services	Problems	Unhandled
119	2	2

Quicksearch

Views

- Dashboards
- Hosts
- Hostgroups
- Services
- Servicegroups
- Business Intelligence
- Problems
- Addons
- Inventory
- Other

Bookmarks

WATO · Configuration

- Main Menu
- Hosts
- Host Tags

Host Statistics

Up	10
Down	0
Unreachable	0
In Downtime	0
Total	10

Service Statistics

OK	117
In Downtime	0
On Down host	0
Warning	0
Unknown	2
Critical	0
Total	119

Host Problems (unhandled)

state	Host	Icons	Age	Status detail
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Service Problems (unhandled)

State	Host	Service	Icons	Status detail	Age	Checked
UNKN	wxc-spc-e-dps	Receive Frames TCP 0		WXCONNECT UNKNOWN	2017-05-30 16:19:43	30 sec
UNKN	wxc-spc-e-dps	Receive Frames TCP 1		WXCONNECT UNKNOWN	2017-05-30 16:19:58	26 sec

Events of recent 4 hours

	Time	Host	Service	Check output
	3 min	wxc-spc-e-dps	CADUs/s left	Check JSON status API OK - value: 946
	3 min	wxc-spc-e-dps	CADUs/s left	Check JSON status API CRITICAL - value: 0
	4 min	wxc-spc-e-dps	CADUs/s right	Check JSON status API OK - value: 945
	4 min	wxc-spc-e-dps	CADUs/s left	Check JSON status API OK - value: 946
	4 min	wxc-spc-e-dps	CADUs/s right	Check JSON status API CRITICAL - value: 0
	4 min	wxc-spc-e-dps	CADUs/s left	Check JSON status API CRITICAL - value: 0
	4 min	wxc-spc-e-dps	CADUs/s left	Check JSON status API CRITICAL - value: 0
	6 min	wxc-spc-e-dps	Receive Frames TCP 1	WXCONNECT UNKNOWN
	7 min	wxc-spc-e-dps	Receive Frames TCP 0	WXCONNECT UNKNOWN
	7 min	wxc-spc-e-dps	CADUs/s right	Check JSON status API OK - value: 945
	7 min	wxc-spc-e-dps	CADUs/s left	Check JSON status API

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NWS GRB/H8 Antenna Systems Project

NWS GWSAS Site Equipment Installed

National Hurricane Center - GRB



Storm Prediction Center - GRB



Guam - HimawariCast



GWSAS Racks





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Thank you!