Working Group For Centralized Communications Management

WG/CCM COPC Status Updates and Recommendations

October 25-26, 2016

LCDR Tristan Borne
WG/CCM Chairperson

Agenda

- Overview
- CCM Team Membership
- Network Operational View
- The End Goal
- Alternate COPC Network Connection
- Other COPC Network Accomplishments
- Process Flow Chart
- COPC Action Items

Overview

Since the 2016 Spring COPC, the alternate DOD – NOAA optical carrier (OC-48) path has been activated and is fully operational. It has been used to mitigate the effects of a number of outages.

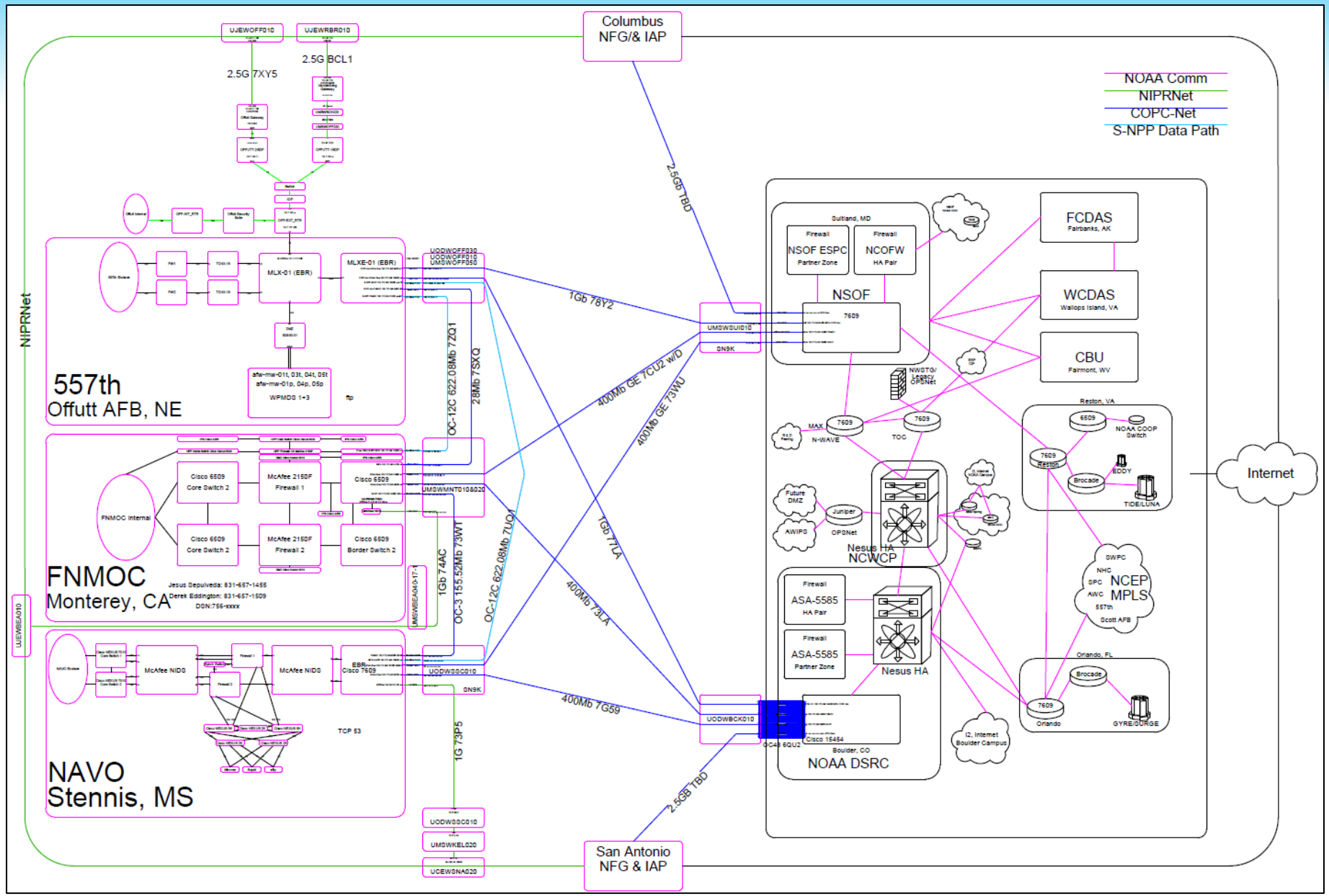
We need to continue to utilize this capability and move forward with network testing & analysis to understand the operational impact of the introduction of the NIPRNet Federated Gateway / Mission Partner Gateway (NFG/MPG) to our communication circuitry.

WG/CCM Team

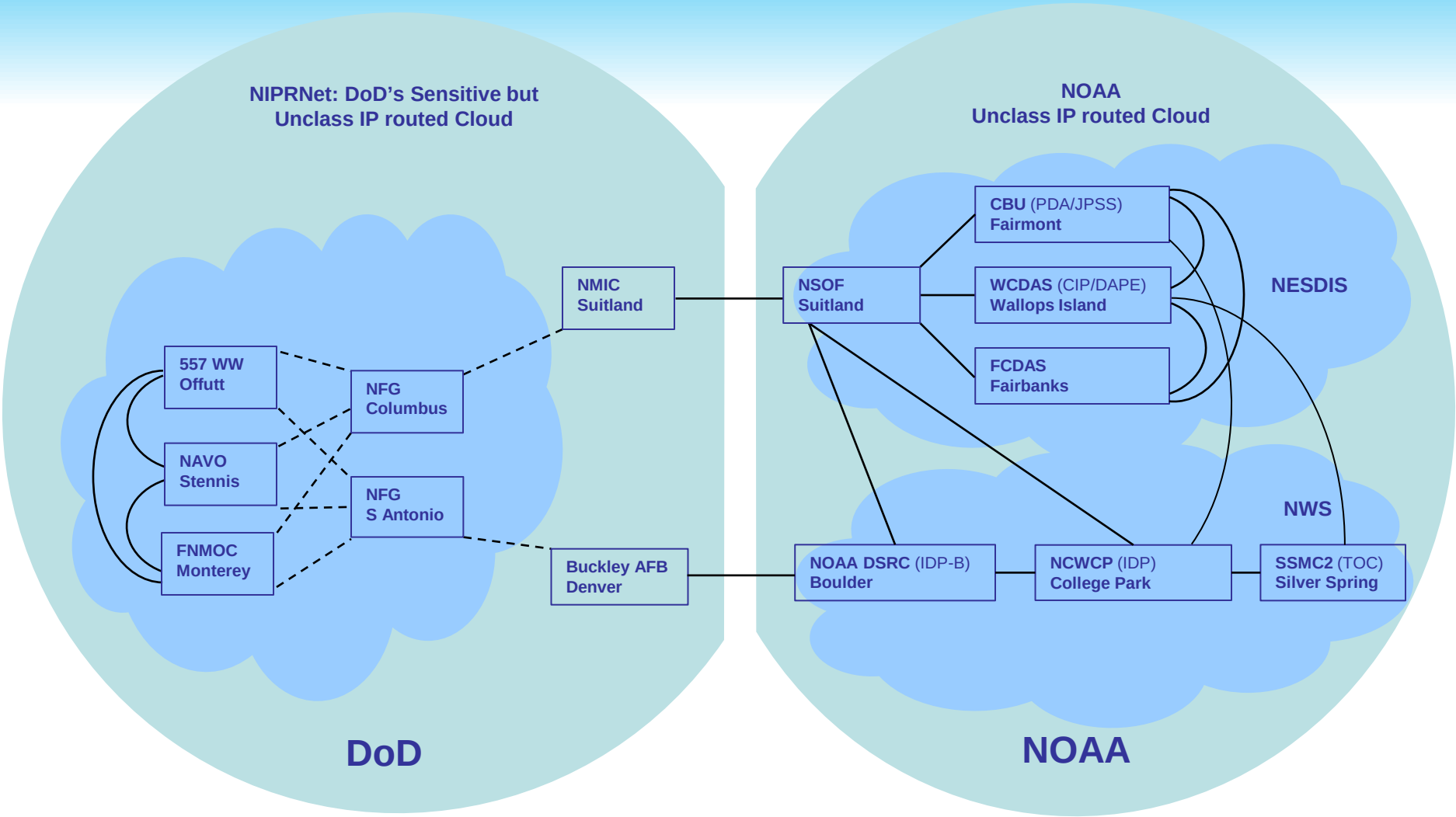
Member	Organization
Jason Rance Billy Cowgill Marvin Cunningham TSgt Michael Dent	Air Force/557th WW
Doug Fenderson	NOAA/NWS/NCEP/NCO
Craig Wade OSGS Russell Dyson OSPO	NOAA/NESDIS
Tracy LePire	Navy/NAVO
LCDR Tristan Borne (CCM Chair) Trent Hancock Derek Eddington	Navy/FNMOC
Kevin Greenlee	Navy/NAVIFOR/CIO-2
Ken Barnett	OFCM
Technical Advisor/SME/Alternate	**Organization**
MAJ Rubin Neypes Bruce Kenison (alternate)	DISA Field Office USSTRATCOM
Jagdish Rai	DISA

*** New to the role or group**

Network Operational View



End Goal: What CCM is working towards



Alternate COPC Network Connection

During the spring COPC meeting the CCM group was confronted with a scheduled multi-day outage of the primary operational circuit.

- The group came together and within days coordinated, tested, and executed a planned cutover from the primary path (Suitland, MD) to alternate path (Boulder, CO) with no loss of data.

Building on this momentum:

- Both Navy OPCs now failover automatically to the alternate path when outages impact the primary path.
  - Worked with DISA to resolve a configuration issue on the Stennis Optical Node which was preventing the primary path from resuming operation once the Suitland circuit was restored.
- 557 WW has a planned process to implement equipment that supports the same automatic failover.
- The CCM group is in the process of finalizing a concept of operations (CONOPS) for the COPC network operations (NETOPS).
  - Purpose: To mitigate planned and unplanned network outages that impact the OPC data exchange, with the goal to reduce recover time and use resources efficiently.
- AF and Navy are working on a cost sharing agreement for the Boulder OC48.

Multiple occurrences of outages mitigated:

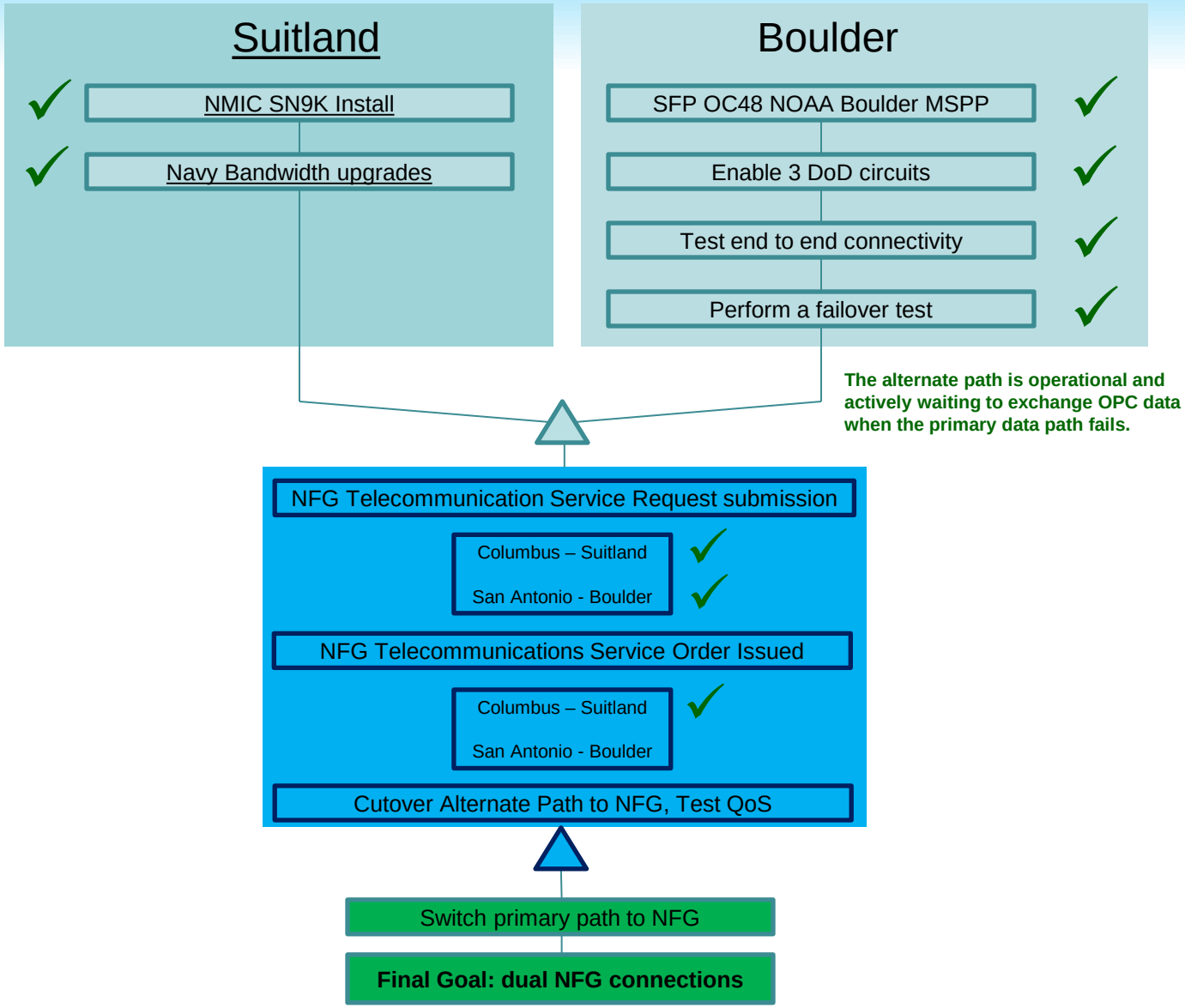
- NAVOCEANO outage: 12 hour outage with no data lost.
- 557 WW outage: 3 days outage with only about 6 hours of data missed (including NPP data to the Navy.)

Other COPC Network Accomplishments

NAVOCEANO lost its NIPRNet circuit for two days which disrupted the delivery of critical data to NCEP for ingest in the ocean and hurricane models. (This data was being sent via DoD's Internet Access Point because of past bandwidth limitations with the old NAVOCEANO COPC Point-to-Point [P2P] circuit.)

- The old NAVOCEANO COPC circuit had a limiting bandwidth issue of 28Mbps.
- Because of Hurricane Matthew, it was a critical time for NOAA's forecasting responsibilities so NAVOCEANO worked with NCEP/NCO to reroute delivery of these important data sets over its COPC P2P circuit instead of the Internet.
- HYCOM models and buoy float products were successfully rerouted.
- Sea surface temperature (MCSST) and sea surface height anomaly (altimetry) rerouting over the COPC circuit is still needed and ongoing.

Process Flow Chart



COPC Network Action Items

COPC Action Item 2013-1.5: Implement an end-to-end latency test exchange using representative proxy data from NOAA (NESDIS, TOC, and NCEP) through NFG to each DoD OPC].

- CCM Engineering Test Plan will be complex and is under initial development.
- JFHQ released JFHQ-DODIN TASKORD 16-0101, Establishment of the NIPRNet Federated Gateway.
  - Everyone registers in DDOE and prepares to migrate to the NFG.
  - COPC/CCM has been working NFG issue with DISA STRATCOM since 2012.
  - COPC circuits have been identified in TASKORD.
  - Navy OPC's are ready to migrate.
- TSR submitted for Alternate path (Boulder to San Antonio) NFG connection.
- CCM recommends keeping this action item open.

Recommended COPC Action Item

COPC Action Item: Revalidate the previous captured telecommunication bandwidth requirements across the COPC partners.

Purpose: These requirements will identify current and future data flows including source, destinations, volume, latency requirement, data restrictions, and related COPC business functions. This information will be used to validate technical designs and resource estimates for new network infrastructure initiatives (MPG/NFG).

- The DoD needs to be able to defend the requirement to exponentially increase its COPC data sharing activity over the next Nth years.
- The COPC requirement (likely) will exceed the capacity of the NFG and this data bandwidth requirement should be well vetted and understood.
- This cannot be done in a vacuum, NOAA should review the input and each OPC should involve their experts from CCM, OD, CSAB, and modeling.

Questions