

Satellite Network Advisory Group (SatNAG)

Bandwidth Needs and Policy for the Future

satnag@unols.org

RVOC Meeting 2018-Apr-19



Satellite Network Advisory Group



SatNAG - Satellite Network Advisory Group

- Who We are
 - Laura Stolp / Woods Hole Oceanographic Institution
 - Ken Feldman / University Of Washington
 - Jon C. Meyer / Scripps Institution of Oceanography
 - John Haverlack / University of Alaska
- When/Why we formed
 - Formed October 2016
 - Appointed by Jim Holik to address issues related to ship/shore communication
- Mission Statement
 - To steward the objective, effective and efficient use of ship to shore network resources and optimize positive customer experiences for the UNOLS fleet
- We will pilot each of our recommendations at our home institutions



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SatNAG - Year One Progress

- Created Platforms for Shared Resources and Practices: Website and Wiki
- Completed Fleet wide Baseline Practice Survey
 - https://satnag.unols.org/?PAGE=participate_vessel_network_survey_results&TYPE=MARKDOWN
- Submitted Response to NSF Cyber Infrastructure 2030 RFI
 - <https://www.nsf.gov/cise/oac/ci2030/pdf/RFI-Feldman-215.pdf>
- Implemented High Bandwidth Use Test
- Identified Cyber Security Need
 - [Cybersecurity for UNOLS](#)
- **Drafted Internet Use Policy**
 - <https://satnag.unols.org/internet-use-policy/>
- Created timeline for pilot and implementation



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SatNAG - Year Two Progress

- Policy drafted and published at <https://satnag.unols.org/internet-use-policy/> (still in progress; subject to edits)
- Preparations being made with participating institutions for implementation of policy in May 2018



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Bandwidth

Internet resources are provided primarily in support of **funded science** and **vessel operations**. Use for purposes outside of the primary purpose is permitted on a non-interference basis.

- Ships have very little bandwidth compared to what people are used to on land
- Usage must be managed to ensure availability for science / ops
- Historically policies have been set on a per institution basis
- Expanded bandwidth is arranged, on a per cruise basis, at additional cost



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Internet Usage Policy Objective

- Maintain **functional, equitable and fair use** of this limited resource
- Provide consistent user **Internet access experiences** across the fleet



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Implement Policy through Captive Portal

- Consistent Policies
- Individual Use
- Functional Use
- Consistent Measuring and Reporting Across Ships



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Individual Use

- **150 MB Up / 150 MB Down** Quota per user per day
- Accounts Allocated on a per-user basis.
 - Sharing accounts prohibited.
 - One device per user at a time connected to the internet.
 - Measure per-user internet usage
- Exceptions and Quota Resets
 - Must be documented, justified, and communicated.



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Functional Use

- Some Servers may be granted unlimited access
 - For science or business purposes only
- Kiosks may be available for larger operational uses
 - Typically available on a first come first served basis for a limited period of time.
- Certain services may be blocked or throttled fleet-wide
 - Possible examples: DropBox, iCloud, off-ship network printers, software updates



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Metrics and Reporting

- Automated and regular report generation
- Routine traffic monitoring
- Analyze for trending metrics
- Compare usage patterns between vessels
- Provide Specific Measurable Results to NSF



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Timeline for Implementation

- May-Oct 2018 - Proof of Concept
 - Test on 8 vessels operated by participating SatNAG member institutions
- Oct 2018 - Report on PoC to RVTEC
 - Create guidance documents for implementation
 - Invite rest of fleet to participate
- Oct 2019 - Next Generation Lifecycle Updates
 - New solutions evaluated every 3 years

More details can be found in the RVTEC presentation at:

https://www.unols.org/sites/default/files/201717rvt_breakout3_InternetPolicy.pdf

Complete draft available as a Google Doc:

<https://docs.google.com/document/d/1jOidbvs71uEqINVOE2fkoOhOhslwzAOz7G83ENttvQU/edit?usp=sharing>



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Questions

Thank You!

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