

SatNAG

Satellite Network Advisory Group

2018 RVTEC Report



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SatNAG Milestones for 2017-2018

1. Presented at UNOLS Committee 2018 (Feldman)
2. Presented at RVOC 2018 (Meyer)
3. SatNAG Pilot Program: Internet Use Policy, Bandwidth Management Program proof-of-concept testing underway
4. Emailing cyberoam metrics to shore server and beginning to harvest for information
5. NSF Committee of Visitors have reviewed SatNAG's efforts
6. Working on revised website, featuring tips-and-tricks on individual device bandwidth management.



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Milestones: SatNAG Pilot Program

- SIO, UAF, UW and WHOI concurrently testing on large vessels
- General guidelines that enhance network stability and equitable access to the network.
- Captive Portal (individual user accountability)
- Baseline equipment requirements
 - 50iNG Cyberoams w/ application and web filtering license
 - Firmware 10.6.5
- General configurations that are stable
 - Consistent metrics reporting and Application Filters through export/import of XML via Cyberoam WUI
- Acknowledgment that no system is perfect, attempt to define exceptions
- Internet Policy details at satnag.unols.org/internet-use-policy/



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<https://satnag.unols.org>



Milestones: Collecting Cyberoam reports, metrics

- Consistent email setups allows us to send per-ship information to a central point of presence for analysis
- We are learning what value and what lack of value we get out of this. We welcome discussion
- Email and parsing HTML in the Cyberoam is presently the *only* option to gain meaningful insights of the per-vessel and fleetwide activities. This is time consuming, and likely to break if report formats break. Next generation hardware/firmware should have more complete, easier to access reporting capabilities.



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Milestones: NSF Committee of Visitors

SatNAG NSF Committee of Visitors Recommendations, 15Aug18

- The COV recommends the program continue to pursue means to increase bandwidth, and to efficiently manage use of individual scientists' computers, shipboard computers, and telepresence equipment in order to maximize the quality of the internet experience and ability of personnel on board to communicate with shore. The SatNAG group is an agile and knowledgeable team that can help address these issues.
- The COV recommends further guidance be provided to enable science party and crew on the vessels to minimize background Internet communication by services such as Dropbox, iCloud, Google drive, etc.



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2018-2019 Goals

- Identifying next-generation firewalls
- Testing a next-generation solution (replace or upgrade Cyberoam?)
- Continue to refine metrics collection to drive facts-based decisions
- Define a deployment strategy for the next-generation firewalls, at scale
- Explore practices for scalable deployments (e.g. ITIL)
- Continue to develop tips-and-tricks for individual device management for seagoing purposes



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Next Generation firewall requirements

- Cyberoam will be end-of-life within the next year
 - a. Cyberoam hardware will have to be upgraded to Sophos' firmware
 - b. This will affect how we can analyze and understand the metrics
 - c. Cyberoam/Sophos metrics information leaves something to be desired.
 - d. XML between Cyberoams requires all installs to be at the same firmware.
- Enterprise grade hardware should be a considered
- Central/ease of purchasing should be considered -- a bulk purchase of licensing and hardware will likely introduce economies of scale.
- More standard Commercial Off-the-Shelf (COTS) solutions stand a better chance of being administered/maintained by more people
- Next-generation firewalls probably need to be at the core of a ship's LAN to address mounting cybersecurity requirements



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Thank You

Your pals,

The SatNAG



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