

SatNAG

Satellite Network Advisory Group

2018 UNOLS UPDATE



Satellite Network Advisory Group



SatNAG - Year in Review

- Published an Internet Use Policy
satnag.unols.org/internet-use-policy
- Engaging our user communities at key meetings
- Conducting a Pilot Program between committee members operating institutions (SIO, UAF, UW, WHOI), May 2018-Oct 2018
 - Gathering of consistent metrics for analysis of participants' usage
 - Working on visualization for exploration of these data (in development)
- SatNAG wiki
 - Testing new software for improved user experience
 - Working on community documentation for Bandwidth Limiters



Satellite Network Advisory Group



Milestones: SatNAG Pilot Program

- SIO, UAF, UW and WHOI concurrently testing on large vessels
- 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/



SatNAG

Satellite Network Advisory Group



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.
- 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.



Satellite Network Advisory Group



Engage Users

- Work on expectations of users by sending out SatNAG Bandwidth Policy precruise
- Introduce Bandwidth discussion in science precruise meetings including the use of:
 - Bandwidth Limiters
 - Netlimiter
 - Tripmode
 - Little Snitch
 - Bandwidth Metering
 - Low Bandwidth Options; use mobile version of applications
- Encourage users to become familiar with how different devices and applications work on the Internet.

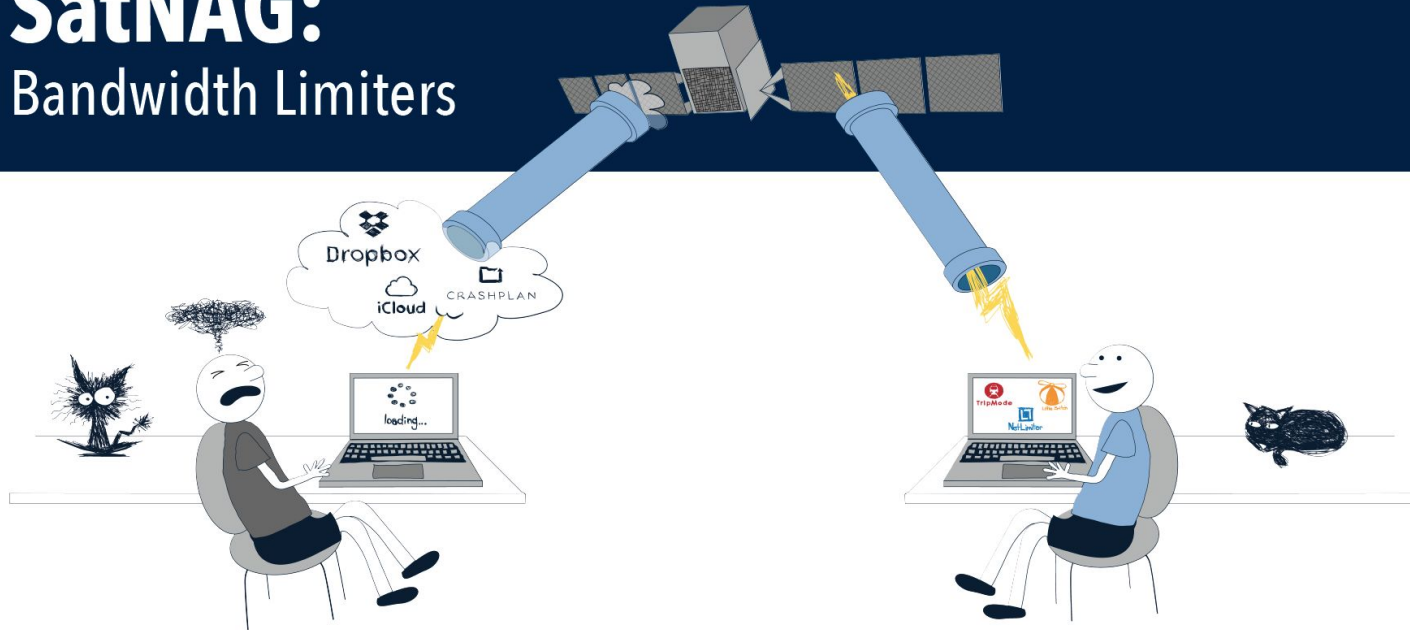


SatNAG

Satellite Network Advisory Group



SatNAG: Bandwidth Limiters



Don't let this be you!

... so, you are headed off to sea with your brand new state of the art laptop, all loaded up with the latest and greatest software, instantaneously jetting you off to the far reaches of the Internet. Unfortunately, you never seem to manage to leave the confines of your screen and you have become intimately familiar with the little spinning orb in the corner of your browser.

This is an all too familiar story. Bandwidth is finite, the more users, the more applications accessing the cloud, the more congested the satellite connection becomes, and the more frustrating the users experience.

Bandwidth limiters

... can monitor and control bandwidth usage on a per application basis, and can be a big help in controlling individual device bandwidth usage.

Bandwidth Limiters including TripMode (MAC and Windows), Little Snitch (MAC), and Netlimiter (Windows only) are useful for blocking unwanted network access while at sea. They can also show you what connections your computer is making to the outside world. They will not limit bandwidth per se, but will allow you to see what connections are being made and thus allowing the user to stop unwanted activities.

Bandwidth management

... is the process of measuring and controlling the communication on a network link to avoid filling the link to capacity. A full link can result in network congestion and poor performance. SatNAG is currently working on a program to use individual quotas (captive portal), application/ web filtering rules (cyberoom), and analyzing metrics (cyberoom) to mitigate the congestion. If all parties, including individual users and their devices, ship IT, Institution IT, satellite IT, work together, a more viable internet experience can be our future.



Laura Stolp, Woods Hole Oceanographic Institution
 Ken Feldman, University of Washington
 Jon Meyer, SCRIPPS/University of California San Diego
 John Haverlack, University of Alaska Fairbanks



Satellite Network Advisory Group

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
- Updating user-facing SatNAG website content to make it easier for people to find documentations and other resources



SatNAG

Satellite Network Advisory Group



Thank You!

Questions?



 SatNAG

Satellite Network Advisory Group