

# SatNAG

Satellite Network Advisory Group

2020 UPDATE



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Satellite Network Advisory Group



# SatNAG - Satellite Network Advisory Group

- **Advisory Group Members**

- Laura Stolp / Woods Hole Oceanographic Institution
- Ken Feldman / University Of Washington
- Erich Gruebel / University Of Rhode Island
- John Haverlack / University of Alaska Fairbanks

- **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

- **What We Do**

- SatNAG works in good faith as advocates to the benefit of ARF over personal or home institution interests to advise NSF, the ARF community, and UNOLS Council about key aspects of satellite communication and fleetwide bandwidth management.



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# SatNAG - 2020 Year in Review

- **Next Generation Firewall**
  - Cyberoam iNG devices are being replaced by Sophos XG
  - HiSeaNet performed a bulk procurement
  - Considered a stopgap solution due to EOL of the Cyberoam
- **Internet Use Policy** being applied on SatNAG members' vessels.
  - [satnag.unols.org/internet-use-policy](https://satnag.unols.org/internet-use-policy)
  - Raised the daily quota to 400 MB per day per user
- **SatNAG wiki** - Regularly updated with current info. tips, and how-tos
- **UNOLS Community Updates and Representation** at key meetings
  - UNOLS CI/CS Committee
  - UNOLS Council Meeting (July)
  - Quarterly Meetings with HiSeasNet
  - Covid-19 Response
  - Telepresence for PIs



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<https://satnag.unols.org>



# Telepresence Levels

[https://satnag.unols.org/doku.php?id=public:what\\_is\\_it](https://satnag.unols.org/doku.php?id=public:what_is_it)

	Notification Time Required	Satellite Carrier Type	Required Bandwidth	Teleconferencing	File Transfers Ashore	Streaming Data Ashore	Streaming Video (Quality/Frame Rate)	Additional Berthing/Staff Required
<b>Level 0</b>	None	Any	500kbps+	1:1 Audio Only	Periodic <100MB	<100kbps unreliable	Low/Low	None
<b>Level 1</b>	2 Weeks	Any	500kbps+	1:1 Med. Quality Video	Periodic >100MB	<500kbps unreliable	Med/Low	None
<b>Level 2*</b>	3 Months	Any	2Mbps+	1:Many High Quality Video	NRT >100MB	>500kbps reliable	High/Med	None
<b>Level 3*</b>	6 Months	SCPC or TDMA 1:1	5Mbps+	1:Many High Quality Video	NRT >100MB	>500kbps reliable	Broadcast Quality High/High	1+

\*Requires bandwidth expansion



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# Seminars and Engagement

- **IMO 2021 Cyber Risk Management Guidelines**
  - Hosted by ABS
- **Understanding Cyber Security Through the Lens of USCG NVIC 01-20**
  - Hosted by ABS
- **Trusted CI / ARF Identity Management (IdM) Engagement**
- **2020 Ci/CS Workshop**
  - <https://cics-workshop.org>
- **2020 Trusted CI Cybersecurity Summit**
  - <https://www.trustedci.org/2020-nsf-summit>



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# SatNAG wiki

<https://satnag.unols.org/>

- **Web based documentation and searchable knowledge base**
- **Documented procedures and how-to docs (continual improvement)**
  - Sophos upgrades
  - Telepresence and ship to shore solutions
  - Bandwidth management tips and tricks
  - Device maintenance
- **Links to online resources**
  - Internet Use Policy
  - Satellite System Hardware



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# 2021-2022 Goals

- **Deploy Sophos XG Firewalls**
  - Rebuild the traffic usage metrics & reporting across the fleet
  - Does anyone need a captive portal firewall? Contact [satnag@unols.org](mailto:satnag@unols.org)
- **Work with HiSeasNet and ARF to Develop a Reference Network Architecture**
  - Standardize the physical and logical topology across the fleet
- **Continue Work on Next-Generation Firewall**
  - Define a deployment strategy for the next-generation firewalls, at scale
  - Explore practices for maintenance and security
  - Captive Portal (quota) vs. QoS based bandwidth control
  - API based fleetwide metrics and reporting
- **Maintain the user-facing SatNAG website content**
  - More tips, tricks, and best practices



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Thank You!

Questions?



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