

## Americas' Research Platform (AmRP) Working Group Meeting

*formerly GLIF Americas (GLIF-Am)*

**Tuesday, 17 September 2019**

**Co-Located With the 1st Annual Global Research Platform (GRP) Workshop**

**Organized by Joe Mambretti and Maxine Brown**

**DRAFT MINUTES August 3, 2020**

### Attendees

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## Meeting

### A. Meeting Objectives

1. Meeting overview
2. Introductions
3. Review key topics/conclusions from the GLIF-Am 2018 meeting – Minutes available at <https://www.glif.is/meetings/2018/glif-am/>

### B. Key Initiatives Related to North and South American R&E International Networking – NSF IRNC (grouped by PIs, institutions and/or collaborators). Relevant NSF CC\* awards also included.

For a list of all IRNC (and relevant CC\*) awards, see:

<https://nsf.gov/awardsearch/simpleSearchResult?queryText=irnc&ActiveAwards=true>

1. IRNC: ENgage: Building Network Expertise and Capacity for International Science Collaboration – Steve Huter, U Oregon, NSRC  
[Joe Mambretti gave a brief description of NSRC.](#)
2. CC\* Network Design: Upgrading Guam Network to Connect to Internet2 and Create a Science DMZ, and GOREX – Presented by former PI, Rommel Hidalgo, UC Fullerton, with input from PI Bastian Bentlage, University of Guam  
**PPTs: [HILDAGO-AmRP-2019-GOREX.pdf](#)**
3. IRNC: Backbone: AmLight Express and Protect (Exp) – Luis Lopez, FIU/ANSP  
**PPTs: [LOPEZ-AmRP-2019-AmLightExp.pdf](#)**
4. IRNC: Backbone: Americas Africa Research and eduCation Lightpaths (AmLight-AARCLight) – Luis Lopez, FIU/ANSP  
**PPTs: [LOPEZ-AmRP-2019-AARCLight.pdf](#)**
5. IRNC: RXP: AtlanticWave SDX – Yufeng Xin, RENCi  
**PPTs: [XIN-AmRP-2019-AtlanticWave-SDX\\_GRP\\_AmRP.pdf](#)**
6. IRNC: BackBone: TransPAC4 – Jennifer Schopf, Indiana University
7. IRNC: BackBone: NEAAR: Networks for European, American, and African Research – Jennifer Schopf, Indiana University
8. IRNC: AMI: NetSage: An Open, Privacy-Aware, Network Measurement, Analysis, and Visualization Service – Jennifer Schopf, Indiana University
9. IRNC: NOC: Global Research Network Operations Center at Indiana University: Performance Engagement and Monitoring and Visualization – David Jent, Indiana University  
[Joe Mambretti acknowledged the abovementioned awards.](#)
10. IRNC: Backbone: SXTransPORT Pacific Islands Research and Education Network (PIREN) – John Hess, CENIC
11. IRNC: RXP: Pacific Wave Expansion Supporting SDX & Experimentation – John Hess, CENIC  
**PPTs: [HESS-AmRP-2019-PIREN-Pacific Wave.pdf](#)**
12. IRNC: RXP: StarLight SDX – Joe Mambretti, Northwestern University  
**PPTs: [MAMBRETTI-AmRP-2019-StarLight-SDX.pdf](#)**

13. IRNC: AMI: Collaborative Research: Software-Defined and Privacy-Preserving Network Measurement Instrument and Services for Understanding Data-Driven Science Discovery – Yan Luo, University of Massachusetts, Lowell  
[Joe Mambretti acknowledged the abovementioned award.](#)

**C. Key Initiatives Related to North and South American R&E International Networking – Other U.S. networks, international networks, and initiatives**

1. DOE ESnet international networking initiatives –John MacAuley, ESnet  
[PPTs: MacAULEY-AmRP-2019-ESnet6.pdf](#)
2. LHCOPN/LHCONE – Gerben van Malenstein, SURFnet  
[PPTs: vanMALENSTEIN-AmRP-2019-LHCONE-P2P.pdf](#)
3. Internet2 international networking initiatives – Dale Finkelson, Internet2
  - Completed the first half of MAN LAN upgrade (Brocade to QFX); the second half is tonight. This will be done at MAX/WIX in late October. Will develop expertise with new protocols. Will implement NSI stack in OSCARS (OESS NSI stack will transition in appx November).
  - Contributing to ANA development. In 2020, there will be considerable effort by ANA partners to rethink ANA; i.e., manage transactional agreements to these circuits.
  - The 100G from Singapore to L.A. will not be extended after Nov 2020, but they will make sure that the Asia Pacific area and U.S. are well connected.
  - I2 is focused on building next-generation I2. I2 is building an optical network (Ciena is the chosen vendor); transition to take place over the next 6-9 months. Will issue RFP for L2/L3 equipment by mid-October and do evaluations for the rest of the year. Also interested in adding a layer of automation to circuits (like ESnet).
  - Involved in GNA-G. People have been added to the management group (Gerben van Malenstein and Harvey Newman with Dale, Erik-Jan Bos and David Wilde) to make global circuits work as well as they can.
4. CANARIE international networking initiatives – Thomas Tam, CANARIE
  - ANA suboceanic circuits are limited. U.S. and Canada have big borders. 1.1TB going south (PW, StarLight, NY), CANARIE runs 800Gb capacity to U.S.
  - Doing optical upgrade; first will be to Seattle in 2020, then Chicago.
  - SDN efforts at MAN LAN/WIX – wants to include MOXY, as they use the same platform.
5. RNP/SouthernLight international networking initiatives – Marcos Schwarz, RNP  
[PPTs: SCHWARZ-AmRP-1019-RNP.pdf](#)
6. Data Mover Challenge 2020 (DMC20) – Alvin Chiam, NSCC  
[PPTs: CHIAM-AmRP-2019-DMC.pdf](#)
7. U.S. campus science programs, SDN, integrative technologies and advanced connections – Harvey Newman, Caltech  
[PPTs: NEWMAN-AmRP-2019-NextGenCyberwithAi\\_LHCandDIS.pdf](#)

**D. Major Trends in Americas’ International Connection Requirements and Communities Served**  
Areas of potential new major technology-based opportunities, especially projections for resources required *beyond* bandwidth (e.g., programmable networking)

*In previous years, we have discussed the Global Research Platform, AI testbeds, Quantum networks, tenant networking, integration of R&E networks with cloud providers, Software Defined Networks (SDN), SDN Exchanges (SDXs), Software Defined Infrastructure (SDI), Network Function Virtualization (NFV), Cloud Computing, Green Networking, Transoceanic Fiber Builds, Research Testbeds, Science DMZs, Distributed NOCs, Data Transfer Nodes (DTNs), etc.*

**E. Wrap-Up**

[SC19 GRP BOF is scheduled for Tue Nov 19, 5:15pm-6:45pm. Room 710.](#)