



“  
**DIGITAL INFRASTRUCTURE  
FOR DEVELOPMENT**  
”

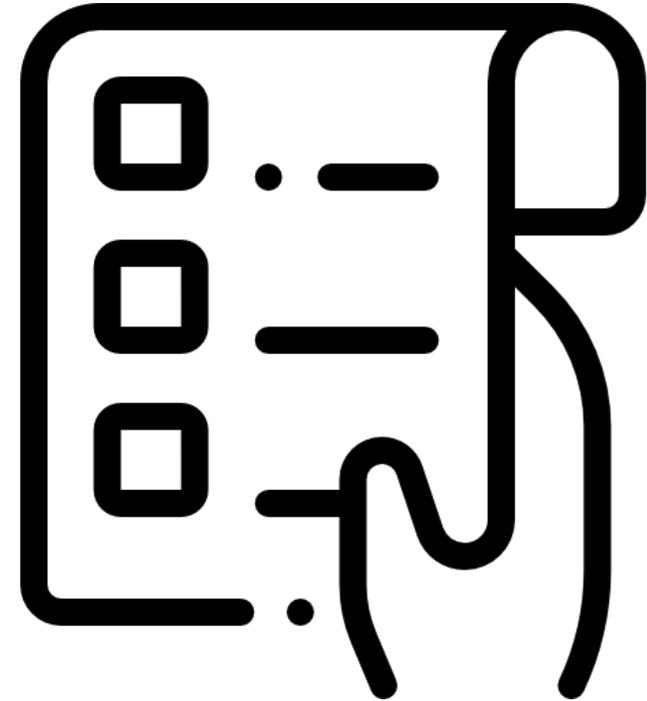
# **Building Multi-institutional e-Infrastructure Platforms and Services for Somali Higher Education Institutions:**

The Case for SomaliREN Services

**Mohamed Ali Ahmed**  
Services Portfolio Manager,  
SomaliREN

# Agenda

- What is an NREN?
- SomaliREN Services for the Research and Education Community
  - Connectivity
  - Network Management
  - Digital Repository
  - Trust, Identity & Security
  - Real-time Communications
  - Learning Management Systems
  - Tools for Research
  - Content



## What is NREN?

A National Research and Education Network is both;

- 1) a high performance communications network owned and operated for and by the education and research community of a country (e.g **SomaliREN**) and;
- 2) the organization that operates that network, constituted as a consortium of members

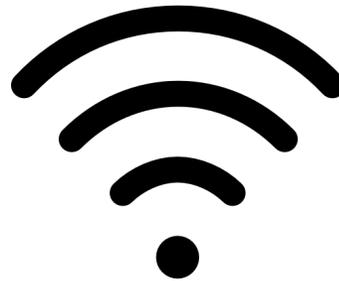
National research and education networks (NRENs) play a critical role in the development of communication network infrastructure and networked services for researchers and educators.

## A Bit About SomaliREN

- SomaliREN is a membership based organization started and owned by its member institutions which are 28 members strong.
- The core mission is to drive the digital transformation of the Somali higher education and research sector.
- SomaliREN is a member of two regional organizations:
  - UbuntuNet Alliance
  - ASREN



## Higher Education Services



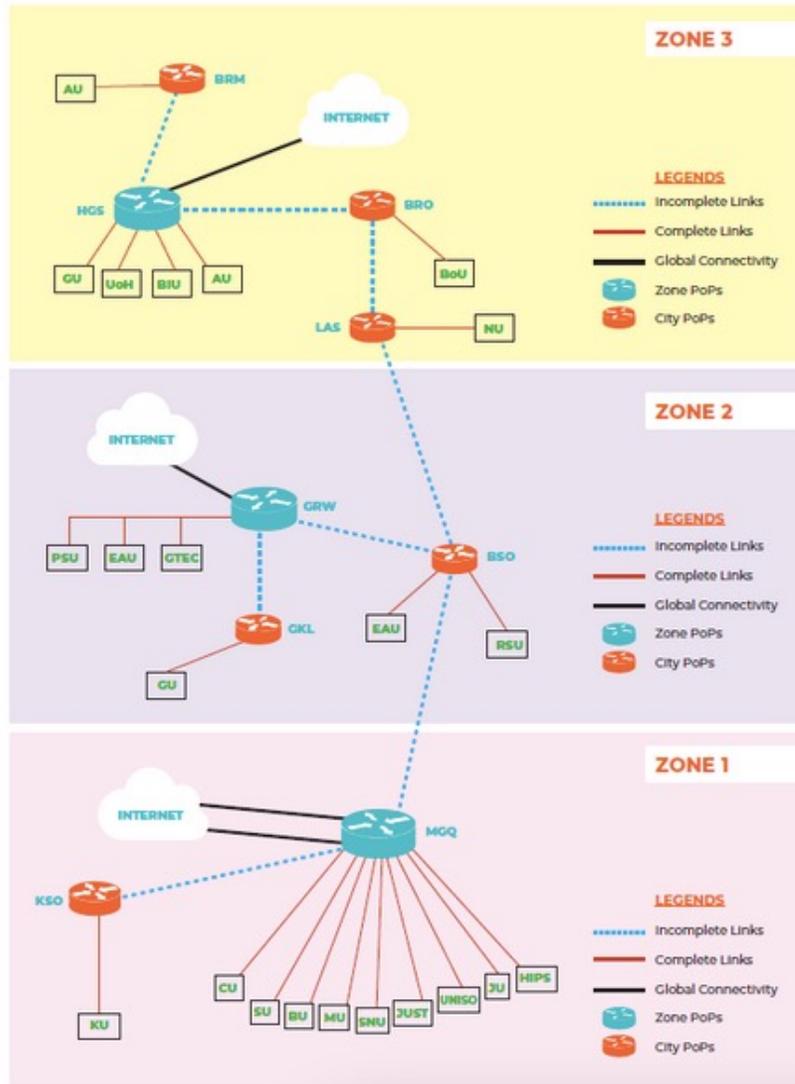
## Higher Education Services: Connectivity



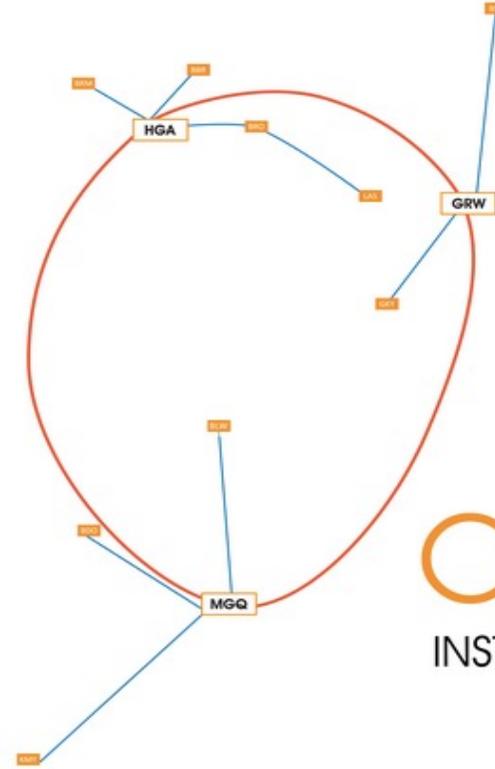
**SomaliREN** provides members with a secure, fast, reliable and dedicated internet connection that promotes research, education, innovation and collaboration among institutions and helps them accomplish their educational and research mandates.

Internet connectivity is the primary form of intervention to enable easy collaboration among education and research institutions.

## HIGH-LEVEL VIEW OF SOMALIREN NETWORK BACKBONE



## SomaliREN Network Vision

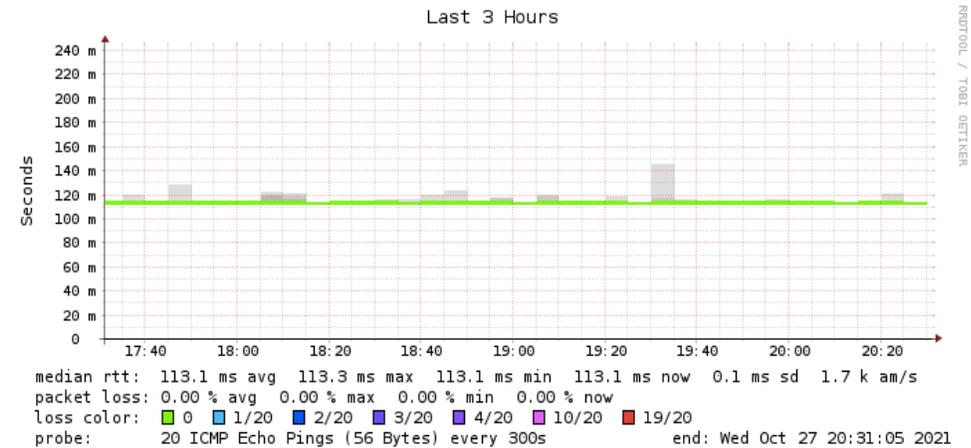
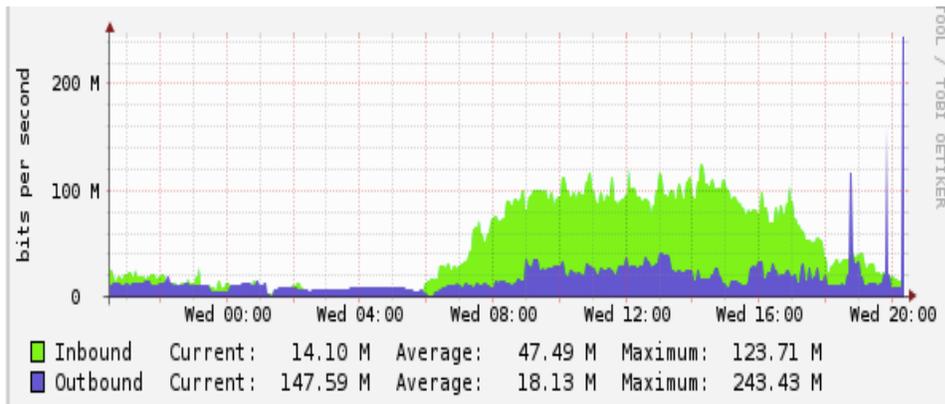


Over 40  
INSTITUTIONS CONNECTED

2Gbps + CAPACITY DELIVERED

# HE Services: Network Management & Monitoring

- Capacity
- Availability
- Reliability

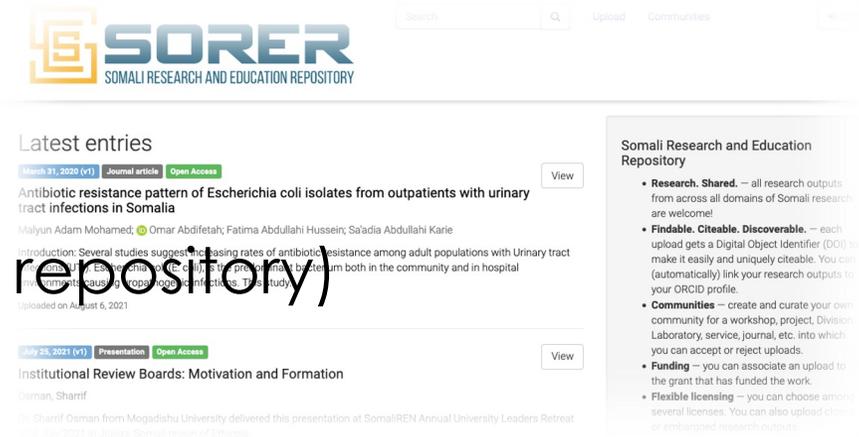


# HE Services: Digital Repositories

Repositories are important for educational institutions in helping to manage and capture intellectual assets as a part of their information strategy. Digital repositories play a vital role in the duration of digital materials and offer a convenient way to store, manage, reuse and curate a variety of digital materials.

SORER features:

- (All) Research. Shared.
- Citeable. Discoverable.
- Integration with ORCID
- Communities (Create your own repository)
- Safe (More than drop box)
- Flexible Licensing



## HE Services: Trust, Identity & Security

### SomaliREN Identity Federation (SIF)

Enables trustworthy exchange of information between federations without many bilateral agreements

Improves the security and end-user experience of services.

Enables identity providers to increase the number of services available to their users.



## HE Services: Trust, Identity & Security

### **eduroam**

- Simple
- Easy
- Secure
- Worldwide WiFi
- Sign-in once and access everywhere you are
- Solution for all your mobile connectivity needs
- Available in over 100 countries.



## HE Services: Trust, Identity & Security

### eduVPN

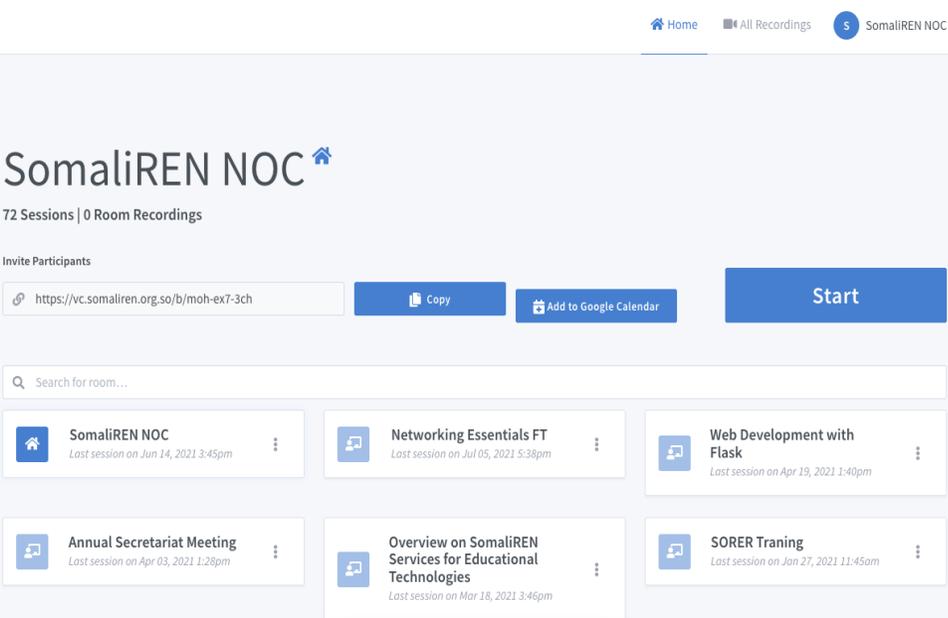
- The purpose of eduVPN is to provide a more secure access to public and private networks for the international research and education community.



# HE Services: Real-time Communications

## SomaliREN Video-conferencing System

- Web conferencing system
- Online learning
- Real-time sharing of audio, video, screen
- public/private chat
- Upload of PDF and Microsoft office documents
- Interactive whiteboard
- Integration with eduGAIN/ LDAP

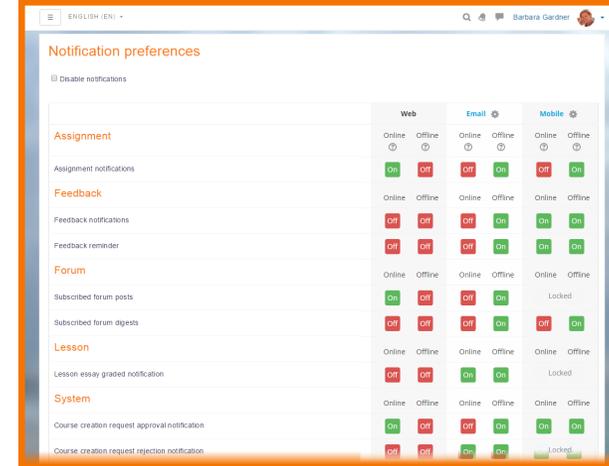


The screenshot displays the SomaliREN NOC web conferencing interface. At the top right, there are navigation links for 'Home', 'All Recordings', and 'SomaliREN NOC'. The main header features the 'SomaliREN NOC' logo and a home icon, with statistics showing '72 Sessions | 0 Room Recordings'. Below this, there is an 'Invite Participants' section with a text input field containing the URL 'https://vc.somaliren.org.so/b/moh-ex7-3ch', a 'Copy' button, an 'Add to Google Calendar' button, and a prominent blue 'Start' button. A search bar labeled 'Search for room...' is positioned above a grid of session cards. The grid includes cards for 'SomaliREN NOC' (last session on Jun 14, 2021), 'Networking Essentials FT' (last session on Jul 05, 2021), 'Web Development with Flask' (last session on Apr 19, 2021), 'Annual Secretariat Meeting' (last session on Apr 03, 2021), 'Overview on SomaliREN Services for Educational Technologies' (last session on Mar 18, 2021), and 'SORER Training' (last session on Jan 27, 2021).

# HE Services: Learning Management System

## SomaliREN LMS (Moodle)

- Modern, easy to use interface
- Personalized Dashboard
- Collaborative tools and activities
- Convenient file management
- Simple and intuitive text editor
- All-in-one calendar
- Notifications
- Track progress



# HE Services: content

- **SomaliREN OCW Mirror site**
- Hosted locally for easy access
- Unlocking Knowledge
- Web-based publication of virtually all MIT course content.
- Empowering Minds
- Materials form over 2500 courses

https://ocw.somaliren.org.so

MITOPENCOURSEWARE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Subscribe to the OCW Newsletter

Help | Contact Us

FIND COURSES ▾ For Educators ▾ Give Now ▾ About ▾

Unlocking Knowledge,  
Empowering Minds.  
Free lecture notes, exams, and videos from MIT.  
No registration required.

» Learn more

Support OCW

I think that online learning is absolutely the right way for education to be conducted in the future.

Ian Parent  
Canada

GIVE NOW

FEATURED COURSES

» Find Courses

EDITOR'S PICK

EDUCATOR

NEW

OCW makes the materials used in the teaching of MIT's subjects available on the Web.

# HE Services: File Sharing, Event& Survey Tools

## File Sender

- Send large files securely and encrypted
- A fully transparent open source filesending web application
- Developed to the requirements of the higher education and research community
- Not intended as a permanent file publishing platform

## Event Management

- Manage Events of different complexity
- Full conference lifecycle
- Hierarchical Protection Scheme
- Room Booking Module
- Integration with Collaborative Tools
- Open-source tool for event organization, archival and collaboration

## Survey Tool

- Unlimited number of surveys at the same time
- Unlimited number of questions in a survey
- Unlimited number of participants to a survey
- Integration of pictures and movies into a survey
- Data Export Excel, CSV, SPSS, Word, PDF
- Conditions for questions depending on earlier answers (Skip Logic / Branching)

**END**

