



# **NREN Status and Information in Myanmar**

**At TEIN NOC Workshop**

Presented by

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# Outline

- Background
- Feasibility Study Status
- Network Status –
  - ❖ Connection to TEIN : Connection Cost
  - ❖ Establishing mmREN : Discussion
- Technical Supports for establishing mmREN
- Key Applications
- Conclusion

# Geographical Information

Total land area	- 261,228 sq miles (676,578 km <sup>2</sup> )
Population	- Over 60 millions
Capital	- Nay Pyi Taw
International Network Connections	<ul style="list-style-type: none"><li>- SEA-ME-WE-3 submarine fire optic cable</li><li>- Cross-border fiber links with China, India and Thailand</li><li>- 2 international satellite earth stations (connected to Thai-com satellite)</li></ul>



**Background**

# About REN

- 164 Universities under 17 separated ministries
- Most universities have LAN. But most campuses' LANs are not well designed
- No dedicated Myanmar Research and Education Network

# ICT Education in Myanmar

- Under Ministry of Education
  - Universities' Computer Center (UCC) in 1971
  - Institute of Computer Science & Technology (ICST) in 1986
    - Start to offer undergraduate degree program
- Under Ministry of Science & Technology
  - University of Computer Studies, Yangon (UCSY) in 1998

Since 2000,

  - 25 University of Computer Studies
  - 36 Technological Universities

# Feasibility Study Status

- Have an agreement with MCIT to help TEIN project implementation
- MCIT assigned some persons to collaborate with our FS team
- Got some price lists for international connection to TEIN
- Have on the discussion stage for mmREN detailed design

# Network Status

## - Connection to TEIN

- International Connection Status

- MCIT requested the price lists for only interconnection prices (without internet) to Thai(CAT), Thai(TOT), China Telecom, China Unicom

- ▶ Get the price lists from

- China Telecom Global Limited
- Thai (CAT Telecom PCL)



# International Backbone



1. Satellite Communication
2. Cross-border transmission link
3. SE-ME-WE-3

# Network Status

## – Establishing mmREN

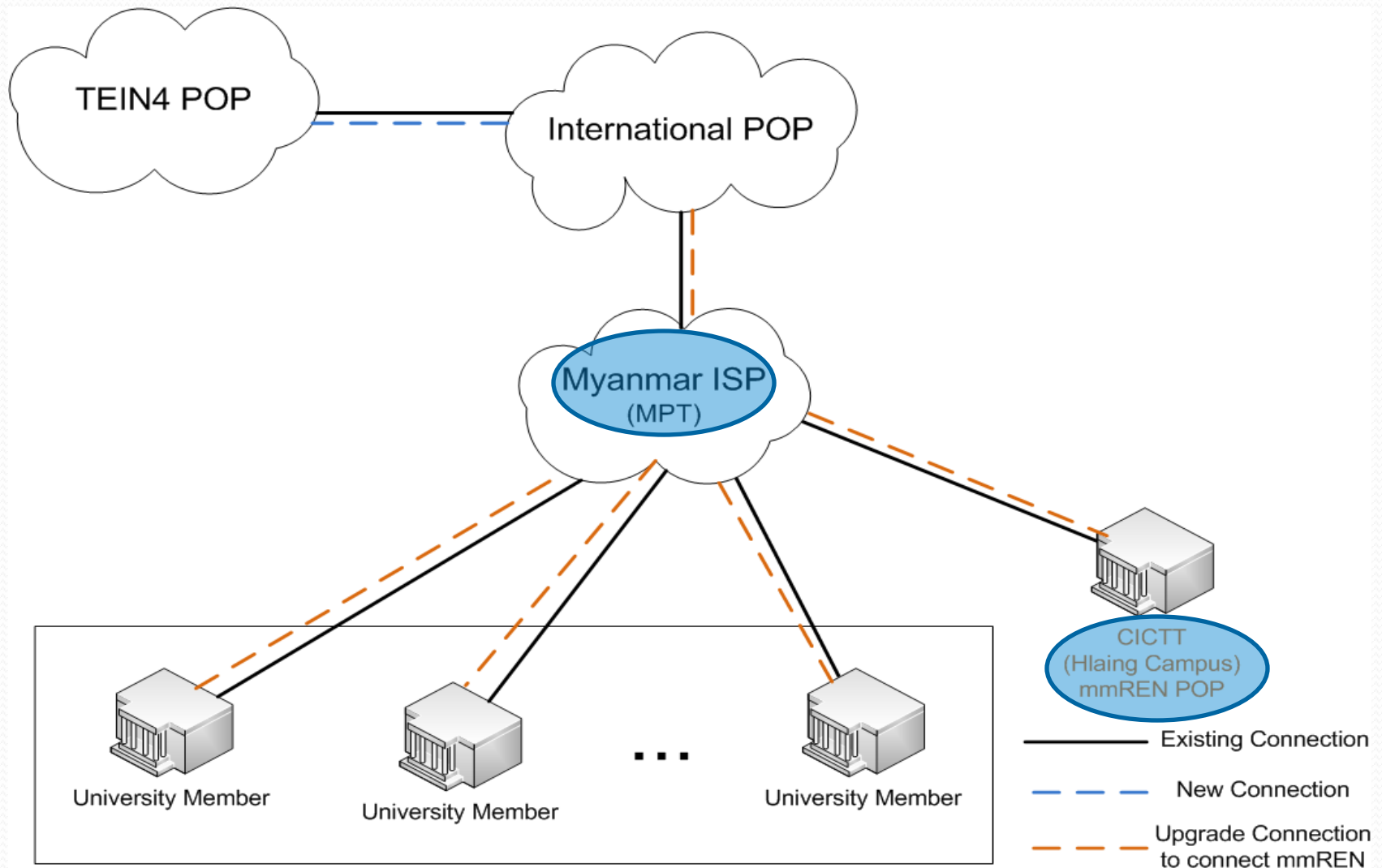
- Current Myanmar REN Status

- Have a team who participated from responsible sections assigned by MCIT
  - Long Distance Communication Section
  - Information and Communication Section
  - Auto Telephone Section
- Are still on discussion for mmREN detailed design

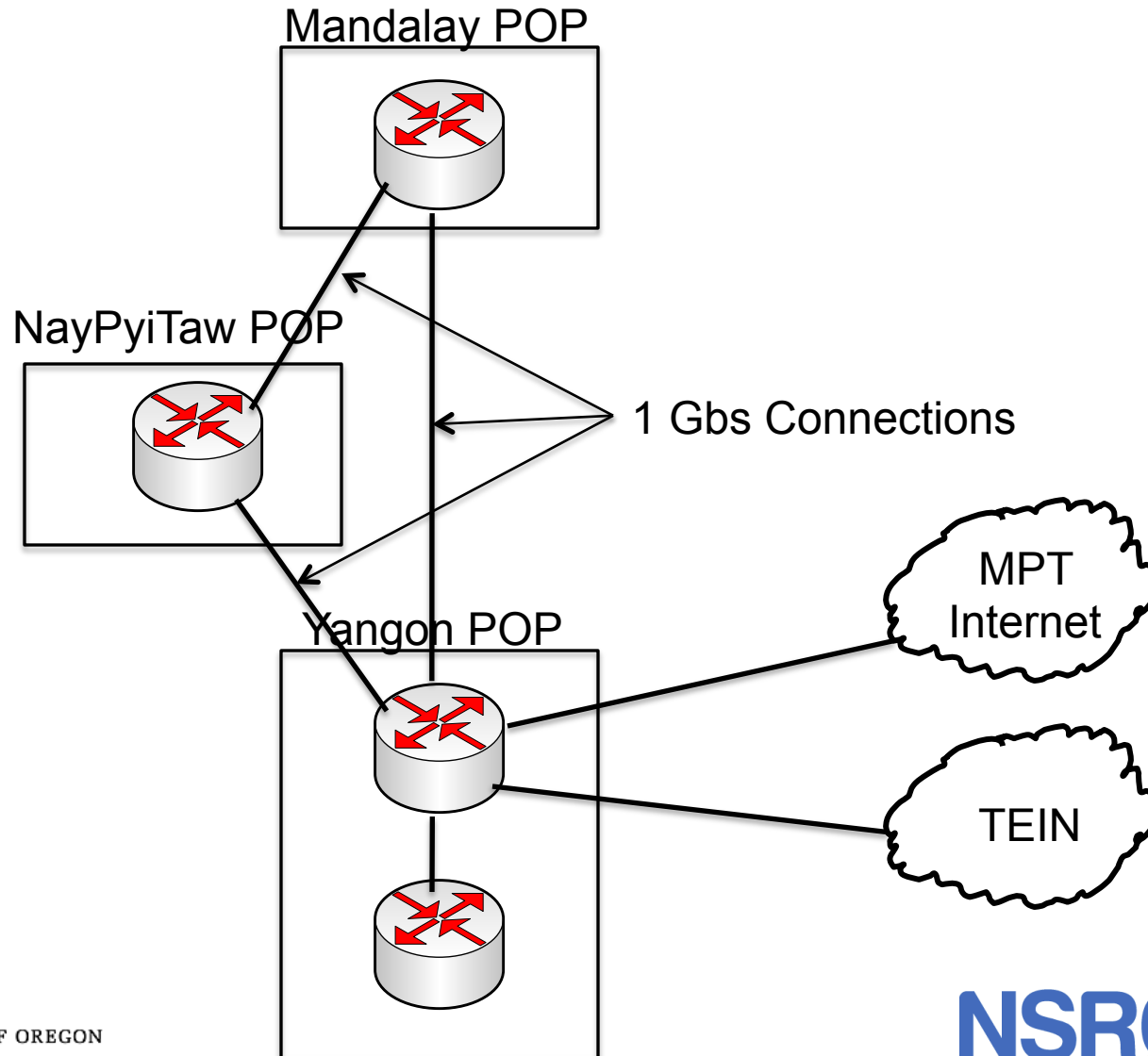


# **NREN Proposed Design**

# Proposed Myanmar REN to be connected TEIN4

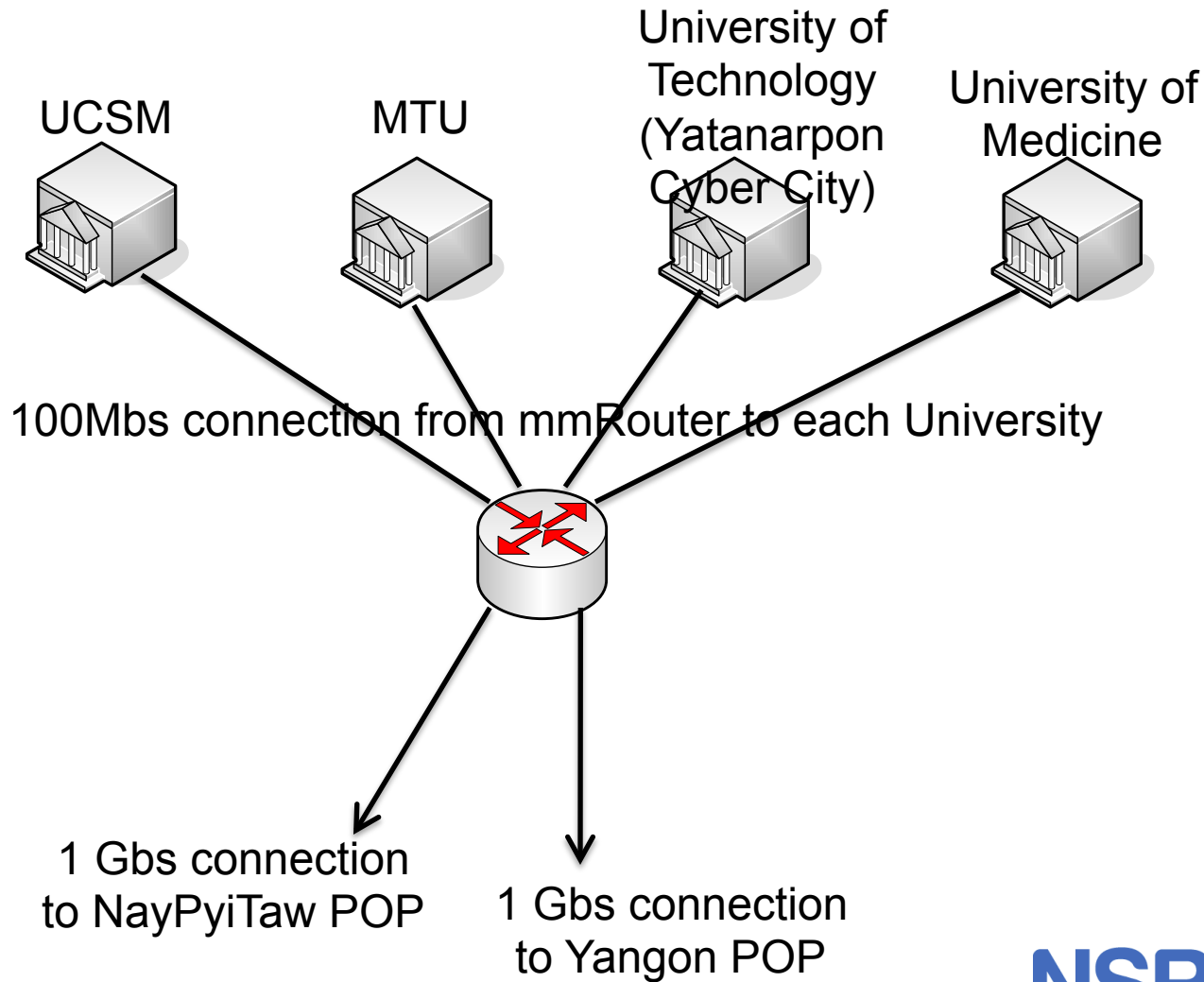


# Proposed Network Diagram

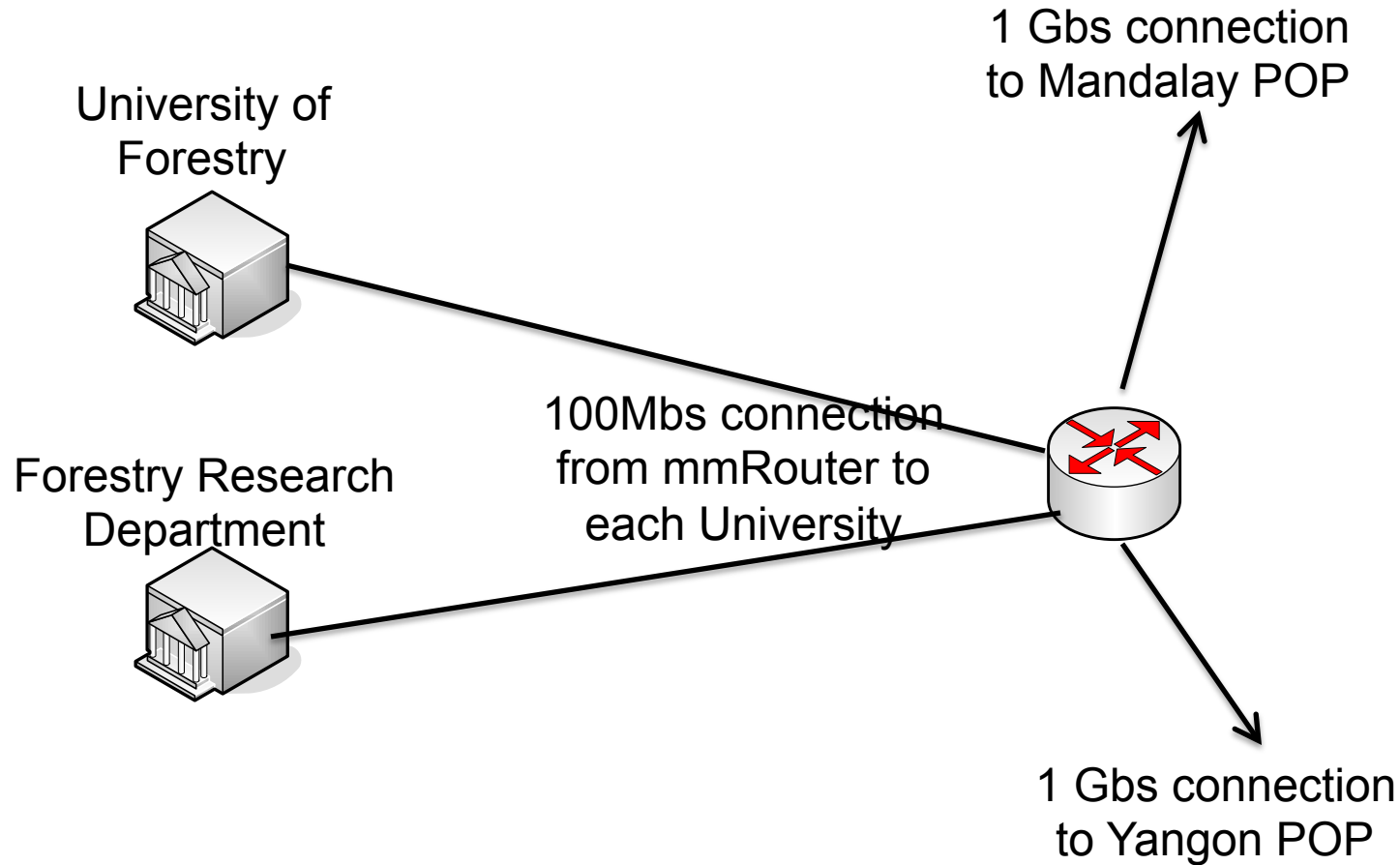




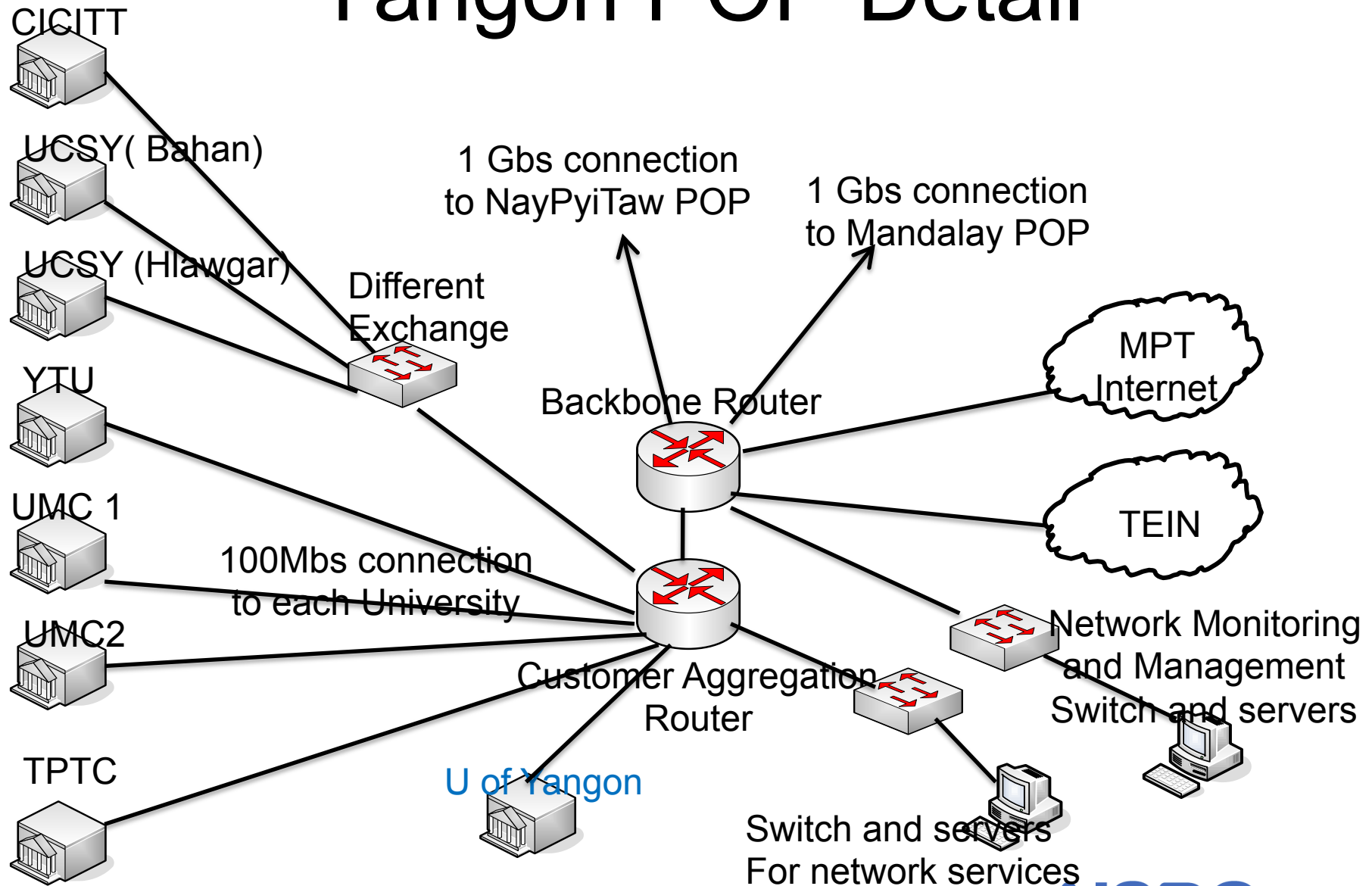
# Mandalay POP Detail



# NayPyiTaw POP Detail



# Yangon POP Detail



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# **Technical Supports for establishing NREN**

# Required Technical Supports

- Technical Assistance for well-designed for Myanmar National REN (mmREN)
- Network knowledge for connection to TEIN<sub>4</sub> and mmREN management
- How to start the building Myanmar National REN and important notices

# Establishing NREN in Myanmar


- Providing the advanced network technology for setting up mmREN
  - How a REN should setup
  - Network equipment for mmREN POP
  - Network equipment for member Universities
  - Required devices specifications and details configuration on those devices
  - Security Control for mmREN POP (Security devices & tools)

# Key Applications

- Learning Learnt from other NRENs
- Proposed Applications
  - e-library
  - e-learning on Cloud infrastructure
  - Tele-medicine
  - Video conferencing

# Conclusion

- Briefly introduction of Myanmar ICT and Education
- Explain Feasibility Study status in Myanmar
- Present the proposed NREN design
- Mention what we need for establishing mmREN and its detailed design
- Some applications



Thank you very much  
for your attention!