

TEIN Connectivity and Future Plan in Myanmar

NREN: mmREN

Country: Myanmar

Presenter: Dr. Mie Mie Thet Thwin

The 4th Asi@Connect Project Meeting/ August 6 2018
Auckland, New Zealand



Agenda

- ❖ Status Updates of Collaborations
- ❖ Status Updates of Domestic links and International links
- ❖ Challenges of mmREN
- ❖ Future Plans



Collaborations with TEIN*CC

Date	Description
May, 2012	TEIN3 Workshop in Yangon, Myanmar
Aug, 2013	Approved by Myanmar government
Oct, 2013	TEIN4 Workshop in Nay Pyi Taw, Myanmar
Mar, 2014	Signed TEIN4 LOI
May, 2013 - 2016	Feasibility Study for developing Myanmar REN (mmREN)
Jun, 2016	Technical Capacity Building training for building mmREN at UCSY
Apr, 2018	Signed Asi@Connect LOI
Sept, 2018	mmREN is to be connected to TEIN's network



Domestic Links

Legend

- Yangon
- Ayeyarwaddy
- Rakhine
- Magwe
- Sagaing
- Mandalay
- Kachin
- Bago
- Shan
- Kayar
- Mon
- Kayin
- Legend
- Domestic
- IPLC
- Location



UCSM
CU (Mdy)
CU(Makhtila)
UT(YCC)

CU
(Moneywa)
(Kalay)

CU
(Magwe)
(Pakoku)

CU
(Sitwe)

CU
(Hinthata)
(Maubin)
(Pathein)

UCSY
UIT
YTU
WYTU
TU (MhawBi)
TU (Than hlin)
UM(1)

CU
(MyitKyiNa)
(Bamaw)

CU
(Tangoo)
(Pyay)

CU
(Taunggyi)
(Lasho)
(Panlon)

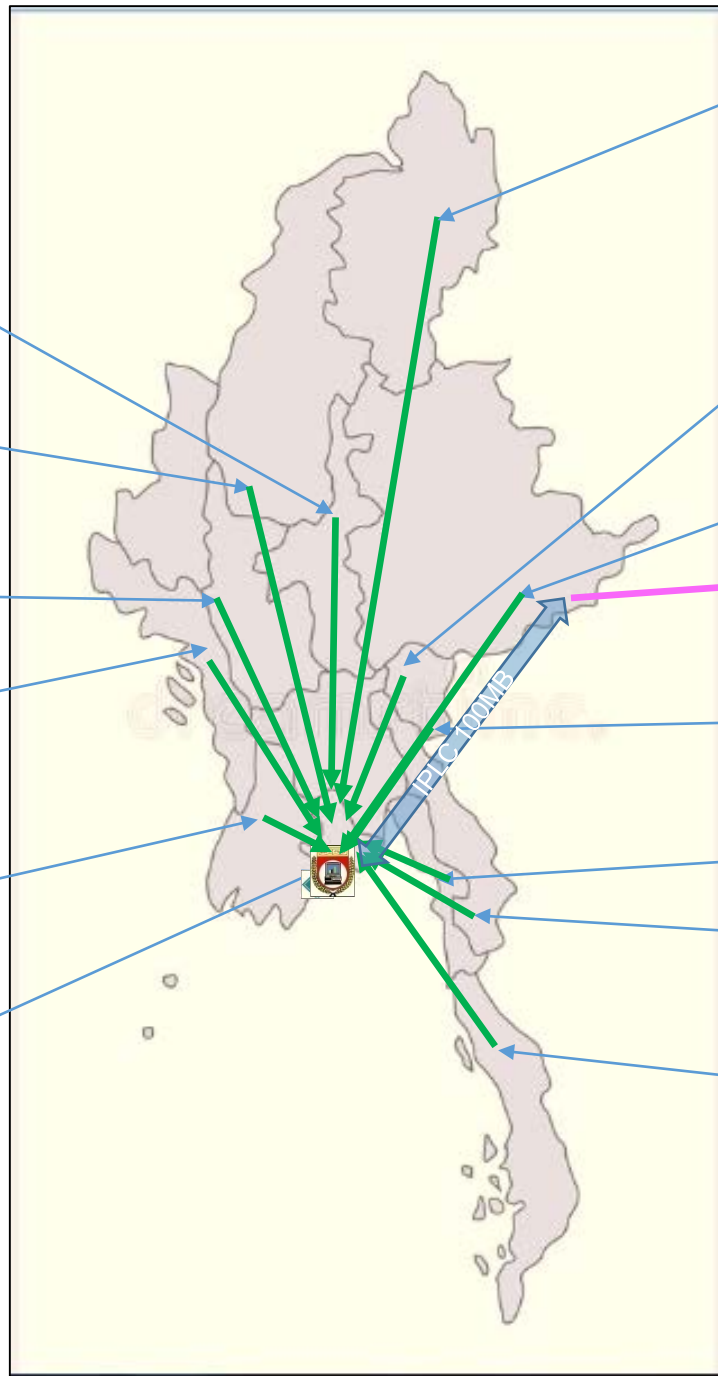
Tachelake

CU
(Loikaw)

CU
(Thahton)

CU
(PaAn)

CU
(Myiek)
(Dawei)



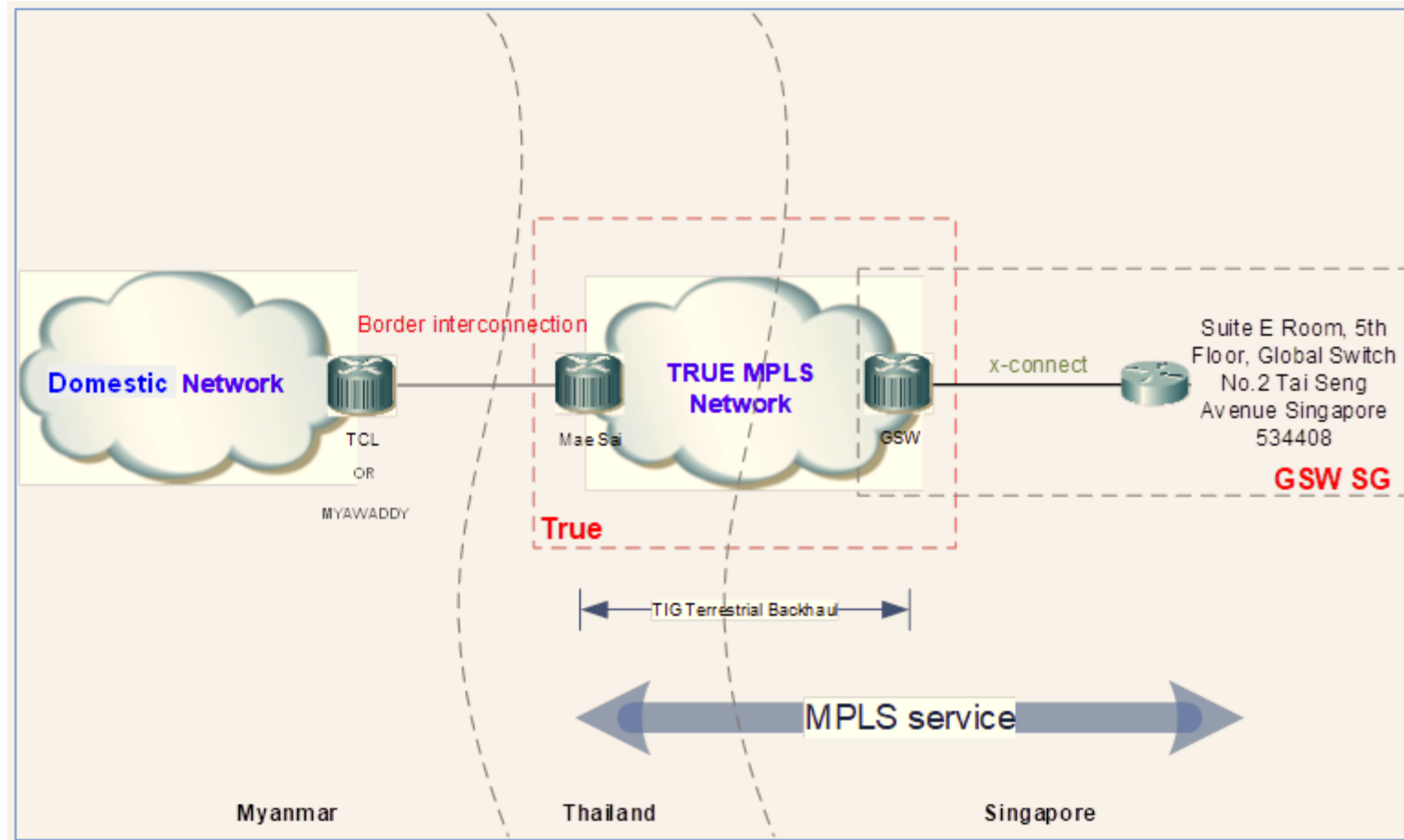
Details of Universities with respective Region/States

No	University		Region /State
1	University of Computer Studies, Yangon	UCSY	Yangon
2	University of Information Technology	UIT	
3	Information and Communication Technology Research Center	ICTRC	
4	Yangon Technological University	YTU	
5	Technological University (Hmawbi)	TU(Hmawbi)	
6	West Yangon Technological University	WYTU	
7	Technological University (Thanlyin)	TU (Thanlyin)	
8	Medicine University (1), Yangon	UM(1)	
9	University of Computer Studies, Mandalay	UCSM	Mandalay
10	Computer University (Mandalay)	CU(MDY)	
11	University of Technology (Yatanarpone Cyber City)	UT(YCC)	Sagaing
12	Computer University (Monywa)	CU(MDY)	
13	Computer University (Taunggyi)	CU(TGI)	Shan State
14	Computer University (Pyay)	CU(Pyay)	Bago
15	Computer University (Taungngu)	CU(TGU)	Bago
16	Computer University (Magway)	CU(Magway)	Magway
17	Computer University (Meikhtila)	CU(MTLA)	Mandalay
18	Computer University (Thahton)	CU (Thahton)	Mon State
19	Computer University (Hinthada)	CU(Hinthada)	Ayarwady
20	Computer University (Pathein)	CU(Pathein)	
21	Computer University (Maubin)	CU(Maubin)	
22	Computer University (Myitkyina)	CU(Myitkyina)	Kachin State
23	Computer University (Bamaw)	CU(Bamaw)	
24	Computer University (Loikaw)	CU (Loikaw)	Kayar State
25	Computer University (Pinlon)	CU(Pinlon)	Shan State
26	Computer University (Hpaan)	CU(Hpaan)	Kayin State
27	Computer University (Kalay)	CU(Kalay)	Sagaing
28	Computer University (Pakokku)	CU(Pakokku)	Magway
29	Computer University (Lashio)	CU(Lashio)	Shan State
30	Computer University (Dawei)	CU (Dawei)	Tanintharyi
31	Computer University (Myeik)	CU(Myeik)	
32	Computer University (Sittwe)	CU(Sittwe)	Yakhine State
33	Computer University (Kyaingtong)	CU(Kyaingtong)	Shan State



International Links

Border interconnection between mmREN & Singapore TEIN Pop



Status Update of International Links

- Ongoing discussion to join new fiber cores at border between domestic service provider and TRUE
- Both project teams are working to do commissioning to bring up service
- Lead time - 4 weeks to be completed interconnection at border
- Delivery - 8 weeks for end - to - end testing from UCSY to Tachileik border demarcation point
- Challenges
 - Since service order goes to two service providers separately, it is difficult to manage end-to-end assurance and services
 - Both service providers are responsibilities only for half circuit



Challenges for development of mmREN

- ❖ To raise awareness of REN
 - Why do we need REN?
 - Why do we have to pay for REN? Currently, we are using Internet.
 - ✓ Computer/ IT/ Technological Universities - 31
 - ✓ University of Medicine -1
 - ✓ Research Centre -1
 - ✓ Art & Science Universities , University of Economics and others - Still in discussion and haven't finalized yet

- ❖ Budget constraints

- ❖ Lack of Network Technicians

- ❖ Back bone infrastructure Constraints



Future Plan

Road Map of mmREN Implementation for Universities

Phases	Universities	Number of Universities	When
Phase I	Computer/ IT Universities (27) Technological Universities (Yangon) (4) University of Medicine I ICT Research Centre	33	2018-2019
Phase II	Medical Universities (15) Technological Universities (31)	46	2018-2020
Phase III	Art & Science Universities (40) Universities of Economics (8) Universities of Education (27)	75	2019-2021
Phase IV	All Other Universities	8	2019-2022



Cont'd : Future Plan

- ❖ The MOE is also proposing to partner with the Ministry of Transport and Communication to establish national REN that will link all universities in Myanmar.
- ❖ The mmREN will establish formal links with important international REN, such as:
 - Asia Pacific Advanced Network (APAN)
 - ASEAN Science and Technology Research and Education Network Alliances
 - ASEAN Fisheries Education Network (ASEAN-FEN)
 - ASEAN Teacher Education Network (AsTEN)
 - South East Asia Research Network (SEARN)
 - Asia-Pacific Network for Global Change Research (APN)



Cont'd : Future Plan

❖ Participate in Projects/Workshops

- OF@TEIN+ project
- Disaster Mitigation by Deeper Understanding
- Broadening Asi@Connect Knowledge on Federated Identity, Roaming and E-infrastructure (BACKFIRE)
- CSIRT Capacity Building in Asia
- Workshop on IPv6 Deployment in R&E Networks

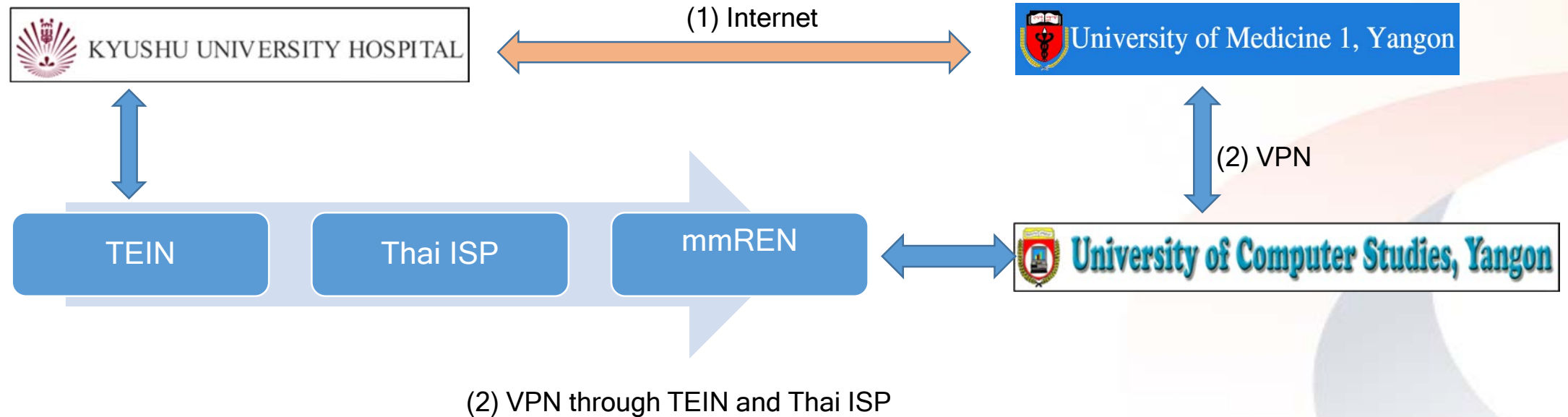


Promoting OF@TEIN+ Project and Knowledge Sharing

- ❖ Instructors - Dr. JongWon Kim & Dr. Chu-Sing Yang
 - Date - 11th Jul - 13th Jul 2018
 - Number of Institutes - 28
 - Number of Participants - 71
 - Location - UCSY



Remote medical lecture through REN (Coordination by KDDI foundation) Demonstration: Multi destination(UM1Y, UMM and UMT) in Myanmar and Kyusyu University in Japan



Cont'd : Future Plan

Capacity Building for mmREN engineers

No	Trainings	Who	Where	When
1	Advanced Network Security (Proposed by APNIC Foundation and KDDI Foundation)	mmREN Operators	UCSY	24-28 Sep 2018
2	Advanced Network Security (Proposed by APNIC Foundation and KDDI Foundation)	University Teachers	UCSY	10-14 Dec 2018



Cont'd : Future Plan

TEIN Activity Proposal

ICT, Capacity Building, Networking, Cyber security, SDN and Internet of Things

Principal Investigators(PI)/Leaders - UCSY & UM

No	Activity	Start Date	End Date
1	Formalize the key areas of specialization in ICT	01/07/2018	30/09/2018
2	Knowledge transfer activities with train the Trainer Model	01/10/2018	30/06/2019
3	Local workshops and trainings	01/07/2019	31/10/2019
4	Document the findings, feedback and discussions	01/10/2019	31/12/2019



Thank You

