

Regional Standardization Forum
Emerging Economic,
Regulatory and Policy Trends
in a Fast-Changing Digital World

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1968-2018

Study of ITU-T SG3 Q.13

Guo Huaming

Senior Engineer, CAICT, China

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Study Undertaken by ITU-T SG3 Q.13

□ Establishment of Q.13:

Q.13 was Newly Established at ITU-T SG3 in April 2017, lasting 4 years to 2020.

Name of Q.13

- Study of Tariff, Charging Issues of Settlements Agreement of Trans-multi-country Terrestrial Telecommunication Cables

Task of Q.13

- To study and develop Recommendations and guidelines, regarding the policy, tariffs, charging and economic aspects of trans-multi-country terrestrial telecommunication cables.

Scope of Q.13

- Study the difficulties facing the deployment of trans-multi-country terrestrial telecommunication cables and the demands of all concerned parties.
- Study the issues of the policy, tariffs, charging and economic related to trans-multi-country terrestrial telecommunication cables
- Study and develop Recommendations and guidelines on settlement of trans-multi-country terrestrial telecommunication cables

Progress in Rapporteur Group Meeting of ITU-T SG3

Establishment of Two work items about Q.13:

- Two work items under Q.13 were proposed at The Rapporteur Group Meeting in November 2017, and agreed in the plenary meeting of SG3 in April 2018.

Work item 1

- **Name:** Study on charging and accounting settlements in Trans-multi-country terrestrial cable circuit.
- **Scope:** Study, analyse and find solution to charging and accounting settlement challenges facing trans-multi-country transmission circuit, especially excessive transit costs. Besides, it will also study how to combine terrestrial and submarine cables to improve international connectivity.

Work item 2

- **Name:** Recommendation on the model of trans-multi-country Terrestrial Cable Resource sharing.
- **Scope:** Study and develop a “model of trans-multi-country terrestrial cable resource sharing” to provide a solution to the problem faced by landlocked countries. The model aims to enhance the international Internet connectivity by sharing cable resources.

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Case Study 1: Great Mekong Sub-region Information Superhighway(GMS IS) phase II

GMS IS

- GMS including Thailand, Vietnam, Laos, Myanmar, Cambodia and Yunnan Province of China, GMS IS aims to build a backbone network connecting the six countries.
- GMS IS contains two phases. Phase I :The network routine in red dotted line as shown in left figure 1. Phase II: The network routine in blue dotted line as shown in figure 1. This network makes full use of the existing backbone optical fiber resources in each country and the domestic backbone construction planning, ensuring no less than two routes between two adjacent countries (shown as figure 2). Phase I has completed some years ago, but phase II has not started yet because of lacking a reasonable trans-multi-country solution.

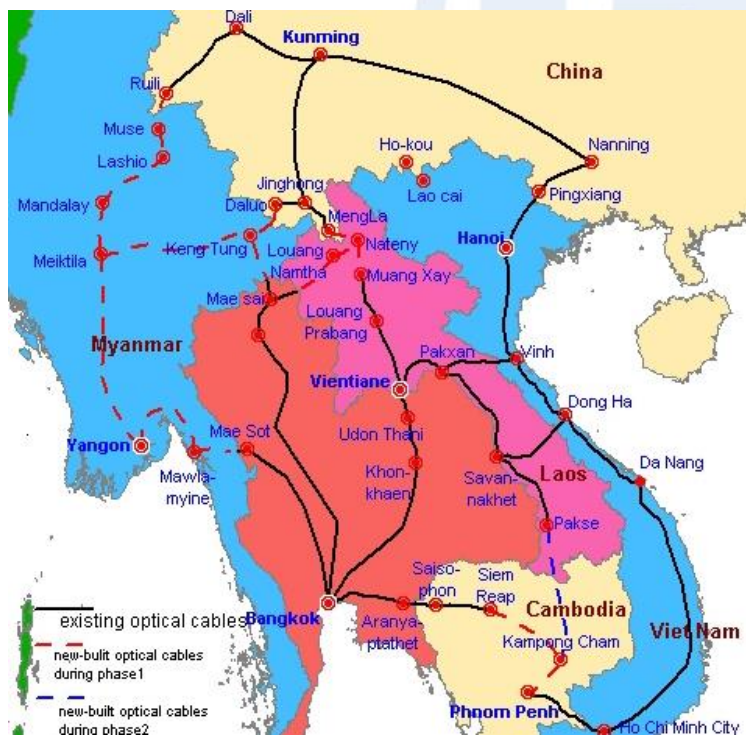


Figure 1

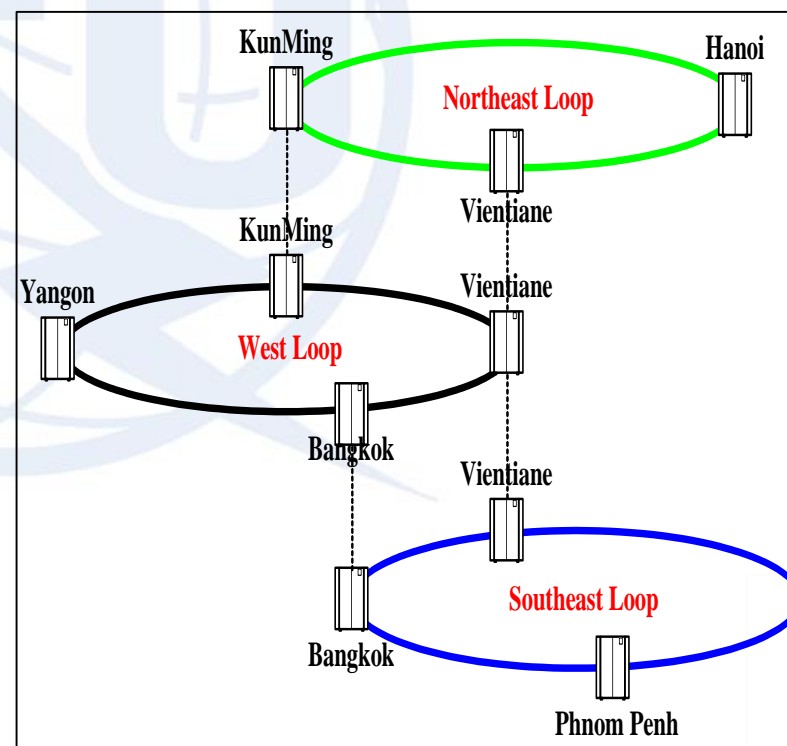


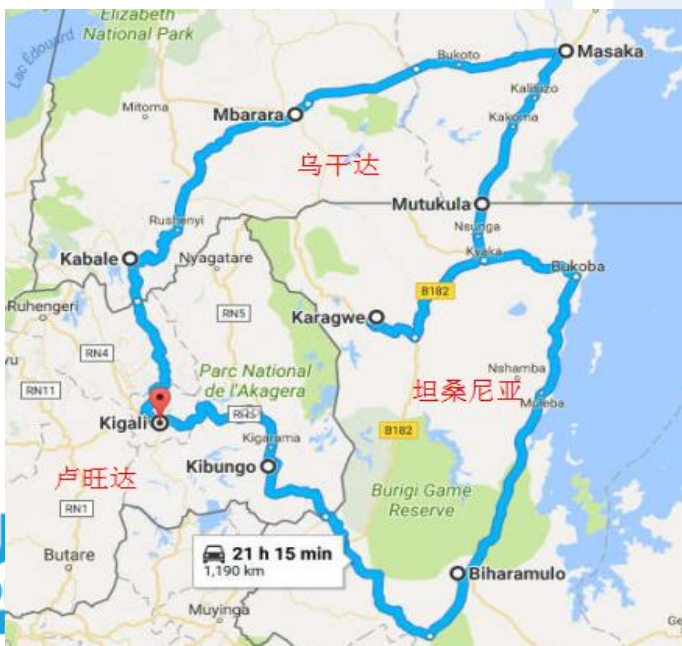
Figure 2

Case Study 2: East Africa Information Superhighway (EA IS)

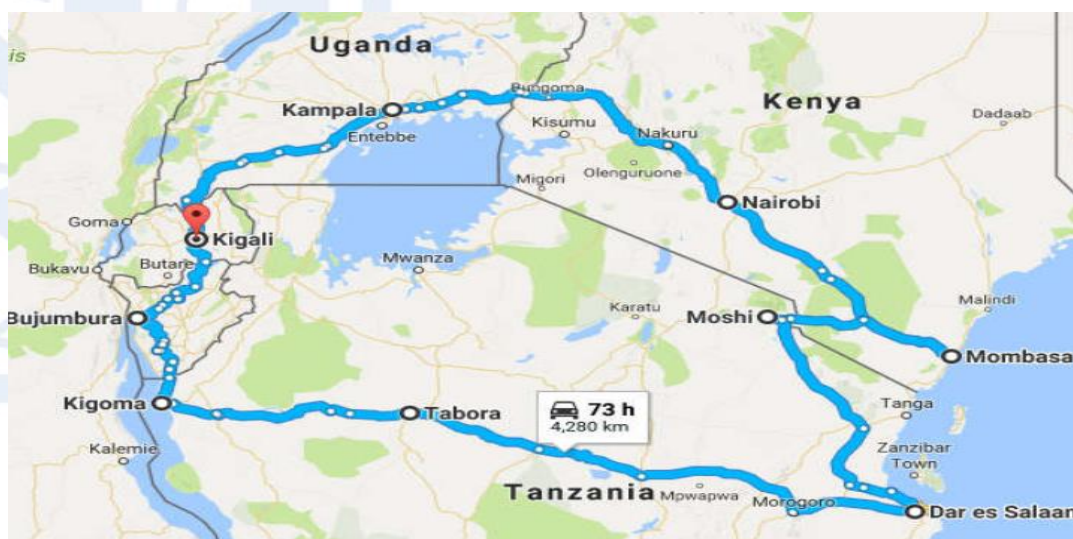
EA IS

- EA IS including Tanzania, Uganda, Rwanda, Kenya and Burundi.
- EA IS intends to conduct in two phases, small ring and big ring, as shown below. Small ring: a network routine among including Tanzania, Uganda, Rwanda; Big ring: a network routine among the five countries.
- At present, it only fulfill the connectivity between two countries in small ring. When it comes to three countries and more, it cannot fulfill because there is not a standard which can solve the multi-country operation and charging.

EA IS Phase Plan (small ring-three countries)



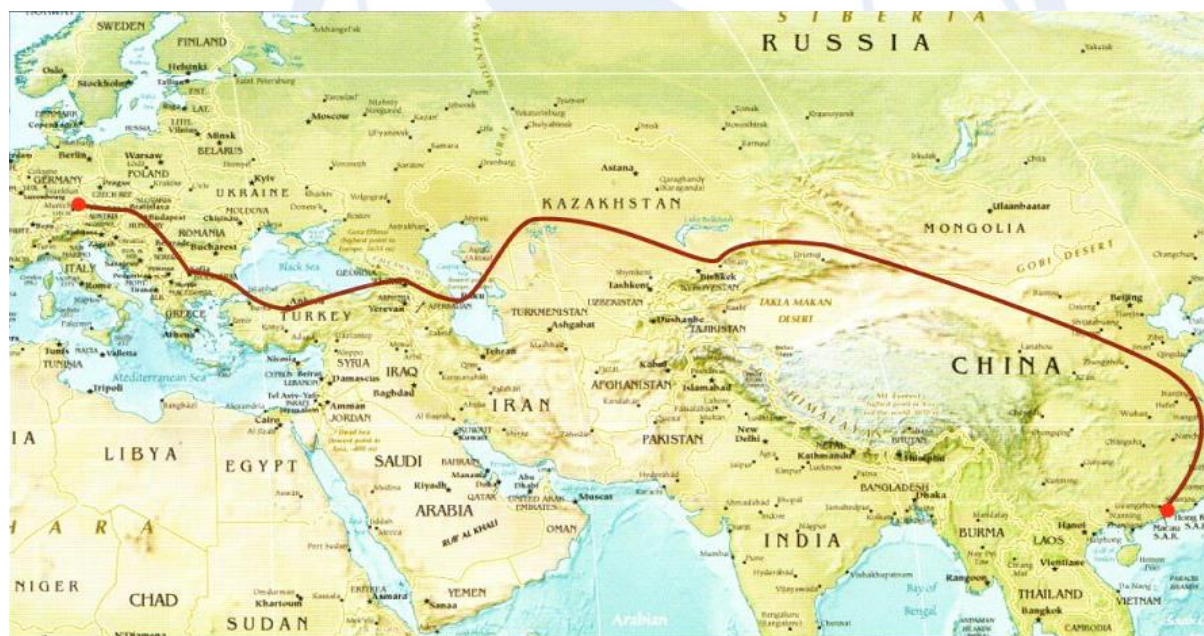
EA IS Phase Plan (big ring-five countries)



Case Study 3: Trans-Eurasian Information Super Highway (TASIM)

TASIM

- TASIM was proposed by Azerbaijan in 2008, it make consensus with other countries(including Turkey, Kazakhstan, China, etc) to construct an Information Super Highway from middle Asia to east Europe, across 11 countries in the length of 11,000Km.The network routine is shown below.
- The project hasn't started till now, the key factor is how to find an allocation and operation solution accepted by all the parties. In April 2018,the TASIM members held the kick-off meeting of Phase I in Istanbul.



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I. Concept of “Capacity Bank”

This Recommendation proposes a “**Capacity Bank**” solution to the issues of settlement agreement about trans-multi-country terrestrial cable, including its application context, cooperation mechanism, and the contributions made and rights and interests obtained by all parties involved.

◆ Capacity Bank

- I. A solution to the issue of settlement agreement of trans-multi-country terrestrial cable.
- II. Each party contributes a certain amount of fibre-optic cable resources and obtains some transmission capacity of the terrestrial cable network in proportion to their contribution.

II. Cooperation Mechanism of the “Capacity Bank”

——MOU Phase

- ◆ In this phase, the partners sign a MOU, carry out preparatory work related to the “Capacity Bank”, and establish interim cooperation institutions, including the Interim Management Committee (IMC), the Initial Procurement Group (IPG), and the Initial Investment and Agreement Sub-Committee (II&ASC).

IMC

Overall coordination during the MOU phase.

IPG

Collect information about the latest technologies and draft the supply contract, etc.

II&ASC

Responsible for financing, network construction, and drafting the construction and maintenance agreement, etc.

II. Cooperation Mechanism of the “Capacity Bank”

—Construction and operation phase

- ◆ In this phase, the “capacity bank” officially starts to operate, carry out activities such as network construction and business operations, and establish construction and operation management institutions, including the Management Committee (MC), the Procurement Group (PG), the Investment and Agreement Sub-Committee (I&ASC), the Operation and Maintenance Sub-Committee (O&MSC), and the Network Administrator/ Network Operation Centre (NA/ NOC), etc.

MC

Overall coordination during the construction and operation phase.

PG

Pursue the activities previously undertaken by the IPG

I&ASC

Pursue the activities previously undertaken by the II&ASC

O&MSC

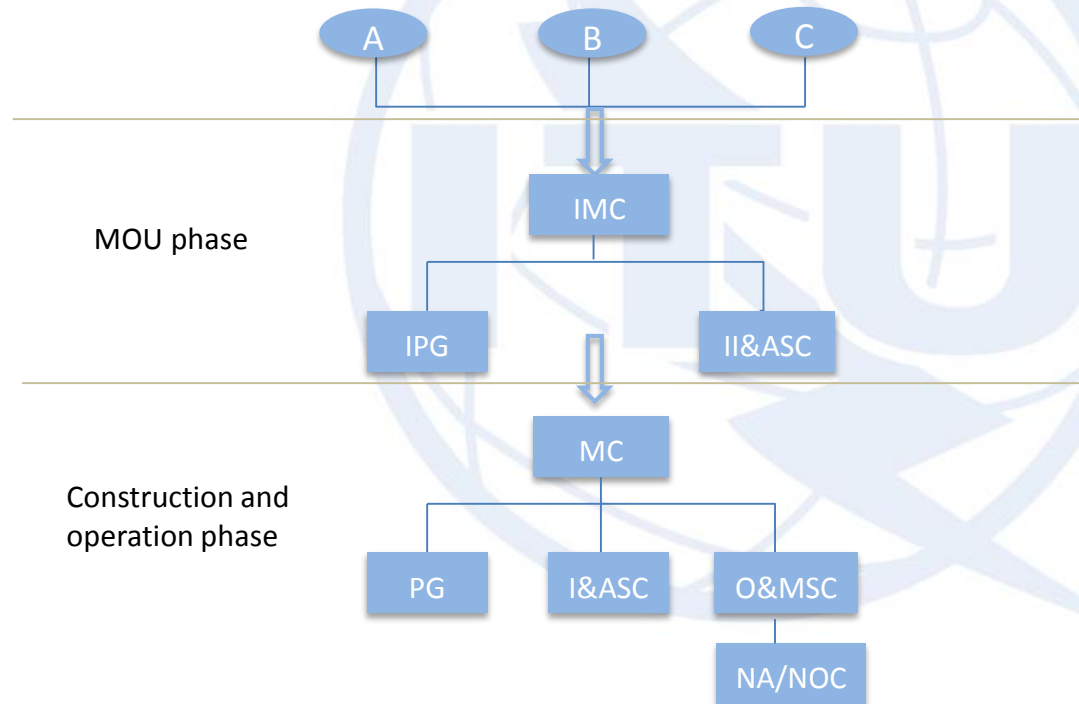
Responsible for the division of labor and cooperation among the partners regarding network operation and maintenance

NA/ NOC

Monitor the entire network, have the authority of network configuration, and assigns maintenance tasks to partners

II. Cooperation Mechanism of the “Capacity Bank”

- ◆ Take Country A, B and C as an example, the cooperation mechanism of the “Capacity Bank” is shown as follows:



III. Principle of capacity allocation

- ◆ The “Capacity Bank” solution will be implemented, with the basic principle of allocating designed end-to-end TTC circuit channels to each party in proportion to the length of the fiber-optic cable that it contributes to the “TTC sharing alliance”. In this context, all partners are expected to enhance their interconnection, so that their demands and sharable resources are balanced, and so are the interests of all parties.

The formula is as follows:

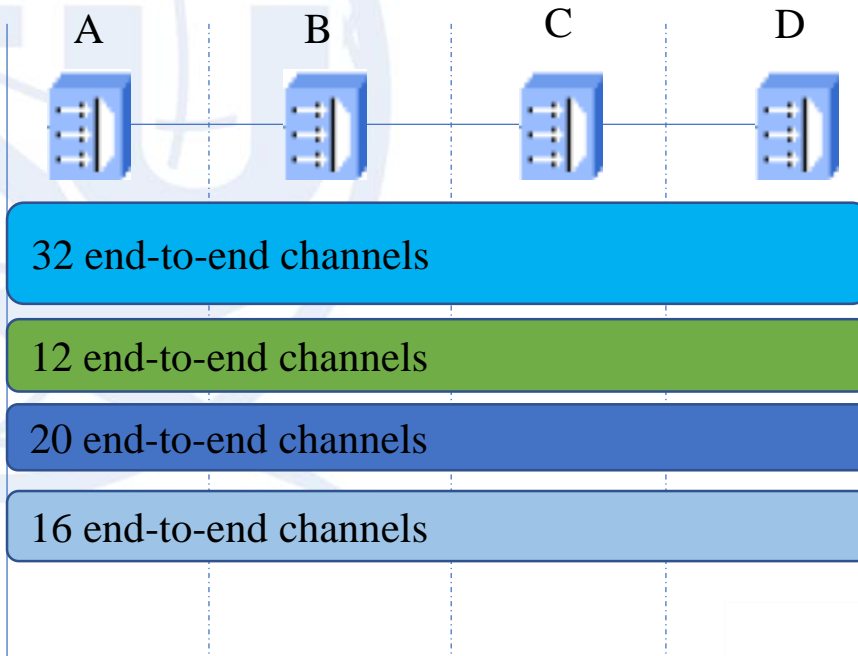
$$\frac{\text{The number of channels occupied by a single shareholder}}{\text{Total number of channels}} = \frac{\text{The length of cable contributed by a single shareholder}}{\text{Total cable length}}$$

III. Principle of capacity allocation

-example

- ◆ Take four countries(country A,B,C and D) for example, the capacity allocation proportion is shown below:

Country A		Country B		Country C		Country D	
Country	Cable Length (Km)	End-to-end channel length (A-D)		A	B	C	D
		Proportion (%)	Channel allocated				
A	1600	40%	32	32 end-to-end channels			
B	600	15%	12	12 end-to-end channels			
C	1000	25%	20	20 end-to-end channels			
D	800	20%	16	16 end-to-end channels			
Total	4000	100%	80				



REGIONAL STANDARDIZATION FORUM (RSF) FOR ASIA

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Thank you !

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