

ITU TARIFF POLICIES SURVEY 2021

Instructions

It is recommend to use the online version of this survey available on the ITU ICT EYE website at www.itu.int/ITU-D/icteye/. The results from the 2019 survey are also available on this website. You will find two types of data entry in this survey:

- □ Several possible replies
- O Only one possible reply

This questionnaire is addressed to National Regulatory Authorities (NRA) only, and should be uploaded in to the ICT Eye at: www.itu.int/net4/ITU-D/icteye/Login.aspx no later than 23 August 2021.

For any questions or login information please contact:

Regulatory and Market Environment Division (RME) Telecommunication Development Bureau (BDT) Phone: +41 22 730 6350 E-mail: tariffs[at]itu.int

Thank you for your cooperation.

Country:

Date of response:

ection 1. Contact Information							
Person completing the	e questionnaire:						
Prefix (Mr, Ms, etc.)	Click here to enter text.						
Last Name	Click here to enter text.						
First name	Click here to enter text.						
Title	Click here to enter text.						
Organization	Click here to enter text.						
Address	Click here to enter text.						
Post box	Click here to enter text.						
Post code	Click here to enter text.						
City	Click here to enter text.						
Country	Click here to enter text.						
Phone number	Click here to enter text.						
Fax number	Click here to enter text.						
Email	Click here to enter text.						
Website	Click here to enter text.						

Section 2. Telecommunication services regulation

2.1. Retail telecommunication services

Price control means any type of regulatory action or control on a price, including price caps, ceilings and baskets, price approval and notification schemes or arrangements (including for limited special offers).

2.1.1. Fixed communications: Please indicate which retail telecommunication services provided in your country are subject to price regulation and which are not.

	With price control	Without price control
Access to network (monthly line rental/subscription fee)	0	0
Local voice services	О	О
National long-distance voice services	0	0
International voice services	0	0
IP telephony	0	0
Internet access (Internet connection) & data services	0	0
Provision of links (leased lines)	0	0
Carrier Pre-Selection (CPS)	0	0
Carrier Selection (CS)	0	0
Other	O please specify: Click here to enter text.	O please specify: Click here to enter text.

2.1.1.1. Note: Click here to enter text.

	t. With price control	Without price control
Access to network (monthly subscription fee)	0	0
Voice services	0	0
SMS	0	0
National roaming (voice, SMS)	0	0
International roaming (voice, SMS)	0	0
Internet access (Internet connection) & data	0	0
services		
Data roaming (internet connection)	0	0
IP telephony	0	0
Mobile calling cards	0	0
Carrier Pre-Selection (CPS)	0	0
Carrier Selection (CS)	0	0
Other	O please specify: Click here to enter text.	O please specify: Click here to enter te

	With price control	Without price control
IPTV	0	0
Mobile TV	0	0
Terrestrial TV	0	0
Cable TV	0	0
Satellite TV	0	0
Other	O please specify: Click here to enter text.	O please specify: Click here to enter to

2.1.3.1. Note: Click here to enter text.

2.1.4. Over-the-Top content services								
	With price control	Without price control						
1. Over-the-Top Voice and Messaging	0	0						
2. Over-the-Top Video	0	0						
3. Other	O please specify: Click here to enter text.	O please specify: Click here to enter text.						

Several possible replies

O Only one possible reply

2.2. Wholesale telecommunication services

Price control means any type of regulatory action or control on a price, including price caps, ceilings and baskets, price approval and notification schemes or arrangements (including for limited special offers).

2.2.1. Please indicate which wholesale telecommunication services provided in your country are subject to price regulation and which are not.

	With price control	Without price control
nterconnection: fixed origination	0	0
nterconnection: fixed termination	0	0
nterconnection: mobile origination	0	0
nterconnection: mobile termination	0	0
National PSTN transit	0	0
National data transit	0	0
National wholesale voice roaming	0	0
nternational wholesale voice roaming*	0	0
Jnbundled local loop	0	0
Wholesale broadband access	0	0
Bitstream access	0	0
Wholesale DSL	0	0
Wholesale line rental	0	0
Wholesale leased lines	0	0
Carrier Pre-Selection (CPS)	0	0
Carrier Selection (CS)	0	0
Access to Internet exchange points (IXPs)	0	0
Access to International gateways	0	0
Dther	O please specify: Click here to enter text.	O please specify: Click here to enter te

2.2.1.1. Note: Click here to enter text.

Section 3. Cost and tariff models

* Advanced Services refer to, between others, IP telephony, Internet access (Internet connection) & data services, provision of data links (leased lines), IPTV, Mobile TV, etc.

3.1. Do you use a cost model to determine prices of regulated services?

- O Yes
- O No (if no, please go to Question 3.3)

3.1.1. If yes, what technology(ies) you include in the cost model for FIXED SERVICES?

- 🛛 Legacy
- □ NGN (Core)
- □ NGA
- Others, please specify: Click here to enter text.

3.1.2. If yes, what technology (ies) you include in your cost model for MOBILE SERVICES?

- □ 2G (GSM, EDGE)
- □ 3G (UMTS, HSPA, etc.)
- □ 4G (LTE)
- □ 5G
- □ Other, please specify: Click here to enter text.

3.2. How are the prices of regulated services determined in your country?

Several possible replies

	Price ceiling set by the State	Cost orientation (using cost models)	Benchmarking of tariffs	Retail minus approach	Rate of return regulation	Price cap	Other
Advanced Retail services*							D please specify: Click here to enter text.
Advanced Wholesale services*							D please specify: Click here to enter text.
Traditional Retail services							D please specify: Click here to enter text.
Traditional Wholesale services							D please specify: Click here to enter text.

3.2.1. Note: Click here to enter text.

3.3. Which concept do you use as the basis for calculating telecommunication service tariffs?

*Advanced retail services mean serv	vices bas	ed on N	GN/IP n	etworks *	* Advance	d wholesal	e servic	es mean	service	s based	on NGN/IP networks
	Top-down (TD)	Bottom-up (BU)	Hybrid	Fully Distributed Costs CCA	Fully Distributed Costs HCA	Fully Distributed Costs Hybrid	LRIC	Pure LRIC	LRIC+	LRAIC	Other
Advanced Wholesale services*											□ please specify: Click here to enter text.
Traditional Wholesale services											□ please specify: Click here to enter text.
Advanced Retail services*											□ please specify: Click here to enter text.
Traditional Retail services											□ please specify: Click here to enter text.

3.4. Does this cost model depend on cost accounting data?

- O Yes
- O No

3.4.1. Is accounting separation applied in your country?

- O In place
- O Planned
- O No plans for the time being

3.5. How do operators ch	arge retail prices for voice	e services to final	customers?			
	by the second	by the minute	Other			
Fixed services	0	0	O please specify: Click here to enter text.			
Mobile Services	0	0	O please specify	ify: Click here to enter text.		
3.5.1. Is there any regul	atory requirement to app	ly retail charges i	n a specific way (b	y second or by minut	e)?	
		Yes		No		
Fixed services	O please specify	· Click hore to ont	tortoxt	0		
	O picase specify		ler lext.	0		

Section 3.1 Cost modelling for Fixed Services

3.1.1 Which COST MODELLING APPROACH do you use as the basis for calculating telecommunication service tariffs? *Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks

Several possible replies

	Top-down (TD)	Bottom-up (BU)	Hybrid	Other
Advanced Wholesale services*				□ please specify: Click here to enter text.
Traditional Wholesale services				□ please specify: Click here to enter text.
Advanced Retail services*				□ please specify: Click here to enter text.
Traditional Retail services				□ please specify: Click here to enter text.

3.1.2 Which COST METHODOLOGY do you use as the basis for calculating telecommunication service tariffs?

*Advanced retail services mean services b	ased on N	IGN/IP I	network	*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks										
	Fully Distributed Costs	LRIC	Pure LRIC	LRIC+	LRAIC	Stand Alone Costs (SAC)	Other							
Advanced Wholesale services*							D please specify: Click here to enter text.							
Traditional Wholesale services							D please specify: Click here to enter text.							
Advanced Retail services*							D please specify: Click here to enter text.							
Traditional Retail services							□ please specify: Click here to enter text.							

3.1.3 Which TYPE OF COSTS are included in your cost modelling?										
*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks										
	Network CapEx	Network OpEx	Licenses and spectrum fees	Retail costs	General and Administrative	WACC	Other			
Advanced Wholesale services*							D please specify: Click here to enter text.			
Traditional Wholesale services							D please specify: Click here to enter text.			
Advanced Retail services*							D please specify: Click here to enter text.			
Traditional Retail services							□ please specify: Click here to enter text.			

3.1.4 ASSET REVALUATION applied for fixed services?

*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks									
	Current Costs (CCA)	Historic Costs (HCA)	Hybrid	Other					
Advanced Wholesale services*				□ please specify: Click here to enter text.					
Traditional Wholesale services				D please specify: Click here to enter text.					
Advanced Retail services*				D please specify: Click here to enter text.					
Traditional Retail services				□ please specify: Click here to enter text.					

3.1.5 ANNUALISATION METHOD applied for fixed services?

*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks

Several possible replies

	Linear annualisation	Standard annuities	Tilted annuities	Economic depreciation	Other
Advanced Wholesale services*					D please specify: Click here to enter text.
Traditional Wholesale services					D please specify: Click here to enter text.
Advanced Retail services*					D please specify: Click here to enter text.
Traditional Retail services					□ please specify: Click here to enter text.

3.1.6 NETWORK TOPOLOGY DESIGN for fixed services?

*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks										
	Scorched Earth	Scorched Node	Modified Scorched Node	Other						
Advanced Wholesale services*				□ please specify: Click here to enter text.						
Traditional Wholesale services				□ please specify: Click here to enter text.						
Advanced Retail services*				D please specify: Click here to enter text.						
Traditional Retail services				D please specify: Click here to enter text.						

3.1.7 REFERENCE OPERATOR for fixed services?

3.1.7 REFERENCE OF LATOR TO TIKE USE VICES :										
*Advanced retail services mean services bas	ed on NGN/I	P network	s ** Advar	nced wholesa	le services i	mean services based on NGN/IP networks				
	Hypothetical average operator	Hypothetical new entrant	Each operator under analysis	Incumbent operator	Dominant provider (SMP)	Other				
Advanced Wholesale services*						D please specify: Click here to enter text.				
Traditional Wholesale services						D please specify: Click here to enter text.				
Advanced Retail services*						D please specify: Click here to enter text.				
Traditional Retail services						D please specify: Click here to enter text.				

3.1.8 ALLOCATION OF COMMON AND JOINT COSTS for fixed services

3.1.8 ALLOCATION OF COMMON AND JOINT COSTS for fixed services								
*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks								
	Equi-proportional mark-up (EPMU)	Required capacity	Shapley Shubik	Ramsey Pricing	Other			
Advanced Wholesale services*					□ please specify: Click here to enter text.			
Traditional Wholesale services					□ please specify: Click here to enter text.			
Advanced Retail services*					D please specify: Click here to enter text.			
Traditional Retail services					D please specify: Click here to enter text.			

Section 3.2 Cost modelling for Mobile Services

3.2.1 Which COST MODELLING APPROACH do you use as the basis for calculating telecommunication mobile service tariffs?

*Advanced retail services mean services ba	ased on	NGN/IP	networl	ks ** Advanced wholesale services mean services based on NGN,	/IP networks
	Top-down (TD)	Bottom-up (BU)	Hybrid	Other	
Advanced Wholesale services*				D please specify: Click here to enter text.	
Traditional Wholesale services				D please specify: Click here to enter text.	
Advanced Retail services*				D please specify: Click here to enter text.	
Traditional Retail services				D please specify: Click here to enter text.	

3.2.2 Which COST METHODOLOGY do you use as the basis for calculating telecommunication mobile service tariffs? *Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks

	Fully Distributed Costs	LRIC	Pure LRIC	LRIC+	LRAIC	Stand Alone Costs (SAC)	Other
Advanced Wholesale services*							D please specify: Click here to enter text.
Traditional Wholesale services							D please specify: Click here to enter text.
Advanced Retail services*							D please specify: Click here to enter text.
Traditional Retail services							□ please specify: Click here to enter text.

3.2.3 Which TYPE OF COSTS are included in your cost modelling for mobile services?

*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks Network CapEx Licenses and spectrum fees Administrative Network OpEx General and Retail costs WACC Other Advanced Wholesale services* D please specify: Click here to enter text. Traditional Wholesale services □ please specify: Click here to enter text. Advanced Retail services* D please specify: Click here to enter text. Traditional Retail services П □ please specify: Click here to enter text.

*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks											
	Current Costs (CCA)	Historic Costs (HCA)	Hybrid	Other							
Advanced Wholesale services*				D please specify: Click here to enter text.							
Traditional Wholesale services				D please specify: Click here to enter text.							
Advanced Retail services*				D please specify: Click here to enter text.							
Traditional Retail services				□ please specify: Click here to enter text.							

3.2.5 ANNUALISATION METHOD applied for mobile services?

*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks

Several possible replies
 Only one possible replies

	Linear annualisation	Standard annuities	Tilted annuities	Economic depreciation	Other
Advanced Wholesale services*					D please specify: Click here to enter text.
Traditional Wholesale services					D please specify: Click here to enter text.
Advanced Retail services*					D please specify: Click here to enter text.
Traditional Retail services					□ please specify: Click here to enter text.

3.2.6 NETWORK TOPOLOGY DESIGN for mobile services?

*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks										
	Scorched Earth	Scorched Node	Modified Scorched Node	Other						
Advanced Wholesale services*				□ please specify: Click here to enter text.						
Traditional Wholesale services				□ please specify: Click here to enter text.						
Advanced Retail services*				D please specify: Click here to enter text.						
Traditional Retail services				D please specify: Click here to enter text.						

3.2.7 REFERENCE OPERATOR for mobile services?

*Advanced retail services mean services bas			s ** Advar	nced wholesa	le services i	mean services based on NGN/IP networks
	Hypothetical average operator	Hypothetical new entrant	Each operator under analysis	Incumbent operator	Dominant provider (SMP)	Other
Advanced Wholesale services*						D please specify: Click here to enter text.
Traditional Wholesale services						D please specify: Click here to enter text.
Advanced Retail services*						D please specify: Click here to enter text.
Traditional Retail services						D please specify: Click here to enter text.

3.2.8 ALLOCATION OF COMMON AND JOINT COSTS for mobile services

5.2.8 ALLOCATION OF COMMON AND JOINT COSTS IN THIDDIE SERVICES									
*Advanced retail services mean services based on NGN/IP networks ** Advanced wholesale services mean services based on NGN/IP networks									
	Equi-proportional mark-up (EPMU)	Required capacity	Shapley Shubik	Ramsey Pricing	Other				
Advanced Wholesale services*					□ please specify: Click here to enter text.				
Traditional Wholesale services					D please specify: Click here to enter text.				
Advanced Retail services*					D please specify: Click here to enter text.				
Traditional Retail services					D please specify: Click here to enter text.				

Section 4. Tariff rebalancing of fixed telephony services

4.1. Has your country implemented tariff rebalancing?

- O Yes
- O No, Why? Click here to enter text.
- O Planned

4.2. What is the time-period given to fixed line operators for absorbing the access deficit (tariff rebalancing)?

- O Less than three years
- O Between three and seven years
- O Over seven years
- O Not determined

Section 5. Interconnection issues

5.1. Which approach do yo	u apply	for cost	ing regu	lated	interc	onnecti	on price	s?		
	Benchmarking	Fully distributed costs (FDC) Current Cost	Fully distributed costs (FDC) Historical Cost	FDC Hybrid	LRIC	Pure LRIC	LRIC+	LRAIC	None	Other
Fixed origination										D please specify: Click here to enter text.
Fixed termination										D please specify: Click here to enter text.
Mobile origination										D please specify: Click here to enter text.
Mobile termination										D please specify: Click here to enter text.
National transit										D please specify: Click here to enter text.

5.2. Are time bands applied in your country?

- O Yes
- O No

5.2.1. If yes, how many time bands are used for charging purposes?

- O One
- O Two
- O Three
- O More than three

5.3. How many different geographic tariff zones are there in your country?

- O One
- O Two
- O Three
- O More than three

5.4. What kind of interconnection charging principle has been adopted by your country?

- O Symmetric
- O Asymmetric

5.4.1. If asymmetric, on what basis is asymmetry decided?

- □ Number of subscribers
- □ Traffic volume
- □ Market share
- □ Capacity used
- Universal access policy
- Universal service policy
- Operator Revenues
- □ Level of investment of operators
- Network dimension

Several possible replies
 O only

O Only one possible reply

I

- □ Geographical coverage
- Spectrum available
- □ Years in the market
- □ Other, please specify Click here to enter text.

5.5. How often are the interconnection charges reviewed?

- O Quarterly
- O Semi-annually
- O Annually
- O Less frequently, please specify Click here to enter text.

5.5.1. Does this happen within a set Reference Interconnection Offer (RIO) cycle?

- O Yes
- O No

5.6. Which charging regime for FIXED INTERCONNECTION services is applied in your country?

- O Calling Party's Network Pays (CPNP)
- O Receiving Party's Network Pays (RPNP)
- O Bill and Keep (Sender Keep All)
- O Other, please specify Click here to enter text.

5.7. Which charging regime for MOBILE INTERCONNECTION services is applied in your country?

- O Calling Party's Network Pays (CPNP)
- O Receiving Party's Network Pays (RPNP)
- O Bill and Keep (Sender Keep All)
- O Other, please specify Click here to enter text.

5.8. Do you apply glide path?

- O Yes
- O No
- O If yes, please specify the number of years of the glide path: Click here to enter text.

5.1. Interconnection issues - price of services

Please indicate currently applicable prices in local currency for the following services in your country (average rate per minute during peak hours, in local currency, VAT excluded)

5.1.1. Terminating calls on incumbent's fixed network:						
5.1.1.1. Local level:	Click here to enter text.					
5.1.1.2. Single transit (metropolitan):	Click here to enter text.					
5.1.1.3. Double transit (national):	Click here to enter text.					

5.1.2. Terminating calls on other fixed networks: 5.1.2.1. Local level: Click here to enter text. 5.1.2.2. Single transit (metropolitan): Click here to enter text. 5.1.2.3. Double transit (national): Click here to enter text.

5.1.3. Terminating calls on mobile networks:

5.1.3.1. Fixed to mobile:	Click here to enter text.	
5.1.3.2. Mobile to mobile:	Click here to enter text.	

Several possible replies
 Only one possible reply

5.1.4. International termination services 5.1.3.1. to mobile: Click here to enter text. 5.1.3.2. to fixed: Click here to enter text.

5.1.5. Information

5.1.4.1. Please indicate the website where interconnection prices are publicly available: Click here to enter text.

5.2. Commercial Agreements

5.2.1. Domestic/National Services

5.2.1.1. Are commercial agreements for National services used/applied in your country?

- O Yes
- O No

5.2.1.1.1. If yes, in what areas are these agreements used?

- □ Interconnection
- □ Access
- □ Other, please specify Click here to enter text.

5.2.1.2. If commercial agreements are used is there any form of obligation of reporting or monitoring of such agreements by the regulatory authority?

- □ Contract filing requirements
- Service provider reporting requirements (e.g., call volumes, revenues, cost)
- □ Users or contract party complaints
- □ Other, please specify Click here to enter text.

5.2.1.3. How are disputes that result from commercial agreements, between service providers, resolved?

- □ Courts
- □ Regulators
- □ Arbitration
- □ Mediation
- □ Observation of Terms and Conditions
- Other, please specify Click here to enter text.

5.2.1.4. How are consumer complaints resolved?

- □ Courts
- □ Regulators
- □ Arbitration
- □ Mediation
- Observation of Terms and Conditions
- □ Other, please specify Click here to enter text.

5.2.2. International Services

5.2.2.1. Are commercial agreements for International services used in your country?

- O Yes
- O No

5.2.2.1.1. If yes, in what areas are these agreements used?

- O Interconnection
- O Access
- O Other, please specify Click here to enter text.

5.2.2.2. If commercial agreements are used is there any form of obligation of reporting or monitoring of such

- agreements by the regulatory authority?
- □ Contract filing requirements

Several possible replies

 $O\$ Only one possible reply

- Service provider reporting requirements (e.g., call volumes, revenues, cost)
- Users or contract party complaints
- □ Other, please specify Click here to enter text.

5.2.2.3. How are disputes that result from commercial agreements, between service providers, resolved?

- □ Courts
- □ Regulators
- □ Arbitration
- □ Mediation
- Observation of Terms and Conditions
- □ Other, please specify Click here to enter text.

5.2.2.4. How are consumer complaints resolved?

- □ Courts
- □ Regulators
- □ Arbitration
- □ Mediation
- Observation of Terms and Conditions
- □ Other, please specify Click here to enter text.

5.2.3. Website

5.2.3.1. Are commercial agreements publicly available on the website?

- O Yes
- O No

5.2.3.1.1. If yes, please provide the website: Click here to enter text.

5.2.3.2. Is quality of interconnection regulated in your country?

- O Yes
- O No

5.2.3.2.1. If yes, how? Click here to enter text.

5.2.3.3. Are there regulatory complaints on quality of interconnection in your country?

- O Yes
- O No

6. Taxation of telecommunication services

6.1. FIXED SERVICES: Under which category of VAT (or other tax) are telecommunication services classified in your country? Please indicate the percentage applying.

General goods and services	% Enter number.
Luxury goods and services	% Enter number.
Low rate tax	% Enter number.
High rate tax	% Enter number.
Other, please specify	% Enter number.

6.2. MOBILE SERVICES: Under which category of VAT (or other tax) are telecommunication services classified in your country? Please indicate the percentage applying. General goods and services % Enter number. Luxury goods and services % Enter number. Low rate tax % Enter number. High rate tax % Enter number. Other, please specify % Enter number

6.3. Please indicate the VAT (or other tax) that applies to general goods and services in your country.	
bior reade maleate and that any mat applied to Beneral Boods and ber notes in your board yr	

Goods %:	Services %:	Other %:
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.

6.4. Please indicate w	VAT	Sales Tax	Import duties	Sector specific taxes	Content tax
Content Services	🛛 % Enter number.	🛛 % Enter number.			
Incoming international voice services	🛛 % Enter number.	□ % Enter number.			
International calling cards fixed	🛛 % Enter number.	🗆 % Enter number.	🗆 % Enter number.	Senter number.	🛛 % Enter number.
International calling cards mobile (IDD)	🛛 % Enter number.	🗆 % Enter number.	🗆 % Enter number.	Senter number.	🛛 % Enter number.
International Data services	🛛 % Enter number.	🗆 % Enter number.	🗆 % Enter number.	Senter number.	🛛 % Enter number.
International mobile roaming services	🛛 % Enter number.	🗆 % Enter number.	🗆 % Enter number.	Senter number.	🛛 % Enter number.
Internet services	🛛 % Enter number.	🛛 % Enter number.			
National Data services	🛛 % Enter number.	🗆 % Enter number.	🗆 % Enter number.	Senter number.	🛛 % Enter number.
National mobile roaming services	🛛 % Enter number.	🗆 % Enter number.	🗆 % Enter number.	Senter number.	🛛 % Enter number.
National voice services	🛛 % Enter number.	🗆 % Enter number.	🗆 % Enter number.	Senter number.	🛛 % Enter number.
OTT content services	🛛 % Enter number.	🛛 % Enter number.	🛛 % Enter number.	Senter number.	🛛 % Enter number.
Outgoing international voice services (IDD)	🛛 % Enter number.	🗆 % Enter number.	Senter number.	🗆 % Enter number.	Senter number.
Pre-paid mobile top- up cards	🛛 % Enter number.	🛛 % Enter number.	🗆 % Enter number.	🗆 % Enter number.	🛛 % Enter number.

6.5. What types of taxes and duties apply to the telecommunications sector in your country?

	Yes	No
Content Tax (e.g. Video-streaming taxes)	0	0
Corporate taxes	0	0
Import duties	0	0
Import duties on equipment	0	0
Import duties on handsets	0	0
Ownership fee	0	0
Property taxes	0	0
Sales taxes	0	0
Sales taxes on equipment	0	0
Sales taxes on handsets	0	0
Sector Specific taxes	0	0
Spectrum or license fee subject to VAT	0	0
Value-added taxes	0	0

6.6. Who along the telecommunication value chain is subject to taxes in your country?						
*OTT content players include OTT voice, video and messaging services						
Yes	No					
0	0					
0	0					
0	0					
Equipment manufacturers (network equipment, handsets etc.) O O						

Several possible replies
 Only one possible reply

ISPs	0	0
Operators	0	0
Operators / services providers	0	0
OTT Content Players*	0	0

6.7. Are foreign service providers treated differently in terms of taxation in your country?

Yes, please explain how? Click here to enter text. Ο

No, please explain why? Click here to enter text. 0

*OTT content	players inc	lude OTT v	oice, video	and messa	aging service	es				
	VAT	Sales Tax	Import duties	Sector specific taxes	Property Tax	Ownership fees	Corporate Tax	Content tax	Spectrum or licensing fee subject to VAT	Environmen- tal tax
Applications Developers	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.
Consumers	% Enter number.	□ % Enter number.	D % Enter number.	% Enter number.	Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.
E-commerce providers	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.
Equipment manufacturers (network equipment, handsets etc.)	☐ % Enter number.	☐ % Enter number.	☐ % Enter number.	☐ % Enter number.	☐ % Enter number.	☐ % Enter number.	☐ % Enter number.	☐ % Enter number.	☐ % Enter number.	☐ % Enter number.
ISPs	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.
Operators	D % Enter number.	□ % Enter number.	□ % Enter number.	D % Enter number.	□ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.
OTT / Content Players*	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	□ % Enter number.	☐ % Enter number.	□ % Enter number.

6.9 Is your country applying digital service taxation (DST)?

O Yes O No

6.9.1. If yes, which percentage? Click here to enter text.

6.10 Is your country applying taxation of virtual currencies (crypto currency, crypto-assets)?

- <mark>O Yes</mark>
- <mark>O No</mark>

6.10.1. If yes, which percentage? Click here to enter text.

7. Next Generation Networks (NGNs)

Economic aspect of Next Generation Networks

7.1. Is any operator in your country planning or currently introducing an NGN system (core and transmission)?

0 Yes

0 No

7.1.1. If yes, who?

Incumbent operator

□ New entrant

□ Other, please specify Click here to enter text.

7.1.2. If yes, at what stage are they?

- O Feasibility study
- O Planning
- O Introduction
- O Implementation
- O No plans to introduce an NGN system in a short run
- O Completed
- O Other, please specify Click here to enter text.

7.2. Is any operator in your country planning or currently introducing NGA (e.g. FTTH, HFC DOCSIS 3.0 or above)?

- O Yes
- O No

7.3. What regulations, if any, govern t	he use of	NGN netwo	rks?		
	Regulatory arrangements subject to universal service oblizations	Regulatory interconnection arrangements with networks using switching circuits	Banning of services based on IP	No regulatory arrangements defined at present	Other
Data Service					D please specify: Click here to enter text.
Voice Service					D please specify: Click here to enter text.

7.3.1. Note: Click here to enter text.

7.4. What sources of finance are used to deploy NGN networks?

- Operator's funds
- □ State subsidization
- □ Joint venture (private sector and public sector)
- Financed by a financial institution or private bank
- □ Special telecommunication development fund
- D PPPs
- □ Community funding
- □ Crowd funding
- □ Other, please specify Click here to enter text.

7.5. Please indicate the method currently in use or that you plan to use in the future to determine the tariff for NGN Services

- □ Use the existing cost model
- Adapt the existing cost models to cater for new technologies
- Develop new cost models
- □ Rely on operators' cost models
- □ Other, please specify Click here to enter text.

7.6. What cost model is used (or planned) to calculate costs/ tariffs of NGN Services?

- O Fully distributed historical costs model
- O Long run incremental cost model
- O Other, please specify Click here to enter text.
- O None

7.7. How are the new services over NGN priced and offered (or planned to be offered) in your country?

- □ As an integrated package
- On a flat rate
- □ As separate services
- Other, please specify Click here to enter text.

7.8. Approximately, what percentage of the core infrastructure network is Legacy versus NGN based?

Several possible repliesO Only one possible reply

- O Legacy: 100% NGN: 0%
- O Legacy: 75% NGN: 25%
- O Legacy: 50% NGN: 50%
- O Legacy: 25% NGN: 75%
- O Legacy: 0% NGN: 100%

7.9. Approximately, how much traffic is Legacy versus NGN based?

- O Legacy: 100% NGN: 0%
- O Legacy: 75% NGN: 25%
- O Legacy: 50% NGN: 50%
- O Legacy: 25% NGN: 75%
- O Legacy: 0% NGN: 100%

8. Infrastructure Development and Sharing

- 8.1. Is infrastructure sharing practiced in your country in the MOBILE SECTOR?
- O Yes
- O No

8.1.1. Remarks: Click here to enter text.

8.1.2. If yes, is mobile infrastructure sharing based on commercial agreements or based on a regulatory mandate?

- O Commercial agreements
- O Regulation
- O Both

8.1.2.1. Remarks: Click here to enter text.

8.1.3. If yes, is mobile infrastructure sharing mainly active or passive or both?

- O Active sharing
- O Passive sharing
- O Both

8.1.3.1. Remarks: Click here to enter text.

8.2. Is infrastructure sharing practiced in your country in the FIXED SECTOR?

- O Yes
- O No

8.2.1. Remarks: Click here to enter text.

8.2.2. If yes, is fixed infrastructure sharing based on commercial agreements or based on a regulatory mandate?

- O Commercial agreements
- O Regulation
- O Both

8.2.2.1. Remarks: Click here to enter text.

8.2.3. If yes, is fixed infrastructure sharing mainly active or passive or both?

- O Active sharing
- O Passive sharing
- O Both

8.2.3.1. Remarks: Click here to enter text.

8.3. Do you mandate national roaming in your country?

- O Yes
- O No

8.3.1. Remarks: Click here to enter text.

8.3.2. If no, have mobile operators entered into national roaming agreements commercially?

- O Yes
- O No

8.4. Is infrastructure sharing also pursued by the Regulator in cooperation with municipalities for rural and isolated

- areas?
- O Yes
- O No

8.4.1. Remarks: Click here to enter text.

8.4.2. If yes, who manage the rights of way?

- The ICT National Regulatory Authority
- □ The Municipality
- Other, please specify Click here to enter text.

8.5. Does infrastructure sharing contribute to lower prices for end-users?

- O Yes
- O No
- O No data available

If YES, please indicate how much (%): Click here to enter text.

If NO, please indicate reasons: Click here to enter text.

8.6. Is there a regulatory obligation to map all existing infrastructure, including alternative networks in other sectors such as railroads, electricity?

- O Yes
- O No

8.6.1. Remarks: Click here to enter text.

8.6.2. Please provide the website if these maps are available: Click here to enter text.

8.7. The use of alternative networks is allowed in your country?

- O Yes
- O No
- 8.7.1. Remarks: Click here to enter text.

8.7.2. If yes, how is this reflected in the regulation/legislation? Click here to enter text.

8.8. Is spectrum sharing practiced in your country?

- O Yes
- O No

8.8.1. Remarks: Click here to enter text.

8.9. Is spectrum sharing based on commercial agreements or based on a regulatory mandate?

- O Commercial agreements
- O Regulation
- O Both

8.9.1. Remarks: Click here to enter text.

8.10. Does the spectrum sharing contribute to lower prices for end-users?

- O Yes, please indicate how much % Click here to enter text.
- O No, please indicate reasons Click here to enter text.
- O No data available

8.11. Please indicate the website, where regulatory obligation on site sharing are publicly available:

Click here to enter text.

Several possible replies

9. Access to International Facilities (International Connectivity)

- 9.1. Does your country have access to international connectivity?
- O Yes
- O No
- 9.1.1. If NO, please indicate reasons: Click here to enter text.

9.1.2. If yes, by which modes?

- □ Submarine cable
- □ Satellite
- □ Fibre
- □ Other, please specify Click here to enter text.

9.2. How many international landing stations do you have in your country? Please indicate the number of points per type.

- □ Satellite, please specify number Enter number.
- □ Fibre, please specify number Enter number.
- □ Other, please specify number Enter number.

9.3. Who has control over the landing points in your country?

- Incumbent operator
- ☐ Government
- Private and Public Partnership (PPP)
- Consortium of alternative operators
- □ Other, please specify: Click here to enter text.

9.4. Do you have a national policy or regulation that mandates or regulates access to international facilities / landing points in your country?

- O Yes
- O No

9.4.1. If NO, please indicate reasons: Click here to enter text.

- 9.4.2. If yes, does this policy / regulation include an open access mandate?
- O Yes
- O No

9.4.2.1. If NO, please indicate reasons: Click here to enter text.

9.4.3. If yes, in which markets

- □ National Internet Backbone
- International Internet Backbone
- Domestic Internet backhaul
- □ Other, please specify: Click here to enter text.

9.4.4. If yes, does this policy / regulation promote competition to achieve a reduction in international connectivity costs?

O Yes

O No

If no, please indicate reasons: Click here to enter text.

9.5. Is Recommendation ITU-T D.50* International Internet Connectivity (Rev. Johannesburg, 2008) being applied in your country?

*this recommendation is available at: http://www.itu.int/ITU-T/recommendations/index_sg.aspx?sg=3

- O Yes
- O No, please indicate reasons Click here to enter text.

9.6. What is the type of connection to access international transit in your country?

- National Gateway
- By using IP hub Tier 1
- By using IP hub Tier 2
- By using IP hub Tier 3
- □ By using IP transit
- Both by using IP hub and IP transit
- Direct national connection to international Internet
- □ Other, please specify Click here to enter text.

9.7. Please indicate the average wholesale cost per month, per 2 megabit of an International Internet Connection originating from your country to any other country:

- Less than USD20 per megabit per month
- USD20 USD40 per megabit per month
- USD40 USD60 per megabit per month
- USD60 USD80 per megabit per month
 Above USD80 per megabit per month

9.8. What is the portion of cost of access to international Internet connection in the retail Internet access price in your country?

- O Above 50%
- O 26% 50%
- O 10% 25%
- O less than 10%

9.9. What steps have you taken to optimize the cost of your International Internet Connections?

- O Implementation of Internet Exchange Point (IXP)
- O Hosting of most frequently visited web sites (e.g. search engines, Data Centers, Content delivery network (CDN), Cache Servers, etc.)
- O Encourage the development of local content
- O Other, please specify Click here to enter text.

9.10. Are there Internet Exchanges Points (IXP) in your country?

- O Yes
- O No

9.10.1. If NO, please indicate reasons: Click here to enter text.

9.10.2. If yes, how many? Click here to enter text.

9.11. How many Internet Service Providers there are in your country? Click here to enter text.

9.12. How many Internet Service Providers are connected to each IXP in your country? Click here to enter text.

9.13. Are IXPs in your country for profit or not for profit?

- Profit
- □ Not profit
- □ Other, please specify Click here to enter text.

9.14. Is paid peering allowed at the IXPs in your country?

- O Yes
- O No

9.14.1. If yes, in how many? Click here to enter text.

9.15. Is private peering allowed at the IXPs in your country?

- O Yes
- O No

9.15.1. If yes, how many? Click here to enter text.

9.16. Does your country have National Research and Education Networks (NREN)?

- O Yes
- O No

9.16.1. If yes, how many? Click here to enter text.

9.17. How is price to NREN determined? Click here to enter text.

9.18. Are NREN connected to IXPs in your country?

- O Yes
- O No

9.19. Which type of connectivity the NREN provide to their members?

- □ Internal (among members only)
- □ National
- □ International
- □ Other, please specify Click here to enter text.

10. Broadband services pricing

10.1. Please indicate which broadband services provided in your country are subject to price control and which are not? If subject to price control, in each case, please nominate the type of price regulation that is applied.

		With price control	Without price contro
Retail fixed broadband access		Cost based	0
	0	Ceilling pricing	
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
Retail fixed broadband services	0	Cost based	0
		Ceilling pricing	
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
		Cost based	0
Retail fixed broadband applications, including content*	0	Ceilling pricing	
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
Wholesale fixed broadband access	0	Cost based	0
		Ceilling pricing	
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
Bitstream access	0	Cost based	0
		Ceilling pricing	
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
WS DSL access		Cost based	

Several possible repliesO Only one possible reply

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	Ο	Ceilling pricing	0
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
Unbundled local loop (ULL)		Cost based	
	0	Ceilling pricing	О
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
Wholesale fixed broadband services offered to retail service	0	Cost based	0
		Ceilling pricing	
		Indexed	
providers		Benchmarks	
		Other, please specify Click here to enter text.	
		Cost based	
		Ceilling pricing	0
Retail mobile broadband access	0	Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
Retail mobile broadband services	0	Cost based	0
		Ceilling pricing	
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
	0	Cost based	0
		Ceilling pricing	
Retail mobile broadband application including content*		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	
	0	Cost based	0
		Ceilling pricing	
Wholesale mobile broadband		Indexed	
access		Benchmarks	
		Other, please specify Click here to enter text.	
Wholesale mobile broadband services offered to retail service providers	0	Cost based	0
		Ceilling pricing	
		Indexed	
		Benchmarks	
		Other, please specify Click here to enter text.	

10.2. If cost based is applied, please nominate the cost standard that is applied

O Fully distributed costs (FDC) based on Historic Cost Accounting (HCA)

- O FDC based on Current Cost Accounting (CCA)
- O LRIC
- O Other, please specify Click here to enter text.

10.3. What aspects of the broadband service affect the retail and wholesale prices for fixed and mobile broadband services in your country?

- □ Average download capacity
- □ Minimum download capacity
- □ Upload average capacity
- Upload minimum capacity
- □ Contract duration
- Download caps (limits or caps on the amount of data that may be downloaded)
- □ Separate prices for services and applications including content
- □ Other, please specify Click here to enter text.

Several possible replies

O Only one possible reply

10.4. Are operators allowed to bundle the supply of RETAIL BROADBAND ACCESS products (e.g. line rental) with other retail telecommunications services (such as telephone calls)?

- O Yes, please explain any restrictions or rules that apply to such bundling
- O No

10.5. Is the provision of broadband service part of the universal service or universal access scheme in your country?

- O Yes
- O No, please indicate reasons Click here to enter text.

10.6. Are FIXED BROADBAND service providers at retail or wholesale levels required to adopt uniform or national

- pricing?
- O Yes
- O No, please indicate reasons Click here to enter text.

10.7. Are MOBILE BROADBAND service providers at retail or wholesale levels required to adopt uniform or national pricing?

O Yes

O No, please indicate reasons Click here to enter text.

10.8. Are service providers allowed to offer geographically differentiated broadband services in terms of price and

terms and conditions?

- O Yes, please indicate reasons Click here to enter text.
- O No

11. International Mobile Roaming (IMR)

11.1. What International Mobile Roaming (IMR) services are available in your country?

- Inbound and outbound voice calls
- □ Inbound and outbound SMS
- Data (e.g., MMS, email, mobile browsing, mobile TV)
- □ Other, please specify Click here to enter text.

11.2. Are IMR services part of the mobile package in your country?

- O Yes
- O No

11.2.1. If yes, are they opt-in or opt-out?

- O opt-in
- O opt-out

11.3. Is your National Regulatory Authority collecting RETAIL tariff/rates data on IMR for the following services:

- □ Voice
- □ SMS
- Data (e.g. Internet, MMS, email, mobile browsing, mobile TV)
- □ Forfaits (Packages)
- □ Retail Costs
- □ Other, please specify Click here to enter text.

11.3.1. If yes, is this data publicly available on the website?

- O Yes, please provide the website Click here to enter text.
- O No

11.4. Is your National Regulatory Authority collecting WHOLESALE tariff/rates data on IMR for the following services:

- □ Voice
- □ SMS
- Data (e.g. Internet, MMS, email, mobile browsing, mobile TV)
- Forfaits (Packages)
- □ Retail Costs
- □ Other, please specify Click here to enter text.

11.4.1. If yes, is this data publicly available on the website?

- O Yes, please provide the website Click here to enter text.
- Several possible replies
- $O\$ Only one possible reply

O No

11.5. What is the general trend of the IMR RETAIL PRICE OF VOICE over the past three years in your country?

- □ Increasing
- Decreasing
- □ Stable

11.6. What is the general trend of the SMS IMR RETAIL PRICE over the past three years in your country?

- □ Increasing
- Decreasing
- □ Stable

11.7. What is the general trend of the DATA IMR RETAIL PRICE over the past three years in your country?

- □ Increasing
- □ Decreasing
- □ Stable

11.8. Are RETAIL PRICES of IMR regulated in your country?

- O Yes
- O No

11.8.1. If yes, what kind of regulatory practice is applied?

- Price Cap
- Ex ante obligations on operators designated as having significant market power
- □ Benchmarking of tariffs
- Transparency measures (e.g. tariff or bill-shock information)
- □ Other, please specify Click here to enter text.

11.9. Is there regulation on the WHOLESALE PRICE of IMR in your country?

- O Yes
- O No

11.9.1. If yes, what kind of regulatory practice is applied?

- Price Cap
- Ex ante obligations on operators designated as having significant market power
- □ Benchmarking of tariffs
- Transparency measures (e.g. tariff or bill-shock information)
- □ Other, please specify Click here to enter text.

11.10. If there is no price regulation in place, do you consider that there is a need to regulate the retail or wholesale prices of IMR services?

Please provide only one response for retail and one response for wholesale (ticking only one box for each).

	Retail	Wholesale
There is a need for price regulation	please explain: Click here to enter text.	D please explain: Click here to enter text.
There is a need to regulate through other means.	please explain: Click here to enter text.	D please explain: Click here to enter text.
There is no need to regulate, as industry self-regulation is sufficient.	D please explain: Click here to enter text.	D please explain: Click here to enter text.
Others comments	D please explain: Click here to enter text.	D please explain: Click here to enter text.

11.11. Have your country's operators taken any measures to reduce the risk of bill shock*?

* Bill shock issue arises when users are not aware of the total roaming prices until the final bill is received and this is more prevalent among postpaid roamers.

- O Yes
- O No

11.11.1. If yes, what kind of measures have been applied? (Please tick all that apply):

- Home operator sends text messages to inform his customers of their roaming tariffs when they arrive in another country
- □ Mobile operators in the visited country to send SMS with roaming tariffs information to visiting customer (according to roaming agreement between home operator and operators in the visited country)
- Home operator sends alert SMS to the user informing that he/she is reaching the agreed roaming spending limit

- □ Suspending service when usage exceeds the spending limit fixed
- □ Other, please specify Click here to enter text.

11.11.2. If not, what kind of measures would you suggest? Click here to enter text.

11.12. Are you aware of any self-regulatory measures or commercial offers offered by industry?

- □ Website for price comparison
- □ Bilateral agreements to reduce IoT
- Commercial activities / promotions
- □ Regional cooperation / agreements
- □ Other, please specify Click here to enter text.

11.13. Have you or are you as a Regulator engaged in bilateral or multilateral cooperation / activities with other countries / Regulators to tackle Roaming at the Regional Level?

- O Yes
- O No

11.13.1. If yes, please specify? Click here to enter text.

12. Internet of Things / Machine 2 Machine (IoT/M2M)

12.1. Does your country have policies or regulations in place that deal with Internet of Things and Machine 2 Machine (IoT/M2M) roaming?

- O Yes
- O No

12.1.1. If YES, please elaborate and provide the website where available: Click here to enter text.

12.2. Is there a billing framework to support charging mechanisms for IoT services and applications in your country?

- O Yes
- O No

12.2.1. If YES, please elaborate and provide the website where available Click here to enter text.

12.3. Do you as regulator, collect information from operators on IoT and M2M with respect to roaming (e.g. traffic, charges)?

- O Yes
- O No

12.3.1. Remarks: Click here to enter text.

12.4. Do you as regulator, apply any measure regarding spectrum management and availability for IoT/M2M?

- O Yes
- O No

12.4.1. Remarks: Click here to enter text.

12.5. What significant reforms are planned on IoT/M2M in your country?

- □ Revision of law/policies
- Preparation of a billing framework to support operators
- Price control of IoT services
- Operators' obligation on infrastructure investment and network optimization
- □ Nothing, this is managed by operators' commercial agreements
- □ Other, please specify Click here to enter text.

13. Bundled services

* This is the practice of mobile network operators (MNO), mobile virtual network operators (MVNO), and Internet service providers (ISP) not to charge end customers for data used by specific applications or internet services mainly OTTs through their network, in limited or metered data plans.

13.1. Are operators allowed to bundle the supply of retail broadband products with the supply of other types of retail communication services (such as telephone calls or subscription television)?

- O Yes, please explain any restrictions or rules that apply to such bundling Click here to enter text.
- O No

13.2. Are there regulations (restrictions) in your country on Zero rating of OTT services?

- O Yes, please elaborate and provide the website where available Click here to enter text.
- O No

13.3. How is your administration approaching bundled retail services?

- Applying costing methodologies per bundle services
- Applying costing methodologies per unit costs
- Benchmarking the different operators/service providers
- □ Other(s), please specify Click here to enter text.

13.4. How does your administration determine that the pricing of bundled services is fair (at reasonable cost) and is non–discriminatory?

Click here to enter text.

13.5. Do you know what methodology/approach operators are applying to price bundled retail services?

- □ LRIC methodologies
- □ FDC
- □ Hybrid (LRIC-FDC)
- □ Regulatory accounting
- □ Benchmarking (competitors offers)
- Separated prices
- □ Commercial approach
- □ Other(s), please specify Click here to enter text.

13.6. Do you have a public website addressed to consumers to make available informed comparisons between different offers price bundles per operators?

- O Yes, please provide the website Click here to enter text.
- O No

14. Mobile virtual network operators (MVNOs)

14.1. Are MVNOs permitted to practice in your country?

- O Yes
- O No, Why? Click here to enter text.

14.2. MVNO operations are based on commercial agreements or based on a regulatory mandate?

- □ Commercial agreements
- Regulatory mandate
- 🗆 Both

14.3. Is there a specific regulatory framework in the field of MVNO in your country?

- O Yes
- O No

14.3.1. If YES, please provide the website: Click here to enter text.

14.4. Which types of MVNO are operating in your country?

- □ MNO Mobile Network Operator
- □ MVNO Mobile Virtual Network Operator
- □ MVNE Mobile Virtual Network Enabler
- MVNA Mobile Virtual Network Aggregator
- □ Other, please specify Click here to enter text.