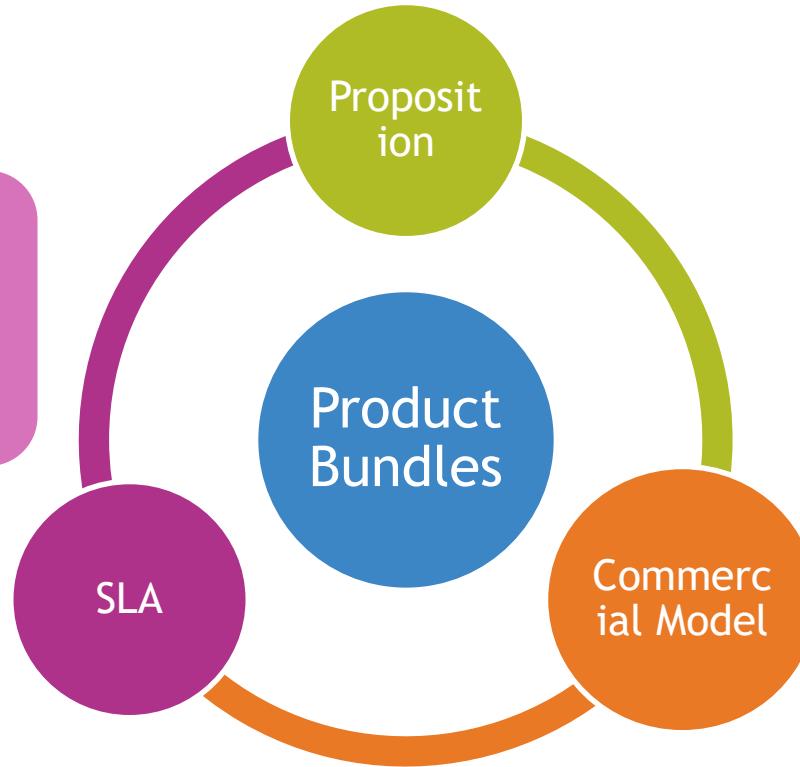


TATA COMMUNICATIONS



PRODUCT BUNDLES



**SLA :**

- Creation of consolidated SLA for each product bundle in line with customer's requirement.

Proposition :

- Creation of value proposition / pitch for each bundle that the Sales / RRM team can take it to customer as our unique proposition.

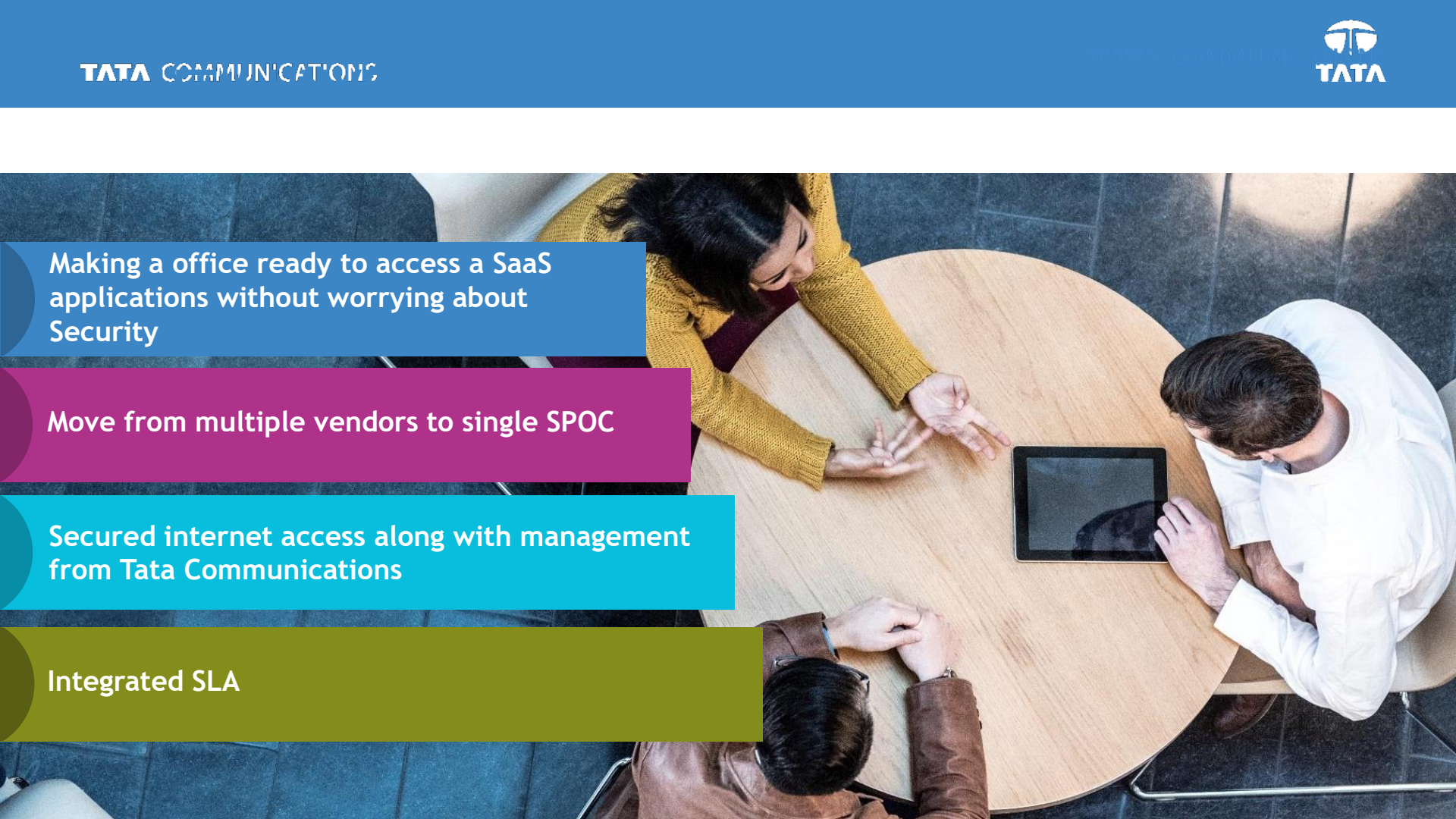
Commercial Model :

- Creation of single / competitive pricing model. (Eg. Pricing for product 1 + Product 2 ie 1 + 1 = 1.5)
- Compliance with taxation and regulation norms

Proposition No.	Product Bundles
Proposition 1	ILL + mUTM
Proposition 2	ILL + Vproxy
Proposition 3	ICS + MPLS / ILL
Proposition 4	ILL + DDoS

ILL + UTM



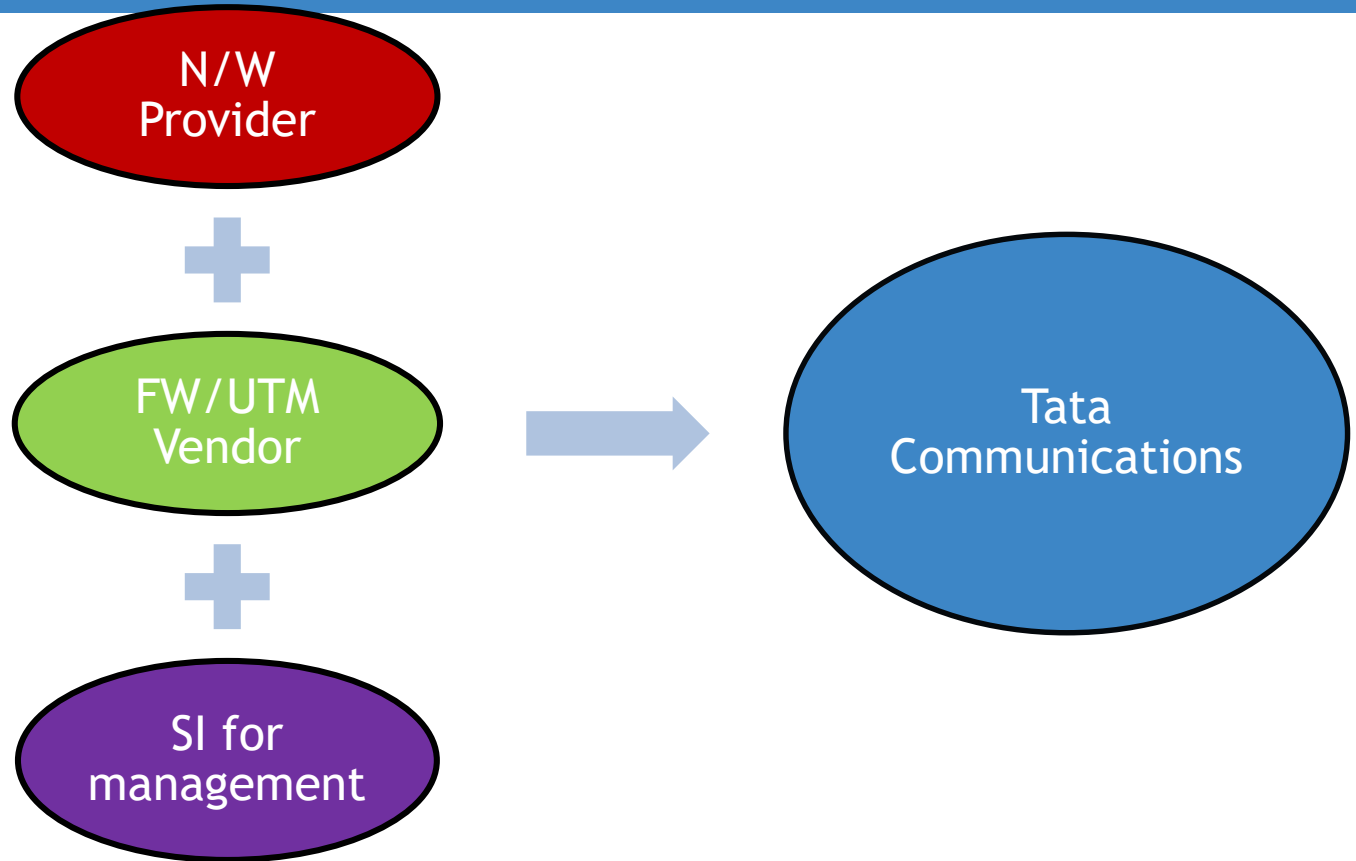


Making a office ready to access a SaaS applications without worrying about Security

Move from multiple vendors to single SPOC

Secured internet access along with management from Tata Communications

Integrated SLA



Basic

- IAS + FW

Advanced

- IAS + UTM

FW/UTM - Predefined models based on bandwidth supported

Basic Package	Advanced Package
Internet Network	Internet Network
Basic Firewall	Basic Firewall
NAT	NAT
Site to Site IPSec	Site to Site IPSec
Client to site IPSec VPN	Client to site IPSec VPN
SSL VPN	SSL VPN
Performance Reporting	Performance Reporting
24x7 Monitoring	24x7 Monitoring
Managed Services	Managed Services
	Intrusion Prevention
	Web filtering
	Anti Virus

BENEFITS

INTEGRATED

Network and Security

AS A SERVICE

Bandwidth based pricing model with network and security bundle

SINGLE DESK

Single point of contact for service issues

OPTIONS

FW only and UTM as per branch category

ILL + VPROXY





Direct secure access to Web and SaaS based applications for users

Move from multiple vendors to single SPOC

Secure internet access to user irrespective of his location

Cloud ready security

FRESH THINKING: 'DIRECT TO INTERNET' THE NEW NORMAL

Perimeter is dynamic

Applications and data are moving to the cloud

Users going direct to Internet

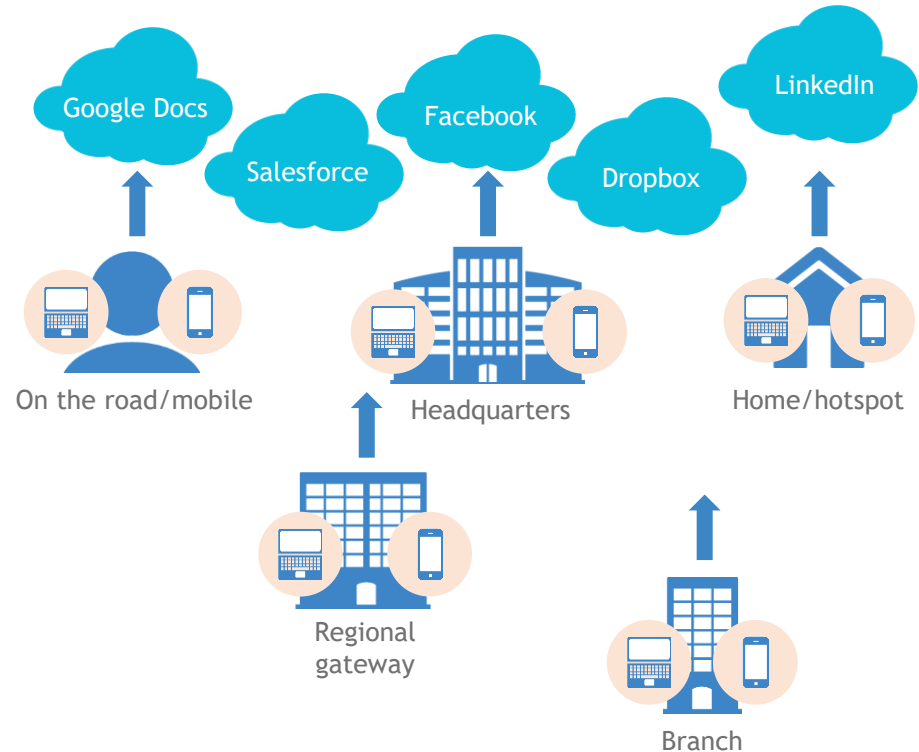
- VPN not a desirable option
- 3G/4G traffic does not go through appliance

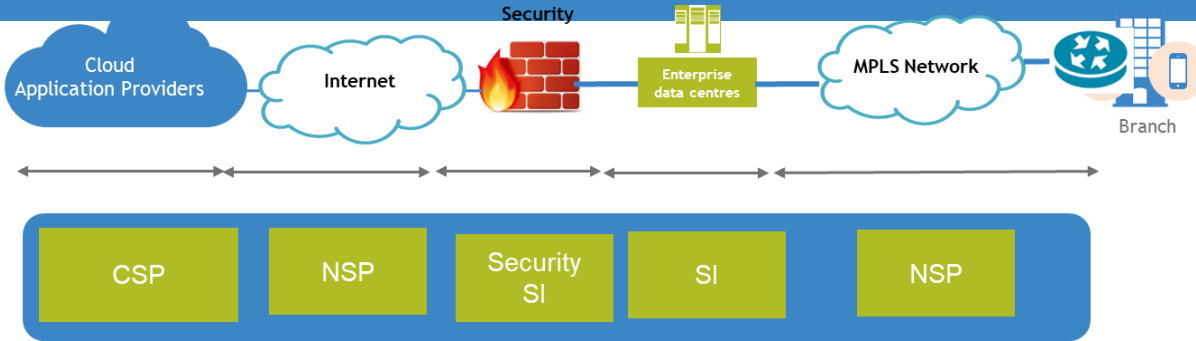
Gateway proxies and firewalls get bypassed

- Traffic backhauling too expensive
- Latency leads to unhappy users

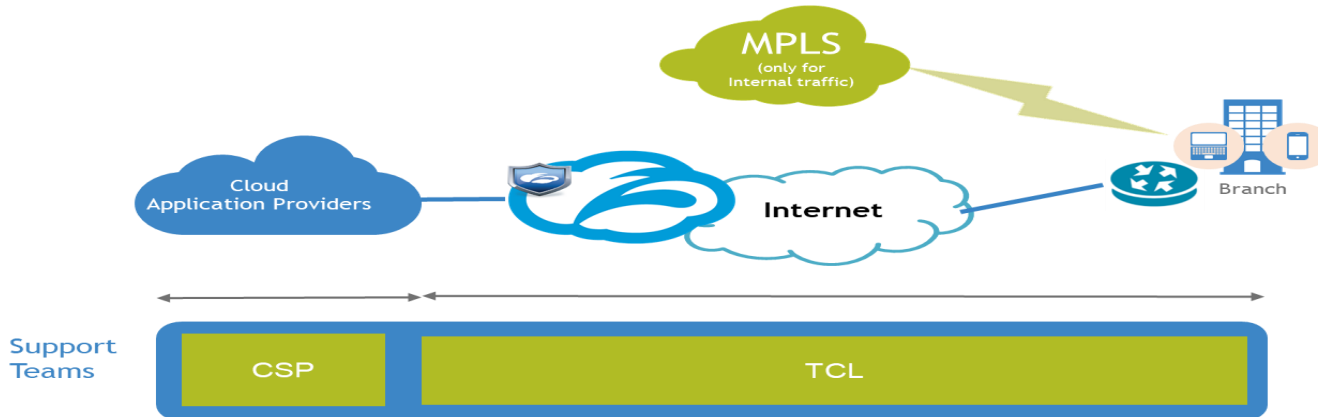
“A few years ago, 90% of my MPLS traffic was for applications in my corporate data centre and 10% was Internet-bound. Now, it’s just the opposite.”

CIO, Fortune 50 company





PROPOSED SERVICE MODEL - SECURE CONNECT WITH VPROXY



Silver

- Standard Internet
- Professional Suite

Gold

- Standard Internet
- Business Suite

Silver Package	Gold Package
Global Cloud Platform	Global Cloud Platform
Basic outbound firewall	Basic outbound firewall
Real-time reporting	Real-time reporting
File type control	Standard behavioural analysis
URL filtering	URL filtering
Inline anti-virus and anti-spyware	Inline anti-virus and anti-spyware
	Advanced threat protection
	Cloud App control
	Web access control
	SSL inspection

For Silver

BW(Mbps)	Users Option 1	Users Option 2	Users Option 3
1	5	10	
2	5	10	
3	10	20	
4	10	20	
5	10	20	
10	20	30	40
15	25	30	50
20	30	40	50
25	40	50	75
30	50	75	100
35	50	75	100
40	75	100	150
45	75	100	150
50	100	150	200
60	100	150	250
70	150	200	300
80	200	250	350
90	200	250	350
100	250	350	500

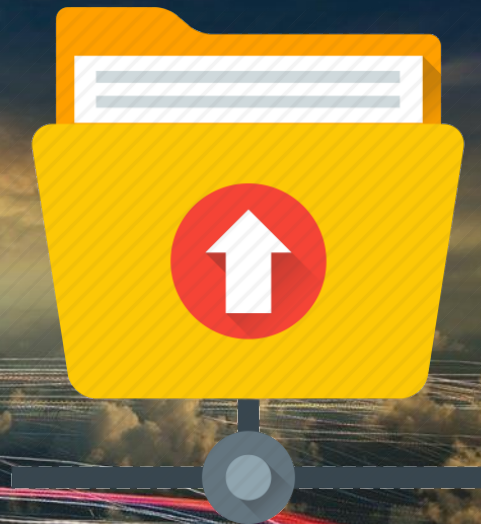
For Gold

BW(Mbps)	Users Option 1	Users Option 2	Users Option 3
1	5	10	
2	5	10	
3	10	20	
4	10	20	
5	10	20	
10	20	30	40
15	25	30	50
20	30	40	50
25	40	50	75
30	50	75	100
35	50	75	100
40	75	100	150
45	75	100	150
50	100	150	200
60	100	150	250
70	150	200	300
80	200	250	350
90	200	250	350
100	250	350	500



CONNECTED STORAGE

CLOUD CONNECT



DATA STORAGE MANAGEMENT IS NOT EASY

MANAGING DATA GROWTH, ECONOMICALLY STORE DATA

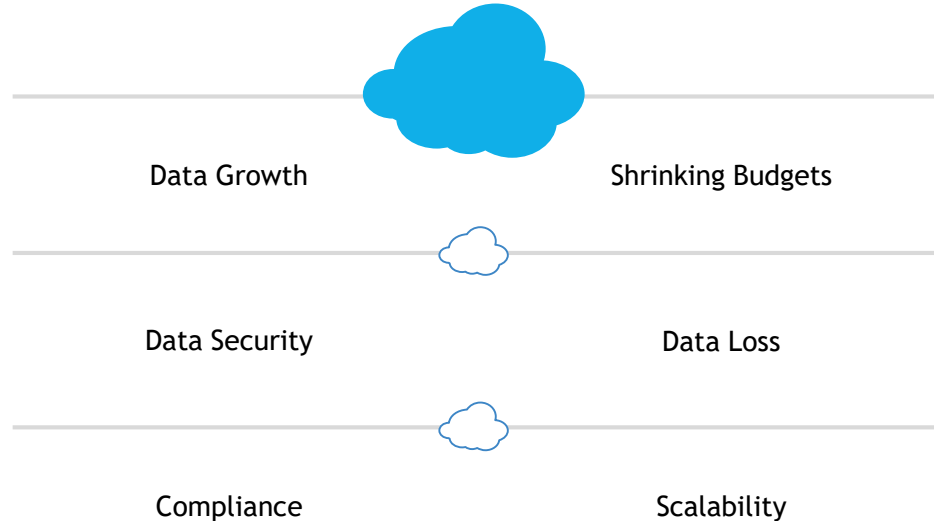


VOICE OF CIO

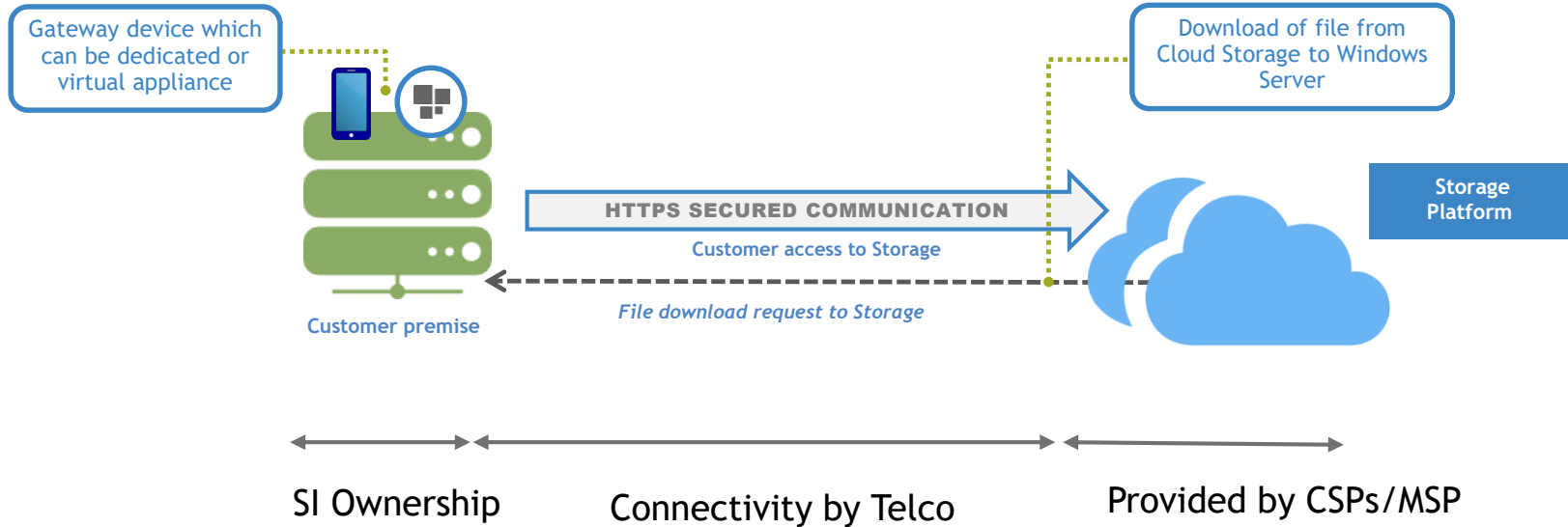
77% How to manage data growth

80% How to economically store data

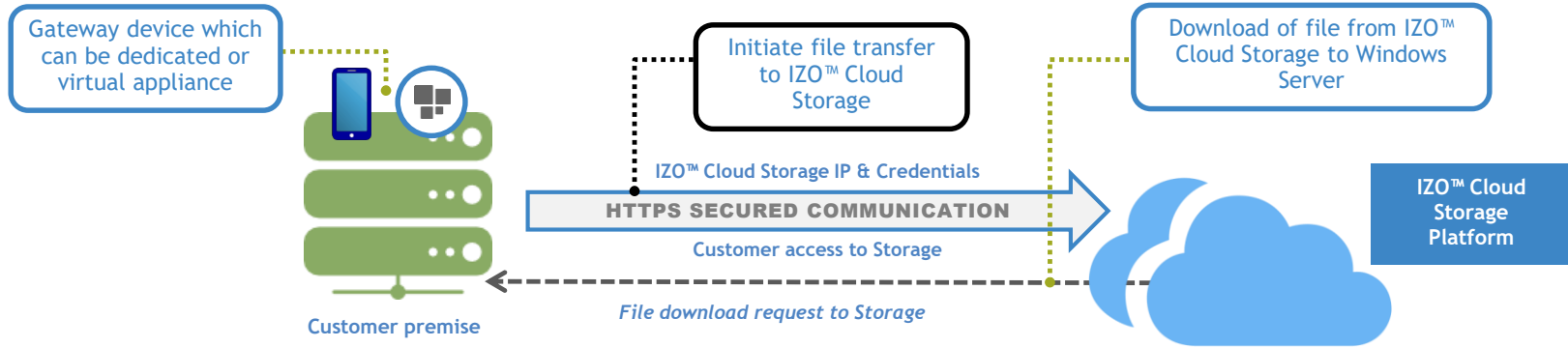
DATA STORAGE ISSUES



CURRENT SERVICE MODEL FOR ALL CUSTOMERS FOR CLOUD STORAGE



CONNECTED STORAGE MODEL



Integrated Service from a Single Provider



Making cloud based storage ready to access without any hassle of Reliable network

Move from multiple vendors to single **TECHNOLOGY PARTNER**

Single SLA for cloud storage & Network

Single Desk for Service Delivery & Service Management

CONNECTED STORAGE BENEFITS

BENEFITS

INTEGRATED

Network and Cloud
Storage

AS A SERVICE

Per TB pricing model
with network bundle

SINGLE DESK

Single point of
contact for service
issues

OPTIONS

Various Network &
Storage connectivity
option

Propositions :

- ICS+VDOM FW+MPLS
- ICS+VDOM FW+P2P
- ICS+VDOM FW+Std. ILL
- ICS+VDOM FW+Premium
- ILL

Pricing Methodology :

- 1 year model – Slab wise bundled commercials for ICS+VDOM+Network
- Burst options available for MPLS (1:4) and ILL (1:10) for additional network usage
- Commercials applicable only for MAN connected sites PAN India
- Commercials are constructed in a bundle offer where the base price is arrived at a 15-20% additional discount over individual prices of each component at comm delegation

Connected Storage - Bundle 6

Variant 1 - ICS+VDOM Port+MPLS Port @ customer site and ICS DC site (Existing & new customers)

ICS quantity	ICS Flavour	VDOM quantity	MPLS Port BW		Bundled ARC	Burst Rate per Month
			Customer Site	ICS DC/DR site		
1TB	Value Based	5 Mbps	5 Mbps	5 Mbps	₹ 1,61,922	₹ 2,571
2TB	Value Based	10 Mbps	10 Mbps	10 Mbps	₹ 2,52,934	₹ 1,238
5TB	Value Based	25 Mbps	25 Mbps	25 Mbps	₹ 5,44,367	₹ 1,048
10TB	Value Based	50 Mbps	50 Mbps	50 Mbps	₹ 8,45,321	₹ 776
15TB	Value Based	75 Mbps	75 Mbps	75 Mbps	₹ 10,25,188	₹ 595
20TB	Value Based	100 Mbps	100 Mbps	100 Mbps	₹ 11,79,376	₹ 490
25TB	Value Based	125 Mbps	125 Mbps	125 Mbps	₹ 13,99,692	₹ 456

Connected Storage - Bundle 6

Variant 3 - ICS + VDOM Port + Internet Connectivity at ICS DC site (For Lesser Data Transfer Require)

ICS quantity	ICS Flavour	VDOM quantity	Std. ILL BW	Bundled ARC	Burst Rate per Month
0.5 TB	Value Based	5 Mbps	1 Mbps	₹ 35,936	₹ 2,920
1TB	Value Based	10 Mbps	2 Mbps	₹ 50,647	₹ 1,846
2TB	Value Based	25 Mbps	4 Mbps	₹ 95,183	₹ 1,740
5TB	Value Based	50 Mbps	10 Mbps	₹ 2,20,198	₹ 1,582
10TB	Value Based	75 Mbps	20 Mbps	₹ 3,88,928	₹ 1,307
15TB	Value Based	100 Mbps	30 Mbps	₹ 5,13,955	₹ 1,052
20TB	Value Based	125 Mbps	40 Mbps	₹ 6,15,920	₹ 859

DRAFT

TATA COMMUNICATIONS



ILL + DDOS



MAJOR DDoS INCIDENTS

Cost of launching an attack			Business impact		
1 Hour		\$5	\$10,000 / Hour		
1 Day		\$40	\$80,000 / Day		
1 Week		\$260	\$400,000 / Week		
1 Month		\$900	\$1,760,000 / Month		

Cost to run an attack
= less than
\$900/month

Cost of suffering
an attack = up to
\$1.76m/month

BBC	All online services at the BBC went offline for 35 Hours
TalkTalk	Stock prices of the UK telecom giant dropped 22% post attack
HSBC	In January 2016, HSBC mobile and internet banking experienced shutdown for 17million customers
Gaming	A leading gaming company lost \$1.7million in revenue in just 90 minutes

SOURCE: 1.Radware for cost table 2.Arbor for major DDoS incident table



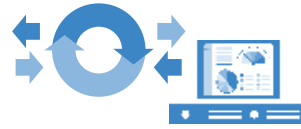
GLOBAL SCRUBBING FARMS

Our 21 facilities worldwide mitigate attacks closer to the source – limiting latency impact.



PROVEN EXPERTISE

Truly international track record building and managing global DDoS protection infrastructure and services.



END-TO-END MANAGEMENT

We take complete ownership – from design and deployment to DDoS infrastructure management.



KEEPING BUSINESS RUNNING

Our extensive global DDoS experience protects against multi-vector attacks – securing business availability with SLA.

NEXT GENERATION THINKING EXTENDS SECURE WORLDWIDE REACH

ADVANCED NETWORK

Global single network guarantees the most direct data route

Key player at carrier neutral hotels and Internet exchanges plus extensive peering relations with other global tier-1 ISPs

The largest Tier-1 ISP in India having balanced traffic of content and eyeballs on our network

GLOBAL INFRASTRUCTURE

- 240+ Internet PoPs conveniently located worldwide
- Access to 70% of world's top 20 content providers – including 4 of the top 5
- Global end-user base through our 550+ ISP customers from over 50 countries
- World's largest private cable owner – literally circumnavigating the world

INDUSTRY LEADER

- 25% global internet traffic share
- Next-generation IP network platform



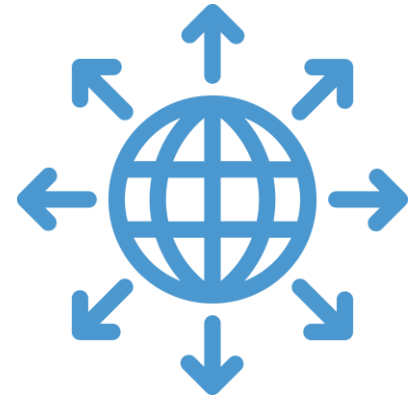
SMART INTEGRATION ENHANCES EFFICIENCY AND CUSTOMER EXPERIENCE

NEXT-LEVEL PRODUCTIVITY

- Fully integrated network service and risk protection with **flexible pricing options**
- **Single touchpoint** service, assurance and billing
- Minimal provisioning efforts with our internet leads to **faster** secured connectivity

SUPERIOR CUSTOMER EXPERIENCE

- Minimal path alteration from source to destination during mitigation **limits latency impact** to < 5% – ensuring best network KPIs, even under attack
- Extensive **global track record** detecting and mitigating mDDoS attacks
- **CCNA-certified staff** monitoring your services 24/7/365



INBUILT SECURITY AT NETWORK EDGE ENSURES PEACE OF MIND

GREATER SECURITY PROMOTES BUSINESS CONTINUITY

- Our 'one AS-hop' rule means scrubbing farms and Internet PoPs spread helps detect/mitigate attacks nearest to source – minimising dependency on external bandwidth
- 15+ TBPS of internet backbone on owned cable routes worldwide provides immense capacity to handle mDDoS attacks – whatever their size
- Integrated approach enables mitigation at higher level of granularity

GLOBAL PROVIDER REASSURANCE

- Tier 1 global network carrying 25% of global internet traffic share
- Global owned cables, 240+ Internet PoPs and 17 DDoS scrubbing farms worldwide
- Single network, extensive global peering with ISPs globally at carrier neutral hotels and internet exchanges help deliver superior internet experience



Option-1

Bandwidth (Mbps)	DDoS Mitigation Capacity (Mbps)
1	500
2	500
4	500
5	500
10	1000
15	1000
20	1000
25	2000
30	2000
35	2000
40	2000
45	2000
50	2000
60	2000
70	2000
80	2000
90	2000
100	2000

Option-2

Bandwidth (Mbps)	DDoS Mitigation Capacity (Mbps)
1	500
2	500
4	500
5	500
10	500
15	500
20	500
25	1000
30	1000
35	1000
40	1000
45	1000
50	1000
60	1000
70	1000
80	1000
90	1000
100	1000



Tier-1 ISP provider

We're the fourth largest Tier-1 IP provider, carrying over 24% of the world's internet traffic routes. This ensures minimal latency and zero dependency on any other network provider for bandwidth



Cloud-based offering

Our strong DDoS play in the market focuses on cloud delivery models (mDDoS, SIGS & SWG). Plus, we have extensive experience in defining counter measures for complicated multi vector attacks



Global scrubbing farms

DDoS protection leverages the strength of our 20+ tightly integrated global scrubbing farms to mitigate attacks closer to the source



Mature multi tenanted SOC

We have complete ownership from design, deployment and management through international SOC's serving 100+ customers



Augmentation with FlowSpec

Our extra layer of defence against DDoS attacks systematically filters malicious attacks globally before they fully scale into the customer's environment



THANK YOU

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<http://tatacommunications-newworld.com> www.youtube.com/tatacomms

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