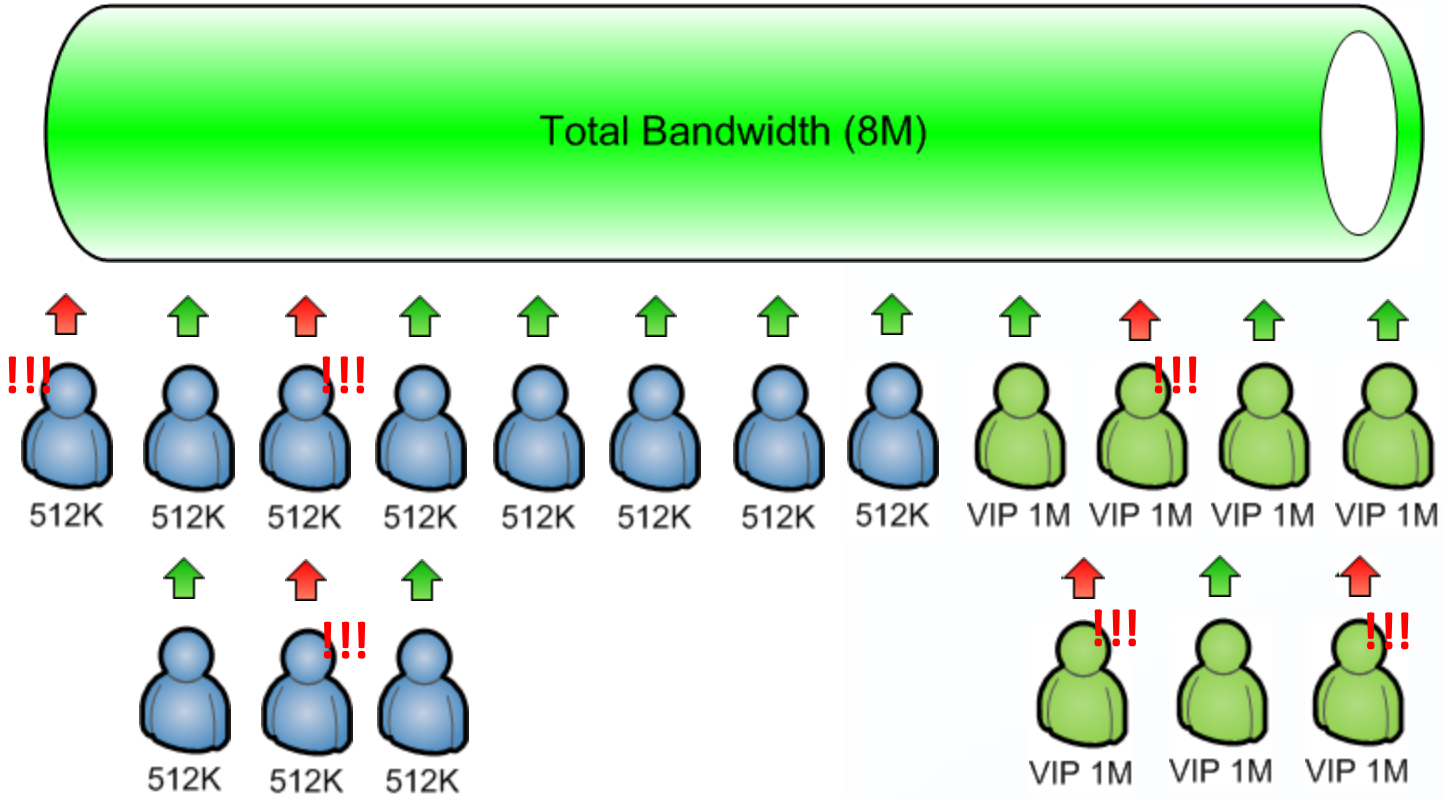
How do you explain the benefits of Advanced QoS

How to Guides

Topics

- What are the issues
- Benefits of Advanced QoS
- Stage 1: Per Account BW Sharing
- Stage 2: QoS Classifier
- Stage 3: Application Traffic Shaping
- Where to configure in GUI

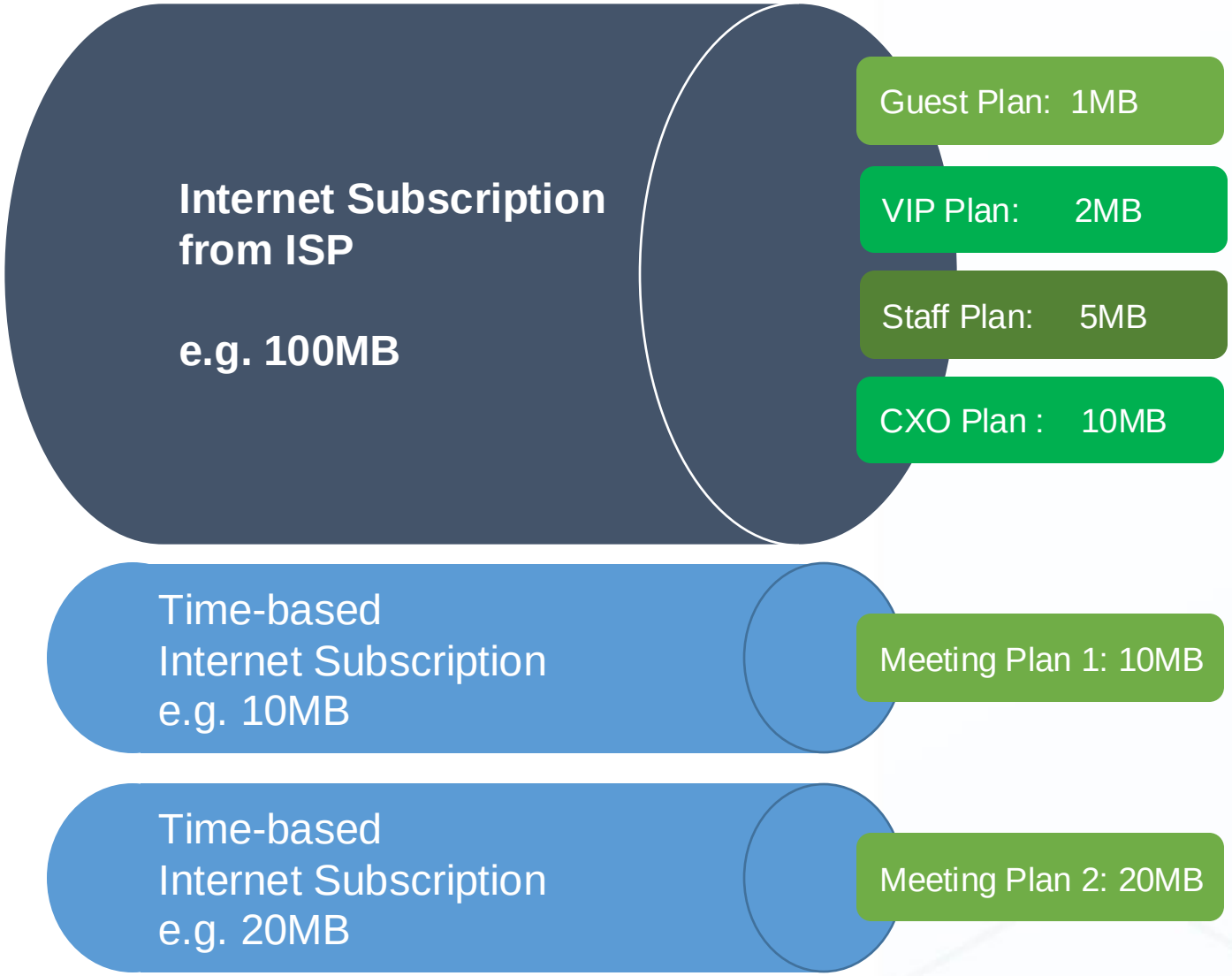
Issue 1: Per client rate limit



Works well when bandwidth required by all clients does not exceed Total bandwidth

Once exceeded, random users will encounter issues, even VIP users

Issue 2: Single Internet pipe



All users share ONE single Internet link

Every event requires a NEW Internet link

Issue 3: Single user Multiple devices

- Another common issue faced is that of a single user having multiple devices
  - Such a user will get a larger share of the available bandwidth as each of his devices can concurrently access the network
  - Traditional approach was to limit the number of concurrent devices and pay for additional devices

ANTlabs Advanced QoS

Better, hassle-free bandwidth allocation

Bandwidth Rate- Limiter

Stage 1
User

- User based Rate-Limit
- All devices of 1 user share a common rate-limit
- The allocated bandwidth is shared equally among all the user devices that is actively requesting for data.

QoS Classifier

Stage 2
Group

- **Guaranteed Tier**
  - Highest Priority
  - Suitable for conference
- **Premium Tier**
  - Higher Priority than Basic
  - VIP/ Paying Users
  - Best possible experience
- **Basic Tier**
  - Free Internet Users
  - Best Effort
- **Event Tier**
  - Reserved for Event

Application Traffic Shaper

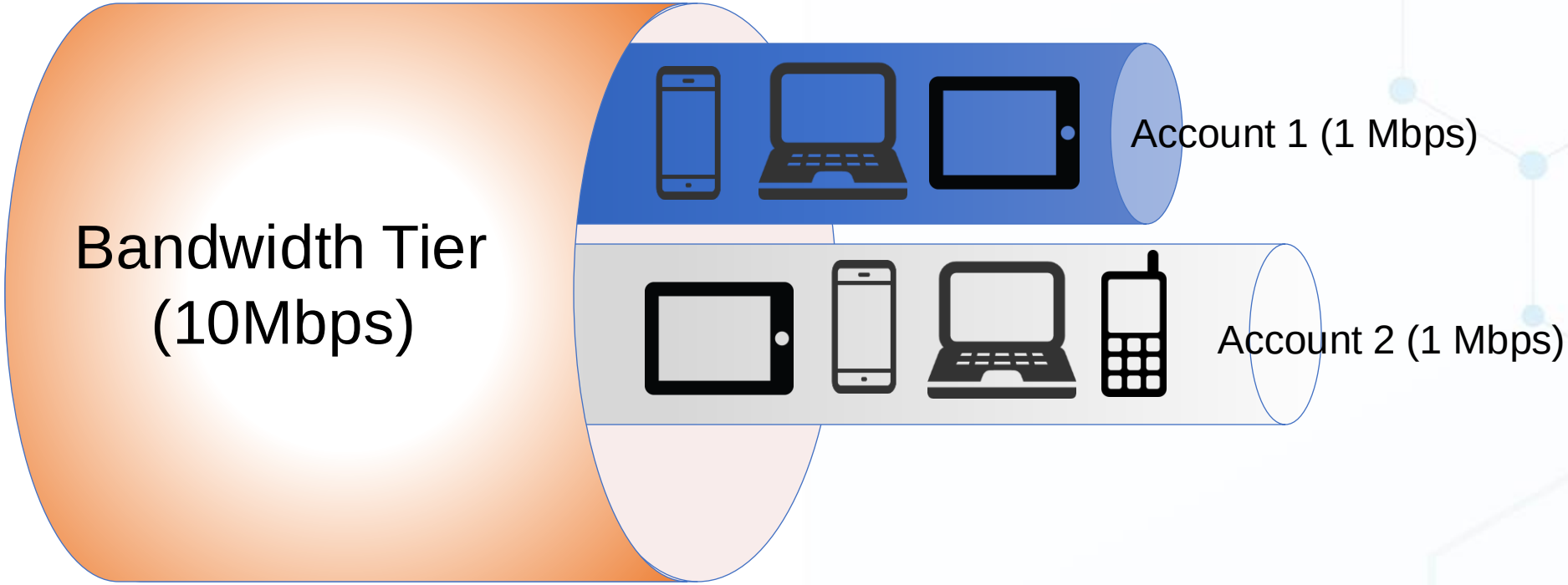
Stage 3
Global

- Configure Application based Traffic Shaping
- Prevents bandwidth starvation by P2P and malicious Apps

ANTlabs Advanced QoS

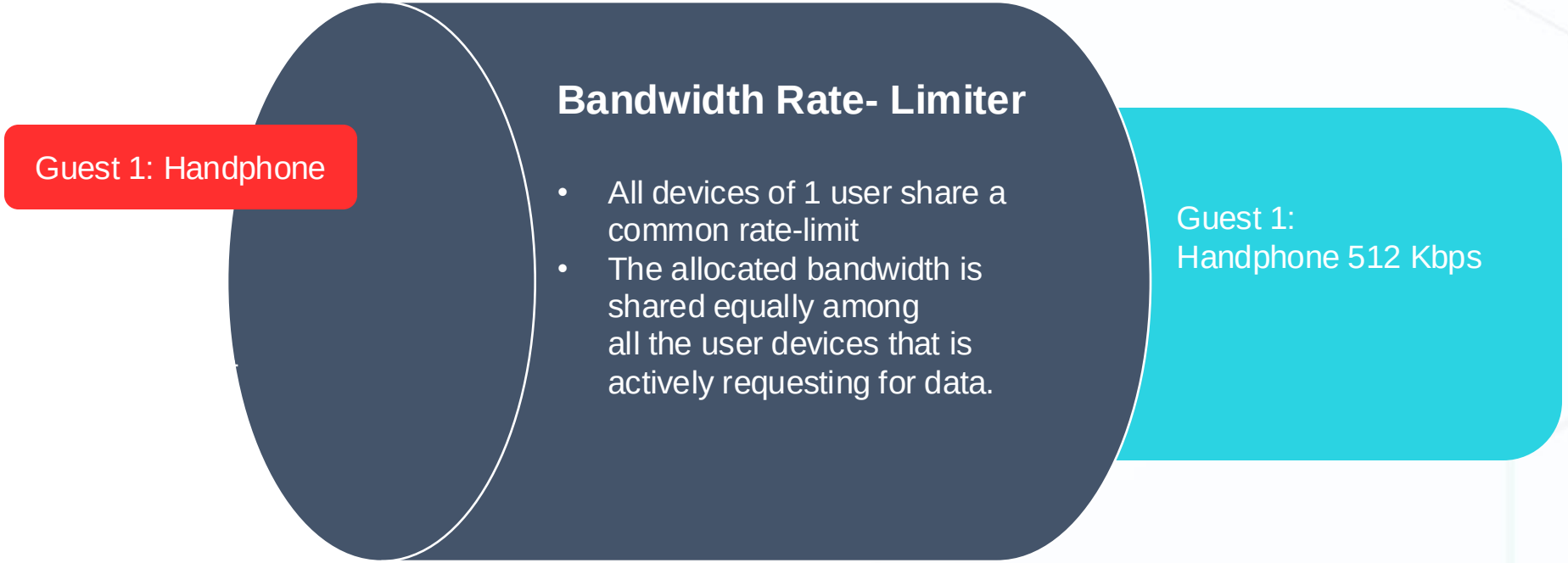
- Achieve Fair Sharing of Bandwidth among users
- Maximized Bandwidth Utilization
- Created Differentiated Class for Different Group of Users
- Prevent Bandwidth Starvation by P2P and Rogue Applications
- 2 Modes of rate-limit:
  - By Device
  - By User

Stage 1 : Per-Account BW Sharing



All devices that login with the same account will share the bandwidth allocation for that account

Stage 1: Per-Account BW Sharing



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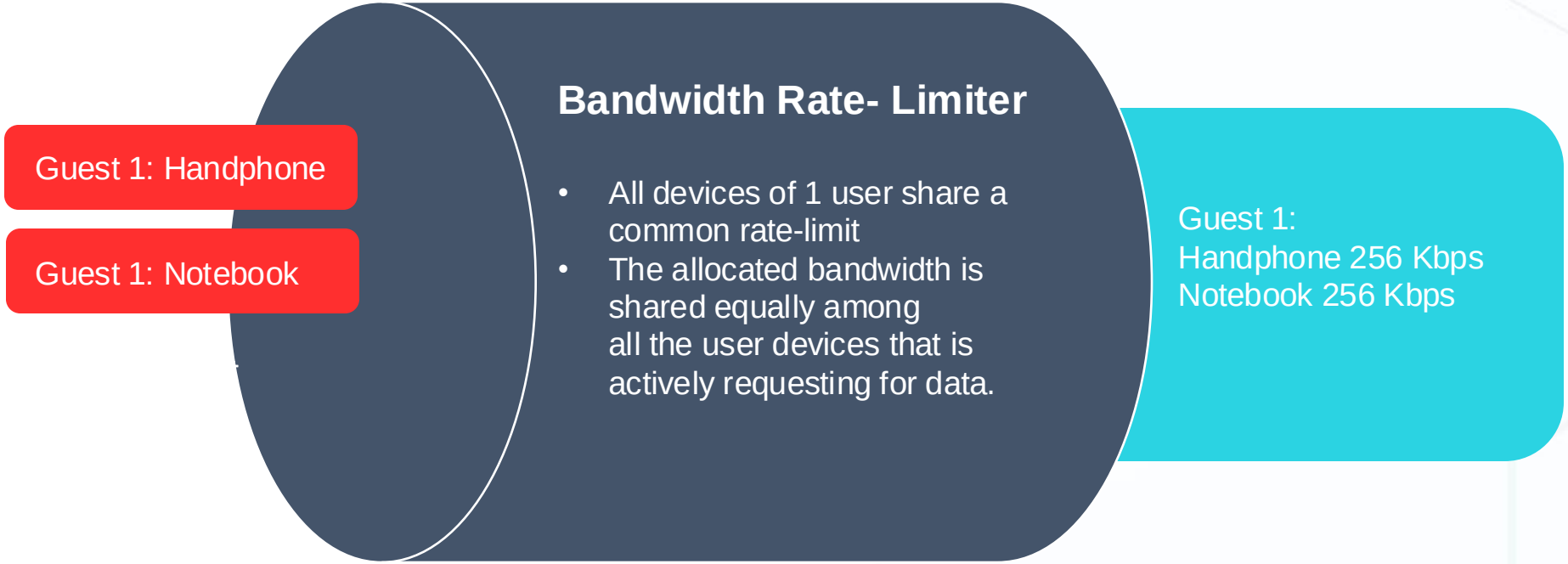

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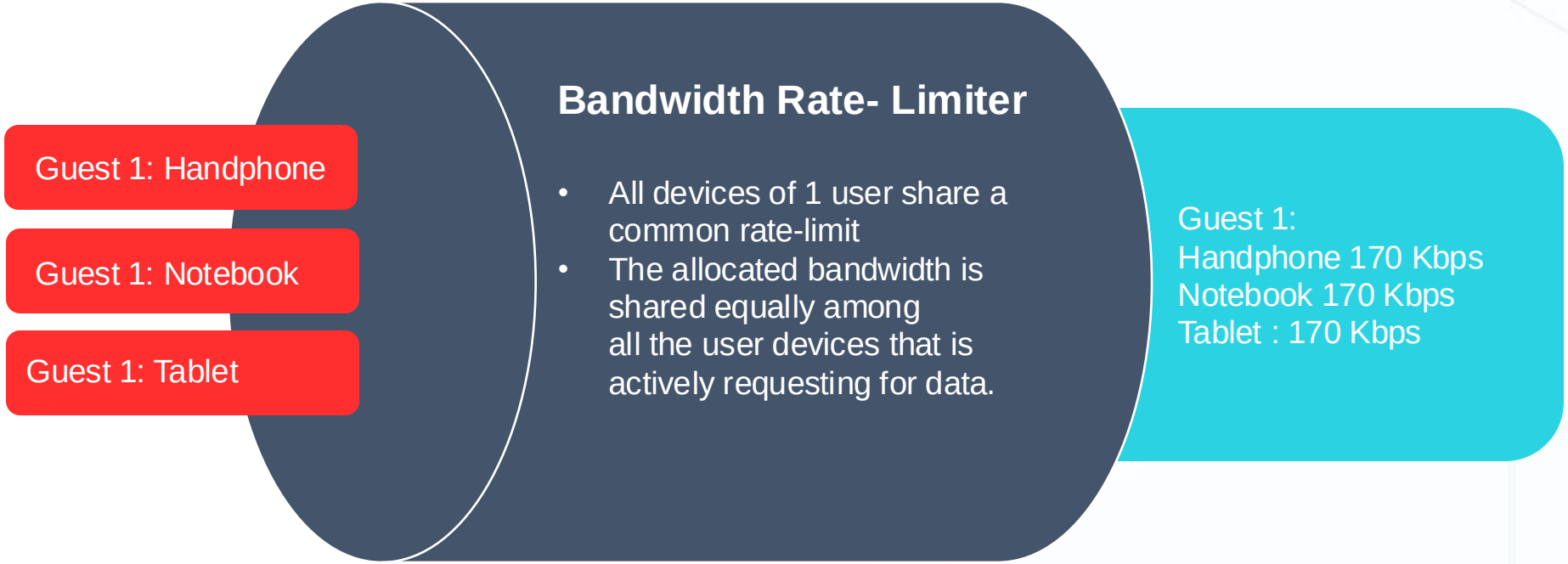
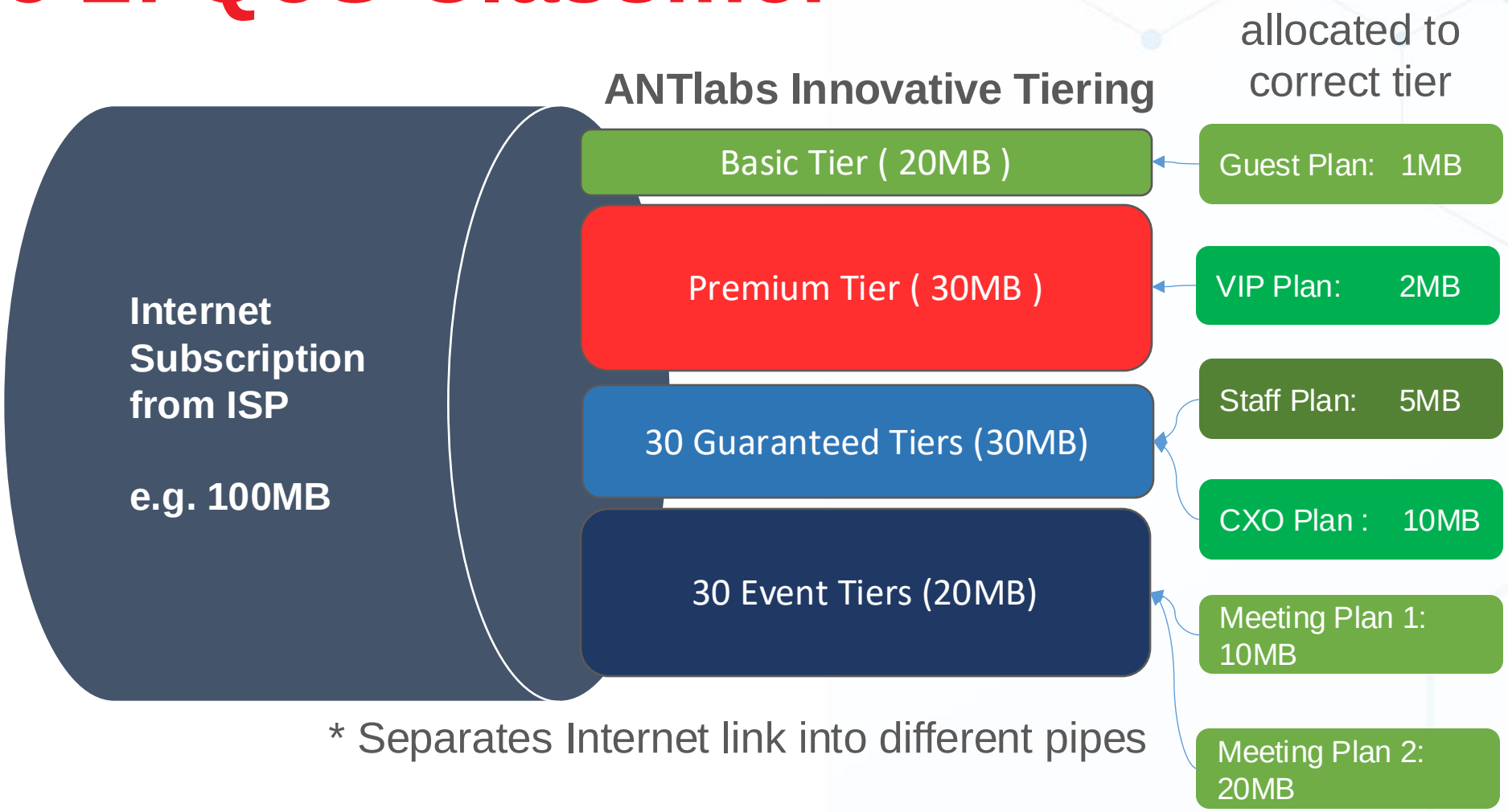
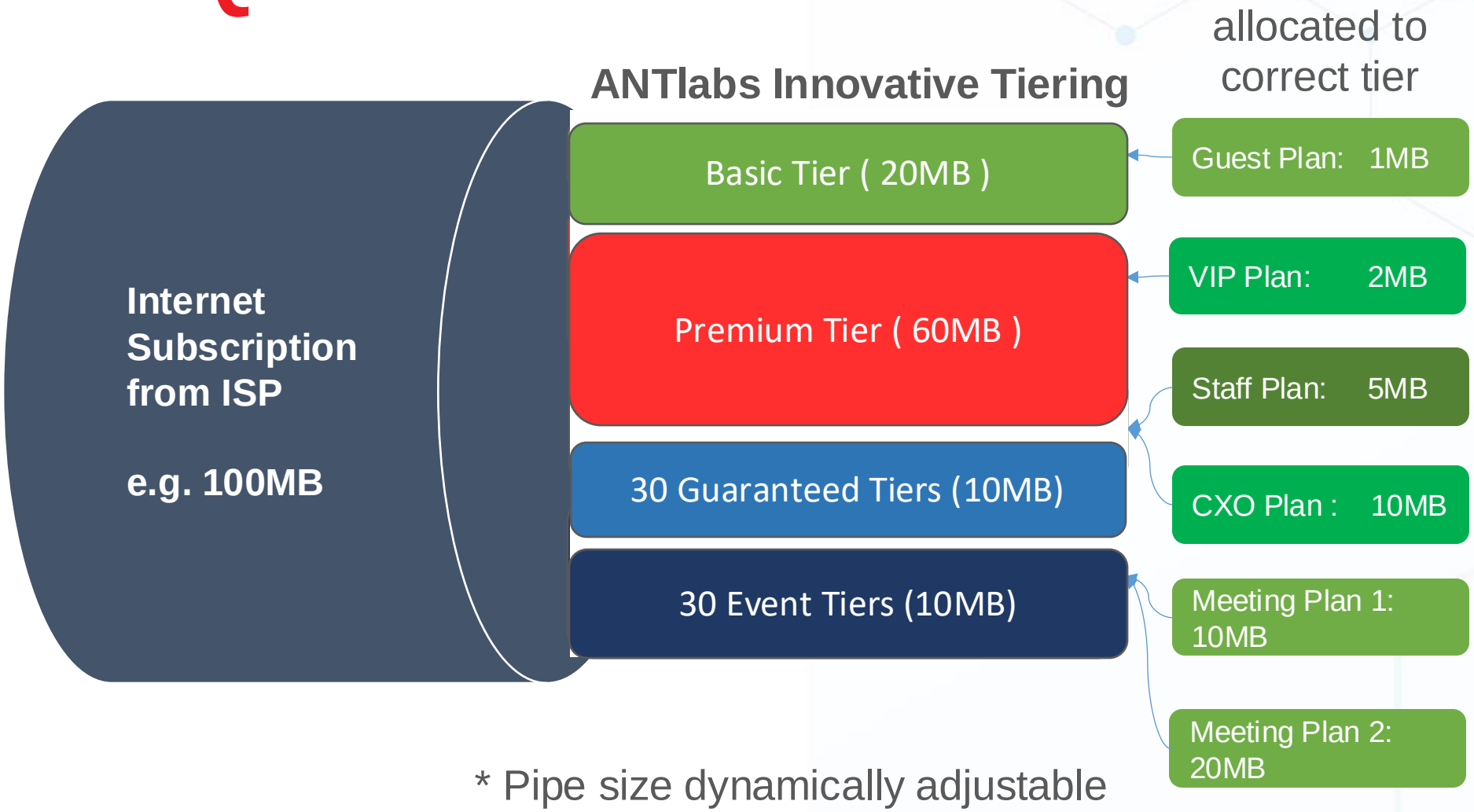


Stage 2: QoS Classifier



* Separates Internet link into different pipes

Stage 2: QoS Classifier



* Pipe size dynamically adjustable

√ Save costs while providing maximum flexibility

Stage 2: QoS Classifier

- Guaranteed Tier
  - Has the highest priority
  - Up to 30 guaranteed bandwidth classes available
  - Bandwidth (upload / download) is reserved for each class and its users will always get that bandwidth allocation when they request

- Suitable for conference & meeting usage

Stage 2: QoS Classifier

- Premium Tier
  - Higher priority than Complimentary Tier
  - Always receive minimum bandwidth configured when under congestion
  - Excess bandwidth from other tiers can be utilized if available

- Suitable for paying or VIP users

Stage 2: QoS Classifier

- Basic Tier
  - Lowest Priority
  - Best effort internet bandwidth allocation
  - Excess bandwidth from the other tiers cannot be utilized even if available
- Suitable for non-paying users who need basic internet access

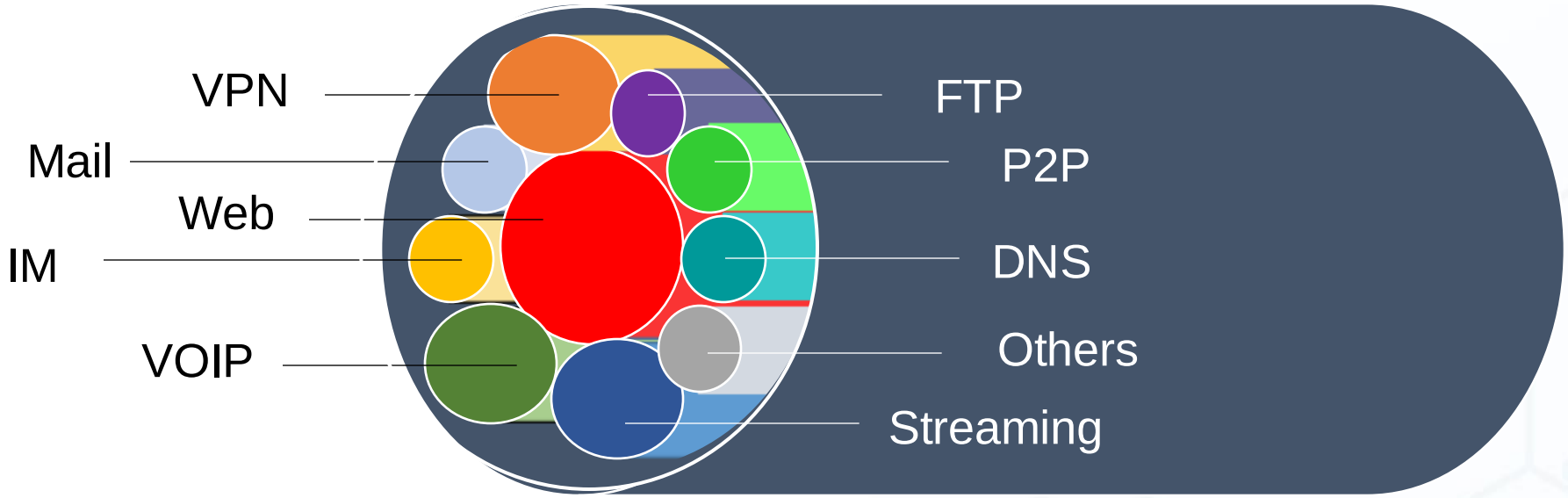
Stage 2: QoS Classifier

- Event Tier
  - Defines the total bandwidth that is allocated for Events.
  - Sub-allocation of individual event bandwidth is done when creating event location

- Requires event manager module to be installed

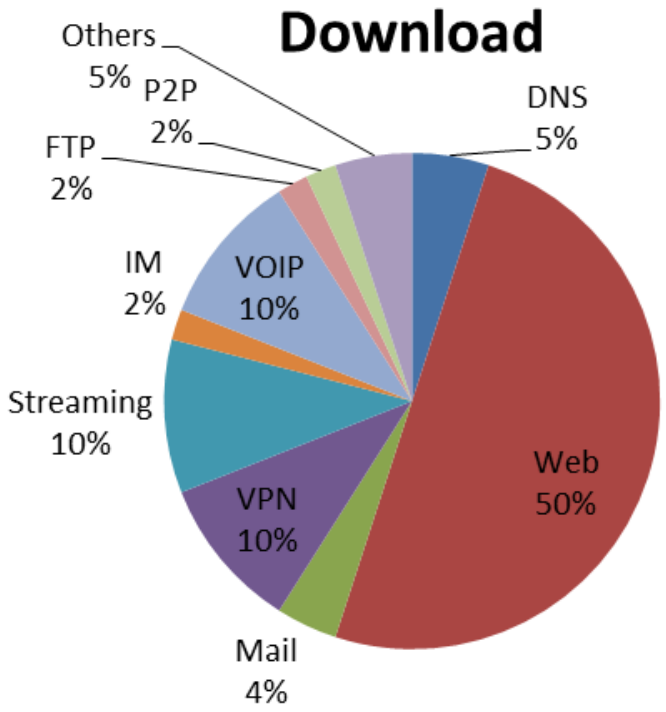
Stage 3: Application Traffic Shaping

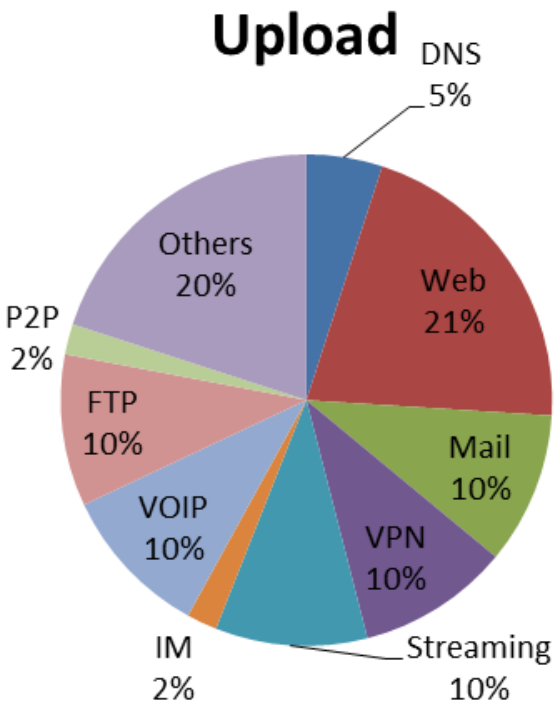
- Mode 1
  - Fixed rules based on well-known ports
  - Applied globally



Stage 3: Application Traffic Shaping

- Shaping percentages





Stage 3: Application Traffic Shaping

- Application Shaping ports

Web
HTTP – TCP Port 80
HTTPS – TCP Port 443

Mail
POP3 – TCP Port 110
IMAP – TCP Port 143
SMTP – TCP Port 25
Secure SMTP (SSMTP) – TCP Port 465
Secure IMAP (IMAP4-SSL) – TCP Port 585
IMAP4 over SSL (IMAPS) – TCP Port 993
Secure POP3 (SSL-POP) – TCP Port 995

VPN
PPTP VPN - TCP Port 1723, UDP Port 500
L2TP VPN - TCP Port 1701, UDP Port 500
IPSec/ESP - UDP Port 500

Streaming
Windows Media Streaming - TCP, UDP Port 1755, 7007
RSTP – TCP, UDP Port 554, 8554
RTP-QT4 – UDP Port 6970-6999

IM
Yahoo – TCP Port 5010
AOL Messager – TCP, UDP Port 5190
MSN Messenger – TCP, UDP Ports 1863, 5190, 6891 to 6901

VOIP
SIP – TCP, UDP Port 5060
Net2Phone – UDP Port 6801
NetFone – TCP Port 10200
Vonage UDP Port 5061
VPhone TCP, UDP Port 11675

DNS
UDP Port 53

FTP
TCP Port 20, 21

P2P
Bittorrent, Azureus – TCP, UDP Ports 6881 to 6889, 6969
DC++ - TCP, UDP Ports 411
Limewire, Morpheus, BearShare, Gnutella - TCP, UDP Ports 6346 to 6347
Edonkey, EMule - TCP Port 4662, UDP Port 4672
WinMx – TCP Port 6699, UDP Port 6257

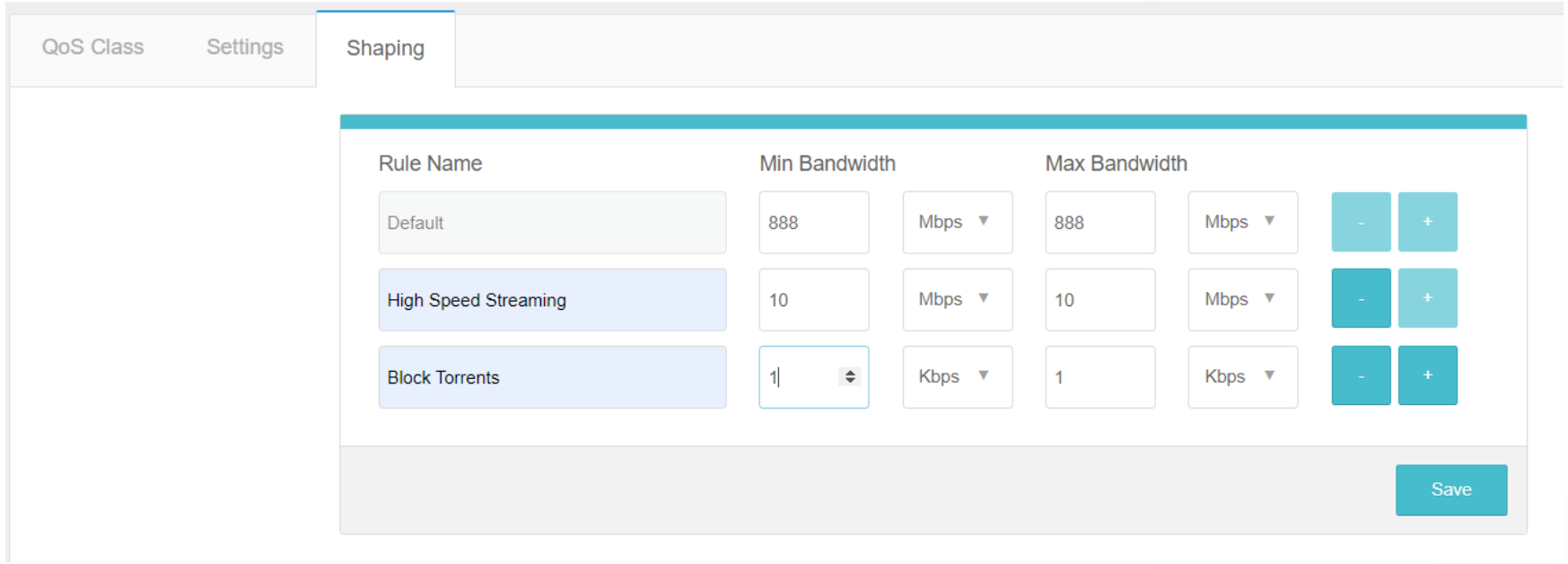
Stage 3: Application Traffic Shaping

- Mode 2
  - User defined rules based on Web categories (60 different categories)
  - Categorization is based on signatures updated daily
  - Shaping rules can be selectively applied to users based on their plan

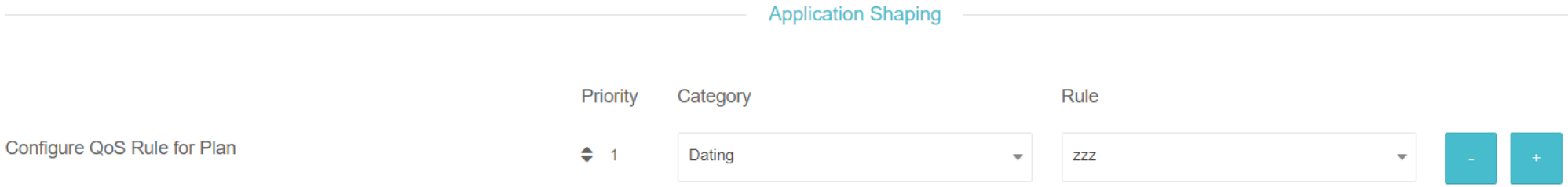
- Mode 2 only available for AQoS Plus module.

Stage 3: Application Traffic Shaping

Under Bandwidth



Under Plans



Learning Summary

You have learned how the general issues of traditional simple bandwidth rate limit on a WiFi network and also understand how our innovative Advanced QoS / QoS Plus 3 stage Engine helps to mitigate the issues and bring better experience to the end users.