



Service Provider Release Note 24

November 2015

Contents

1. Introduction	3
2. Legacy Traffic Management System	3
3. Fair Split	4
4. FAQ	4

1. Introduction

Avanti are pleased to introduce our latest update to the Avanti OSS for all Avanti Partners.

This release sees the enhancement of the Avanti OSS traffic management functionality, which provides a more equitable allocation of bandwidth in network contention scenarios, and an associated improvement of user experience for the majority of end users.

2. Legacy Traffic Management System

Avanti traffic management to date has allocated bandwidth in network contention scenarios to individual user connections. A 'connection' is established then there is a transfer of data over the network between two end points. E.g. opening up a web page from your computer browser will initiate at least one connection between you and the web server, however often times several connections may be opened as contact from web pages often resides on different web servers.

Often devices will have several connections open without users even being aware for things like program and operating system updates, and even in some instances malicious software; also some service such as Bit Torrent may open several hundred connections simultaneously to download files.

Allocating bandwidth to users fairly based on an equal allocation per connection is therefore problematic due to the fact that:

- Some users have a single device connected, while others may have many;
- Some users may be using devices which generate very large amount of connections.

This can result in some users have a very unequally large allocation of bandwidth to the detriment of other users.

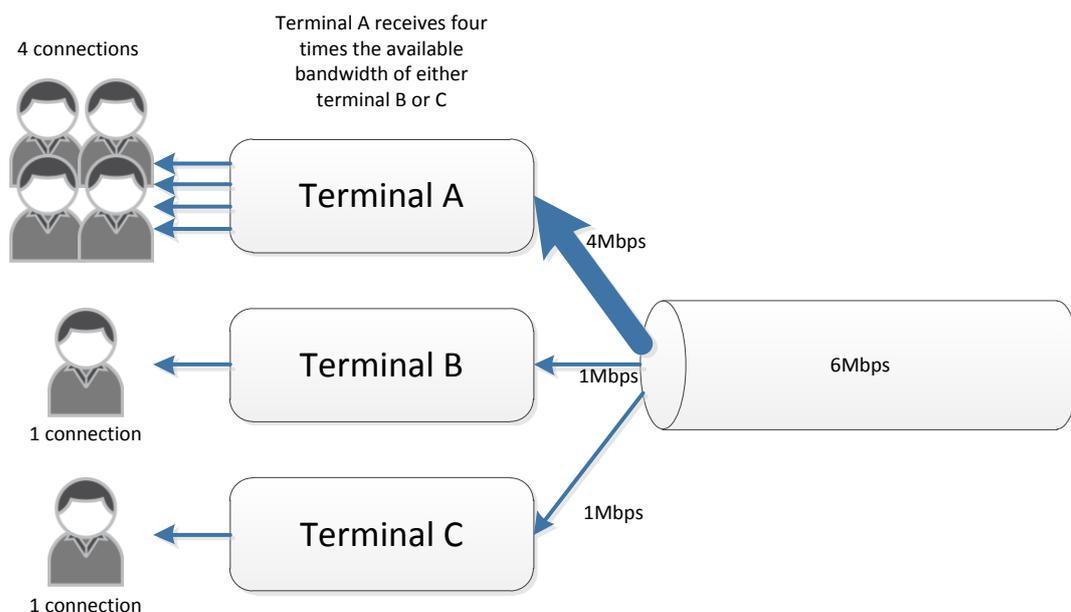


Figure 1 – Legacy Bandwidth Allocation per Connection

In Figure 1 above there are three terminals all actively trying to download at the same time within a 6Mbps bandwidth pool. Terminal A has four devices connected, representing four connections, however this could easily be one device with four connections such as downloading a web file, downloading email, streaming a TV show and downloading Windows system updates. Terminal A has four times the number of connections as Terminals B and C and receives four times the amount of bandwidth from the 6Mbps bandwidth pool.

3. Fair Split

Avanti are now introducing a new traffic allocation mechanism, Fair Split. Fair Split allocates traffic under contention scenarios equally to terminals, irrespective of the number of connections which are active on a terminal. This provides a more consistent and balanced user experience to terminals during both times when the network is congested and time when the network is uncongested.

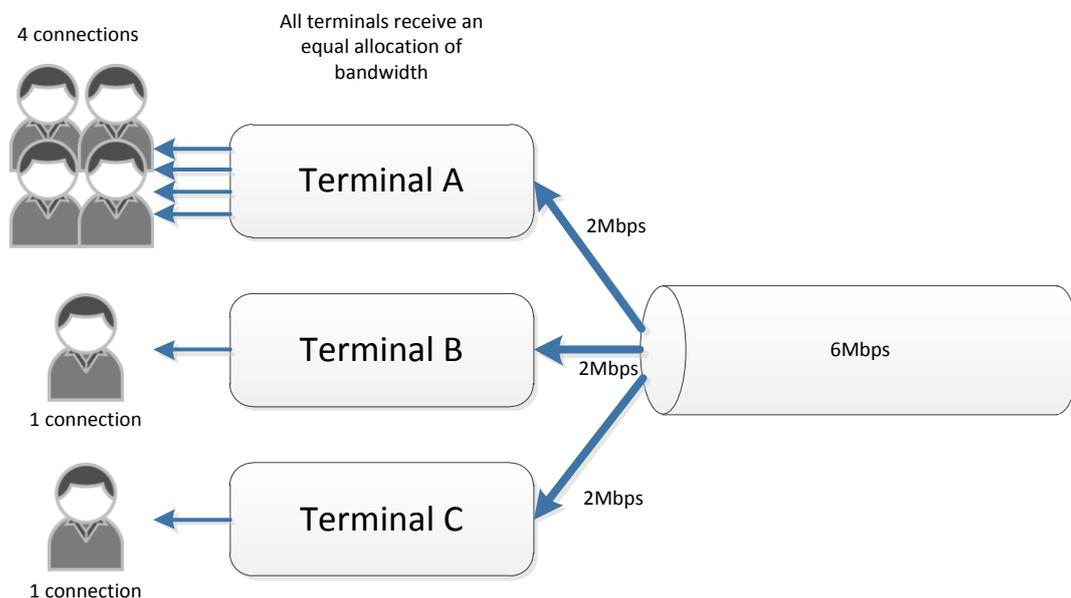


Figure 2 – Fair Split Bandwidth Allocation per Terminal

Fair Split assigns an equal weighting to all terminal. In Figure 2 there are three terminals all actively trying to download at the same time within a 6Mbps bandwidth pool. Terminal A again has four devices connected, representing four connections – however this time we are using Fair split which allocates bandwidth to each Terminal with a fair weighting rather than to each connection. The result is that each terminal has an equal allocation of the 6Mbps bandwidth pool.

4. FAQ

Question: If bandwidth is allocated with equal weighting to terminals does this mean SVNO Consumer/Home terminals will content on an equal basis with SVNO Business/Pro terminals?

Answer: *No, SVNO Consumer/Home plans reside in a separate Bandwidth Pool to SVNO Business/Pro plans; thus SVNO Consumer/Home terminals contend with other SVNO Consumer/Home terminals, and SVNO Business/Pro terminals contend with other SVNO Business/Pro terminals.*

Question: I am a GVNO partner, how can I ensure that bandwidth allocations are managed appropriately for the differing bandwidth plans I offer such as Consumer and Business?

Answer: *The Bandwidth Pool Management feature allows GVNO partners to define specific Bandwidth Pools which Bandwidth Plans may then be linked to. Combined with Automatic Dimensioning Feature this ensures that Bandwidth Plans are contended appropriately, and that you can deliver a designed user experience to your customers.*

GVNO Partners should refer to Release Note 16, October 2014 for more detail of the EAUP feature.

<http://partner-portal.freenoc.lan/sites/default/files/Service%20Provider%20Release%2016A%20-%20Pool%20Management%202014.pdf>

(Note: You must be connected via secure VPN connection to access the Partner Portal)

Question: I have users with lots of devices and/or connections on a single terminal, will these users be unfairly impacted by the move to Fair Split.

Answer: *No, these users have been unfairly benefiting from the legacy traffic management system. They will now be allocated an equal and fair bandwidth allocation with other terminals. If your customer is not happy with changes to their service then they may be better served by a Bandwidth Plan on a higher grade of service, i.e. Business/Pro plans for SVNO partners, and equivalent offerings for GVNO partners. Please note that usage of SVNO Consumer/Home plans for non-consumer usage such as Internet Cafes is prohibited under the terms of your Acceptable Use Policy with Avanti, and that you are obliged under this Acceptable Use Policy to extend this policy to your end users.*

Question: Will terminals with multiple connections still be able to use the network to their configured SLA?

Answer: *Yes, Fair Split means that terminals with multiple connects active at any one time are now just as likely to be able to reach speeds up to their full SLA as terminals only using a single connection.*

Question: The Avanti Network in my area is subject to connection limitations per terminal, will moving to fair split address this issues and allow Avanti to remove these connection limits?

Answer: *The way in which the legacy traffic management system allocated bandwidth per connection was one of the reasons which connection limits have been put in place in some regions. Avanti will be reviewing this policy over time.*

Question: Can I opt out of moving to Fair Split?

Answer: *Fair Split is only able to be implemented globally within Avanti traffic management systems. As such all Avanti Partners using the Avanti traffic management systems will move*

to Fair Split, and it is not possible to opt out. However Fair Split provides material benefits for the majority of end users who have an average number of connections being used, and brings those users who were unfairly benefiting from the legacy traffic management systems back into line with other end users.

Question: When will Fair Split be implemented?

Answer: *Fair Split is being implemented beginning 23rd November 2015 starting with a portion of services operating from the Goonhilly Ground Earth Station, progressively rolling out over the remainder of the Avanti network over the coming weeks. Avanti will issue non services affecting maintenance notices for Partners as dates are confirmed.*