

Enhanced Unbundled Bitstream Access

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(Enhanced UBA) enables service providers to offer their end-users simultaneous delivery of Internet grade Internet Protocol (IP) traffic and real time grade IP traffic over a single bitstream access tail.



Wholesale



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Enhanced UBA is the first in a new family of Ethernet delivered next generation broadband access products that service providers can use to provide their end-users a range of own-branded broadband enabled services and applications.

It is an Ethernet service that supports a variety of IP connectivity applications including those that require real time network performance and those that utilise "best efforts" or internet grade performance.

Enhanced UBA provides Class of Service (CoS) network capability to support the simultaneous delivery of both latency sensitive applications such as Voice over Internet Protocol (VoIP) and internet access. It is designed to serve end-users with either single or multiple access devices such as computers, consoles or telephones.

Benefits

The benefits of Enhanced UBA for service providers include:

- **uses Telecom's Next Generation Network (NGN)** to deliver fast broadband access
- **flexibility** – provides platform for building unique service offerings
- **ability to deliver** high quality latency sensitive services such as VoIP using the real-time channel
- **alternative** to the current PSTN technology
- **foundation for delivery** of IP-based products to the home, including video conferencing, IPTV, home networking, improved remote working and home security.

How it works

Enhanced UBA is delivered as Ethernet over an ADSL2+ copper interface to the External Termination Point (ETP) at the end-user premises. Ethernet frames must be tagged as Real Time or Best Efforts:

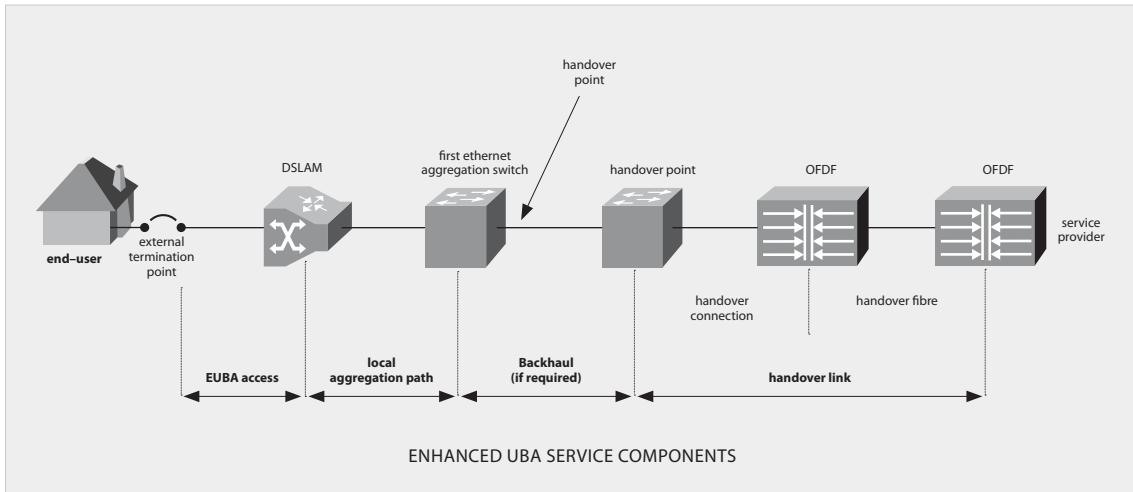
- **Real time grade IP traffic** – delivered as a real time CoS.
- **Internet grade IP traffic** – delivered as 'best efforts' CoS (Internet CoS). This will achieve a 99.9% probability of providing end-users with a minimum downlink average throughput of 32kbps during any 15 minute period on demand irrespective of whether the Real Time CoS is in use or not.

Enhanced UBA operates at FS/FS¹. Enhanced UBA currently has one profile for best efforts traffic only and three profiles for guaranteed real time traffic:

- Enhanced UBA 0kbps
- Enhanced UBA 40kbps
- Enhanced UBA 90kbps
- Enhanced UBA 180kbps

¹ FS means the maximum speed that the Digital Subscriber Line Access Multiplexer (DSLAM) can support on the end-user's line (whether upstream or downstream). Actual speeds may vary, depending on Customer Premise Equipment (CPE) and wiring, service provider environment, volume of traffic, end-user location and network congestion.

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The 40kbps, 90kbps and 180kbps refer to the bandwidth of the real-time channel of the services. This channel is optimised for digital voice services to ensure one or more high quality voice connections. All four variants can be provided with or without an active analogue telephone line (POTS).

Enhanced UBA is comprised of components shown above.

The service is handed over to the service provider via an Ethernet Handover Link. These can be provided by either Telecom or the service provider. The service provider must establish a Handover Link at a minimum of one Handover Point. A Handover Link is made up of two parts:

Handover Connection – from the Handover Point to the Optical Fibre Distribution Frame (OFDF) in the exchange where the Handover Point is located.

Handover Fibre – which runs from the OFDF to the service provider's equipment.

Each Enhanced UBA instance related to an end-user access connection is delivered to the service provider as a unique VLAN. Layer 3 aspects such as IP addressing, are solely within the service provider's control.

Availability

Enhanced UBA is available nationally where Telecom has an Ethernet footprint where ADSL2+ technology is available from an exchange or cabinet.

Requirements

The end-user's line speed must meet a minimum threshold of 256kbps to deliver Enhanced UBA.

The end-user's modem or router needs to be able to tag traffic as Real Time or Best Efforts to take advantage of the real-time channel and to allow the multiple CoS. Most modems in the market today do not offer this functionality so service providers may have to source new CPE for their end-users.



Wholesale

Telecom Wholesale is an operationally separate business unit within Telecom that wholesales network connectivity products to internet and telephone service providers throughout New Zealand. Telecom Wholesale's broadband, business data, voice and interconnect products give providers the foundation on which to build their own network or telecommunications services for their customers.

For more information contact your Telecom Wholesale account manager or see telecomwholesale.co.nz/customer to find out more about becoming a customer.

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