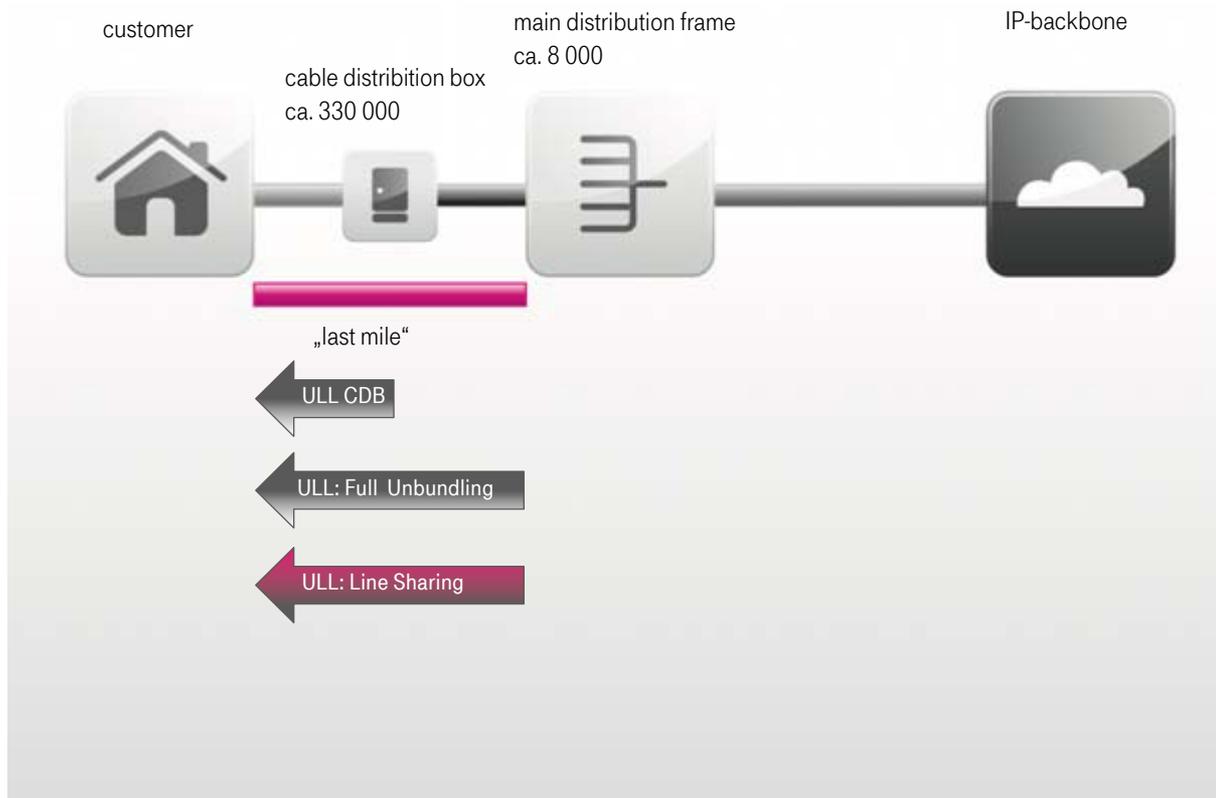


Upstream products from Deutsche Telekom



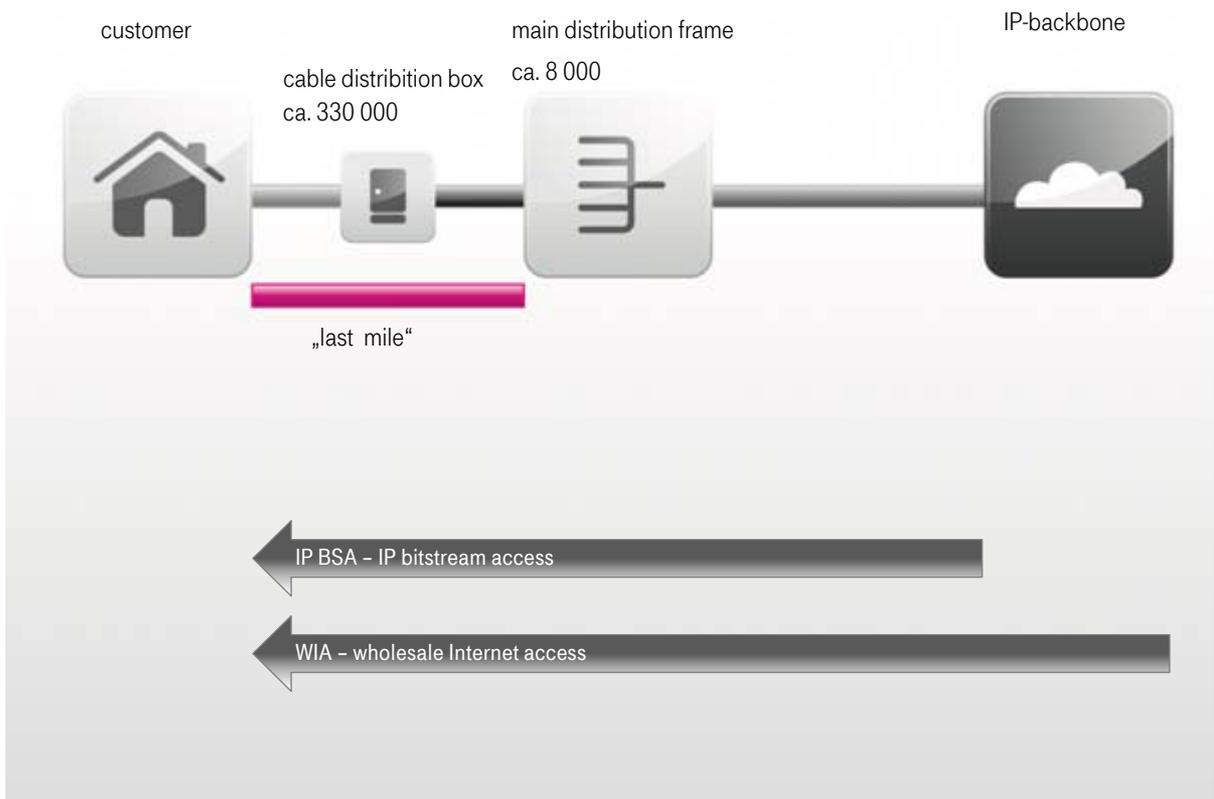
unbundled local loop line

The unbundled local loop line (ULL) enables competitors to gain access to the customer ("last mile"). The competitor's network ends at the main distribution frame. If the competitor has extended its network up to a cable distribution box, it requires the (shorter) ULL CDB.

Competitors offering telephony and Internet require the complete ULL (full unbundling). If their product range only covers Internet services, the competitor uses what is known as line sharing. In this case, Telekom provides the telephony and the two operators share the line.



Upstream products from Deutsche Telekom



Internet traffic

Competitors with a core network only (IP backbone) and no proprietary access network can establish an Internet connection to the customer via bitstream access (IP BSA).

Competitors with no proprietary infrastructure at all can use the entire Deutsche Telekom network. This requires the WIA (wholesale Internet access) upstream product).



Upstream products from Deutsche Telekom



Voice traffic/telephony

In order to forward calls, competitors use interconnection services. Three services are available for interconnecting the Telekom network with other operator networks:

Terminating refers to the transportation of a call from the competitor's network to the Telekom network.

Originating refers to the handover from the Telekom network to a competitor network. If the networks of two regional network operators are not directly connected, Telekom – as the trans-regional carrier – takes over the call from the originating network operator and delivers it to the destination network operator. This service is called transit.

