

## Conversion from TDM to All IP at other telecommunications companies

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In principle, each telecommunications service provider (TSP) may choose when and how to migrate its customers to All IP. At the moment, Swisscom offers TDM and IP connections. From 2018, only IP connections will be available, however, and Swisscom will no longer be able to provide TDM services to other TSPs. For example, Sunrise will continue to offer TDM telephony services (analogue and ISDN) through a naked subscriber line (SL) connection via its own infrastructure. This service will only be available for particular customer groups and for a transition period up to around 2020/2021.

### **Sunrise as an example**

#### **Conversion from TDM to All IP**

As a result of Swisscom's transition to All IP, every TDM-based connection has to be migrated to an IP product. This also affects Sunrise. The SL and BBCS Naked products are available for this purpose. In concrete terms, that means:

- With SL, Sunrise will offer pure ISDN and analogue telephony services (EcoLINE/BusinessLINE) as well as low-end bundles (telephony, TV and Internet).
- With BBCS Naked, Sunrise can offer pure ISDN and analogue telephony services (EcoLINE/BusinessLINE) as well as low- to high-end bundles (telephony, TV and Internet).

### **Schedule**

As far as Swisscom is aware, Sunrise has not yet decided when it will remove TDM from its network completely. We assume that it will migrate its pure telephony customers (voice-only) to SL, and will then continue to offer its own TDM telephony service up to approximately 2020/2021. Its end customers will continue to make telephone calls with the old TDM technology; they must not own a router, which is a prerequisite for a complete All IP migration.

Swisscom estimates that, by the end of 2017, around 100,000 end customers will be connected in this way. With this approach, the company is gaining time to migrate all customer groups to All IP and thus faces no need to provide a router for these end customers during the initial phase.

### **Background information**

Essentially, Sunrise uses two types of connection from Swisscom:

- **Broadband Connectivity Service (BBCS):**
  - A broadband connection based on copper or, within the FTTH footprint, based on glass, connecting the end customer's location with the TSP's network on an IP basis.
  - BBCS is currently still offered as BBCS Shared (with TDM telephone connection) and as BBCS Naked (without TDM telephone connection).

- BBCS represents the ideal foundation for a Swiss-wide 3P service. The TSPs participate fully in the investments made by Swisscom in ultra-broadband technology (FTTH, FTTS/B, vectoring and G.fast).
- Sunrise uses BBCS to serve end customers who have a package including TV and/or high-bandwidth Internet.
- **Subscriber line (SL):**
  - SL is a naked copper cable laid between the end customer's location and the TSP's interconnection point in a Swisscom exchange.
  - Swisscom does not offer any end customer services (telephony, Internet access, TV, etc.) via SL. The TSP makes all further investments for the provision of end customer services on the basis of the bare copper cable. The possibilities depend on the type of DSL technology the TSP uses and the lengths of the connections.
  - With SL, Sunrise serves end customers who only require simple services, such as telephony and/or Internet access with very low bandwidths.