

- BITel
- A strong background –
- and R&M components



BITel's background is telecommunication engineering of the municipal electric utilities (Stadtwerke Bielefeld GmbH). Today, with 45 employees, BITel presents itself as a good alternative for business and private customers who wish to cover all telecommunication services with only one provider.

What were the reasons to found BITel?

Alfred Kerscher: The municipal electric utilities always did supply voice transmission for third parties, i.e. for the city administration, the fire brigade and others. This used to be allowed within a Corporate Network. In order to keep on operating these systems the licence class 3 for transmission regulation and the licence class 4 for voice transmission needed to be acquired. For these reasons it was only a logical conclusion that BITel would provide these services that they offered in the private sector in an extension also for public use.

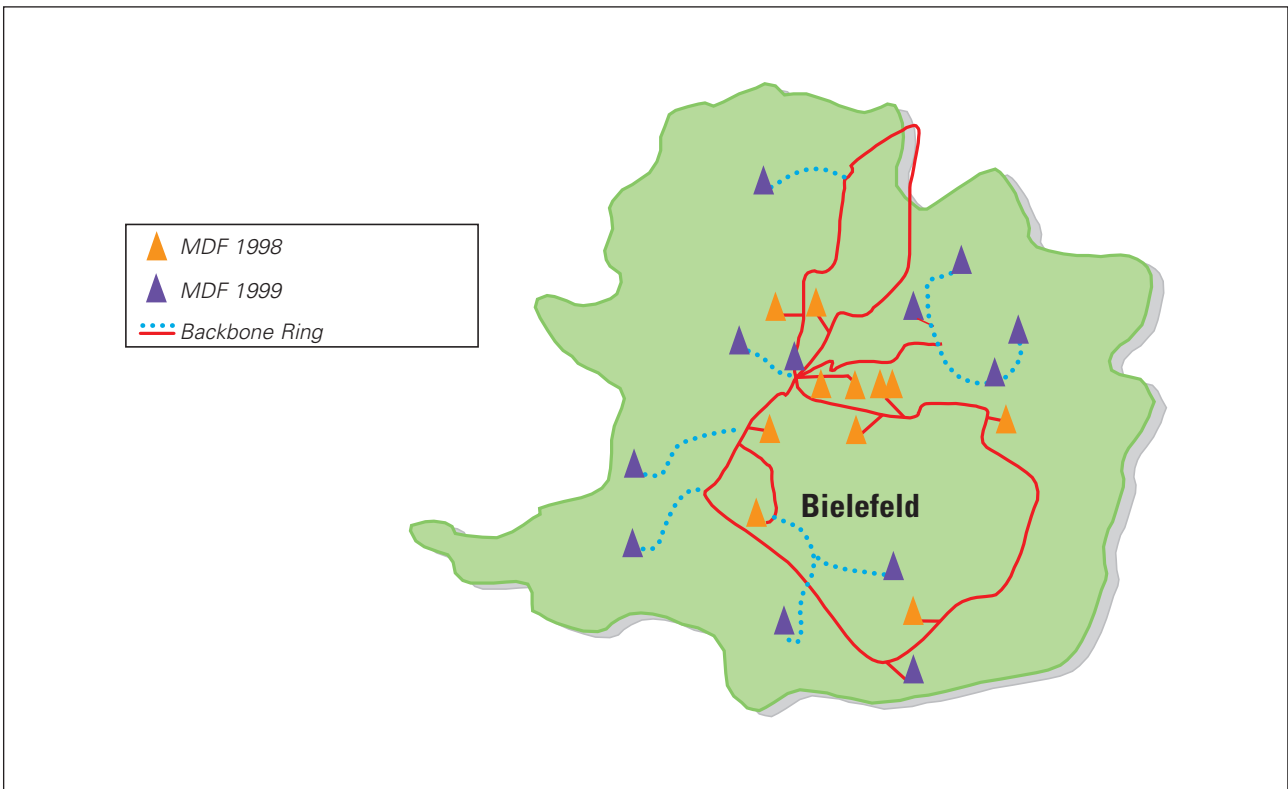
What demands were made to the cabling system for the City Net Bielefeld?

Alfred Kerscher: Our network did not have to be laid anymore. It was a case of expanding the existing network of the municipal utilities, a network that had historically grown since 1913. It grew into a rather large surface network. We are speaking of 1500 km of copper cables and 100 km fiber-optic cables. The copper pairs have a diameter of 0.8 mm, which means that with the HDSL technique we can easily upgrade them to up to 2 Mbit. The backbone traffic will be run in fiber-optic cables only.

It will, however, not be possible to fully cover the "last mile" with the existing network. For this last stretch the cables of the Deutsche Telekom AG will be used. In this sector we must continue to upgrade and extend. It is our objective for the near future to cover each house with our own cables from A to Z.



Alfred Kerscher, Managing Director BITel



Connection of the MDFs (Deutsche Telekom AG) in 1998 and 1999 to the BITel backbone ring

What were the evaluation proceedings of the BITel City Net?

Alfred Kerscher: It started with voice transmission where we offer Corporate Network in the form of lines and permanent circuit connections as company telecommunications switching systems. For middle and large telecom switching systems, the digital technique is used with the option of analog usage. In a second step we introduced data communication, i.e. the Internet, voice mail box and other services such as Centrex, etc. The data transfer rates of the "last mile" amounted to 64 kbit/s to 2 Mbit/s for copper cables. For over 2 Mbit/s we use fiber-optic conductors up to the customer's home.

What network architecture do you use?

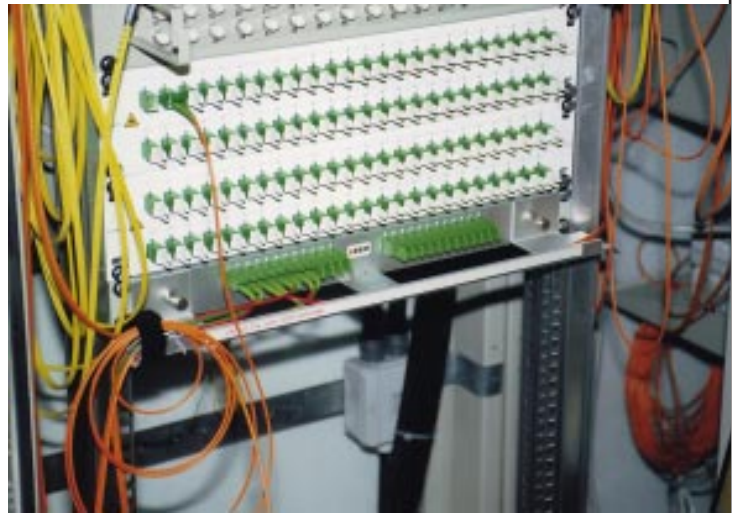
Alfred Kerscher: As network architecture we use SDH (synchronous digital hierarchy). In the FO backbone we go at 622 Mbit/s in the STM-4 transmission method (synchronous transfer mode) and in the other sectors at 155 Mbit/s in STM-1.



Copper MDF VS Modular



FO mounting channel solution CT



Neat arrangement of the FO connections in the 19" 1U UniRack

What were your reasons to opt for R&M?

Alfred Kerscher: R&M offers a full product assortment. The FO backbone is set up with 19" 1U rack inserts that are placed in locations of the Deutsche Telekom AG, i.e. in the local exchanges. The termination of copper wires is carried out on copper MDFs, jointly with FO connections. For the area cabling up to the customer's home we employ the CCC housing "FiberCurb", and for the customer connection we use the FO terminal box "OptoCon".

In the backbone ring we use a 96-fiber FO cable that runs around Bielefeld. Parting from there we move towards the MDF sites in our own cabling system in a star-shaped structure. The MDFs will also be connected to the ring structure so as to establish a two-sided support. The copper network is also laid in a star-shaped structure and also partly two-side supported.

***“Thanks to R&M and good planning,
things just work smoothly”***



CCC housing "FiberCurb" for copper and FO

What are the differences between R&M and the other suppliers?

Alfred Kerscher: One of the main differences lies in the construction of the cabinets and in their easy handling. And concerning the FO sector it was the compact construction that convinced us, i.e. the fact that on very little space a large number of fibers or plug-in connections can be managed and that yet the advantage of a neat and orderly layout is provided. With the copper main distributor frames (MDFs) the decisive factor was again the easy handling. The overhead cable entry was ideal for the conditions of our site. And yet another advantage is the option of pre-terminating 10 subscribers or of terminating each subscriber individually. The possibility of variations and the modularity of all the products were the factors that convinced us to opt for Reichle & De-Massari.

What are your plans for the next 3–5 years in terms of modern media telecommunication, the Internet and multimedia?

Alfred Kerscher: We will expand in the Internet, set up an integrated network platform and install Centrex (Central Office Exchange). Centrex means that one network provider can serve different subscribers as if they were connected to a common private branch exchange. It is thus possible for the users of this service to benefit from modern telephone functionalities such as automatic call distribution or call waiting without having to purchase their own private telecom switching system. Furthermore, BITel will keep up-to-date with the latest technologies in order to meet all the growing demands of the customers.



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