

Triple Play

*Telephony & Internet & Television
Needs Broadband Infrastructure:
Knürr Tecoras® Outdoor Solution*





Triple Play With A Single Line – Telephony, Internet, Television

Triple Play is the highly effective bundling of a fast Internet connection, telephony (Voice over IP) and on-line video services.

Providers of broadband connections and accesses are expanding their existing portfolio by offering telephony and television via the Internet.

Providers of fast broadband access see good opportunities for growth given that many households already have fast Internet access, and Internet telephony (VoIP) is both popular and cost-effective for the consumer.

Triple Play opens up a whole new arena for the acquisition and retention of customers. Surveys have shown that Internet customers would accept higher costs in return for improved service and Internet with added-value services from a single source. And this is exactly what Triple Play offers: Internet and the added-value services of Voice over IP and television on demand from a single provider.

The broadband providers look after the lines and improve the routers. And, as reliable customer partners and providers of Triple Play, are pledging the corresponding investment.

For example, Deutsche Telekom AG and Swisscom: both have already developed sophisticated Triple Play products. For offerings comprising Internet, television and voice communication, they make use of their fiber optic and copper lines by extending them from the main distribution frames to the individual households. At the very least they will be routed nearer

to the households.



Telecom carriers rely on VDSL (Very High Speed Digital Subscriber Line) connection technology, which is both superior to and faster than DSL. Speeds of up to 50 Mbit/s will become the norm and thus facilitate uninterrupted Internet surfing, telephony and television.

Switching to a connection with broadband facilities, which is essentially what VDSL offers, is imperative. Indeed, even routing fiber optic cables and copper lines („last mile“) directly to the consumer's house is on the horizon. Alternatively, passive optical network technologies will look for solutions that simplify installation and maintenance.

In Belgium and Hong Kong (People's Republic of China) for instance, IP television is already a reality.

ADSL, short for Asymmetric Digital Subscriber Line, is the most widespread technology used for digital broadband connections to the Internet at present.

VDSL stands for Very High Speed Digital Subscriber Line and currently offers the best time to functionality of all DSL technologies available on the market. It permits speeds of over 50 Mbit/s based on range-extending exchanges.

DSLAM, or Digital Subscriber Line Access Multiplexers, are found where subscriber lines converge and are the actual interface between the end customer and the line. They terminate the process and are integrated in Knürr outdoor cabinets.



Knürr Tecoras®

DSLAM Outdoor Cabinet

- **Best technology**
- **Customized solution**
- **Proven in field – with the required specifications regarding thermal management and system integration**

Individual Configuration

- Identical basic and add-on modules can be easily extended in modular form to multiple combinations
- Future security due to installation space and adaption for 19", ETSI, 23" and non-standard equipment, extensive accessory range
- Easy transport of individual modules and add-on at installation site
- Damaged covers can be easily and service-friendly exchanged

Main Unit

- Basic frame of extruded aluminium AlMgSi0,5 with die-cast aluminium corner connectors, polished
- Bottom and top cover, rear panel and side panels of chrome-plated aluminium AlMg3, 1,5 und 2 mm, polished

External Covers

- Of 2 mm chrome-plated aluminium AlMg3
- 2 Side covers



- Rear cover respect. rear door
- Solar protection roof
- All screwing and connecting elements on the inside

Doors

- Double skinned closed or vented for installation of Tecoras thermal components
- Can be used as front and rear door, door hinges on right or left
- Strong hidden die-cast aluminium hinges
- Swing handle for profile half cylinder with saw protection
- Triple interlocking system
- The intervening 'tongue' in the rack extrusion ensures high locking pressure with low assembly input
- Door locking with 90°, 135° and 180°

Certified Safety

- The cabinets meet requirements in accordance with IEC 721, ETS 300 019 and GR-487-CORE
- Minimum 25 dB shielding attenuation in accordance with IEC 61 587-3
- Earthquake-proof to zone 4 in accordance with Telcordia GR-63-CORE
- Vibration test in accordance with IEC 68-2-6, IEC 68-2-29
- Environmentally tested in accordance with IEC 68-2-1, IEC 68-2-2, IEC 68-2-5, IEC 68-2-56, IEC 60 529

EMC Shielding

Optionally



IP Protection Rating

- IP 55

External Cover Finish

- Powder-coated, RAL 7035 light-grey, outdoor quality in accordance with GSB International, coarse texture

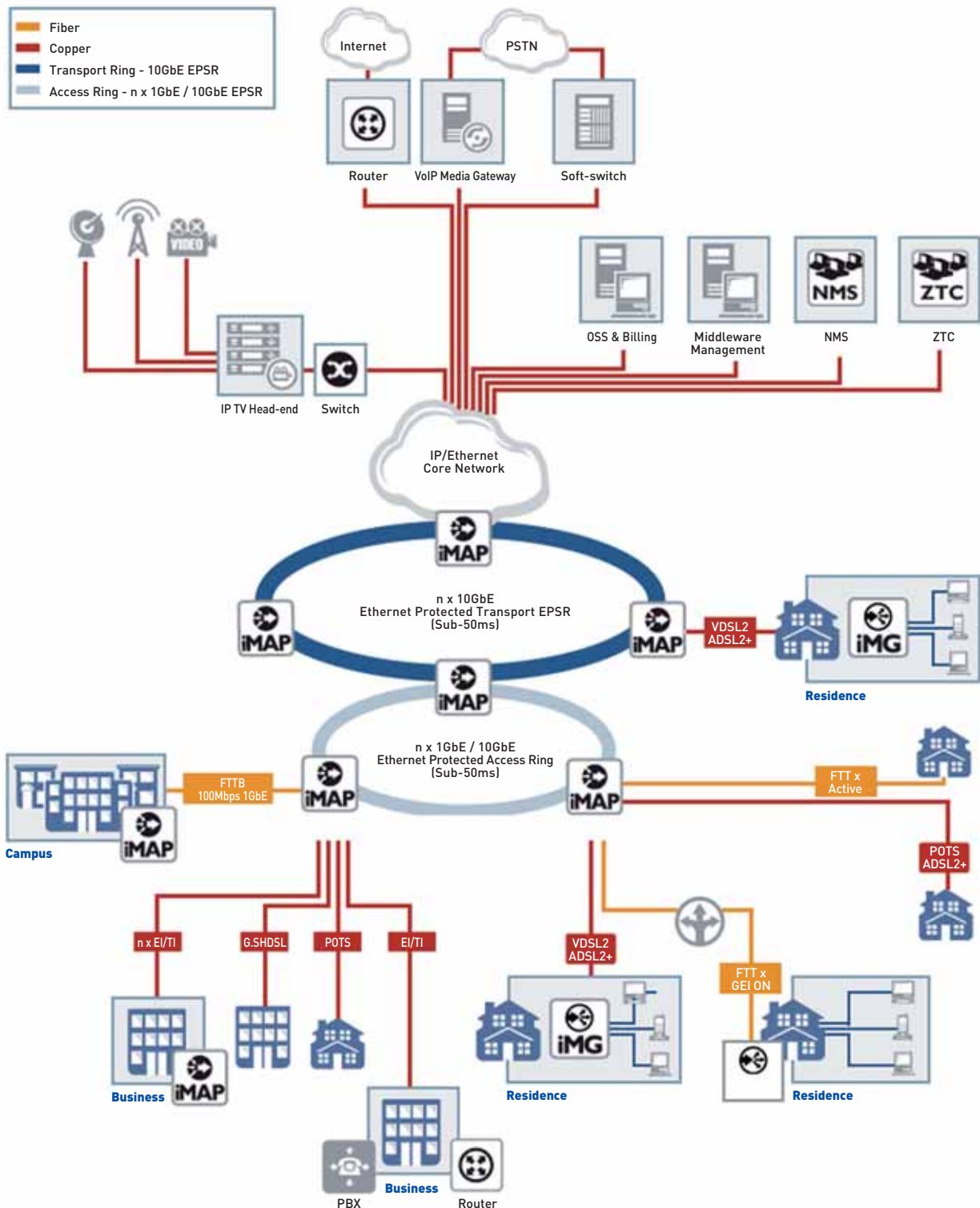
Load Rating

- Static up to 4000 N

Integrated Thermal Management

- Wide Range of filter Fan and additive and integrated heat exchange solutions
- The patented integration of the heat exchanger in the enclosure wall ensures an increase of the available usage space by more than 15%
- Extensive cooling for the first time with low cabinet depths (< 400 mm) for use in public access areas
- Disruption of air flow are prevented with large spatial separation of air entry and exit points

IP Triple Play Over ADSL/VDSL



High-Speed Internet Access At Up To 50 Mbit/s Adds New Dimensions To Entertainment

Broadband is clearly driving the current economic recovery as companies are looking to ride the wave of growth in their broadband services and network infrastructures.

Thousands of new broadband users are receiving services each week, causing the volume of data traffic to correspondingly grow steadily at double-digit rates. VDSL, cable, fiber, wireless, and satellite providers are racing to gain superior market-share. Evolving services such as streaming content, data storage, peer-to-peer services, new content services, and on-line collaboration are driving the demand for bandwidth, and the bottleneck in the access network is finally being broken.

Staying abreast of the latest market, the customized solution of Knürr is intended to support telecom operators, enterprise users, and vendors of the most important application and technology advances in the area of broadband service delivery. Knürr provides the strategies to drive efficiency and maximize profitability for broadband network operators of all varieties.

Deutsche Telekom AG and Swisscom have been started extensive projects. Knürr has to design, manufacture and deliver the famous and proven-in-field Knürr Tecoras® Outdoor Cabinet as a customized solution for both operators. Cabinet technology at its best.

Telephony / Voice over IP



Internet



Television / Video on demand



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