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## VATM market concept “Open Access” for a nationwide expansion of a glass fiber network



### Starting Position and Objectives

Within the framework of the foreseeable technological development, the development of a fiber network as expansive as possible up to the end user will also be discussed in Germany as sociopolitical goal.

**Thus, symmetrical bandwidth far in excess of 100 MBit/s could be provided to every subscriber. Perspectively, the new service network would enable transmission capacities of 1 gigabit/s and more per household.**

These capacities that are needed in the future, can be realized by fibre-to-the-building (FTTB) and fibre-to-the-home (FTTH) – not, however, by means of VDSL-technology (fiber to the curb) or today’s TV-broadband cables.

**VATM's Open-Access-Market-Concept therefore clearly focuses on the fiber expansion to the end customer, thereby going even beyond the approach formulated by the German government.**

The VATM Open-Access-Concept in conjunction with a suitable legal framework:

- ensures planning certainty
- maximizes investment potentials
- prevents competition restrictions
- avoids regulatory interference
- creates and secures jobs.

Private and business customers must profit from the competitive market structures. Furthermore, existing business models of the small and large vertically integrated telecommunication companies as well as new business models, specifically based upon the expansion of the infrastructure, such as the models of public utilities or energy supply companies must be enabled.

The current plan provides for the further development and concretization of VATM’s Open Access Concept in close coordination with all other market players, in particular with Deutsche Telekom AG. In addition to cross-industry working groups, for example at the Bundesnetzagentur (Federal Network Agency) and within the framework of the IT summit process, the concept shall also be discussed and coordinated with the European Commission.

### The Open Access Concept as Industry Model

As a possible solution, the VATM has developed an Open-Access-Concept, which, contingent upon different forms of cooperation, provides for non-discriminatory interconnection possibilities thereby taking into consideration the interest of all current market players and potential future investors. At the same time, the Open-Access-Model is designed to offer companies and investors the certainty that even in the event that a market-dominating position has been established [by a company], specific regulatory intervention will be dispensed with, as long as they offer the various access possibilities set forth in the Open-Access-Model in a non-discriminatory manner.

VATM's Open-Access-Concept is based upon a three-tier market model:

- *Passive* infrastructure (access corresponding to Local loop unbundling (LLU) i.e. access to vacant ducts, dark fiber / unbundled fiber)
- *Active* infrastructure (= aggregation network with the possibility of service differentiation / backhaul network), access via bitstream and various points of the aggregation network
- *Services level*, Services (real-time and non-real time applications), access obligation at the service level

The Open-Access-Concept - in contrast to some other EU-countries - specifically does not provide for an enforced separation of the three levels. Rather, vertically integrated companies shall also have the opportunity for fiber investments and for integration into the Open-Access-Model.

The central starting point of the concept is identifying technically and economically useful interconnection and cooperation possibilities. The Concept differentiates according to active and passive infrastructure and, with regard to bitstream also, according to IP- and ethernet interconnection levels. The concept takes into consideration various business models, the value-added depth and investment possibilities. Pricing for the open network access may differ, depending on the degree of willingness, to help carry the expansion and investment risk as a demander of pre-product services.

**The diversification of risk also plays an important role for the described access possibilities and whether in relation thereto a simple recommendation (+), a strong recommendation (++) or a bilateral agreement (o) is favored. An Open Access under this concept is given, when a company offers at least those access variations that are marked as strong recommendation (++) in the following table.**

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Table of “Open Access” Interconnection and Cooperation Forms					
Forms of Cooperation / Demand					
			Per Line	Contingent	Co-Invest
Access variants from OLT to:			- for a time - marketing risk rests with provider - margin risk (price, term, use) rests with wholesale demander - wholesale	- for a longer time - marketing risk rests with demander - minimum quantity per expansion area >10 %	- for a long time - investment risk shared - various forms of participation in Infrastructure: - SWAP - DTAG-Cooperation - capacity swap - main investor (builds), co-investor (pays) - min. participation per expansion area >10%
P A S S I V E	Duct	- to the building	-	-	++
	Dark Fiber	- to the building	O	+	++
		- to the home	O	+	++
C O L O R	Color	- to the building	O	+	++
		- to the home	O	+	++
A C T I V E	Layer 2 BSA at GF-POP	- volume transport - gigabit-ethernet - decentralized traffic transfer at any techn. suitable point as close to the customer as possible	++	++	++
A C T I V E	Layer 3 BSA at BRAS	- protocol transport - central traffic transfer as DTAG-IP-BSA at a max. of 2 points	++	++	o

Strong recommendation (++) Simple recommendation (+) Hardly relevant (-) Based upon bilateral agreements (o)

**Explanations:**

**OLT (Optical Line Termination):** OLT is the terminal point on the net side of a glass fiber access network, at which point the glass fiber is being “illuminated” by means of active technology (Glass fiber DSLAM)

**Layer2 BSA (Bit stream access) at GF-POP:** Access to the data streams generated by certain end customers at the transport level. The buyer of intermediate goods or inputs is, in comparison to the layer 3 level, at a greater liberty to shape his own end customer products and generates a substantially higher value added. GF-POP (Glass fiber point of presence) means in this context the most proximate point to the end customer, that ensures an access at the layer 2 level.

**Layer3 BSA /IP-BSA (Bit stream access):** This offers access to the data streams generated by certain end customers on the service level via the internet protocol (IP). This access occurs only at a smaller number of interconnection points (higher in the net) in comparison to layer 2.

**Gigabit Ethernet:** Standardized cost-effective transmission technology at the layer 2 level for cable-based transport networks with transmission rates of currently up to ten gigabit/s.

**BRAS:** The Broadband Remote Access Server routes IP-addresses, collects and transmits the data stream between access and backbone network and in doing so can regulate certain quality features of the network access or data traffic.

**SWAP** in this context means an agreement of cooperating companies with separate network expansion areas on the mutual swap of certain contingents (e.g. customer accesses).

>10 % is to be understood as an example for a minimum quantity and does not represent a finally determined quantity.

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### Pricing / Calculation of “Price Corridors“

Key element of the Open Access Concept and therefore a fair allocation of the investment risk is, at the current state of this discussion, the calculation of “price corridors” – similar to a rental table setting out rental values in certain localities. Regional variances in expansion costs may be taken into consideration in said calculation and be kept manageable for those in practice.

If the price corridors are adhered to, the instrument of price regulation shall be dispensed with even if Significant Market Power (SMP) should be found to be present. Variances from the price corridor must be specifically explained by the company and must be reviewed for appropriateness by means of a plausibility check (including vertical margin squeezes (Kosten-Preis-Scheren) and horizontal margin squeezes (Kosten-Kosten-Scheren). Only when the plausibility check comes out negative, an inquiring company may call upon the regulator. To the extent that companies are subject to regulation, a corresponding proceeding will be initiated.

### Additional Information

Upon request, further, more detailed information on the VATM Open Access Model can be obtained from the VATM-office. (Telephone: +49- (0)221 – 37 677 31 or via e-mail: [vatm@vatm.de](mailto:vatm@vatm.de))

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