Statement of work for
WiTCOM ETHERNET LINK

1. GENERAL

WiTCOM, Wiesbadener Informations- und Telekommunikations GmbH (hereinafter referred to as WiTCOM) offers its „WiTCOM EHTERNET LINK" service to business customers based on the „General Terms and Conditions of WiTCOM GmbH".

2. STANDARD SERVICES

WiTCOM ETHERNET LINK services provide transmission paths for an agreed period of time that are by default offered as point-to-point connections (E-LINE) to couple, for instance, two distributed customer computer networks at their precisely defined locations. This does not include MAC address learning (MAC transparent).

The Ethernet interfaces and standard speeds of WiTCOM ETHERNET LINK are given in the table below. Scalable bandwidths as well as up- and downgrades can be provided as an additional service.

The actually realised WiTCOM ETHERNET LINK transfer rate depends on the frame size used and the services set up on the Ethernet protocol. WiTCOM supports Jumbo Frames of up to 9000 bytes.

WiTCOM ETHERNET LINK fully complies with IEEE 802.3 specifications (Institute of Electrical and Electronical Engineers) relevant for Ethernet transmission paths.

In addition, WiTCOM provides Ethernet services using the Carrier Ethernet technology according to MEF (Metro Ethernet Forum). The services are transmitted over an MPLS (EoMPLS) network. For optical waveguide services the accessing network and the backbone use the same technology. For smaller bandwidths (typically, <10 Mbit/s) other access technology (such as SHDSL. bis) will be used.

Compliant to MEF standards WiTCOM additionally offers E-NNI (Ethernet Network to Network Interface) expanding the NNI (Network to Network Interface) standards by a network interface between Carrier Ethernet networks. For E-NNI, IEEE 802.1ad or MPLS (Multi-Protocol Label Switching) protocols are used.

WiTCOM ETHERNET LINK provides full transparency for the following standards: 802.1Q, 802.1p, 802.1D/802.1W/802.1s, 802.1ad, BPDU, Multicast Frames, Broadcast Frames, Cisco CDP & VDP protocols.

OAM (Operation, Administration and Maintenance) protocol frames and ITU-T Y.1731 are transmitted equally transparent, however, they have to be agreed with WiTCOM (definition of the OAM layers). The LLF (Link Loss Forwarding) and LPT (Link Pass Through) options are deactivated in the standard setting.

2.1 Availability

The availability of a service is defined by the percentage share of a calendar year during which the service was not affected by any failure.

The availability is calculated according to the following formula:

$$\text{Verfügbarkeit} = 100\% - \frac{\text{kumulierte Entstörzeiten im Kalenderjahr in Stunden} \times 100\%}{\text{Kalenderjahr in Stunden}}$$

The availability (% p.a.) will be determined for the entire service, and the failures will be considered each with their fault clearance times measured according to 5.3.

The availability rate of the WiTCOM network is not less than 99.95% p.a.

WiTCOM ETHERNET LINK is usually realised using the WiTCOM own network. The availability of the service is then not below 99.5% p.a. In deviation hereof, the service lines can also be realised by suppliers. In this exceptional case, normally the service availability is also not below 99.5% p.a. For deviations in availability caused by suppliers as well as for further details please refer to your individual offer.

For customised redundancy solutions, a site availability of not less than 99.8% p.a. is given with two (2) service lines and one termination, and 99.9% p.a. with two (2) service lines and two (2) terminations. This requires among other things the cabling to be node disjoint and/or edge disjoint as well as the closeness of the different service lines. The availability of the customised redundancy solution is the overall availability and can be individually gathered from the offer. Redundancy solutions are project-related and will be individually agreed between the customer and WiTCOM.

2.2 Networ termination

WiTCOM ETHERNET LINK includes the provision of a network termination for the contract term.

The network termination unit requires 230V power supply and provides by default an RJ45 / LC / E2000 (ST/SC/MU upon consultation) port with a 10/100-BASE-T(X) (Fast-Ethernet) or 1000BASE-T (Gigabit-Ethernet) copper interface, or an optical waveguide interface with Gigabit-Ethernet 1000BASE-LX or 10 Gigabit-Ethernet 10GBASE-LR.

Dependent on the chosen access version and bandwidth, the network termination can be a desktop or 19" rack unit. WiTCOM will provide the network termination with a basic configuration.

3. ADDITIONAL SERVICES

WiTCOM specifically renders the following additional services each upon agreement and subject to technological and operational feasibility against separate payment.

3.1 Quality of Service (QoS)

Provision of Quality of service (QoS) for WiTCOM ETHERNET LINK. Here the customer can draw from defined service classes to prioritise the data packets within the WiTCOM backbone. WiTCOM will agree the quality parameters of the service classes in coordination with the customer and realise them between the sites subject to technological feasibility. WiTCOM will determine the detailed classification of the data packets in consultation with the customer.

3.2 Circuit switchover

Relocation, exchange or change of the network termination and relocation of the terminal line. Circuit switchovers are feasible at any time also within the minimum contract term. The minimum contract term for a changed WiTCOM ETHERNET LINK corresponds to the remaining term prior to effecting the change, however, it is not less than 12 months.

3.3 Bandwidth scalability

Realisation of the WiTCOM ETHERNET LINK with scalable bandwidths. Here, the transfer rate of the WiTCOM ETHERNET LINK will be flexibly designed and adapted to the customer's

bandwidths needs for a fixed period of time. The customer shall commission the scope and term of the change in bandwidths separately. On first-time commissioning the customer shall specify whether a WiTCOM ETHERNET LINK using scalable bandwidths is to be provided.

3.4 E-LAN

Realisation of the WiTCOM ETHERNET LINK as a point-to-multipoint connection (E-LAN) to couple a customer computer network with at least two (2) other customer computer networks at exactly defined locations. Here, MAC address learning is required.

3.5 unqualified / VLAN Transparent

WiTCOM ETHERNET LINK unqualified denominates a fully transparent point-2-point (P2P) transmission of the chosen bandwidth. All packets are transmitted with or without VLAN tag and can be submitted to the customer at the transfer point using a standard Ethernet port or an NNI/E-NNI port with a custom NNI tag

3.6 qualified / VLAN Tag

In contrast to the unqualified transmission, with the qualified WiTCOM ETHERNET LINK transmission it is known whether the packets are to be transferred with or without a defined VLAN tag. Accordingly, only those packets will be transferred that have no tag or a defined VLAN tag. Here as well, the packets can be transferred at a standard Ethernet port or an NNI/E-NNI port using an NNI tag.

- unqualified / VLAN Transparent
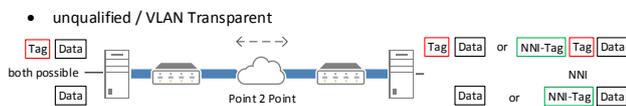
3.7 VLAN Translation / SWAP

WiTCOM ETHERNET LINK with VLAN translation describes the scenario where packets are transferred from the customer with a VLAN tag and are delivered at the transfer point with another tag. Here as well, the packets can be transferred at a standard Ethernet port or an NNI/E-NNI port using an NNI tag.

- qualified / tagged or untagged
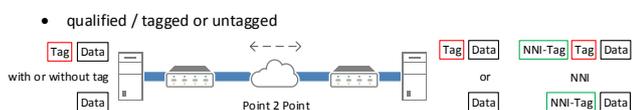
3.8 Customer VLAN's

If WiTCOM ETHERNET LINK is to be used to transmit custom VLANs, the customer shall state this requirement upon commissioning.

3.9 Upgrade

- VLAN Translation / SWAP

Permanent upgrade of an operational WiTCOM ETHERNET LINK to a higher bandwidth variant. Upgrades can be performed at any

time, also during the minimum contract term, subject to technical feasibility.

3.10 Downgrade

Permanent downgrade of an operational WiTCOM ETHERNET LINK to a lower bandwidth variant. Downgrades can be effected upon expiry of the minimum contract term. The minimum contract term for a changed WiTCOM ETHERNET LINK corresponds to the remaining term prior to effecting the change, however, it is not less than 12 months.

3.11 Backup

Protection of the WiTCOM ETHERNET LINK based on a backup concept by switching a further WiTCOM ETHERNET LINK which uses separate routing within the WiTCOM network, and installation of a second independent house service line. The termination is realised at an end device with double-ended connection. Here, the simple bandwidth can be utilised each.

3.12 In house cabeling

As a matter of principle, any works to be performed on the in-house cabling are not part of standard installation.

If the customer desires to use another transfer point than the one stipulated in the standard installation, the customer own in-house cabling will be inspected and possible works offered separately

3.13 Other Services

Other services (e.g. works on the in-house cabling) require an individual agreement between the customer and WiTCOM

4. DELIVERY

WiTCOM is responsible for the provision of WiTCOM ETHERNET LINK solely.

The customer is not entitled to claim the use of a preferred interconnection technology. WiTCOM will co-ordinate the details for realisation with the customer. The binding delivery date will be notified to the customer in written form. WiTCOM transfers the port at the Ethernet interface of the network termination

4.1 Requirement

For the realisation of WiTCOM ETHERNET LINK a technically cleared order shall be provided. An order for the provision of WiTCOM ETHERNET LINK services is deemed to be technically cleared when the above requirements are met and the available infrastructure resources have been tested by WiTCOM delivering a positive result. WiTCOM will make an on-site inspection, if required.

4.2 Realisation

Zur Realisierung von WiTCOM ETHERNET LINK muss ein technisch geklärter Auftrag vorliegen. Ein Auftrag für einen WiTCOM ETHERNET LINK gilt als technisch geklärt wenn die oben genanten Voraussetzungen erfüllt sind und eine Prüfung der verfügbaren Infratrukturressourcen mit positiven Ergebenis seitens WiTCOM abgeschlossen wurde. Hierzu erfolgt gegebenenfalls seitens WiTCOM eine Ortsbegehung.

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4.3 Standard installation of WiTCOM ETHERNET LINK

After completion of the installation works WiTCOM will inform the customer in writing (by e-mail or fax) of the operational readiness, and request the acceptance of the service provided. Acceptance is deemed to be tacitly given if the customer fails to report any considerable deficiencies or to expressly refuse acceptance within five (5) work days at the latest after having been notified of the operational readiness. At the beginning of this term WiTCOM will again point out to the customer that failing to report any deficiencies or to expressly refuse the acceptance shall be deemed as acceptance upon expiry of the term. WiTCOM will install a connector in the immediate vicinity of the service line panel (HAK - Hausanschlusskasten).

At either end WiTCOM will install a network termination intended to terminate the WiTCOM ETHERNET LINK. The network termination serves as an interface unit to connect customer terminals. The interface is dependent on the bandwidth commissioned (refer to the table below). The transfer point of the network termination unit is situated in the immediate vicinity of the service line panel for a standard case.

The customer shall arrange to accommodate the network termination in premises suitable for operation.

5. TECHNICAL SUPPORT SERVICES

WiTCOM will clear any faults in its technical equipment subject to technological and operational feasibility. Here, WiTCOM in particular renders the following services:

5.1 Fault reporting

WiTCOM is available to take fault reports from 0 to 24 hours daily under the technical hotline number 08000-948266 (08000-WiTCOM). When notifying the fault, it is important to report the following information to WiTCOM: service ID, company name, contact partner, location, if applicable (in case there are several locations) and the failure details.

5.2 Technical service availability

For WiTCOM ETHERNET LINK the technical service availability is 24 hours a day.

5.3 Fault clearance time

The fault clearance time starts when the fault report is received and ends when WiTCOM has remedied a service. It includes the response time. For a standard case WiTCOM guarantees a fault clearance time of eight (8) hours in the WiTCOM own network, and twenty four (24) hours in the network of suppliers.

The terms are deemed to be met if the complete recovery of the contractually agreed scope of service is completed within the fault clearance hours, and if notification was submitted as outlined in section 5.6.

Within the bounds of its possibilities the customer shall support WiTCOM in locating the fault, and, if required, grant access to its sites.

Fault clearance hours do not include:

- time periods during which the customer cannot be notified of the fault clearance by WiTCOM;
- time shares which result from lacking or insufficient customer co-

operation during fault clearance. This applies in particular for the WiTCOM service technician's waiting times attributable to the customer in accessing the premises which might accommodate affected technical installations.

- delays which have been caused by circumstances lying beyond WiTCOM's control, e.g. in or by customer or third-party network operators' facilities.
- delays which are due to acts of God (e.g. natural disasters).

5.4 Response time

The response time will not exceed 30 minutes upon receipt of the fault information.

The response can also be performed by the appearance of a service technician at the customer's location.

5.5 Preliminary information

WiTCOM will inform the customer on the work status and further prospected measures on request every two (2) hours upon expiry of the response time or upon consultation.

5.6 Notification of completion

WiTCOM will notify the customer when the fault clearance is completed. If the customer cannot be reached on tThe first attempt, the fault clearance time as set out in point 5.3 is deemed to be met. Further notification attempts will regularly be performed.

5.7 Maintenance

WiTCOM will inform the customer about scheduled maintenance works causing operational interruptions at least 10 work days in advance (Mon. - Fri. except for public holidays in Hessen). WiTCOM will consider the customer's interests when performing the maintenance works. Therefore, the works are to be performed preferably at times when the utilization of the services is low. The times for maintenance works are not taken into account when determining the availability.

5.8 Arrangement of an appointment

If required, WiTCOM will arrange an appointment of the service technician with the customer. This appointment will be indicated as a time span not exceeding two hours (e.g. "between 10 a.m. and 12 a.m.").

If the service cannot be provided within the agreed period of time for reasons which lie in the responsibility of the customer, a new appointment will be arranged, and, if necessary, an additionally required journey will be charged for.

5.9 Other fault reorting

In so far as the customer is liable for the failure (for instance, caused inor by customer facilities, or falsely reported fault information by the customer) WiTCOM shall be entitled to claim compensation for the expenditure incurred.

This case shall be treated as an "additional service" and charged for on a time and materials basis.

6. TERMS OF CONTRACT

The General Terms and Conditions (GTC) of WiTCOM GmbH shall apply. In the event of deviations, the regulations of this statement

of work shall have priority over those of the GTC.

6.1 Contract term

The minimum contract term for WiTCOM ETHERNET LINK is 12 months and will be individually agreed with the customer.

Each of the contracting parties is entitled to terminate individual contracts at any time with three (3) months' notice to the month's end shall apply. The contract will be automatically renewed for additional 12 months if not terminated. Any termination may only be effected at the earliest upon expiry of the agreed minimum term. The notice of termination shall be given in writing.

6.2 Terms of payment

The customer shall pay to WiTCOM the charges due for the transfer of WiTCOM ETHERNET LINK. These charges include the billing items "one-time provision charges" and "monthly charges".

The monthly provision charges are basically non-usage related charges and as such payable in advance.

WiTCOM will charge the difference between the one-time provision charges of the previous and the new WiTCOM ETHERNET LINK, however, not less than 50% of the provision charges valid for the new WiTCOM ETHERNET LINK as a lump sum for the service changes "upgrade", "downgrade", or any circuit switchover (including moving within the same building).

For redundancy concepts a surcharge on the monthly basic price will be payable. Further details are given in the contracts individually agreed upon between the customers and WiTCOM.

7. LIABILITY

The network termination unit remains WiTCOM property. Upon contract termination the network termination shall be returned to WiTCOM in its initial configuration. The customer shall be liable for damages to the network termination caused by the customer or by third parties which are under its sphere of responsibility.

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STANDARD TRANSMISSION SPEEDS OF WITCOM ETHERNET LINK

Physik	Bandbreite	Ethernet Standard	Steckertyp
Copper	2 Mbit/s	Fast-Ethernet / 100BASE-TX	RJ45
Copper	4 Mbit/s	Fast-Ethernet / 100BASE-TX	RJ45
Copper	6 Mbit/s	Fast-Ethernet / 100BASE-TX	RJ45
Copper	8 Mbit/s	Fast-Ethernet / 100BASE-TX	RJ45
Copper	10 Mbit/s	Fast-Ethernet / 100BASE-TX	RJ45
Copper	100 Mbit/s	Fast-Ethernet / 100BASE-TX	RJ45

Physik	Bandbreite	Ethernet Standard	Steckertyp	Single-/Multimode
Fibre optics	1 Gbit/s (2, 5, 10, 20, 50, 100, 150, 300, 600)	Gbit-Ethernet / 1000BASE-SX	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Multi-Mode (850 nm)
Fibre optics	1 Gbit/s (2, 5, 10, 20, 50, 100, 150, 300, 600)	Gbit-Ethernet / 1000BASE-LX*	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Single-Mode (1310 nm)*
Fibre optics	1 Gbit/s (2, 5, 10, 20, 50, 100, 150, 300, 600)	Gbit-Ethernet / 1000BASE-ZX	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Single-Mode (1550 nm)
Fibre optics	1 Gbit/s (2x1 Gbit/s) - Link Agregation	Gbit-Ethernet / 1000BASE-SX	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Multi-Mode (850 nm)
Fibre optics	1 Gbit/s (2x1 Gbit/s) - Link Agregation	Gbit-Ethernet / 1000BASE-LX*	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Single-Mode (1310 nm)*
Fibre optics	1 Gbit/s (2x1 Gbit/s) - Link Agregation	Gbit-Ethernet / 1000BASE-ZX	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Single-Mode (1550 nm)
Fibre optics	10 Gbit/s - (WAN-PHY / LAN-PHY)	10 Gbit-Ethernet / 10GBASE-SR	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Multi-Mode (850 nm)
Fibre optics	10 Gbit/s - (WAN-PHY / LAN-PHY)	10 Gbit-Ethernet / 10GBASE-LR*	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Single-Mode (1310 nm)*
Fibre optics	10 Gbit/s - (WAN-PHY / LAN-PHY)	10 Gbit-Ethernet / 10GBASE-ER	Standard LC* - (upon consultion E2000 / SC / ST / MU)	Single-Mode (1550 nm)

* Compliant with WiTCOM standard!