Service description
blizznet BusinessInternet

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1. Basic service

The blizznet BusinessInternet product enables the customer to provide simultaneous access to the internet for several users or systems at one customer site.

Reverse DNS is offered to enable the customer to carry their own mail server. The operation of, for example, mail, FTP or web servers by Wien Energie is not part of blizznet BusinessInternet.

The services listed require exclusive realisation via Wien Energie's network infrastructure.

A redundant connection of the customer is optionally possible. This service description applies exclusively to contracts with entrepreneurs within the meaning of § 1 KSchG.

1.1. Basic bandwidths

The following basic bandwidths are available.

		Advertised contract bandwidth	Maximum bandwidth	Minimum bandwidth	Normally available bandwidth
BusinessInternet 10	Up-/download	10 Mbit/s	10 Mbit/s	8 Mbit/s	9 Mbit/s
BusinessInternet 20	Up-/download	20 Mbit/s	20 Mbit/s	16 Mbit/s	18 Mbit/s
BusinessInternet 50	Up-/download	50 Mbit/s	50 Mbit/s	40 Mbit/s	45 Mbit/s
BusinessInternet 100	Up-/download	100 Mbit/s	100 Mbit/s	80 Mbit/s	90 Mbit/s
BusinessInternet 200	Up-/download	200 Mbit/s	200 Mbit/s	160 Mbit/s	180 Mbit/s
BusinessInternet 300	Up-/download	300 Mbit/s	300 Mbit/s	240 Mbit/s	270 Mbit/s
BusinessInternet 400	Up-/download	400 Mbit/s	400 Mbit/s	320 Mbit/s	360 Mbit/s
BusinessInternet 500	Up-/download	500 Mbit/s	500 Mbit/s	400 Mbit/s	450 Mbit/s
BusinessInternet 1000	Up-/download	1000 Mbit/s	1000 Mbit/s	700 Mbit/s	800 Mbit/s

The following factors can have a significant impact on internet speed:

- Use of WiFi
- Outdated or non-updated hardware or operating systems
- Parallel use of multiple applications
- Parallel operation of multiple appliances accessing the internet
- Use of firewalls

Effects of speed restrictions

This overview provides a summary of the extent to which typical internet services can be used with the selected tariff.

	BusinessInternet 10	BusinessInternet 20	BusinessInternet 50	BusinessInternet 100	BusinessInternet 200	BusinessInternet 300	BusinessInternet 400	BusinessInternet 500	BusinessInternet 1000
Surfing the internet (approx. 2 Mbit/s)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Video streaming HD (approx. 5 Mbit/s)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Video streaming SD (approx. 2 Mbit/s)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Video streaming 4k (approx. 20 Mbit/s)	X	✔	✔	✔	✔	✔	✔	✔	✔
Voice over IP (approx. 0.1 Mbit/s)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Online games (approx. 5 Mbit/s)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Music streaming (approx. 0.32 Mbit/s)	✔	✔	✔	✔	✔	✔	✔	✔	✔

The actual achievable data transmission capacity may vary and depends on the local transmission conditions. Wien Energie transmits all data as quickly as possible (best effort). However, the availability of servers and services on the internet is beyond the control of Wien Energie. For complaints regarding the quality of internet access, see item 18 of the blizznet GTCs.

1.2.   Data volume for the customer:
The blizznet BusinessInternet product includes unlimited data transfer.

1.3.   IP addresses
The customer can choose to use IP addresses from the AS range (AS29287) of Wien Energie or alternatively IP addresses allocated to them directly by RIPE.

PA (Provider Aggregated)/Gateway
The customer can be allocated addresses from the following ranges, whereby the allocation is based on the RIPE rules:

Area	Number of absolute IP addresses	Number of IP addresses that can be used by the customer
/30	4	1
/29	8	5
/28	16	13

Table 2: Number of IP addresses per PA range

IP addresses can be upgraded on request. This may make it necessary to change the entire IP range. If blizznet BusinessInternet is cancelled, the IP addresses must be returned to Wien Energie.

PI (Provider Independent)/Transit
Provider Independent IP addresses of the customer can also be used (≥ 4096), provided that they have been allocated by RIPE. Availability on the internet cannot be guaranteed with a smaller block.

2. Prerequisites

2.1. Physical availability
blizznet BusinessInternet is available wherever Wien Energie can provide a fibre optic connection.

2.2. Structural/spatial requirements
The installation site for the equipment provided to the customer by Wien Energie must be clean, dry, safe and adequately ventilated. In particular, the customer must ensure at their own expense that the following general conditions are guaranteed if a CE (customer edge) is used:

- Power supply: 230 V ~/ power consumption max. 150 W
- Space requirement: 1 HU (height units) in a 19″ cabinet
- Ambient temperature: 0°C to +50°C
- Relative humidity: 5% to 95% (non-condensing)
- Connection options (via any in-house cabling) to the CE

2.3. Applicable legal provisions
Details can be found in the General Terms and Conditions of Wien Energie GmbH for blizznet products as amended (**'blizznet GTCs'**, download at https://www.wienenergie.at/agb/).

3. Access
Access to the Wien Energie equipment/network connection point (NAP) at the customer's premises is regulated in the GTCs.

4. Network connection point (NAP)
The customer-side connection socket forms the network connection point (NAP). All network facilities up to this point are the responsibility of Wien Energie. This does not include components and connections provided by the customer.

5. Provision periods
The realisation times depend on the desired sites and are therefore specified in the respective offer. Details are regulated in the GTCs.

6. Service handover
Wien Energie provides the customer with the service handover notification. This includes at least the following parameters:

- Confirmation of fulfilment of the ordered parameters
- Realisation date
- Start of billing
- Connection and service number(s)

7. Monitoring

The Network Operation Centre (NOC) monitors the WIEN ENERGIE network 24 hours a day, 7 days a week, 365/6 days a year. This is used for operational monitoring and to guarantee a flawless service.

7.1. *Web interface for service monitoring*

Customers can access a password-protected web interface at https://monitoring.blizznet.at. This provides extensive information and statistics on all connections ordered. For example, the utilisation of the customer's connection can be evaluated over different time periods.
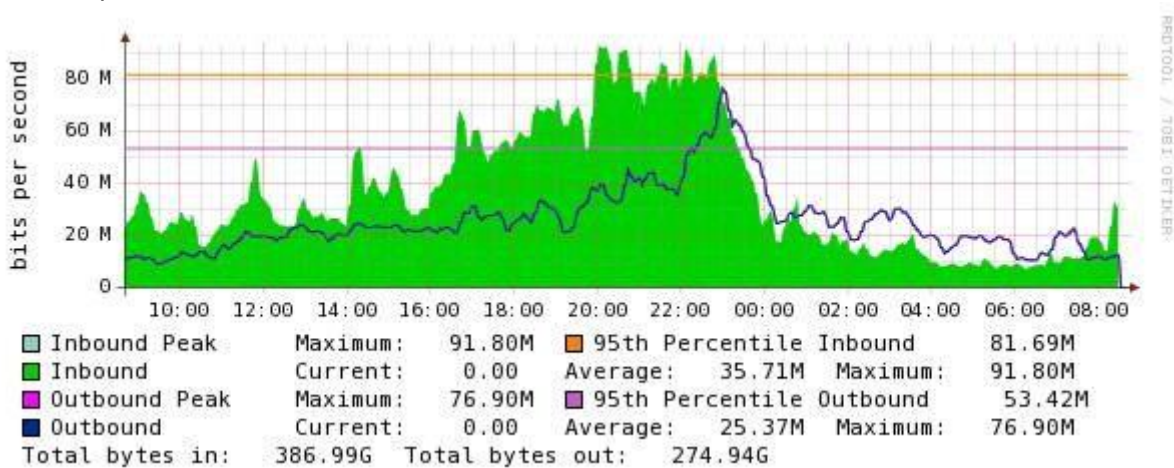For example:


```
         Inbound Peak      Maximum:     91.80M   95th Percentile Inbound           81.69M
         Inbound           Current:      0.00    Average:     35.71M   Maximum:    91.80M
         Outbound Peak     Maximum:     76.90M   95th Percentile Outbound          53.42M
         Outbound          Current:      0.00    Average:     25.37M   Maximum:    76.90M
         Total bytes in:   386.99G   Total bytes out:    274.94G
```

Figure 1: Example of monitoring evaluation

8. Service management & SLA

Information on faults, maintenance, guaranteed availability, contact persons and escalation levels can be found in the blizznetSLA (Service Level Agreement).
The SLA applies from the NAP to the peering points (currently Interxion & VIX). The SLA does not cover the accessibility of servers or services outside Wien Energie's network.

Unless expressly offered otherwise, the ADVANCED SLA class shall be deemed agreed.

9. Technical service data

Access – LAN customer		UNI protocol
100 Base – TX; RJ 45		802.3u
1,000 Base – T; RJ 45		802.3ab
optional:		
1,000 Base – SX; LC socket; multi mode	(850nm)	802.3z
1,000 Base – LX; LC socket; single mode	(1310nm)	802.3z
1,000 Base – LHA;LC socket; single mode	(1550nm)	802.3z

9.1.   Other information

The internet protocol 'IP Version 4' (standard and included in the price) and, on request, the internet protocol 'IP Version 6' (also free of charge) are available via the blizznet BusinessInternet connection. This gives the customer the option of using the entire TCP and UDP protocol suite.

The customer must comply with all RFC standards.
If this is not the case, no proper function can be guaranteed and no claim can be made.

Supported routing protocols:

- Static routing
- BGP (Border Gateway Protocol)
- others on request

Round trip time

- National ≤ 10 ms average
- Europe (London, Amsterdam & Frankfurt IX) ≤50 ms average
- US east coast (upstream landing point, NYC, WDC) ≤ 125 ms average

Packet drops

- National ≤ 1% p-loss average
- Europe (London, Amsterdam & Frankfurt IX) ≤ 1% p-loss average
- US east coast (upstream landing point, NYC, WDC) ≤ 1% p-loss average