

# Terms and Conditions for Connections and Internet Traffic

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## 1. Presuppositions

This document specifies the conditions that apply to the delivery of connections and Internet traffic (IP traffic) from Netgroup. All deviations from this document and Netgroup's General Terms of Sale must be clearly specified in the Customer's Purchase Agreement.

## 2. Connections

Netgroup supply connections with and without Internet Traffic via suppliers such as but not limited to TDC, GlobalConnect, SEAS-NVE and Telia. Since Netgroup exercises no control over these suppliers' deliveries (fiber optic connections, subcontractors equipment etc.) the subcontractor's terms of sale, SLA etc. will always take precedence over those of Netgroup's conditions which cover the service in question. The identity of the subcontractor will be stated in the Customer's Purchase Agreement and the conditions applying will, as far as possible, be available from the subcontractor's website. In the event that the Customer is unable to locate such information on these websites, the Customer can request that these be supplied by Netgroup before signing the Purchase Agreement.

Note that the delivery times specified for physical connections are always subject to local authority approval, preservation orders, soil frost and other circumstances beyond Netgroup's and the supplier in question's control.

## 3. Cabling

Physical Internet connections are customarily terminated within the closest building wall to the site at which the fiber optic connection is delivered to the Customer's address. Within the building the fiber optic connection terminates in equipment that is the property of Netgroup or Netgroup subcontractors. This equipment marks Netgroup's demarcation point at the customer's address.

From Netgroup's demarcation point the Customer is responsible for further cabling within the building and ensuring that such cabling is fault-free. Any deviations from this arrangement must be clearly stated in the Customer's Purchase Agreement. Should the Purchase Agreement cover internal cabling the placement of the delivery location required (office, server room or similar) must be described in detail.

## 4. Equipment and Facilities

Netgroup undertake to provide the connection between the subcontractor employed and Netgroup's equipment at Netgroup addresses, or in the event that Netgroup shares facilities with the subcontractor. At the Customer's address the fiber optic connection terminates in a fiber optic converter, router or switch which is the property of Netgroup or Netgroup's subcontractor.

Additional equipment required by the customer is not included in Netgroup's delivery unless this is explicitly stated in the Customer's Purchase Agreement.

The Customer is responsible for ensuring that facilities such as rack space, cooling systems and electricity supply for the necessary network equipment is available at the customer address. The Customer is further responsible for ensuring that this equipment is stored in a responsible fashion. The Customer is responsible for any damage caused by the Customer or a third party provided with access to the equipment by the Customer.

## 5. Carriers

Netgroup maintain a redundant carrier strategy at all times and guarantee that there are always at least two carriers attached to our network.

At the time of the latest revision of this document these carriers were:

- TDC: 2 x 10 Gbit uplinks at two geographically separate addresses and datacenters.
- Telia Sonera International Carrier: 2 x 10 Gbit uplinks at two geographically separate addresses and datacenters.

Netgroup also exchange IP traffic with a number of different suppliers at DIX (Danish Internet Exchange).

## 6. Traffic Billing

Netgroup supplies Internet traffic on the following terms:

- **Flat Rate:**  
The connection is limited to the purchased bandwidth and no higher peaks in traffic patterns will be allowed. Should the need for additional bandwidth arise this can be purchased against a fee. The price is fixed regardless of the amount of bandwidth actually used.
- **Burst**  
The Customer is bound to a minimum level of Internet traffic, which, however, is only used to determine the price per Gbyte or Mbit. Irrespective of the amount of bandwidth used the customer will always be invoiced for this minimum consumption but is able to utilize additional bandwidth instantly should the need arise. Burst, is typically available at speeds of up to 100 Mbit or 1 Gbit, but can be made available at speeds of up to 10 Gbit under special circumstances.

Unless the Customer's Purchase Agreement explicitly specifies that Burst has been purchased Netgroup will always supply Internet traffic on the flat rate model. In the event that the Purchase Agreement does not specify any upper Burst limit this is to be set to 100 Mbit.

Unless otherwise specifically stated in the Purchase Agreement the consumption of IP traffic will be calculated according to the "Burstable Billing" or "95 percentile" method. Information about this method of calculating traffic can be found at: [http://en.wikipedia.org/wiki/Burstable\\_billing](http://en.wikipedia.org/wiki/Burstable_billing) and is repeated below:

### Burstable Billing

Burstable billing is a method of measuring [bandwidth](#) based on peak utilization. It also allows usage to exceed a specified threshold for brief periods of time without the financial penalty of purchasing a higher [Committed Information Rate](#) (CIR, "commitment") from an [Internet service provider](#) (ISP). Most ISPs use a five minute sampling and 95% utilization when calculating usage.

### 95th Percentile

The 95th [percentile](#) is a widely used mathematical calculation to evaluate the regular and sustained utilization of a network connection. It is commonly used among all major [internet transit](#) and [peering](#) networks, as well as [datacenters](#) and ISPs for both capacity planning and/or calculating usage. It roughly means 'for most of the time this was the throughput on the line'.

The 95th percentile is a good number to use for billing as it can allow the customer [throughput](#) bursts without additional financial compensation. Basically the 95th percentile says that 95% of the time, the usage is at or below this amount. Conversely, usage could be above that amount up to 5% of the time.

There are important factors to percentile calculation:

Sampling interval, or how often samples are taken (called also "[data points](#)"). A percentile is calculated on some set of data points. Every data point represents the average bandwidth used through the sampling interval, calculated as the number of [bytes](#) (or KB/MB/GB etc.) transferred divided by the sampling interval length in seconds (effectively representing the average utilization for single sampling interval). The number is expressed in a [data transfer rate](#) as bits per second (kbit/s/Mbit/s/Gbit/s).

### Burstable rate calculation

[Bandwidth](#) is measured (or [sampled](#)) from the switch or router and recorded in a log file. In most cases this is done every 5 minutes. At the end of the month, the samples are sorted from highest to lowest, and the top 5% (which equal to approximately 36 hours of a 30-day billing cycle) of data is thrown away. The next highest measurement becomes the 'billable utilization' for the month.

Based on this model, the top 36 hours (top 5% of 720 hours) of peak traffic is not taken into account when billed for an entire month. Bandwidth could be utilized at a higher rate for up to 65 min a day with no financial penalty.