TELE GREENLAND A/S
(Referred to as TELE-POST)

Wholesale Data Services

Annex C4

Global IP Service

Service Description

Contents

Abbreviations

Abbreviation	Description
ASN	Autonomous System Number
BGP	Border Gateway Protocol
EBGP	External BGP
DDoS	Distributed Denial of Service
CPE	Customer Premises Equipment
IP	Internet Protocol
L2VPN	Layer 2 VPN
NTP	Network Termination Point
QoS	Quality of Service
PA	Provider Aggregate
PI	Provider Independent
RIPE	Résaux IP Européens (European IP Networks)
VPN	Virtual Private network

1. Introduction

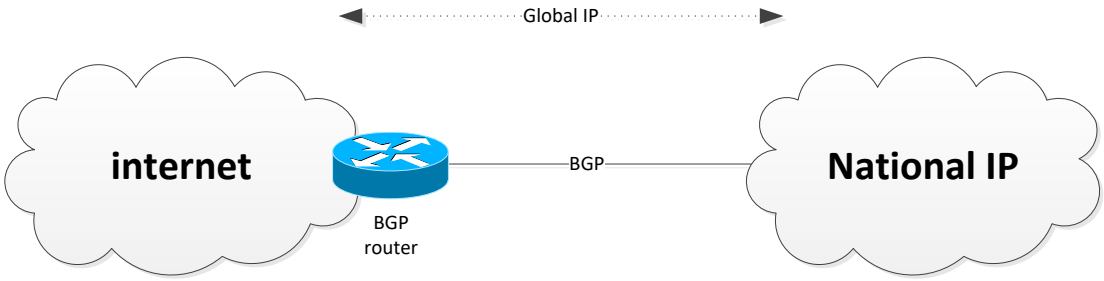
This Annex defines the Global IP Service.

The processes and technical information to support the implementation of this Service are described in the Operations & Maintenance Manual (Annex E4 of this Agreement) and Technical Description (Annex D4 of this Agreement).

All equipment and plant that is deployed as part of the implementation of this Service shall comply with relevant national and international standards.

All installation procedures used must comply with standard industry practices and national and international standards.

The various Service elements and their relationships are described in more detail in the Technical Description for the Global IP Service, Annex D4 of this Agreement.



Global IP between the internet and the National IP access point.

2. Service Description

The Global IP Service provides the Service Taker's Network with a network connection to the Internet using BGP protocol.

The Global IP Service is an optional part of the complete wholesale portfolio which enables Service Taker to provide IP-based services such as Internet access. The Global IP Service only provides network access to the Internet at a BGP level. Additional parts of the wholesale portfolio are required to connect this to the Service Taker's Network and/or End-Customers.

The Global IP Service consists of the creation of Capacity for the Service Taker in the TELE-POST Network, connecting to the Internet. Alternate designs supporting the Service Taker's potential requirements for dual homing and/or redundancy will be priced, contracted and implemented separately.

The Service Taker must provide the following elements:

- RIPE IP address range
- ASN.

2.1 Distributed Denial of Service Protection

As an optional part of the Global IP Services, distributed Denial of Service Protection (DDoS) protection is included.

3. Geographic Availability

Available in Nuuk only.

4. Service Demarcation

Defined as a virtual circuit terminated on a National IP Service.

5. Quality Criteria

TELE-POST commits to an uptime criterion of 99.6% for the Global IP Service.

6. Chargeable Service Activities

The applicable charges for the Service described in this Annex are listed in the Price List Annex contained at Annex G.

The Service Taker will be charged for Service Activities including:

- Setup charge
  - A one-off charge for the initial provision of the Global IP Service.
- Monthly recurring charges
  - CDR price
    - To use the TELE-POST Global IP Service, the Service Taker must purchase a minimum Capacity assigned on a virtual NTP at the TELE-POST core BGP level, towards the Internet. The CDR is specified in the Order Form and is the minimum amount of Capacity that will be charged to the Service Taker each month at the Committed Data Rate price, even if not fully used by the Service Taker during a calendar month.
  - Burst surcharge (Not guaranteed)
    - The Service Taker will pay a surcharge on top of the base price for the amount of Capacity consumed above the CDR (the BDR). TELE-POST cannot guarantee the availability of BDR Capacity at all times.
  - Capacity usage calculation
    - The Capacity usage calculation is based on the calculation of the aggregate Capacity usage with a 95th percentile threshold. This method is industry standard and calculates the Capacity required to support the total traffic flow on a single access port.
    - Capacity usage is determined by collecting upstream and downstream Capacity usage samples, in the network, every 5 minutes throughout the month (a sample is based upon the average usage across the 5-minute segment).
    - After collection of the samples, upstream samples for each 5-minute interval are added into a single data set that represents the aggregate Capacity. After aggregation the 95th percentile is calculated. The result of the calculation represents the aggregate upstream Capacity usage.
    - After collection of the samples downstream samples for each 5 minute interval are added into a single data set that represents the aggregate Capacity. After aggregation the 95th percentile is calculated. The result of the calculation represents the aggregate downstream Capacity usage.

    - After calculation of the aggregate upstream usage and the aggregate downstream usage the lowest value is discarded and the highest value is used for billing.
  - Policing of CDR and BDR
    - The global IP Service is policed at 200% of the subscribed CDR, allowing for a maximum BDR usage of +100% of the CDR.
  - Example of a Capacity calculation:
    - In a 30-day billing period, 8,640 samples are collected for the BGP access point and directions (Upstream/downstream, 12 samples/hour * 24 hours/day * 30 days). The samples are aggregated into one dataset and listed from highest to lowest. With the 95th percentile calculation, the highest 5% Capacity usage (or 432 samples representing the top 5% of usage levels are discarded). The highest remaining sample (sample 433 in this example) is used to determine total Capacity usage.
- Service change charge
  - A one-off charge per incident of service change on Global IP Service.
- Termination charge
  - A one-off charge for the cessation of the Global IP Service.
- Testing Resulting in "Fault not Found"
  - If a fault is reported by a Service Taker regarding a Global IP Service and when that Global IP Service is tested by TELE-POST the Global IP Service is found to meet, or exceed, the specifications detailed in Annex E4, a "Fault Not Found" result would be deemed as the result. In that case, TELE-POST will charge the Service Taker for the test as indicated under the item "Fault Not Found fee" in the Pricelist Annex at Annex G of this Agreement.
  - Where a fault condition continues to exist, Service Taker may request additional testing to seek to establish the cause of the fault. Charges for this additional testing shall be based on the additional work performed as a result of the request. The process for tackling fault reports is described in the Operations & Maintenance Manual at Annex E4 of this Agreement.
- Cancellation of an order for Global IP Service
  - If at any stage in the provisioning process (after receipt of order and before completion of delivery of the Global IP Service) Service Taker withdraws its order for the Global IP Service, the Service Taker will be charged the full installation charge for the Service originally requested.

7. Technical Description

A technical description of the Global IP Service is contained in Annex D4 of this Agreement.

8. Charging

Service Taker will pay TELE-POST all relevant charges as calculated using the charges specified in the Price List Annex, Annex G to this Agreement.

9. Billing

The Billing arrangements for this Service are set out in Annex B of this Agreement.