

# **Neterra Complete Service Portfolio**

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#### **Document Change History**

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16.08.2023	Version 2	The whole document	Product Development		Complete Service revision
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30.11.2023	Version 4.1.	23 and 29	Product Development		Layer 3 and Colocation Service Descriptions update
22.01.2024	Version 4.2.	41	Product Development		Added new service 6.6. DDoS Protection Support

#### Purpose

This document contains Service descriptions of all Neterra's services, by service Groups, their Terms and Conditions and SLAs applied for Business customers.

Terms and Definitions

Related documents

a) Neterra General Terms.



# I. Service groups

#### 1. Layer 1

## **1.1. Dark fiber rent**

1.1.1. Definition

Neterra provides Dark Fiber Rental Services to the Client.

The service is prepaid on a subscription basis and its payment time periods are specified in the Purchase order.

#### 1.1.2. Related documents

- a) Dark Fiber Service Level Agreement;
- b) Neterra GT Provision of Telco Services.
- 1.1.3. Detailed Service Description

The offered fiber optics are specified according to their type in separate documents provided by Neterra.

Neterra supports the following connector types at the service end points:

E2000/APC, FC/APC, FC/PC, LC/PC, LC/APC, SC/PC, SC/APC.

- 1.1.4. Commercial parameters
- a) End point 1 full address or GPS coordinates;
- b) Connector type in end point 1 (see 1.1.3.);
- c) End point 2 full address or GPS coordinates;
- d) Connector type in end point 2 (see 1.1.3.);
- e) Quantity: number of optical fibers;
- f) Type of optical fiber: G.652, G.655, other;
- g) Maximum attenuation (in dB at a specific wavelength, at an entire fiber length);

h) Fixed fiber route: Yes/No – if yes, the documented route is considered as commercial parameter and added as additional part of the contract.

#### 1.2. Duct Rent

1.2.1. Definition

Neterra grants the Customer access to lay down fiber optic cables in a duct network property of the company. Each route is defined by segments with a start and an end point.

- 1.2.2. Related documents
- a) Duct Rent Service Level Agreement.
- 1.2.3. Detailed Service Description
- a) The Customer lays down its own optic fiber cable;
- b) Neterra rents to the customer the right to access its duct network;

c) The service is prepaid, on a subscription basis with a reporting period according to the contract with the Customer.

- 1.2.4. Commercial parameters
- a) Service end point 1;



b) Service end point 2;

c) Length.

# 1.3. SDH Leased Line

1.3.1. Definition

The service is point-to-point synchronous digital data transmission. It provides the following between the two end points:

- a) reserved bandwidth, dedicated exclusively for the Client's needs;
- b) guaranteed capacity;
- c) non-variable speed and transparency in the data transmission.

The service is recurrent, prepaid, with a billing period of 1 (one) month.

- 1.3.2. Related documents
- a) SDH Service Level Agreement;
- b) Neterra GT Provision of Telco Services.

1.3.3. Commercial parameters

- a) End point 1 the one end point of the service;
- b) End point 2 the other end point of the service;

c) End point 1 Interface- type of the physical interface (X.21, V.35, G.703, G.704, G.957/G.691);

d) End point 2 Interface – type of the physical interface (X.21, V.35, G.703, G.704, G.957/G.691);

e) Data transmission bandwidth - Nx64 Kbps, E1/T1, E3/T3, STM-1, STM-4, STM-16, STM-64;

f) Class of protection – protected, or unprotected service in Neterra's network.

#### **1.4. Wavelength**

#### 1.4.1. Definition

Neterra Wavelength Service is a solution providing high speed point-to-point, dedicated bandwidth, transparent communication channel between two customer facing ports located in Points of Presence on the Neterra Network. It is released by allocating a wavelength from the Neterra DWDM transport infrastructure for the customer's purposes.

The service is recurrent, subscription based, prepaid, with a billing period of 1 (one) month.

#### 1.4.2. Related documents

- a) Wavelength Service Level Agreement;
- b) Neterra GT Provision of Telco Services.
- 1.4.3. Commercial parameters
- a) End points locations the termination points of the service at both ends;
- b) Service transport type, service bandwidth, customer interface types;



Service type	Service Bandwidth	Customer interface type
	1Gbps	1000BASE-SX 1000BASE-LX 1000BASE-EX 1000BASE-ZX 1000BASE-BX10
Ethernet LAN/WAN phy	10Gbps	10GBASE-SR(W) 10GBASE-LR(W) 10GBASE-ER 10GBASE-ZR
	40Gbps	40GBASE-LR4 40GBASE-ER4
	100Gbps	100GBASE-SR4 100GBASE-LR4 100GBASE-ER4
	2.5Gbps (STM-16)	SR-1 LR-1 LR-2
SDH/SONET	10Gbps (STM-64)	SR-1 LR-1 LR-2
	LR-2 SR-1 40Gbps (STM-256) LR-1 LR-2	LR-1
	10Gbps (OTU2)	10GBASE-SR4, OTU2, 11.3Gbps 10GBASE-LR4, OTU2, 11.3Gbps 10GBASE-ER4, OTU2, 11.3Gbps 10GBASE-ZR4, OTU2, 11.3Gbps
OTN (G.709)	40Gbps (OTU3)	40GBASE-SR4, OTU3, 44.6Gbps 40GBASE-LR4, OTU3, 44.6Gbps
c) Class of protection – u	100Gbps (OTU4)	100GBASE-SR4, OTU4, 112Gbps 100GBASE-LR4, OTU4, 112Gbps

c) Class of protection – unprotected or protected;



Figure 1: Unprotected service





Figure 2: Protected service

d) Route Requirements (Yes/No):

No - means Neterra shall provide the wavelength through any route between the end points, according to its internal rules;

Yes - means the Customer has requirements about which routes to be avoided on the route path. In this case Neterra should receive detailed KMZ drawing of the routes that must be avoided.

#### **1.5.** Access to customer building network

1.5.1. Detailed Service Description

Regardless of the services that Neterra provides, if the customer's Point of interest is located in a business building, the building's owner may or may not have additional fee for access to the internal network of the premises. Therefore, Neterra charges an additional fee to the Customer.

Service is recurring, pre-paid, on a subscription basis.

- 1.5.2. Commercial parameters
- a) Address Point of interest;
- b) Quantity.



# 2. Layer 2

Neterra offers carrier class quality, efficient, and fully transparent Ethernet solutions. The data transfer service connects client's local networks in Bulgaria to the rest of Europe, Asia, and North and South America.

Neterra's Ethernet services comply with the recommendations of the Metro Ethernet Forum for Carrier Ethernet Services.

For all services we provide intuitive online tools for monitoring ports and their parameters:

- a) Workload;
- b) Traffic reports.



Figure 3: Traffic report example

The parameters of the services are guaranteed by the SLA (Service Level Agreement). They are also monitored 24/7 by our Network Management Center (NOC) according to all international standards.

#### 2.1.2. Definition

Neterra provides E-line EVPL, E-line EPL, E-Tree, L3 VPN packet transport services, as well as the associated service "Access Point" described below.

The use of topologies such as "Point to Point" and "Point to Multipoint" provides an easy and effective solution for implementing a virtual local area network that works as if all client IP resources are in the same geographical location or office.

The commitment to build and maintain such a network is entirely Neterra's task.

The services provided are fully compliant with the definitions of Metro Ethernet Forum, as described at MEF 6.2 and IETF RFC4364.

Services are recurrent, subscription-based, and pre-paid, with a billing period of 1 (one) month.

#### 2.1.3. Related documents

a) IP and L2, L3 Transmission SLA.



#### **2.2. Ethernet Virtual Private Line**

Alternative names: EVPL, Virtual Leased Line (VLL), Intercity MAN

2.2.1. Commercial parameters

a) Committed information rate (CIR) – guaranteed throughput of the physical or virtual data channel. In case the Service is delivered with Burst option, the traffic packets over the guaranteed level are dropped. (They are not going through);

- b) End point 1 defines the first end point where the service is provisioned;
- c) End point 2 defines the second end point where the service is provisioned;
- d) Class of Protection:
  - "Protected" Service has a guaranteed capacity, protected via several independent routes and it is designed so that in case of a single outage in the network the Customer shall be able to use the guaranteed capacity.
  - "Unprotected" Service has a guaranteed capacity over a single route and in case of outage in the Network, it may be fully interrupted.
  - "Unprotected Diverse" Service has a guaranteed capacity over another diversity routed single circuit, operational at the same time and between either same or different access points. This enables the customer to implement their own method of protection or load sharing across the two circuits.

e) MAC address limit - limitation on the number of MAC addresses learned on Neterra equipment and used for the particular service. The default value is 100;

f) Ethernet frame maximum size – the default value is 1536 bytes.

2.2.2. Detailed Service Description

The topology utilized is Point-to-Point: two points interconnected. The service is implemented by configuring Ethernet virtual circuit (VLAN based EoMPLS circuit, VLAN, QinQ VLAN etc.) between the end points. In addition, if required, the local loops may also be arranged and equipped by Neterra.



Figure 4: Diagram of E-Line

#### 2.3. Ethernet Private Line

Alternative names: EPL

2.3.1. Commercial parameters

a) Committed information rate (CIR) – guaranteed throughput of the physical or virtual data channel. In case the Service is delivered with Burst option, the traffic packets over the guaranteed level are dropped. (They are not going through);



- b) End point 1 defines the first end point where the service is provisioned ;
- c) End point 2 defines the second end point where the service is provisioned;
- d) Class of Protection:
  - "Protected" Service has a guaranteed capacity, protected via several independent routes and it is designed so that in case of a single outage in the network the Customer shall be able to use the guaranteed capacity.
  - "Unprotected" Service has a guaranteed capacity over a single route and in case of outage in the Network, it may be fully interrupted.
  - "Unprotected Diverse" Service has a guaranteed capacity over another diversity routed single circuit, operational at the same time and between either same or different access points. This enables the customer to implement their own method of protection or load sharing across the two circuits.
- e) Ethernet frame maximum size the default value is 1536 bytes.
- 2.3.2. Detailed Service Description

Point-to-Point topology is used: two points interconnected. The service is provisioned from physical port to physical port, where single EPL service utilizes exactly 2 ports – multiplexing several EPL services on single physical port is not possible. The usage of EPL is mostly recommended in cases when full emulation of Ethernet physical media is required. The service is implemented on the basis of EoSDH, EoMPLS, PBB-TE technologies. In cases when MAN networks are used for local loops, installation of CPE devices at the customer premises is required.

The EPL service allows the client to use random set of Layer 2 and upper-layer protocols, as well as L2 Control Protocols - STP, CDP, GVRP, LLDP, LACP, etc. The only restriction is the requirement for valid client's Ethernet frames. The MAC address learning is not performed in the provider's network which removes the limitation on the number of MAC addresses used in the LAN segment of the EPL channel.

#### **2.4. Ethernet Virtual Private LAN**

Alternative names: E-LAN, Virtual Private Line Services (VPLS)

2.4.1. Commercial parameters

a) Committed information rate (CIR) – guaranteed throughput of the physical or virtual data channel. In case the Service is delivered with Burst option, the traffic packets over the guaranteed level are dropped. (They are not going through);

b) Protection Class - protected or unprotected;

c) MAC address limit - limitation on the number of learned MAC addresses on Neterra equipment and related to this service. The default value is 100;

d) Ethernet frame maximum size – the default value is 1536 bytes.

2.4.2. Detailed Service Description

Multipoint-to-multipoint topology is used: each end point communicates with the others. From Customer's perspective Neterra's network appears as Ethernet switch with ports located at the end points of the service. Each single end point of the E-LAN is defined by a separate "Service Access Point" service.



Typical application of the service is the Layer 2 VPN: interconnection of multiple offices in a single LAN segment.



Figure 5: Diagram of E-LAN

# 2.5. E-Tree

Alternative names: Ethernet Virtual Private Tree

2.5.1. Commercial parameters

a) Service Access Point – the location where the root port of the E-Tree is located;

b) Service Access Point Committed Information Rate (CIR) – guaranteed throughput of the physical or virtual data channel. In case the Service is delivered with Burst option, the traffic packets over the guaranteed level are dropped. (They are not going through). The guaranteed throughput of the total transport channel (total capacity) from the Root Port to each and all the remote (leaf) service access points;

- c) Class of Protection:
  - "Protected" Service has a guaranteed capacity, protected via several independent routes and it is designed so that in case of a single outage in the network the Customer shall be able to use the guaranteed capacity.
  - "Unprotected" Service has a guaranteed capacity over a single route and in case of outage in the Network, it may be fully interrupted.
  - "Unprotected Diverse" Service has a guaranteed capacity over another diversity routed single circuit, operational at the same time and between either same or different access points. This enables the customer to implement their own method of protection or load sharing across the two circuits.

d) MAC address limit - limitation of the number of MAC addresses learned on Neterra equipment and related to this service. The default value is 100;

- e) maximum Ethernet frame size the default value is 1536 bytes.
- 2.5.2. Detailed Service Description



The topology used is point-to-multipoint: all leaf Service Access Points communicate only with a single predefined end point (the Root Port); communication between the remote (leaf) service access points is not possible. From Customer's perspective Neterra's network appears as Ethernet switch with applied port security (Layer 2).



Figure 6: Diagram of E-Tree

# 2.6. ENNI

#### 2.6.1. Definition

Neterra provides physical Ethernet port, which is reference point representing the boundary between Neterra and Operator CENs (Carrier Ethernet Networks). ENNI is defined in MEF 26.2.

Service is recurrent, subscription-based, pre-paid, with a billing period of 1 (one) month.

#### 2.6.2. Detailed Service Description

The service is related to Ethernet based services exchanged between Neterra and the other party. External Network-to-Network Interface describes a single point of interconnection to the network, which enables the simple hand-off of all Ethernet traffic between both parties.

The service is compliant with the definitions of Metro Ethernet Forum, as described at MEF 26.2.

a) The service is provided over a dedicated fiber-optical cable or patch cabling. A backup physical port can be installed for redundancy and higher resilience;

- b) Class of Protection:
  - "Protected" Services are provided over two physical links using Link Aggregation as specified in IEEE Std 802.1AX-2014;
  - "Unprotected" Services are provided over a single link and in case of outage in the Network, they may be fully interrupted.
- 2.6.3. Commercial parameters
- a) Port speed 1Gbps or 10Gbps;
- b) Protection Class the level of protection provided (protected or unprotected);

c) End point – defines the location of service provision. This is the demarcation position where the service is handed over to the Customer.



# 2.7. L3 VPN

Alternative names: MPLS IP VPN

2.7.1. Commercial parameters

a) Committed information rate (CIR) – guaranteed throughput of the physical or virtual data channel. In case the Service is delivered with Burst option, the traffic packets over the guaranteed level are dropped. (They are not going through);

b) Class of Protection:

• "Protected" Service has a guaranteed capacity, protected via several independent routes and it is designed so that in case of a single outage in the network the Customer shall be able to use the guaranteed capacity;

• "Unprotected" Service has a guaranteed capacity over a single route and in case of outage in the Network, it may be fully interrupted;

• "Unprotected Diverse" Service has a guaranteed capacity over another diversity routed single circuit, operational at the same time and between either same or different access points. This enables the customer to implement their own method of protection or load sharing across the two circuits.

c) QoS prioritization: no, yes, custom:

- The default value is "no";

- If "yes" option is selected, the value in the filed Differentiated Services Code Point (DSCP) in the IP header of the Customer generated packets is used for QoS prioritization. The following classification and DSCP values are used:

Name	DSCP	Traffic Processing	Implemented by
Platinum	5	Highest priority for performance sensitive. Minimal packet loss and jitter.	LLQ, prioritization
Gold	4	Video. Low latency and packet loss.	WRR, WRED
Silver	3	Mission critical traffic. Low latency and packet loss.	WRR, WRED
Bronze	0	No mission critical traffic.	WRR, WRED

If "custom" QoS prioritization is requested, then Customer and Neterra agree consistent QoS scheme, which is applied as part of the Services Contract.

2.7.2. Detailed Service Description

The topology used is multipoint-to-multipoint: all end points communicate with each other.

From Customer's perspective Neterra's network appears as IP router(s) (Layer 3).

For that purpose, virtual routers (VRFs) are defined, and the Customer Service Access Points are configured as virtual router interfaces. The VRF is defined as default gateway of the customer IP CPEs. The IP routing of the traffic between the separate interfaces (LAN segments) is managed by Neterra.





NETERRA

VRF - Virtual Routing and Forwarding UNI - User-Network Interface CE - Customer Edge PE - Provider Edge

Figure 7: L3 VPN

- 2.7.3. Additional services offered by Neterra
- a) Security;
- b) Multicast.

The ways of providing these additional services shall be agreed between the parties and described in the Purchase Order in "Additional terms and conditions" of the specific L3 VPN service

#### 2.8. Access point

2.8.1. Commercial parameters

End point - defines the location of service provision. This is the demarcation a) position where the service is handed over to the Customer;

- b) Port speed - The data transmission rate of a physical interface.
- 2.8.2. Detailed Service Description

A service related to the E-LAN, E-Tree, L3-VPN services: which may have more than two end points of the service provision. Each service of the "Service Access Point" type describes a single logical point of interconnection to the network of the relevant related service. It can be located either on a separate physical interface, or to be multiplexed with other logical Service Access Points on one physical interface. In the second case multiple Customer services are provisioned through one multiplexed physical interface, each one with single logical Service Access Point.

The physical port of Customer interconnection with Neterra's network is called User-to-Network-Interface - UNI.

#### 2.9. Additional Port

as 2.8.

#### 2.10. **Additional VLAN**

Additional VLAN can be sold together with the EPL 2.3. and EVPL 2.2. services



# 2.11. Hybrid Access Point

#### 2.11.1. Definition

Neterra provides guaranteed, un-contended, symmetrical (1:1) access to the L3 VPN network and optional full Internet access over dedicated circuits.

Service is recurrent, subscription-based, pre-paid, with a billing period of 1 (one) month.

The service is related to L3-VPN services, which may have more than two end points of the service provision. Each "Hybrid Service Access Point" type describes a single point of interconnection to the network of the relevant L3-VPN service and Internet access.

Hybrid Service access port can be deployed as a hybrid network, seamlessly integrated MPLS-based VPN services with Internet access.

#### 2.11.2. Detailed Service Description

a) The service is provided over a dedicated fiber-optical cable or a dedicated metro Ethernet line. A backup line can be installed for redundancy and higher resilience;

- b) Neterra provides the Client with a static set of IP addresses;
- c) Service provisioning areas outside the city boundaries are subject to availability;
- d) Class of Protection:
  - "Protected" Services have a guaranteed capacity, protected via several independent routes and are designed so that in case of a single outage in the network the Customer shall be able to use all their guaranteed capacity;
  - "Unprotected" Services have guaranteed capacity over a single route and in case of outage in the Network, they may be fully interrupted.
- 2.11.3. Commercial parameters
- a) Port speed 10/100/1000/10000 Mbps;

b) Committed Information Rate (CIR) – the bandwidth of data transfer ranging from 1 Mbps to 10 Gbps (1Mbps incremental step);

- c) Number of provided IPv4 addresses;
- d) Hybrid Access Point Internet Breakout Yes/No; Marks availability of Internet access per this particular service;
- e) Protection Class the level of protection provided (protected or unprotected).



#### 3. Layer 3

- 3.1.1. Related documents
- a) IP and L2, L3 Transmission SLA.
- 3.1.2. Service family description

Neterra provides guaranteed, un-contended, symmetrical (upload=download) access to the global Internet.

The services:

a) are provided over a dedicated fiber-optical cable (FTTH, FTTB) or a dedicated metro Ethernet line;

b) come with IPv4 /30 and IPv6 /127 subnet of static addresses included;

c) don't include a router or a modem or any other service termination equipment. They can be terminated either on a customer's equipment or service termination equipment provided by Neterra as a separate service.

Services are recurrent, subscription-based, pre-paid, with a billing period of 1 (one) month.

- 3.1.3. Terms and Definitions
- a) Terms:
- DIA Dedicated Internet Access;
- BIA Broadband Internet Access;
- BGP Border Gateway Protocol;
- SPOF Single point of failure;
- IPv4 Internet Protocol version 4;
- IPv6 Internet Protocol version 6;
- Tier1 Internet Protocol (IP) network that can reach every other network on the Internet;

- CPE – an optional, associated with the DIA and BIA service equipment, located at the customer's premises and connected with the Neterra's telecommunication circuit at the service demarcation point as per 2.1. g) above. The device is owned and operated by Neterra;

- Unmanaged CPE –a CPE with neither read nor write access available to the customer. Neterra has no obligation to make changes to the default device or service configuration as part of its service lifecycle support;

- NTU – unmanaged modem or a switch terminating the service toward customer equipment;

- Fixed wireless line - point-to-point transmission over the air between stationary devices;

- Mobile broadband line - data transmission delivered by cellular carriers to mobile devices.

b) Definitions:



- "Diverse" class of protection - services have guaranteed capacity over fully diverse routes in a no SPOF topology and terminated on separate devices on both sides to guarantee the resilience;





- "Protected" class of protection - services have a guaranteed capacity, protected via several independent routes and are designed so that in case of a single outage in the network the Customer shall be able to use all their guaranteed capacity;



Figure 9: Protected class of protection



- "Unprotected" class of protection - services have guaranteed capacity over a single route and in case of outage in the Network, they are expected to have lower availability than the protected and diversely protected services;



Figure 10: Unprotected class of protection

# **3.2. Dedicated Internet Access**

Neterra provides DIA as a guaranteed, un-contended, symmetrical (upload=download) access to the global Internet.

DIA is provided over a dedicated fiber-optical cable, a dedicated metro Ethernet or fixed wireless line.

3.2.1. Commercial parameters

(as per art. 4.3 of the a) Neterra General Terms)

- a) Committed Information Rate (CIR) the bandwidth of data transfer in Mbps;
- b) Class of protection (diverse, protected, unprotected as per 3.1.3. b) );
- c) Customer Premises Equipment (CPE) (no, unmanaged CPE);
- d) Port type (100/1000BaseT, 1G LX, 1G SX, 10G LR);
- e) DIA IPv4/IPv6 (IPv4 or IPv6 or IPv4+IPv6 address);

f) DIA IP address – (1 or "more than 1"). A public and usable IPv4 or/and IPv6 address associated with the service;

g) Access Point – the location where the Service is being provided.

#### 3.3. Broadband Internet Access (BIA)

Neterra provides BIA as a non-guaranteed, contended, symmetrical (upload=download) or asymmetrical (upload<>download) access to the global Internet.

BIA is provided over a dedicated fiber-optical cable, a dedicated metro Ethernet or fixed wireless or mobile broadband line.

3.3.1. Commercial parameters



(as per art.4.3 of the a) Neterra General Terms)

- a) Upload speed maximum data transfer bandwidth towards Internet in Mbps;
- b) Download speed maximum data transfer bandwidth from Internet in Mbps;
- c) Class of protection (diverse, protected, unprotected as per 3.1.3. b);
- d) Customer Premises Equipment (CPE) (no, unmanaged CPE);
- e) Port type (100/1000BaseT, 1G LX, 1G SX, 10G LR);
- f) BIA IPv4/IPv6 (IPv4 or IPv6 or IPv4+IPv6) address;

g) BIA IP address – (1 or "more than 1"). A public and usable IPv4 or/and IPv6 address associated with the service;

- h) Access Point the location where the Service is being provided.
- 3.4. IP Transit Services
- 3.4.1. Definition

Neterra provides guaranteed, un-contended, symmetrical (upload: download ratio 1:1) access to the global Internet.

The service is delivered through the Neterra's data network aggregating traffic from Tier1 providers, peering partners and IP transit customers.

The service is recurrent, subscription-based, pre-paid, with a billing period of 1 (one) month.

3.4.2. Commercial parameters

(as per art. 4.3 of the a) Neterra General Terms)

a) Capacity – indicates the maximum allowed data transfer rate (from 1 Mbps upwards, with an incremental step of 1 Mbps);

- b) Class of Protection protected or unprotected;
- c) Data Center a demarcation point in a data center, part of the Neterra's network.
- 3.4.3. Detailed Service Description

a) the Customer should announce in the BGP session only its own or/and its clients' IP prefixes;

b) BGP announced prefixes should be equal to or longer than /24 IPv4 and /48 IPv6. Martians, Bogons and private prefixes are not accepted. (RFC7454);

c) the Customer receives IPv4 or/and IPv6 addresses to activate the service(s). Based on the service activation specifics, Neterra provides the following IPv4 and IPv6 ranges as part of the service.

- o IPv4 /31, /30 or /29;
- o IPv6 /127, /126 or /64.

Other options are also available but additional fees may apply.

#### 3.4.4. **IP Transit International**

Neterra provides access to connected Tier1 providers, peering partners and other IP Transit International customers.

#### 3.4.5. BG Internet

Neterra provides access to the prefixes from connected in Bulgaria peering partners and



other BG Internet service customers.

#### 3.4.6. Local IP Exchange

Neterra provides access to its IP transit customers.

#### **3.5. Global IP Transit**

3.5.1. Definition

Neterra provides guaranteed, un-contended, symmetrical (upload: download ratio 1:1) access to the global Internet.

The service is delivered through the Neterra's data network aggregating traffic from Tier1 providers, peering partners and IP transit customers.

The service is recurrent, subscription-based, pre-paid, with a billing period of 1 (one) month.

3.5.2. Commercial parameters

(as per art. 4.3 of the a) Neterra General Terms)

a) Capacity – indicates the maximum allowed data transfer rate (from 1 Mbps upwards, with an incremental step of 1 Mbps);

- b) Class of Protection protected or unprotected;
- c) Data Center a demarcation point in a data center, part of the Neterra's network.

3.5.3. Detailed Service Description

a) the Customer should announce in the BGP session only its own or/and its clients' IP prefixes;

b) BGP announced prefixes should be equal to or longer than /24 IPv4 and /48 IPv6. Martians, Bogons and private prefixes are not accepted. (RFC7454);

c) the Customer receives IPv4 or/and IPv6 addresses to activate the service(s). Based on the service activation specifics, Neterra provides the following IPv4 and IPv6 ranges as part of the service.

- IPv4 /31, /30 or /29;
- IPv6 /127, /126 or /64.

Other options are also available but additional fees may apply.

#### **3.6.** Direct Tier 1

3.6.1. Detailed Service Description

Neterra provides guaranteed, un-contended, symmetrical (upload: download ratio 1:1) Internet access from a Tier1 provider.

The service is delivered by Neterra's data network over a dedicated VLAN, providing BGP session access to Tier1 provider's routing equipment.

For the purpose of the document, a Tier1 provider is a network with a global IP Transit reach offering direct peering access to a significant portion of the Internet.

The service is recurrent, subscription-based, and pre-paid, with a billing period of 1 (one) month.

3.6.2. Commercial parameters



#### As per art. 4.3 of the a) Neterra General Terms

a) Capacity – indicates the maximum allowed data transfer rate (from 1 Mbps upwards, with an incremental step of 1 Mbps but according to the capabilities of the respective Tier1 provider);

- b) Class of Protection protected or unprotected;
- c) Data Center a demarcation point in a data center, part of the Neterra's network;
- d) Tier1 provider a list of Tier1 providers.



#### 4. Colocation

Colocation service is the deployment and maintenance of customer equipment in a data center of Neterra with guaranteed parameters – temperature and relative humidity, uninterrupted power supply, systems for monitoring and protection (flood and fire), access control and security.

The service is prepaid and is available on a subscription basis (subscription fee) including Energy supply fee, with one-month billing period.

- 4.1.1. Related documents:
- a) SDC colocation SLA;
- b) Neterra Classification of Telecom Facilities (PoPs).

#### 4.2. Service Colo rack

4.2.1. Definition

Colocation of a rack (cabinet) provided by Neterra in shared space with other users in colocation room of the data center.

- 4.2.2. Commercial parameters
- a) Quantity number of rack/s;
- b) Type of power supply: 400V/230V AC, -48.0V DC or both;
- c) Size of the rack in mm;
- d) Height of the rack in rack units (RU);
- e) Maximum electrical power in kW;
- f) Requested electrical power in kW.
- 4.2.3. Rack size
- a) Standard rack size is 19", 600mm x 1000mm (W/D);
- b) Different rack sizes and heights are available on request including 21-inch rack,
- 600mm x 1200mm, 800mm x 1200mm (W/D), 42RU/45RU/47RU/52RU, ĔTSI, etc.
- 4.2.4. Commercial parameters related to the Energy supply fee
- a) Type of the Energy supply fee committed/overcommitted;
- b) Quantity of requested energy in kWh;
- c) Unit price for Energy supply fee (committed);
- d) Unit price for Energy supply fee (overcommitted).

#### 4.3. Service Colocation of dedicated compartment of a cabinet (1/4 or 1/2)

4.3.1. Definition

Colocation of quarter or half dedicated compartment of a rack provided by Neterra in colocation room of the data center.

- 4.3.2. Commercial parameters
- a) Quantity number of  $\frac{1}{2}$ ,  $\frac{1}{2}$  compartments of a rack;
- b) Type of power supply: 400V/230V AC, -48.0V DC or both;
- c) Size of the rack in mm;
- d) Height of the rack in rack units (RU);



- e) Maximum electrical power in kW;
- f) Requested electrical power in kW.
- 4.3.3. Rack size

Standard Size is 19", 600mm x 1000mm x 2105 mm (WxDxH), 42/45/47RU – 10RU for  $\frac{1}{4}$  and 21RU for  $\frac{1}{2}$ .

- 4.3.4. Commercial parameters related to the Energy supply fee
- a) Type of the Energy supply fee committed/overcommitted;
- b) Quantity of requested energy in kWh;
- c) Unit price for Energy supply fee (committed);
- d) Unit price for Energy supply fee (overcommitted).

#### **4.4. Service Colocation footprint**

4.4.1. Definition

Colocation of a rack provided by the customer in colocation room of the data center.

- 4.4.2. Commercial parameters
- a) Quantity number of rack/s;
- b) Type of power supply: 400V/230V AC, -48.0V DC or both;
- c) Size of the rack in mm;
- d) Height of the rack in rack units (RU);
- e) Maximum electrical power in kW;
- f) Requested electrical power in kW.
- 4.4.3. Rack size
- a) Standard Size is 19", 600mm x 1000mm x 2105 mm (WxDxH), 42/45/47RU;
- b) Different rack sizes and heights are available on request including 21-inch rack, 600mm x 1200mm, 800mm x 1200mm (W/D), 42RU/45RU/47RU/52RU, ETSI, etc.
- 4.4.4. Commercial parameters related to the Energy supply fee
- a) Type of the Energy supply fee committed/overcommitted;
- b) Quantity of requested energy in kWh;
- c) Unit price for Energy supply fee (committed);
- d) Unit price for Energy supply fee (overcommitted).

#### 4.5. Service Colocation cage

4.5.1. Definition

Providing of colocation in separated by a metal fence area (cage) located in a colocation room of the data center.

- 4.5.2. Commercial parameters
- a) Size number of racks in the cage.

#### 4.6. Service Crossconnect

4.6.1. Definition

Physical cable connection between two ports of active/passive equipment belonging to



same or different customer. It is possible that the connection is between the same customer in different rooms or buildings within the perimeter of the data center.

4.6.2. Commercial parameters

a) Demarcation point A – Detailed description: number of racks, name/description of customer equipment/panel, type of connector;

b) Demarcation point B – Detailed description: number of racks, name/description of customer equipment/panel, type of connector;

c) Data center – At which data center the service is provided;

d) Type of crossconnect – copper cable, simplex fiber patch, duplex fiber patch, coaxial cable.

# 4.7. Service Hands-on-site

#### 4.7.1. Definition

The service enables carrying out of support (maintenance) activities related to the equipment of the customer, provided by qualified employees of Neterra. The service is charged for each started 30 minutes.

4.7.2. Commercial parameters

- a) Number of 30 minutes periods for hands-on-site service;
- b) Description;
- c) Period of usage.

#### 4.8. Service Storage of equipment for colocation

4.8.1. Definition

Storage of customer's equipment for colocation close to the colocation rooms of a data center.

#### 4.8.2. Commercial parameters

- a) Storage type shelf or space;
- b) Quantity number of shelves or space in cubic meters.

#### **4.9.** Basic colocation

4.9.1. Definition

a) Deployment of the client's crypto mining equipment in data center of Neterra that meets the necessary requirements for air temperature, security, power supply and a strict policy of neutral connectivity. The service is prepaid and is available on a subscription basis with a one-month billing period.

4.9.2. Commercial parameters

a) Data center – data center name;

b) Requested power, kW: indicates the expected nominal power of the customer's equipment;

c) Requested energy, kWh: shows the requested by customer (forecast) energy, included in the price;

d) Electricity - forecast price, kWh - shows the forecast unit price per one kWh of energy used;

e) Price per kWh includes all expanses for colocation of customer`s equipment (energy, cooling, security, support, Internet).



#### 5. NetlX Ethernet Exchange

5.1. Definition

NetIX is an Ethernet Exchange. It is a global platform for sharing of Ethernet traffic and exchange of a variety of services between Members.

- 5.1.1. Related documents
- a) NetIX Ethernet Exchange SLA;
- b) NetIX General Terms.
- 5.1.2. Terms & Definitions

a) Burst - indicates if there is an option to use more bandwidth then the originally ordered as CIR;

The Burst capacity equals the next higher rank CIR option. In example, if there is 2 500 Mbps CIR ordered and Burst option is also chosen, the Burst capacity equals 5 000 Mbps.

The bandwidth used by the Member (CIR + Burst) is calculated by NetIX at 5-minute intervals (95th percentile rule). Collected data is sorted by value from highest to lowest and discard the highest 5% of the samples. The CIR is deducted from this value. The next highest sample is the 95th percentile burst value for the data set.

#### 5.1.3. Detailed Service Description

The NetlX platform includes services for interconnection and sharing of Ethernet traffic between Members, in accordance with NetlX General Terms.

All Members are listed as such on the NetlX website (https://www.netix.net/members).

The points of presence in the global NetlX network are available at https://www.netix.net/network.

Service availability guarantees are set out 5.1.1. a).

Every Member may use the NetIX Ethernet Exchange to offer its own services to all other Members without restrictions, subject to the technical requirements and the other conditions of its contract with NetIX.

Members are required to adhere to the Technical Requirements.

Services are recurrent, subscription-based, prepaid, with a billing period of 1 (one) month.



#### **5.2. NetIX Primary Port - NPP**

The service provides physical Ethernet port from the NetlX network. That port enables the Member to receive NetlX services, as well as services of other NetlX Members.

The use of this service is a precondition for the provision of the other services from the package, described in this document.

If the NetIX Primary Port (NPP) is used on its own, it guarantees both a NetIX membership status and a physical Ethernet port from the NetIX network for further use but no other service utilization.

Every Member needs to have a separate physical port for its connection to a NetIX Primary Port.

Two or more NetlX Primary Ports may be aggregated to achieve transfer at higher speed. This is implemented by using aggregation of ports (Link Aggregation Group – LAG). The aggregation is limited to 4 (four) ports.

It is Member's responsibility to monitor the utilization of its NPPs and if necessary to contract more ports in order to obtain sufficient capacity for all of its services.

If the end date for providing the NetIX Primary Port service is earlier than the end date of the provision of any service, delivered through this port, then the duration of the NetIX Primary Port contract is automatically extended to the end date of the latest service, delivered through it.

Ethernet frame, that can be carried through the NetlX network is with MTU (Maximum Transmission Unit) of at least 1536 bytes.

5.2.1. Commercial parameters

(as per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) Access Point – identifying the end point of the service in the global NetlX network;

b) Port speed – speed limitation of the physical port (100, 1 000, 10 000, 25 000, 40 000, 100 000 Mbps);

c) Port capacity (CIR) – indicates the maximum allowed data transfer rate (20, 100, 500, 1 000, 2 500, 5 000, 10 000, 25 000, 40 000, 100 000 Mbps);

d) Burst – (Yes | No) - indicates if there is an option to use more bandwidth then the originally ordered as CIR.

#### **Route Server services**

NetIX Members exchange traffic in a common Ethernet segment (common public VLAN), whereas each Member is free to determine its involvement by means of BGP attributes (BGP communities). All methods of traffic management available to Members are described at <a href="https://www.netix.net/policies">https://www.netix.net/policies</a>.

The peering is implemented by establishing one or more BGP sessions with the NetlX Route Servers.

#### 5.3. NetIX Global Internet Exchange

The service enables the NetIX Ethernet Exchange Member to peer with all other Members (https://www.netix.net/peering-services/netix-global-internet-exchange-gix).

NetIX may acquire at its own cost routes to networks not yet Members of NetIX and offers them to Members at no additional cost, as part of this service.



#### 5.3.1. Commercial parameters

(as per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) NetIX Primary Port ID – unique ID number of the port that hosts the service. In case of aggregated ports, identifying the port ID of any of them is sufficient;

b) Service capacity (CIR) – indicates the maximum allowed data transfer rate (20, 100, 500, 1 000, 2 500, 5 000, 10 000, 25 000, 40 000 or 100 000 Mbps). CIR cannot exceed the capacity of the associated port;

c) Burst – (Yes|No) - indicates if there is an option to use more bandwidth then the originally ordered as CIR for any of the Route Server services.

#### 5.4. NetIX OnNet

The service enables the NetIX On-Net Member to peer with all directly connected to NetIX networks excluding any transit traffic from the service (https://www.netix.net/peering-services/netix-on-net).

5.4.1. Commercial parameters

(as per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) NetIX Primary Port ID – unique ID number of the port that hosts the service. In case of aggregated ports, identifying the port ID of any of them is sufficient;

b) Service capacity (CIR) – indicates the maximum allowed data transfer rate (20, 100, 500, 1 000, 2 500, 5 000, 10 000, 25 000, 40 000 or 100 000 Mbps). CIR cannot exceed the capacity of the associated port.

#### 5.5. NetIX BG

The service enables the NetIX BG Member to peer with all directly connected to NetIX networks in data centers across the Bulgarian NetIX network, excluding any transit traffic from the service (https://www.netix.net/peering-services/netixs-regional-ixps).

5.5.1. Commercial parameters

(As per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) Access Point – identifying the end point of the service in the global NetIX network;

b) NetIX Primary Port ID – unique ID number of the port that hosts the service. In case of aggregated ports, identifying the port ID of any of them is sufficient;

c) Service capacity (CIR) – indicates the maximum allowed data transfer rate (20, 100, 500, 1 000, 2 500, 5 000, 10 000, 25 000, 40 000 or 100 000 Mbps). CIR cannot exceed the capacity of the associated port.

#### 5.6. Service "NetIX Greece"

The service enables the NetIX Greece Member to peer with all directly connected to NetIX networks in data centers across the NetIX network in Greece, excluding any transit traffic from the service (https://www.netix.net/peering-services/netixs-regional-ixps).

5.6.1. Commercial parameters

a) Access Point – identifying the end point of the service in the global NetlX network;

b) NetIX Primary Port ID – unique ID number of the port that hosts the service. In case of aggregated ports, identifying the port ID of any of them is sufficient;

c) Service capacity (CIR) – indicates the maximum allowed data transfer rate (20, 100, 500, 1 000, 2 500, 5 000, 10 000, 40 000, 100 000 Mbps). CIR cannot exceed the capacity of the associated port.



# 5.7. NetIX Transit

The service enables the NetlX Transit member to receive IP transit traffic from other NetlX members (https://www.netix.net/netix-connectivity/ip-transit).

5.7.1. Commercial parameters

(As per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) NetIX Primary Port ID – unique ID number of the port that hosts the service. In case of aggregated ports, identifying the port ID of any of them is sufficient;

b) IP Transit provider – a list of predefined providers of IP Transit service. All available providers listed on the NetIX web site (https://www.netix.net/netix-connectivity/ip-transit);

c) Service capacity (CIR) – indicates the maximum allowed data transfer rate in 10Mbps steps (1-1000Mbps), and 100Mbps steps for bigger capacity levels. CIR cannot exceed the capacity of the associated port.

#### **5.8. Virtual Private Interconnect**

The service enables direct traffic exchange between two Members of NetIX on a separate VLAN, using IEEE 802.1q tagging (https://www.netix.net/netix-connectivity/virtual-private-interconnect-vpi).

The service is implemented as an Ethernet Virtual Private Line (EVPL) in conformity with the definitions of IETF RFC4364 (https://tools.ietf.org/html/rfc4364) and Metro Ethernet Forum (https://www.mef.net/Assets/Technical\_Specifications/PDF/MEF\_6.1.pdf).

A single VPI is inter-connecting two remote NPP ports – see 5.2. . Either Member can order the VPI, but both members should accept the service. If, for any reason, any of the related Members terminates the service, it will be therefore terminated for the other Member as well.

5.8.1. Commercial parameters

(as per art. 4.3 of 5.1.1. a) NetIX General Terms

a) End point 1 – unique ID number of NetIX Primary Port – Ordering Party. In case of aggregated ports, identifying the port ID of any one of the aggregated ports is sufficient;

b) End point 2 – unique ID number of NetIX Primary Port – Receiving Party. In case of aggregated ports, identifying the port ID of any one of the aggregated ports is sufficient;

c) Service capacity (CIR) – indicates the maximum allowed data transfer rate (2, 4, 6, 8, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1 000, 2 000, 3 000, 4 000, 5 000, 6 000, 7 000, 8 000, 9 000, 10 000, 25 000, 40 000, 100 000 Mbps). CIR cannot exceed the capacity of the associated port.

#### 5.9. Remote IXP

NetIX provides a connection to and membership in remote local Internet eXchange Points. The service is implemented through the establishment of a 5.8. from Member's connection point to a connection point of the local IXP in the NetIX network (https://www.netix.net/peering-services/remote-peering).

5.9.1. Commercial parameters

(as per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) Service capacity (CIR) – indicates the maximum allowed data transfer rate. The capacity provided varies per local IXPs' commercial policy;

b) Remote IXP platform – a list of predefined IXP platforms. All available platforms listed on the NetIX web site (https://www.netix.net/peering-services/remote-peering);



NetIX Primary Port ID – port ID of the Member's NetIX Primary Port. In case of aggregated ports, identifying the port ID of any one of the aggregated ports is sufficient.

The minimum period of use is 12 months. Following the 12-month period, the service shall be automatically renewed for the same period, unless NetIX is sent an advance notice in writing asking for suspension of the service at least 3 months before the end date specified in the contract.

#### 5.10. Audio Video Stream Distribution

The Audio/Video Stream Distribution Service is used for distribution of content - TV, radio channels, or other multicast streams – to be distributed via the NetlX multicast infrastructure (https://www.netix.net/audio-video-streaming/av-stream-distribution).

Clients for this service are media, members of NetIX. By means of this service they provide their content to other members in NetIX, globally, with guaranteed quality.

#### 5.10.1. Basic functionality

The Client may use the service for distribution of one multicast stream to the NetlX distribution network, whereas he takes into consideration only the limit of the stream's bitrate and the already used capacity on the NetlX Primary Port.

The TV and radio channels are distributed using IPv4 multicast technology. The Client should provide the signal in the required encapsulation.

The Client has access to the Provisioning System (https://control.netix.net/), through which he may permit and grant access to his multicast stream to every other NetIX member. NetIX delivers stream to a NetIX customer of the A/V Stream Feed Service.

#### 5.10.2. Security

The content distribution is limited only in the NetlX network and can reach only the NetlX members. Distribution through peering partners' networks, Global IP transit providers, or other third parties is not applied.

The Client is free to feed the NetlX platform with encrypted signal, and it is his responsibility to provide the NetlX members, receiving his signal, with decryption devices. Even though the signal may not be encrypted, the Client has control over the permission of access to those NetlX members, chosen by him and none of the other NetlX members has any technical access to his content.

The Client may use other CAS (Conditional Access System) systems, working in partnership with NetIX. The options are available on the NetIX website.

#### 5.10.3. End points of the service

The service is "point-to-multipoint" type. The primary end point is the media's NetIX Primary Port. This NetIX Primary Point is provisioned only for the purpose of the Audio/Video Stream Distribution service. The other end points are the NetIX Primary Ports of those members, who have submitted their order for the stream reception, and which are allowed to receive it by the Client in https://control.netix.net/.






Figure 11: Diagram: Audio/Video Stream distribution

# 5.10.5. Commercial parameters

(As per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) NetIX Primary Port ID – port ID of the Member's NetIX Primary Port. In case of aggregated ports, identifying the port ID of any one of the aggregated ports is sufficient.

# 5.11. Audio Video Stream Feed

The Audio/Video Stream Feed service is used for receiving content – TV, radio channels, or other multicast streams, already contributed by the relevant media in NetlX (https://www.netix.net/audio-video-streaming/av-stream-feed).

Clients of this service are operators distributing Audio/Video channels.

The media have control over the permission and the receipt of specific stream depends on the mutual agreement between media and distributor.

### 5.11.1. Basic functionality

The Client receives one multicast stream from the NetlX distribution network, taking into consideration only the used capacity of his NetlX Primary Port.

The TV and radio channels are distributed via IPv4 multicast technology.

The Client has access to the Provisioning System (https://control.netix.net/), through which he may activate and deactivate streams, for which he already has the permission by the relevant broadcaster.

5.11.2. End points of the service

The service has one end point - the Client's NetIX Primary Port.

### 5.11.3. Commercial parameters

(As per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) NetIX Primary Port ID – port ID of the Member's NetIX Primary Port. In case of aggregated ports, identifying the port ID of any one of the aggregated ports is sufficient;

b) Service capacity (CIR) – indicates the maximum allowed data transfer rate (20, 100, 500, 1 000, 2 500, 5 000, 10 000, 40 000, 100 000 Mbps). CIR cannot exceed the capacity of the associated port.



# 5.12. Physical Private Interconnect

The service enables the Member to implement a physical connection (2 optical fibers or UTP) within one collocation center (https://www.netix.net/netix-connectivity/physical-private-interconnect-ppi).

5.12.1. Commercial parameters

(As per art. 4.3 of 5.1.1. a) NetlX General Terms)

- a) End Point 1 identification of one of the connection points;
- b) End Point 2 identification of the other connection point;
- c) Type of connectivity optical or UTP.

## 5.13. Audio/Video Stream transfer

This is an associated service to the Audio/Video Stream Distribution. The service is used for transport and transfer of the media's stream from a designated by the media source to the media's NetIX Primary Port.

The designated source may be, but is not limited to the following options:

- a) Satellite;
- b) Multicast Broadcasters;
- c) others.

This service is optional and not subject to the NetIX SLA document.

5.13.2. Commercial parameters

(as per art. 4.3 of 5.1.1. a) NetIX General Terms)

- a) End point 1 the source;
- b) End point 2 the media's NetIX Primary Port;

c) NetIX Primary Port ID – port ID of the media's NetIX Primary Port. In case of aggregated ports, identifying the port ID of any one of the aggregated ports is sufficient.

### **5.14.** Tunnel over Internet

The service options are a modification to or/and extension of a standard service (https://www.netix.net/netix-connectivity/tunnelling-over-internet). They cannot be ordered separately and are used only for changing some commercial or technical parameters.

This option provides an alternative access to the NetIX platform when the customer cannot connect directly to it and exchange both Ethernet and IP peering services with NetIX members.

5.14.1. Commercial parameters

(as per art. 4.3 of 5.1.1. a) NetIX General Terms)

a) NetIX service – the desired NetIX service to gain an access to through the tunnel.

### 5.15. VLAN over IXP

The service is an option for modification to or/and extension of a standard service (https://www.netix.net/netix-connectivity/vlan-over-ixp). It cannot be ordered separately and is used only for changing some commercial or technical parameters.

A dedicate VLAN that connects a Member over an IXP network connected to NetIX.



5.15.1. Commercial parameters

a) NetIX service – the desired NetIX service to gain access through the VLAN over IXP.

# 5.16. IXaaS

Internet eXchange as a Service (IXaaS) is a fully managed solution that helps NetIX Member to build, expand or/and maintain their own Internet/Ethernet exchange platform (https://www.netix.net/peering-services/ixaas).

5.16.1. Commercial parameters

a) IXaaS Service – periodic or non-periodic. The full list of services will be provided on demand.



## 6. DDoS Attack Protection Services

#### 6.1.1. Detailed Service Description

DDoS Attack Protection Services stop solely malicious traffic directed to an attacked network. The legitimate traffic continues unaffected to its destination, while the malicious traffic is discarded in the Neterra's network.

The services are available as an addition to the IP Transit services provided by Neterra.

6.1.2. Related documents

### a) DDoS protection SLA.

6.1.3. Cloud-based services

The Platform is physically located in the European network of Neterra and the protection from DDoS attacks does not change the Internet route of the traffic.

#### 6.1.4. Commercial parameters

(as per article 4.3 of the a) General Terms):

a) Capacity (CIR) - indicates the maximum allowed speed for data transmission. This parameter reports solely the legitimate traffic passed from the cloud platform to the customer. It does not include the malicious traffic, addressed to the customer, but blocked by the filtering system of the cloud platform;

b) End point – a physical port in Neterra's network where the service is handed over to the customer.

#### 6.2. DDoS Firewall Protection

Services are recurrent, subscription-based, pre-paid, with a billing period of 1 (one) month.

### 6.3. Secure Cloud - Always On

Services are recurrent, subscription-based, pre-paid, with a billing period of 1 (one) month.

### 6.4. Secure Cloud - On Demand

This service provides a time-limited use of the Service "Secure Cloud – Always On". The customer chooses when to start and stop using the service, by announcing or stopping the announcements of their prefixes to the Platform.

The customer is able to use the service up to 72 hours total during the month. When exceeding this limit, the service is charged by Neterra as a regular Service "Secure Cloud – Always On", for the month, in which the limit is exceeded.

Exceeding the capacity does not lead to a change in the service for the next month of use.

Use of the service is measured by the Platform. The customer receives information about the time used by email or by an online portal.

Services are recurrent, subscription-based, payable at the end of the reporting period, with a billing period of 1 (one) month.

### 6.5. Smart Blackholing

It is a dynamic and automated Blackholing service activation solution (https://www.netix.net/ddos-protection/smart-blackholing).

6.5.1. Commercial parameters



(as per article 4.3 of the NetIX General Terms)

- a) Quantity the number of IPv4 /24 prefixes protected;
- b) Address space the IP address space under protection.

# 6.6. Service "DDoS Protection Support"

It is a managed service, related to DDoS protection activities, that include but it is not limited to consultancy, installation, service support, monitoring, network audit, service white labeling, troubleshooting, problem solving.

6.6.1. Commercial parameters

(as per article 4.3 of the a) General Terms)

a) Quantity – the number of activities (e.g.: hours);

b) Description – detailed list of activities to be performed as per the customer's request.



# 7. RIPE

## 7.1.1. Definition

Acting as a LIR (Local Internet Registry -bg.neterraip), Neterra provides the Customer with IPv4 or IPv6 blocks.

# 7.2. IP blocks for rent

7.2.1. Detailed Service Description

The service is subscription-based, prepaid, recurring, with a billing period of 1 month.

After providing the IP block, the consequences of the actions initiated by hosts using the respective IP addresses are the sole responsibility of the Customer.

The policies for using and providing the PA IP blocks that Neterra as a LIR and the Customer as a user of the address space should follow are described here (https://www.ripe.net/publications/docs/ripe-804) and here (https://www.ripe.net/publications/docs/ripe-738).

- 7.2.2. Commercial parameters
- a) Quantity -the number of /24 IPv4 or /48 IPv6 networks;
- b) IPv4/IPv6-IPv4 or IPv6 PA IP blocks;
- c) Address space the IP block subject of this transaction.

### 7.3. Sell of IP address space

7.3.1. Detailed Service Description

The service is prepaid one-time sale.

Neterra Ltd as a LIR (bg.neterraip) and PA block holder transfers PA IP resource to the corresponding customer's LIR account.

#### 7.3.2. Commercial parameters

- a) Quantity the number of /24 IPv4 or /48 IPv6 networks;
- b) IPv4/IPv6 IPv4 or IPv6 PA IP block;
- c) Address space the IP block subject of this transaction.

## 7.4. Sell of IP address space (lease payment)

7.4.1. Detailed Service Description

The service is prepaid one-time sale.

For the Service period, as per 7.4.2. c), the service is delivered as Service - IP blocks for rent. The cost of IP networks is paid in equal monthly installments due by the 10th of each month.

In the event that the Customer does not repay any of the obligations under the repayment plan on time, the entire amount of the sales price becomes immediately due from the day the Customer falls into default.

Neterra undertakes, after payment of the last installment of the repayment plan, as a LIR (bg.neterraip) and PA block holder of 7.4.2. d), to transfer the PA IP resource to the corresponding customer's LIR account.

7.4.2. Commercial parameters



a) Quantity – the number of /24 IPv4 or /48 IPv6 networks;

b) IPv4/IPv6 – IPv4 or IPv6 PA IP block;

c) Monthly Installments IPv4/IPv6 – from 2 to 36 months (as per art.4.9 in General Terms);

d) Address space – the IP block subject of this transaction.

## 7.5. Single IP Addresses for Rent

7.5.1. Detailed Service Description

The service is subscription-based, prepaid, recurring, with a billing period of 1 month.

After providing the IP addresses, the consequences of the actions initiated by hosts using the respective IP addresses are the sole responsibility of the Customer.

The policies for using and providing the IP addresses that Neterra as a LIR and the Customer as a user of the address space should follow are described here (https://www.ripe.net/publications/docs/ripe-804) and here (https://www.ripe.net/publications/docs/ripe-738).

7.5.2. Commercial parameters

a) Block of addresses – any of IPv4 /32, IPv4 /31, IPv4 /30, IPv4 /29, IPv4 /28, IPv4 /27, IPv4 /26, IPv4 /25, IPv6 /128, IPv6 /127, IPv6 /126, IPv6 /125, IPv6 /64, IPv6 /56;

- b) Quantity the number of Block of addresses;
- c) Address space the IP addresses subject of this transaction.

### 7.6. PA IPv6 Addresses

Sold as part of the provider aggregatable IP blocks.

### 7.7. PI IPv6 Addresses

Sold as part of the provider independent resource assignment.

### 7.8. Provider Independent IP Addresses

### 7.8.1. Definition

Acting as a LIR (Local Internet Registry - bg.neterraip), Neterra declares to RIPE NCC and provides the Customer with an independent IP address space.

In the case of an existing independent IP address space, Neterra is listed as a sponsoring LIR responsible to RIPE NCC for this resource (https://www.ripe.net/publications/docs/ripe-637, point 2.0).

You can find more information about the process of requesting and registering a PI IP address space here - https://www.ripe.net/manage-ips-and-asns/resource-management/number-resources/independent-resources.

7.8.2. Detailed Service Description

a) The service is subscription-based, prepaid, recurring, with a billing period of 1 /one/ month;

b) The service covers the entire process of requesting a PI IP address space, its registration in RIPE NCC DB and the subsequent support in maintaining the resource;

c) The allocated IP address space is for temporary use, while by contract and for a corresponding maintenance fee, the number is entered into the registry of a LIR or RIPE NCC itself. Information about the Terms of Use - https://www.ripe.net/publications/docs/ripe-637;



d) The terms for providing a PI address space are described here (https://www.ripe.net/publications/docs/ripe-804) and here (https://www.ripe.net/publications/docs/ripe-738);

e) The Customer pays a maintenance fee for each separate PI IP address space that is registered on their name.

- 7.8.3. Commercial parameters
- a) Quantity number of autonomous resources;
- b) IP address type IPv4 or IPv6;
- c) Address space the IP address space subject of this transaction.

#### 7.9. RIPE Autonomous System

7.9.1. Commercial parameters

a) Quantity – amount of ASNs provided to the Customer;

b) ASN type - 16 or 32 bit. By default, RIPE NCC provides a 32-bit (number ranging from 65536 to 4294967295) system. Only upon specific request (on Customer's part) and under specific requirements (https://www.ripe.net/manage-ips-and-asns/resource-management/supporting-notes-for-internet-address-space-request-forms) can RIPE NCC provide a 16 bit ASN. Neterra does not guarantee to the Customer that a 16-bit ASN will be provided by RIPE NCC even if they comply with terms and conditions specified above.



# 8. Managed Services

### 8.1.1. Definition

Neterra provides the Client with telecommunication equipment, ensuring its configuration according to the Client's requirements, constant monitoring and maintenance of the services.

To ensure the possibility of early diagnosis of arising or prevention of potential problems, the service includes 24x7 monitoring of equipment and services through a specialized monitoring system.

This document describes services that the Customer can order from Neterra. In order for certain services to be ordered, they must be included in a mutually signed Purchase Order, where the ordered services appear with their specific commercial parameters.

- 8.1.2. Related documents
- a) Managed Services SLA.

#### 8.2. Managed Firewall

#### 8.2.1. Detailed Service Description

A service that protects and manages the security of the customer's network. Includes Firewall, IPS, IDS, Content filtering and Antivirus. It can be cloud based or physical device.

The service is on a subscription basis with a reporting period of 1 (one) month

- 8.2.2. Commercial parameters
- a) Equipment type;
- b) Initial configuration and installation fee;
- c) Monthly fee for monitoring and support.

### 8.3. Managed Network

8.3.1. Detailed Service Description

Individual customer solution. Includes audit, design, implementation and support depending on the specific needs of the Client.

The service is on a subscription basis with a reporting period of 1 (one) month

- 8.3.2. Commercial parameters
- a) Type of equipment provided;
- b) Initial configuration and installation fee;
- c) Monthly fee for monitoring and support.



# 8.4. Managed Router

### 8.4.1. Detailed Service Description

The service includes the provision, installation, monitoring and maintenance of hardware for using the Internet or MPLS VPN services.

The service is on a subscription basis with a reporting period of 1 (one) month

- 8.4.2. Commercial parameters
- a) Equipment type;
- b) Initial configuration and installation fee;
- c) Monthly fee for monitoring and support.

#### 8.5. Managed WiFi

8.5.1. Detailed Service Description

Creating a manageable WiFi zone according to the Customer's requirements. Includes installation, monitoring and maintenance.

The service is on a subscription basis with a reporting period of 1 (one) month

8.5.2. Commercial parameters

- a) Equipment type;
- b) Initial configuration and installation fee;
- c) Monthly fee for monitoring and support.



### 9. Cloud Services

# 9.1. Additional IT services

#### 9.1.1. Definition

Neterra provides technical support on demand by highly qualified system administrators. This is an additional service to "Cloud server" and "Virtual Cloud Data Center"

The service is prepaid on a subscription basis with one hour reporting period. The service is offered for a minimum period of one hour.

#### 9.1.2. Related documents

- a) General terms for the provision of telecommunication services by Neterra LTD;
- b) Cloud Server Service Description;
- c) Dedicated Server Service Description.
- 9.1.3. Commercial parameters

Duration - defines the service duration in hours (for each started hour).

### 9.2. Backup as a Service

#### 9.2.1. Definition of Service

The service is a complete solution for data storage archiving, where the customer is not involved in maintaining and managing a backup infrastructure. Neterra configures or helps to configure the backup infrastructure at the customer and performs all auxiliary actions for protection and recovery of data and systems, providing the necessary software products, and having a commitment to their maintenance and management. Any change to the configuration results in a change in the current pricing of the service.

To ensure the possibility of early diagnosis of occurring or prevention of potential problems, the service includes 24x7 monitoring of all backup copies, according to a scheme previously approved by the customer (when the service is managed by Neterra).

The service is prepaid, on a subscription basis, with periodic action and with a reporting period of one month. The minimum term for providing the service is one month.

The price of the service is formed depending on the number of devices (physical servers, virtual servers, individual applications (MS Office 365, MS SQL) or certain data that must be archived, counted in number, as well as the disk space required to store the archived copies, reported per GB of space occupied.

### 9.2.2. Related documents

#### a) Server Management SLA

9.2.3. Terms and Definitions

a) "Server" - a device (virtual or physical) or a system of connected devices on which software is installed for storing, processing, receiving or transferring information;

b) "9x5" or "Working Hours" - the intervals from 09:00 to 18:00 from Monday to Friday on official working days;

c) "24x7" - all days of the year, from 00:00 to 24:00, from Monday to Sunday, including public holidays and non-working days;

d) "Non-working hours" - Saturdays, Sundays, public holidays and non-working days, as well as the intervals from 18:00 to 09:00 from Monday to Friday;



e) "Response time" - the time from receiving information from the Client or an alarm from a monitoring system about a problem that has occurred until Neterra starts working on this problem;

f) "Change Request Work Time" or "Issue Work Time" - the total time Neterra employees spend working on a given change request/issue of the Client;

g) "Normal operating system" - a state in which the monitored backup copies of the managed server, set in the monitoring system, are within the normal limits specified between Neterra and the Client;

h) "Change Request" or "Request" - any request from the Customer to include new backup devices, change existing ones or change the volume;

- i) "Problem" a condition where some or all backup copies are not created;
- j) "Website" Neterra websites related to the Service:
  - http://neterra.net
  - https://neterra.cloud/

9.2.4. Commercial parameters

- a) Number of Physical Servers for Backup;
- b) Number of Virtual Servers for Backup;

c) Volume of backup information – Indicates how much customer information will be copied and stored in Neterra;

d) Number of workstations;

e) Number of Office 365 seats - Number of Office 365 seats, which will have backup of their mails and OneDrive Files;

f) Number of File Sync and Share Users.

### 9.3. Cloud Server

9.3.1. Related documents

- a) Cloud Server Service Description;
- b) Cloud Server SLA.

#### 9.3.2. Definition

Neterra provides resources (software, hardware, network connectivity and data center infrastructure) as a virtual server, accessible and manageable via the Internet.

The service is prepaid on a subscription basis with one month reporting period. The service is offered for a minimum period of one month.

9.3.3. Commercial parameters

a) Virtual processor cores - number of virtual processor cores in the Cloud server (Examples: "2", "4");

b) Physical memory – size of the physical memory, available in the Cloud server, in megabytes (Examples: "512MB", "1024MB", "2048MB");

c) Disk space - size of the disk space, available on the Cloud server, in gigabytes (Examples: "10GB", "100GB");

d) Backup Space - size of the available backup space in gigabytes (Examples: "10GB", "100GB");

e) Internet connectivity - shared or dedicated Internet connectivity of the Cloud server in Mbps (Examples: "10Mbps", "50Mbps");



f) IPv4 addresses - number of the available IPv4 addresses (Examples: "1", "4").

9.3.4. Detailed Service Description

a) Service Delivery Point;

Services are provided in Sofia Data Center

b) Service Management;

The Client has full access to the web-based control panel in order to:

- start, stop and restart their Cloud server;
- access their Cloud server via java-based VNC console;
- install and reinstall their Cloud servers using set of OS templates;
- reset a lost password for the Cloud server access;
- upgrade or downgrade the Cloud server resources;
- monitor real-time statistics on the workload of the Cloud server network and processors;
- make snapshots of the Cloud server and restore the server using those snapshots in case of a problem but only if the option "Backup Space" is active and there is at least one backup copy available;
- create and manage additional user accounts and delegate users with full or partial access to sections in the web-based control panel;
- get technical assistance via Support section in the web-based control panel when the Client has questions or encounters a problem;
- add funds as a deposit to pay the service fee or its upgrade automatically;
- purchase other Cloud servers or additional services.
- 9.3.5. Additional Services
- a) Cloud Server Management and Support;

The service provides professional software support and management of Cloud servers by highly qualified specialists. Detailed Service Description could be found in the web-based control panel under category "General Terms" in the section "Knowledge Base".

b) Cloud Server Monitoring.

The service provides 24x7x365 monitoring of the Cloud servers by a specialized monitoring system. Detailed Service Description could be found in the web-based control panel under category "General Terms" in the section "Knowledge Base".



# 9.4. Dedicated Server

- 9.4.1. Related documents
- a) Dedicated Server Service Description;
- b) Dedicated Server SLA.
- 9.4.2. Definition

Neterra provides an option to the Client to rent physical servers collocated in its TIER III data centers for a certain period of time.

The service is prepaid on a subscription basis with one month reporting period. Typically, the service is offered for a minimum period of one year, but if there are available servers they could be rented for a shorter period.

#### 9.4.3. Commercial parameters

a) "Processors"- number and model of the processors in the dedicated server (Example: 2 x Intel Xeon Silver 4210, "1 Intel Xeon 1230v6");

b) "Physical memory"- size of the physical memory, available in the dedicated server, in gigabytes (Examples: "8GB", "16GB");

c) "Hard drives"- number, size in gigabytes and type of the hard drives in the dedicated server (Examples: "2 x 500GB SATA", "1 x 2000GB SAS", "4 x 500GB SSD");

d) "Hardware RAID controller" - if available, type of the hardware RAID controller in the dedicated server (Examples: "none", "LSI MegaRAID SAS 9260-8i");

e) "Dedicated or Shared Internet connectivity"- dedicated or shared Internet connectivity of the server in Mbps (Examples: "100Mbps", "500Mbps");

f) "IPv4 addresses"- number of the available IPv4 addresses (Examples: "1", "4");

g) "Other" - other hardware components (Examples: "2nd Power Supply Unit").

9.4.4. Detailed Service Description

a) Service Delivery Point.

Services are provided in all Neterra TIER III data centers.

The definition of Neterra data centers and the guaranteed conditions that those provide are described in the document "Neterra Data Center Classification"

9.4.5. Other Services Included

When using "Dedicated Server", the Client receives at no charge the following standard services by Neterra:

a) Two real static IP addresses – one for the server itself and another for the remote administration (IPMI) module;

b) Basic installation of Linux operating system. The Client has also an option to install an operating system remotely via the IPMI module.

9.4.6. Additional Services

a) Managed IT Services.

Neterra provides to the Client a choice of one-time or on a subscription based Managed IT services.

More information on these services could be found at https://neterra.cloud/service-descriptions



# 9.5. Server management

9.5.1. Related documents

a) Server Management – SLA.

9.5.2. Definition of the service

The service is the initial installation, configuration and technical support for servers and applications on them in order to ensure the normal operation of the services on the supported server.

To provide an opportunity for early diagnosis of emerging or prevention of potential problems, the service includes 24x7 monitoring of servers and services running on them through a specialized monitoring system.

The service is prepaid, on a subscription basis, with a billing period of one month. The minimum term for providing the service is one month.

The service is offered in the form of packages with a certain number of hours included. When spending the hours included in the selected package, the service is charged with usage reporting and has a reporting period of 1 hour.

#### 9.5.3. Definitions

a) "Server" – a device (virtual or physical) or a system of connected devices on which software for storing, processing, receiving or transmitting information is installed;

b) "9x5" or "Working hours" – the intervals between 9:00 and 18:00, from Monday to Friday, on official working days and in the time zone specified by the client;

c) "24x7" – all days in the year from 00:00 to 24:00, from Monday to Sunday, including public holidays and non-working days;

d) "Non-working hours" or "Outside working hours" – Saturday, Sunday, public holidays and non-working days and the intervals between 18:00 and 9:00 from Monday to Friday in the time zone specified in advance by the client;

e) "Response time" – the time between the receipt of information from the client or an alert from a monitoring system about a problem that has occurred and Neterra's team starting to work on this problem;

f) "Time to process a change request" or "Time to work on a problem" – the total amount of time which employees of Neterra spend on processing a given change request/trouble ticket of the client;

g) "Normally operating system" – the situation in which monitored parameters of the services on the managed server which are set in the monitoring system are within the normal limits agreed between Neterra and the client;

h) "Change request" or "Request" – any request from a client to perform activities included in the Definition;

i) "Problem" – a situation in which some of the services on the managed server are not available or fail to perform their functions as in a normally operating system. Problems are divided into:

j) "Partial problem" - a problem where there is a partial failure of services on the managed server so that these services are available, but they fail to perform their functions as a normally operating system;

k) "Critical problem" – a problem where the services on the managed server are not available;

I) "Client software" – any software which the client or third parties authorized by the client install or provide to Neterra for installation. The client must have the legal right to



install and use the software, its components, supplements or updates'

m) "Website" – websites of Neterra related to the service:

- https://www.neterra.net
- https://neterra.cloud

### 9.5.4. Commercial parameters

a) Type of server – indicates the type of managed server. It can be virtual or physical;

b) Hours of work included – indicates the included hours of work for the server;

c) Time frame of the service – indicates the scope of service in terms of time. It can be 9x5 or 24x7;

d) Maximum response time in case of a critical problem – may be 30 minutes, 1 hour, 2 hours, 4 hours, etc.;

e) Maximum response time in case of a partial problem – may be 2 hours, 4 hours, etc.;

f) Price per month – indicates the total price per month for the hours of work included;

g) Price per extra hour in working hours – indicates the price per each extra hour after the hours included in the package of working hours;

h) Price per extra hour in non-working hours – indicates the price per each extra hour after the hours included in the package of non-working hours;

i) Time zones – indicates the time zones used to define the working hours.

## 9.6. Software Rental

Neterra provides a range of licensed software products that the Client could install on the Cloud server for the period, for which the service is available.

9.6.1. Definition of Service

Neterra offers customers the opportunity of installing and using a variety of licensed software products in addition to the "Cloud Server" and "Dedicated Server" services.

The service is prepaid on a subscription basis, recurrent and with a reporting period of one month. The minimum period for subscribing to the service is one month.

#### 9.6.2. Related documents

- a) Cloud Server Service description;
- b) Dedicated Server Service description;
- c) Microsoft End User License terms.
- 9.6.3. Commercial parameters

Designation and version of the software (for example, Windows Server 2019 Standard Edition, SQL Server 2019 Enterprise Edition);

### 9.7. Storage

### 9.7.1. Definition

Neterra provides the Client with rental space for data storage. Hardware equipment is located in the Tier III-compliant data center (SDC - Sofia Data Center).

The service is prepaid on a subscription basis and with a reporting period of one month. The minimum period for subscribing to the service is one month.



# 9.7.2. Related documents

- a) Storage SLA.
- 9.7.3. Commercial parameters
- a) "Size" size in gigabytes.

## 9.8. System administrator as a Service

9.8.1. Definition

Neterra provides the opportunity for the Client to hire a highly qualified system administrator for a certain period of time.

- 9.8.2. Related documents
- a) Neterra Data Center Classification.
- 9.8.3. Detailed Service Description

Neterra provides the Client with an opportunity to hire a highly qualified system administrator, for a certain period of time and for a job corresponding to the system administrator's qualifications.

9.8.4. Commercial parameters

a) Time – defines the time in hours for which the Client hires a system administrator from Neterra (for each hour started).



### 10. Audio/video services

- 10.1. Argus Platform for OTT Distribution of IPTV content
- 10.1.1. Definition

Neterra provides a core module and related services for the acquisition of TV channels and other content, processing and distribution over the Internet of IPTV content (TV and radio channels).

The Argus Platform is designed and implemented to allow switching of core functional modules, like independent billing systems, interactive OTT distribution platforms with different apps for the popular consumer platforms (iOS, Android, etc.), commercial content-delivery networks, recommendation engines, among others.

The current document defines a service, which a Customer may order to Neterra. In order to be ordered the service needs to be included in a mutually signed Service Order, together with its commercial parameters.



## 10.1.2. Detailed service family description

Figure 12: Argus Platform for OTT Distribution of IPTV content

- a) The service includes:
  - acquisition of TV channels;
  - transcoding and encoding;
  - programming;
  - ingest of EPG;



- multiplexing;
- storage;
- encryption;
- water marking;
- online payment (credit cards, Paypal, ePay, EasyPay);
- distribution over the Internet of IPTV content (TV and radio channels);
- content-delivery network;
- applications in most popular app stores and STBs (Apple iOS, iPadOS, tvOS, Android, AndroidTV, Tizen, LG Netcast, LG webOS, MAG254);
- collection and reporting of usability data from the consumer devices.

### 10.1.3. Argus IPTV Cross Platform Integration Core

The Argus Integration Core holds the basic functionality which identifies the platform and allow for the integration of external modules and software to the core system.

It includes:

- the access control module, holding the data of all customers;
- EPG ingestion module, accepting EPG data from external sources;
- Content ingestion module, where all the external content is fed into;
- Payment processing module, connection to all external payment modules;
- Database, holding all relevant data;
- Parner's module allowing for the definition and control of external resellers;
- Management module.

The service is provided on a recurrent basis, billed on a subscription basis, with a billing period of one month.

a) Commercial parameters.

(as defined in art 4.3 of the a) General Terms)

- quantity – how many cores are necessary and installed (usually 1 is enough)

### 10.1.4. Audio/Video Content Delivery Network (CDN)

Software and hardware, in key locations globally, allowing for the distribution of the content to key Internet PoPs through a controlled network.

The service is provided on a recurrent basis, with a billing period of one month.

The service could be billed either on a subscription basis, with a maximum subscribers determined in the Service Order Form (SOF), or based on the actual subscribers using the system, as measured on a monthly basis.

a) Commercial parameters.

(as defined in art 4.3 of the a) General Terms)



subscribers – the number of subscribers the system will need to handle.

## 10.1.5. **OTT IPTV integrated end users' applications**

The service includes installing of applications, in the Customer developer account in the different app stores, so that consumers may download and install them.

The service could be billed either on a subscription basis, with a maximum subscribers determined in the Service Order Form (SOF), or based on the actual subscribers using the system, as measured on a monthly basis.

a) Commercial parameters.

(as defined in art 4.3 of the a) General Terms)

- subscribers - the number of subscribers the system will need to handle.

### 10.1.6. **Audio / Video linear channel source**

The service is used to inject a number of TV and other linear channels into the system.

The service could be billed either on a subscription basis, with a maximum subscribers determined in the Service Order Form (SOF), or based on the actual subscribers using the system, as measured on a monthly basis.

a) Commercial parameters

(as defined in art 4.3 of the a) General Terms)

- Number of channels;
- Video Channel Quality [HD/SD/4K];
- Number of Catchup days.

### 10.2. Conditional Access System

#### 10.2.1. Definition

Neterra provides encryption using a DVB compliant conditional access system, as part of audio/video processing services.

The service is billed on a measured use basis (number of subscribers), provided on a recurrent basis, with a billing period of 1 month.

The current document defines a service, which the Customer may order to Neterra. In order to be ordered the service needs to be included in a mutually signed Service Order, together with its commercial parameters.

#### 10.2.2. Detailed Service Description

The service includes encryption of multiple TV or radio channels and provision of physical or virtual access cards for each subscriber that will receive the streams.

#### 10.2.3. Commercial parameters

(as defined in art 4.3 of the a) General Terms)

a) number of subscribers with a minimum total price for the service per month;

b) number of access criteria groups – channels will be grouped in an access criteria groups with separate access.

### **10.3. TV Channel Acquisition**



# 10.3.1. Definition

Neterra acquires a TV or radio channel from different types of sources (satellite, terrestrial networks, radio) and delivers the signal, unaltered, to the Customer, at a standard interface.

If the source is encrypted, Customer needs to provide CAS cards, CAMs or other decryption equipment if necessary.

The service is billed on a subscription basis, prepaid, provided on a recurrent basis, with a billing period of 1 month.

The current document defines a service, which a Customer may order to Neterra. In order to be ordered the service needs to be included in a mutually signed Service Order, together with its commercial parameters.

10.3.2. Related documents

a) Teleports of Neterra.

10.3.3. Detailed Service Description

a) End points of the service – the entry to the Neterra equipment from the signal source on one side and the Neterra managed interface facing the Customer on the other side.

- b) The service includes:
  - reception of the source signal (satellite/radio or terrestrial);
  - demodulation (if radio or satellite);
  - changes in the transport stream, if necessary;
  - hand over to the Customer interface.
- c) Customer hand-over protocol

Neterra hands over the acquired channels in a DVB transport stream, SRT, HLS, or another as requested by the Customer, if technically available.

10.3.4. Commercial parameters

(as defined in art 4.3 of the General Terms)

- a) Channel List;
- b) Description.

### **10.4. TV channel IP distribution**

10.4.1. Definition

Neterra provides access to TV channels, by the use of IP protocol and delivered in Neterra's data center.

10.4.2. Commercial parameters

- a) Number: number of TV channels;
- b) Capacity: total capacity for all TV channels in Mbps;
- c) Class of protection: protected/unprotected defines the protection of the transport layer.
- 10.4.3. Detailed Service Description



The service is subscription-based and pre-paid.

Neterra provides access to TV channels with content rights, assigned by the force of contracts signed between the Client and the content owners and the distributors of content and other multimedia services.

The subject of the service are TV channels, available in the Neterra's content delivery network.

## **10.5. TV Channel Playout**

10.5.1. Related documents

a) Neterra Playout Streams Processing Table - a document with predefined format, describing the specific processing to be performed by some of the services as described below.

10.5.2. Definition

This service provides a facility for the playing out of a previously prepared content.

The purpose of this document is to describe the services which the Client may (wish to) order from Neterra. Services are ordered when written down together with their commercial parameters in a Service Order Form, signed by the parties, as described in the a) General Terms.

### 10.5.3. Detailed Service Description



Figure 13: TV Channel Playout diagram

The system is a combination of modules that actually broadcast content with server for broadcasting - himself Playout; module to create, store and schedule a playlist; delivery of video to the distribution system; storage; automation; CG - Character Generator, which is generating graphics as logos, signs, crawl, roll, animated announcements and other image overlays.

Neterra's playout service includes technology allowing to:

- Ingest and store your media;
- Provide HD and SD fully managed playout, plus remote playout;



- Deliver advert insertion;
- Move, track, manage and report on your media assets;

The technical solution for the acquisition of the source content is described in the Input Streams section of the Stream Processing Table (SPT). The technical details of the output stream are specified in the Output Streams section of the SPT. The SPT is an integral part of the Service Order Form.

Once signed as part of a Service Order Form (SOF), the Output Streams section of the SPT is considered technical parameters, as defined in art.4.4. of the a) General Terms, and Customer is able to request and modify them within the contracted capabilities of the active network configuration.

The Customer has access to a Playlist Composing Tool which he uses to enter the necessary playout schedule.

Playlist Composing Tool - Software tool which allows playlists to be made, involving a simple drag-and-drop functionality.

The Customer has access to an optional A/V Quality Check Tool which can be used to verify the integrity of the source content prepared for playout. The service is optional.

A/V Quality Check Tool: Software tool which verifies if the processed audio-video files are being in concurrency with the predefined format in the Neterra Playout Stream Processing Table.

All of the Customer interfaces are accessible through a remote desktop tool over a secure VPN on the Internet.

# 10.6. Event Audio-Video IP broadcast

10.6.1. Definition

Neterra provides broadcasting of audio-video content through the Internet to the customer, which reflects conference, sport or other event.

The service is pre-paid, one-time.

10.6.2. Commercial parameters

- a) Maximum number of simultaneous connections;
- b) Capacity total for all connections to the streaming servers;
- c) Protection class protection to the streaming servers;
- d) Geographic coverage on the territory of Bulgaria or on the Internet;
- e) Period of provisioning from date and time to date and time.





Figure 14: Event Audio/Video IP Broadcast

The service is provided through the Content Delivery Network of Neterra

The services provided and the platform for the distribution of Neterra's audio-video content include the following:

a) Audio-video content acquisition;

The possible ways for acquisition of audio-video content are – via satellite, via IP protocol, via SDI or offline – hard disk, USB flash memory drive, etc.

b) Processing of audio-video content;

The following operations are possible – encoding, transcoding, transrating, upscaling, recording and editing.

c) Distribution of audio-video content;

d) Management, maintenance and monitoring.

Includes monitoring, and as an additional service - CAS statistics and billing.

### 10.7. Audio-Video IP broadcast

10.7.1. Definition

Neterra provides broadcasting of audio-video content through the Internet to the customer.

The service is pre-paid, periodic, on subscription terms.

### 10.7.2. Commercial parameters

- a) Maximum number of simultaneous connections;
- b) Capacity total for all connections to the streaming servers;
- c) Protection class protection to the streaming servers;
- d) Geographic coverage on the territory of Bulgaria or on the Internet.



# 10.7.3. Detailed Service Description



Figure 15: Audio-Video IP Broadcast

The service is provided through the Content Delivery Network of Neterra

The services provided and the platform for the distribution of Neterra's audio-video content include the following:

a) Audio-video content acquisition;

The possible ways for acquisition of audio-video content are – via satellite, via IP protocol, via SDI or offline – hard disk, USB flash memory drive, etc.

b) Processing of audio-video content;

The following operations are possible – encoding, transcoding, transrating, upscaling, recording and editing.

- c) Distribution of audio-video content;
- d) Management, maintenance and monitoring.

Includes monitoring, and as an additional service - CAS statistics and billing.



### 11. Neterra.TV+

## 11.1.1. Terms and Definitions

a) Related documents:

## General Terms

- b) Definitions:
  - VoD (Video-on-Demand) reproduction and distribution of audio-visual content by wireless transmission or retransmission, in a way that allows access to an unlimited number of persons from a place and at a time individually chosen by each of them;
  - IPTV (Internet Protocol TeleVision) is a convergent service or technology for providing multimedia content (video, audio, data and/or interactive applications) to end users through a platform based on the Internet Protocol (IP) with guaranteed quality, without dependency from a program or program scheme allowing you to start, pause, stop, fast forward or rewind the viewing of content;
  - OTT (Over-the-top) providing streaming access to audio-visual content using an Internet connection based on IPTV using a variety of consumer devices equipped with an Internet connection;
  - Streaming making VoD access via streaming video through a method of transmitting digital multimedia files, in which the reproduction of the content on the user's device begins as soon as it is accessed, without having to pre-download it as a file;
  - "Neterra's Internet platform" means offering an IPTV service to end users, including access by an unlimited number of persons to the content, subject of this contract, carried out through the web-portal www.neterra.tv or through user devices and software applications (Applications), allowing Internet connectivity and IPTV access;
  - TVOD (Transactional video-on-demand or 'pay-per-view') represents user access to certain content under this contract through the use of VoD and OTT service or technology against a payment for a display in a certain time interval or against pay per view with no time limits;
  - Software application (Application) a software product developed or distributed by Neterra, intended for installation on user devices (computers, phones, tablets or other devices), enabling or supporting the use of IPTV and streaming services provided by Neterra.

Neterra.TV+. This is a dedicated section where the latest Bulgarian films, online film festivals, lifestyle shows, live events and other diverse audio-visual content can be rented or purchased for viewing.

Neterra.TV+ enables the titles in the catalog to be easily purchased or rented for viewing both from the territory of Bulgaria and from all over the world. Access to the titles can be arranged with single tickets and/or package tickets. The payment system allows cashless payment from Bulgaria, and from every corner of the planet. In copyright restriction for some of the world markets, Neterra.TV+ has developed a geoblocking system.

# **11.2.** Festival in Neterra.TV+

11.2.1. Detailed Service Description



### End points of the service

The service is provided over a platform developed by Neterra Communications.

The service includes:

- a) Duration of the festival;
- b) Creating of a dedicated festival page with its own URL;
- c) Distribution by categories/filters of titles;
- d) Uploading of a complete program and list of titles;
- e) 24/7 Video Services Operation Center support for the service;
- f) Using of a cart to pay for tickets;
- g) Technological preparation of each title for uploading to the platform transcoding, configuration, uploading to the platform, test, support;
- h) Support for embedded subtitles;
- i) A place to position festival partners in a static banner;
- j) Digital campaign for the sale of festival tickets;
- k) Communication over Neterra.TV's social media channels and via email.
- 11.2.2. Commercial parameters
- a) Name of the product;
- b) Start time;
- c) End time.

# **11.3.** Live Streaming in Neterra.TV+

11.3.1. Detailed Service Description

End points of the service – Separate section on Neterra Communications' Streaming Platform

The service includes:

- a) Duration of the Live Streaming;
- b) Creating of a dedicated page with its own URL;
- c) Uploading of a complete program optional;
- d) 24/7 Video Services Operation Center support for the service up to 48 hours recording;
- e) Using of a cart to pay for tickets;
- f) Technological preparation of each title for uploading to the platform transcoding, configuration, uploading to the platform, test, support;
- g) Digital campaign for the sale of festival tickets;
- h) Communication over Neterra.TV's social media channels and via email.
- 11.3.2. Commercial parameters
- a) Number of registrations;
- b) Duration.

# **11.4. TVOD in Neterra.TV**+

11.4.1. Detailed Service Description



Platform access is granted for a specific product.

End points of the service – Neterra.TV Streaming platform.

The service includes:

- a) Duration of access;
- b) 24/7 Video Service Operation Center support;
- c) Use of a cart to pay for tickets optional;
- d) Technological preparation configuration, test, maintenance.
- 11.4.2. Commercial parameters
- a) Product Neterra.TV+;
- b) Number of Rentals.



## 12. Satellite

# **12.1.** Antenna collocation

12.1.1. Definition

Neterra provides to the Client antenna colocation services, representing placement of client equipment in a teleport that meets the necessary requirements for security, uninterrupted power supply, independent, protected, optical connectivity.

- 12.1.2. Related documents
- a) Antenna Collocation SLA;
- b) Teleports of Neterra;
- c) Neterra PoP Classification.
- 12.1.3. Detailed Service Description

a) Neterra provides the customer with an area to deploy an antenna with accompanying equipment, including:

b) Construction of a concrete platform, according to the recommendations of the antenna manufacturer; construction of a raised platform (if necessary);

c) Provision of electrical power and construction of the necessary electrical connectivity to the base of the antenna;

d) building communication connectivity (Optical, STP/UTP/FTP, Coaxial) from the antenna to the client's equipment located in the data center of the same teleport;

e) office space (if necessary);

f) security and remote service (remote hands).

12.1.4. Power supply type

- a) single-phase AC power supply with nominal parameters: 230 V AC, 50 Hz;
- b) direct current power supply with nominal parameters: -48.0 V DC;
- c) three-phase alternating current supply with nominal parameters: 400 V AC.

12.1.5. Power redundancy options

- a) UPS and/or generator;
- b) No reservation.

The service is prepaid and offered on a subscription basis, with a one-month billing period.

12.1.6. Commercial parameters

a) Teleport - in which teleport of Neterra the service is provided;

b) Area - the necessary area for placing the antenna in square meters is calculated in advance, according to the size of the antenna, the necessary tolerances and others;

c) Types and redundancy of supply voltage in relation to item 12.1.4., 12.1.5.;

d) Total power consumption included, W: shows the maximum power consumption on a monthly basis, included in the price. In the event that the customer uses more than this power, it is charged additionally;

e) Price for 1 kWh – determines the price for 1 kWh of consumed electrical energy at the date of conclusion of the contract. This price is determined periodically by Neterra depending on the electricity prices on the free market, of which Neterra duly informs the Customer;



f) Description of the communication links - type, number and length of the communication links from the antenna to the client's equipment located in the data center of the same teleport;

g) Office space – description of the space for office and/or storage needs (where applicable);

h) Hands-on-site time included. In case the customer uses more than this time, it is charged additionally at the standard rate.

# 12.2. Audio/Video (AV) Channel Satellite Feed

### 12.2.1. Definition

Neterra provides access to the Audio/Video channels, available on satellite. The Client is responsible for obtaining the necessary rights for distribution by virtue of contracts signed between the Client and the relevant content owners, or content broadcasters.

12.2.2. Commercial parameters

a) List of Channel Names.

## 12.3. Audio&Video Channel Satellite Uplink

#### 12.3.1. Definition

Neterra receives audio and video signal from the Customer in MPEG-2 TS format, encodes and broadcasts it on satellite by the Uplink Earth Station (UES).

### 12.3.2. Detailed Service Description

The Service includes:

- a) Conversion of the input signal to MPEG-2 TS;
- b) Encoding of the signal;
- c) Multiplexing;
- d) Encryption with CAS;
- e) Modulation;
- f) Amplifying;
- g) Broadcasting to the satellite with an uplink antenna;
- h) space segment capacity, if included;
- i) Receiving of the signal by a satellite control station.

#### Link Budget

An integral part of any particular service is the link budget calculated according to the requirements of the Satellite Operator to manage the use of the satellite. It shows the theoretical availability time of the service.

12.3.3. End points of the service:

- a) At one side the input interface of the Neterra's equipment in the UES;
- b) On the other side the output interface of the satellite control receiving station.

12.3.4. Commercial parameters

a) space segment included [yes/no] – yes, if the satellite capacity is provided by Neterra as part of the service;

b) Input Signal Encapsulation Format – by default Neterra receives the signal with MPEG-2 TS encapsulation. In the case of necessity to convert it to another encapsulation



format, Neterra provides a technical solution;

- c) Audio Video Interface at the UES of Neterra (SDI, ASI, IP);
- d) Orbital Position of the Satellite;
- e) Territory with guaranteed EIRP;
- f) MPEG encoding (MPEG-2 or MPEG-4);
- g) CBR/VBR Mode Constant Bit Rate (CBR) or Variable Bit Rate (VBR);

h) Video Bitrate – in case of CBR this is the constant bitrate, in case of VBR - this is the maximum video signal bitrate, in case, it will not be changed by Neterra, it is "pass-through";

i) Minimum Bitrate – only in case of VBR;

j) Audio Bitrate – in case it will not be changed by Neterra, it is "pass-through" includes:

k) Audio Signal Encoding - (MPEG-1 Layer 2, AAC, HE-AAC, Dolby Digital, Dolby Digital Plus, others);

I) Conditional Access System – CAS.

### 12.4. Satellite Uplink

12.4.1. Definition

Neterra modulates, upconverts, amplifies and transmits to a satellite a specific Customer signal, using a satellite Earth Station(ES).

The service is subscription based, prepaid, recurrent, with billing period as specified in the Service Order.

- 12.4.2. Related documents:
- a) Link budget.
- 12.4.3. Detailed Service Description

The service includes:

- a) RF modulation;
- b) upconversion to high frequency and amplification;
- c) transmitting to a satellite.

12.4.4. Commercial parameters

a) Source signal – description of the technical solution of acquiring the source signal from Customer;

b) Signal Processing – description in case the source signal needs to go through additional processing before modulation;

c) Uplink band:

The uplink may work in one of the following bands:



Band	Frequency range
Standard C band	5.850 - 6.425 GHz
Extended C band	5.850 - 6.725 GHz
Standard Ku band	14.0 – 14.5 GHz
Extended Ku band	13.75 – 14.5 GHz
Super Extended Ku band	12.75 – 13.25 GHz
DBS band	17.3 – 18.4 GHz
Standard Ka band	28 – 30 GHz
Extended Ka band	26.5 – 31 GHz

The exact uplink frequency is provided by the satellite operator and is not part of the commercial parameters of this service.

- d) Minimum size of the transmitting antenna [m];
- e) Transmit power [W] maximum expected power on the amplifier output.

## **12.5. VSAT** installation

12.5.1. Definition

Neterra provides installation of client-owned VSAT.

### 12.5.2. Commercial parameters

a) Longitude: Standard format GPS coordinates (WGS 84) of the longitude on the site of installation;

b) Latitude: Standard format GPS coordinates (WGS 84) of the latitude on the site of installation;

- c) Satellite: satellite's name and it's orbital position;
- d) Antenna size: size of the antenna 0.80m; 0.96m; 1.20m; 1.80m; 2.40m.

### **12.6. VSAT** support

12.6.1. Definition

Neterra provides VSAT Maintenance services to customers with own VSAT terminal. The services consist of preventive maintenance (detailed equipment inspection to prevent issues, replacing sealing and mounting materials) as well as repair calls (on-call and on-site diagnostics, equipment replacement, antenna pointing) requested by the customer.

- 12.6.2. Commercial parameters
- a) Service area: Radius of Sofia (km);
- b) Response time: hours (e.g. 4/24, 8/24);
- c) Number of VSAT's: number of terminals.
- 12.6.3. Detailed Service Description

The customer pays a monthly maintenance fee on a per VSAT basis for terminals within an area, as defined in 12.6.2. This service is subject to the General Terms for the Provision of Telecommunication Services of Neterra.



### **13. Satellite Internet**

### 13.1.1. Definition

Neterra provides the User with fixed bi-directional IP through ViaSat's satellite service using a transceiver terminal and a connection through a geostationary satellite.

The service is periodic, on an annual subscription basis, prepaid by month, with a reporting period of 1 month.

The user wishing to receive the service sends a request through the website https://neterra.net/end-user-services/mysatellite, to e-mail: contact@neterra.net or to phone: +359 2 975 1616.

13.1.2. Related documents

a) General terms and conditions for the provision of telecommunication services to Neterra EOOD;

- b) Satellite Internet subscription plans and prices.
- 13.1.3. Satellite description

An important condition for the provision of the service is the availability of direct visibility to the satellite in geostationary orbit.

The satellite used is Eutelsat Ka-Sat 9A (orbital position 9°E) and covers all of Europe, the Mediterranean Sea and parts of North Africa. From the territory of Bulgaria it is visible at an azimuth between 195° and 202° and an elevation between 36° and 40° depending on the location of the terrinal on the territory of Bulgaria.



Figure 16: Eutelsat Ka-Sat (9E) coverage map

The service is designed and optimized for 99.5% availability, calculated on calendar quarter basis.

Outages caused by atmospheric or extra-atmospheric disturbances (solar storms or solar flares, meteorites, adverse weather conditions, etc.), preventive maintenance activities carried out after notification to users, as well as "sun outage", (up to several minutes per day for a period of 3 to five 5 days, mostly at the beginning of the months of March and October) are not included in the service unavailability time.

### **13.2.** Satellite Internet Service



### 13.2.1. Detailed Service Description



Figure 17: Schematic diagram of Internet access via satellite

The Satellite Internet Service provides broadband Internet access on the territory of Romania, Moldova, Bulgaria, Albania, Poland, Greece (for the territory of Greece – only for B2B (Business-to-business customers)).

The speeds that can be achieved are in accordance with the Satellite Internet Packages and depend on both satellite segment load and current weather conditions.

- a) Packages provide:
  - Priority Speed This Priority Speed throughput is permitted provided the monthly Account consumption is lower than the consumption profile;
  - Shared bandwidth to all end-users in which B2B unlimited traffic will be prioritized over any B2C traffic and over any B2B unlimited traffic from end-users above the consumption profile. Amongst B2B unlimited end-users below the consumption profile, the priority is equal. Amongst B2B unlimited end-users above this consumption profile, the Priority Speed throughput will be set to a Normal Speed (as defined in the Internet Package) which is equal to the Priority Speed. The relative priority will be lower than B2B end-users and B2C (Business-to-consumer) end-users below the profile capacity.

b) Additional IP Service only for business customers – 1 Static IP included. Possible extension up to 3 lps;

The Internet access service provides shared bandwidth for Internet access and Web navigation via a two-way satellite terminal (i.e. a UT – User terminal). Each UT operates in a star configuration in which the terminals can belong to different distributors and customers.

c) Speeds are not guaranteed and give access to the network using the best-effort method;

d) The customer has a quota of gigabytes with a high traffic priority;

e) The traffic quota is a sum of the Upload+Download amount of traffic;

f) After the quota is exhausted, access to the network is without priority – your speed is not limited, but depends on the network load;

g) Between 01:00 and 06:00, the traffic is unaccounted for – your Internet consumption in this time zone is not deducted from your high-priority gigabytes;

h) After using up the high-priority gigabytes, you can purchase additional quota with the Volume Booster Service;

i) The service uses shared bandwidth in the HUB  $\rightarrow$  IDU direction (Outbound, Downstream or Forward Channel) and in the IDU  $\rightarrow$  HUB direction (Inbound, Upstream or Return Channel). The ratio between Inbound and Outbound bandwidth is determined depending on estimates of the traffic generated in both directions by the applications commonly used per services category.



# 13.2.2. Commercial parameters

(in the sense of Art. 4.3. of the 13.1.2. a)

- a) Satellite Internet Package;
- b) Traffic;
- c) Download speed;
- d) Upload speed.

# **13.3.** Volume Booster service

The user has the opportunity to purchase more priority traffic package of 1GB, 5GB, 10GB, 20GB, 50GB, 100GB, which, when the traffic included in the package is exhausted, allows him to use the corresponding volume of traffic at the maximum speed according to his subscription plan.

# **13.4.** Terminal installation

13.4.1. Commercial parameters

- a) Quantity;
- b) Installation type;

The user has the option to choose how to proceed with the installation of his equipment. Self- installation is included as standard in the service. In this installation, the user installs the terminal by himself according to the "Self-install" installation instruction. The activity is of medium difficulty. Those wishing to perform it can view the attached video files and judge whether they can handle it.

Neterra installation (ordered separately) - Users have the option to order a separate "VSAT Installation" service to be performed by a Neterra employee;

"Self-install" during working hours (9.00-18.00) with phone support

### **13.5.** Service - Additional IP

The Service is available only for business customers – 1 Static IP included. Possible extension up to 3 IPs

13.5.1. Commercial parameter

a) Additional IP addresses – Number.

### **13.6.** Service – Equipment sale

Neterra provides the Customer with the option to buy the equipment needed

#### 13.6.1. Commercial parameters

- a) Quantity;
- b) Type of equipment.

### **13.7.** Service – Administrative account relocation

Every relocation of the Customer's terminal due to the Link Budget need and beam adjustments and measurements by ViaSat is considered an Administrative account relocation Service.

This is a one-time, prepaid service.

- 13.7.1. Commercial parameters
- a) Quantity;
- b) Address.



14. Netfleet

14.1.1. Related documents

a) SLA NetFleet

14.1.2. Definition

Neterra provides complex telematics services for management, monitoring, control and analysis of objects such as: cars, road transport equipment and machines, motorbikes and other motor vehicles through the Netfleet web-based platform.

Services include:

a) Telematics services provided by GPS technology by means of an electronic device for satellite triangulation (positioning) and other telematics solutions, with a real-time connection to a Neterra server via a public mobile terrestrial network of GSM, UMTS and/or LTE standards. The services can be used on the territory of the Republic of Bulgaria and abroad, according to the territorial scope declared by the Client. Data transmission through a public mobile land network is provided by a relevant mobile operator using a SIM card:

b) Access to data and analytical reports generated by the web-based platform based on data received from telematics devices

c) Installation and servicing of telematics equipment (tracking devices, CAN devices, optional peripheral devices) acquired through purchase or leased use for the duration of the contract

d) 24/7 customer service center to assist in troubleshooting and restoring normal operation of services and equipment

This document describes the telematics services that the Client can use from Neterra. Requesting and using the services is documented in an Order signed by both parties, where the relevant services appear with specific commercial parameters.

# 14.2. Netfleet - Base

14.2.1. Detailed Service Description

The Service includes:

a) mobile connectivity, through a SIM card, to transmit data from an electronic GPS device for satellite triangulation (the Tracking Device) owned by the Customer, purchased or leased by Neterra, installed in the tracked object, to a server on the NetFleet webbased platform;

b) access to the NetFleet web-based platform at http://app.netfleet.bg/ for information and inquiries, both in real time and for the elapsed period for the tracked object. Information and references include location, detailed routes and zones, speed, stop and stay, automated zone exit alerts, road maps and more.







The service is recurring, subscription made, auto-renewable, prepaid and with a reporting period of 1 month.

14.2.2. Commercial parameters

- a) Number of tracked objects;
- b) Territorial scope of the service.

In the event of a change in the price and non-price conditions of the operator providing the use of the mobile service in roaming, the terms of the contract with the Customer are subject to renegotiation.

### 14.3. Netfleet - Extended

14.3.1. Detailed Service Description

The Service includes:

a) mobile connectivity, through a SIM card, to transmit data from an electronic GPS device for satellite triangulation (the Tracking Device), CANBUS and peripheral devices owned by the Customer, purchased or leased by Neterra, installed in the tracked object, to a server on the NetFleet web-based platform;

b) the services provided according to 14.2.1. as well as information and analytical reports from the computer of the tracked object generated by the CAN bus devices according to 14.3.2. c) CAN Bus device below, such as accurate fuel consumption, engine revolutions, fuel level in tank, frequency of use of brakes, acceleration, etc.





Figure 19: Diagram: NetFleet - Extended functionality

The service is recurring, subscription made, auto-renewable, prepaid and with a reporting period of 1 month

14.3.2. Commercial parameters

- a) Number of tracked objects;
- b) Territorial scope of the service;

In the event of a change in the price and non-price conditions of the operator providing the use of the mobile service in roaming, the terms of the contract with the Customer are subject to renegotiation.

### c) Peripheral device:

- Driver ID reader;
- Driver ID reader with buzzer;
- Tachograph;
- Fuel probe;
- Sensor with analog signal;
- Sensor with digital signal;
- Flow meter;
- Camera.
- d) CAN BUS device:
  - CANBUS basic functionality reports a certain number of parameters from those that the vehicle allows;
  - CANBUS advanced functionality considers all the parameters that the vehicle allows.

# 14.4. Netfleet - White Label



# 14.4.1. Detailed Service Description

Neterra provides and maintains a custom-designed solution on the Netfleet platform ("White label"), with which the customer can sell the services from points 14.2. and 14.3. on his own behalf and at his expense to end customers.

The Service includes:

a) "White label" platform, including telematics service, mobile service, telematics devices, etc.;

b) Netfleet admin rights to create, edit and delete companies and customers;

c) adding of own logo/brand to the platform;

d) technical support of the platform and a set of compatible telematics and peripheral devices;

e) training for working with the platform;

f) 2nd level of support: 24/7 service center;

g) free updates of the system for new references, functionalities, devices that affect all customers of the system;

h) possibility of additional software and hardware developments and configuration of equipment according to specific set parameters according to the conditions of 14.7.;

i) possibility to purchase configured telematics equipment according to the conditions of 14.5.;

j) possibility of technical customer service (assembly, disassembly) according to the terms of 14.7.;

The service is periodic, subscription, with payment at the end of the Reporting period and with a reporting period of 1 month.

14.4.2. Commercial parameters

- a) Number of tracked objects;
- b) Territorial scope of the service;

In the event of a change in the price and non-price conditions of the operator providing the use of the mobile service in roaming, the terms of the contract with the Customer are subject to renegotiation.

c) Commitment to maintain a minimum number of users.

### **14.5.** Netfleet - Equipment sale

14.5.1. Detailed Service Description

Neterra sells to the Customer configured telematics equipment compatible with the Netfleet platform.

The Service can be:

a) One-time, prepaid;

b) recurring, subscription, fixed-term, prepaid and with a reporting period of 1 month if the equipment is leased.

The service is provided only in combination with the services NetFleet - Basic functionality (Netfleet Base), NetFleet - Basic functionality Plus (Netfleet Base +), and NetFleet - Extended functionality (Netfleet Extended).

#### 14.5.2. Commercial parameters



- a) Type of telematic equipment:
  - Tracking device;
  - Peripheral device;
  - CAN bus device;
- b) Number;
- c) Warranty;
- d) Tracking device model;
- e) Peripheral device model;
- f) CAN bus device model.

# **14.6.** Netfleet - Equipment rent

## 14.6.1. Detailed Service Description

Neterra provides the Customer with the opportunity to use configured telematics equipment for a fee - tracking devices, peripheral devices, CAN bus devices, compatible and working with the NetFleet platform.

The service is periodic, subscription based, with automatic renewal, payment before the reporting period (prepaid) and with a reporting period of 1 month.

The service is provided only in combination with the services NetFleet - Basic functionality (Netfleet Base), NetFleet - Basic functionality Plus (Netfleet Base +), and NetFleet - Extended functionality (Netfleet Extended).

### 14.6.2. Other conditions

The customer does not acquire ownership of the telematics equipment. The equipment and the condition of the equipment upon its handover to and from the Customer are certified by bilaterally signed handover protocols

Upon Contract termination, the customer must return the telematics equipment provided to Neterra in full equipment and working order, otherwise he must pay its full value

The customer is responsible for the correct use and storage of the telematics equipment

### 14.6.3. Commercial parameters

- a) Type of telematic equipment:
  - Tracking device;
  - Peripheral device;
  - CAN bus device;
- b) Number;
- c) Type of peripheral device;
- d) Type of CAN bus device;

# 14.7. Netfleet - Service of equipment

### 14.7.1. Definition:

Neterra provides the Customer with installation, disassembly, replacement, repair, technical service check of telematics equipment for the Customer's tracked objects.



The Service can be:

- a) One-time, prepaid;
- b) periodic, subscription based, prepaid and with a reporting period of 1 month.

The service is provided only in combination with the services NetFleet - Basic functionality (Netfleet Base), NetFleet - Basic functionality Plus (Netfleet Base +), NetFleet - Extended functionality (Netfleet Extended), NetFleet White Label.

### 14.7.2. Other conditions

The customer is obliged to provide Neterra or Neterra's partners with access to the tracked object at a pre-arranged place and time to carry out installation, dismantling and troubleshooting activities.

#### 14.7.3. Commercial parameters

- a) Type of service:
  - Installation;
  - Dismantling;
  - Repair;
  - Replacement;
  - Check of technical serviceability.
- b) Address of the tracked object;
- c) Date and time of service.

### 14.8. Netfleet - Client customization solution

#### 14.8.1. Detailed Service Description

Neterra provides the Client with services for the development of references, functionalities, hardware developments and equipment configuration in the web-based Netfleet platform according to a task previously prepared by the client.

The Service is one-time, prepaid

14.8.2. Commercial parameters

Lead time for implementation.

### 14.9. Netfleet – Test

The Test service that has a fixed period of 1 month and is related to 14.3.

### 14.10. NetFleet - Telematics equipment for test

The Test service that has a fixed period of 1 month and is related to 14.3.