



# **GÉANT 10Gbps Guaranteed Bandwidth Service Description**

**High Performance Cost-effective Connectivity**

# GÉANT Guaranteed Bandwidth Service

## Overview

GÉANT Guaranteed Bandwidth Service is offered on the GÉANT network to all GÉANT National Research and Education Networks (NRENs). The service allows NRENs to request point-to-point IP MPLS services between end points at GÉANTs European points-of-presence (PoPs). NRENs then provide onward connectivity within their regional network to the required destinations.

GÉANT Guaranteed Bandwidth Service is built on common infrastructure but appears to its private users to be dedicated to that user's needs. This combines the privacy and availability advantages of a dedicated optical circuit with the cost efficiency of a shared network. This service is well suited to projects with participants who wish to cooperate as if they were operating over the same local network.

Multi-national circuits are typically expensive, have long lead times for delivery and tie the user into lengthy service contracts. The GÉANT Guaranteed Bandwidth Service enables user access to point-to-point IP/MPLS services at 10Gbps across an existing, pre-provisioned network that is quick to configure.

**Flexible:** Point-to-Point (PoP-to-PoP) IP/MPLS capacity delivered at 10Gbps included in the GÉANT IP subscription.

**Extended footprint:** Available to all GÉANT NRENs

**Dependable:** Service supported by the GÉANT Backbone service.

**Reliable:** Resilience options offering up to 99.999% availability.

**Cost effective:** Only standard dedicated 10Gbps interfaces are required

# GÉANT Guaranteed Bandwidth Service - Service Description

## Technical Description of the Service

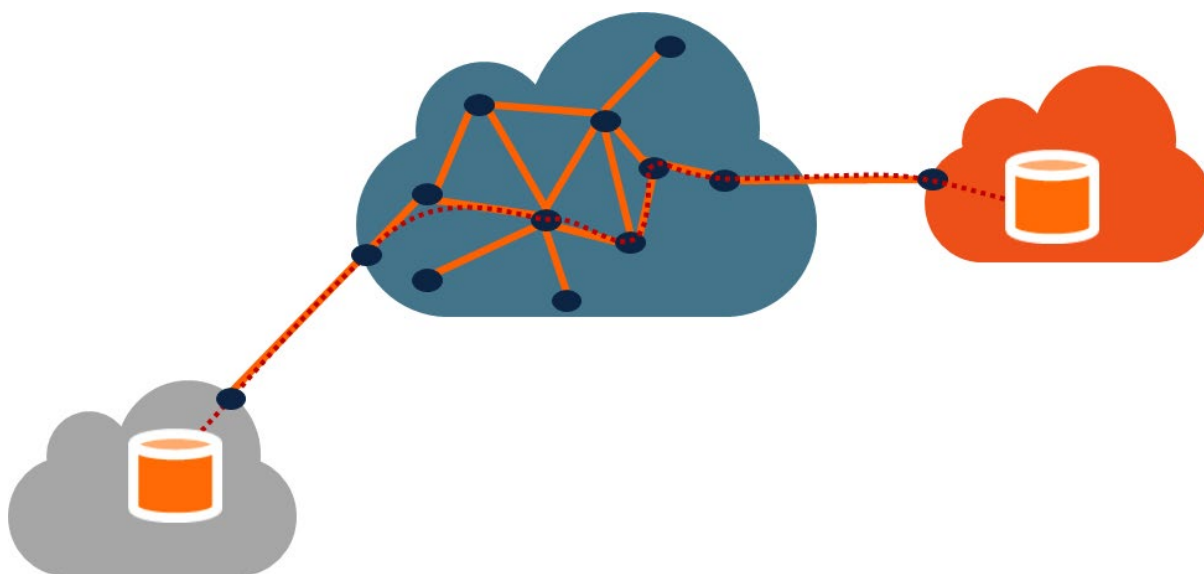
### Infrastructure

GÉANT Guaranteed Bandwidth Service offers point-to-point Layer 2 connectivity across the GÉANT IP/MPLS interfaces over dedicated interfaces. The GÉANT 10G Guaranteed Bandwidth Service (10G GBS) is delivered on the IP/MPLS backbone network, provisioned with RSVP-TE label-switched paths (LSPs).

Use of RSVP-TE allows for explicit routing of the circuit's path as well as resilience across the entire GÉANT footprint.

### Bandwidth Guarantee:

The highest-possible Class-of-Service (CoS) queue is reserved for exclusive use by this service. Traffic in this queue experiences the lowest possible jitter within our IP/MPLS packet network by virtue of always being serviced and transmitted first.



**Figure 1: Labelled-Switched Paths supporting the GÉANT Guaranteed Bandwidth Service**

### Circuit Paths:

10G GBS services all have a strict primary path with a loose secondary path. The primary path can be determined and agreed with GEANT Operations during the ordering process. Bandwidth is guaranteed, latency and jitter are deterministic.

The circuit will re-route to the secondary path if the primary path fails. This path is pre-signalled for fast failover. The secondary path follows IGP and will itself re-route upon further failures. The secondary path is only used during failure of the primary path – be it due to maintenance or incident – and the circuit will always revert to the primary path when it is restored; the secondary path is a 'best effort' feature of the service.

#### **Service Presentation:**

10 GE LAN-PHY Ethernet presentation is offered, on dedicated interfaces only; not available on AP interfaces.

#### **Demarcation Points:**

The management demarcation point between GÉANT and the NREN is a port on the Optical Distribution Frame (ODF).

The exact port will be specified at the time of the connection. The responsibility of GÉANT ends at the declared demarcation point. Patching beyond that point is the responsibility of the ordering NREN.

## **Service-Level Target**

#### **Availability Target**

GÉANT Guaranteed Bandwidth Service is delivered over the highly resilient IP network, and as such, offers extremely high availability:

The GÉANT Guaranteed Bandwidth Service is considered unavailable when the point-to-point virtual connection is not able to transit traffic because of an outage on the GÉANT backbone.

Please refer the GÉANT Service Level Target documentation on the GÉANT Partner Portal for more information.

# Request procedure, service implementation and delivery time

## Requesting a Guaranteed Bandwidth Service

In order for an NREN to subscribe to its GÉANT Guaranteed Bandwidth Service, the NREN should contact Partner Relations.

## Service Implementation and Delivery Time

Please refer the GÉANT Service Level Target documentation on the GÉANT Partner Portal for more information. Lead time will be determined by the availability of the dedicated router Interface.

## Pricing

GÉANT Guaranteed Bandwidth Service is available for all GÉANT NRENs wishing to use it

For more information, contact the GÉANT Partner Relations Team at:

[partner.relations@geant.org](mailto:partner.relations@geant.org).

Service	Price
GÉANT Guaranteed Bandwidth Service delivered on a new interface	Interface prices are available on the GÉANT Partner Portal

## GÉANT Guaranteed Bandwidth Service Summary

<b>Supported Nominal Data Rates</b>	<ul style="list-style-type: none"><li>• 10Gbps</li></ul>
<b>Protocols Supported</b>	<ul style="list-style-type: none"><li>• Ethernet</li></ul>
<b>Supported Client Interfaces</b>	<ul style="list-style-type: none"><li>• 10GE</li><li>• LR - 1310nm</li></ul>
<b>Optical Connectors</b>	<ul style="list-style-type: none"><li>• The host provider will determine the optical presentation at the MMR ODF, please connect your hosting provider.</li></ul>