

# Virtual Private Cloud Service Description

## Introduction

This Virtual Private Cloud Service Description (“**Service Description**”) describes in general the features of the NTT’s Virtual Private Cloud offering on the MCP 2.0 infrastructure (“**Virtual Private Cloud**”).

Virtual Private Cloud was previously referred to as “Public CaaS (MCP 2.0)” and/or “Public IaaS (MCP 2.0)”. Any reference to “Public CaaS (MCP 2.0)” and/or “Public IaaS (MCP 2.0)” in the Order or any other document comprising the Agreement will now be interpreted to read “Virtual Private Cloud”. Each party’s rights and obligations under the Agreement (including, more specifically, in relation to the Services) are not impacted or modified as a result of this name change.

## Pricing

Information on NTT’s Virtual Private Cloud pricing, including pricing for the features described in this Service Description, can be found at <https://hello.global.ntt/en-us/legal/cloud-rate-card>.

## Defined Terms

Capitalised terms used but not defined herein have the meanings set forth in the Virtual Private Cloud Terms of Service (“**Terms**”), available at <https://hello.global.ntt/-/media/ntt/global/legal/global/ntt-ltd-virtual-private-cloud-terms-of-service-v9>.

## Updates to this Service Description

NTT may amend this Service Description from time to time by posing an updated version at this URL or otherwise providing notice to Client.

## Supplemental Documents

This Service Description may provide links to documents and web pages that contain additional detail on matters described herein, such as technical specifications and documentation for specific Virtual Private Cloud features (each, a “**Supplemental Document**”). All Supplemental Documents are provided: (a) on an “AS IS” basis, (b) for reference purposes only, and (c) are subject to change from time to time by NTT (for example, when NTT modifies Virtual Private Cloud features). Nothing in any Supplemental Document creates or comprises, or is intended to create or comprise, a representation, warranty, covenant or obligation of NTT, and except as otherwise expressly provided herein, no Supplemental Document is deemed to be part of or incorporated by reference into this Service Description or the Terms.

## 1 Virtual Private Cloud Summary

1.1 Virtual Private Cloud comprises generally of servers and network elements coupled with virtualisation technology and Operating System (OS) software. Virtual Private Cloud seeks to provide Client with a segmented hosting environment with cloud server, storage and network elements that are logically isolated from those of other NTT clients, even though such elements may be running on the same physical infrastructure.

## 2 Virtual Private Cloud Details

### Elements & Features

2.1 Virtual Private Cloud comprises the following:

#### (a) Cloud Network Domains

Virtual Private Cloud provides Client with the ability to select and provision network domains (each a “**Cloud Network Domain**”), as well as Virtual Local Area Networks (each a “**VLAN**”) within the applicable Cloud Network Domain. Client can then use NTT’s CloudControl software to automatically deploy Cloud Services (described in more detail below) in Client’s VLANs.

Each Cloud Network Domain in turn can be an Essentials Network Domain, an Advanced Network Domain or an Enterprise Network Domain (each as described below).

Client may deploy multiple VLANs in each Cloud Network Domain. Each Cloud Network Domain is initially isolated from other Cloud Network Domains, but an Administrator or Sub-Administrator can configure a Cloud Network Domain to communicate with other Cloud Network Domains and the public Internet. Private IP traffic is also routable between Cloud Servers attached to VLANs in the same Cloud Network Domain.

Cloud Network Domains are deployed and managed either through the Service Portal or through corresponding functions of the Representational State Transfer (REST) application programming interface (API) provided by NTT (“**Cloud REST API**”).

Each VLAN is provided with its own range of publicly routable IPv6 and private IPv4 addresses. Client may choose to either utilize the private IPv4 addresses that are provided by NTT or provide its own private IPv4

addresses. A Cloud Server can be made accessible from the public Internet if the Administrator or Sub-Administrator specifically enables such access. All publicly routable IP addresses for Cloud Network Domains are provided by NTT. As between NTT and Client, all publicly routable IP addresses (both IPv6 and public IPv4) are solely the property of NTT.

Client may provision either an (i) Essentials Network Domain, (ii) Advanced Network Domain or (iii) Enterprise Network Domain when provisioning a Cloud Network Domain, and each Cloud Network Domain can be independently customised based on Client's specific needs. The terms "Essentials Network Domain", "Advanced Network Domain" and "Enterprise Network Domain" mean a network domain with the features and functionality indicated in columns A, B and C of Table 2.1(a) below, respectively.

<b>TABLE 2.1(a) Types of Network Domains</b>			
<u>Features and Functionality</u>	COLUMN A	COLUMN B	COLUMN C
	Essentials Network Domain	Advanced Network Domain	Enterprise Network Domain
<b>VLAN</b> , allowing Client to create one or more VLAN's in a Cloud Network Domain, define subnetting information and deploy Servers.	x	x	x
Client defined <b>Internet Protocol Version 4 (IPv4) addressing</b> for all Cloud Servers, with the ability for Cloud Servers to communicate across separate VLANs in the same Cloud Network Domain.	x	x	x
<b>Client-to-site (C2S) virtual private network (VPN) access</b> to manage Cloud Servers across Internet Protocol Version 6 (IPv6) on Client's VLANs.	x	x	x
Customizable <b>Access Control List (ACL) based firewall rules</b> administered at the Cloud Network Domain level with the ability to help control traffic associated with each included VLAN.	x	x	x
<b>IPv6 enabled</b> , whereby IP traffic (secured via firewall) is directly routable from the Public Internet to the Cloud Servers.	x	x	x
<b>Multi Network Interface Card (NIC) support</b> , allowing any Cloud Server to access up to 10 separate VLANs in the same Cloud Network Domain.	x	x	x
<b>Layer 2 Multicast supported</b> , enabling one-to-many communication inside a VLAN.	x	x	x
<b>Virtual Listener Functionality</b> , also known as Virtual IP or Virtual Server helping support port translation and load balancing across multiple Cloud Servers, with the ability to take Cloud Servers in and out of service based on Client-defined monitoring probes.		x	x
<b>Secure Sockets Layer (SSL) offload</b> , allowing Client to upload and administer SSL certificates.		x	x
<b>Anti-affinity capabilities</b> , allowing Client to set rules that ensure designated pairs of Cloud Servers are not provisioned on the same physical host.		x	x
<b>Detached VLAN</b> , allowing Client to "detach" (disconnect) and "re-attach" (re-connect) a VLAN from a Cloud Network Domain.			x
Client ability to add and delete <b>static routes</b> on a Cloud Network Domain.			x
<b>Source Network Address Translation (SNAT) exclusions</b> , allowing a Client to control which subnets are excluded from SNAT addressing.			x

(b) Cloud Servers

Virtual Private Cloud enables Client to deploy Cloud Servers. Cloud Servers are virtualised servers, whose CPU, RAM and disk configurations can be customised by the Client. Each Cloud Server is required to be provisioned with an Operating System (OS).

NTT may provide Clients with OS images for its Cloud Server deployments and corresponding OS licenses within the Virtual Private Cloud infrastructure. Alternately, Client may (where permitted by OS vendor) choose to provide its own OS Image and licenses, which can be uploaded into Virtual Private Cloud and operated in accordance with the licensing terms and conditions of the OS vendor. The complete list of operating systems currently supported by Cloud Servers on Virtual Private Cloud is available at <https://docs.mcp-services.net/x/Vwlu>. Client is responsible and liable for all Client-provided software, including Client Applications, that are loaded, installed and/or operated by or on behalf of Client on Cloud Servers and NTT's inclusion of an OS on the list of supported software will not be interpretation as a representation or warranty (or otherwise create any obligation or liability on NTT) in relation to Client's license compliance.

Virtual Private Cloud seeks to provide Client with technical control over the configuration of Client's Cloud Servers. Client can control the number of virtual central processing units (vCPUs), the amount of random access memory (RAM), and the amount of local storage allocated to each Cloud Server. As with Cloud Network Domains, Cloud Servers are deployed and managed either through the Service Portal or through corresponding functions of the Cloud REST API.

Additional Cloud Server features available from NTT include:

- (i) Cloud Server management capabilities which permit a Sub-Administrator to perform operations including start, shutdown, reboot, power off, restart, delete, and modification of local storage and vCPU/RAM.
- (ii) Different classes of vCPU and tiers of storage, allowing Client to address specific performance needs when configuring Cloud Servers.
- (iii) Role-based administration control, through which Sub-Administrators can manage access to Cloud Servers, VLANs, images, tagging, VPN, backups and reports.
- (iv) The ability to duplicate (or clone) Cloud Servers to create images that can be used to deploy copies of Cloud Server configurations.
- (v) Capability to import or export Cloud Server images.
- (vi) Cloud Server accessibility via client-to-site VPN for all Cloud Servers.
- (vii) Cloud Server snapshot capabilities allow Client to save a copy of a Cloud Server configuration and associated storage as it exists at a point in time ("**Cloud Server Snapshots**"). Further detail regarding the specifications and capabilities of Cloud Server Snapshots is available at <https://docs.mcp-services.net/x/DoBk>. Where available, certain Locations support the ability to create secondary copies of the Snapshots of a Cloud Server in another Location in the same Geography.
- (viii) Disaster Recovery Services (DRS) for Cloud (as described further in the specification referenced below), enabling near real-time replication of Cloud Services and their associated local disk content between two Locations in the same Geography. Cloud Servers in the same consistency group can then be recovered with their disks set as at a specific time, in the Location to which the disks are replicated. This feature is merely intended to support Client's disaster recovery capabilities and is not a managed disaster recovery service. No Service Levels are provided for this feature. Further detail regarding the specifications and capabilities of DRS for Cloud is available at <https://docs.mcp-services.net/x/qgE8>.
- (ix) Security Groups, allowing Cloud Servers and Cloud Server Network Interface Cards (NICs) to be grouped together so that they are unable to communicate with Cloud Services or Cloud Server NICs in other grounds in the same VLAN. Further detail regarding the Security Groups feature is available at <https://docs.mcp-services.net/x/NgMu>.

(c) Representational State Transfer (REST) Application Programming Interface (API)

Virtual Private Cloud provides Client with REST APIs, which are intended to allow Client to control most aspects of Client's Cloud Servers and Cloud Network Domains. The Cloud REST API is described in further detail in NTT's Cloud REST API specification, available at <https://docs.mcp-services.net/x/OQEK>.

(d) Sub-Administrators

The Administrator may designate multiple Sub-Administrators. There is no limit on how many Sub-Administrator accounts Client can create, but only 100 Sub-Administrators can log in concurrently.

(e) Reporting

Virtual Private Cloud provides metering, usage tracking and reporting for Client on a per-department basis. Client can view its reports and retrieve its reporting data through the Service Portal.

(f) Security

Virtual Private Cloud is designed to grant Client the flexibility to configure an environment to its needs, and several elements described elsewhere in this Service Description (e.g. the initial isolation of Client's Cloud Network Domains) are intended to support security. However, Client remains responsible for overall security, including Client's network configurations for the underlying VLANs and Cloud Servers.

(g) Optional Services

Client may elect to separately purchase any available Optional Services as part of Virtual Private Cloud. The available Optional Services, and certain additional terms and conditions governing any such Optional Services, are described in further detail in the Service Descriptions for Optional Services (“SDOS”), available at [URL] (hereby incorporated herein by this reference), as updated by NTT from time to time.

**Geographies and Locations**

2.2 Virtual Private Cloud is available in the Geographies and Locations listed in the table below. Client's initial Geography is indicated in the applicable Order for Virtual Private Cloud and Client may use any Location that is available in such Geography when Client logs into the Service Portal. Thereafter, Client may elect to enable additional Geographies and use additional Locations as described in (and subject to) Sections 3.10 and 3.11 of the Terms.

Geography	Location
North America	Ashburn, VA, United States (NA9) Santa Clara, CA, United States (NA12)
Europe	Frankfurt, Germany (EU6) Amsterdam, The Netherlands (EU7) London, United Kingdom (EU8)
Australia	Sydney, Australia (AU9) Melbourne, Australia (AU10) Hamilton, New Zealand (AU11)
Asia Pacific	Singapore (AP3) Hong Kong (AP5)
Middle East and Africa	Johannesburg, South Africa (AF3)
Canada	Toronto (CA2)

**Service Levels for Virtual Private Cloud**

2.3 The Service Levels and Service Level Credits applicable to Virtual Private Cloud are described in the Service Level Terms, available at <https://hello.global.ntt/-/media/ntt/global/legal/global/ntt-ltd-virtual-private-cloud-service-level-terms-v5> (hereby incorporated herein by this reference), as updated by NTT from time to time.

**3 Operational Maintenance**

3.1 NTT Com CIS performs scheduled maintenance on the Services, including maintenance related to the Software, MCP and other equipment and materials used for providing the Services. This will affect the underlying infrastructure of the Virtual Private Cloud service (such as network, storage, virtualisation). Additional information about maintenance is located at <https://docs.mcp-services.net/x/AQMu> (Software) and <https://docs.mcp-services.net/x/9wlu> (Operational).