How Nuabee uses the OTC Cloud

DRP solution architecture · https://nuabee.com/documents/how-nuabee-uses-otc-cloud/

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Nuabee uses the OTC public Cloud to provide its DRP and Backup services (with or without restart tests).

The main uses of OTC IaaS by Nuabee are described below.

Storage management

S3 object storage

All Nuabee backups are stored in S3 object storage. Object storage is increasingly replacing traditional block storage, as it can handle very large volumes of unstructured data and is the most widely used data storage method in public clouds.

In the context of Nuabee solutions, all backups are encrypted at source and remain encrypted in the customer's bucket.

S3 object storage (OBS) on the OTC Cloud has the following 3 storage classes:

- **Hot** storage,
- **Warm** storage
- **Cold** storage.

Nuabee's use of object storage classes is **available here**

Block storage

Nuabee uses block storage (EVS) to restore VM disks for disaster recovery and restart tests.

Open Telekom Cloud offers several classes of block storage, which are used by Nuabee as required:

	Common I/O (SATA)	High I/O (SAS)	General-purpose SSD (SSD)	Ultra-high I/O (SSD)	Extreme SSD (SSD)
Max. IOPS per disk	1 000	3 000	20 000	20 000	100,000 (ECS)
Disk IOPS	100 + 1 x Capacity (GB)	100 + 2 x Capacity (GB)	1,800 + 12 x Capacity (GB)	100 + 50 x Capacity (GB)	1,800 + 50 x Capacity (GB)
Max. throughput per drive	90 MB/s	150 Mb/s	250 Mb/s	350 Mb/s	1 GB/s
Disk speed	90 MB/s	100 + 0.15 x Capacity (GB)	100 + 0.5 x Capacity (GB)	120 + 0.5 x Capacity (GB)	120 + 0.5 x Capacity (GB)
Latency	10 to 15 ms	6 to 10 ms	1 ms	1 to 3 ms	< 1 ms
Capacity per disk	10 GB - 32 TB	10 GB - 32 TB	10 GB - 32 TB	10 GB - 32 TB	10 GB - 32 TB
Durability	Up to 99.9999999% (9x9)	Up to 99.9999999% (9x9)	Up to 99.9999999% (9x9)	Up to 99.9999999% (9x9)	Up to 99.9999999% (9x9)
Availability	99,95%	99,95%	99,95%	99,95%	99,95%
Nuabee use cases	Not in use	Disks for frequently used workloads	Disks used by default	High-performance disks for mission-critical applications such as databases and low-latency applications	Ultra-fast disks for workloads requiring maximum performance, such as databases

The Compute service

Nuabee uses the OTC Cloud VM provisioning service (called Elastic Cloud Servers: ECS) for several purposes:

- During a disaster recovery plan (test or real), Nuabee launches workshop machines which will be responsible for restoring backups managed in object storage to block storage, enabling VMs to be restarted.
- Of course, when restarting customer VMs

In OTC, there are a number of machine "sizes" (called instances) known as templates:

- General Purpose: 1:4 ratio between vCPU and RAM, with a range from 1 vCPU up to 32 vCPUs
- Memory Optimized: ratio of 1:8 between vCPU and RAM with a range of 1 vCPU up to 16 vCPUs
- CPU-optimized: ratio of 1:2 between vCPU and RAM, with a range from 2 vCPU up to 32 vCPU
- There are many more templates: for the GPU, IO-oriented, ...

A list of the different templates on Cloud OTC is **available here**.

Network management

The VPC network service

The VPC (Virtual Private Cloud) is an **isolated** network environment defined by a global CIDR.

- It contains one or more subnets defined by CIDRs and DHCP options.
- It provides network support for instances

The VPC manages VPNaaS, public IPs and security groups.

A VPC can be "paired" with other local (in the same domain) or remote VPCs.

VPNaaS

[VPNaaS.png]

VPN as a Service enables us to connect your Cloud domain (in fact, your VPC) to your physical site or private networks over IPsec.

When our NCA reconnects, we establish an IPsec tunnel with your VPC.