



INNOVATION FOR FREEDOM

DestinE

Science and Technology Needs

Agenda

01 COMPANY

02 APPROACH

03 PORTFOLIO AND ROADMAP

04 DestinE: OVHcloud Contribution

05 Science and Technology Needs



01

Company

OVHcloud



We are the European technology leader to bring your ambitions to life

2,800+

Employees
worldwide

≈ 800 M€

Turnover

450 k

Servers in 2022
+ 38 datacenters

Positioned in the Major Players category
for **Worldwide Public Cloud Infrastructure as a Service**



2022
MarketScape

Positioned as a **Hosted Private Cloud Leader in Europe**



Hosted Private Cloud Europe Wave
2020



A global presence to support you wherever you are



Legend:

- Active datacenters
- Planned datacenters for 2023/2024
- OVHcloud optical fiber network
- Point of presence

Notes:

1. A Point of Presence is a point at which the network establishes a connection with the Internet.
2. Tera bits per second

Source: OVHcloud



38 datacenters
in 17 locations,
across **9** countries



4 continents connected
through OVHcloud



48 points of presence¹
on a 87 Tbps²
Bandwidth Network



02

Approach

Make a difference by choosing a unique company



A pioneer in Sustainable Cloud

A vertically integrated model leading the way in Sustainable Cloud



The Trusted Cloud & Data sovereignty champion

Trusted cloud pure player committed to open standards addressing data sovereignty



Best price performance ratio

Transparent, simple and predictable pricing structure



Active Ecosystem

An extensive ecosystem of SaaS & PaaS solutions hosted on OVHcloud

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03

Portfolio and Roadmap



What we do

OVHcloud is a global cloud provider that specializes in delivering industry leading performance and cost-effective solutions to better manage, secure and scale data



PRIVATE CLOUD



PUBLIC CLOUD



BARE METAL



WEB CLOUD



PAAS



OVHcloud's portfolio of 80+ services by 2022

Available	Upcoming 2023	2024+
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SaaS | Web hosting | WebsiteaaS | Domain names | Collaboration | File sharing | VoiceaaS & SMSaaS | MailaaS | Unified collaboration

Domain-specific solutions

AI / ML AI Notebooks AI Deploy speech, text, image AI Training	Big Data / Analytics Big Data Cluster Data processing	Others Quantum computing
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Management

Management interfaces OVHcloud common control panel Other API e.g. Openstack, VMware	UI e.g. Horizon, VMware OVHcloud API	Automation Terraform Ansible
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Resilience

DC & network Multi-DC Availability zones	Advanced solutions Zerto DRP
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Compute

Containers & orchestration Managed Kubernetes Open-stack orchestration Multi-cloud Orchestration	Virtual Machines Private Image Catalog Public Image catalog Managed Private registry AI / ML analytics (GPU) High-performance storage (IOPS) VPS Data-intensive High-performance compute (CPU) Discovery offer (Sandbox)
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Platforms

NUTANIX Hyper Converged Infra.	platform.sh Web PaaS	Tanzu VMware Tanzu
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Database

SQL MariaDB PostgreSQL MySQL	No-SQL MongoDB Redis Cassandra	Search Engine OpenSearch Clickhouse1	Visualization Grafana ¹	Stream processing framework Kafka ¹ Flink1	Time Series DB M3 ¹
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Hosted Private Cloud vmware SDDC NUTANIX Hyper Converged Infra.	Bare Metal Cloud <table border="1"> <tr> <th colspan="2">Main offer</th> <th rowspan="2">Wholesale</th> </tr> <tr> <td>HG-STOR</td> <td>HG-AI</td> </tr> <tr> <td>HG-HCI</td> <td>HG-SDS</td> <td>Eco</td> </tr> <tr> <td>SCALE</td> <td>ADV</td> <td>Eco range</td> </tr> <tr> <td>GAME</td> <td>RISE</td> <td> So you Start</td> </tr> <tr> <td colspan="2"></td> <td> Kimsufi</td> </tr> </table>	Main offer		Wholesale	HG-STOR	HG-AI	HG-HCI	HG-SDS	Eco	SCALE	ADV	Eco range	GAME	RISE	So you Start			Kimsufi
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		Kimsufi																

Storage & back-up

Archive AEMPO Tape (Swift) Cloud Archive	Block OVHcloud EXTEN ¹ High Perf. (NVMe-oF) Standard (Ceph, ISCSI)	Hybrid High Perf. Object & Block Storage (NVMe-oF) Cold/warm Storage
Object OVHcloud High Perf. (S3) OVHcloud Standard (S3) Standard (Swift, S3)	File NAS-HA NetApp Enterprise File Storage Standard (CephFS)	Back-ups Veeam Local & remote back-ups Native remote back-ups

Networking & content delivery

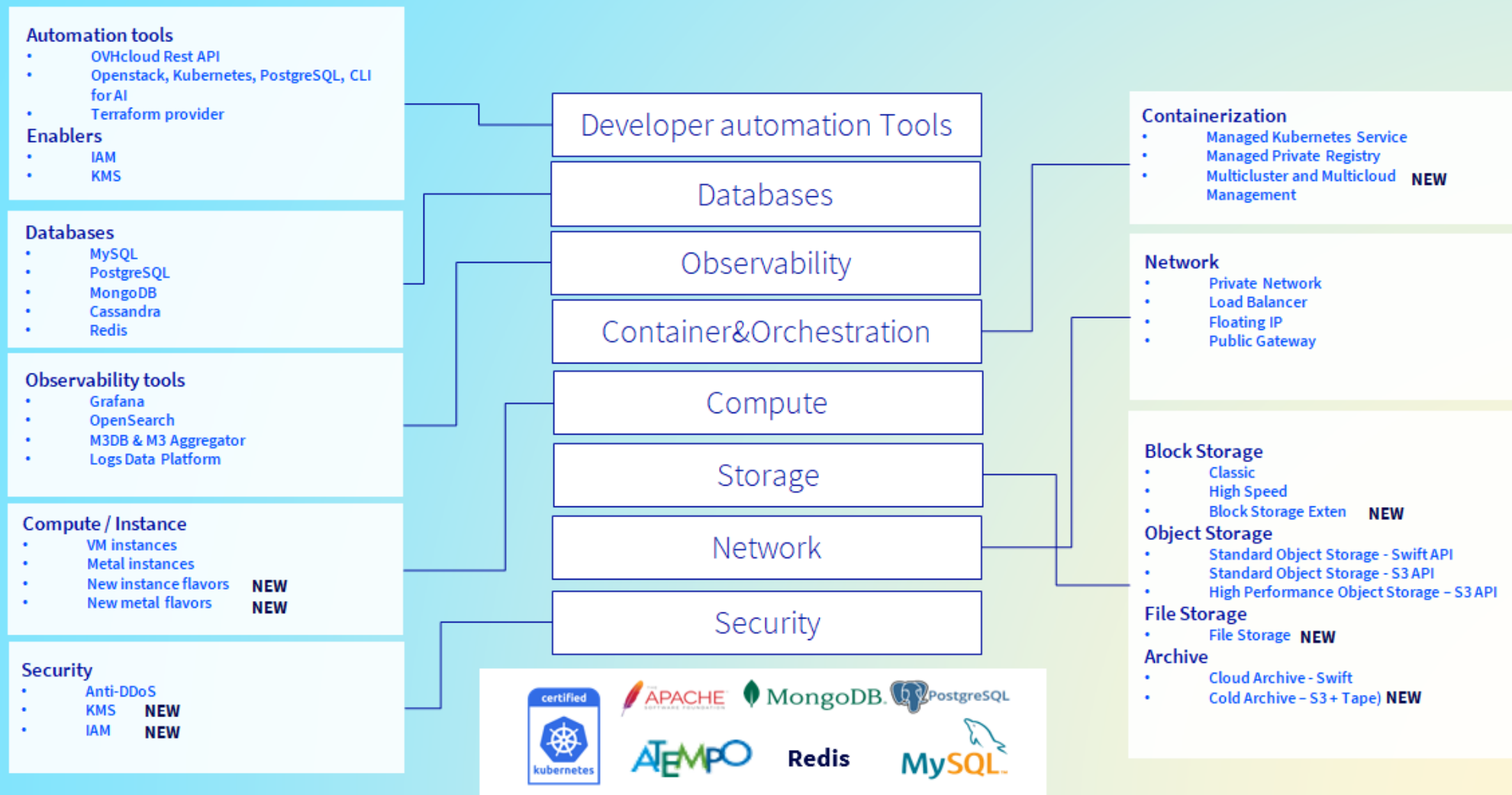
Network Security Edge network firewall Anti-DDoS infra. Game DDoS protection SSL certificates as a service SSL gateway VPN Gateway CDN security TLS DNSSEC	Network Load balancer Private network (vRack) Private network (vRack) Endpoint Floating IPs OVHcloud connect CDN infrastructure Bring your own IP Secured Private Network (SNP)
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Security, Identity & Compliance

IAM User mgmt. Federation (AD) MFA	Encryption KMS HSM
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Public Cloud Portfolio Roadmap





04

DestinE OVHcloud Contribution



OVHcloud's portfolio offered on DESP

Included on DESP

Available

Upcoming 2023

2024+

SaaS

Web hosting

WebsiteaaS

Domain names

Collaboration

File sharing

VoiceaaS & SMSaaS

MailaaS

Unified collaboration

Domain-specific solutions

AI / ML

AI Notebooks

AI Deploy
speech, text, image

AI Training

Big Data / Analytics



Big Data Cluster



Data processing

Others

Quantum computing

Management

Management interfaces

OVHcloud common control panel
Other API
e.g. Openstack, VMware

UI
e.g. Horizon, VMware
OVHcloud API

Automation



Terraform



Ansible

Resilience

DC & network

Multi-DC

Availability zones

Advanced solutions

Zerto DRP

Compute

Containers & orchestration



Managed Kubernetes

Private Image Catalog



Open-stack orchestration

Public Image catalog



Multi-cloud Orchestration

Managed Private registry

Virtual Machines

AI / ML analytics (GPU)

Data-intensive

High-performance storage (IOPS)

High-performance compute (CPU)

VPS

Discovery offer (Sandbox)

Hosted Private Cloud

vmware SDDC

NUTANIX Hyper Converged Infra.

Bare Metal Cloud

Main offer

HG-STOR

HG-AI

HG-HC

HG-SDS

SCALE

ADV

GAME

RISE

Wholesale

Eco

Eco range

So you Start

Kimufi

Platforms

NUTANIX Hyper Converged Infra.

platform.sh Web PaaS

Tanzu VMware Tanzu

Database

SQL

MariaDB

PostgreSQL

MySQL

No-SQL

MongoDB

Redis

Cassandra

Search Engine

OpenSearch

Clickhouse1

Visualization

Grafana¹

Time Series DB

M3¹

Stream processing framework

Kafka¹

Flink¹

Storage & back-up

Archive

TEMPO Tape (Swift)

Cloud Archive

Block

OVHcloud EXTEN High Perf. (NVMe-oF)

Standard (Ceph, iSCSI)

Hybrid

High Perf. Object & Block Storage (NVMe-oF)

Cold/warm Storage

Object

OVHcloud High Perf. (S3)

OVHcloud standard (S3)

Standard (Swift, S3)

File

OpenZFS NAS-HA

NetApp Enterprise File Storage

Standard (CephFS)

Back-ups

VEEAM Veeam

Local & remote back-ups

Native remote back-ups

Networking & content delivery

Network Security

Edge network firewall

Anti-DDoS infra.

Game DDoS protection

SSL certificates as a service

SSL gateway

VPN Gateway

CDN security

TLS

DNSSEC

Network

Load balancer

Private network (vRack)

Private network (vRack) Endpoint

Floating IPs

OVHcloud connect

CDN infrastructure

Bring your own IP

Secured Private Network (SNP)

Security, Identity & Compliance

IAM

User mgmt.

Federation (AD)

MFA

Encryption

KMS

HSM



05

DestinE Science and Technology Needs



IAM: Identity and Access Management

To enable the cloud-to-edge federations in DestinE platforms.

A cardinal requirements of DestinE: “*Unified access to Space data*”.

Technical Needs for future DestinE development

DestinE federates data, cloud and HPC infrastructures and integrates access to Digital Twins as they become gradually available. Future DestinE developments shall fulfil the need to provide a common system approach to a unified orchestration of Earth-system simulations and the fusion of observations with models. From HPC to multi-cloud environments.

Unified user management service shall grant services access through a common identity management to the DestinE Users. As an example, the provision of a DestinE account shall grant access to all authorised DestinE Registered Services based on the same digital identity. Or users of Copernicus Data Access (ESA or EUMETSAT) shall be authorised to access to the DestinE Registered Services, and vice versa.

IAM development to fulfil the “federation” requirements, has implications related to the personal data management, security aspects, fraud management, quotas and so on ...

Another key element, which depends on the IAM development, is the need to implement interoperability with external ecosystems, like for example the OVHcloud one, to provide a suitable user experience and benefit of common shared services.

Synergies and Priorities

Simpl initiative is one of the main European initiative to have synergies with. EC launched a very strategic European initiative called Simpl: streamlining cloud-to-edge federations for major EU data spaces. Simpl is the smart middleware that will enable cloud-to-edge federations and support all major data initiatives funded by the European Commission. DestinE is a use case of Simpl: to ensure that data sets and their infrastructures can be seamlessly interconnected and made interoperable.

Data sovereignty is a priority. Simpl indeed will be secure and interoperable, where trust, confidence and compliance with regulations are built into the system. This implies an effortless sharing of resources between participants, regardless of their data processing environment. It creates an abstraction layer that enables data to flow across multiple providers and Member States.

Emerging Technical Developments

Following our development roadmaps, there are several areas of inspiration for DestinE:

- ✓ AI & ML improvements
- ✓ optimised platforms for big data analytics
- ✓ Development for automation tools where enablers are AIM and KMS , including security aspects.
- ✓ Multi-cluster and multi-cloud solutions for Container & Orchestration.
- ✓ Dedicated Storage solutions for Space data spaces.