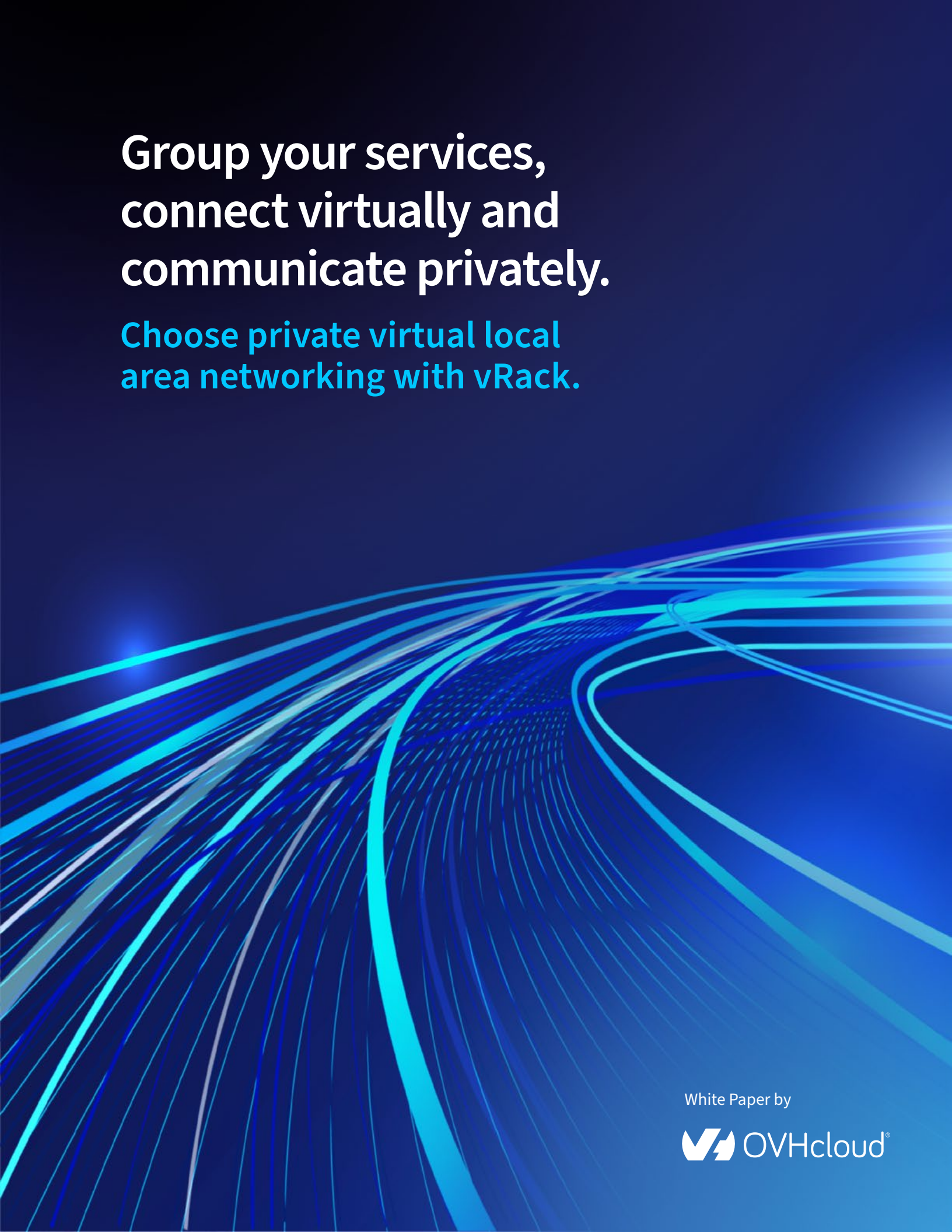
Group your services, connect virtually and communicate privately.

Choose private virtual local area networking with vRack.



White Paper by

OVHcloud®

OVHcloud's vRack offers privatized network simplicity, security and more.

Utilizing a private network is essential in today's fast-changing business world. Whether you're an e-commerce company, a hospital, a software company or a manufacturer, the need to not expose business secrets, personal information, legal information or your company to hackers is absolutely critical. Privatizing your network will allow you to protect your company from nefarious actors, and utilizing prebuilt solutions will allow you to do so without complex networking.

You'll be headed in the right direction to meet stringent data compliance demands and on your way to data sovereignty.

Additionally, if you utilize the right private networking solution on the right network, you'll see many other business-critical advantages aside from proper security. You'll be able to transfer your data faster and more reliably, ensuring your website and applications are up to date from your database servers. You'll be headed in the right direction to meet stringent data compliance demands and on your way to data sovereignty. And, in a disaster recovery event, your application servers will still be able to run on the same IP and Mac addresses when using vRack and vMotion on a private cloud, preventing you from having to rebuy expensive software.

Business challenges that lead to the need for networking.

Data compliance and data sovereignty complications, expensive software licensing, slow data transfer speeds and poor company security can have a serious impact on your business. Here's a look at some of these problems — and then how vRack can solve them.

Data Compliance/Data Sovereignty

Data privacy and data security laws are continually becoming more stringent and complex. In the past few years alone, there have been major changes to how European customer data can be stored with GDPR and, even more recently, with CCPA for California residents. It's not just new regulations that are catching businesses off guard. HIPAA has been around since 1996, and as recently as 2018, Anthem had to pay $16 million for exposing the health information of 79 million people.

Software Licensing

In many leading industries such as healthcare, retail and e-commerce, software, financial services and more, on-prem software solutions account for over 20% of the total IT budget. This is a huge amount of money for small- to medium-sized businesses of around $75,000 to $750,000 a year. In a disaster recovery event, if the server's IP or Mac addresses are lost, access to the server and the software tied to it is also lost.

Data Transfer Speed

Having fast data transfer speeds is essential for any business service provider. Large database servers, application servers and email servers all transmit swaths of data around the clock, and any unnecessary latency can cause delays. Having these delays will cause a rippling effect on a business — starting with the company, then its customers, then the customers' customers and so on.

Company Security

According to the FBI, as of February 2020, there were over 400,000 complaints of internet crime with over $3.5 billion in losses. Having internal systems accessible externally isn't only a poor practice from a data compliance viewpoint, it's also detrimental from a company security perspective. Internal security is a major challenge too. Hackers and bad actors often use social engineering, email phishing and other nefarious acts to gain access to a company's systems and hold them hostage for ransom. Unfortunately, no matter how good the external security measures are, an employee may unintentionally provide bad actors with access.

Privatizing your network will allow you to protect your company from nefarious actors, and utilizing prebuilt solutions will allow you to do so without complex networking.

How vRack solves those challenges and more.

vRack allows multiple servers to be grouped together — regardless of the number and physical location in a data center — and connects them to a virtual switch within the same private network. Your servers can communicate privately and securely between each other within a dedicated VLAN. Building your private network with vRack enables you to isolate critical servers within your private VLAN. Your data is secure and communication between your servers isn't routed via the public network. You can choose to make your servers solely accessible via your private network and/or via the public network. The vRack solution means you no longer need to worry about renting racks in a data center. You can get all the servers and switches you need delivered and installed with guaranteed hardware maintenance.

Data Compliance/Data Sovereignty

A first step to being compliant and maintaining data sovereignty is to make sure the server being utilized cannot be accessed by other businesses or entities. An easy way to accomplish this is by using private network connections. You can access your protected data through your private vRack connection without having it publicly accessible to the internet.

Software

After most software is licensed, it's tied to specific IP and Mac addresses. Utilizing vRack and vMotion on vSphere (HPC), you're able to move the server and retain the same IP and Mac addresses, which eliminates the need to repurchase your expensive software licensing. Should you need to recover your server for any disaster recovery reason, this allows your production environments to stay afloat utilizing the software they need to operate.

Data Transfer Speed

By utilizing a private connection with vRack, you're able to substantially increase your bandwidth speed, reduce jitter and ensure low traffic/no collisions with superior routing. This will ensure that any of your large databases will transfer data quickly to your web servers, providing a smooth experience for your users.

Company Security

External Security. vRack technology will privatize your connection to keep your servers out of reach from nefarious actors. By keeping your services within an intranet, unethical hackers can't gain access to the servers directly. This helps with lowering the points of entry that can be attacked and is essential for any company that takes security seriously.

Internal Security. By utilizing vRack, you can create separate VLAN pools using VLAN IDs, where only employees with privileges can access a specific server or information. This ensures employee privacy (HR data) and compliance (HIPAA/HR data/financial data), enables company security policies (employees having only specific access privileges), and protects against human error (employees changing data they shouldn't). It also allows you to create separate groups that can access pools — an HR group with access to the HR server data, a finance group with access to the finance server data, etc. It's then very easy to add users to the VLAN pools or terminate access.

OVHcloud private networking adds to the benefits.

If your private network is physically managed by OVHcloud, no software applications or network configurations are required on your servers. You'll be able to create your private network with vRack in just a few clicks and minutes.

Inter-Data Center Connections

With fiberoptic interconnections deployed and managed using DWDM devices, the OVHcloud vRack Network Configuration offers a total capacity of 3 Tbps. The links between each data center are doubled so that they can easily change route if necessary and benefit from 100 Gbps coherent.

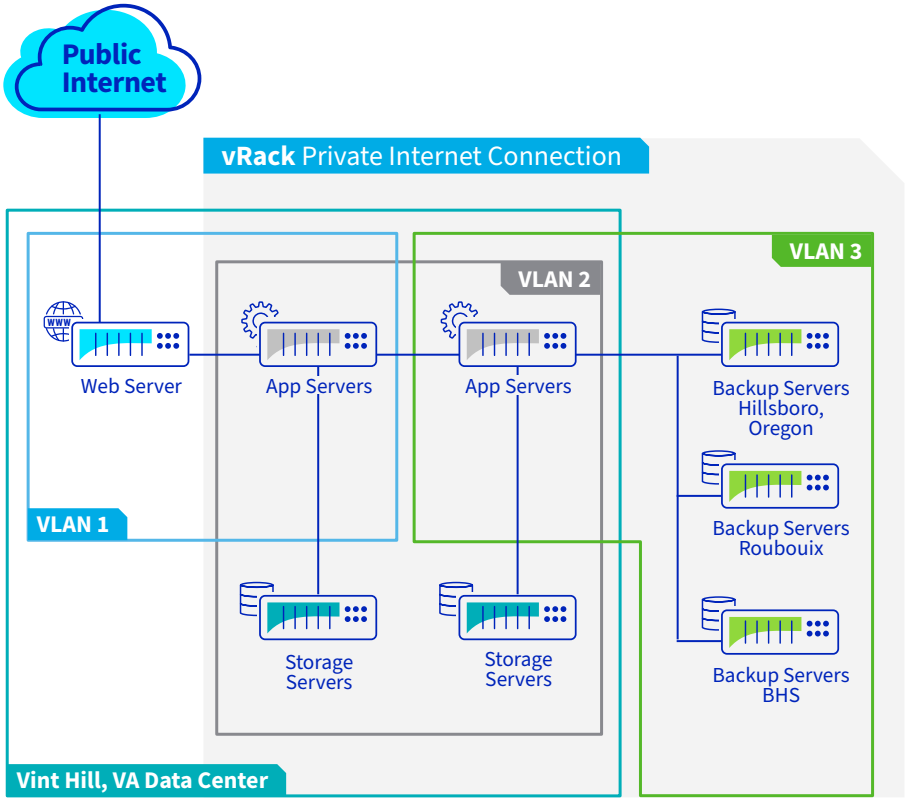
Layer 2 Network Configuration

Another way that OVHcloud leverages automation is through network configuration. With vRack, your OVHcloud services can be connected, isolated or spread across one or multiple secure private networks. You can build complex private infrastructures on a global multi-data center scale with all the services and switches you need and guaranteed delivery, installation and hardware maintenance. You can use vRack on our dedicated, public and hosted private cloud servers to solve common data hosting problems. And because your servers communicate securely within your private VLAN, you can make the servers accessible through your private or public network.

The vRack Network Configuration

The diagram illustrates the advanced security encapsulation techniques usable with our vRack offering.

- Our web server is connected to the public internet and an app server privately through vRack and **VLAN 1**.
- **VLAN 2** privately connects to our app and storage servers with no direct connection to the public internet or our web server.
- **VLAN 3** privately connects an app server to our disaster recovery (DR) backup servers. This securely isolates our DR solutions (VLAN 3) from our production environment (VLANs 1 and 2).
- The production environment app and storage servers (VLAN 2) are isolated from our web server.
- The connection from our web server to our app server is isolated from the public internet (VLAN 1).



Why choose vRack for your private networking solution?

Complexity of a Manual Setup

First, let's look into the complexity of creating a layer 2 stretch manually with no solution. For starters, you will need to have access to the switches your server is using to configure a VLAN. You will need to add and define the VLAN, configure the trunk port, configure access ports, and configure the port VLAN ID. After, depending on if it's a standalone VLAN or VTP VLAN, you will have more configurations. This will need to be done for every server's switch that is in the VLAN, and having servers in different data centers adds to the complexity.

Simplicity of vRack

OVHcloud's vRack does all of this complex networking for you in a matter of minutes and it's included with your dedicated public cloud or private cloud server. You simply need to activate vRack and add your eligible services to it. Once this is complete, add the VLAN IDs you wish to work with in the operating systems of your servers. It's that easy.

With vRack, you are able to connect gigantic private cloud environments to bare metal servers for backups or databases, connect small public cloud app environments to a bare metal database server or any combination of setups with these services you can think of. In OVHcloud's network, you can utilize the lightning speed of our private network with vRack to connect your services in all of our data centers (except Singapore and Australia) to create your global cloud infrastructure.

Other Solutions

Other solutions can be extremely expensive (up to $1,900 a CPU), lock you into having to have the same hypervisor or operating system on all your servers, or simply not have the same great functionality you can depend on with vRack.

OVHcloud US is a subsidiary of OVHcloud, a global player and Europe's leading cloud provider operating more than 400,000 servers within 43 data centers across four continents. For over 20 years, the company has relied on an integrated model that provides complete control of its value chain, from the design of its servers to the construction and management of its data centers, including the orchestration of its fiber-optic network. This unique approach allows it to independently cover all the uses of its 1.6 million customers in more than 140 countries. OVHcloud now offers latest generation solutions combining performance, price predictability, and total sovereignty over their data to support their growth in complete freedom.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