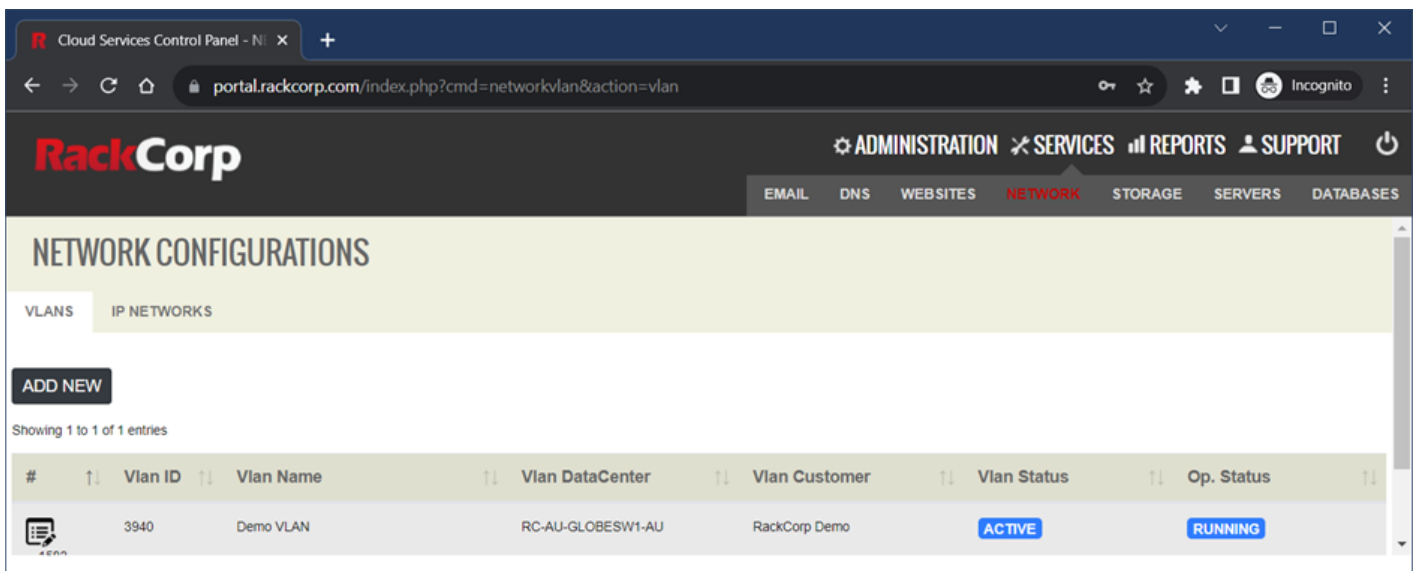


# Virtual Networking - VLANs in the Cloud

RackCorp's Cloud platform supports fully customisable interworking for your virtual machines; with regards to customisable VLANs both tagged and untagged, and definable IPv4 and IPv6 subnets.

Since the RackCorp cloud platform supports a 'many customers can have many sub customers hierarchy, as a reseller or system manager can define custom networks for each customers private clouds very easily.

Once your VLANs and IP subnets are setup, these can be tied into your VMs via up to 3 virtual NICs. No end user software environment configuration is necessary.



The screenshot shows the RackCorp Cloud Services Control Panel interface. The top navigation bar includes 'ADMINISTRATION', 'SERVICES', 'REPORTS', and 'SUPPORT'. Below this, a secondary menu has 'EMAIL', 'DNS', 'WEBSITES', 'NETWORK' (highlighted), 'STORAGE', 'SERVERS', and 'DATABASES'. The main content area is titled 'NETWORK CONFIGURATIONS' and has two tabs: 'VLANs' and 'IP NETWORKS'. An 'ADD NEW' button is visible. Below the button, it says 'Showing 1 to 1 of 1 entries'. A table displays the following data:

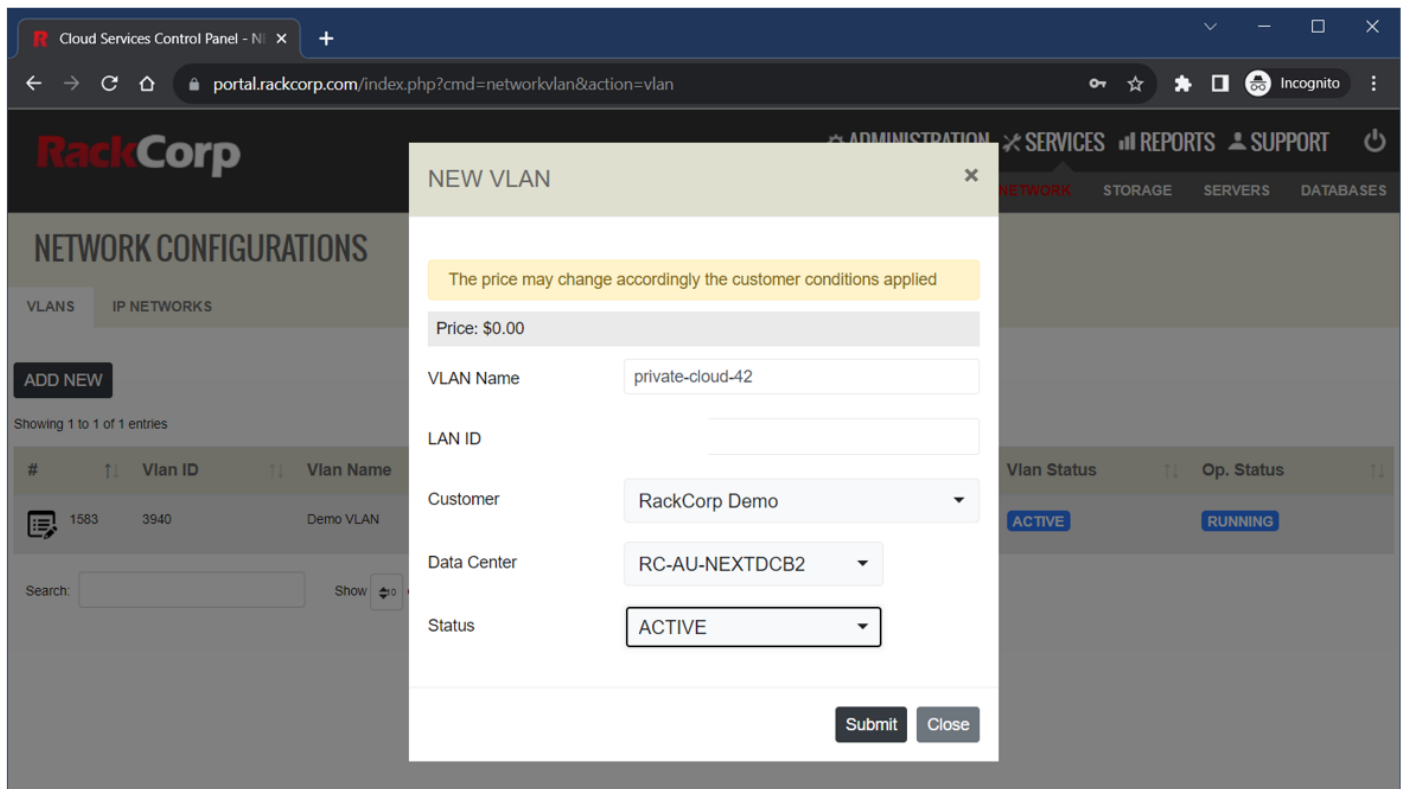
#	Vlan ID	Vlan Name	Vlan DataCenter	Vlan Customer	Vlan Status	Op. Status
1	3940	Demo VLAN	RC-AU-GLOBESW1-AU	RackCorp Demo	ACTIVE	RUNNING

VLAN and IP subnets are accessed via the SERVICES -> NETWORK menu

## Add a new VLAN

Click Add New on the VLANs tab and fill in the form appropriately.

Leave LAN ID field blank unless you have been given a specific LAN ID to use by RackCorp support



**ADD NEW**

NEW VLAN ADDED SUCCESSFUL

Showing 1 to 2 of 2 entries

#	Vlan ID	Vlan Name	Vlan DataCenter	Vlan Customer	Vlan Status	Op. Status
1583	3940	Demo VLAN	RC-AU-GLOBESW1	RackCorp Demo	ACTIVE	RUNNING
1671	3942	private-cloud-42	RC-AU-NEXTDCB2	RackCorp Demo	INACTIVE	PENDING

# Add a new IP Network

Next, use the Add new IP network to add a new subnet to your account. Take care to assign it to your newly created desired VLAN.

ADMINISTRATION

## NETWORK CONFIGURATIONS

VLANs

IP NETWORKS

ADD NEW

Showing 1 to 1 of 1 entries

Network ID	IP Network	IP Mask
871	10.40.50.0	255.255.55.0

Search:

Show

NEW IP NETWORK

Network Type

IPV4

IP Network

192.168.88.0

IP Network Mask

255.255.255.0

IP Gateway

192.168.88.1

IP NameServers

192.168.88.1

Customer

RackCorp Demo

VLAN Name

private-cloud-42

Submit

Close

You now have a newly defined Private VLAN and IP subnet.

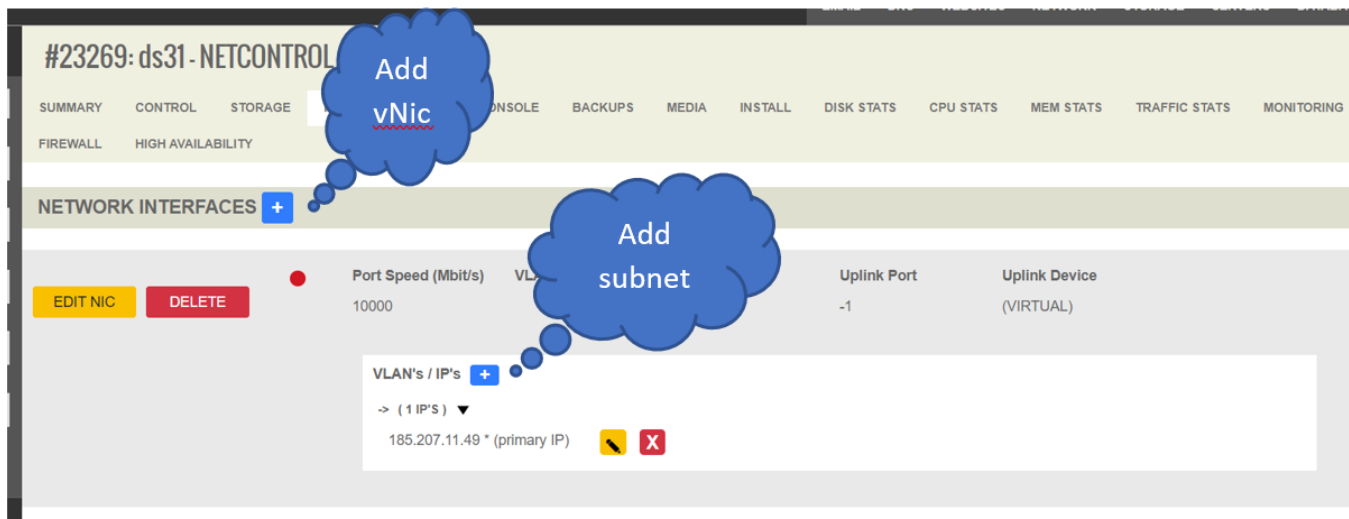
Showing 1 to 2 of 2 entries

Network ID	IP Network	IP Mask	IP Gateway	Network Type	Name Servers	Vlan ID	Vlan Name	Customer Name	Op. Status
871	10.40.50.0	255.255.55.0	10.40.50.1	IPv4	110.232.116.126, 10.232.119.126	3940	Demo VLAN	RackCorp Demo	NORMAL
955	192.168.88.0	255.255.255.0	192.168.88.1	IPv4	192.168.88.1	3942	private-cloud-42	RackCorp Demo	PENDINGUPDATE

Next, we assign these newly created resources to a virtual machine.

## Adding Virtual NICs to Virtual Machines

Select your VM from the SERVICES-> SERVERS list in your RackCorp Portal Account. Click on the NETWORK tab.



For this example demonstration we will add a 2<sup>nd</sup> private vNIC to the default configuration, preserving NIC1 which is the default PUBLIC vNIC that was configured when ordering the virtual machine.

1. Add a new PRIVATE NIC and select the desired VLAN and tagged/untagged.
2. Review any advanced settings, leave as default if unsure:
  - DRIVER - Our vNIC are configured to use the RedHat virtio paravirtual driver by default. If you are using an older operating system you may select Intel E1000
  - ALLOW DHCP SERVER - select if this NIC will be running a DHCP server
  - ONLY ALLOW REGISTERED IPs - If selected, traffic leaving this server from IPs other than that registered in the portal will be blocked. NOTE: firewalls and routers will regularly pass such traffic so you should leave this unticked for such devices.
  - NIC PASSTHROUGH - allows all traffic to pass through the NIC and disables stateful tracking of traffic

#23269: ds31 - NETCONTROL

SUMMARYCONTROLSTORAGENETWORK

FIREWALLHIGH AVAILABILITY

NETWORK INTERFACES +

Network Interface created successfully

NIC 1

EDIT NICDELETE

CREATE NIC

NAME:

click to type another name

VLAN TYPE:

VLANs:

SPEED:

802.1Q/TAGGING:

ADVANCED ▲

DRIVER:

Allow DHCP Server: ☐

Only Allow Registered IPs: ☐

NIC Passthrough (no firewall): ☐

CloseSave changes

NETWORK INTERFACES +

Network Interface created successfully

	Port Speed (Mbit/s)	VLANs	Uplink Port	Uplink Device
<div><div>NIC 1</div><div>EDIT NICDELETE</div></div>	10000	811 - AU LEDC NEWCASTLE1 - VL811	10000	(VIRTUAL)
<div>VLAN's / IP's +</div> <div>AU LEDC NEWCASTLE1 - VL811 ( 1 IP'S ) ▼</div> <div>185.207.11.58 * (primary IP) ⚡ X</div>				
<div><div>NIC 2</div><div>EDIT NICDELETE</div></div>	10000	3942 - private-cloud-42	10000	(VIRTUAL)
<div>VLAN's / IP's +</div> <div>PRIVATE-CLOUD-42 ( 0 IP'S ) ▼</div>				

3. The new vNIC has been created successfully. Next, add the particular subnet to the vNIC

ADD IP - NIC 2

NIC:

NIC 2

VLANS:

private-cloud-42

IP NETWORK:

192.168.88.0/24

IP:

192.168.88.0

check the availability of the IP

☐ Auto select next available IP

☐ Set as Primary IP

ADVANCED

▲

Online Status:

ALWAYS

This IP is not part of the Network. Please, choose another.

Close

Validate IP

VLANs / IP's

Upon selection of your new VLAN, the associated subnet is pre-populated. Enter your desired host IP address for the 2<sup>nd</sup> vNIC under IP or use auto select, then press VALIDATE IP to check your configuration.

ADD IP - NIC 2

NIC:

NIC 2

VLANs:

private-cloud-42

IP NETWORK:

192.168.88.0/24

IP:

192.168.88.2

check the availability of the IP

☐ Auto select next available IP

☐ Set as Primary IP

ADVANCED ▲

Online Status:

ALWAYS

Unused IP. You can proceed to add the IP

Close

Save Changes

VLAN's / IP's +

#23269: ds31 - NETCONTROL

SUMMARYCONTROLSTORAGE**NETWORK**VIRTUAL CONSOLEBACKUPSMEDIAINSTALLDISK STATSCPU STATSMEM STATS

FIREWALLHIGH AVAILABILITY

NETWORK INTERFACES +

Network Interface created successfully

NIC 1		Port Speed (Mbit/s)	VLANs	Uplink Port	Uplink Device
<div>EDIT NICDELETE</div>		10000	811 - AU LEDC NEWCASTLE1 - VL811	10000	(VIRTUAL)
<div>VLAN's / IP's +</div> <div>AU LEDC NEWCASTLE1 - VL811 ( 1 IP'S ) ▾</div> <div>185.207.11.58 * (primary IP)  </div>					

NIC 2		Port Speed (Mbit/s)	VLANs	Uplink Port	Uplink Device
<div>EDIT NICDELETE</div>		10000	3942 - private-cloud-42	10000	(VIRTUAL)
<div>VLANs / IPs +</div> <div>PRIVATE-CLOUD-42 ( 1 IP'S ) ▾</div> <div>192.168.88.2  </div>					

## Further Reading

See our OPNSENSE firewall setup guide for further examples on how to use virtual NICs and VLANs with RackCorp Hybrid Cloud

<https://wiki.rackcorp.com/books/help-and-support-en/page/install-opnsense-firewall>

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