

# Smart Servers

Smart servers are dedicated entities based on KVM CloudBoot compute resources with passthrough enabled. Smart servers are created and managed exactly the same as virtual servers, the only difference is that only one smart server can be created per compute resource. Using a smart server feature, you can create and manage servers on smart appliances with passthrough enabled. You can set the minimum specifications for the smart servers (minimum size, resource price, etc) in the same way as for virtual servers.

Smart servers can be organized into zones to create different tiers of service - for example, by setting up different zones for smart appliances, with limits and prices specified per zone. Smart compute zones can also be used to create private clouds for specific users.

Smart servers required IOMMU support:

- Intel-based Servers => Vt-d
- AMD-based servers => AMD-Vi

Smart servers are based on templates and are deployed on compute resources. Compute resources give them access to CPU, disk and network resources. OnApp Cloud gives you high-end cloud management features including:

Smart Server Options	Power Options	Administrative Options	Networks	Disks	Backups	Backup Schedules	Statistics	Recipes
Edit	Reboot	Reset Root Password	Configure network interface	Create disks	View	View schedules	CPU utilization	Recipes
Rebuild manually	Reboot in recovery	Change owner	Rebuild network	Edit disks	Convert to template	Create schedule	Billing statistics	Custom variables
Delete	Suspend	Set SSH keys	Smart server IP addresses	Migrate disks	Restore backup	Edit schedule	Disk IOPS statistics	
Autoscale	Shut down	Edit Administrator's note	Display network speed for network interfaces	Delete disks	Delete backup	Delete schedule		
	Startup	Integrated console			Edit backup note			
	Startup on Recovery	Transactions and logs						

The following options are not available for smart servers:

- hot migration
- segregation
- VIP status
- firewall rules

Also, VLANs are not configured automatically on smart servers. You need to configure them manually in accordance with your OS and hardware settings.



- smart servers support LVM and integrated storage types.
- the Passthrough to Guest must be enabled for one of the smart server's network interfaces.
- all conventional PCI devices behind a PCIe-to PCI/PCI-X bridge or conventional PCI bridge can only be collectively assigned to the same guest. PCIe devices do not have this restriction.
- limits and prices are specified individually for each smart appliance zone assigned to the billing plan.



If the smart compute resource (where the smart server will be deployed) has a NIC device that features multiple ports, make sure the appliance NIC can perform a FLR reset:

1. Log in as root to a compute resource where it is deployed
2. Run the following command:

```
# lspci -vv|egrep "Ethernet|FLR" --color=always
```

If it returns the *FLReset*- you need to install another NIC if possible. If not - the smart server cannot be deployed on this compute resource.