



# Mirantis OpenStack with Integrated Cumulus Linux

## Open Networking for Mirantis OpenStack

OpenStack provides an open environment for cloud computing. With OpenStack gaining mainstream adoption, organizations are also looking for production-grade reliability, flexibility of hardware and software, and ease of deployment and management. To these ends, Mirantis and Cumulus Networks are partnering to integrate support for the Cumulus Linux operating system for networking hardware into Mirantis OpenStack.

Cumulus Linux, the operating system for open networking, is a Linux distribution with hardware accelerated switching and routing functions. The OS enables ease of scaling, affordable capacity and use of unified Linux tools across servers and switches, helping customers realize the true promise of the software-defined data center.

Mirantis is the leading pure-play OpenStack company, creator of the Mirantis OpenStack distribution. The company is currently the #1 contributor to OpenStack core and has built more large-scale enterprise and service provider OpenStack clouds than any other entity.

Cumulus Linux fits naturally into a Mirantis OpenStack cloud because it shares a similar design and philosophy. Cumulus Networks extends open networking to the OpenStack community so that customers can apply the same design principles of storage and compute to the networking world for reliable and scalable cloud environments.

## Solution Components

### Apply Your Team's Linux Expertise to the Network

Deploying and maintaining an OpenStack cloud requires strong Linux knowledge. Built on open source, Cumulus Linux is unencumbered Linux, allowing common management, monitoring and configuration on both servers and switches. Cumulus Linux offers you an open framework with none of the proprietary APIs or messaging protocols needed for legacy networking switch operating systems. The same automation and provisioning tools that you commonly use for OpenStack servers can also be used unmodified on Cumulus Linux switches.

### Common Tooling Translates into Consistency and Efficiency

With Cumulus Linux, tools like Puppet, Ansible, and Chef can be used to automate all the physical underlay network configuration, as well as for a broader orchestration of OpenStack compute, storage and network clusters. Cumulus Linux runs on a wide variety of hardware including over 25 different switching platforms from seven hardware manufacturers on our [HCL](#), so you can utilize the same multi-vendor, standard approach to procure your network that you do for your server hardware.

To understand more about how Cumulus Linux can be your network OS of choice for OpenStack open source upstream software, check out the deployment blueprints and solution briefs, and make reservations for a hands-on experience with the remote [Cumulus Workbench](#) lab.

### Mirantis OpenStack:

Mirantis OpenStack is a zero-lock-in OpenStack distribution that makes deploying your cloud easier, more flexible, and more reliable. Mirantis OpenStack builds in continuous verification, hardening the distribution across the thousands of dependencies and configuration settings needed to ensure upstream packages are validated across multiple versions of OpenStack complements – such as operating systems, hypervisors and DBs – and tested at scale against a broad range of real-world use cases.

### Mirantis Fuel:

Fuel is an open source deployment and control plane for OpenStack. Developed as an OpenStack community effort, it provides an intuitive, GUI-driven experience for automated deployment and management of OpenStack, related community projects and plugins. The Fuel project provides an open and flexible library, making it possible to integrate third party plug-ins.



## Further Integration with Mirantis Fuel

Mirantis has leveraged its background in the OpenStack community in its work on the open source Fuel project, which simplifies the deployment and management of OpenStack environments. Fuel provides a management plane that makes it possible to specify, configure, and create multiple OpenStack clusters using a simple point-and-click interface. The Mirantis Fuel solution provides the following capabilities:

- **An all-in-one ISO installer that includes both the base operating systems and Mirantis OpenStack images for installation**
- **The ability to automatically discover available nodes for provisioning**
- **Point-and-click storage setup**
- **A convenient web-based UI for network setup and validation**
- **Horizon installation for cluster management**

The Fuel project provides an open and flexible library, making it possible to integrate third-party plugins such as a plugin for Cumulus Linux.

## Conclusion

With a shared commitment to open architecture, ease of operation, and enterprise support, Mirantis and Cumulus Networks have experienced tremendous customer adoption across a variety of use cases. These technologies can be combined to achieve the best-in-class cloud computing capabilities, and help combine the vision of a flexible open standards-based software stack without proprietary vendor lock-in.

## Get Started!

- **Try Cumulus Linux on Cumulus VX:**  
[cumulusnetworks.com/vx/](http://cumulusnetworks.com/vx/)
- **Download the latest version of Cumulus Linux:**  
[cumulusnetworks.com/downloads/](http://cumulusnetworks.com/downloads/)
- **Get Mirantis OpenStack:**  
[www.mirantis.com/products/mirantis-openstack-software/](http://www.mirantis.com/products/mirantis-openstack-software/)
- **Sign up for Mirantis Free Trial:**  
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## Solution Benefits

- **Alignment on Open Architecture:** Cumulus Networks and Mirantis share a vision of Open Source elements with community contributions and no vendor lock-in. A standards-based approach enables a universal network underlay with freedom to choose among overlay technologies such as Midokura, Nuage VSP, PLUMgrid, VMware NSX, OpenContrail and others. A wide selection of vendors allows for best-of-breed infrastructure technologies, at lower capital expense, reducing the cost of building and scaling out your OpenStack cloud.
- **Ease of Deployment and Operations:** The integration of Cumulus with Mirantis Fuel installer enables a very straightforward installation of Cumulus Linux in an OpenStack environment. The flexible automation capabilities of a Cumulus Linux network infrastructure will simplify management and accelerate innovation. Modern tools can be leveraged to enhance the agility and scalability of your OpenStack Environment.
- **Commercial Support:** With Cumulus Linux and Mirantis OpenStack, enterprise-class support teams are available to help you deploy and manage your entire OpenStack cloud, from the network infrastructure to the entire set of OpenStack components.

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### About Mirantis

Mirantis is the #1 pure play OpenStack Company, which delivers the technology, integration, training, and support required for production-grade clouds. More customers rely on Mirantis than any other company to scale out OpenStack without vendor lock-in.

### About Cumulus Networks®

Cumulus Networks demystifies the complexity of networking and enables better, faster, easier networks to support your business. Our network operating system, Cumulus® Linux®, allows you to build and operate your network with the mindset of web-scale pioneers like Google and Amazon, radically reducing the costs and complexities of modern data center networks. More than 400 organizations, including some of the largest-scale data center operations in the world, run Cumulus Linux. Cumulus Networks has received venture funding from Andreessen Horowitz, Battery Ventures, Sequoia Capital, Peter Wagner and four of the original VMware founders. For more information visit [cumulusnetworks.com](http://cumulusnetworks.com) or follow [@cumulusnetworks](https://twitter.com/cumulusnetworks).