概观

« (index.html) » (common/get-started-networking.html) (https://bugs.launchpad.net/neutron/+filebug?field.title=Overview%20in%20Neutron&field.comment=%0A%0A%0AThis bug tracker is for errors with the documentation, use the following as a template and remove or add fields as you see fit. Convert [ ] into [x] to check boxes:%0A%0A- [ ] This doc is inaccurate in this way: _____%0A- [ ] This is a doc addition request.%0A- [ ] I have a fix to the document that I can paste below including example: input and output. %0A%0AIf you have a troubleshooting or support issue, use the following resources:%0A%0A - Ask OpenStack: http://ask.openstack.org%0A - The mailing list: http://lists.openstack.org%0A - IRC: 'openstack' channel on Freenode%0A%0A----------%0ARelease:%2012.0.1.dev11%20on%202018-03-07%2021:05%0ASHA:%2043df2709acbdce86686a40b75fd34e96880427d0%0ASource:%20https://git.openstack.org/cgit/openstack/neutron/tree/doc/source/install/overview.rst%0AURL:%20https://docs.openstack.org/neutron/queens/install/overview.html&field.tags=doc)

更新日期：2018-03-07 21:05

OpenStack项目是一个开源云计算平台，支持所有类型的云环境。该项目旨在实现简单，大规模的可扩展性和丰富的功能。来自世界各地的云计算专家为该项目做出贡献。

OpenStack通过各种补充服务提供基础架构即服务（IaaS）解决方案。每项服务都提供了一个应用程序编程接口（API），以促进这种集成。

本指南涵盖了使用适用于具有足够Linux经验的OpenStack新用户的功能性示例体系结构，逐步部署主要OpenStack服务。本指南不打算用于生产系统安装，而是为了学习OpenStack而创建最低限度的概念验证。

在熟悉这些OpenStack服务的基本安装，配置，操作和故障排除之后，您应该考虑使用生产体系结构进行部署的以下步骤：

- 确定并实施必要的核心和可选服务以满足性能和冗余要求。
- 使用防火墙，加密和服务策略等方法提高安全性。
- 实施一个部署工具，如Ansible，Chef，Puppet或Salt来自动化生产环境的部署和管理。

示例架构¶

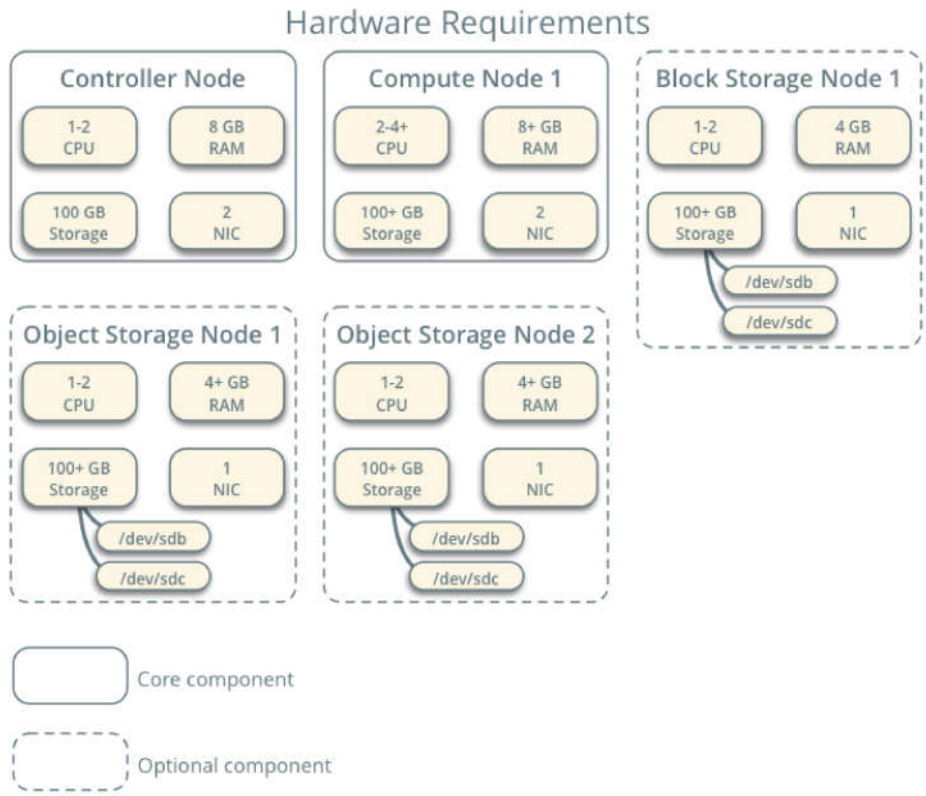
示例体系结构需要至少两个节点（主机）才能启动基本虚拟机（VM）或实例。可选服务（如块存储和对象存储）需要额外的节点。

> **重要**
>
> 本指南中使用的示例体系结构是最低配置，不适用于生产系统安装。它旨在为了学习OpenStack提供最低限度的概念验证。有关为特定用例创建体系结构或如何确定需要哪种体系结构的信息，请参阅“ 体系结构设计指南” (https://docs.openstack.org/arch-design/)。

此示例体系结构不同于最小生产体系结构，如下所示：

- 网络代理驻留在控制器节点上，而不是一个或多个专用网络节点。
- 自助服务网络的覆盖（隧道）流量通过管理网络，而不是专用网络。

有关生产体系结构的更多信息，请参阅 体系结构设计指南 (https://docs.openstack.org/arch-design/)， OpenStack操作指南 (https://wiki.openstack.org/wiki/OpsGuide)和OpenStack网络指南 (../admin/index.html)。



硬件要求

控制器¶

控制器节点运行身份服务，映像服务，计算的管理部分，网络的管理部分，各种网络代理和仪表板。它还包括支持服务，如SQL数据库，消息队列和网络时间协议（NTP）。

Optionally, the controller node runs portions of the Block Storage, Object Storage, Orchestration, and Telemetry services.

The controller node requires a minimum of two network interfaces.

Compute¶

The compute node runs the hypervisor portion of Compute that operates instances. By default, Compute uses the kernel-based VM (KVM) hypervisor. The compute node also runs a Networking service agent that connects instances to virtual networks and provides firewalling services to instances via security groups.

You can deploy more than one compute node. Each node requires a minimum of two network interfaces.

Block Storage¶

The optional Block Storage node contains the disks that the Block Storage and Shared File System services provision for instances.

For simplicity, service traffic between compute nodes and this node uses the management network. Production environments should implement a separate storage network to increase performance and security.

You can deploy more than one block storage node. Each node requires a minimum of one network interface.

Object Storage¶

The optional Object Storage node contain the disks that the Object Storage service uses for storing accounts, containers, and objects.

For simplicity, service traffic between compute nodes and this node uses the management network. Production environments should implement a separate storage network to increase performance and security.

This service requires two nodes. Each node requires a minimum of one network interface. You can deploy more than two object storage nodes.

Networking¶

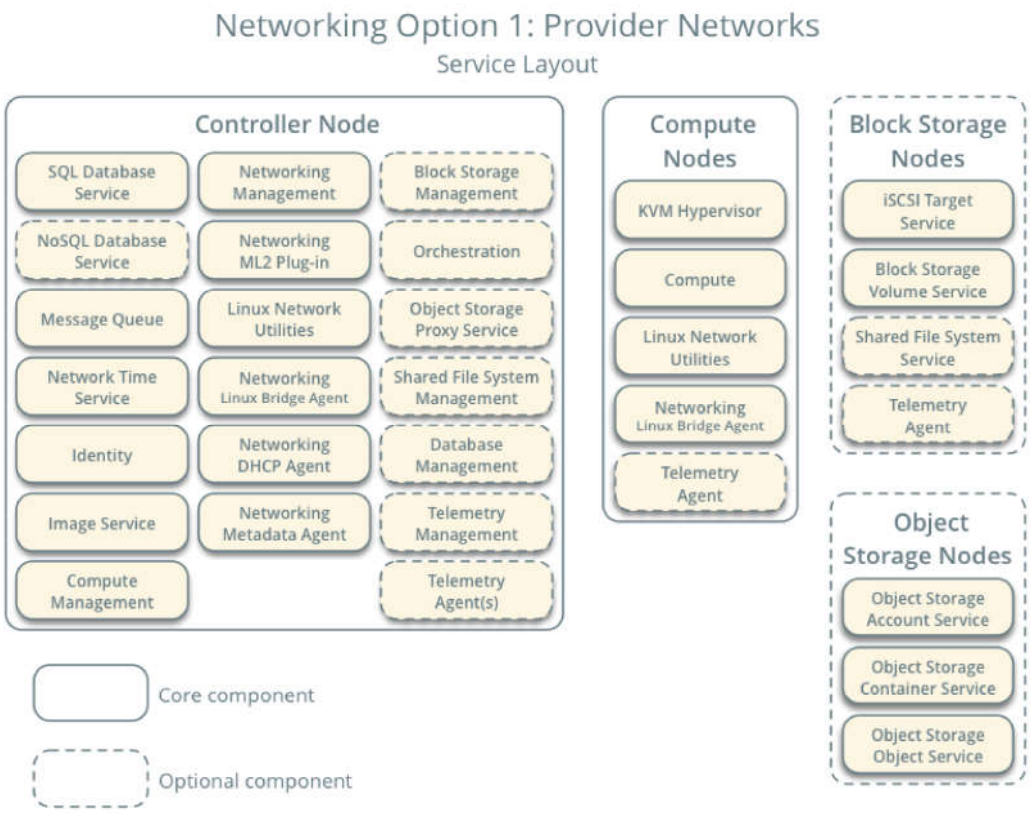
Choose one of the following virtual networking options.

Networking Option 1: Provider networks¶

The provider networks option deploys the OpenStack Networking service in the simplest way possible with primarily layer-2 (bridging/switching) services and VLAN segmentation of networks. Essentially, it bridges virtual networks to physical networks and relies on physical network infrastructure for layer-3 (routing) services. Additionally, a DHCP<Dynamic Host Configuration Protocol (DHCP) service provides IP address information to instances.

The OpenStack user requires more information about the underlying network infrastructure to create a virtual network to exactly match the infrastructure.

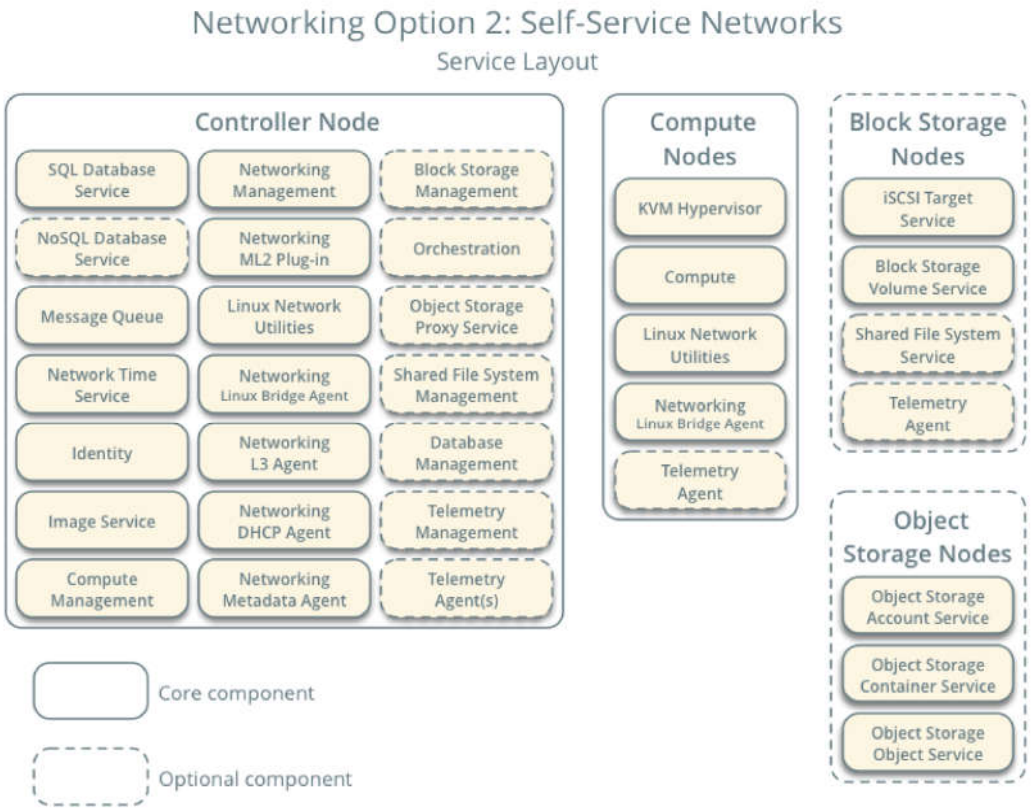
> **⚠ Warning**
>
> This option lacks support for self-service (private) networks, layer-3 (routing) services, and advanced services such as Load-Balancer-as-a-Service (LBaaS) and FireWall-as-a-Service (FWaaS). Consider the self-service networks option below if you desire these features.



Networking Option 2: Self-service networks¶

The self-service networks option augments the provider networks option with layer-3 (routing) services that enable self-service networks using overlay segmentation methods such as Virtual Extensible LAN (VXLAN). Essentially, it routes virtual networks to physical networks using Network Address Translation (NAT). Additionally, this option provides the foundation for advanced services such as LBaaS and FWaaS.

OpenStack用户可以在不了解数据网络底层基础设施的情况下创建虚拟网络。如果相应地配置了第2层插件，这也可以包括VLAN网络。



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