![Red Hat Service Interconnect]

# Red Hat Service Interconnect FAQ
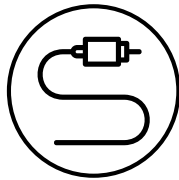
Last updated: May 2023

## Introduction

Red Hat® Service Interconnect allows applications and services connectivity across Red Hat platforms, including Red Hat Enterprise Linux® and Red Hat OpenShift®, or non-Red Hat environments like Kubernetes clusters, public clouds, virtual machines (VMs), or bare-metal hosts. Using a simple command-line interface without requirements for elevated privileges, interconnections are created within minutes, helping you avoid extensive networking planning without compromising your organization's infrastructure or the user's data. Applications and their associated networking are completely portable across different environments with no additional configurations, making complex operational migrations simple and more efficient.
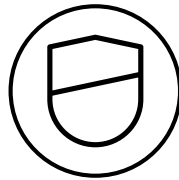
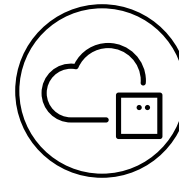| PORTABLE | SIMPLE | PROTECTED | HYBRID |
|---|---|---|---|
| Allows interconnections to move to another environment in order to ease complex migrations | Command line without elevated privileges allows anyone to interconnect environments and platforms more easily | Interconnections uses Mutual TLS encryption to not compromise your organization's infrastructure and data | Any Kubernetes cluster, VMs, or bare-metal host can be interconnected when combined with Red Hat and non-Red Hat products |

## About Red Hat Service Interconnect

**Question:** What problem is Red Hat Service Interconnect solving?

**Answer:** Overall, Red Hat Service Interconnect helps customers to link safely across different environments, such as Kubernetes clusters, public clouds, VMs, and bare-metal hosts without the complex networking configurations or the risk of exposure to the public internet. The traditional way to solve this problem was the use of extensive networking planning with either system administrators or network administrators and establishing a virtual private network (VPN) combined with complex firewall rules. Red Hat Service Interconnect delivers the same capability by allowing the team of developers to create those interconnections by themselves using a simple command line without elevated privileges. A key difference from VPNs is that Red Hat Service Interconnect creates interconnections on layer 7, whereas VPNs operate on layer 3.

**Question:** What are the key capabilities of Red Hat Service Interconnect?

**Answer:**

‣ **Simplified networking:** This reduces the complexity, effort, and required resources for managing network infrastructure across different environments as compared to traditional approaches, such as VPNs and complex firewall rules. This can help organizations optimize their IT resource allocation more effectively.

▸ **Hybrid cloud connectivity:** Applications and services across different environments are now interconnected and protected, regardless of environment or platform. Organizations are now able to take advantage of different public and private environments while focusing on their security needs at the same time.

▸ **Enhanced portability:** Red Hat Service Interconnect assists development teams with complex migrations by allowing interconnections associated with the application to move across different environments. This helps organizations to move as needed, without the need to manage required network connectivity or infrastructure limitations.

▸ **Developer productivity:** This allows application developers to establish interconnection with other services and applications in different environments during the development phase, without relying on network specialists. This reduces time in development and deployment across environments by allowing applications to move to different environments along with their required interconnections.

**Question:** What are the potential use cases for Service Interconnect?

**Answer:**

▸ **Connecting services across the hybrid cloud:** The need arises to interconnect different applications in different clusters (Red Hat OpenShift, public cloud Kubernetes offerings, or other Kubernetes distributions) to one another or to other more traditional environments, such as VMs and bare-metal hosts safely.

▸ **Integrate with applications and services not intended to migrate to a cloud or Kubernetes cluster:** Applications often need to be connected with services that will not be moved to a cloud or Kubernetes environment, such as relational databases. Because the costs of migration will not justify the outcome, a better approach would be to interconnect those existing workloads.

▸ **Progressive migration of private datacenters to Red Hat OpenShift (Private Cloud, ROSA and ARO):** This helps customers migrate existing applications progressively from VMs or bare-metal hosts to Red Hat OpenShift while maintaining interconnections required for application execution.

▸ **Database replication across clouds:** This allows protected interconnection between multiple distinct cloud providers, where each has its own database.

▸ **Progressive migration of Kubernetes to Red Hat OpenShift or Red Hat OpenShift 3 to Red Hat OpenShift 4:** Existing applications running on any Kubernetes environment can now be strategically migrated by interconnecting to a Red Hat OpenShift cluster and progressively moving applications across these environments. The same idea applies to applications running on Red Hat OpenShift 3 when the need exists to migrate progressively to a newer Red Hat OpenShift 4 cluster while maintaining interconnections required for application execution.

**Question:** Can you explain what Service Interconnect is **not**?

**Answer:** There are some misconceptions that are important to understand regarding Service Interconnect:

▸ Red Hat Service Interconnect is **not** a VPN. A VPN operates on layer 3 and Service Interconnect operates on layer 7.

▸ Red Hat Service Interconnect will **not** change any configurations on your base network (unlike Red Hat OpenShift Service Mesh with a sidecar).

▶ Although Red Hat Service Interconnect offers some smart routing, those capabilities should not be compared to an OpenShift Service Mesh with federation features where the traffic goes from 1 cluster running the control plane to another. Smart routing is between environments and platforms where Service Interconnect is functioning.

▶ Red Hat Service Interconnect is about application traffic, **not** the payload. It should not be confused with a message broker or an application programming interface (API) gateway.

**Question:** Who can set up interconnections?

**Answer:** Any user who has access to a Kubernetes namespace or another host environment can download and run the command. One key aspect of the command line is the ability to run without elevated privileges, but some administrators do not allow users to run external commands in their environment.

**Question:** How is this different from Submariner (part of Red Hat Advanced Cluster Management for Kubernetes) or OpenShift Service Mesh with federation features?

**Answer:** There are several ways to interconnect environments and some similar capabilities are found in our portfolio, such as Submariner (part of Red Hat Advanced Cluster Management and OpenShift Service Mesh). The factors to consider in deciding which option to choose include the desired level of interconnection, ownership of the current application environment, whether they are an existing Red Hat customer, and the level of autonomy required. The differences are:

Submariner (part of Red Hat Advanced Cluster Management):

▶ Works on layer 3. The whole cluster is interconnected (cluster scope).

▶ Is a networking technology capable of safely connecting Kubernetes clusters together, providing service discovery between all Kubernetes clusters under its control (cluster set).

▶ Allows services to interact between clusters regardless of the availability zone or region.

▶ While feature rich, is also complex, requiring network planning to ensure the ability to route between clusters in a Submariner cluster set.

▶ Is installed and configured by Red Hat OpenShift and Kubernetes cluster administrators as part of a global cluster strategy and is designed to run on Red Hat OpenShift and Kubernetes clusters only.

▶ Is typically used and configured as part of a global hybrid cloud strategy where the services on Red Hat OpenShift clusters in 1 or more cloud providers and on-premise, can interact with each other as part of the same infrastructure.

Red Hat OpenShift Service Mesh:

▶ Is only supported on Red Hat OpenShift 4, where there is a control plane in place.

▶ Works in different aspects of layer 3 and layer 4.

▶ Uses gateways for multicluster connections. Services in other clusters do not have information about the services calling it.

▶ Needs additional networking configuration, such as load balancer and gateways, and their IPs must be added into the ServiceMeshPeer object.

**Question:** Does Red Hat Service Interconnect work on Red Hat OpenShift?

**Answer:** Red Hat Service Interconnect is supported on Red Hat OpenShift, Red Hat Enterprise Linux, cloud-native computing foundations, certified Kubernetes clusters, VMs, and bare-metal hosts on top of a non-Red Hat platform.

**Question:** How does Red Hat Service Interconnect compare with the skupper.io community project?

**Answer:** The open source community is consistently innovating as new features are explored, developed, and tested by community members. As these features mature, Red Hat includes them in the Service Interconnect subscription, which offers platform certification, access to Red Hat support, and other benefits.

**Question:** Can I evaluate Red Hat Service Interconnect before I purchase a subscription?

**Answer:** Yes*. You can access a no-cost, 90-day, fully supported evaluation subscription through Red Hat Customer Portal or by contacting Red Hat Sales. In addition, a no-cost, development-only subscription is available for Red Hat Service Interconnect. To access these subscriptions, download the products from the Red Hat Developer website.

**Question:** What is Skupper?

**Answer:** Skupper is the name of an open source project that is developing some exciting new multicloud communication for Kubernetes. It provides increased security-focused communication across Kubernetes clusters with no VPNs or special firewall rules. With Skupper, your application can span multiple cloud providers, datacenters, and regions.

**Question:** When will Red Hat provide support for Skupper?

**Answer:** Red Hat does not offer support for community projects like Skupper.io. Skupper.io is made of several components that can be used based on the use case—connecting services across the hybrid cloud, security-focused connectivity to the edge and more. Starting with the 1.2 release, the Red Hat Service Interconnect products include Skupper-based tooling.

Customers who subscribe to Red Hat Service Interconnect should have access to the new capabilities without the need to acquire a new subscription. Besides, Red Hat Service Interconnect subscription offers:

▸ **Product documentation:** A Red Hat Service Interconnect subscription provides comprehensive details on how to install and troubleshoot some common scenarios and integrations with other Red Hat products.

▸ **Knowledge base:** This is a repository of information and solutions related to Red Hat products and services. It is an online library that provides users with access to a vast collection of articles, technical documents, solutions, and best practices related to Service Interconnect.

▸ **Security updates:** Red Hat regularly releases security patches and fixes for known vulnerabilities in its products. These updates address security flaws and help prevent potential security breaches.

▸ **Enterprise offering:** Red Hat Service Interconnect subscription is ready to be run in production environments and our team is ready to address any potential problems.

▸ **Life cycle support and flexibility:** A subscription allows you to choose any version of Red Hat Service Interconnect, offering flexibility according to your own schedule.

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* *You will be asked to agree to the terms of the subscription, which include limited community-based features and email support.*

## Red Hat Service Interconnect

## Support

**Question:** How long will Red Hat Service Interconnect be supported?

**Answer:** Service Interconnect provides a time-delineated, phased life cycle, where at least 3 minor versions can be supported. The time period of support is fixed from the point of minor version release and offers varying levels of support and maintenance. Red Hat aims to forecast releases at a 6-month cadence, providing customers ample opportunity to plan.

**Question:** How will I access software updates?

**Answer:** Software updates for each included product are available on Red Hat Customer Portal.

### About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. A trusted adviser to the Fortune 500, Red Hat provides award-winning support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

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