Red Hat Service Interconnect 1.4

Introduction

Key features and supported configurations

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Abstract

This guide introduces Red Hat Service Interconnect and describes a service network. Red Hat Service Interconnect is a Red Hat build of the open source Skupper project.

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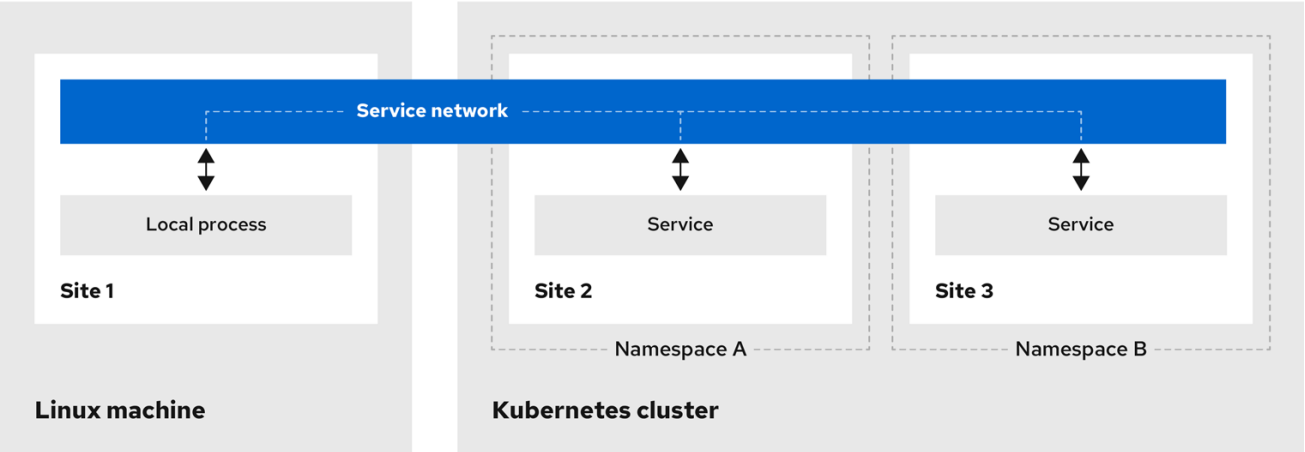
CHAPTER 1. KEY FEATURES

Red Hat Service Interconnect is a Red Hat build of the open source Skupper project. Skupper introduces a service network, linking services across the hybrid cloud.

A service network enables communication between services running in different network locations. It allows geographically distributed services to connect as if they were all running in the same site.



The following are key features of Skupper:

- Private to public site connectivity: You expose only specific services and ports to a remote site.
- Minimal effort: A few **skupper** CLI commands to expose services from one site to another.
- Security: mTLS for all cross site communication.
- Load balancing and failover of services.

CHAPTER 2. SUPPORTED STANDARDS AND PROTOCOLS

Red Hat Service Interconnect supports the following TLS versions for site links:

- TLS 1.2
- TLS 1.3

CHAPTER 3. SUPPORTED CONFIGURATIONS

Command-line interface

- RHEL 8 x86-64
- RHEL 9 x86-64

Router

For use in Kubernetes-based sites and as a gateway for containers or machines.

- RHEL 8 x86-64
- RHEL 9 x86-64

Note: RHSI is not supported for standalone use as a messaging router.

RHSI Operator

The operator is supported with OpenShift 4.x only.

OpenShift versions

- OpenShift 3.11
- OpenShift 4.10, 4.11 and 4.12
- ROSA and ARO
- OpenShift Container Platform and OpenShift Dedicated

Installing RHSI in a disconnected network by mirroring the required components to the cluster is supported.

Ingress types

- LoadBalancer
- OpenShift Routes

CPU architecture

- x86-64

Podman sites:

Podman-based sites are a Technical Preview feature.

You can create Podman sites only on OS versions where the Skupper CLI and router are supported.

Kubernetes distributions

Red Hat provides assistance running Red Hat Service Interconnect on any CNCF-certified distribution of Kubernetes.

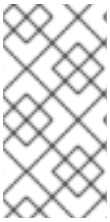
Note, however, that Red Hat Service Interconnect is tested only on OpenShift.

Ingress types

- Contour
- Nginx - This requires configuration for TLS passthrough
- NodePort

Upgrades

Red Hat supports upgrades from one downstream minor version to the next, with no jumps. While Red Hat aims to have compatibility across minor versions, we recommend upgrading all sites to latest version.



NOTE

If you have applications that require long lived connections, for example Kafka clients, consider using a load balancer as ingress instead of a proxy ingress such as OpenShift route. If you use an OpenShift route as ingress, expect interruptions whenever routes are configured.

For information about the latest release, see Red Hat Service Interconnect Supported Configurations .

CHAPTER 4. RESOURCES

The following resources are available:

- Skupper - Getting started
- Skupper - Examples
- Skupper - Using the Skupper CLI
  - Creating a site using the CLI
  - Custom sites
  - Linking sites
  - Specifying link cost
  - Exposing services on the service network from a namespace
  - Exposing services on the service network from a local machine
  - Exploring a service network
  - Securing a service network
  - Supported standards and protocols
  - CLI options for working with different clusters
- Skupper - Using Skupper podman
  - About Skupper podman
  - Creating a site using Skupper podman
  - Linking sites using Skupper podman
  - Working with services using Skupper podman
- Skupper - Using the Skupper console
  - Enabling the Skupper console
  - Accessing the Skupper console
  - Exploring the Skupper console
- Skupper - Configuring Skupper sites using YAML
  - Creating a Skupper site using YAML
  - Linking sites using YAML
  - Configuring services using annotations
  - Appendix A: Site ConfigMap YAML reference

- Skupper - Troubleshooting a service network
  - Checking sites
  - Checking links
  - Checking gateways
  - Creating a Skupper debug tar file
  - Improving Skupper router performance
  - Resolving common problems
- Skupper - Securing a service network using policies
  - About the policy system
  - Upgrading on a cluster with existing sites
  - Creating policies for the policy system
  - Exploring the current policies for a cluster
- Creating a site using the Skupper Operator

APPENDIX A. ABOUT SERVICE INTERCONNECT DOCUMENTATION

MAKING OPEN SOURCE MORE INCLUSIVE

Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. Because of the enormity of this endeavor, these changes will be implemented gradually over several upcoming releases. For more details, see our CTO Chris Wright's message .

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