



AKKA AUTOMATED OPERATIONS

Data Flows

Every network flow between your environment and the Akka platform.

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This page documents the individual network flows between your environment and the Akka platform. Each flow lists the data carried, its source and destination, the connectivity used, and how it is authenticated. "Your ..." denotes a resource in your own environment.

Connectivity terms used below:

- **Peering:** a private network path between your environment and the Akka region.
- **Firewall, Federation Plane allowlisted:** a customer-initiated outbound flow to the Federation Plane over the internet, from an allowlisted egress path.
- **Akka NAT gateway:** a region-initiated egress flow. Akka can work with you to route these through your firewall instead.
- **Pre-authorized IP ranges:** Federation-Plane-to-region flows over the internet. A private-connectivity option is available.

Your end users

Flow	From	To	Connectivity	Auth
End user accessing an Akka service from outside your environment	End user	Akka Region	Public (through your firewall)	Your keys, secrets, and tokens
End user accessing an Akka service from inside your environment	End user	Akka Region	Private (peering)	Your keys, secrets, and tokens

Your deployed Akka services

Flow	From	To	Connectivity	Auth
Access to your private internal systems	Your service	Your APIs	Private (peering)	Your keys, secrets, and tokens
Pushing observability metrics for your services to your observability	Akka Region	Your observability	Private (peering)	Your keys, secrets, and tokens

Your operators, admins, and developers

Flow	From	To	Connectivity	Auth
Akka CLI or console authentication initiation	CLI or console	Federation Plane	Public (firewall, Federation Plane allowlisted)	Akka authentication
OpenID authentication	Console	Your IAM	Public	OpenID
Add a region to a project	CLI	Federation Plane	Public (firewall, Federation Plane allowlisted)	Akka authenticated, valid access token
Initiate multi-region failover	CLI	Akka Region	Private (peering)	Akka authenticated, valid access token
List services and projects	CLI	Akka Region	Private (peering)	Akka authenticated, valid access token
Create a project	CLI	Federation Plane	Public (firewall, Federation Plane allowlisted)	Akka authenticated, valid access token
Add a user, role, or permission	CLI	Federation Plane	Public (firewall, Federation Plane allowlisted)	Akka authenticated, valid access token
Inspect service components in a region	CLI	Akka Region	Private (peering)	Akka authenticated, valid access token
Deploy a service: initiate deployment	CI/CD or developer	Akka Region	Private (peering)	Akka authenticated, valid access token
Deploy a service: region pulls the image	Akka Region	Your image registry	Private (peering)	Akka authenticated, valid access token

Akka SRE

Flow	From	To	Connectivity	Auth
Troubleshoot a region (cloud console or kubectl)	Your VDI, when needed	Akka Region	Private (your remote desktop)	Your cloud credentials, granted through Teleport

Akka Region

Flow	From	To	Connectivity	Auth
Region observability metadata to the Federation Plane	Akka Region	Federation Plane	Public (Akka NAT gateway)	Kubernetes RBAC and Federation Plane observability token
Region requests the public key set	Akka Region	Federation Plane	Public (Akka NAT gateway)	Internal Akka JWT authentication
Certificate expiration monitoring (can be disabled)	Akka Region	Akka SRE	Public (Akka NAT gateway)	Kubernetes RBAC
Replication to another Akka Region	Akka Region	Akka Region	Private (peering)	Mutual TLS and ACLs

Akka Federation Plane

All flows below use the bootstrap credential you create and share with Akka.

Flow	From	To	Connectivity
Bootstrap a new Akka Region	Federation Plane	Akka Region	Public (pre-authorized IP ranges)
Install a new version of Akka into a region	Federation Plane	Akka Region	Public (pre-authorized IP ranges)

Flow	From	To	Connectivity
Maintain infrastructure (drift detection)	Federation Plane	Akka Region	Public (pre-authorized IP ranges)
Upgrade infrastructure (Kubernetes, database)	Federation Plane	Akka Region	Public (pre-authorized IP ranges)
Multi-region root CA management for cross-region mTLS	Federation Plane	Akka Region	Public (pre-authorized IP ranges)
Synchronize project, user, role, organization, and region metadata	Federation Plane	Akka Region	Public (pre-authorized IP ranges)

Private connectivity by cloud

Under BYOC, Akka can set up a private-connectivity option per cloud to keep region-to-internal traffic off the public internet: Transit Gateway on AWS, VPC Peering on GCP, and VNet Peering with Azure Firewall on Azure. See the [BYOC on AWS](#), [BYOC on Azure](#), and [BYOC on GCP](#) pages.