



Pair clusters for replication

Element Software

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Pair clusters for replication

You must pair two clusters as a first step to using real-time replication functionality. After you pair and connect two clusters, you can configure active volumes on one cluster to be continuously replicated to a second cluster, providing continuous data protection (CDP).

What you'll need

- You must have cluster administrator privileges to one or both clusters being paired.
- All node MIPs and SIPs are routed to each other.
- Less than 2000 ms of round-trip latency between clusters.
- Both storage clusters should have unique cluster names, MVIPs, SVIPs, and all node IP addresses.
- The difference between Element software versions on the clusters is no greater than one major version. If the difference is greater, one of the clusters must be upgraded to perform data replication.



Cluster pairing requires full connectivity between nodes on the management network. Replication requires connectivity between the individual nodes on the storage cluster network.

You can pair one cluster with up to four other clusters for replicating volumes. You can also pair clusters within the cluster group with each other.

Find more information

[Network port requirements](#)

Pair clusters using MVIP or a pairing key

You can pair a source and target cluster using the MVIP of the target cluster if there is cluster administrator access to both clusters. If cluster administrator access is only available on one cluster in a cluster pair, a pairing key can be used on the target cluster to complete the cluster pairing.

1. Select one of the following methods to pair clusters:
 - Pair clusters using MVIP: Use this method if there is cluster administrator access to both clusters. This method uses the MVIP of the remote cluster to pair two clusters.
 - Pair clusters using a pairing key: Use this method if there is cluster administrator access to only one of the clusters. This method generates a pairing key that can be used on the target cluster to complete the cluster pairing.

Find more information

- [Pair clusters using MVIP](#)
- [Pair clusters using a pairing key](#)

Pair clusters using MVIP

You can pair two clusters for real-time replication by using the MVIP of one cluster to

establish a connection with the other cluster. Cluster administrator access on both of clusters is required to use this method. The cluster administrator user name and password is used to authenticate cluster access before the clusters can be paired.

1. On the local cluster, select **Data Protection > Cluster Pairs**.
2. Click **Pair Cluster**.
3. Click **Start Pairing** and click **Yes** to indicate that you have access to the remote cluster.
4. Enter the remote cluster MVIP address.
5. Click **Complete pairing on remote cluster**.

In the **Authentication Required** window, enter the cluster administrator user name and password of the remote cluster.

6. On the remote cluster, select **Data Protection > Cluster Pairs**.
7. Click **Pair Cluster**.
8. Click **Complete Pairing**.
9. Click the **Complete Pairing** button.

Find more information

- [Pair clusters using a pairing key](#)
- [Pairing clusters using MVIP \(video\)](#)

Pair clusters using a pairing key

If you have cluster administrator access to a local cluster but not the remote cluster, you can pair the clusters using a pairing key. A pairing key is generated on a local cluster and then sent securely to a cluster administrator at a remote site to establish a connection and complete the cluster pairing for real-time replication.

1. On the local cluster, select **Data Protection > Cluster Pairs**.
2. Click **Pair Cluster**.
3. Click **Start Pairing** and click **No** to indicate that you do not have access to the remote cluster.
4. Click **Generate Key**.



This action generates a text key for pairing and creates an unconfigured cluster pair on the local cluster. If you do not complete the procedure, you will need to manually delete the cluster pair.

5. Copy the cluster pairing key to your clipboard.
6. Make the pairing key accessible to the cluster administrator at the remote cluster site.



The cluster pairing key contains a version of the MVIP, user name, password, and database information to permit volume connections for remote replication. This key should be treated in a secure manner and not stored in a way that would allow accidental or unsecured access to the user name or password.



Do not modify any of the characters in the pairing key. The key becomes invalid if it is modified.

7. On the remote cluster, select **Data Protection > Cluster Pairs**.
8. Click **Pair Cluster**.
9. Click **Complete Pairing** and enter the pairing key in the **Pairing Key** field (paste is the recommended method).
10. Click **Complete Pairing**.

Find more information

- [Pair clusters using MVIP](#)
- [Pairing clusters using a cluster pairing key \(video\)](#)

Validate the cluster pair connection

After the cluster pairing has completed, you might want to verify the cluster pair connection to ensure replication success.

1. On the local cluster, select **Data Protection > Cluster Pairs**.
2. In the **Cluster Pairs** window, verify that the cluster pair is connected.
3. **Optional:** Navigate back to the local cluster and the **Cluster Pairs** window and verify that the cluster pair is connected.

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