



Network port requirements

HCI

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Network port requirements

You might need to allow the following ports through your datacenter's edge firewall so that you can manage the system remotely, allow clients outside of your datacenter to connect to resources, and ensure that internal services can function properly. Some of these ports, URLs, or IP addresses might not be required, depending on how you use the system. All ports are TCP unless stated otherwise.



The NetApp Hybrid Cloud Control web UI and API download software packages from the NetApp online software repository, which uses JFrog Bintray as a distribution hub and Akamai Technologies for file hosting. Because of this, some URLs or IP addresses might resolve to other URLs or IP addresses based on the content delivery network. If possible, you should work with a network engineer to add these URLs or IP addresses to the firewall rules, using the following general steps:

Steps

1. Use the Wget or cURL utilities to access a URL (repo.netapp.com, for example).
2. Receive a failure to access the URL (different from repo.netapp.com).
3. Edit the firewall rules to allow the new URL.
4. Repeat the above steps until the access attempt succeeds.

The following abbreviations are used in the table:

- MIP: Management IP address, a per-node address
- SIP: Storage IP address, a per-node address
- MVIP: Management virtual IP address
- SVIP: Storage virtual IP address

All ports in the table are TCP unless stated otherwise.

| Source | Destination | Port | Description |
|-----------------------|----------------------|-------------|---|
| iSCSI clients | Storage cluster MVIP | 443 | (Optional) UI and API access |
| iSCSI clients | Storage cluster SVIP | 3260 | Client iSCSI communications |
| iSCSI clients | Storage node SIP | 3260 | Client iSCSI communications |
| Compute node BMC/IPMI | Management node | 111 TCP/UDP | NetApp Hybrid Cloud Control API communication |
| Compute node BMC/IPMI | Management node | 445 | NetApp Hybrid Cloud Control API communication |

| Source | Destination | Port | Description |
|-----------------------|--------------------------------------|--------------|---|
| Compute node BMC/IPMI | Management node | 2049 TCP/UDP | NetApp Hybrid Cloud Control API communication |
| Compute node BMC/IPMI | Management node | 137-138 UDP | NetApp Hybrid Cloud Control API communication |
| Compute node BMC/IPMI | Management node | 623 UDP | Remote Management Control Protocol (RMCP) port. Required for NetApp Hybrid Cloud Control compute firmware upgrades. |
| Management node | Compute node BMC/IPMI | 139 | NetApp Hybrid Cloud Control API communication |
| Management node | Compute node BMC/IPMI | 443 | NetApp Hybrid Cloud Control HTTPS communication |
| Management node | VMware vCenter | 5988-5989 | NetApp Hybrid Cloud Control HTTPS communication |
| Management node | VMware vCenter | 443 | NetApp Hybrid Cloud Control HTTPS communication |
| Management node | Compute node BMC/IPMI | 623 UDP | Remote Management Control Protocol (RMCP) port. Required for NetApp Hybrid Cloud Control compute firmware upgrades. |
| Management node | <code>sfsupport.solidfire.com</code> | 22 | Reverse SSH tunnel for support access |
| Management node | Storage node MIP | 22 | SSH access for support |
| Management node | DNS servers | 53 TCP/UDP | DNS lookup |
| Management node | Storage node MIP | 442 | UI and API access to storage node and Element software upgrades |
| Management node | Storage node MVIP | 442 | UI and API access to storage node and Element software upgrades |

| Source | Destination | Port | Description |
|------------------|--|------------|--|
| Management node | repo.netapp.com/api/repos/netapp-downloads, repo.netapp.com/bintray/dl/, repo.netapp.com/bintray/api/package, netapp-downloads.bintray.com, bintray.com, repo.netapp.com, library.netapp.com | 443 | Management node service upgrades |
| Management node | monitoring.solidfire.com | 443 | Storage cluster reporting to Active IQ |
| Management node | Storage cluster MVIP | 443 | UI and API access to storage node and Element software upgrades |
| Management node | Baseboard management controller (BMC) | 443 | Hardware monitoring and inventory connection (Redfish and IPMI commands) |
| Management node | 23.32.54.122, 216.240.21.15 | 443 | Element software upgrades |
| Management node | Witness Node | 9442 | Per-node configuration API service |
| Management node | vCenter Server | 9443 | vCenter Plug-in registration. The port can be closed after registration is complete. |
| SNMP server | Storage cluster MVIP | 161 UDP | SNMP polling |
| SNMP server | Storage node MIP | 161 UDP | SNMP polling |
| Storage node MIP | DNS servers | 53 TCP/UDP | DNS lookup |
| Storage node MIP | Management node | 80 | Element software upgrades |
| Storage node MIP | Management node | 443 | Element software upgrades |
| Storage node MIP | S3/Swift endpoint | 80 | (Optional) HTTP communication to S3/Swift endpoint for backup and recovery |
| Storage node MIP | NTP server | 123 UDP | NTP |
| Storage node MIP | Management node | 162 UDP | (Optional) SNMP traps |
| Storage node MIP | SNMP server | 162 UDP | (Optional) SNMP traps |

| Source | Destination | Port | Description |
|-------------------------|-----------------------------|----------------------------|--|
| Storage node MIP | LDAP server | 389 TCP/UDP | (Optional) LDAP lookup |
| Storage node MIP | Remote storage cluster MVIP | 443 | Remote replication cluster pairing communication |
| Storage node MIP | Remote storage node MIP | 443 | Remote replication cluster pairing communication |
| Storage node MIP | S3/Swift endpoint | 443 | (Optional) HTTPS communication to S3/Swift endpoint for backup and recovery |
| Storage node MIP | Management node | 10514 TCP/UDP, 514 TCP/UDP | Syslog forwarding |
| Storage node MIP | Syslog server | 10514 TCP/UDP, 514 TCP/UDP | Syslog forwarding |
| Storage node MIP | LDAPS server | 636 TCP/UDP | LDAPS lookup |
| Storage node MIP | Remote storage node MIP | 2181 | Intercluster communication for remote replication |
| Storage node SIP | S3/Swift endpoint | 80 | (Optional) HTTP communication to S3/Swift endpoint for backup and recovery |
| Storage node SIP | S3/Swift endpoint | 443 | (Optional) HTTPS communication to S3/Swift endpoint for backup and recovery |
| Storage node SIP | Remote storage node SIP | 2181 | Intercluster communication for remote replication |
| Storage node SIP | Remote storage node SIP | 4000 through 4020 | Remote replication node-to-node data transfer |
| Storage node SIP | Compute node SIP | 442 | Compute node API, configuration and validation, and access to software inventory |
| System administrator PC | Storage node MIP | 80 | (NetApp HCI only) Landing page of NetApp Deployment Engine |
| System administrator PC | Management node | 442 | HTTPS UI access to management node |

| Source | Destination | Port | Description |
|-------------------------|----------------------|------|--|
| System administrator PC | Storage node MIP | 442 | HTTPS UI and API access to storage node, (NetApp HCI only) Configuration and deployment monitoring in NetApp Deployment Engine |
| System administrator PC | Management node | 443 | HTTPS UI and API access to management node |
| System administrator PC | Storage cluster MVIP | 443 | HTTPS UI and API access to storage cluster |
| System administrator PC | Storage node MIP | 443 | HTTPS storage cluster creation, post-deployment UI access to storage cluster |
| System administrator PC | Witness Node | 8080 | Witness Node per-node web UI |
| vCenter Server | Storage cluster MVIP | 443 | vCenter Plug-in API access |
| vCenter Server | Management node | 8443 | (Optional) vCenter Plug-in QoSSIOC service. |
| vCenter Server | Storage cluster MVIP | 8444 | vCenter VASA provider access (VVols only) |
| vCenter Server | Management node | 9443 | vCenter Plug-in registration. The port can be closed after registration is complete. |

Find more information

- [NetApp HCI Resources page](#)
- [NetApp Element Plug-in for vCenter Server](#)

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