CLUSTERLION PRE-INSTALLATION GUIDE
(LOCAL QUORUM)

Thank you for your order and your decision to implement ClusterLion for Automatic Switchover within your MetroCluster system!

Please take time to read the following instructions thoroughly and carefully before installation of ClusterLion.

Please inform us about your planned installation date and time at support@clusterlion.com **at least 5 working days in advance.**

General setup:
A ClusterLion Local Quorum project consists of 2 ClusterLion appliances and one quorum server. Each MetroCluster location requires 1 ClusterLion solution. The quorum server should preferably be made available at a third location.

For the connection between the two ClusterLion appliances and the quorum server, a dedicated network is required. If this is not possible, please contact us to discuss options for an individual solution.

For the installation of the ClusterLion solution, please ensure the following conditions are met (this applies to each MetroCluster location):

1) **The ClusterLion appliance requires 2U rack space in the MetroCluster rack.**

2) **The ClusterLion appliance needs a dedicated network connection to the quorum server.**

    The following variants can be implemented:

    - Dedicated VLAN

    - Dedicated copper or fiber-optic network:
      The appropriate port on ClusterLion to connect to the quorum server is designed as an RJ-45 connector. A media converter to fiber-optic is to provide on yourself if necessary. It is possible to connect this media converter with one power supply to the ClusterLion, so that in case of a power failure the media converter is still supplied with the ClusterLion internal UPS.

    - Dedicated and direct connected fiber-optic network (**recommended by ProLion**):
      A media converter to fiber-optic - as described above - is necessary and not provided by ProLion. A direct fiber-optic network connection and supplying the media converter with power from the ClusterLion appliance ensures, that even in the event of a power failure or an issue on a multiplexer or something else, ClusterLion services are still working properly.

    Required network latency = <300ms.

    In this dedicated ClusterLion network we use the IP address range 192.168.168.x

3) **A quorum Server with the following requirements:**

- OS: RHEL7 or EL7- compatible (centos7)

- 2 cores CPU, 2 GB RAM, 40 GB HDD (physical or virtual server, both supported)

- Two network interfaces. One for the dedicated ClusterLion network and one in the customer LAN for the management portal access

- root user access (for the installation process)

4) **An SMTP server to send e-mail alerts.**

5) **One Ethernet port at each NetApp controller.** For example, e0j or e0l. Usually e0l is not in use.

6) **In addition to the Ethernet port, we require one serial console port on each NetApp controller.** In general the NetApp controller will be managed via the service processor. Therefore the serial console port should be free to use. For management purposes the serial cable can be unplugged in order to manage the NetApp controller via the serial port. **In this case please enable the Maintenance Mode in the ClusterLion Portal first. Once your tasks are completed, please reconnect the serial cable to the ClusterLion appliance and disable the Maintenance Mode in the ClusterLion Portal.**

7) **Please verify that the IP address range 192.168.175.x is not in use on the NetApp controllers and send us a confirmation.** While we generally do not require the customer's IP addresses for installation purposes (except the portal access), since we are using a dedicated network port at the NetApp controller in an own broadcast domain, we have to prevent a IP address conflict. In case the IP addresses are already in use, we can change our IP address scheme. Internally we are using the IP range 192.168.175/24 for the management of all ClusterLion components. Additionally, we are using the IPs 192.168.175.131/132 on location 1 and 192.168.175.231/232 on location 2 to communicate with the NetApp Storage Controllers (SSH-access) and we therefore configure these IP-addresses at the MetroCluster-nodes. In case the mentioned IP addresses are already in use, we require one dedicated IP address for each side to reach the MetroCluster-nodes. **In this case please let us know the IP range that can be used. For example: 172.16.x.x or 10.x.x.x**

The ClusterLion solution is exclusively managed and monitored via our ClusterLion Portal (Service GUI), running on the quorum server and reachable on the designated Ethernet port of this server. The ClusterLion appliances should not be accessible via the customer's internal network. The customer can access the ClusterLion Portal via all modern browsers for monitoring purposes. All events and notifications will be sent to a freely definable email distributor that can be managed directly by the customer via the ClusterLion portal. This way the customer always stays informed about the activities around the ClusterLion solution.

Please review the mentioned requirements internally prior to the arrival of the appliances in order to ensure a smooth installation.

In case of any questions please contact us at support@clusterlion.com. Thank you!