FC-NVMe2 Keep Alive Rules

What are they?

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Selecting a template

- Base Spec
  NVMe Transports that do not detect a connection loss in a timely manner shall require that the Keep Alive be enabled. If a command attempts to disable Keep Alive by setting the timeout value to 0h or to a value that exceeds the maximum allowed by the associated NVMe Transport binding specification, a status value of Keep Alive Invalid shall be returned. If a command sets the timeout value to a value that is smaller than the minimum supported by the NVMe Transport or specific implementation, then the controller rounds up the timeout to the minimum.
- Fabrics Spec:
  7.3.5 Keep Alive Settings
  Keep Alive functionality is not supported by all RDMA provider types at the RDMA Transport layer. As a result, the RDMA Transport requires the use of the Keep Alive Feature (refer to section 5.15.1.14 in the NVMe Base specification). It is recommended that any RDMA provider level functionality be disabled to avoid redundant and conflicting policies.

  The RDMA Transport does not impose any limitations on the minimum and maximum Keep Alive Timeout value. The minimum should be set large enough to account for any transient fabric interconnect failures between the host and controller.
- What, if anything, does FC-NVMe need to say about Keep Alive timeout? Is it required? Are there any limitations?

Discovery Controller Timeout

- NVMe over fabric spec V 1.0 section 5 "Discovery Service" says

  "The Keep Alive command is reserved for Discovery controllers. A transport may specify a fixed Discovery controller activity timeout value (e.g., 2 minutes). If no commands are received by a Discovery controller within that time period, the controller may perform the actions for Keep Alive Timer expiration defined in section 7.1.2. ”

- Should FC-NVMe specifiy a Discovery Controller activity timeout?