



# **Planning for RAID implementation**

## **ONTAP FlexArray**

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# Planning for RAID implementation

You need to plan the size of and number of LUNs in the storage array RAID groups and decide whether you want to share the RAID group among hosts.

## RAID protection for array LUNs

Storage arrays provide RAID protection for the array LUNs that they make available to ONTAP. ONTAP does not provide RAID protection.

ONTAP uses RAID0 (striping) for array LUNs. ONTAP supports a variety of RAID types on the storage arrays, except RAID0 because RAID0 does not provide storage protection.

When creating *RAID groups* on storage arrays, you need to follow the best practices of the storage array vendor to ensure that there is an adequate level of protection on the storage array so that disk failure does not result in loss of data or loss of access to data.



- A *RAID group* on a storage array is the arrangement of disks that together form the defined RAID level.

Each RAID group supports only one RAID type. The number of disks that you select for a RAID group determines the RAID type that a particular RAID group supports. Different storage array vendors use different terms to describe this entity—RAID groups, parity groups, disk groups, Parity RAID groups, and other terms.

- ONTAP supports RAID4 and RAID-DP on native disk shelves, but supports only RAID0 on array LUNs.

## Planning considerations for ONTAP RAID groups

Before you set up ONTAP RAID groups for array LUNs, you must plan the size of aggregates, the number and size of RAID groups, and the size of array LUNs. RAID groups that best meet your data requirements ensure adequate protection on the array for data and its availability.

Planning for ONTAP RAID groups involves the following tasks:

1. Planning the size of the aggregate that best meets your data requirements.
2. Planning the number and size of RAID groups required for the size of the aggregate.
3. Planning the size of the array LUNs required in the ONTAP RAID groups:
  - To avoid a performance penalty, all array LUNs in a particular ONTAP RAID group should be the same size.
  - The array LUNs should be the same size in all RAID groups in the same aggregate.
4. Communicating with the storage array administrator to create the number of array LUNs of the size you need for the aggregate.

The array LUNs should be optimized for performance according to the instructions in the storage array vendor documentation.

For more recommendations about setting up ONTAP RAID groups for use with storage arrays, see [Disks and Aggregates management](#).

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