



## Best Practices Guide for Oversubscription of Thin LUNs

Oversubscription of thin LUNs on Violin Flash Storage Platform (FSP) depends on the initial allocation size of thin LUNs. The initial allocation size of a thin LUN is a tunable parameter on Violin FSP platforms – users can set it using Violin Symphony.

Violin FSP supports initial allocation size as low as 2.5% of the user's requested thin LUN size, meaning that a 10 TiB LUN can use 250 GiB initial allocation size. With initial allocation size set to 2.5%, a Violin FSP supports up to 40x or 4000% oversubscription of thin LUNs. For example, a Violin FSP with 88 TB usable capacity can support up-to 3520 TB as the maximum total size of thin LUNs.

The following table shows an example of different allocation sizes for 1 TiB thin LUN and the relationship between the 'Initial Allocation Size' and the over-subscription factor.

User Requested Thin LUN size	Initial Allocation size	Initial Allocation size (%)	Oversubscription Factor	
			Multiplier	%
1 TiB	25 GiB	2.5%	40x	4000%
1 TiB	50 GiB	5%	20x	2000%
1 TiB	100 GiB	10%	10x	1000%
1 TiB	200 GiB	20%	5x	500%

A low initial allocation size may result in frequent expansion of LUNs, thus impacting performance.

Violin recommends using an initial allocation size of 10% - that is the default setting. Using this size recommendation, the oversubscription ratio for Violin FSP is 10x or 1000%.

Using the Violin recommended setting, a Violin FSP with 88 TB usable capacity will support 880 TB as the maximum total size of thin LUNs.

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