



GetClusterCapacity

Element Software

Michael Wallis
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GetClusterCapacity

You can use the `GetClusterCapacity` to return high-level capacity measurements for an entire storage cluster. This method returns fields that you can use to calculate the efficiency rates shown in the Element web UI. You can use the efficiency calculations in scripts to return the efficiency rates for thin provisioning, deduplication, compression, and overall efficiency.

Efficiency calculations

Use the following equations to calculate thin provisioning, deduplication, and compression. These equations apply to Element 8.2 and later.

- $\text{thinProvisioningFactor} = (\text{nonZeroBlocks} + \text{zeroBlocks}) / \text{nonZeroBlocks}$
- $\text{deDuplicationFactor} = (\text{nonZeroBlocks} + \text{snapshotNonZeroBlocks}) / \text{uniqueBlocks}$
- $\text{compressionFactor} = (\text{uniqueBlocks} * 4096) / (\text{uniqueBlocksUsedSpace} * 0.93)$

Overall efficiency rate calculation

Use the following equation to calculate overall cluster efficiency using the results of the thin provisioning, deduplication, and compression efficiency calculations.

- $\text{efficiencyFactor} = \text{thinProvisioningFactor} * \text{deDuplicationFactor} * \text{compressionFactor}$

Parameters

This method has no input parameters.

Return value

This method has the following return value:

Name	Description	Type
clusterCapacity	Capacity measurements for the storage cluster.	clusterCapacity

Request example

Requests for this method are similar to the following example:

```
{
  "method": "GetClusterCapacity",
  "params": {},
  "id" : 1
}
```

Response example

This method returns a response similar to the following example:

```
{
  "id": 1,
  "result": {
    "clusterCapacity": {
      "activeBlockSpace": 236015557096,
      "activeSessions": 20,
      "averageIOPS": 0,
      "clusterRecentIOSize": 0,
      "currentIOPS": 0,
      "maxIOPS": 150000,
      "maxOverProvisionableSpace": 259189767127040,
      "maxProvisionedSpace": 51837953425408,
      "maxUsedMetadataSpace": 404984011161,
      "maxUsedSpace": 12002762096640,
      "nonZeroBlocks": 310080350,
      "peakActiveSessions": 20,
      "peakIOPS": 0,
      "provisionedSpace": 1357931085824,
      "snapshotNonZeroBlocks": 0,
      "timestamp": "2016-10-17T21:24:36Z",
      "totalOps": 1027407650,
      "uniqueBlocks": 108180156,
      "uniqueBlocksUsedSpace": 244572686901,
      "usedMetadataSpace": 8745762816,
      "usedMetadataSpaceInSnapshots": 8745762816,
      "usedSpace": 244572686901,
      "zeroBlocks": 352971938
    }
  }
}
```

New since version

9.6

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