

Table of Contents

===== [Storage Manage V2] =====	10
□ How to distinguish StorageManager version	10
□ By CGI	10
□ By QOS environment.....	10
□ By QTS internal identifier file	11
□ Pool Management	12
□ Pool Create <input checked="" type="checkbox"/>	12
□ Pool Remove <input checked="" type="checkbox"/>	14
□ Pool Threshold <input checked="" type="checkbox"/>	14
□ Lock SED Pool <input checked="" type="checkbox"/>	14
□ Unlock SED Pool <input checked="" type="checkbox"/>	15
□ Change password of SED Pool <input checked="" type="checkbox"/>	15
□ Verify password of SED Pool <input checked="" type="checkbox"/>	16
□ Enable SED Pool <input checked="" type="checkbox"/>	16
□ Disable SED Pool <input checked="" type="checkbox"/>	17
□ Get Reclaim Progress.....	17
□ Pool FileSystem Trim.....	18
□ Pool Snapshot Reserved.....	18
□ Expand By New RAID VDEV <input checked="" type="checkbox"/>	19
□ Expand By New Disk <input checked="" type="checkbox"/>	20
□ Expand By New Add Disks to Multiple RAIDs	20
□ RAID Pool Set Local Spare <input checked="" type="checkbox"/>	21
□ RAID Enable Bitmap.....	22
□ RAID Disable Bitmap.....	22
□ RAID Recovery <input checked="" type="checkbox"/>	22
□ RAID Migration.....	23

<input type="checkbox"/> ZFS Setting <input checked="" type="checkbox"/>	23
<input type="checkbox"/> Volume Management	24
<input type="checkbox"/> Volume Create <input checked="" type="checkbox"/>	24
<input type="checkbox"/> Volume Create (Quick) <input checked="" type="checkbox"/>	27
<input type="checkbox"/> Volume Remove <input checked="" type="checkbox"/>	28
<input type="checkbox"/> Check File System	29
<input type="checkbox"/> Check File System (All Selected Volume)	29
<input type="checkbox"/> Get Need Check Volume List	30
<input type="checkbox"/> Volume Convert <input checked="" type="checkbox"/>	30
<input type="checkbox"/> Volume Reclaim	31
<input type="checkbox"/> Volume Reclaim Set Schedule	31
<input type="checkbox"/> Volume Reclaim Get Schedule	32
<input type="checkbox"/> Volume Format	33
<input type="checkbox"/> Volume Threshold <input checked="" type="checkbox"/>	33
<input type="checkbox"/> Volume Label <input checked="" type="checkbox"/>	34
<input type="checkbox"/> Volume Resize <input checked="" type="checkbox"/>	34
<input type="checkbox"/> Volume Check All Share Folder <input checked="" type="checkbox"/>	35
<input type="checkbox"/> Volume Set BBU	35
<input type="checkbox"/> SSD Volume Trim	36
<input type="checkbox"/> SSD Volume Enable	37
<input type="checkbox"/> ZFS SSD Read Cache of Volume <input checked="" type="checkbox"/>	37
<input type="checkbox"/> ZFS Dedup Enable/Disable <input checked="" type="checkbox"/>	38
<input type="checkbox"/> ZFS Compression Enable/Disable <input checked="" type="checkbox"/>	38
<input type="checkbox"/> Get Information (Extra)	38
<input type="checkbox"/> Enclosure List Get <input checked="" type="checkbox"/>	39
<input type="checkbox"/> Enclosure Information Get <input checked="" type="checkbox"/>	40
<input type="checkbox"/> Enclosure Information Get (RAID) <input checked="" type="checkbox"/>	52
<input type="checkbox"/> Get Media Type (Pool Volume RAID)	53
<input type="checkbox"/> Dedicated Folder Check	53
<input type="checkbox"/> Dedicated Folder Get Progress	54
<input type="checkbox"/> Dedicated Folder Get Size	54
<input type="checkbox"/> External Share List Get	55

<input type="checkbox"/> Not Support Snapshot Storage Get	56
<input type="checkbox"/> RAID I VDEV Information Get <input checked="" type="checkbox"/>	56
<input type="checkbox"/> RAID Sync Information Get	58
<input type="checkbox"/> Pool List Get <input checked="" type="checkbox"/>	61
<input type="checkbox"/> Pool Information Get (Resource Monitor) <input checked="" type="checkbox"/>	66
<input type="checkbox"/> Pool Information Get (Volume) <input checked="" type="checkbox"/>	67
<input type="checkbox"/> Pool Information Get (RAID) <input checked="" type="checkbox"/>	68
<input type="checkbox"/> Pool Subscription Get <input checked="" type="checkbox"/>	69
<input type="checkbox"/> Volume List (Legacy)	71
<input type="checkbox"/> Volume List <input checked="" type="checkbox"/>	71
<input type="checkbox"/> Volume Information Get <input checked="" type="checkbox"/>	73
<input type="checkbox"/> Volume Information (Resource Monitor) Get <input checked="" type="checkbox"/>	82
<input type="checkbox"/> Volume Information (Reduced) Get	84
<input type="checkbox"/> Check Volume Information	86
<input type="checkbox"/> Size Statiscisc Get	86
<input type="checkbox"/> Get Reset Status	87
<input type="checkbox"/> Get QVS information	88
<input type="checkbox"/> Cache Volume Management	88
<input type="checkbox"/> Cache Volume Create	88
<input type="checkbox"/> Cache Volume Remove	89
<input type="checkbox"/> Cache Volume Enable	90
<input type="checkbox"/> Cache Volume Information	90
<input type="checkbox"/> Cache Volume Add Disk	92
<input type="checkbox"/> Cache Feature Get	93
<input type="checkbox"/> Cache Algorithm Set	93
<input type="checkbox"/> Cache Mode Set	94
<input type="checkbox"/> Cache Bypass Threshold Get	94
<input type="checkbox"/> Cache Bypass Threshold Set	95
<input type="checkbox"/> ZFS Cache Pool Management	95
<input type="checkbox"/> Cache Pool Create <input checked="" type="checkbox"/>	95
<input type="checkbox"/> Cache Pool Remove <input checked="" type="checkbox"/>	96
<input type="checkbox"/> Cache Pool Info <input checked="" type="checkbox"/>	96

<input type="checkbox"/> Change Disks of Cache Pool <input checked="" type="checkbox"/>	97
<input type="checkbox"/> Cache Pool Setting <input checked="" type="checkbox"/>	98
<input type="checkbox"/> ZFS Operation Check	98
<input type="checkbox"/> Data Pool Create Check <input checked="" type="checkbox"/>	98
<input type="checkbox"/> Cache Pool Create Check <input checked="" type="checkbox"/>	99
<input type="checkbox"/> Get Performance (Volume/DATASET) <input checked="" type="checkbox"/>	99
<input type="checkbox"/> Get Performance (Pool) <input checked="" type="checkbox"/>	100
<input type="checkbox"/> Get Performance (Disk) <input checked="" type="checkbox"/>	101
<input type="checkbox"/> Get Performance (Disk_V2) <input checked="" type="checkbox"/>	102
<input type="checkbox"/> Get Performance (RAID/DEV) <input checked="" type="checkbox"/>	103
<input type="checkbox"/> Disk Detach <input checked="" type="checkbox"/>	105
<input type="checkbox"/> Disk Test Speed <input checked="" type="checkbox"/>	105
<input type="checkbox"/> Disk Performance Test <input checked="" type="checkbox"/>	106
<input type="checkbox"/> Reset Default <input checked="" type="checkbox"/>	107
<input type="checkbox"/> Enclosure Management	107
<input type="checkbox"/> Remove JBOD <input checked="" type="checkbox"/>	107
<input type="checkbox"/> Check JBOD Connection <input checked="" type="checkbox"/>	108
<input type="checkbox"/> IHM Management	108
<input type="checkbox"/> IHM Information Get <input checked="" type="checkbox"/>	108
<input type="checkbox"/> Analysis IHM Start <input checked="" type="checkbox"/>	109
<input type="checkbox"/> Analysis IHM Stop <input checked="" type="checkbox"/>	110
<input type="checkbox"/> Get Warranty Rescue <input checked="" type="checkbox"/>	110
<input type="checkbox"/> Set IHM Scheduler <input checked="" type="checkbox"/>	111
<input type="checkbox"/> Get IHM Scheduler <input checked="" type="checkbox"/>	111
<input type="checkbox"/> Get IHM Log Path <input checked="" type="checkbox"/>	112
<input type="checkbox"/> Download IHM Log <input checked="" type="checkbox"/>	113
<input type="checkbox"/> IHM Statistics Get <input checked="" type="checkbox"/>	113
<input type="checkbox"/> IHM Statistics Clear <input checked="" type="checkbox"/>	114
<input type="checkbox"/> IHM Statistics File Get <input checked="" type="checkbox"/>	114
<input type="checkbox"/> IHM Statistics Export <input checked="" type="checkbox"/>	115
<input type="checkbox"/> IHM Statistics Interval Get <input checked="" type="checkbox"/>	115
<input type="checkbox"/> Utilization Management	116

<input type="checkbox"/> Utilization Record Clear <input checked="" type="checkbox"/>	116
<input type="checkbox"/> Utilization Record Get (Pool) <input checked="" type="checkbox"/>	117
<input type="checkbox"/> Utilization Record Get (Volume) <input checked="" type="checkbox"/>	119
<input type="checkbox"/> Utilization Record Get (LUN)	120
<input type="checkbox"/> UASP Option <input checked="" type="checkbox"/>	121
<input type="checkbox"/> ERC Option <input checked="" type="checkbox"/>	121
<input type="checkbox"/> SMART Interval Option <input checked="" type="checkbox"/>	122
<input type="checkbox"/> JBOD Check Recovered <input checked="" type="checkbox"/>	123
<input type="checkbox"/> JBOD Roaming.....	123
<input type="checkbox"/> Show Detached Storage <input checked="" type="checkbox"/>	123
<input type="checkbox"/> Show Scanned Storage <input checked="" type="checkbox"/>	124
<input type="checkbox"/> Check Need Scan? <input checked="" type="checkbox"/>	125
<input type="checkbox"/> Scanned Storage Operation <input checked="" type="checkbox"/>	125
<input type="checkbox"/> JBOD Scan <input checked="" type="checkbox"/>	126
<input type="checkbox"/> JBOD Remove <input checked="" type="checkbox"/>	126
<input type="checkbox"/> JBOD Can Be Remove? <input checked="" type="checkbox"/>	127
<input type="checkbox"/> Pool Roaming	127
<input type="checkbox"/> Scanned Pool Operation <input checked="" type="checkbox"/>	127
<input type="checkbox"/> Pool Can Be Removed? <input checked="" type="checkbox"/>	128
<input type="checkbox"/> Volume Can Be Removed? <input checked="" type="checkbox"/>	128
<input type="checkbox"/> Pool Safe Remove <input checked="" type="checkbox"/>	129
<input type="checkbox"/> Volume Safe Remove <input checked="" type="checkbox"/>	129
<input type="checkbox"/> Pool Scan <input checked="" type="checkbox"/>	130
<input type="checkbox"/> Show Scanned Storage <input checked="" type="checkbox"/>	130
<input type="checkbox"/> TR External RAID Management.....	131
<input type="checkbox"/> Create TR-002/004 & TRCT RAID.....	131
<input type="checkbox"/> Delete TR-002/004 & TRCT RAID.....	132
<input type="checkbox"/> TR RAID Information Get By raidID.....	132
<input type="checkbox"/> TRCT RAID Information Get By Enclosure ID	133
<input type="checkbox"/> Set TR RAID Spare	135
<input type="checkbox"/> Set TR RAID Rebuild Priority.....	135
<input type="checkbox"/> TRCT RAID Recovery	136

□ Set One of the disks in TRCT as Global Spare.....	136
□ Initialize or Restore TRCT enclosure setting.....	136
□ Get Quick Initialization Status of TRCT	137
TRCT RAID Group Expansion.....	138
TRCT RAID Group Migration.....	138
□ External JBOD Management / Setting	139
□ Set / Get RAID Scrubbing schedule	139
□ QXP Card mapping table.....	139
□ Buzzer enable/disable	140
□ Fan setting	141
□ Enclosure name setting	141
□ Retrieve Enclosure name	142
□ Set Warning Temperature Threshold.....	142
□ Retrieve Warning Temperature Threshold.....	143
□ Get duplicate wwn <input checked="" type="checkbox"/>	143
□ Predictive Migration	144
□ Set Predictive Migration Settings	144
□ Get Predictive Migration Settings.....	145
===== [Storage Manager]=====	146
□ Get All <input checked="" type="checkbox"/>	146
□ Get All Without SMART <input checked="" type="checkbox"/>	157
□ Get Enclosure Information <input checked="" type="checkbox"/>	157
□ Get Enclosure Without SMART <input checked="" type="checkbox"/>	163
□ Get Volume Information <input checked="" type="checkbox"/>	164
□ Disk Locate <input checked="" type="checkbox"/>	168
□ Disk Security Erase Start <input checked="" type="checkbox"/>	169
□ Disk Security Erase Cancel <input checked="" type="checkbox"/>	169
□ Disk Security Erase Progress <input checked="" type="checkbox"/>	170
□ Disk SED Management.....	171
□ SED Erase <input checked="" type="checkbox"/>	171
□ Enclosure Locate <input checked="" type="checkbox"/>	171
□ Enclosure Release <input checked="" type="checkbox"/>	172

<input type="checkbox"/> Bad Block Scanning <input checked="" type="checkbox"/>	172
<input type="checkbox"/> Volume Create (Legacy)	173
<input type="checkbox"/> Volume Format (Legacy)	174
<input type="checkbox"/> Volume Format Stop (Legacy)	175
<input type="checkbox"/> Volume Check (Legacy)	175
<input type="checkbox"/> Volume Check Stop (Legacy)	175
<input type="checkbox"/> Volume Remove (Legacy)	176
<input type="checkbox"/> Volume Set Label (Legacy)	176
<input type="checkbox"/> Volume Write Cache (Legacy)	177
<input type="checkbox"/> Aggregate Create (Legacy)	177
<input type="checkbox"/> Enclosure Scan	178
<input type="checkbox"/> Enclosure Set Friendly Name	179
<input type="checkbox"/> RAID Enable Global Spare	179
<input type="checkbox"/> RAID Expand (Legacy)	180
<input type="checkbox"/> RAID Hot Add (Legacy)	180
<input type="checkbox"/> RAID Migrate (Legacy)	181
<input type="checkbox"/> RAID Config Spare (Legacy)	181
<input type="checkbox"/> RAID Enable Bitmap (Legacy)	182
<input type="checkbox"/> RAID Recover (Legacy)	182
<input type="checkbox"/> RAID Migrate To Aggregate (Legacy)	183
<input type="checkbox"/> RAID Aggregate Expand (Legacy)	183
<input type="checkbox"/> Encryption Get Key Information <input checked="" type="checkbox"/>	184
<input type="checkbox"/> Encryption Key Manage <input checked="" type="checkbox"/>	184
<input type="checkbox"/> Encryption Device Open <input checked="" type="checkbox"/>	185
<input type="checkbox"/> Encryption Device Open With Key File <input checked="" type="checkbox"/>	186
<input type="checkbox"/> Encryption Device Close <input checked="" type="checkbox"/>	186
<input type="checkbox"/> External Disk Detect Status <input checked="" type="checkbox"/>	187
<input type="checkbox"/> External Disk Format <input checked="" type="checkbox"/>	188
<input type="checkbox"/> External Disk Disconnect <input checked="" type="checkbox"/>	188
<input type="checkbox"/> External Disk Remove <input checked="" type="checkbox"/>	189
<input type="checkbox"/> External Disk Erase <input checked="" type="checkbox"/>	189
<input type="checkbox"/> External Disk Get All Information <input checked="" type="checkbox"/>	190

<input type="checkbox"/> External Disk Set Label <input checked="" type="checkbox"/>	191
<input type="checkbox"/> RAID Set Sync Speed	192
<input type="checkbox"/> RAIDs Set Sync Speed	192
<input type="checkbox"/> RAID Set Over Provisioning	193
<input type="checkbox"/> RAID I Pool Scrubbing <input checked="" type="checkbox"/>	193
<input type="checkbox"/> RAID I Pool Scrubbing Schdeuler <input checked="" type="checkbox"/>	194
<input type="checkbox"/> Volume Get Estimate Size	194
<input type="checkbox"/> Service Stop/Start Query <input checked="" type="checkbox"/>	195
<input type="checkbox"/> Data Collection Management	196
<input type="checkbox"/> Get data collection setting	196
<input type="checkbox"/> Set data collection	196
===== [Appendix] =====	197
Appendix I : STORAGE_STATUS	197
Appendix II : POOL_STATUS	200
Appendix III : ZFS_STATE	201
Appendix IV : ZPOOL_STATUS	202
Appendix V : ERROR Code	202
Hero Disk Plug/Unplug Scenario	210
A. Disk Unplug	210
B. Disk I/O Error or S.M.A.R.T Abnormal	211
C. Disk Plug In	212
D. Add Spare Disk	213
.....	213
E. Reboot Scan	214
.....	214
Test Scenario	215