

# Moab

## Starccm jobs fail "Cannot initialize RDMA protocol"

**Problem:** StarCCM jobs fail to start with "Cannot initialize RDMA protocol"

**Affected versions:** All

### Symptoms:

Full error

```
Starting local server: /cd-adapco/STAR-CCM+9.04.009/star/bin/starccm+ -fabric IBV
-np 24 -machinefile /eecfd/ccairli/ClusterTest/Test_1Blades_03/host.txt -rsh "ssh"
-server /eecfd/ccairli/ClusterTest/Test_1Blades_03/KCS_D10p8_V10p0.sim
Starting STAR-CCM+ parallel server
starccm+: Rank 0:5: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:5: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:5: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:19: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:19: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:19: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:4: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:4: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:4: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:13: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:13: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:13: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:6: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:6: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:6: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:16: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:16: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:16: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:17: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:17: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:17: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:21: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:21: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:21: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:3: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:3: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:3: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:18: MPI_Init: ibv_create_cq() failed
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# Moab

starccm+: Rank 0:18: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:18: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:2: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:2: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:2: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:7: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:7: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:7: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:9: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:9: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:9: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:10: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:10: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:10: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:15: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:15: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:15: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:11: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:11: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:11: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:1: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:1: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:23: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:1: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:23: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:23: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:20: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:20: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:20: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:12: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:12: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:12: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:0: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:0: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:0: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:22: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:22: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:22: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:8: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:8: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:8: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
starccm+: Rank 0:14: MPI\_Init: ibv\_create\_cq() failed  
starccm+: Rank 0:14: MPI\_Init: Can't initialize RDMA device  
starccm+: Rank 0:14: MPI\_Init: Internal Error: Cannot initialize RDMA protocol  
MPI Application rank 5 exited before MPI\_Init() with status 1  
starccm+ Terminated  
starccm+ Terminated  
starccm+ Terminated  
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# Moab

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starccm+ Terminated
starccm+ Terminated
starccm+ Terminated
starccm+ Terminated
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mpirun: Broken pipe
error: Server process ended unexpectedly (return code 1)
starccm+: Rank 0:5: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:5: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:5: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:19: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:19: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:19: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:4: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:4: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:4: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:13: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:13: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:13: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:6: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:6: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:6: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:16: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:16: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:16: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:17: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:17: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:17: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:21: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:21: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:21: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:3: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:3: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:3: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:18: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:18: MPI_Init: Can't initialize RDMA device
```

# Moab

```
starccm+: Rank 0:18: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:2: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:2: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:2: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:7: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:7: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:7: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:9: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:9: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:9: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:10: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:10: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:10: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:15: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:15: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:15: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:11: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:11: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:11: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:1: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:1: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:23: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:1: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:23: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:23: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:20: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:20: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:20: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:12: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:12: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:12: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:0: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:0: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:0: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:22: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:22: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:22: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:8: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:8: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:8: MPI_Init: Internal Error: Cannot initialize RDMA protocol
starccm+: Rank 0:14: MPI_Init: ibv_create_cq() failed
starccm+: Rank 0:14: MPI_Init: Can't initialize RDMA device
starccm+: Rank 0:14: MPI_Init: Internal Error: Cannot initialize RDMA protocol
MPI Application rank 5 exited before MPI_Init() with status 1
mpirun: Broken pipe
```

**Solution:** When pbs\_mom starts, it is limited to "max locked memory (kbytes, -l) 64"

# Moab

You can add a "ulimit -l unlimited" to the pbs\_mom init script. Make sure to add this limit before starting pbs\_mom, as it will inherit the limit of the shell it starts from.

Unique solution ID: #1004

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