

Welcome to Talon Standard Operating Procedure Guide

Talon Documentation: <https://unt-rits.github.io>

This is a small sample book to give you a feel for how book content is structured.

Check out the content pages bundled with this sample book to get started.

Some things we need to cover here

- What this is and what is the purpose of this.
- What is the format of it and how to navigate it.
- Show link/shortcut to pdf version.

Other stuff

Talon3 Cluster Overview

- Authors

Created by Charles Peterson 12/2016

Modified by Yuguang Ma 8/2017

- Purpose

This doc contains the overall configuration information of the Talon3 cluster.

- Introduction

The new Talon (Talon3) is a heterogeneous cluster running CentOS and using Bright as the cluster management software and SLURM as the batch-queuing system. Current software versions on Talon3 are CentOS 7.3, Bright 7.3, and SLURM 16.05.

Talon3 contains 9 administration nodes, including 2 head nodes, 2 login nodes, 3 vis nodes and 2 NFS nodes, and 355 compute nodes with various models. Besides these, we also maintain some compute nodes of several research groups. A brief list of the nodes can be found in the following tables:

Administration nodes:

Bright Cluster configuration

- Authors Created by Charles Peterson 12/2016

Modified by Yuguang Ma 08/2017

- Purpose Setup configuration for Talon3 with Bright

- Procedure

Head nodes The Head nodes for Talon3 are R630 nodes: location on the UNT network: t3-head.hpc.unt.edu

There are two head nodes for Talon3. High Availability (HA) is in use with have the two head nodes to act as a failover pair. t3-head1 – located on rack 13, rank XX t3-head2 – located on rack 13, rank XX

Network Interfaces: 1Gb: eth0 – internal network for management(10.1.XXX.XXX) eth1 – UNT network, Internet (129.120.220.XXX) 10GB (with adapter): eth2 eth3

Adding new nodes

• Authors Created by Charles Peterson 03/2017
Modified by XXXXXXXXXX

- Purpose Adding new nodes to the Talon3 cluster
- Procedure

You can do this either through cmgui or cmsh

With cmgui, Create a new node under the 'Nodes' Tab. Modify hostname added it to a node category Enter the Network values Name: BOOTIF (internal Talon3 network) Type: Physical Network: internalnet (10.1.0.0/16) IP: 10.1.xxx.xxx

```
Name: ib0 (the IB network)
Type: Physical
Network: ibnetnet (10.11.0.0/16)
IP: 10.11.xxx.xxx

Name: ipmi0 (IPMI/BMC network)
Type: BMC (IPMI)
Network: ipminet (10.2.0.0/16)
IP: 10.2.xxx.xxx
```

Boot the node and PXE boot MAKE SURE TO CHANGE THE iDRAC NETWORK FROM THE DEDICATED PORT TO LOM1. You will need to go into the BIOS, into the system setting (F2) and go to the iDRAC network settings.

Slurm

• Authors Created by Charles Peterson 01/2016
Modified by XXXXXXXXXX

- Purpose The use of Slurm on Talon3
- Procedure

Setting up Slurm [root@bright73 ~]# wlm-setup -w slurm -s

Multifactor Priority Default is FIFO Change the Multifactor in /etc/slurm/slurm.conf

SCHEDULING

PriorityType=priority/multifactor PriorityUsageResetPeriod=1-0 PriorityWeightFairshare=100000
PriorityWeightAge=1000 PriorityWeightPartition=10000 PriorityWeightJobSize=1000 PriorityMaxAge=14-0
PriorityDecayHalfLife=0 PriorityFavorSmall=NO PriorityWeightQOS=0 PriorityWeightPartition=1000

Queues scontrol show partitions