

ThunderX2 Pod 1

Overview

The ThunderX2 Pod 1 consists of 3 Arm®v8 based Gigabyte R281-T91 servers and 1 Ampere HR330A jumphost server with the following specifications per server:

| | Gigabyte R281-T91 | Ampere HR330A |
|------------|--|--|
| CPU | 2x 28 core 2.0 GHz Marvell TX2 Processors | 1x 32 core 3.3 GHz Ampere ARMv8 64-bit Processor |
| RAM | 4x 32GB RDIMM-Tx2 | 8x 16GB DDR4-DIMM |
| Storage | 1x 480GB SSD 1x 1TB HDD | 1x 480GB SSD |
| Networking | 2x 10Gbe SFP+ (not connected) 2x 1/10Gbe BASE-T (1 connected) 2x 40Gbe QSFP (coming soon) 1x IPMI / Lights-out Management | 2x 10Gbe SFP+ (connected) 1x 1Gbe BASE-T (not connected) 1x IPMI / Lights-out Management |

Usage & Users

This information can now be found on the Akraino dashboard. Check the Shared Community Lab page for more information.

Server Access

For the meantime when you request access to the Akraino Pods at UNH-IOL we will ask that you send us your public ssh key so we can add it to the root users of those machines.

If you wish to have your own user we can get that setup, but it is much quicker and easier if you just stick with the root user.

IMPORTANT NOTICE:

Currently gigabyte-jumphost1 is being used for Ampere pod 1 and is currently unavailable for this pod until further notice.

IPMI Access

When booking a pod, the Akraino dashboard will provide IPMI credentials via email.

You can access an IPMI interface like the example below:

thunder1-gigabytel-ipmi.akr.iol.unh.edu

Then enter the username and password provided from the file in /opt and now you can manage the system on your and will even be able to add your own public keys in the event of a reinstall of the machine.

If you have any issues with any of the IPMI interfaces please email akraino-lab@iol.unh.edu and we will assist you in anyway we can.

Networking

The networking within the pod is currently provided by a 10Gbe BASE-T switch, which only supports static configurations (i.e. no SDN control). This switch will be replaced with an Edgecore 7816-64X that is currently on order, along with 40Gbe NICs to be installed on each server.

| Network | IP Network | VLAN ID | Description |
|-------------------|---------------|---------|---|
| IPMI / Management | 10.11.3.0/24 | 3003 | Connections to all IPMI interfaces on each server and the switch management interface |
| | GW: 10.11.3.1 | | |
| Public | 10.11.4.0/24 | 3004 | Public network (able to reach the Internet), available to each server. |
| | GW: 10.11.4.1 | | |

[blocked URL](#)

Servers and Switches

| Server Name | IPMI Address | IPMI VLAN ID | Public Network Address | Public Network VLAN ID | Switch Port(s) | Serial Connection | OS Installed |
|--------------------|--------------|--------------|------------------------|------------------------|--|-------------------|--------------|
| thunder1-gigabyte1 | 10.11.3.11 | 3003 | 10.11.4.11 | 3004 | gigabyte-edgecore1: left 40Bbe Port 1, right 40Gbe Port 2, left 10Gbe Port 7 Breakout 1, right 10Gbe Port 7 Breakout 2 | Async 1/3 | CentOS 7.6 |
| thunder1-gigabyte2 | 10.11.3.12 | 3003 | 10.11.4.12 | 3004 | gigabyte-edgecore1: left 40Bbe Port 3, right 40Gbe Port 4, left 10Gbe Port 7 Breakout 3, right 10Gbe Port 7 Breakout 4 | Async 1/4 | CentOS 7.6 |
| thunder1-gigabyte3 | 10.11.3.13 | 3003 | 10.11.4.13 | 3004 | gigabyte-edgecore1: left 40Bbe Port 5, right 40Gbe Port 6, left 10Gbe Port 8 Breakout 1, right 10Gbe Port 8 Breakout 2 | Async 1/5 | CentOS 7.6 |

| Switch Name | Mgmt Address | VLAN ID | Serial Connection | OS Installed |
|-------------------|--------------|---------|-------------------|--------------|
| thunder1-edgecore | 10.11.3.8 | 3003 | Async 1/1 | SONiC |