Zero Touch Stress Automation

“Chiefs” present …
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@DurgeshKeni
@arjun3232
@agajula
@greenpau
Core Network

Configured IP: 10.10.10.1/30

Desired IP: 10.10.10.2/30

LLDP/CDPA

Motherboard IDA
Hardware IDA

R1A
G1

R2A
G2

Update Network Controller:
• SNMP Trap
• Syslog
• XMPP

Network Controller

NAPALMA
- Device Unique Identifier Discovery
- Credentials Discovery
- Inventory Collection

Out-of-Band Management Network
Hardware inventory:

<table>
<thead>
<tr>
<th>Item</th>
<th>Version</th>
<th>Part number</th>
<th>Serial number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chassis</td>
<td>VMXd9</td>
<td>VMX</td>
<td></td>
<td>RE-VMX</td>
</tr>
<tr>
<td>Midplane</td>
<td></td>
<td></td>
<td></td>
<td>Hard Disk</td>
</tr>
<tr>
<td>Routing Engine 0</td>
<td></td>
<td>QEMU HARDDISK</td>
<td>QM00001</td>
<td>VMX SCB</td>
</tr>
<tr>
<td>ad0</td>
<td>20473 MB</td>
<td></td>
<td></td>
<td>VMX SCB</td>
</tr>
<tr>
<td>CB 0</td>
<td></td>
<td></td>
<td></td>
<td>Virtual FPC</td>
</tr>
<tr>
<td>CB 1</td>
<td></td>
<td></td>
<td></td>
<td>Virtual</td>
</tr>
<tr>
<td>FPC 0</td>
<td></td>
<td></td>
<td></td>
<td>Virtual</td>
</tr>
<tr>
<td>CPU</td>
<td>Rev. 1.0</td>
<td>RIOT</td>
<td>123XYZ987</td>
<td>Virtual</td>
</tr>
<tr>
<td>MIC 0</td>
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<td>BUILTIN</td>
<td>BUILTIN</td>
<td>Virtual</td>
</tr>
<tr>
<td>PIC 0</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Physical interface: **fxb0**, Enabled, Physical link is Up

- Interface index: 8, SNMP ifIndex: 1
- Current address: 2c:c2:60:73:ab:9f, Hardware address: 2c:c2:60:73:ab:9f
- Protocol inet, MTU: 1500
- Flags: Sendbcast-pkt-to-re, Is-Primary
- Addresses, Flags: Is-Preferred Is-Primary
  - Destination: 10.0.0/24, Local: 10.0.0.31, Broadcast: 10.0.0.255
Out-of-Band Management Network

- R1 G1 IP Address: 10.10.10.2 (calculated from R2 G2)
- Check Connectivity from R2 to R1 (P2P)
- R1 Lo0 IP address (algo based)
- R1 IGP Adjacency
- R1 Redistribute connected
- etc.

Ansible/Salt Driven

Up-to-Date Inventory
<table>
<thead>
<tr>
<th>Groups: 2 Peers: 4 Down peers: 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table</td>
</tr>
<tr>
<td>Tot Paths</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>inet.0</td>
</tr>
<tr>
<td>inet6.0</td>
</tr>
<tr>
<td>Peer</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>10.1.64.2</td>
</tr>
<tr>
<td>10.1.64.3</td>
</tr>
<tr>
<td>2001:db8::10:1:64:2</td>
</tr>
<tr>
<td>inet6.0: 1/4/4/0</td>
</tr>
<tr>
<td>2001:db8::10:1:64:3</td>
</tr>
<tr>
<td>inet6.0: 0/3/3/0</td>
</tr>
</tbody>
</table>
Configured IP: 10.10.10.1/30A
Configured IP: 10.10.10.2/30A

XMPP/NETCONF/RESTCONF/APIs

Network ControllerA
Personal Experiences I

• Connect with more people
• Build personal network
• Got to know about tools like ANSIBLE and NAPALM
• Get to talk with people about what they are doing on their job
• Thinking how the tools can solve other problems related to testing
• We are not programmers, yet found these tools very useful
Personal Experiences II

- Wonderful time
- Meet nice people from different life experiences
- Learn about the tools
- Run and sell ideas for your own personal projects
- The environment allows for taking risks
- There was teaching and learning on each team
- Feel welcomed
Automation

Right