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OpenBMC: End User Features and Function

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Product Ready



[witherspoon]# obmc	ut:	ιι	sta	te
CurrentBMCState	1	ху	z.o	pen
CurrentPowerState	11	xv	z.o	pen
CurrentHostState				pen
[andrewg@gfwa123 ~]\$ openbmc	-se	nsor	s s	serve
{u'WarningAlarmLow': 0, u'Wa				
': 0, u'Value': 28080, u'War	nin	gHig	h': 2	25000
{				
"WarningAlarmLow": 0,				
"WarningLow": 0,				
"Scale": -3,				
"WarningAlarmHigh": 1,				
"CriticalHigh": 35000,				
"CriticalAlarmHigh": 0,				
"CriticalAlarmLow": 0,				
"Value": 28080,				
"WarningHigh": 25000,				
"CriticalLow": 0,				
"Unit": "xyz.openbmc_pro	iec	t.Se	nsor	Valu
}				

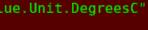
- Ready for Prime Time
- In production by multiple companies
 - Deployed within multiple datacenters throughout the world
- Passed an outrageous amount of manual and automated tests
 - Manufacturing, Functional Test, System Test
- Yocto/Bitbake based so continuous kernel and security updates available

[andrewg@gfwa123	~]\$ ipn	nitool	-I lanp	olus -H 9.3.86.161 -P OpenBmc sdr elist full
host0	03h	ok	0.0	
host0	05h	ok	0.0	boot completed - device not specified
host0	07h	ok	0.0	
occ0	08h	ok	0.0	Device Enabled
occ1	09h	ok	0.0	Device Enabled
core0	12h	ok	0.0	Presence detected



bmc_project.State.BMC.BMCState.Ready bmc_project.State.Chassis.PowerState.On ect.State.Host.HostState.Running





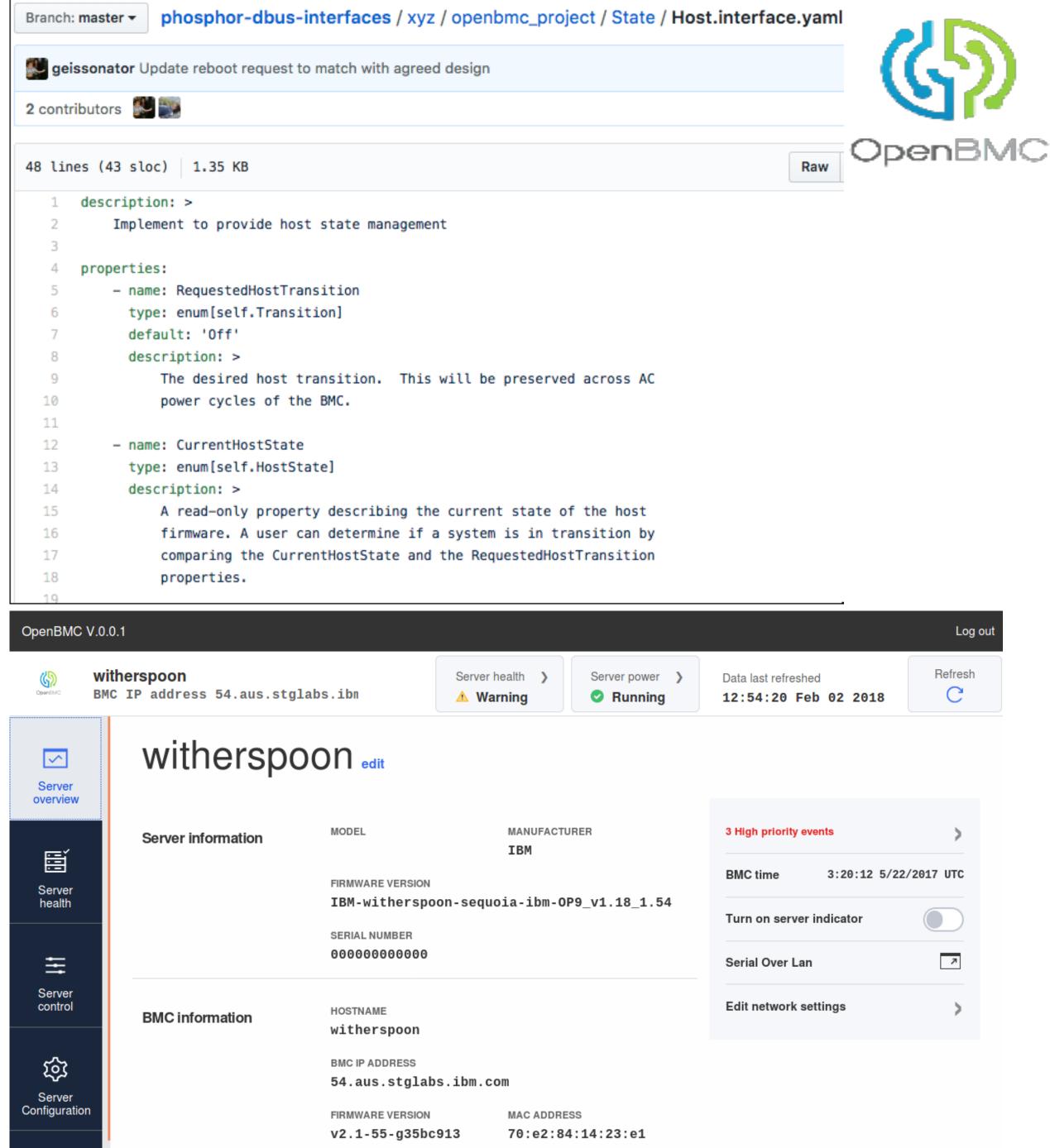


```
andrewg@gfwa123 ~]$ openbmc-events --server w54 list
xyz/openbmc project/logging/entry/2
andrewg@gfwa123 ~]$ openbmc-events --server w54 view /xyz/openbmc project/logging/entry/2
   "Resolved": 0,
   "AdditionalData": [
      " PID=1328"
   1.
  "Severity": "xyz.openbmc project.Logging.Entry.Level.Error",
  "Timestamp": 1517600791699,
  "associations": [],
  "Message": "org.open power.Witherspoon.Fault.Error.PowerSupplyInputFault",
  "Id": 2
```



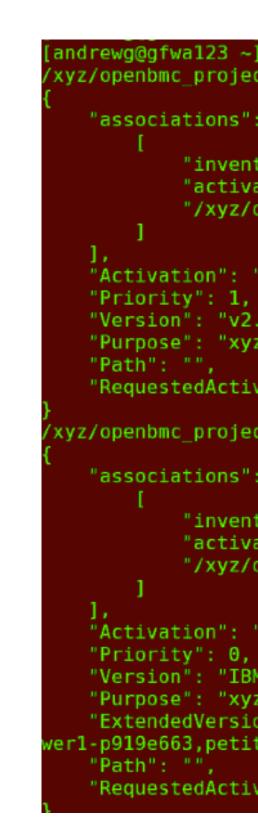
System Management

- IPMI
 - IPMI 2.0 Compliance
 - Full DCMI support
- REST
 - All D-Bus interfaces defined in phosphor-dbus-interfaces repo in GitHub
 - All REST api's have a direct mapping to all defined D-Bus interfaces
- Web Interface
 - Chassis control, Event and Sensor views, Firmware Updates, Server configuration
- Event Notification
 - Create dynamic web sockets to get call backs on critical events
- Coming Soon
 - Redfish



Firmware Update

- Two Implementations to choose from
 - Direct write JFFS2 implementation
 - UBI Based Firmware Update
 - Dynamic partitioning
 - Wear leveling
 - Host NOR presented as directories and files
- Multiple interface options
 - TFTP, SCP, PUT
 - Multi image support (UBI only)
- Brick Protection (UBI only)
 - U-Boot
 - Side switch
- Signed Image
 - Signed during build
 - Verified before writing to the flash



COOL, MORE

FREE STUFF!

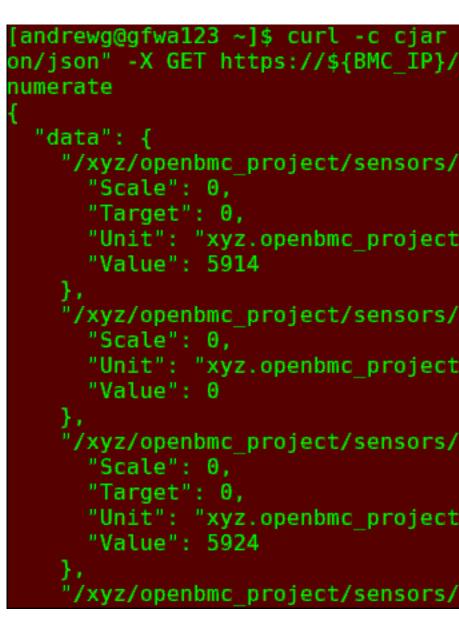


```
windows
                      linux
                                                                 mac
                   PenAmc
andrewg@gfwa123 ~]$ openbmc-sfw --server w54 list
xyz/openbmc project/software/9a57e68f
   "associations": [
           "inventory",
           "activation"
           "/xyz/openbmc project/inventory/system/chassis/motherboard/boxelder/bmc"
   "Activation": "xyz.openbmc project.Software.Activation.Activations.Active",
   "Version": "v2.1-57-g6a2fbcd",
   "Purpose": "xyz.openbmc_project.Software.Version.VersionPurpose.BMC",
   "RequestedActivation": "xyz.openbmc_project.Software.Activation.RequestedActivations.None"
xyz/openbmc_project/software/8764baa3
   "associations": [
           "inventory",
           "activation",
           "/xyz/openbmc_project/inventory/system/chassis"
   "Activation": "xyz.openbmc project.Software.Activation.Activations.Active",
  "Version": "IBM-witherspoon-sequoia-ibm-OP9 v1.18 1.54",
  "Purpose": "xyz.openbmc_project.Software.Version.VersionPurpose.Host",
   "ExtendedVersion": "op-build-v1.7-1321-g6eef393-dirty,buildroot-2017.05-163-g8035745,skiboot
er1-p919e663,petitboot-v1.5.1-p848cad7,machine-xml-c1e49a6-pbb9f626,occ-854999a,hostboot-binarie
   "RequestedActivation": "xyz.openbmc project.Software.Activation.RequestedActivations.None"
```

NOT AGAIN!

Configuration & Control

- Network Configuration – VLAN
- Time
 - NTP
 - Host/BMC Control management (Split/Both/Host/BMC)
- Remote Host Console
- Zeroconf / Avahi
- QEMU
- Event Logs
- Power and Cooling Management





	Petitboot (v1.5.1-p848cad7)	000000000000000000000000000000000000000
	<pre>[Disk: sda2 / 728d2189-0c67-4551-8857 Ubuntu, with Linux 4.10.0-26-generi Ubuntu, with Linux 4.10.0-26-generi Ubuntu</pre>	c (recovery mode)
	System information System configuration System status log Language	
	Rescan devices Retrieve config from URL	
-b cjar -k -H "Content-Type: /xyz/openbmc_project/sensors/f	* <mark>Exit to shell</mark>	
/fan_tach/fan0_0": {		
t.Sensor.Value.Unit.RPMS",	Enter=accept, e=edit, n=new, x=exit, l Default boot cancelled	=language, g=log, H
/fan_tach/fan0_1": {	beraace boot cancected	
t.Sensor.Value.Unit.RPMS",		
/fan_tach/fan1_0": {		
t.Sensor.Value.Unit.RPMS",		
/fan_tach/fan1_1": {		



Coming Soon

- VGA Mirroring
- Redfish
- Advanced User Management and Authentication
- KVM over IP
- Remote Media
- SNMP / Telemetry
- In-band Firmware Update







