

AYYAPPASWAMY

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SUMMARY

Results-driven **Linux System Administrator** with nearly 2 years of hands-on experience managing high-performance HPC environments (CPU & GPU), supporting mission-critical government and enterprise infrastructure. Demonstrated expertise in cluster management, system troubleshooting, automation, hardware integration, and cross-team collaboration. Adept at leveraging **NVIDIA Bright Cluster Manager** and **Dell OpenManage Enterprise** for optimized reliability, scalability, and system performance.

TECHNICAL SKILLS

- **Operating Systems:** RHEL 9.4, CentOS
- **Cluster & Job Scheduling:** NVIDIA Bright Cluster Manager, PBS Pro
- **System Monitoring:** Bright Cluster Manager, Dell OpenManage Enterprise (OME), UFM InfiniBand
- **Networking:** Switches (Dell S3100), InfiniBand (QM9700/QM9790 400Gb/s)
- **Package Management:** YUM, RPM
- **Benchmarking & Performance:** HPL, LINPACK, HPCC, Module Management
- **Scripting Languages:** Shell Scripting (automation, module setup)
- **User & Access Management:** Linux user access, Bright Cluster
- **Hardware Troubleshooting:** Integration/configuration, firmware updates

PROFESSIONAL EXPERIENCE

Linux Systems Administrator

TIS Labs Pvt. Ltd., Kolkata | Jan 2024 – Present

- **Administered and optimized** HPC clusters (1,241+ nodes, 47 accelerator nodes with 4× NVIDIA H100 GPUs each), achieving sustained 11 Petaflops compute performance for critical R&D and government workloads.
- **Deployed** clusters using NVIDIA Bright Cluster Manager; configured workload scheduling, monitoring, and proactive health checks, resulting in 99.99% uptime.

- **Automated** OS installation, user management, and package deployment using Shell scripts, improving onboarding time by 30%.
- **Streamlined** software installation and environment module management for commercial and open-source engineering applications, increasing user adoption and reducing support tickets.
- **Executed** system and hardware upgrades (firmware, drivers, network configuration) for Dell PowerEdge infrastructure, maintaining full compliance with security best practices.
- **Monitored** InfiniBand networks (400Gb/s), enabling data transfer optimization and rapid support resolution.
- **Benchmarked** cluster performance using HPL/LINPACK, tuning input parameters for peak floating-point and throughput efficiency.
- **Provided** 24/7 on-call remote support, troubleshooting complex issues and ensuring minimal downtime for critical clients.
- **Led** hardware integration tasks for BSNL's datacenter modernization, handling server mounting, networking, and initial OS provisioning.

PROJECTS

India's Fastest Multi-Petaflops HPC Cluster Deployment

- Key team member for setting up a tightly integrated HPC cluster with 11 Petaflops compute, 1,241 compute nodes, and 47 accelerator nodes (4× NVIDIA H100 GPUs/node).
- Validated and benchmarked cluster using HPL, LINPACK, and HPCC, surpassing all performance targets.

BSNL Network Infrastructure Modernization

- Contributed to the hardware deployment and integration for datacenter upgrades; ensured seamless OS installation, network readiness, and system validation across multi-node environments.

MACHINES, HARDWARE & NETWORKS

- **Servers/Nodes:** Dell PowerEdge R6625, R7625, XE8640, T550
- **Networking:** Dell S3100 1G/10G, QM9700/QM9790 400Gb/s InfiniBand

APPLICATIONS & TOOLS

- **Commercial:** ANSYS Fluent, ANSYS CFX, STAR-CCM+, HEEDS, ALTAIR FEKO
- **Open Source:** OpenFOAM, SU2, ParaView
- **Performance Libraries:** AOCC, AOCL, GCC, OpenMPI, Intel OneAPI/Toolkit

EDUCATION

Bachelor of Technology (B.Tech), Mechanical Engineering

Akkula Gopayya College of Engineering, JNTUK — 2016–2020

Diploma, Mechanical Engineering

SMVM Polytechnic College, Tanuku — 2013–2016

Secondary School Certificate (SSC)

ZPPH School, Koderu — 2012–2013

ROLES & RESPONSIBILITIES

- Oversaw 24/7 production support for datacenter and HPC environments.
- Administered HPC systems for research and governmental workloads, maintaining strict .
- Installed, configured, and benchmarked commercial/open-source simulation and engineering tools.
- Conducted OS and firmware patching, backup & restoration, and compliance auditing.
- Diagnosed, resolved, and documented incidents and service requests in high-availability environments.

Declaration : I hereby declare that the above information and particulars are true and correct to the best of my knowledge and belief.

Date:

(Signature)

Place:

(AYYAPPA SWAMY)