# Modernizing Caster-II: The Virtualization Blueprint

Supply, Installation, and Commissioning of the Virtualization System at SMS-II, Rourkela Steel Plant.

**Executed by: DG MICROPRONIX PVT. LTD.**

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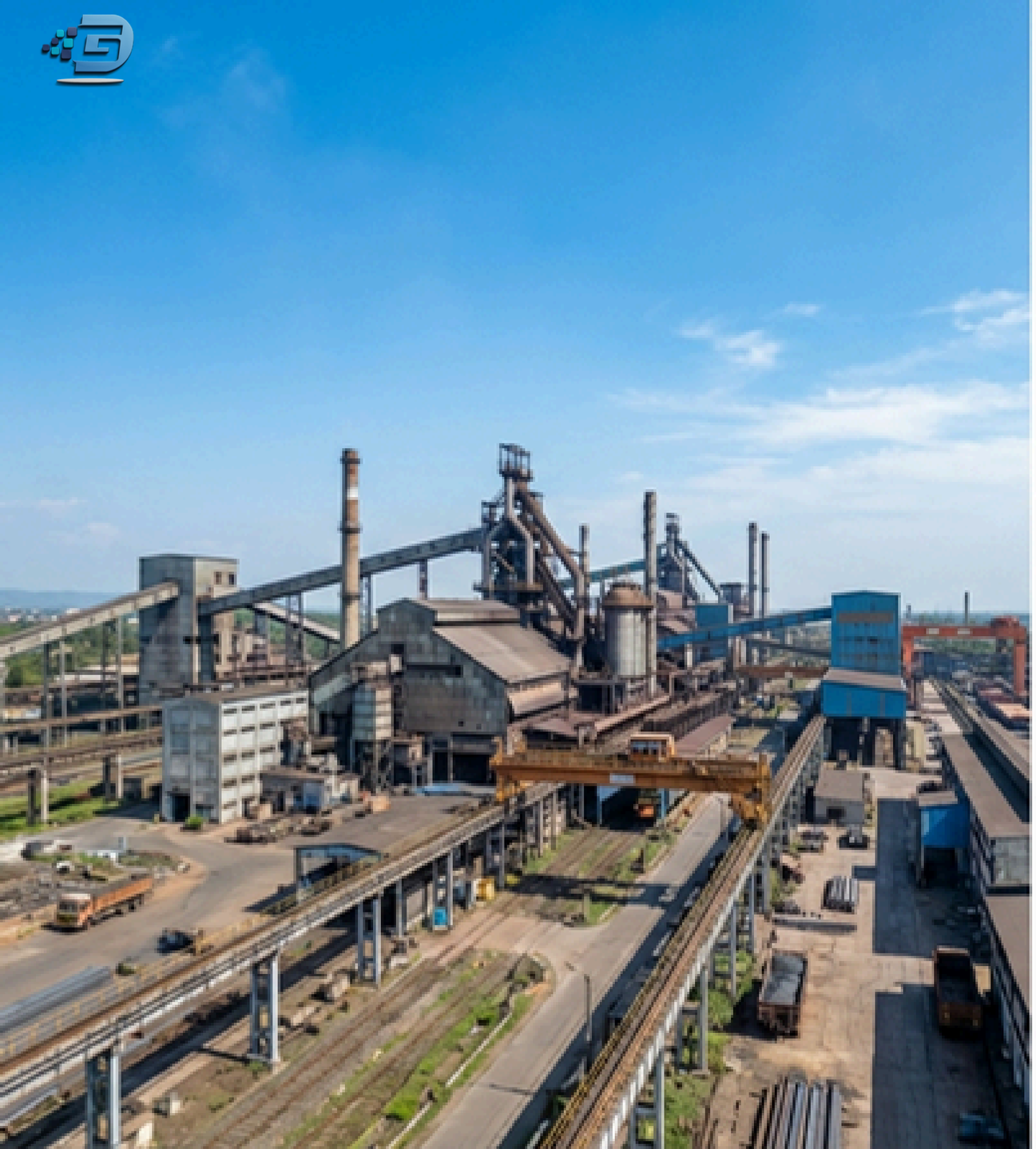
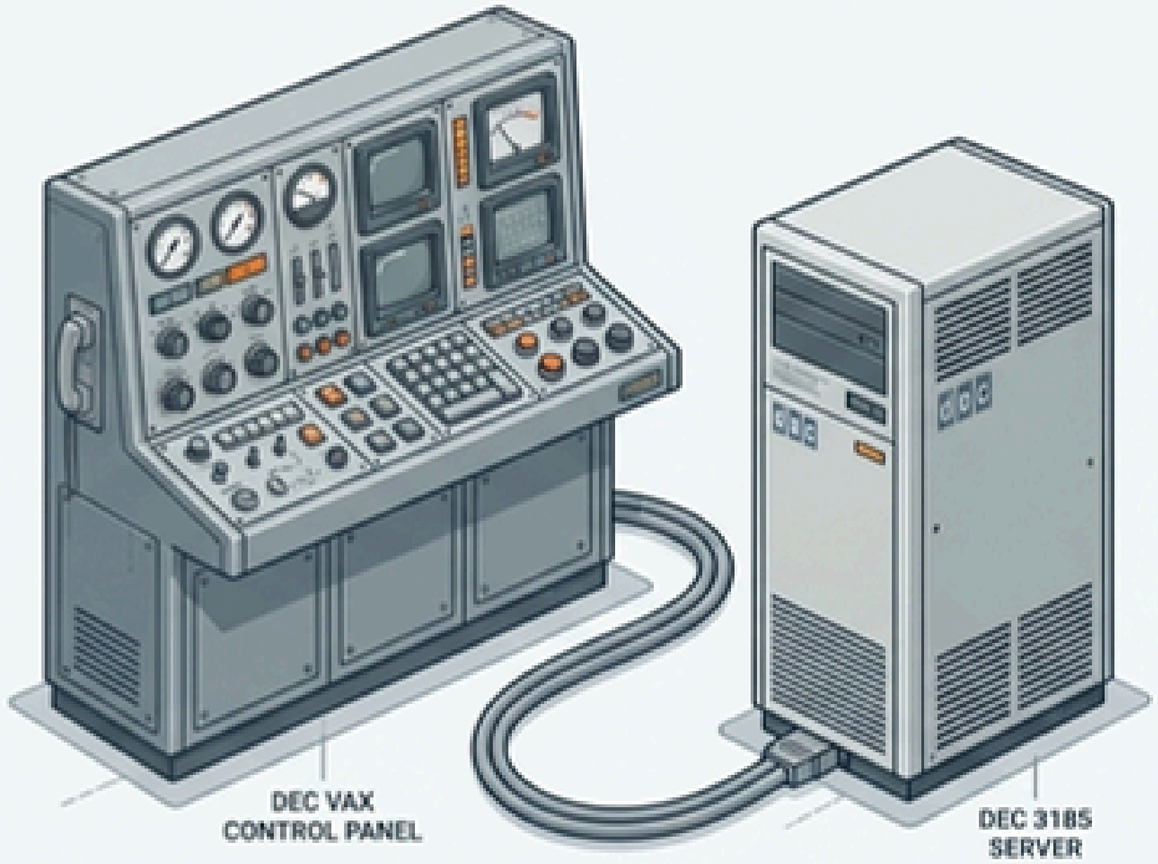


# Rourkela Steel Plant operates at a massive 4.2 million ton capacity.

As India’s first integrated steel plant in the public sector, RSP has undergone massive modernization to support domestic construction, defense, and export markets.
Every IT infrastructure upgrade must match this scale of industrial output.

# Legacy DEC VAX systems have driven Caster operations for decades.




**Existing Architecture at Caster-I & II:**

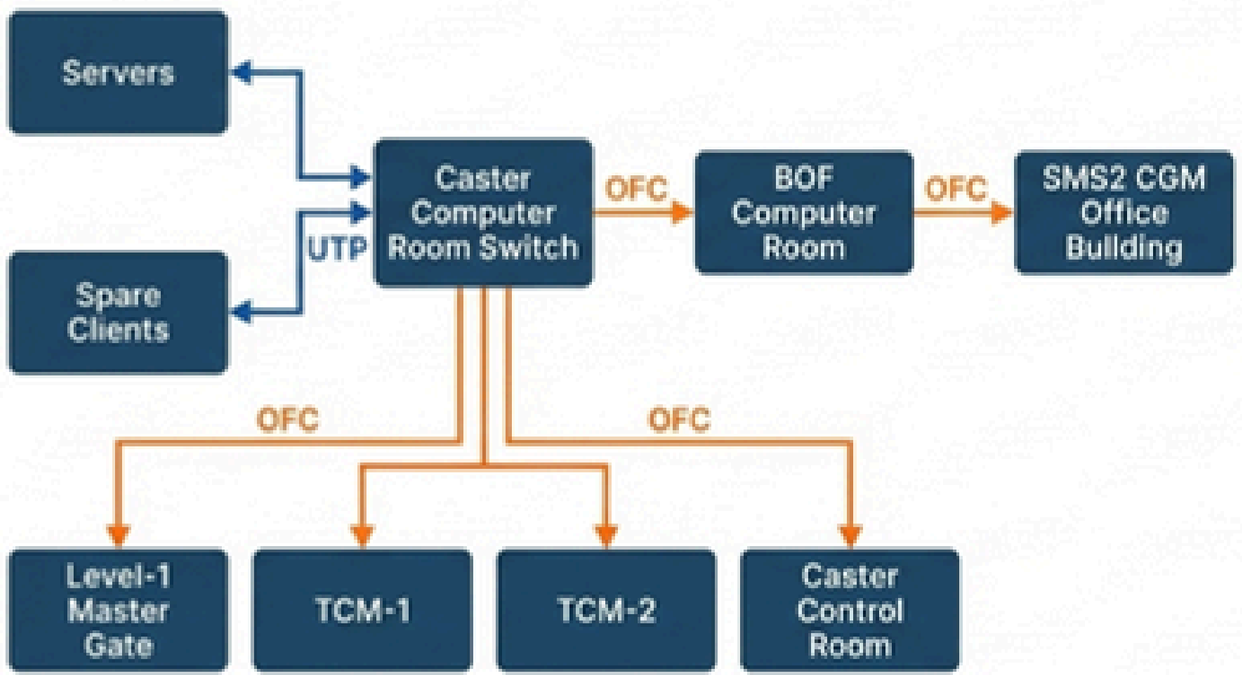
- **Hardware:** Two DEC 3185 computers running VMS 6.2 OS.
- **Networking:** Connected to Level-1 (ABB Gateway- MG230/1) via Thick Ethernet and DECNET.
- **Software Footprint:** Running critical applications including MODAS V-2.7, GUIMAN V-2.3-17, DRAV V-4.2, and complex models for spray cooling and quality tracking.

# Virtualization bridges legacy reliability with modern processing power.

**The Turnkey Scheme:**

- Replace physical VAX 3185 hardware with industry-standard Intel Server Hardware running Windows 2019.
- Utilize **Charon-VAX** or **vtVAX** emulators to perfectly replicate the legacy environment, releasing it for online operation and integration with the Level-1 Network.

# The new network architecture connects the Caster Control Room directly to the Level-1 Master Gate.

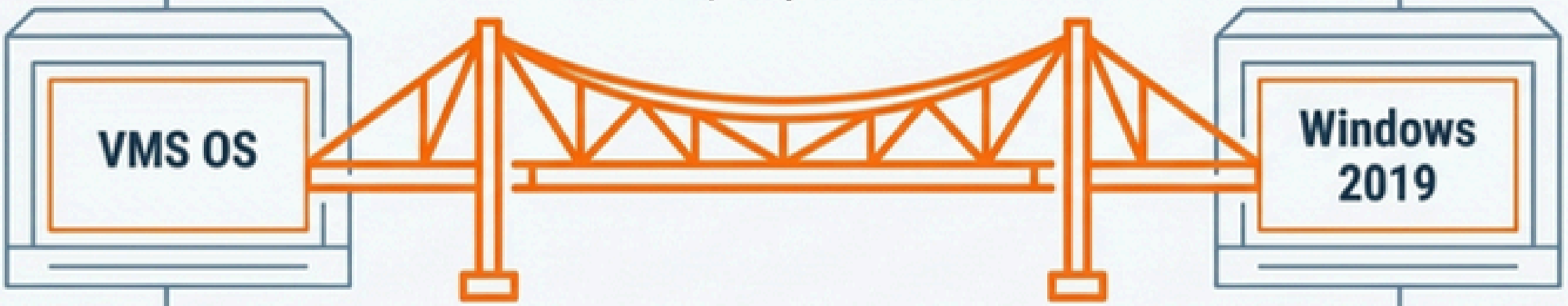



**Topology Overview:**

- **Core:** Servers and Spare Clients connected via UTP to the Caster Computer Room Switch.
- **Backbone (OFC):** High-speed fiber links route from the Caster Computer Room to the BOF Computer Room, then to the SMS2 CGM Office Building.
- **Edge Integration:** Direct feeds into the Level-1 Master Gate, TCM-1, TCM-2, and Caster Control Room.

# Emulation software perfectly replicates the VAX environment.

We deploy Charon-VAX or vtVAX emulators with unlimited, perpetual licenses across all 5 clients for seamless graphics display and process management. All necessary OEM licenses for the existing OS and layered products are completely transferred.



# The acceptance test demands 98% uptime over a grueling 15-day continuous run.



Before final sign-off, the fully configured system must operate 24/7 with maximum permissible load.

Uptime Formula: [(POT – DT) / POT] X 100
(POT = Power On Time, DT = Down Time).

Every feature—from the Xeon servers to the virtualization layer and PLC interfaces—must perform flawlessly.

# Comprehensive on-site training empowers RSP personnel to manage the virtualized environment.

During and after commissioning, RSP Engineers and Technicians receive targeted, hands-on training covering:

- Server management and maintenance.
- Virtualization software configuration.
- System trouble-shooting.
- Start-up and shutdown procedures.


The modernized Caster-II operates as a future-proof, fully integrated steelmaking asset.
Through rigorous virtualization, continuous uptime guarantees, and deep integration with the Level-1 Master Gate, the Rourkela Steel Plant transitions seamlessly from legacy isolation into the modern Center of Excellence ecosystem.
Minimum risk. Maximum operational continuity.