



T SPL powers its VDI on HPE SimpliVity to gain availability, scalability, and manageability



Industry

Power sector

Objective

Revamp the TSPL IT ecosystem to address the issues of IT availability and manageability

Approach

HPE SimpliVity hyperconverged infrastructure (HCI) brings resiliency, automation, and desktop management software within the software-defined data management platform.

IT matters

- Applications, data are accessed in under five seconds instead of 5 minutes earlier

Business matters

- Enhanced organizational efficiency, productivity multifold with 99.9999% availability

One of the first few super-critical power plants to be constructed in India, the Talwandi Sabo Power Limited (TSPL), is a coal-based thermal power plant located in Banawala village in Mansa district of Punjab, India. TSPL, a wholly owned Vedanta subsidiary, operates all the three units of 660 MW each (totaling at 1,980 MW) of the power plant built on super-critical technologies that are environmental friendly and energy efficient.

Until recently, TSPL ran a traditional client-server environment with about a hundred on-location users working on critical applications and databases. These applications were being served on multiprotocol label switching (MPLS) connections from across thousands of kilometers away at Vedanta's central data center at Jharsuguda, one of the most industrially developed districts in the state of Odisha, India.

Considering the remote location and connectivity snags, the TSPL users often faced application latency or downtimes resulting in loss of productivity. Occasional maintenance issues of local desktop infrastructure added to the woes. "This was a usual story at Talwandi, where we had to maintain a team of about 7-8 IT engineers to tackle such problems," recalled Arunanjan Pattanayak, head of IT, TSPL (a Vedanta company).

TSPL decided to revamp its IT ecosystem to address the issues of IT availability and manageability. TSPL opted to streamline its IT operations by consolidating its legacy server and storage environment onto the efficient HCI platform from HPE SimpliVity that combined its IT infrastructure and business-critical applications into a single, integrated all-flash solution.

By virtualizing its desktop infrastructure onto the HCI platform, TSPL has provided 24x7 availability for its applications and data to its users with seamless scalability and everything is now being managed centrally on the HCI environment, supported by a team of just a couple of on-location personnel.

“The VDI setup for 100 desktops running on three nodes of HPE SimpliVity has revolutionized the way we handle our IT ecosystem at the ROBO environment at Talwandi Sabo. With SimpliVity’s built-in data protection and automated DR, not only we have considerably reduced our storage and bandwidth needs, we have enabled always-on availability to our users. Our applications and data are being accessed in under 5 seconds instead of about 5 minutes earlier, enhancing our organizational efficiency and productivity multifold with 99.9999% availability. Our IT infrastructure is now completely centrally managed and maintained only by a couple of on-site engineers.”

– Arunanjan Pattanayak, Head of IT, TSPL





Need for efficiency and availability empowers change

Since September 2008, when the ownership of TSPL was transferred to Sterlite Energy Ltd. (now part of Vedanta), the company has been consistently growing while implementing and operating the largest greenfield power project in Punjab. The parent company, Vedanta Group is one of the significant players operating in the country's power sector, with a thermal power capacity of about 10,000 MW.

Sterlite Energy (a Vedanta group company) was chosen to develop the project based on tariff-based competitive bidding process on build, own, and operate basis. TSPL has signed a power purchase agreement with Punjab State Power Corporation Limited (PSPCL) to supply 100% power to Punjab State Electricity Board for 25 years.

Right access to the right data at the right time is crucial to maintain user productivity, which in turn enables consistent business growth. However, growth translates into scale and scale begets complexities. Maintaining seamless availability to mission-critical applications and data in such remote office/branch office (ROBO) environment became pertinent as the scale of operations at TSPL grew over time.

The organic growth of TSPL, in terms of achieving its implementation of thermal power plant units of 660 MW each, over the years began pushing the existing IT ecosystem at the plant to its limits. The legacy environment of on-premises server and storage infrastructure with application stack being served on its MPLS network from Jharsuguda was being stressed as more number of concurrent users increasingly connected to business-critical applications.

While latency and connectivity problems stretched the environment, issues of escalating bandwidth and administrative costs to ensure system availability added to the pressure. Moreover, application and database query response times over the network began dipping to an average of five minutes, hampering user productivity considerably. A team of seven to eight engineers had to be constantly stationed on location to maintain the desktop and server infrastructure, and had to manage system downtimes and data losses.

TSPL's IT infrastructure needed an inspired re-engineering to improve the availability of its systems and access to data to enhance organizational productivity and efficiency. The need of the hour was a robust, dependable, and agile system to suit today's workloads and future-proof the organization's ability to scale.





HPE SimpliVity powers VDI to boost IT ecosystem

After careful consideration and months of intense deliberations on the way forward, TSPL opted to consolidate the on-premises server and storage environment into HCI nodes while implementing a virtual desktop ecosystem for cost, availability, and manageability advantages. TSPL selected the HPE SimpliVity HCI environment to deploy the VMware Horizon® VDI solution. Three HCI nodes of HPE SimpliVity were deployed to converge the edge data center at TSPL, with about 100 desktops rolled out on a virtualized environment running on the same server workloads.

TSPL's legacy IT infrastructure consisted of many components and applications for compute, WAN optimization, storage caching, backup, and deduplication. HPE SimpliVity consolidated the entire stack of physical server and storage infrastructure with app/data services inside a single, software-defined node, providing a robust and reliable platform for virtualized environments. The hyperconverged environment is providing enterprise-grade performance and data availability in the data center-in-a-box deployment at the edge, supporting virtualized workloads and applications. HPE OmniStack Virtual Controller seamlessly integrates with VMware vSphere® Hypervisor policies that control IT components such as memory, graphics, networking, and compute. This allows better management of VDI subsystem running on physical clusters and provides quick access to virtualized desktops and apps to users.

“The VDI setup for 100 desktops running on three nodes of HPE SimpliVity has revolutionized the way we handle our IT ecosystem at the ROBO environment at Talwandi Sabo. With SimpliVity's built-in data protection and automated DR, not only we have considerably reduced our storage and bandwidth requirements, we have enabled always-on availability to our users. Our applications and data are being accessed in under five seconds instead of about 5 minutes earlier, enhancing our organizational efficiency and productivity multifold with 99.9999% availability. Our IT infrastructure is now completely centrally managed and maintained only by a couple of on-site engineers,” said Pattanayak of TSPL.

Key reasons to select HPE and progression

Gurgaon-based, HPE's implementation partner, Progression Infonet Pvt. Ltd has deployed HPE SimpliVity at TSPL that has helped the enterprise to reduce its capacity by almost 10:1, resulting in about 90% capacity savings.¹ Moreover, HPE SimpliVity's integrated backup and remote replication capabilities for virtualized workloads have ensured unprecedented availability and performance of applications and data between ROBO and central data centers. The built-in backup and bandwidth optimization features of the hyperconverged ecosystem are enabling the organization to enjoy the highest levels of data integrity, reliability, and availability of critical VMs and Remote Desktop Services Host (RDSH) from Windows to publish the virtualized sessions across the VDI environment. The VDI on HCI solution has also improved the information security posture of TSPL massively as critical data resides only on the HPE SimpliVity nodes and not on the physical desktops.

“We selected HPE primarily because the global brand is known for its streak of innovation that it brings in its products to solve complex enterprise IT problems. We were confident that HPE solutions would help us reimagine our IT environment to boost our user performance and productivity at reduced costs. What worked in our favor is the potent combination of HPE and its partner Progression, which deciphered our problem correctly to offer the right solution. What I liked best about Progression was the fact that their approach was so expertly in-tune with HPE that it felt like that we were working directly with the OEM,” said Pattanayak.

¹ [hpe.com/us/en/integrated-systems/simplivity-guarantee.html](https://www.hpe.com/us/en/integrated-systems/simplivity-guarantee.html)





Customer at a glance

One of the first few super-critical power plants to be constructed in India, the Talwandi Sabo Power Project, is a coal-based thermal power plant located in Banawala village in Mansa district of Punjab, India. TSPL, a wholly owned Vedanta subsidiary, operates all the three units of 660 MW each (totaling at 1,980 MW) of the power plant built on super-critical technologies that are environmental friendly and energy efficient.

Hardware

- HPE SimpliVity
- VDI

The way ahead

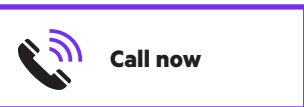
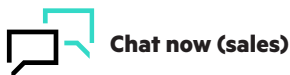
With HCI, TSPL has not only enabled six-nines' availability of its IT ecosystem but also empowered its scalability. Now, the organization can instantly increase desktop nodes on the server while introducing bring-your-own-device (BYOD) policies in the enterprise without worrying about data protection. Moreover, with VDI on HPE SimpliVity, TSPL can significantly advance the time it takes to realize ROI on its VDI environment. This usually happens in about the third year of the deployment, by continuing to use end-of-life desktops and laptops as thin clients in the future and bringing down its TCO by 30 to 40%.

Having experienced lower IT infrastructure costs, complexities, and need for on-site skills at the remote site of TSPL on a hyperconverged platform, Vedanta is now better poised to replicate the VDI on HCI solution at other ROBO locations with a single console to manage desktop and server environments at multiple sites and enhanced local data availability.

Learn more at

hpe.com/in/en/integrated-systems/simplivity.html

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