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Case Study

Insurance Giant

Connecting Insurance Excellence

Network Infrastructure Transformation with L2 Managed Switches Across India

Background

This financial services giant stands as a renowned brand trusted by millions across India. Established in 1956, this institution is fully owned by the Government of India and is the largest insurance provider in the country, managing over $500 billion in assets. Its staggering numbers showcase its dominance - it holds around 66% market share in the insurance sector, with over 290 million policies in force. The corporation has an extensive network of over 1.3 million agents, making it one of the largest workforces globally. Its PAN-India presence spans over 8,000 offices and touch points across cities, towns, and villages.

Beyond just its size, this institution is a wealth creator and financial bedrock for the Indian economy. Its investments span sectors like infrastructure, housing, energy, telecommunications and more, providing crucial capital for national development. The organization's equity investments exceed Rs 6 lakh crores in Indian corporations across private and public sectors. As a national brand, it is intrinsically woven into the fabric of Indian society. Its affordable insurance plans have secured the financial future of countless families, while its investment policies have enabled wealth creation for the masses. The company's credibility and trust resonate deeply with over a billion Indians across generations.

With technology reshaping businesses, the organization has embraced digital transformation to enhance its operational efficiency, customer service, and data security. This watershed moment in the institution's legacy involves an overhaul of its aging IT infrastructure and mission-critical systems handling sensitive customer data and financial transactions worth billions. Considering all these parameters, the solution architecture demands stringent security, business continuity, regulatory compliance, while optimizing performance and laying the digital bedrock for the organization's next century of nation-building through financial inclusion.

The Insurance Regulatory and Development Authority of India (IRDAI) predicts that within the next decade, India will surge to become the world's sixth-largest insurance market, surpassing major economies like Germany, Canada, Italy, and South Korea.[1]

In 2023, Life Insurance Corporation, India's premier insurance provider, secured the third position among the top 100 most valuable Indian brands, boasting a brand value of 9.8 billion U.S. dollars.[2]

Our partnership with this leading financial institution has been a rewarding experience. By deploying advanced, non-PoE switches across their branch offices nationwide, we have helped upgrade their network infrastructure, enabling them to provide seamless connectivity and uninterrupted services to their customers. We are proud to have contributed to their mission of providing financial security to millions of Indians and look forward to supporting their continued success in the future.

Anand Kumar
(Associate Vice President, Communications)

Overview

At the heart of this extensive nationwide network of over 8,000 offices and branches including Delhi, Chennai, Mumbai, Kanpur, and Kolkata lies a robust and secure network infrastructure. This infrastructure forms the digital backbone that enables seamless operations, real-time data transfer, and uninterrupted connectivity across the organization's ecosystem. Switches play a pivotal role in this network infrastructure, acting as the critical interconnection points that facilitate communication and data exchange between various devices, systems, and applications used in day-to-day operations.

In a typical branch office, switches interconnect the desktops, laptops, printers, and other devices used by employees, agents, and customers within the premises, ensuring efficient data transfer and resource sharing. They also enable the seamless integration of core applications, such as policy management systems, customer relationship management (CRM) platforms, and centralized databases, allowing real-time access, updates, and synchronization across the branch network. With a distributed workforce and agents operating in the field, switches facilitate secure remote access to internal networks, enabling employees and authorized personnel to access critical resources and applications from anywhere while maintaining data integrity and regulatory compliance. Furthermore, switches support Voice over IP (VoIP) and video conferencing systems, enabling efficient communication between branch offices, regional centers, and headquarters, reducing costs and enhancing collaboration.

They are configured with redundant paths and failover mechanisms, ensuring network resilience and business continuity in case of hardware failures or disruptions, protecting operations from potential downtimes. As the organization embraces digital transformation, switches with software-defined networking (SDN) capabilities enable centralized network management, automation, and policy enforcement, simplifying network operations and enhancing agility.

Crucially, switches allow the organization to segment its network into logical zones, enforcing access controls and implementing security policies to protect sensitive data and systems from unauthorized access or cyber threats. By deploying enterprise-grade, high-performance switches at its branch offices, the institution ensures a robust, secure, and future-ready network infrastructure that can support its evolving operational requirements, enhance customer experiences, and drive digital transformation initiatives across its vast ecosystem.

Life insurance dominates India's insurance landscape, experiencing remarkable growth in recent years. With written premiums approaching 100 billion U.S. dollars, the sector's scale and influence on the nation's economy are substantial.[3]

Challenge

The primary challenge centered on replacing outdated L2 switches that had reached the End of Life (EoL) and End of Sale (EoS) stages with non-PoE switches across branch offices nationwide within strict timelines. This involved intricate configurations, including seamless integration with existing network infrastructure, and customization to meet specific requirements.

Solution

To address the requirement for replacing outdated Layer 2 switches across branch offices nationwide, HFCL proposed a comprehensive solution involving the deployment of reliable and high-performance fully managed 8-port and 24-port non-PoE switches. These switches brought several key benefits and improvements to the overall network performance, security, and manageability.
With more than 2k units of 24-port switches and over 500 units of 8-port switches deployed, the organization gained a significant increase in available Ethernet ports across their branch offices. This substantial expansion in connectivity enabled them to easily accommodate the growing number of networked devices, such as computers, servers, printers, and other peripherals, without compromising network performance or requiring extensive infrastructure overhauls.

The non-PoE switches facilitated efficient data transfer between connected devices by employing intelligent packet forwarding mechanisms. Leveraging their impressive switching capacity of 128 Gbps and forwarding capacity of 95.232 MPPS, these switches selectively forwarded data packets only to the intended recipients, reducing unnecessary traffic and optimizing network bandwidth utilization. communications over networks.

This efficient data transfer ensured smooth and reliable communication, essential for financial transactions and other mission-critical applications.

The essential security features safeguard the network against unauthorized access and potential data breaches. dynamic Access Control Lists (dACLs) for granular traffic control, accounting functionality for auditing and compliance, dynamic VLAN assignment for segmentation, and L2/L3/L4 Access Control Lists (ACLs) for filtering and policy enforcement. By implementing these measures, switches contribute to maintaining the integrity and confidentiality of the network infrastructure, ensuring only authorized entities gain access while mitigating potential security risks.
Additionally, Simple Network Management Protocol (SNMP) integration was done for monitoring the network infrastructure. The implementation of SNMP helps to detect, diagnose, and resolve network performance issues. Furthermore it reduces downtime by proactively identifying and ensuring high quality process communications over networks.

L2 Managed Switches

8-Port non-PoE Switches

24-Port non-PoE Switches

Result

01 The deployment of non-PoE switches across branch offices was successfully completed within strict timelines, ensuring uninterrupted network operations and compliance with upgrade schedules.

02 The successful replacement of outdated switches with non-PoE switches ensured operational continuity, mitigating the risks associated with aging infrastructure and ensuring uninterrupted access to critical systems and services for employees, agents, and customers.

03 Deployment of non-PoE switches led to a significant increase in available Ethernet ports across branch offices, accommodating growing networked devices without compromising performance.

04 Optimized bandwidth utilization, and smooth communication crucial for financial transactions and other mission-critical applications.

05 Essential security features such as dynamic Access Control Lists (dACLs), accounting functionality, dynamic VLAN assignment, and Access Control Lists (ACLs) safeguarded the network against unauthorized access.

06 Integration of SNMP enabled proactive network monitoring, detection, diagnosis, and resolution of performance issues, reducing downtime and ensuring high-quality network communications.

Conclusion

The deployment of non-PoE switches across branch offices has successfully modernized and enhanced the organization's network infrastructure, ensuring uninterrupted operations, increased connectivity, and optimized performance. With stringent security measures in place, and SNMP integration for proactive monitoring, the institution now boasts a robust and future-ready network capable of supporting its mission-critical operations and driving digital transformation initiatives. These switches are the backbone of financial transactions, reflecting the organization's dedication to innovation, reliability, and exceptional customer service in the digital age.

References

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