Kolkata Mint Modernizes with High-Speed 10G Infrastructure

Overview

As one of India's premier currency production hubs, Kolkata Mint manages large-scale, time-sensitive operations where speed and precision are non-negotiable. With expanding digital workloads, high-resolution surveillance, and system-heavy administrative demands, the need for a robust, next-gen network became urgent. Spread across four acres, the campus was running into performance roadblocks caused by outdated infrastructure. The goal, implement a 10G backbone network that could deliver high-speed, low-latency connectivity from server rooms to production zones.

To achieve this transformation, the Mint collaborated with Apollo Micro Systems, a trusted solutions partner, to deploy a high-performance switching solution powered by Zyxel Networks. The deployment focused on creating a resilient and futureproof digital foundation across their entire operational footprint.

Challenges

Before the upgrade, the Mint's existing network struggled with serious bandwidth limitations, especially during peak hours. Legacy switches couldn't support the rising demand for high-throughput communication between departments, systems, and security infrastructure. The network bottlenecks slowed down operations, impacted efficiency, and caused performance lags in data-heavy applications. As multiple buildings, a distributed layout, and critical operations were reliant on real-time communication, it became essential to overhaul the network's backbone to meet today's and tomorrow's demands.

Solutions

To deliver on the promise of a full 10G backbone network, Apollo Micro Systems, a trusted partner of Zyxel Networks, deployed aggregation and access switches tailored for high performance and enterprise reliability.

Customer
India Government Mint, Kolkata

Industry
Government

Location
Kolkata, India

Partner
Apollo Micro System

Customer Background
India Government Mint, Kolkata ('IGM, Kolkata'), a unit of SPMCIL, is engaged in manufacture of circulation coins, commemorative coins, and medals. IGM has a rich minting heritage and legacy of producing quality products. The new mint was established in 1952 and became a unit of SPMCIL during corporatization in 2006. It is an ISO 9001:2008 and ISO 14001:2004 certified unit. Utilization of advanced technology, innovation, quality and reliable delivery methods are some components of the strength of IGM Kolkata.

At the core of the solution were two units of XS3800-28 10GbE Layer 3 aggregation switches, installed in the server room to serve as the network's command center. These switches ensured ultra-fast, low-latency communication across departments while managing routing and traffic control with efficiency.

To extend this high-speed performance across the site, thirty-eight units of XS1930-10 Lite-L3 multi-gigabit 10G smart managed switches were implemented across officer cabins and the factory floor, enabling uninterrupted connectivity to all end-user terminals. For long-distance, high-bandwidth uplinks, a combination of thirty-six SFP10G-LR and fifty SFP-LX-10-E transceivers were adopted to ensured reliable fiber-based connections across different zones within the campus.

The deployment was carried out with precision and minimal disruption to daily operations, ensuring a smooth transition to a high efficiency 10G network. This upgrade established a solid foundation for real-time connectivity and enhanced performance across the Mint's administrative and production infrastructure.

Results

With the Zyxel Networks' infrastructure in place, Kolkata Mint now runs on a fully integrated 10G network, ensuring unmatched bandwidth, reliability, and future scalability. By resolving their core network limitations, Zyxel Networks and Apollo Micro Systems have empowered Kolkata Mint to operate with speed, precision, and confidence, laying the foundation for a truly connected and high-performance digital workspace.

- Twice the bandwidth, zero bottlenecks
- 70% drop in network latency during peak operations
- Reduced downtime and maintenance efforts by 60%
- Seamless connectivity across a four-acre facility from core server rooms to the factory floor
- Modular & scalable architecture to support future expansions

Product List

- XS3800-28 L3 Aggregation Switch
- XS1930-10 Lite-L3 Smart Managed Switch
- SFP-LX-10-E Fiber Transceiver
- SFP10G-LR Fiber Transceiver