

Religious

Elevating Pilgrimage Journeys

Redefining Pilgrimage Experience with High-Speed & Ultra secure Free Wi-Fi at Char Dham!



Background

The integration of advanced wireless technology has brought about a substantial transformation in the realm of Pilgrimages. The continuous influx of devotees and the complexities associated with overseeing multiple pilgrimage sites have been greatly eased by the implementation of a robust Wi-Fi network. This network facilitates communication and coordination between staff and authorities in real time. Additionally, it plays a crucial role in relaying timely updates about weather conditions, route diversions, and other essential information, thereby ensuring a safer and more informed pilgrimage experience.

The seamless flow of information equips the pilgrimage administrators with the agility to quickly adapt to the evolving circumstances, guaranteeing a secure and efficiently organized pilgrimage. This in turn enhances operational effectiveness and visitor safety. The Wi-Fi network also fosters effective communication among staff members and aids in the management of facilities, allowing for proactive responses to emergencies, and efficient crowd control through continuous monitoring and data analysis. The advent of uninterrupted internet access has revolutionized pilgrims experience allowing them to instantly share their spiritual encounters nurturing a global community of seekers.

In acknowledgement of the growing demand for uninterrupted broadband internet connectivity, the Char Dham administration took the initiative to upgrade its existing network infrastructure with indigenously developed Wi-Fi Solutions. The enhancement encompassed the strategic installation of outdoor Wi-Fi 5 Access Points across the pilgrimage areas to deliver flawless, secure connectivity characterized by remarkable throughput, minimal latency, and consistent performance. This advanced network empowers both spiritual seekers and administrative personnel by facilitating seamless communication. This initiative aligns with the revered pilgrimage's commitment to excellence while upholding the sanctity and significance of the spiritual journey.

- **Over 40 lakh pilgrims registered for the yatra in 2023, highlighting the essential requirement for robust and reliable broadband internet connectivity.**¹
- **Paytm Enables UPI or QR Code Digital Donations at Kedarnath Temple During Char Dham Yatra 2023.**²



Overview

Situated within the northern Indian state of Uttarakhand, the Char Dham constitutes a sacred ensemble of four pilgrimage destinations: Badrinath, Kedarnath, Gangotri, and Yamunotri. These revered locations are perched at an altitude of over 3000 meters above sea level, boasting profound spiritual significance and captivating natural beauty. The allure of these spiritual sites intertwined with their mesmerizing natural beauty beckons millions of global pilgrims and travelers annually. In 2022, statistical data from the Uttarakhand State Tourism Department underscored the immense popularity of these destinations. The statistics revealed that within the first three quarters alone, an impressive count of over 3.5 million devotees undertook the sacred expedition to the four temples. Notably, this data was indicative of a steady upward trajectory in visitor numbers.

Projections from the Uttarakhand State Tourism Department indicate a promising future for the Char Dham pilgrimage affirming its status as a sanctuary for spiritual seekers and natural enthusiasts alike.

Number of pilgrims visiting Char Dham yatra (Year-wise)

Char Dham	2019	2021	2022
Badrinath	1,244,100	127,307	1,236,555
Kedarnath	998,956	220,481	1,163,661
Gangotri	529,880	32,803	531,720
Yamunotri	465,111	32,641	416,927
Hemkund Sahib	239,910	19,909	173,911
Total	3,477,957	433,141	3,522,774

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The opportunity to provide high-speed Wi-Fi connectivity at Char Dham was not just a technological challenge; it was a chance to enhance a deeply spiritual experience for millions. We're incredibly proud to have partnered with the administration and local authorities, implementing a solution that has transcended traditional connectivity to create a seamless, enriching journey. This project has solidified our commitment to deliver technology that resonates with human values and needs.

Ashish Jain
Presales Head, HFCL

Challenge

In remote and rugged Char Dham pilgrimage sites, ensuring dependable Broadband Internet is tougher due to the difficult terrain. The rugged mountainous landscape and susceptibility to landslides make laying underground and overhead cables difficult. Installing reliable long-distance signal infrastructure like towers and antennas is challenging. The erratic power supply affects solar panel feasibility due to unpredictable weather. Inadequate infrastructure results in inconsistent cellular connectivity.

Solution

As a top-tier technology company, the team at HFCL was determined to provide high-speed, reliable Wi-Fi to the devotees visiting Char Dham for an unparalleled user experience. To attain this, our team collaborated with a renowned Internet Service Provider (ISP) and worked closely with the Government of Uttarakhand, the Temple Authorities, and Local Partners. The team conducted a comprehensive survey of the four temples as well as the checkpoints where the network was supposed to be deployed. After meticulous analysis, the team identified 15 key Hotspot areas where they decided to deploy cutting-edge Access Solutions to provide seamless Wi-Fi connectivity. Wi-Fi 5 Access Points are a game changer for seamless communication, providing faster data rates, enhanced capacity, and improved performance in crowded environments. Being IP67 certified, the Access Points are highly resilient to environmental factors, making them suitable for use in challenging conditions and where rugged durability is essential to maintaining wireless connectivity.

The Access Points were deployed in a phased manner, starting with installing the Access Points at the base camps and gradually expanding to cover the entire temple complex. The team worked around the clock to ensure complete installation within the stipulated time frame with minimal disruption. In addition to the Access Points, fully managed Layer 2, 8-Port switches were deployed as with their customizable settings and features, administrators can optimize data handling, security, and organization for up to 8 connected devices. As part of the solution, we implemented a fully integrated and secure AAA+ Captive portal that goes beyond the basic authentication and access control. To ensure only authorized users can access the network, with permissions clearly defined and activities tracked for security and management. The team configured the entire solution to optimize operational efficiencies on a cloud controller. The cloud-based approach enabled easy and remote management of the entire network infrastructure.

Outdoor Access Point



ion4 Wi-Fi 5 (2x2)

MU-MIMO high capacity Outdoor Access Points

Managed Switches



8-Port L2 Switches

Secure and Remotely Managed

Network Management



cNMS

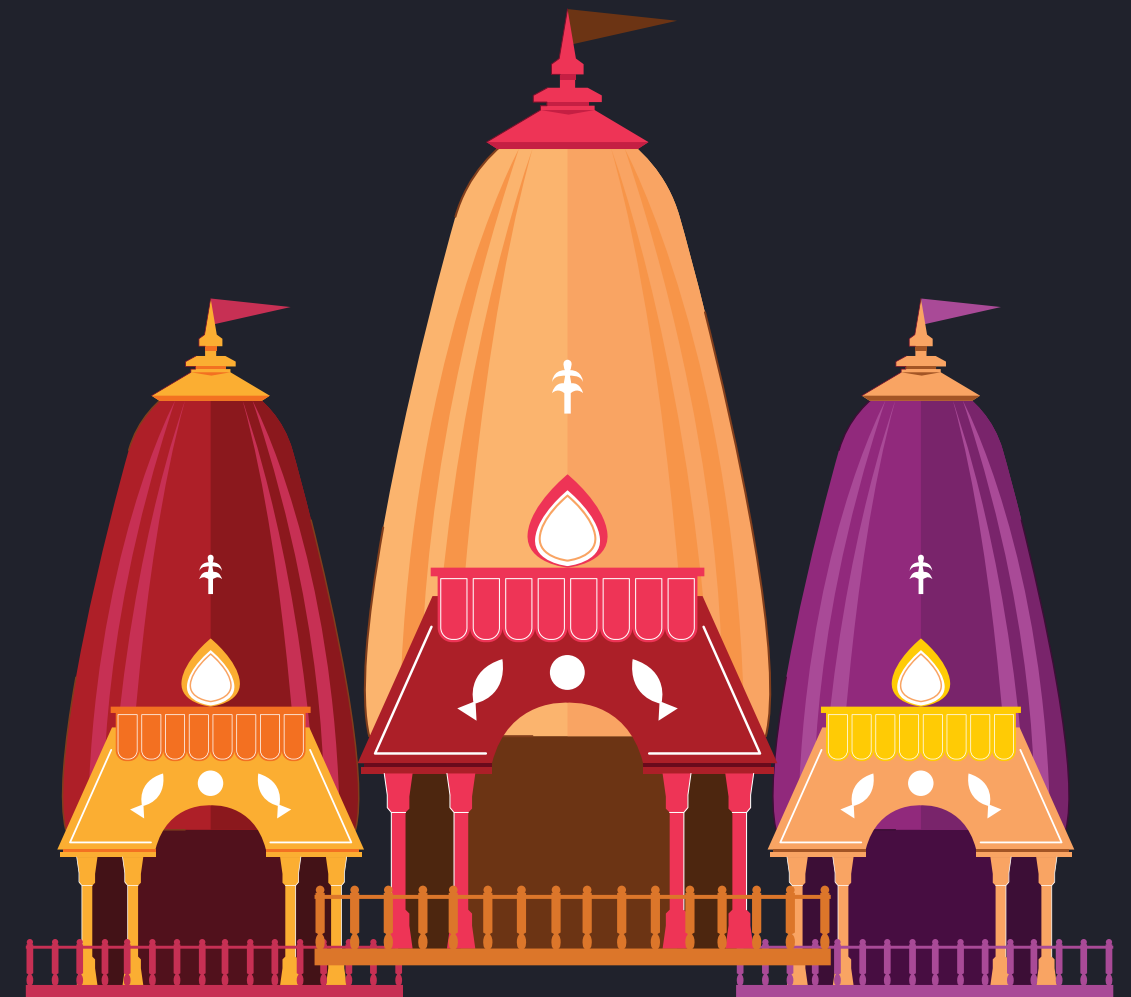
Cloud network management for a single window view of the entire network

Result

- 01** The deployment of the comprehensive solution at the revered temples has significantly enhanced the overall visitor experience. This initiative has made a secure and high-speed network with **over 200 Mbps** throughput available to pilgrims.
- 02** Remarkably, the usage has already surpassed **2,000 visitors** taking advantage of the network, while the daily data consumption has gone beyond **100,000 Megabytes**.
- 03** The Char Dham Administration has realized a **two-fold** improvement in operational efficiencies, showcasing their commitment to delivering a smooth and secure journey experience while strengthening their operational capabilities.
- 04** The strong connectivity empowers devotees to maintain uninterrupted connections with their loved ones, share their spiritual journey and experiences via social media, and conduct secure online transactions, eliminating concerns about carrying cash during the yatra.

Conclusion

The deployment of io by HFCL's Access Solution at these four renowned temples marked a significant achievement, considering the difficult terrain and isolated settings. It was well received by the visitors, positioning the temples as modern, technology-driven destinations. Drawing on our advanced technology and expertise, we remain confident that our solution will continue providing impeccable connectivity to all users, offering them unparalleled ease and speed throughout their journey.



References

1. <https://www.aninews.in/news/national/general-news/char-dham-yatra-2023-number-of-pilgrims-crosses-20-lakh20230604155431/>
2. <https://paytm.com/blog/payments/kedarnath-shrine-opens-with-paytm-at-its-doors-for-digital-donations/>

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