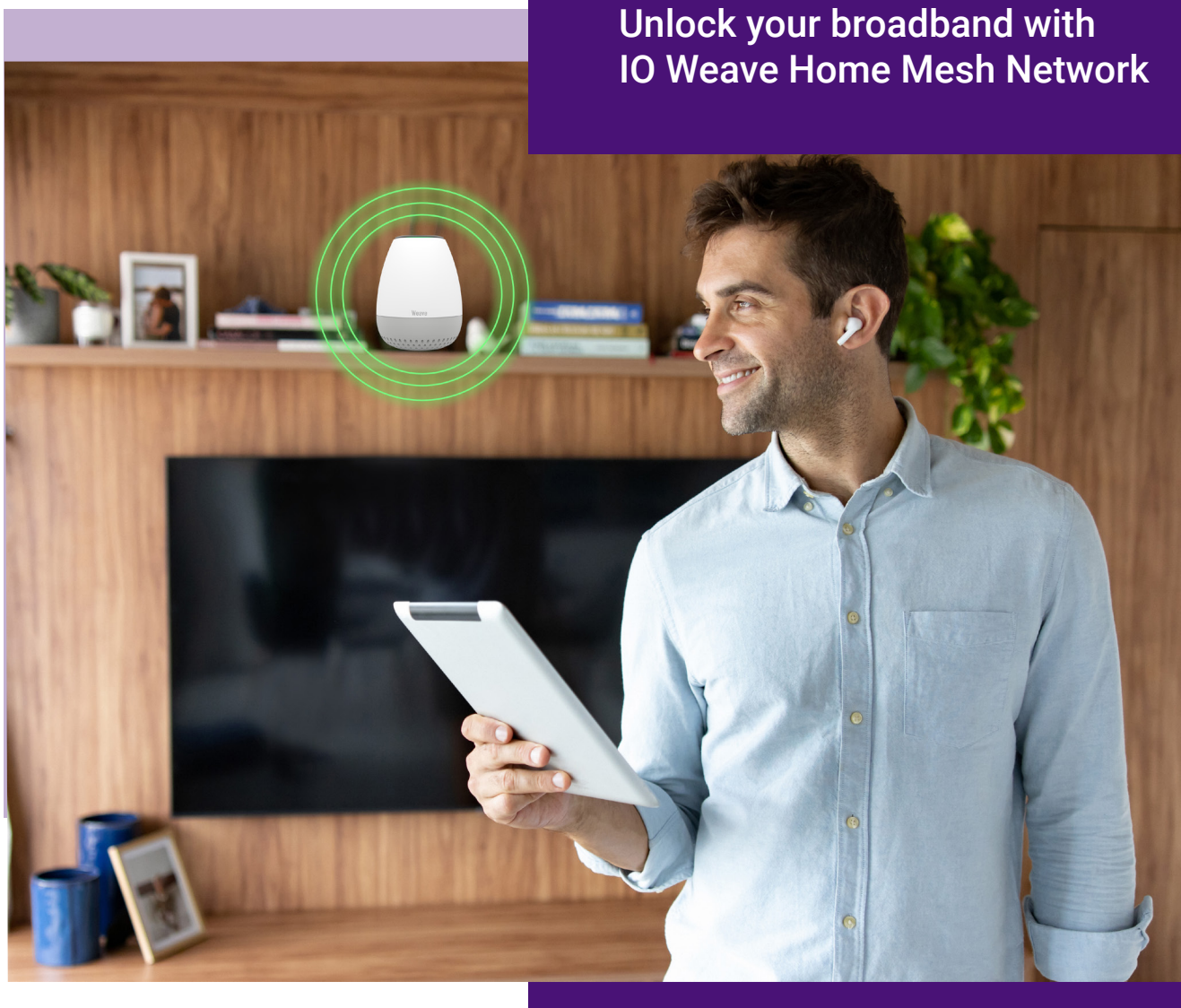


Use Case Driven Advanced Home Connectivity Solution

Unlock your broadband with
IO Weave Home Mesh Network



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Why use IO Weave Home Mesh Router by HFCL?

1. Home digital experiences are broken

In the post pandemic digital world, a reliable and high-performance network connection is mandatory, especially at homes. In any large household, the broadband connection may be used for a variety of purposes or use cases, which includes, inter alia, work, entertainment and for connecting smart home devices.



Table 1: Home broadband use cases



Work

- Work from home
- Education, home classrooms for children
- “Creator-economy” gigs



Play

- IP TV
- Entertainment OTTs
- Sports, Gaming



Connected

- Sports, Gaming
- Smart devices
- Guest connectivity
- Security

Note: Above list is indicative and not exhaustive

Each of these use cases have different requirements from the network, for example, Home Office may need priority bandwidth from 09:00 to 17:00, OTTs take priority in evenings while a Security network would need “always-on” reliable connectivity that also automatically protects vulnerable users against new threats. Moreover, if the household is large or with a unique layout, traditional routers will not give adequate coverage. Using the same vanilla network setup provided by your TSP/ISP for these different use cases will result in a bad experience and productivity loss.

The value lost due to compromised or bad connectivity can be gauged by the following datapoints:

In surveys conducted on people working from home, it was found that:

- Companies may lose more than 1 week per employee per year in productivity due to network performance issues, or about \$1900 annually per employee (assuming \$100K CTC)
- More than 80% of respondents reported unreliable or slow home Internet.
- More than 50% reported that the Internet was slower because other people were using digital services on the same network while they were working.

Security threats have caused multimillion dollar value loss.

- Pandemic resulted in an early exposure of Children to cyberthreats, as they started spending more time online. While US had the highest incidences of cyber-bullying, India has the highest risk of cyber-exposure across many countries.
- 2.29 Bn data records were exposed globally in 2022, 450Mn were in India while 650Mn came from US, EU, Middle East, and Africa. 33% of the breach was ransomware and many exploited old vulnerabilities left open by Enterprises. Home networks can be even more insecure. Value lost per breach is more than \$4 Mn .

This value loss will further increase as global fixed broadband coverage is poised to reach 1.6Bn subscribers by 2030 . Millions of those will still not able to enjoy full benefits of a high-speed connection due to many reasons like incorrect setup, hardware underperformance, physical location factors or traditional SaaS approaches to modern household connectivity requirements.

1. <https://www.computerweekly.com/news/252487354/Poor-connectivity-sees-home-workers-lose-over-half-an-hour-of-work-a-day>

2. McAfee - Life Behind the Screens of Parents, Tweens, and Teens, 2022

2. Consumers do not have the expertise required to solve the problem

Most of the people using high speed Internet connections are not technology geeks. Their requirements are simple: safe connectivity everywhere, without interruptions and at speeds that provide superb experience. They are strongly influenced by Service Providers for basic advice on what equipment to use for the best speed and coverage.

They would typically buy the standard router with connection plans and complain about slow speeds in different rooms of their old brick house. At most, people would subscribe to range extenders and struggle to see which the best network is to connect upstairs

or in the garden just outside the house. A very tiny fraction of consumers who are tech-savvy may shop online for additional requirements like security, parental controls, and segmented network features which are unavailable or complex to deploy in standard issue ISP devices.

Ever since the Pandemic, few companies have started recommending a standardized "Work from Home" technology package that was best suited for employee productivity. Those recommendations frequently include a Home Mesh Router as an essential connectivity device and are beyond what is sold as a standard package by ISPs.



3. Home Mesh Routers are the solution to the home connectivity problem

A home mesh router is an advanced networking system designed to provide seamless and reliable Wi-Fi coverage throughout the house. Unlike traditional routers recommended by service providers, which often struggle to cover every corner of a large house or suffer from dead zones, a mesh router creates a network of interconnected nodes to blanket the entire living space with a strong, high-speed signal. These nodes communicate with each other, ensuring that devices can seamlessly switch between them without any interruptions or drop in performance.

One of the key features of a home mesh router is its ability to create a single, unified network name (SSID) and password for all nodes.

This means that as you move around your home, your devices will automatically connect to the nearest and strongest node, without requiring you to manually switch networks. Additionally, most mesh routers come with a user-friendly mobile app that allows you to easily manage and monitor your network. The app can help users perform tasks such as setting up advanced parental controls, prioritizing certain devices or applications, and running speed tests to ensure optimal performance.

Despite this, many households still complain about their "high-speed" broadband connections. This could be due to issues with hardware, software, or after-sales product experiences.

3. <https://www.cnbcvt18.com/technology/india-suffered-second-highest-data-breaches-in-2022-with-450-million-records-exposed-report-16088781.htm>

4. <https://www.ibm.com/downloads/cas/3R8N1DZJ> - Cost of a data breach report 2022, IBM

5. <https://www.csimagazine.com/csi/Global-broadband-subs-to-reach-1-6BN.php>

Table 2: User issues with existing Home Mesh Routers



Hardware Experience

- Incorrect placement of network devices, e.g., behind obstacles, at lower elevation, or high interference points.
- Device not working as advertised.
- Use of multiple legacy equipment, not fully compatible with new mesh routers.



Software Experience

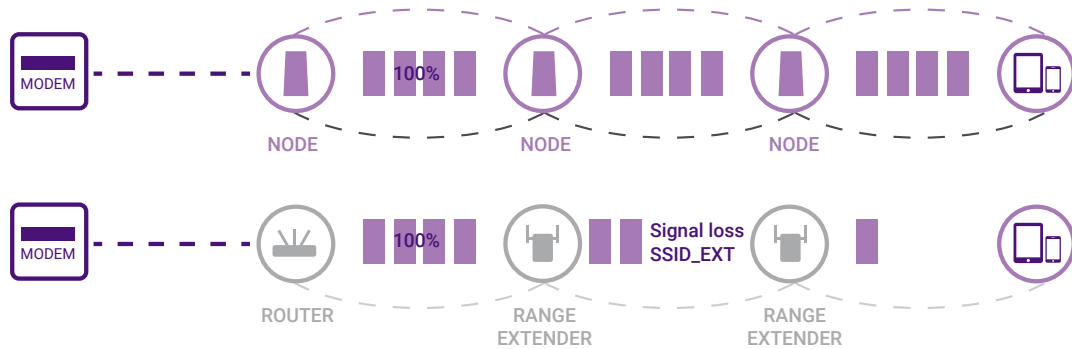
- Complex and too many control decisions to be manually configured. It would require a technical expert for the initial setup or any change. As households rapidly evolve into digital homes, those configurations need frequent updates.
- Rapidly evolving threat vectors, where each day exposes consumers to new harmful websites, malware and content that needs to be blocked in real time.



After-sales Experience

- Lock-in and hidden license fees, even for most basic features in any Home Mesh Router.
- Single point of failure with the main unit, as satellite units of mesh become useless if the main unit malfunctions.
- Unresponsive service teams and frequent need of field interventions to fix issues.

The home mesh networks need Artificial Intelligence to fully unlock the broadband experience. We call it a Use Case Driven Advanced Home Connectivity Solution.



4. Home Connectivity solution is incomplete without HFCL's Use Case Driven Home Connectivity Solution.

At HFCL, we believe that Use Case Driven Home Connectivity Solution (Home Mesh Networks) are an answer to all the problems of home broadband connectivity. A Use Case Driven Home Mesh Network displays the following properties mentioned in Table 3.

Table 3: Use Case Driven Home Mesh Network



Hardware Experience

- Seamless coverage and mobility across the house: no dark zones or changing network IDs.
- Built on open standards and compatible with multiple "Easy Mesh" certified devices.
- Each device is interchangeable and can function as gateway or satellite, creating redundancy.



Software Experience

- Artificial Intelligence at the core of mesh network experience.
- Adaptable network parameters, policies based on use case, e.g., bandwidth prioritization.
- Simple interfaces that can be used by anyone in the household, e.g., voice commands, intuitive mobile app.
- Advanced parental controls, automated content filtering and security features using Artificial Intelligence.



After-sales Experience

- Remote configuration and service capabilities.
- No single point of failure.
- Completely transparent data access and granular controls.

A Use Case Driven Home Mesh Network provides the best experience to get maximum value out of your Digital Lifestyle. At the core of that experience is HFCL's Home Mesh Router with IO Weave application.

HFCL's IO Weave Home Mesh Router



5. Why use IO Weave Home Mesh Router by HFCL?

To summarize the core problem statement – Home Broadband experience is broken, and the traditional connectivity approach is inadequate for the range of digital use cases required within a household. The solution is not just a Home Mesh Router but also Use Case Driven Home Mesh Networks created by HFCL's IO Weave HMRs.

Table 4: Use Case Driven Home Mesh Networks created by IO Weave HMRs



Frictionless Connected Experience

- 3Gbps speed with 6500 sq ft. coverage
- Multiple network SSID
- 2X2:2 MU MIMO
- 200+ connections per device
- Automatic band steering, load balancing and channel selection
- ATPC for auto coverage hole detection and correction
- AI based advanced content filters
- Advanced parental controls

Intuitive setup and operations

- Plug and play with iOS and Android mobile app
- Mesh setup time less than 3 minutes
- Voice controls
- Mix and match with any easy mesh device (scalability)
- 24x7 OEM support
- Remote monitoring, management, diagnostic and troubleshooting



Best value for your home

- Transparent upfront pricing. No hidden charges
- All units - full spec. devices (no satellite compromises)
- Free lifetime auto firmware upgrades. No subscription fees.

With its robust features and benefits, a Use Case Driven Home Mesh Network created by HFCL's HMR is an ideal solution for modern households that rely on fast, reliable Internet for work, entertainment, and connectivity.

For further information about this document,

Contact our sales team iosales@hfcl.com or visit our website: io.hfcl.com/home-mesh-router

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