

ARRIS HOMEASSURE™:

COVERAGE, PERFORMANCE AND SIMPLICITY
FOR THE WI-FI® CONNECTED HOME




ARRIS

www.arris.com

DELIVERING THE OPTIMAL WI-FI EXPERIENCE

Wi-Fi has become the primary means for connecting consumer devices to the Internet. As Service Providers continue to drive higher-speed broadband service to the home, now with the ability to deliver more than 1 Gigabit per second, it is becoming increasingly clear that Wi-Fi performance is the determining factor in the consumer experience. Broadband Service Providers are now Wi-Fi Service Providers, with broadband as their enabler.

When Wi-Fi isn't reliable and ubiquitous, it causes consumer dissatisfaction and increases support costs. In a recent survey¹, 90% of consumers said high-speed Internet through Wi-Fi is important to have in every room of their home, and 71% get frustrated if they have trouble getting online. Service Providers must address and overcome this new challenge and deliver a new gold standard for Wi-Fi service around the quality of experience subscribers expect.



Coverage

Consumers are streaming content on multiple screens around the home. They expect a reliable connection everywhere in the house, and they need mobility for services such as video and voice calling. They don't want dead-spots or have to reconnect to a different SSID.



Performance

Expectations are rising, customers are demanding the same great performance for all devices, in every room, at the speeds promised by their provider, which many perceive to be the headline speed of their broadband connection. Services delivered over Wi-Fi are expected to work as well as they do over wired, whether it's premium UHD TV or voice calls.



Ease of Use

Consumers have little patience for complexity with their Wi-Fi systems at home. They want something that is easy to install and use; Wi-Fi that just works. Otherwise, they call the help-desk or go to the nearest competitive provider.



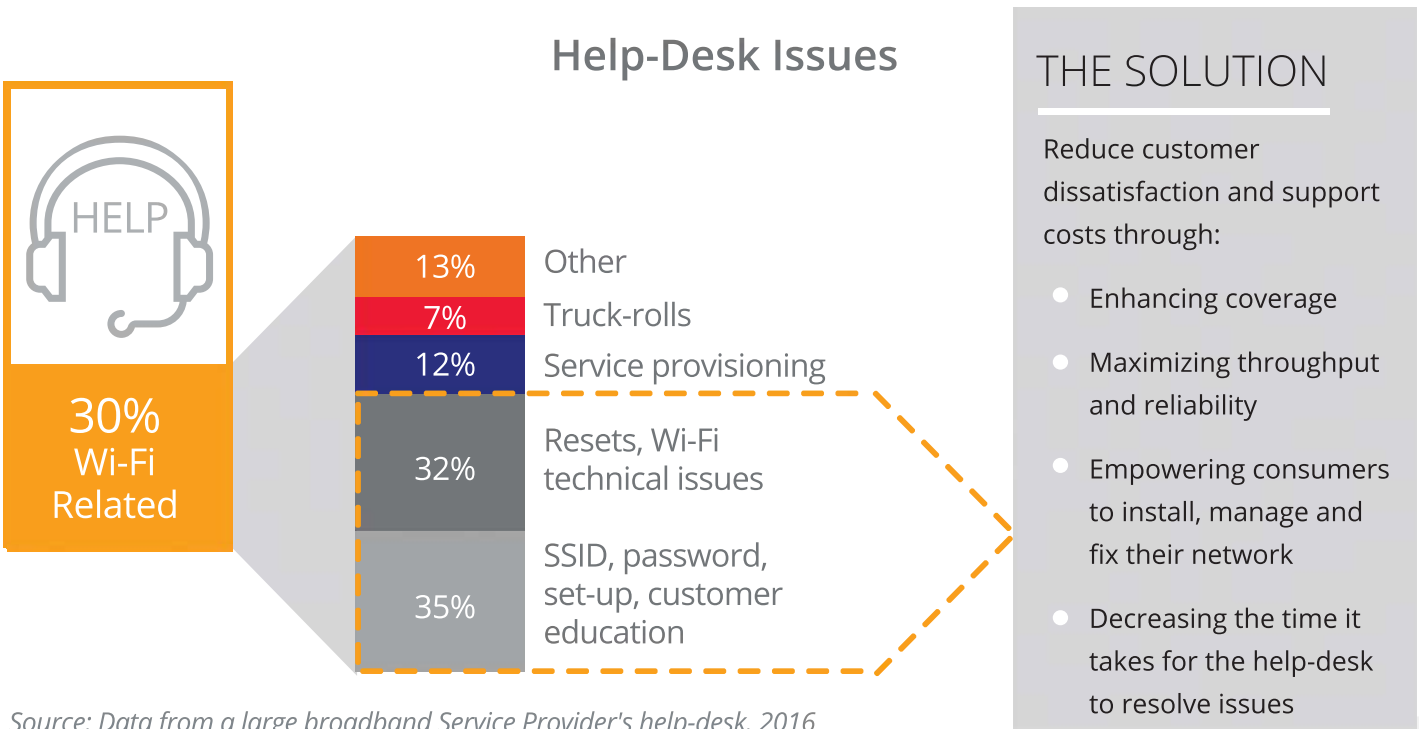
Security and Privacy

Security and privacy are second to speed on the priority list of gateway features for consumers¹. Consumers need to trust their Service Provider to help protect them and their families. While much of the security is hidden from the customer's view, features such as controlled guest access and the ability to limit their children's network access give them confidence that their connections are more secure.



IMPROVE QUALITY OF SERVICE WHILE REDUCING COSTS

Service Providers not only need to deliver Wi-Fi network coverage, but also maximize the performance, with a consistent experience throughout the home. That way they can ensure the reliability of premium services, such as UltraHD sports over Wi-Fi to connected set-tops. Service Providers need to empower the consumer by giving them the tools to install, configure and diagnose equipment on their own. With these value-added measures in place, Service Providers can significantly reduce calls to the help-desk and minimize truck-rolls, resulting in lower operating costs and higher consumer satisfaction.



ARRIS HOMEASSURE: DELIVERING SEAMLESS WI-FI THROUGHOUT THE HOME

ARRIS HomeAssure delivers high-speed, reliable Wi-Fi throughout the home that is easy for the consumer to install and manage, while reducing support costs for the Service Provider.

Designed to meet the needs of broadband Service Providers, HomeAssure is a complete solution that is scalable, flexible and secure. ARRIS HomeAssure comprises a range of gateways, network extenders, consumer apps and cloud management software – all developed to help Service Providers deliver high-speed Wi-Fi services to subscribers.

Improve coverage

A gateway/router with quality Wi-Fi is the first step to addressing the majority of consumer coverage issues. Consumers can add network extenders for broader coverage as needed. The auto-configuring feature, together with the guided assistance from the HomeAssure app, make it easy for consumers to install the extenders on their own. SSIDs and passwords are transferred from the gateway to the extender such that there is a single SSID for seamless mobility around the home.

Wi-Fi EasyMesh™

Devices that are Wi-Fi Certified EasyMesh have been validated by the Wi-Fi Alliance for conformance to the MultiAP (MAP) standard. Certified extenders and gateways will work together in a multi-vendor mesh Wi-Fi network. For Service Providers it aids multi-sourcing and opens up the opportunity to on-board and manage retail extenders.

ARRIS was instrumental in developing the MAP standard and the ARRIS VAP4641 Extender is the World's first Wi-Fi Certified EasyMesh device. It's worth noting that while the MAP standard specifies the communication protocol between home network devices it does not standardize the optimization logic central to the overall performance of the network. This is provided by the ARRIS HomeAssure Network Controller software.



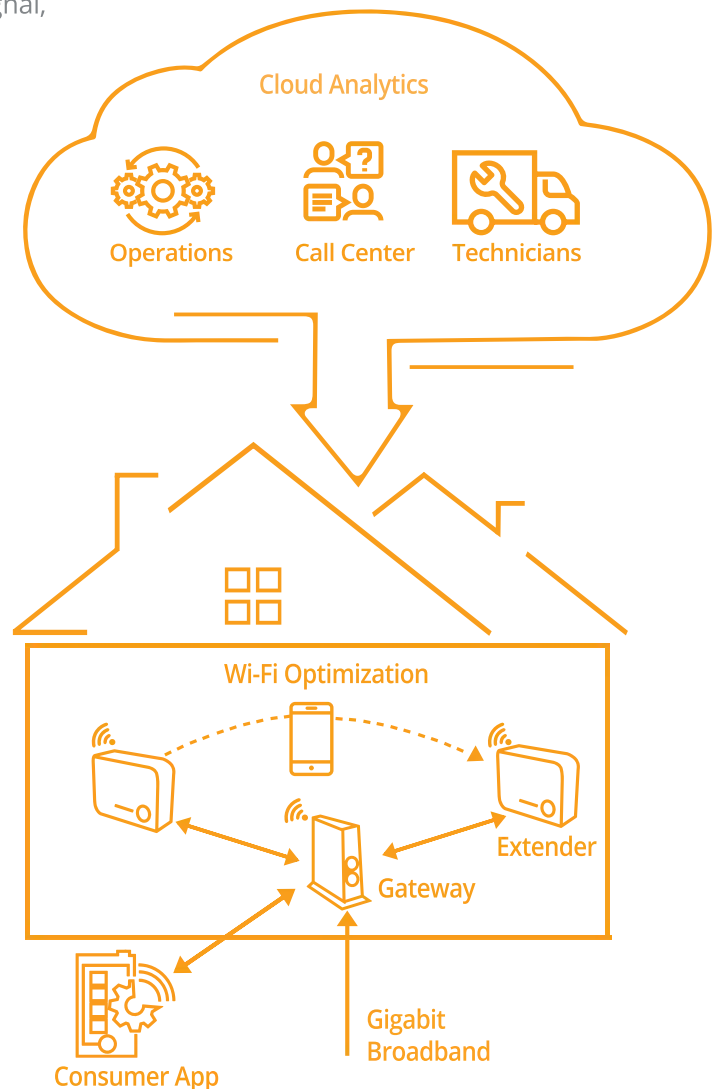
VAP4641 Wi-Fi CERTIFIED EasyMesh Extender

Maximize Wi-Fi performance

Enhance Wi-Fi performance with automated, network optimization in the gateway for low-latency control. The ARRIS Home Network Controller software optimizes network performance to make the most efficient use of every access point. Its capabilities include:

- Steering devices to the Wi-Fi access point with the best signal, eliminating the 'sticky client issue'
- Steering devices to an alternative access point when an access point is congested
- Moving devices between frequency bands / channels when congested
- Ensuring air-time fairness to stop low-performance devices at the edge of the network from excessive use of Wi-Fi resources
- Optimization of the Wi-Fi network may be enhanced by using Deep Packet Inspection to identify device types and applications. This information is used to make steering decisions, for example, to prioritize connectivity to a user watching a Netflix video on a tablet.

The sticky client issue happens when a client device is moved around the home and it clings to the original access point it connected to (e.g. in the kitchen) rather than switching to a nearby access point that has a stronger signal. (e.g. in the bedroom)



HomeAssure supports Fast Steering, which is important for the reliability of applications such as video or voice calling over Wi-Fi as consumers move around the home. Devices that support the 802.11v standard are directed to move to a specific access point by the Home Network Controller, based on performance measurements gained from the access points in the network. Devices transition between APs within a fraction of a second, much faster than the seconds common with the alternative method of 'blacklisting'.

Easy self-installation

Simple installation starts with the consumer app, which guides the user through the extender installation process, helping to best place the extender and triggers Wi-Fi paring. A signal strength test checks the Wi-Fi signal between the gateway and extender, advising the consumer to move the device closer or further away to obtain the best coverage with reliable back-haul. The configuration of the extender is done without any other consumer action. Changes to SSIDs and Wi-Fi passwords are automatically transferred from the gateway to the extender.

Enabling consumers to get the best from their Wi-Fi

End users can easily manage their own network with a choice of tools that suits them, such as the ARRIS consumer app, web portal or voice control. Useful tasks that help assist consumers include:

- Viewing SSIDs, passwords, network topology, status and data usage of connected devices
- Configuring guest access and parental controls that limit children's use of the Internet
- Measuring the Wi-Fi signal to map their Wi-Fi coverage around the home and identify if and where a Wi-Fi extender may be needed
- Assessing both the Wi-Fi performance and the broadband bandwidth in a two-stage speed test. In the event of a slow Internet connection, the consumer can determine whether the problem is a home network or broadband issue.



The HomeAssure app is ready-to-go from the Android and iOS app stores, or may be Operator branded. Alternatively the framework may be integrated into an Operator's existing app or used to create a customized app.

The HomeAssure app is available today in English and Spanish.

Lower support costs

Reducing Wi-Fi related calls to the help-desk starts with simplifying the consumer experience, making Wi-Fi easy to install and manage. The consumer app empowers customers with the tools, together with help and guidance, to manage their home network and to resolve issues themselves.

The next step is to add cloud management that leverages powerful data analytics to proactively identify and resolve issues, and improve the performance of the network.

HomeAssure Cloud is a standards-based platform that delivers full remote management and control over the home network; setting policies for the Home Network Controller, monitoring performance and providing analytics for service improvement. HomeAssure Cloud is a hosted SaaS service built on the ARRIS ECO Service Management Software, which scales to support tens of millions of devices and is extensively deployed in tier 1 Service Provider networks.

HomeAssure Cloud features and benefits include:

- Remote management of the complete home network encompassing gateways, routers, extenders and set-tops
- KPI dashboards and alarms with Wi-Fi specific data and a Wi-Fi 'happiness' score to easily identify customers with Wi-Fi problems
- Quick fault resolution by making diagnostic information and analytics available to operations teams. It enables service enhancement through insights into consumer behavior and what's happening on the network
- A consumer web portal that offers an alternative to the consumer app for configuring and managing the home network

HomeAssure Cloud is available as a hosted software-as-a-service for fast time-to-market and low up-front costs. The monthly fee includes software maintenance and support, online training and ARRIS operational services. Alternatively, it can be implemented in the Service Provider's data center and customized to specific Operator requirements.

Both the hosted and on-site options may be further enhanced with options for:

- Integration to Operator back-office systems including LDAP, billing CRM, etc.
- Voice control using a voice assistant such as Alexa. Consumers can manage their network without needing to pick up a device. For example, they could say "Enable guest access," or "How many devices are on my network?"
- A portal designed for use by the help-desk, or that can be integrated into an existing help-desk system, providing visibility of the home network with simple status information and diagnostic workflows with resolutions for improved consumer experience while reducing call duration and avoiding truck-rolls.

Should it be necessary to send a technician to the customer's home, then installation and problem resolution is assisted by the HomeAssure technician app that offers network visibility and diagnostics.

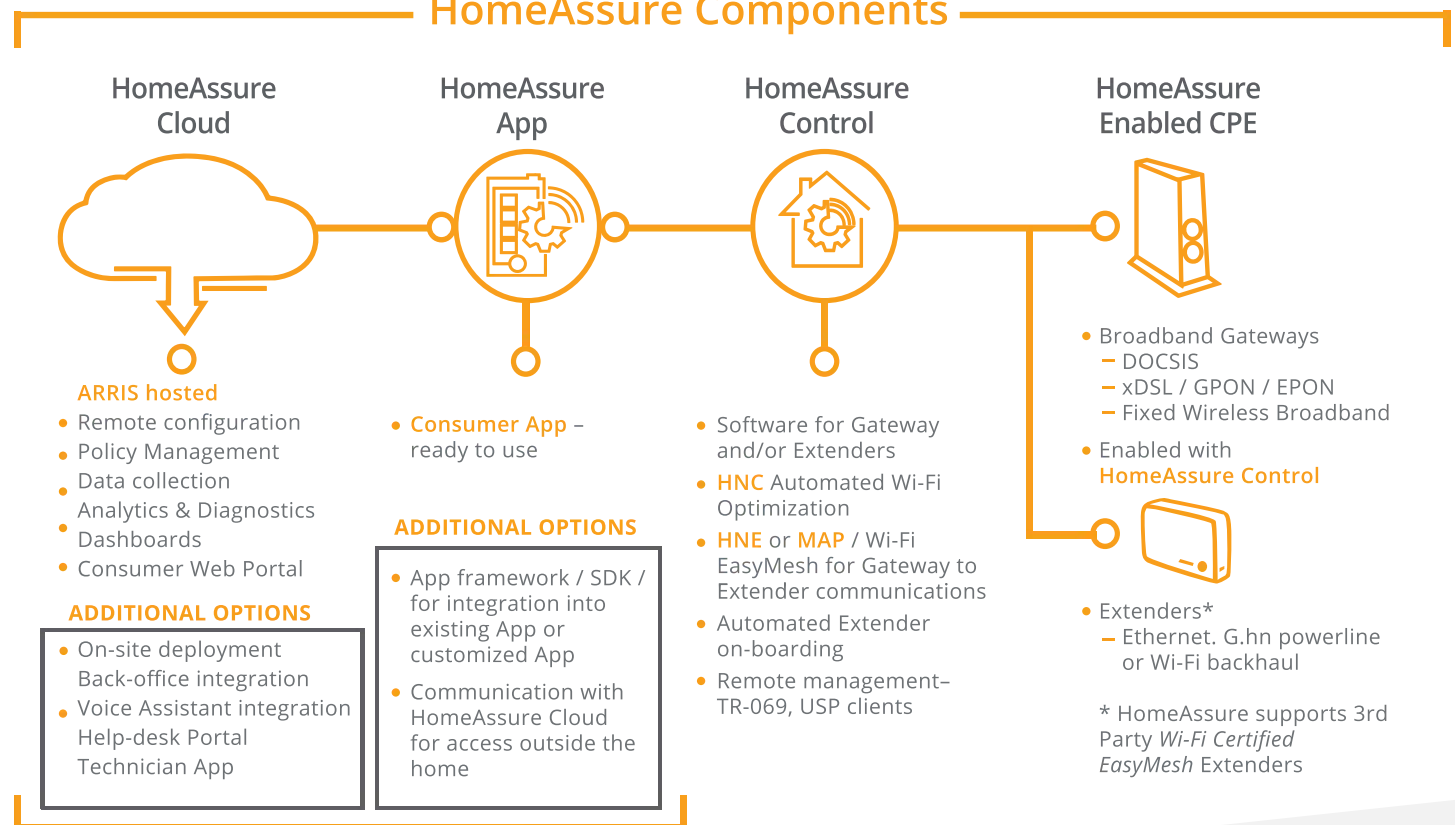
Flexible deployment options

The flexible, standards-based architecture of the HomeAssure solution offers choices to address specific Operator priorities in terms of time-to-market, CapEx, OpEx and existing infrastructure constraints.

- **Home Managed** - The simplest option for lowest cost and rapid time-to-market, it comprises HomeAssure-enabled CPE with the ready-to-go HomeAssure App that communicates directly with the gateway and no cloud component required. Where there are existing gateways which cannot be upgraded, the benefits of HomeAssure may be delivered by HomeAssure Control software running in an extender connected to the existing gateway.
- **HomeAssure Cloud Enhanced** - It adds the benefits of proactive management and analytics from the cloud as a hosted service.
- **Fully Customized Solution** - A tailored solution that could include:
 - On-site HomeAssure Cloud deployment
 - Help-desk system integration and custom workflows to improve the customer experience, reduce call duration and truck-rolls
 - Integration with back-office systems, LDAP etc.
 - Technician app
 - Voice assistant integration for consumer voice control of the home network

Service Providers can leverage the extensive ARRIS Wi-Fi expertise to accelerate time to market, reduce risk and OpEx costs with the range of professional services including consultancy, systems integration, customization, testing, support and maintenance.

HomeAssure Components



WHY ARRIS HOMEASSURE?

- ARRIS HomeAssure is engineered for Service Providers. Our approach is to focus on the end consumer experience delivering coverage, performance and ease of use while minimizing OpEx for the Service Provider. Our flexible approach and ability to scale enable us to create the optimum solution that's right for you.
- ARRIS HomeAssure uses an open, standards based architecture for flexibility and investment protection. It offers Wi-Fi hardware vendor diversity and options to integrate third-party technologies.
- As a long established Wi-Fi product vendor, ARRIS has proven Wi-Fi expertise with world-class RF design, sophisticated test facilities and a track record of Wi-Fi optimized for video.



Gateways / Routers
with
self-optimizing
networking
software



Self-configuring
extenders



Wi-Fi connected
set-tops



Consumer
app



Cloud
management



Services

Visit the ARRIS HomeAssure Solution on arris.com
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