Intelligent Wireless Networks

Datasat delivers the next generation of wireless network - a WiFi network specifically designed to meet the needs of next-generation multimedia devices and services. The Datasat system delivers unprecedented throughput and range through world class radio performance. Combining the latest innovations in 802.11n wireless technology and its own unique network intelligence, it provides a level of advanced traffic management and rate limiting that's adapted to the challenges of rich audio visual services.

Optimising radio layer performance is no longer enough. The revolution in multimedia devices demands a revolution in wireless infrastructure. This is where the Datasat system differs from all other WiFi vendors:

- IP layer traffic management allows granular control over users, devices and applications. SLAs can be created and enforced across the entire network to meet the very individual, and often changing, requirements for that network.

- Not only can finely tuned traffic priorities be set, precision rate limiting, congestion management and interference avoidance protects against network incidents capable of bringing other WiFi networks to a halt.

- This distributed, intelligent architecture dispenses with the need for a central traffic hub. This eradicates the single choke point found in most other WiFi infrastructure, a critical issue when scaling to hyper speed bandwidths.

HD Video & Audio Services

Nowhere are the limitations of standard wireless networks felt more than in video distribution. When issues arise in the radio environment the standard network response can result in an already congested network being clogged with re-transmissions, impacting all other devices contending for a decreasing amount of 'useful' bandwidth.

> DATASAT DELIVERS

- Unprecedented coverage, both indoors and out, requiring fewer Access Points than standard WiFi infrastructure and simplifying network planning, management and maintenance.

- Unique public and enterprise traffic share of the same network. It effectively and securely segregates Enterprise traffic from public applications, using IP layer traffic management to allow different applications, users or devices to be given individual SLAs across the WiFi network.

- WiFi network to extend beyond the building interior, with rugged construction and superior radio performance offering exceptional outdoor coverage for surveillance, logistics, outdoor operations and mobile communications.

- Optimised HD video and audio delivery to WiFi enabled devices allowing information or promotional messages to be delivered to handsets, large screen displays, laptops or tablets.

- State of the art link sharing techniques intelligently allocate bandwidth according to the network management priorities, airtime.

- Carrier grade reliability, meaning fewer maintenance and repair windows.

The Datasat system manages video traffic more effectively and efficiently than previous generations of WiFi infrastructure. First, the application classification awareness at the wireless router recognises video or multicast streams, and can prioritise video traffic over other applications. Its highly optimised data processing engine deals intelligently with network congestion by altering window sizes, reducing frame rates and decreasing data rates until the radio environment recovers.

For a rich audio visual experience or standalone audio services, the transport mechanism is optimised for HD audio to connect mobile devices, NAS storage and surround sound systems.

Advanced network features

Intelligent wireless networks from Datasat include:

- A network of intelligent Access Points interconnect wirelessly to extend the WLAN further than ever before beyond the wired network.
- Through the Network Management System traffic classification and rate-limiting is enabled per user, per device or per application.

- Client-by-client SLAs and multicast groups can be created, and traffic priorities instantly raised or lowered to meet changing network demands network.

- Client SLAs and multicast group credentials are transported seamlessly throughout the network, and then applied at the Access Point as clients enter and leave the system, or move between them.

- Pre-defined traffic priorities are tightly controlled and unplanned issues - rogue users, interference, congestion - responded to rapidly and intelligently.

Datasat's QuadraFlex routers don't just recognise different types of traffic, they understand their individual characteristics. This allows the system to actively adapt the management of traffic, in a way appropriate to each application, to deal with changes in the radio environment or changing demands on the network.

It's this distributed IP layer intelligence and adaptive traffic handling that enables Datasat's WiFi infrastructure to deliver throughput and performance throughout the coverage area.

The 'goodput' contradiction

The standard response, at the radio layer, to network degradation caused by contention is to flood that network with retransmissions, further reducing the available air time and impacting all the devices competing for a now rapidly decreasing useable bandwidth.

Unlike WiFi systems operating solely at the radio layer, the Datasat system intervenes, using IP layer traffic management to intelligently adapt to network traffic and reduce the contention issues detected by the Mesh Points. This greatly increases the available 'goodput'.

Installation, Set Up & Scalability

Datasat has streamlined the provisioning process for rapid network deployment. Within hours, entire networks can be designed and configured. Numerous radio configurations and commands can be implemented via the User Interface, however common WLAN parameters have been pre-provisioned to simplify and speed up the provisioning process.

As data rates hit speeds three times that of Fast Ethernet, scalability is no longer a nice-to-have. Most WiFi infrastructure depends on a central traffic hub, the Datasat architecture has no single choke point with intelligence residing as close to the network edge as possible.

Contact us today with your communications requirements on +44 (0)1707 665 320 or email us at sales@datasat.com