

Hull City Public WiFi Case Study

Hull City public Wifi Utilise RG Nets, Ruckus & Brocade to support 30,000+ users Purdicom's reseller, Connexin, is the leading provider of Smart cities and the Internet of Things (IoT) in Hull.

Having recently won the 'Free City Wi-Fi' contract, the network team at Connexin had the task of installing a number of access points around the city centre and designing a complete, safe and user friendly networking system using Ruckus Wireless, Brocade and RG Nets which would be used by over 30,000 customers. For this deployment, Connexin needed a central device to manage different customers, with different levels of access; limited by time, data and bandwidth. Security and content control were also key elements to the setup, so dynamic VLANs had to be in operation to separate customers securely on the network, as well as content filtering and security settings to detect and prevent any unwanted activity.

In short, Connexin created a network that was extremely secure and safe for users. Connexin opted for an rXg cluster, which comprises one cluster controller, three A6 devices (each with two virtual rXg instances to a total of 6), and two 10G capable switches. The rXg allows you to determine how you would like to manage unwanted traffic, simply logging it, sending customers to a splash portal, limiting any further access, or even removing them from the network completely. It also allowed data traffic to reach high speeds and move between devices seamlessly.

The flexibility of the rXg allows it to act as the gateway for the entire wireless deployment, whilst also being securely homed in a data centre. Within the data centre, BGP is then being used to route traffic out to the Internet, with the rXg being fully compatible with this protocol as well as other routing methods.

Will Kebbell, Connexins head of Network, mentions;

"The rXg provides a fantastic, and highly customisable, platform to build intelligent solutions that go way beyond a basic Wi-Fi network. With the ability to deliver a multitude of segregated and unrelated services from a single centralised product the rXg is a superb tool for delivering intelligent IT and forms the basis of Connexin's intelligent cities offering in Hull."

On the 1st January 2017, the first access point had officially launched to commence Hull's year-long celebration on becoming the UK's 'City of Culture'. Hull was awarded this title in 2013 for their belief in the transformational power of culture. With speeds up to 70Mbps and unlimited free downloads - 25,000 people connected and used the Public Wi-Fi to welcome in 2017 at the city's firework show.

Furqan Alamgir, Founder & CEO of Connexin mentions;

"We are building this as our flagship smart city network that will support smart IoT applications as well as offering free Wi-Fi to users. We are very excited to be working with Hull City Council who are keen on pushing Hull forward as a technology leading city."

"The network will support Wi-Fi roaming so you can walk throughout the coverage areas without a drop your connection. The system will also remember your device so you won't have to keep logging on, making it easy to use."

Security, Network Control & Revenue Generation for any Network - all in one box.

RG Nets Product comparison matrix

Model	Base SUL	Max SUL	Max Throughput	Max IP's	Max VLANs	Max Policies	Ethernet Ports	Rack Size	CC license Included
A4	100	300	600Mb	900	450	30	4x1GigE	1U	N/A
S4	500	1000	2000Mb	3000	1500	100	4x1GigE	1U	N/A
RS4	1000	2000	4000Mb	6000	3000	200	4x1GigE	1U	N/A
A6	1000	2000	2000Mb	6000	3000	200	6x10GigE	1U	Yes
S6	2000	4000	4000Mb	12000	4096	400	6x10GigE	1U	Yes
RS6	3000	6000	6000Mb	24000	4096	600	6x10GigE	1U	Yes

Security

Stateful Firewall
Intrusion Protection
Isolate by layer 2 & 3

Core Networking

DHCP
DNS
Radius Server
Routing (inc. BGP & RIP)

Uplink Control

Automatic Link Failover
Link Balancing/Aggregation
Application Affinity
Carrier Diversity

Automatic Dynamic VLANs

Assign VLAN's by device or Account
Zero Operator Intervention Provisioning
Onboard Headless Devices
Personal Roaming Networks

Deep Packet Inspection

Event Triggers
Local Custom Signatures
Supports Remote Signatures/ Databases

PMS Integration

Supports Commonly Used PMS's
Minimum Configuration Required
Full API Available
Concierge Portal

Content Filtering

Filter Unwanted Content
Remote Filter Lists
Phrase Weighting
Custom Black & White Lists

Captive Portals

Customisable Portals
Multiple Custom Portals per Deployment
Social Media & User Self Authentication
Radius Client
HTML5 with Ruby-on Rails

Bandwidth Management

Per user Traffic Shaping
Rate Limiting
Bandwidth Bursting
Quota Enforcement
Packet Prioritisation

Reporting & Auditing

Real Time Graphs
Node Monitoring/ Resource Dashboards
Health Logging
Surfing Histories
GDPR Compliant

Web Experience Manipulation

Advertisement Injection/Overlay
URL Redirection/ Re-write
Content Caching
Content Re-writing

Seamless Billing

60+ Known Payment Gateways
Credit Card Processing
Single Use Coupons
PCI Compliant
Zero Cost Services

