

# Quality Mark Network Standards

**Version**

<b>Date</b>	<b>Changes</b>	<b>Approved</b>
15.10.18	Original draft as amended.	S C Hayhurst

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## Introduction

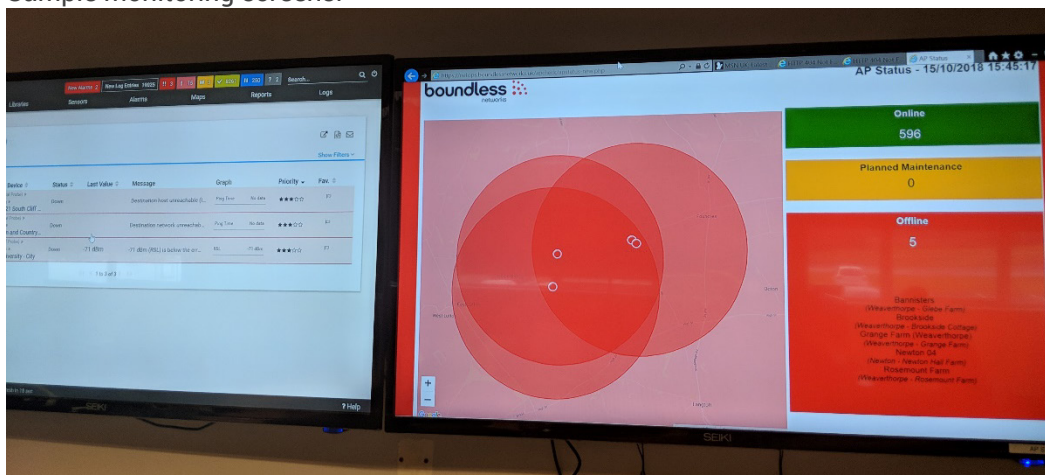
We take great pride in the design, implementation and ongoing monitoring of our core network to ensure our subscribers enjoy an uninterrupted quality of service. We ensure that we have tried and tested systems, responsive competent people to monitor and maintain our network.

In this document we consider the following;

- Network Monitoring - Core Network
- Contention Planning - Peak time speeds
- Speed Measurements (Demarcation / Customer Measurements)
- Network Uptime (Core vs Customer) (99.9%)
- Fault Management Procedures
- Support Procedures (How customers report issues) IN and OUT of Business Hours.

## Network Monitoring

- We have a monitoring platform / toolset to constantly monitor the status of the core Backhaul / Access Layers with alerting on core infrastructure. (This includes customers devices but not to the same standard as core)
- Core Network Example – PRTG and custom mapping and monitoring
- Business Customer - PRTG
- Residential Customer - AirControl
- MINIMUM STANDARDS - Every device on the network is monitored 24/7 x 365 with some historical data / graphing being available to Network Engineers
- Sample monitoring screens: -



## Contention Planning

- When designing a network and backhaul links we consider the likely take up by the residential and or business community and set a self-imposed threshold for connections. Our NOC team update access point

capacity within our CRM so other colleagues can see remaining capacity to sell on. Equally if an access point is flagged full, by the NOC team, then our CRM holds any additional sales from being made, until an upgrade has been considered.

- We monitor traffic on Backhaul Links to monitor spare capacity and act upon any heavy load areas. The statement above to define what happens when infrastructure hits capacity.
- For Business SLA + Private link customers, contention is defined via the SLA agreement with the customer.

## Speed Measurements

- Our provisioning handover includes an internal speed test via internally hosted infrastructure and or public speed test server.
- We provide our customers with a support guide on how to properly test the speed. It includes;
  - an explanation of the difference between MBps and Mbps.
  - that speed testing must be hard wired into the router and not via WiFi wherever practical, in order to avoid potential low readings.
  - Ensuring no other devices are connected

## Network Uptime

- Boundless continuously monitors core network uptime and availability. This includes our border gateway routers, as well as every router, node and network switch across our full network. The network is designed to exclude single points of failure at critical points, such as incorporating multiple IP Transit and Internet Exchange connections. Quarterly core network statistics are available to business subscribers on request.
- For any impacting events on network uptime, Boundless has a documented RFO (Reason for Outage) for each event, which is circulated internally for management and network improvement and is routinely reported to enterprise customers.

## Fault Management Procedures - Not customer facing

- Boundless has standard procedures for dealing with network issues, within this procedure different types of fault are defined. For example, an issue with a repeater site would be treated with greater urgency / response than a residential customers.
- Such incidents are tracked in a custom Incident Management System (IMS). All incidents are opened and tracked to conclusion, including extent of disruption and cause. Incidents are reported upon by our management team for continuous improvement and capacity management purposes.

## Support Procedures

- We have a customer facing web page, on our website [www.boundlessnetworks.co.uk](http://www.boundlessnetworks.co.uk) , for customers to find out how to raise a fault with us. See [link](#).
- This page also includes a definition of faults covered by the contract and those that aren't covered and attract an additional cost.
  - We inform customers, verbally and by email, of additional charges before an engineer is booked to carry out any work. We also state what is refundable in the event that the visit is a result of our equipment failure.
- Customers do not have to click more than twice from our support page to reach the support page. The link is <https://customercare.boundlessnetworks.uk/login>