

## Smart Roaming App Datasheet

*"The missing link for reliable 3G/4G/LTE Communications"  
Device assisted intelligent network selection for roaming SIMs*

Smart Roaming is an application that can be installed in all Robustel R2000 and R3000 series routers to provide a unique level of intelligence when using roaming (multi-network) SIM cards.

Roaming SIMs are often sold as a way to improve GSM reliability and whilst the fundamental premise is accurate, standard routers do not always achieve the best results when using roaming SIMs due to sub-optimal behaviour of "Automatic network selection."

In short, you can pay extra for the resilience of a multi-network SIM and still find that there are Comms outages that could have been avoided by using intelligent network selection.

### How does Smart Roaming work?

Smart Roaming performs a network scan to identify all GSM networks as shown in Figure 1.1 (below)

Initially the router will use industry standard "Automatic network selection" to select a network. More often than not (around 90%+ approximately), this will lead to a successful outcome & no corrective action need be taken by the router firmware. However, in the instance that the chosen network is not fit for purpose then Robustel's Smart Roaming APP will kick in and will actively seek to change to another network – a process that doesn't happen effectively in "standard" routers, sometimes leading to a total loss of Data Communications.

Settings		Status						
<b>VPN</b>								
<b>Services</b>								
Syslog Event NTP SMS Email DDNS Data Guard v2 SSH RCMS SNMP Captive Portal Modbus Master Modbus Alarm Web Server Advanced <b>Smart Roaming</b>								
<b>^ Status</b>								
State		Connected						
Operator Selection Mode		Automatic						
Time Since Last Network Scan		0 days, 00:12:52						
<b>^ PLMN List</b>								
Index	Operator	PLMN	Status	RAT	RSSI(dbm)	Latency(ms)	Packet Loss(%)	HealthCheck
1	vodafone UK	23415	Current	4G	-65	91	0	Good
2	3 UK	23420	Visible	N/A	N/A	N/A	N/A	Pending
3	O2 - UK	23410	Visible	N/A	N/A	N/A	N/A	Pending
4	EE	23430	Visible	N/A	N/A	N/A	N/A	Pending
5	234 32	23432	Visible	N/A	N/A	N/A	N/A	Pending

Figure 1.1 - "Smart Roaming Status Screen"

For a more detailed overview of the limitations of "Automatic network selection" please download the "Smart Roaming White-paper" from the Resources section of the Robustel website.

## Quality of Service (QoS) Attainment with Smart Roaming's 'Healthcheck'

Smart Roaming not only offers a mechanism to "prefer" networks with a working data connection, the "Healthcheck" feature can be used to "prefer" networks with connection variables with a higher QOS. High ping times, low signal strength and ping packet loss are metrics that all loosely correlate with a "bad" connection. By setting the Healthcheck variables appropriately, Smart Roaming can be forced to change the current network connection from a poor one to a better one.

An example where this could be valuable is in a CCTV Application where a 2G network would be useless for video transmission. In this instance, Ping RTT (Round Trip Time) could be used as a coarse indicator of a usable network.

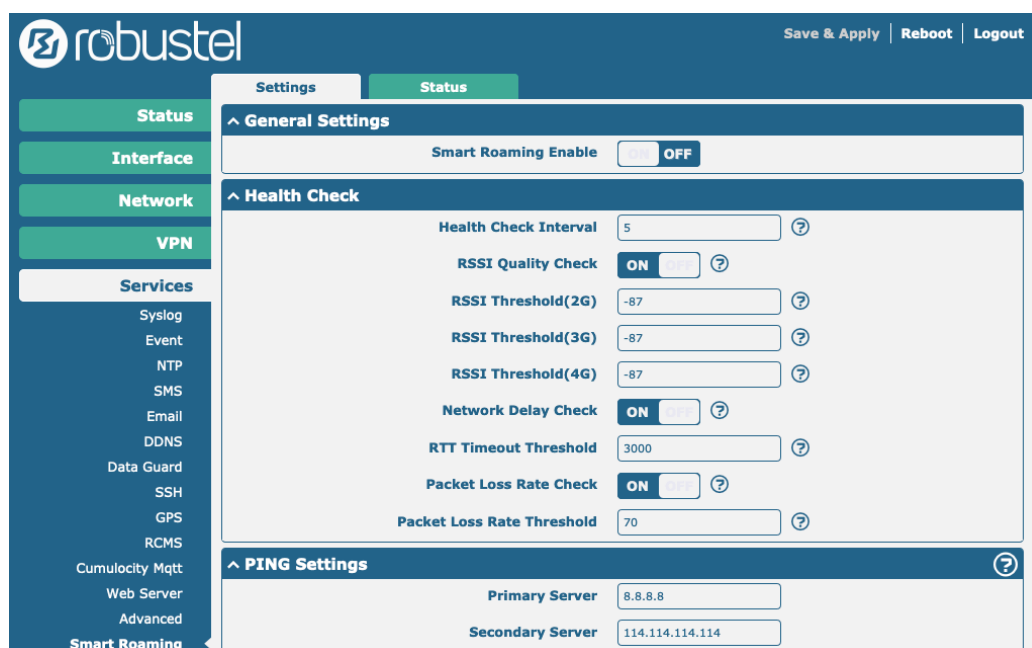


Figure 1.2 – Smart Roaming's "Healthcheck" Settings Screenshot

## Commercial Benefits of Smart Roaming

The best way for individual companies to ascertain the "value" of Smart Roaming is to consider the pain caused by an asset going offline. If the device is of low importance/criticality and lack of 3G/4G connection will not cause significant issues then a roaming SIM without Smart Roaming or even just a single network (eg. Vodafone / AT+T) SIM could be used.

However, if the loss of remote access / monitoring of a device can cause unhappy customers, reputation damage or generate the need for expensive site visits (potentially at the cost of a flight for overseas installations) then Smart Roaming should be considered.

Any estate of devices that have a critical dependency on a cellular connection to the internet is a candidate for Smart Roaming.

To receive a complimentary copy of the Smart Roaming application for your Robustel routers, please contact your Regional Sales Representative or Robustel Distributor & they can send the relevant file ready for direct installation to your router.