



REDBOX PLATFORM NETWORKING

ANY-TO-ANY CONNECTIVITY

Reliant's Redbox Platform provides one of the broadest ranges of connectivity options available, covering both LAN and WAN technologies. Its patented, open architecture enables a wide range of configurations, supporting numerous LAN and WAN network options.

LAN PORT SWITCH

Redbox Platform is equipped with a number of 10/100/1000 gigabit Ethernet ports – ranging from one to thirty-two, depending on the hardware model. Each of these ports can be configured as a separate layer 3 network, or aggregated together, in any combination, as a layer 2 switch.

WAN CONNECTIVITY

Any interface or combination of interfaces can be configured on Redbox Platform as a WAN interface. Available interfaces include Ethernet, USB or serial. Connectivity options typically include Ethernet to a broadband modem or router, MPLS or T1 router, VSAT, or USB 3G/4G modem.

PRIMARY OR BACKUP CONNECTIVITY

Redbox Platform provides primary or backup WAN connectivity from any of its interfaces. For example, it can be configured for primary connectivity using DSL with backup connectivity via a 3G/4G wireless link. Redbox Platform can also provide backup connectivity to a location, when paired with another router. Redbox Platform is often deployed at a site paired with an existing MPLS router, with the Redbox Platform providing backup connectivity via 3G/4G or broadband.

VLANS AND WIRELESS VLANS

Redbox Platform has full support for 802.1Q VLAN trunking. Up to 1024 separate VLANs can be assigned to any combination of physical or virtual interfaces. In addition, Redbox Platform can interface with wireless access points or switch and provide support for wireless VLANs via trunk interface.

WWAN

Via USB interface, Redbox Platform accommodates 3G or 4G mobile wireless data modems. Use of the modem is controlled by flexible scripts, which can control use of the link based on usage, network availability, time of day, source, destination, protocol and port.

VPN

Redbox Platform uses a flexible and efficient SSL-based VPN that runs smoothly and securely over any WAN medium.

ROUTING PROTOCOLS

Redbox Platform supports most standard based routing protocols, including RIP v1 and v2, OSPF and BGP.

QOS

Redbox Platform offers robust quality-of-service options that can be established on a per-interface level. These include custom packet queuing and prioritization.





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OPEN ARCHITECTURE

One of the most powerful features of the Redbox Platform is its open architecture, supported by a robust and highly customizable operating system. This allows tremendous flexibility in networking configurations. New functionality can be introduced at any time, drawing from the deep reservoir of Linux and open-source software.

STANDARDS AND ADDITIONAL TECHNICAL DETAILS

VLAN	Supports 802.1Q packet tagging for participation in VLAN based networks as trunk or access links. Up to 1024 separate VLANs can be supported across any combination of Redbox physical or virtual interfaces.
VPN	Site-to-site VPN using widely accepted OpenVPN solution. Encryption is SSL-based and runs over either TCP or UDP as a transport. Key exchange is handled through TLS with OpenSSL, providing encryption of both data and control channels. OpenVPN is significantly lighter weight than IPSEC and, unlike IPSEC, runs well behind NAT and with dynamically assigned external IP addresses.
Routing Protocols	RIP V1, RIP V2, OSPFv2 and BGPv4. Extensive support for static routes including the injection of route information across a VPN tunnel or via system specific logic as defined in scripts.
NAT/PAT	Full support for both source and destination NAT and PAT. Support for translation of layer 3 addresses and protocol (TCP or UDP) port.
QOS	Packet prioritization based on flow set at the physical or virtual interface level. Flows can be set based on bandwidth percentages, bandwidth limits, guaranteed (minimum) bandwidth and priority. Queues can be managed based on a range random early detection, stochastic fair queuing and token bucket filter. Packet flows can be configured based on TCP and UDP port, transport type, IP address or MAC address.
DHCP	Full support for DHCP client or server operating on any physical or virtual interface. Support for RFC2136 for dynamic DNS integration.
PPP	Support for PPP, Multilink PPP and PPPoE.
DNS	Robust client- or server-based DNS functionality, including secure and dynamic DNS configurations.
Network Services	NTP (client and/or server), LDAP (client and/or server), syslog, syslog-ng, bootp (server), PXE (server), TFTP server, SCP (client or server)
VRRP	Support for VRRP (RFC 5798) between Redboxes or between a Redbox and VRRP capable system such as a Juniper or Cisco router.

