



Host Multiple Operating Systems including **Windows**

Redbox MultiPlatform lets you manage a secure network across many stores and stream multiple in-store technologies regardless of platform.

Reliant Redbox MultiPlatform provides a complete multi-location, enterprise-grade virtualization solution at a price point that is a fraction of complex commercial alternatives. Our solution provides complete centralized management, monitoring, and security, that readily scales up to many thousands of locations, with configuration granularity providing for significant variation at the store level.

Support Windows Virtualization

The ability to host entire instances of Microsoft Windows as a guest OS is a key feature of Redbox MultiPlatform. This includes Windows XP, Windows 7, Windows 8, Windows Server 2003 and 2008.

SIMPLIFY YOUR IT INFRASTRUCTURE

Virtualization = More Value & Less Cost

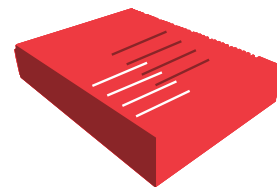
Take an Open Approach

Redbox MultiPlatform takes an open source approach to virtualization. The virtualization technology used in Redbox MultiPlatform is among the most widely-used hypervisors deployed in data centers everywhere.

Consolidate Systems Simply

Virtualization is what allows multiple systems to be consolidated onto a single piece of hardware. Redbox MultiPlatform reduces the complexity of the store environment, simplifies support, increases reliability, and, more important, reduces costs. Functions that once ran on separate dedicated hardware, can now be run as virtual machines on Redbox Platform:

- Point of sale
- Time & attendance
- Digital video recording & surveillance
- Store music
- Digital signage
- Mobile device management
- Kiosks
- Kitchen display systems



REDBOX
MULTIPLATFORM



Secure high-performance virtualization

Redbox MultiPlatform takes a high performance, secure and highly efficient approach to hypervisor implementation by leveraging hardware-assisted virtualization in advanced Intel and AMD CPUs. Almost all x86-based operating systems are supported. Hardware resources can be directly assigned to operating system instances.

Enhance security with self-contained technology

Enhanced security is provided by a combination of a type-1 hypervisor and self-contained guest OS instances. The hypervisor is managed in a fully protected mode. All OS instances are isolated from one another with connectivity only possible through physical or virtual network links.

Manage networks centrally

Redbox MultiPlatform features software-defined networking in which network connectivity, including switching, VLANs, routing, physical interfaces, virtual interfaces, VPNs, wired, and wireless are all defined within software. This provides unparalleled control of any network setup integrated with the hypervisor, operating system, and application configurations. Support for a broad set of network services is also integrated into the solution including:

- DNS
- DHCP
- File and print services and others

Redbox MultiPlatform, like the original Redbox Platform, can also provide central management to other network systems such as:

- WiFi access points
- Switches
- Routers
- Firewalls

Complete control - Scalable system

At the core of the Redbox MultiPlatform solution is a private, cloud-based management framework that provides end-to-end configuration control of the entire solution stack. Redbox MultiPlatform is managed through a single management infrastructure that controls hypervisor, network, OS instance and application settings. A web-based front-end, along with API, provide a highly extendible easy-to-use configuration. The management infrastructure is completely scalable and can support thousands of individual Redboxes.

Easy Implementation - Simple Deployment

Redbox MultiPlatform follows the same approach as Redbox Platform, allowing easy provisioning and deployment of hardware. Software can be loaded on boxes remotely and all configuration is done centrally. A simple token-based installation solution allows unconfigured hardware to be securely installed within any store location in the network.

Redbox MultiPlatform Standards and Technical Details

Redbox MultiPlatform provides one of the broadest ranges of connectivity options available, covering both LAN and WAN technologies. Its open architecture and Windows virtualization capability enables a wide range of configurations, supporting numerous LAN and WAN network options.

The major technology standards supported by Redbox MultiPlatform include the following:

HARDWARE

Requires an Intel or AMD CPU that includes VT-x or AMD-V virtualization processor extensions, respectively. Minimum memory required is 4 gigabytes. Storage can be compact flash based, an SSD, or hard drive.

VIRTUALIZATION

Redbox MultiPlatform uses two virtualization stacks concurrently. They are KVM+QEMU and OpenVZ. KVM+qemu is a type-1 hypervisor and it is used to host Linux and Windows guest VMs. OpenVZ is used for container-based virtualization under the root OS and provides for separation in the deployment of security controls.

NETWORKING

Support for both physical and virtual interfaces associated with guest VMs and virtual containers. VLAN based networking is supported through IEEE 802.1Q packet tagging. Individual physical Ethernet ports can be aggregated into a layer 2 network switch.

MANAGEMENT

Management of Redbox MultiPlatform is fully centralized from the hypervisor to the network configuration to the setup of the configuration of applications running in virtual containers.

CONFIGURATION AND DEPLOYMENT

Redbox MultiPlatform can be deployed from bare metal via a USB boot process that loads the system base image onto the system's local storage. It then accesses the central

REDBOX MULTIPLATFORM TECHNICAL OVERVIEW

Hardware:

Reliant has various models of Redbox MultiPlatform hardware available depending on the anticipated application, and plans for future growth, in the store environment.

- Dual, quad core AMD or Intel Centerton ATOM, Core i5, Core i7, or Xeon processors. Single or multiple CPU configurations are available.
- Memory configurations that range between 4GB to 64 GB of RAM
- Between 1 to 16 ports of autosensing 10/100/1000 Ethernet interfaces
- Storage options that include 16GB compact flash, 256GB to 1TB SSD, or traditional hard disks.
- Serial connectivity within is provided through USB interfaces.
- For applications that require video, Redbox models are available with VGA, DVI, or HDMI output and include Intel or Nvidia GPUs.
- The physical size of Redbox Platform appliances range between 3.5" x 4" x 1.5" to 19" rack mountable units between 1 and 2RU.

Redbox Platform operating system:

Redbox Platform uses a Debian Linux operating system with KVM+QEMU and OpenVZ virtualization.

configuration management solution to deploy the specific configuration for an individual site.

SECURITY FEATURES

Like Redbox Platform, Redbox MultiPlatform features a wide range of security controls including firewall, network segmentation, secure logging, file integrity monitoring, vulnerability scanning, wireless intrusion detection, and VPN.

COMPATIBILITY

Redbox Multiplatform supports guest virtualization image formats that include RAW, qcow2 and VMDK.