VirtualIron™ IT Cluster-in-Box Datasheet

Unified IT Infrastructure Appliance Platform for SMB & Branch Offices

Windows Server 2012 R2

VirtualIron allows small organizations to focus on their core business, not on managing Information Technology (IT). It helps businesses become more productive, deliver easy access to applications from anywhere on any device, protect critical data, and provide an easy path to cloud integration.

IRON VirtualIron family of next-generation intelligent appliances, powered by Windows Hyper-V clustering, Hyper-V network virtualization, Windows Server 2012 R2 and Windows Storage Server 2012 R2 technologies deliver on the promise to simplify, unify and improve business efficiencies. Its offers unique industry-leading, enterprise grade cluster-in-box hardware design which includes redundant hot-swap hardware configurations for motherboards, disks, fans and disks. It is a highly scalable, single device that can run 10s of VMs and provide storage scalability in the excess of 100TB; multiple devices can be combined to offer an enterprise grade scale-out infrastructure solution.

- It offers an affordable all-inclusive highly scalable infrastructure solution that can be used as a primary storage, server virtualization, VDI, and both a local and remote network access security device.
- It helps control access to applications easily; users can access their application and information from almost anywhere using virtually any device.
- It runs business critical applications and databases; easily protect, centralize, organize, and reduces the risk of data being stored or potentially lost on unprotected devices.
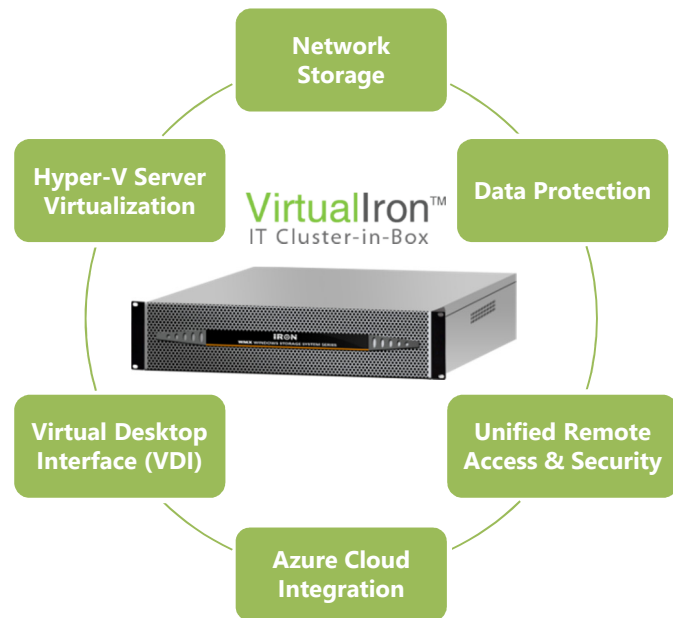
IRON VirtualIron benefits Small to Mid-Size Businesses

IRON VirtualIron is custom designed for easy deployment, helps runs business applications on-premises and can be managed by individuals centrally with limited in-house IT services. It provides seamless integration to a growing number of cloud-based applications and services such as Windows Azure Backups, for an additional layer of data protection and Office 365 for email and collaboration services.

IRON VirtualIron for Branch Offices deployments

VirtualIron IT-Cluster-in-box is an integrated platform solution to help simplify delivery of services to branch offices. It offers the distributed enterprise and easy-to-manage, security-enhanced, high performance infrastructure that delivers cost-effective IT services across the WAN and corporate data centers. It helps to:
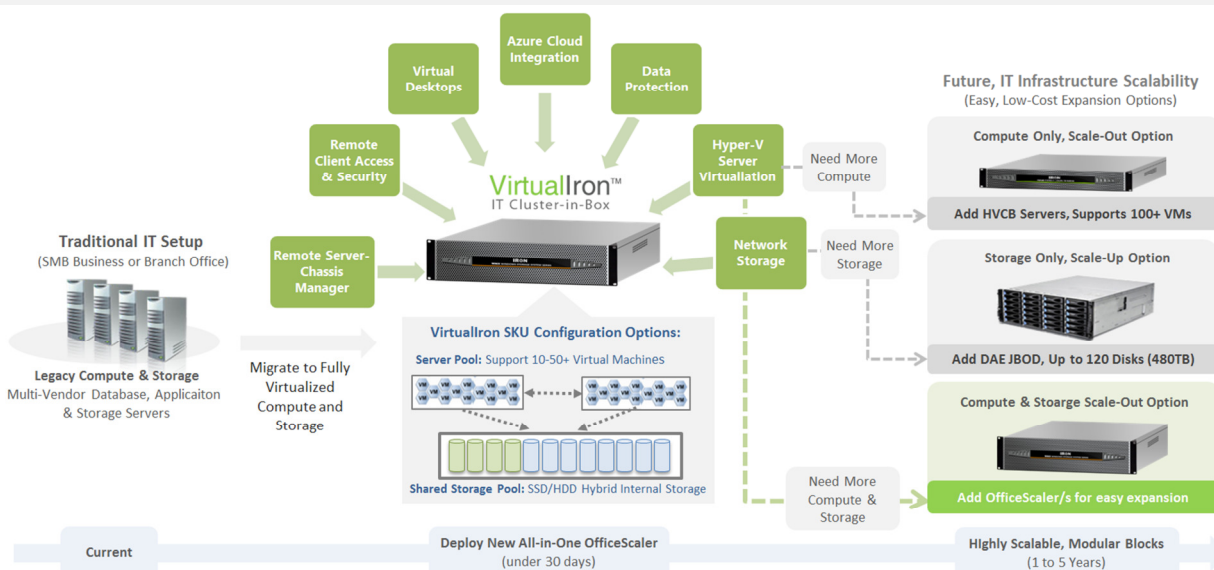
- Provide Cross Premises, site-to-site connectivity and Hyper-V NVGRE support between branches, enterprise operations and hosted cloud providers
- Keep the business running smoothly by utilizing faster data replication
- BranchCache for WAN optimization
- Manage branch devices more easily with centralized management tools

VirtualIron™ IT Cluster-in-Box

Network Storage · Hyper-V Server Virtualization · Data Protection · Virtual Desktop Interface (VDI) · Unified Remote Access & Security · Azure Cloud Integration

VirtualIron Key Benefits

- Purpose-Built, Pre integrated as a Turnkey appliance solution for small-mid size businesses and remote offices
- Complete IT Infrastructure platform, combines the power of windows compute virtualization and windows storage virtualization in a single "IT Cluster-in-Box". Powered by enterprise grade Windows Hyper-V 2012 R2 scalability, clustering and continuous availability technology to protect business critical data and applications
- Runs Windows software for compute VMs, Storage, Remote Networking on a single enterprise grade Cluster-in-Box system
- Built-in, high performance Hybrid SSD and HDD Storage Array for maximum database and application performance and capacity ranging from 20-200TB+
- Redundant design offers hot swap disks, motherboards, fans and PS; uses software RAID, virtually no single point of hardware failures.
- Hardware chassis management hooks for MS System Center, HP Openview & Tivoli
- Lowest Cost, Future Proof - easy to scale compute and storage options
- Unified Support, 24x 7 Help Desk and on-site hardware replacement options

Microsoft Windows Server 2012 R2 running on VirtualIron hardware appliance platform provides small-mid size businesses and branch offices with everything for managing an entire IT infrastructure in one box. It provides greater flexibility for customers to choose on premises or cloud-based solutions, migrate from one to the other, or provide a hybrid solution using simple administration which does not requiring a large IT department.

Key Windows Server Software Components

Hyper-V Server Virtualization: Enterprise-class scale and performance help transform IT into an elastic, always-on cloud solution:
- Virtual Machine Mobility, shared nothing live VM migration within clustered nodes or across clusters
- Continuous availability via Transparent Failover amongst clustered nodes

Storage Virtualization: Storage Spaces offers enterprise-grade efficiency, performance, resiliency, availability, QoS and versatility:
- Software RAID, no hardware failures
- Hybrid Storage, Auto-Tiering Flash and Disk Drives for high performance IOPS
- Resilient Storage with Thin Provisioning
- Supports Scale-Out CSV for scalability

Desktop Virtualization (VDI): Cost-effective, centralized, flexible VDI deployment options for mobile devices in a single solution for enhanced end-user productivity:
- Consistent experience; Pooled, Personal & Remote Desktops
- Rich experience over LAN and WAN
- Storage de-duplication for VHD/VHDX

Hyper-V Network Virtualization: Manage private and public cloud computing, mobile workforce and multi-sites from a single server:
- Software defined networking enables seamless connectivity to public, private and hybrid cloud implementations
- Multi-tenancy, Hyper-V Virtualization
- Cross Premise, Site-Site VPN

Unified Remote Access and Information Protection: Provides seamless application file access and automated VPN connection:
- Windows Direct-Access, Secure VPN
- Remote Web Access to Computers, Applications & Shared Folders
- Single sign-on, Windows Phone App-Access files and folders, offline caching

Data Protection: Dedicated storage disks for data backup, including OS and business data
- Server Backup, Restore & archiving
- Client Desktop/Bare-Metal Recovery
- User self-recovery of deleted or overwritten files
- Workload agnostic Hyper-V replica and Hyper-V recovery manager option

Server Management & Automation: Manage multiple servers and devices, whether they are physical or virtual, on-premises or in the cloud via Server Manager:
- Provides over 3,000 cmdlets in PowerShell to manage server roles and automate management workflow
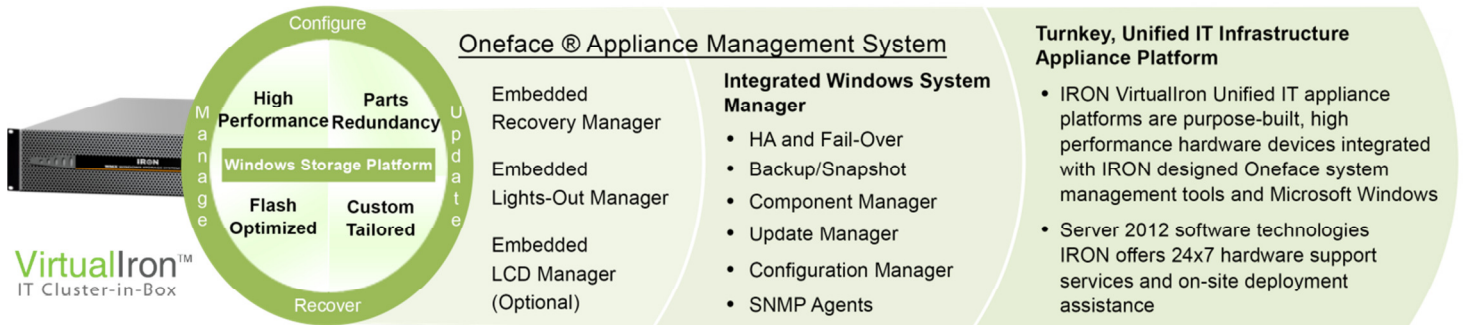- Automate repeatable tasks

System Center Option: Provides unified management across customer, service providers, and Windows Azure. It includes:
- Configuration Manager, Operations Manager, DPM Manager, VMM Manager, App Controller, Orchestrator & Service Manager
- MSSC Standard or Datacenter versions

Azure Cloud Integration Option: Option to choose as what application runs on-premises vs run in the cloud:
- Centralized User management
- Windows Server Files and Folders Backup/Recovery
- Workload Disaster Recovery (DR) in Cloud
- Run Microsoft Azure, Intune, Exchange & Office 365 Collaboration & Messaging in cloud

Oneface ® Appliance Management System

VirtualIron™
IT Cluster-in-Box

Integrated Windows System Manager

Embedded Recovery Manager

Embedded Lights-Out Manager

Embedded LCD Manager (Optional)

- HA and Fail-Over
- Backup/Snapshot
- Component Manager
- Update Manager
- Configuration Manager
- SNMP Agents

Turnkey, Unified IT Infrastructure Appliance Platform

- IRON VirtualIron Unified IT appliance platforms are purpose-built, high performance hardware devices integrated with IRON designed Oneface system management tools and Microsoft Windows
- Server 2012 software technologies IRON offers 24x7 hardware support services and on-site deployment assistance

IRON VirtualIron Cluster-in-Box Unified infrastructure appliances are purpose-built, high performance hardware devices integrated with Microsoft Windows Server 2012 R2 software technologies and IRON designed Oneface system hardware management tools. It significantly reduces the cost of compute and storage by offering resilience and performance similar to expensive Tier-1 solutions by taking advantage of industry-standard hardware. It offers capabilities such as high reliability, availability, scalability, and performance traditionally seen only in enterprise datacenter deployments due to their high value to customers of all sizes.

- **Non-Stop N+1 Hardware Resiliency:** Resiliency is built into the design at multiple levels to deal with hardware and software failures to help prevent network, storage and compute downtime, both planned and unplanned.
- **Purpose-built Product SKUs:** The right selections of hardware components provide a balance between performance goals and cost. Multiple SKUs options available with balanced compute CPU, memory, network throughput, and storage IOPS and capacity. It delivers cost reductions per transaction and per VM while protecting mission-critical line-of-business applications, databases, VDI and Server Virtualization environments.
- **An Embedded Fail-Safe Appliance Remote Access & Recovery Management System (AARMS)**: Oneface/AARMS, designed by IRON is a DOM based embedded operating system boot environment built inside of each of the nodes; the appliance can boot into "maintenance mode" where the administrator has full BIOS-level "out-of-band" access to system hardware and windows software environments, even when the appliance operating system shutdown or powered off. It provides advance offline system management and maintenance of system hardware and Windows OS image.

Hybrid SSD & HDD Storage Subsystem: Supports automated tiering across high performance flash SSDs and low cost, large capacity HDDs. It offers:
- Continuous availability and Scale-Out NAS support
- Built-in shared storage, support for SMB, NFS, iSCSI
- N+N Software RAID drives, eliminates HW RAID failures

Fail-Safe AARMS DOMs; System Maintenance, Image Recovery & Remote Management Tools: Each node is equipped with automated image PiT snapshots, backups & recovery of Windows OS. Supports Factory default and Bare-Metal System Restore and node OS/Firmware Field Upgrade

N+1 Dual Active/Active Server & Storage Node Windows Cluster: If one serverboard node fails, the other takes control and provide access to VM and storage for continuous database and application availability.

N+1 Network Ports Connectivity
Dual Port 1GbE, 10GbE RJ45, 10GbE SFP+ and 40/56Gbe QSFP options

N+1 Redundant Components
High Quality, efficiency and MTBF power supplies and cooling fans

Fast, Flash OS Boot time
Flash SSD for Windows OS Software and Flash USB DOM for AARMS

Product Specifications:

Ordering: Single SKU		IP-X120S	IP-X130S	IP-X130D	IP-X150D
VM Support	VM Size: 4GB, 2vCPU, 50+ IOPS	2+2=4 (max 20*)	2 + 2=4 (max 30*)	15+15=30	25+25=50
Server Controllers	# Server Controller Heads (SCHs)	Two, SCH per System (Cluster-in-a-Box Storage System with HA Support)			
SSD Acceleration	Auto-Tiering + WB/Read Cache + VP	4x 200GB (400 & 800GB Options)		4x 400GB (800GB option)	
Total Storage Capacity:	Internal: Hybrid Storage Virtual Pool Total (Raw Storage): TB (Disks Qty.)	800GB SSD 2.5" (4x 200GB) + 32TB NL HDD 3.5" (8x 4TB), Total: 32.8TB (12)		1.6TB SSD 2.5" (4x 400GB) + 32TB NL HDD 3.5" (8x 4TB), Total: 33.6TB (12)	
	External: Disk Array Enclosures Total: TB (Disks Qty.)	Optional, Up to 480TB (120) ; Support up to two DAE (Disk Array Enclosure) Series SAS2 JBODs			
Ports-Front End (Ethernet)	Network Storage Protocols Support	Unified Storage - SMB Direct 3.0 (w/RDMA), CIFS, iSCSI, NFS			
	Network ports (per SCH) – (Standard)	Storage Data: Four- Ports (2x Intel 1GbE-RJ45 + 2*x Intel 10GbE SFP+), Remote Management: Single (IPMI 10/100 RJ45 KVP over IP) & Dedicated Node Interconnect for dual node cluster			
	Network ports (per SCH) – (Option)	2*x 10GbE SFP+ or 2x 40/56 GbE QSF optional SKU			
Ports-Back End	External SAS Ports (# Ports/SCH)	Single, x4 Mini-SAS 6Gbps for DAE/JBOD Expansion (Total: 2 ports, supports 2x DAE JBODs)			
Hardware Configuration	Flash Fail-Safe Boot/Recovery	2x Storage Controller Head (High Availability SCH) w/ SSD Boot and Fail-Safe AARMS DOM System			
	Memory per SCH blade (Total)	96GB (192GB)	128GB (256GB)	128GB (256GB)	256GB (512GB)
	Dual CPU per SCH blade -cores	12 (Total:24)	16 (Total:32)	16 (Total: 32)	24 (Total:48)
License	Windows Server 2012 R2 License	Two, Windows Server Standard Edition (included) Supports 4 VMs, Additional *VM/Client licenses optional		Two, Windows Server Datacenter Edition (included) Unlimited VM support license	

Physical and Environment Specifications:					
		IP-X120S	IP-X130S	IP-X130D	IP-X150D
Power Supplies	110-240VAC 50/60Hz	Dual, 1100W High Efficiency; Hot swap Redundant modules			
IO Ports	I/O Ports per SCH	(2) USB 2.0, (1) VGA, (1) RS232, (2) 1 or 10GbE RJ45, (1) 1GbE RJ45, (1) Mini-SAS			
Dimension	Inches/CMs (H/W/D)	2U Rackmount Chassis: 3.5" (87) x 17" (43.7) x 30" (77)			
Weight	Pounds (Kilos)	70lbs (30Kgs)			
RoHS		Yes			
Temperature	Operating & Non-Operating	10C (50F)-35C(95F), 0C (32F)-40C(110F)			
Humidity	Operating & Non-Operating	50-90%, 20-95%			
Hardware Configuration	Flash Fail-Safe Boot/Recovery	2x Storage Controller Head (High Availability SCH) w/ SSD Boot and Fail-Safe AARMS DOM System			
	Memory per SCH blade (Total)	96GB (192GB)	128GB (256GB)		256GB (512GB)
	Dual CPU per SCH blade -cores	12 (Total:24)	16 (Total:32)		24 (Total:48)
Power	Power Consumption, Watts (max)	450	550	550	600

* All specifications and configurations are subject to change without prior notice.

IronClad Global Support Services

IRON goes beyond the traditional support model to keep network, compute and storage infrastructures operating at peak efficiency and performance with virtually no downtime. The combination of proactive monitoring, remote technical case management and troubleshooting, system software updates and parts replacement ensures smooth operations. IronClad support is available at three difference level, Standard, Professional and Enterprise.

Silver Pro Support: Ideal for customers who want basic level support with scalability if required, including unlimited Phone and Onsite repairs:
- Help Desk: 8x5 Hours, 8 Hours Response Time, Email Support
- HW Advance Replacement: 48 Hours
- HW Repairs (Onsite): No

Gold Pro Support: Ideal for customers who require comprehensive support with proactive advice, including unlimited phone support:
- Help Desk: 24x7 Hours, 6 Hours Response Time, Email/Phone Support
- HW Repairs (Onsite): Next Business Day

Platinum Pro: Ideal for customers who want total, round the clock support with everything covered and no extra billing:
- Help Desk: 24x7 Hours, 4 Hours Response Time, Email/Phone Support
- HW Repairs (Onsite): Same Day
- Dedicated Technical Account Manager