

# VMware Infrastructure 3

## Data center management and optimization suite

### The Responsive Data Center. Dynamic. Efficient. Available.

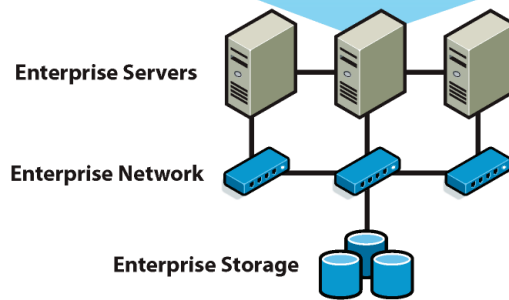
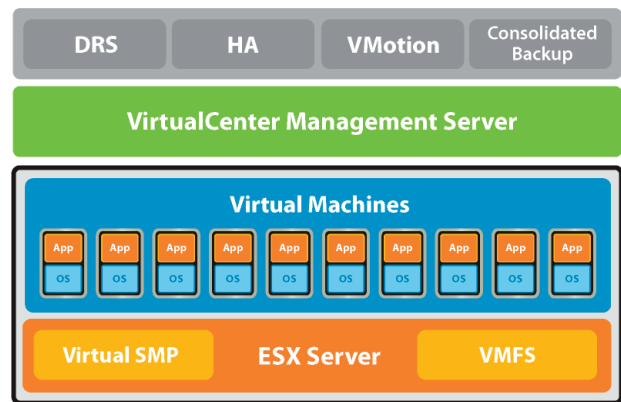
VMware® Infrastructure is the most widely deployed software suite for optimizing and managing industry standard IT environments through virtualization – from the desktop to the data center. The only production-ready virtualization software suite, VMware Infrastructure is proven to deliver results for more than 20,000 customers of all sizes and used in a wide variety of environments and applications. The suite is fully optimized, rigorously tested and certified for the widest range of hardware, operating systems and software applications. VMware Infrastructure provides built-in centralized management, resource optimization, application availability and operational automation capabilities that deliver transformative cost savings as well as increased operational efficiency, flexibility and IT service levels.

### How is VMware Infrastructure Used

VMware Infrastructure delivers responsive IT—dynamic, efficient and available. Eliminating many of the constraints of traditional hardware, VMware Infrastructure allows companies to:

- **Implement production server consolidation and containment.** Contain server sprawl by running software applications in virtual machines on fewer, highly scalable, reliable enterprise-class servers. Customers of VMware Infrastructure have been able to consolidate 10 or more virtual machines per physical processor, drastically increasing server utilization and containing server sprawl.
- **Provide advanced business continuity protection at lower cost.** Deliver high availability for critical applications with cost-effective virtualization-based solutions. With VMware Infrastructure, customers can implement a standardized platform that allows many production virtual machines to be recovered in the event of hardware failure, without investing in costly redundant hardware.
- **Streamline software test and development.** Consolidate disparate development, testing and staging environments involving multiple operating systems and multi-tiered applications.

### VMware Infrastructure



VMware Infrastructure virtualizes and aggregates industry standard servers and their attached network and storage.

- **Secure and manage enterprise desktops.** Secure enterprise desktops of geographically dispersed workforce by providing a standard corporate desktop image in a virtual machine. At the same time, provide standardized enterprise desktop environments hosted in virtual machines accessed through thin clients or PCs.
- **Simplify infrastructure provisioning.** Reduce the time for provisioning new infrastructure to minutes with sophisticated automation capabilities. Virtual appliances combine simple deployment of software with the benefits of pre-configured devices. Centralize control and responsibility for hardware resources while giving business units and application owners complete control over how resources are utilized.
- **Re-host legacy applications.** Migrate legacy operating systems and software applications to virtual machines running on new hardware for better reliability.

## What are the Benefits of VMware Infrastructure?

VMware Infrastructure uses virtualization technology to deliver transformative capital and operating cost savings as well as increased operational efficiency, flexibility and IT service levels.

- VMware Infrastructure delivers measurable savings in both capital and operating costs:
  - » Increases hardware utilization and reduces hardware requirements with server consolidation ratios commonly exceeding ten virtual machines per physical processor.
  - » Reduces the cost of rack space and power proportionate to the consolidation ratio achieved.
  - » Decreases labor cost by simplifying and automating labor and resource intensive IT operations across disparate hardware, operating system and software application environments.
- VMware Infrastructure improves responsiveness, serviceability, availability and flexibility of IT infrastructure:
  - » Enables broad-based, cost-effective application availability and business continuity, independent of hardware and operating systems.
  - » Enables continuous uptime and non-disruptive maintenance of IT environments with live migration of entire running systems.
  - » Eliminates the need for cumbersome software installation and configuration with virtual appliances.
  - » Accelerates application development and deployment lifecycles.
  - » Improves responsiveness to business needs with instant provisioning and dynamic optimization of application environments.
  - » Allows legacy systems to co-exist with new environments.

## How Does VMware Infrastructure Work?

VMware Infrastructure virtualizes and aggregates industry standard servers and their attached network and storage into unified resource pools. Complete environments, including operating systems and applications, are encapsulated in virtual machines that are independent from the hardware. A set of virtualization-based distributed infrastructure services for virtual machines bring breakthrough levels of flexibility, serviceability and efficiency to IT environments:

- Central management and monitoring of virtual machines automate and simplify provisioning.
- Distributed resource optimization dynamically and intelligently allocates the available resources among virtual machines, resulting in significantly higher hardware utilization and better alignment of IT resources with business priorities.
- Easy-to-use high-availability provides better service levels to applications at lower cost than static, physical infrastructure.

- Live migration capabilities allow maintenance of underlying server and storage hardware without disruption to application users.
- Centralized patch management for physical host servers and guest operating systems keeps the infrastructure secure and compliant.

VMware Infrastructure is not tied to any operating system, giving customers a bias-free choice of operating system and software applications. VMware Infrastructure scales to support IT environments of any size.

*“With VMware Infrastructure, STM was able to cut costs by 30 percent. “Management sleeps well at night knowing that customers will be able to get transportation information, even in the event of a disaster in our data center.”*

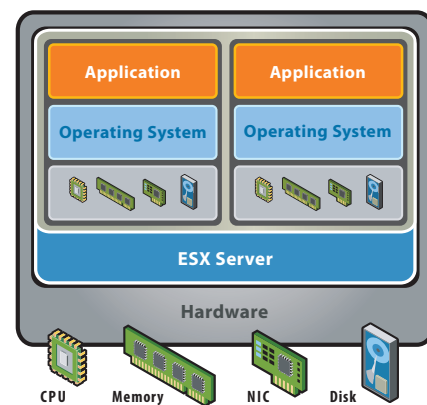
Mike Stefanakis

Concepteur Principale/Systems Administrator, Société de transport de Montréal

## What's Included in VMware Infrastructure?

### VMware ESX Server

VMware ESX Server is the foundation for the dynamic, self-optimizing IT infrastructure. ESX Server is a robust, production proven virtualization layer that abstracts processor, memory, storage and networking resources into multiple virtual machines. ESX Server increases hardware utilization and dramatically decreases capital and operating cost by sharing hardware resources across a large number of virtual machines. With advanced resource management, high availability and security features; ESX Server improves service levels even to the most resource-intensive applications. ESX Server is now also available as ESX Server 3i, offering all the same functionality but with a thin 32 MB footprint that provides unparalleled security and reliability. Additionally, integration as server firmware makes deployment fast and easy. VMware ESX Server virtualizes server storage and networking, allowing multiple applications to run in virtual machines on the same physical server.



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## VMware VMFS

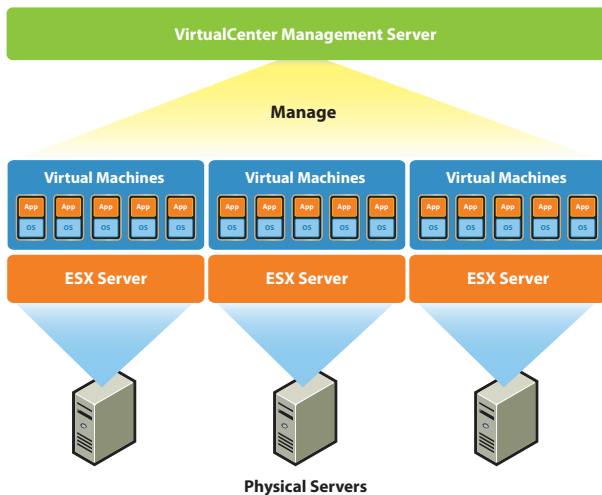
VMware Virtual Machine File System (VMFS) is a high-performance cluster file system for that allows multiple installations of ESX Server to access the same virtual machine storage concurrently. VMFS enables the virtualization-based distributed infrastructure services delivered by VMware VirtualCenter, VMware VMotion™ technology, VMware Distributed Resource Scheduler (DRS) and VMware High Availability (HA).

## VMware Virtual SMP™ technology

VMware Virtual Symmetric Multi-Processing (SMP) technology enhances virtual machine performance by enabling a single virtual machine to use multiple physical processors simultaneously. Virtual SMP allows for virtualization of the most processor and resource-intensive enterprise applications and databases.

## VMware VirtualCenter

VMware VirtualCenter delivers centralized management, operational automation, resource optimization and high availability to IT environments. These capabilities equip IT environments with unprecedented levels of serviceability, efficiency and reliability. VMware VirtualCenter exposes a rich set of programmatic Web service interfaces that enable integration with third-party system management products, as well as customized development. VMware VirtualCenter provides a central point of control for managing, monitoring, provisioning and migrating virtual machines.



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## VMware DRS

VMware DRS aligns available resources with pre-defined business priorities while streamlining labor and resource intensive operations. VMware DRS now also includes Distributed Power Management (DPM), which balances workloads to reduce power consumption in the datacenter.

## VMware VMotion

VMware VMotion technology allows the live migration of virtual machines from one physical server to another for non-disruptive maintenance of IT environments.

## VMware Storage VMotion

VMware Storage VMotion allows the live migration of virtual machine disks from one shared storage location to another with no disruption or downtime to application users.

## VMware HA

VMware HA enables cost-effective application availability, independent of hardware and operating systems.

## VMware® Update Manager

VMware Update Manager manages patches/updates for physical ESX Servers as well as guest operating systems, enforcing compliance and securing IT infrastructure.

## VMware® Consolidated Backup

VMware Consolidated Backup provides an easy-to-use, centralized backup facility for virtual machines. It enables virtual machine contents to be backed up from a centralized Microsoft® Windows® 2003 proxy server, rather than directly from ESX Server.

## How Can I Purchase VMware Infrastructure?

VMware Infrastructure is available in the following editions:

| PRODUCTS  | ESX SERVER 3 <sup>1,2</sup>   | VMWARE INFRASTRUCTURE FOUNDATION  | VMWARE INFRASTRUCTURE STANDARD   | VMWARE INFRASTRUCTURE ENTERPRISE   |
|---|---|---|--|--|
|   | Single server partitioning  | (Previously Starter) Virtualization for Small Business or Branch office | High Availability Infrastructure Virtualization Suite for Any Workload | Enterprise-class Infrastructure Virtualization Suite for the Dynamic Data Center |
| <b>ESX Server 3 or ESX Server 3i</b><br>• VMFS<br>• Virtual SMP | ✓   | ✓   | ✓  | ✓  |
| <b>VirtualCenter Agent</b>                                      |   | ✓   | ✓  | ✓  |
| <b>Consolidated Backup<sup>1</sup></b>                          |   | ✓   | ✓  | ✓  |
| <b>Update Manager<sup>1</sup></b>                               |   | ✓   | ✓  | ✓  |
| <b>VMware HA<sup>1</sup></b>                                    |   |   | ✓  | ✓  |
| <b>VMotion<sup>1</sup></b>                                      |   |   |  | ✓  |
| <b>Storage VMotion<sup>1</sup></b>                              |   |   |  | ✓  |
| <b>VMware DRS<sup>1</sup></b>                                   |   |   |  | ✓  |
| <b>VirtualCenter Server</b>                                     | <ul style="list-style-type: none"> <li>• Available as a separately licensed product.</li> <li>• Licensed on per-server basis separate from VMware Infrastructure 3 editions.</li> </ul> |   |  |  |

<sup>1</sup> These products require VirtualCenter Server (previously VirtualCenter Management Server).

<sup>2</sup> ESX Server 3i cannot be managed with VirtualCenter Server when purchased as a stand-alone product. Managing ESX Server 3i with VirtualCenter Server requires purchase of VMware Infrastructure 3 Foundation, Standard, or Enterprise.

VirtualCenter Server is licensed and sold separately.

The following products are also available as separately licensed products:

- VMware VMotion and Storage VMotion
- VMware DRS (including DPM)

