Publication date : 05/30/2024

Course : Virtualization, overview

Synthesis course - 2d - 14h00 - Ref. VIR
Price : 1850 € E.T.

5 / 5

BEST

This seminar provides a technical overview of virtualization solutions. It will enable you to understand the challenges of virtualization, take stock of market solutions and measure their contribution and impact on Information System architectures.

Teaching objectives

At the end of the training, the participant will be able to:

- Define the fundamental principles of virtualization
- Categorize the virtualization solutions on the market
- Identify the structural impacts of IS virtualization
- Measuring the benefits of virtualization

Intended audience

IT or production managers. Operations, relations, applications or helpdesk managers. System or network administrators. Project managers, users...

Prerequisites

Basic knowledge of technical architectures (systems and networks).

Course schedule

1 Presentation

- The history of virtualization.
- The evolution of the virtualization market.
- Rationalizing IT services through virtualization: challenges and benefits.

PARTICIPANTS

IT or production managers. Operations, relations, applications or helpdesk managers. System or network administrators. Project managers, users...

PREREQUISITES

Basic knowledge of technical architectures (systems and networks).

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

2 Virtualization fundamentals

- Virtualization use cases.
- What's the impact on software royalties?
- The concept of Cloud Computing.
- Service models (SaaS, PaaS, IaaS) and deployment models (private, public, hybrid).
- The additional components of a private cloud compared with a virtual infrastructure.
- An overview of virtualization technologies for x86 systems.
- Different approaches to server virtualization.
- Native virtualization, hardware-assisted virtualization, OS-level virtualization. Type 1 and Type 2 hypervisors.
- An overview of components: operating system and application virtualization.
- The different market players.

3 Virtualization features

- Virtual infrastructure deployment, flexible virtual machine creation.
- The scalability of the virtual platform.
- Simplified administration and operation.
- Optimizing resource management: VM, CPU, memory, storage, network.
- Continuity of service, high availability.
- Integrating virtual networks with physical networks.
- The use of different types of storage and their criticality.

4 Market solutions

- An overview of the different offerings (Microsoft, Xen, VMware, etc.).
- What are the differences between editions and licenses? Which one to choose?
- Comparison and positioning of market leaders.
- VMware: overview of VMware vSphere architecture, ESXi hypervisor. The vCenter console...
- Microsoft: Hyper-V and the System Center suite.
- Citrix: Xen, XenServer, XenApp, XenDesktop.
- Linux KVM: QEMU, Libvirt Architecture, Red Hat Entreprise.
- The evolution of the hypervisor market.

5 Server virtualization

- Technical differences between desktop and server virtualization.
- What are the limits? Can all servers be virtualized?
- Flexible creation of virtual machines.
- Different types of storage: DAS, SAN, NAS.
- Storage virtualization for server virtualization.
- Network virtualization: physical and virtual network cards, physical and virtual network switches.
- Quality of service. Deployment.
- Virtualization solution administration.
- Operating costs.
- Business continuity planning (BCP). Disaster recovery plan (DRP).
- Information system flexibility: facilitating disaster recovery.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

6 Desktop virtualization

- The challenges of desktop virtualization.
- Desktop virtualization technologies.
- Deployment strategies for virtualized desktops.
- Application virtualization.
- The different market players.

7 Virtualized environment management

- Virtual infrastructure supervision: alerts, actions, reporting, capacity?
- Analysis and monitoring of virtual infrastructure performance.
- X2X migration tools (P2V, V2V, V2P).
- P2V: converting a physical machine into a virtual machine.
- V2V: converting a virtual computer into a virtual computer, migration.
- V2P: converting a virtual machine into a physical machine.
- Backup of virtual machines, market solutions (Platespin, VizionCore, Veeam...).
- Automate operations on virtual infrastructures.
- Securing networks and data.
- Understand security and disaster recovery planning for a virtual infrastructure.
- What a DRP (Disaster Recovery Plan) is, what it contains, its objective.

8 Best practices for implementing a virtualization project

- Methodology for implementing a virtualization project.
- Impact on TCO (Total Cost of Ownership) and ROI (Return On Investment).
- Implementation: risks, limitations and recommendations.
- Best practices for migrating from one version or hypervisor to another.

Dates and locations

REMOTE CLASS
2026 : 11 June, 16 June, 24 Sep., 29 Sep., 19 Nov., 15 Dec.

PARIS LA DÉFENSE
2026 : 11 June, 24 Sep., 19 Nov.