Course : Performance and availibility of IS

Seminar - 3d - 21h00 - Ref. PEF
Price : 2550 € E.T.

★★★★⯪   4,6 / 5

Practical details

Exercise
Demonstrations. Discussions on various cases.

Course schedule

1   The basics of IT performance

- The four pillars of performance : availability, robustness, response time, scalability.
- From availability management to high availability : law of 9, MTBF, MTTR.
- How to evaluate the availability of an application ?
- Contracting process of services levels (SLA).
- What about Java, .NET and PHP platforms ?
- Comparison of levels of performance with «old platforms » : mainframe, AS 400.
- Are Open-Source solutions compatible with high levels of performance ?
- What are the main problems one comes across on new IT architectures ?

2   Include performance in project management

- From a curative management of performance to a preventive approach.
- When to make prototypes ? On which parameters ?
- Carry out technical tests in the development phase : methods and tools.
- estimate the costs of integration phases and the cost of transitions to the production phase.
- The role of ITIL in the production process.
- Applications designed for production. Facilitate configuration of applications.
- Improve communication between applications and the production teams' tools
- Architectural and development best practices : The impact of Java and .Net virtual machines on performances.
- The new programming constraints.
- Patterns and good coding practices
- Profiling tools.

3   Hardware infrastructures and performances

- Servers and processors : The impact of multi-heart CPUs ; The new mainframes (Unix and Windows)
- Storage : The impact of RAID technologies on performance ; What are SAN and NAS approaches ? ; Distributed file systems
- Networks : Virtual IP addresses ; Solutions for load-distribution on networks.
- Data-Centers : Choice of location. Power supply, ventilation, wiring. WAN links.
- Server virtualisation : Operating principles ; Solutions : VMWare, Virtual Server , XEN ; Virtualisation and performance

4   Software infrastructure and performances

- Clustering, principles of « load balancing » and « session fail-over ».
- Active/Passive type clusters. Active /Active type clusters. Hybrid clusters.
- The notion of session affinity.
- Application server clusters
- Data-base clusters.
- Pros and cons of clustering.
- Grids and on demand solutions : Principles, advantages. Offers (IBM, Oracle...)

5   Technical acceptance and transition to production phase

- Technical tests : Specify technical tests : examples of deliverable ; How to estimate costs ? ; High availability valid
- Metrology of applications : Definition, goals and advantages. Methodology ; Load injection tools (Mercury, Compuware, Si
- Deployments management : Preparing platforms and applications
- Development
- Production : Managing incidents

6   Monitoring and supervision

- Monitoring : Life cycle of a monitoring solution ; Key documents to produce and maintain ; Information gathering on avai
- Application supervision : Defining indicators and their different states ; Defining thresholds, rules and alarms ; Compo
- SNMP standard : Principles, MIB and basic orders ; SNMP support in Java 5 and Windows
- JMX standard : Principles ; JVM monitoring with MXBeans ; Mbeans specific development ; Overview of available tools arou
- WMI standard : Principles. Reading and writing data. Designing and developing a WMI provider, tools.
- APM consoles and tools : Quest Foglight. Quest PerformaSure. BMC Patrol. IBM Tivoli. HP Openview. Microsoft Operation Ma

7   Anticipate needs

- Managing capacity : What is capacity planning ?
- Approach of capacity planning
- Experience feedback.

Dates and locations

REMOTE CLASS
2026 : 9 June, 9 June, 22 Sep., 22 Sep., 17 Nov., 17 Nov.

PARIS LA DÉFENSE
2026 : 9 June, 22 Sep., 17 Nov.