

Seminar , 3 day(s)
Ref : AEB

Participants

IT management. Operational department managers. User project leader. Technical project leader/manager. Technical architect.

Pre-requisites

Knowledge of the Internet and notions of technical architectures.

Next sessions

Brussels

mar. 20 2012, jun. 19 2012

E-Information Systems architectures

OBJECTIVES

This seminar explains the concepts and standards of the new technical / functional architectures, how they have evolved and matured. It presents an overview of the 3rd revolution in information systems, based on the idea of "services". Case studies based on large and significant projects, will show you how these technologies and platforms have been implemented.

[1\) Technical principles of Web applications](#)

[2\) The principles of IS urbanism](#)

[3\) Integration-oriented architectures: a concrete response to Urbanism](#)

[4\) Web services](#)

[5\) e-Business infrastructures](#)

[6\) Service-oriented architectures \(SOA\)](#)

[7\) Web Content Management \(WCM\), document management \(GED, WDM\)](#)

[8\) The enterprise portal \(EIP\)](#)

[9\) Data Warehouse](#)

[10\) Security infrastructure](#)

[11\) IS Governance and supervision](#)

1) Technical principles of Web applications

Web technologies

- TCP/IP, HTTP/HTTPS, HTML, Internet browser, JavaScript, applets, ActiveX.

The basics

- The different types of architecture: 1-tier, 2-tier, 3-tier, n-tier.
- The client, application servers, connected mode and disconnected mode, the main notions: context, transaction, middleware, components and objects.
- Dividing architectures into five layers.

Overview of JEE architecture

- Overview of the components of JEE architecture: JSP, Servlets, EJB, JMS, Grails ...
- Additional specifications (portlets and content management). The main JEE architecture types.

Overview of .NET architecture

- Overview of the components of .NET architecture: WebForms, WinForms, Enterprise Services and MSMQ. Comparison with JEE.

The Open Source alternative

- The PHP platform. The Open Source JEE offer with Geronimo,JBoss, ObjectWeb...
- Benefits and risks.

Web 2.0 and the new MMIs

- Ajax technology and its consequences for Web applications.
- Web 2.0: definition, impact on applications and user requests.
- Changes to graphical interfaces, the new possibilities offered by the rich client.

2) The principles of IS urbanism

- What is urbanism? Mapping the existing elements. Defining the target IS.
- Who are the players in an urbanism project? What is the time scale?
- What are the deliverables? What is the control structure? Which approach should you adopt? Analyses: maturity, integrations, costs and risks. Case studies.
- Impact analyses: the cultural transition for the company and the ISD, the learning curve for the teams, organisation in relation to internal and external skills, project management.

3) Integration-oriented architectures: a concrete response to Urbanism

- Enterprise Application Integration: EAI. Principles. Why are integration problems more concerned with organisational and functional issues than technical ones? An EAI architecture (ETL, workflow, BPM, messaging, connectors, etc.). "Traditional" integration application interfaces: CORBA/IIOP, EJB/RMI, DCOM, XML-RPC and JCA.

4) Web services

- The Web services concept and the related standards (SOAP, WSDL, WS-*).
- Developing and deploying Web Services.
- The position of the main players in the market.

5) e-Business infrastructures

- Background.
- Attempts at standardisation (BPSS, cXML, xCBL, BTP, etc.), market offers (Commerce One, Ariba, Rightworks, Biztalk).
- ebXML v RosettaNet.

- Architecture, standards, adoptions, feedback. Financial and accounting standards.
- Orchestrating services (BPML, BPEL, BPEL4WS).

6) Service-oriented architectures (SOA)

- What is a "service"?
- Differences between managers and brokers. Orchestrating several services. Transactional aspects.
- Security. Supervision and maintenance.
- Concrete examples of applications for distributing contracts and insurance services.
- ESB (Enterprise Service Bus) architectures: an SOA - EAI convergence?

7) Web Content Management (WCM), document management (GED, WDM)

- Content management issues.
- Why collaborative working?
- Static sites v dynamic sites, using XML, managing roles. Description of content management and document management tools. Overview of some offers: Documentum, Vignette, Sharepoint, Alfresco...
- The advantages of personalisation.
- Knowledge Management.

8) The enterprise portal (EIP)

- The functions that the company really needs.
- Bringing all the data sources together and distributing them via one single application, the browser. Technical problems. Technical architecture.
- Major tools: IBM WebSphere Portal, BEA Plumtree, MS Sharepoint Server ...

9) Data Warehouse

- Adjusting the information system to the business. Improving the monitoring, forecasting and optimisation of the economic and company activities. The Data Warehouse, an analysis repository, capitalises on the existing IT system by making use of operational data.
- Description of the complete chain: from collecting data in the operational systems through to its presentation in decision-making applications, including the processes supplying and storing data in the analysis repository.

10) Security infrastructure

- Making information exchanges secure: authentication, authorisation, integrity, confidentiality, non-repudiation and legal aspects. Why has application security become as important as infrastructure security? The security infrastructure for service-oriented architectures.

11) IS Governance and supervision

- Technical monitoring. Definitions. Protocols (SNMP, JMX, WMI). APM tools (Quest PerformaSecure, CA Wily). Business Activity Monitoring. Overview of the major supervision solutions. Role of the major supervision solutions. Role of ITIL in production processes.