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Application Development in the Age of Cloud and Mobile

2-day seminar

Description:

How do you evolve your application development strategy to enable the digital enterprise, consisting of cloud, mobile, big data and social? Gartner calls this the “Nexus of forces”, in IDC terminology it is known as the “Third Platform”. The diversity of today’s IT landscape requires a fundamental shift in how we develop applications – or *not* develop applications. There is a plethora of new tools and no shortage of vendor claims to reduce cost and accelerate time to market.

The cloud has become an indispensable component of most IT organizations. However, there is much confusion about designing applications such that they can take advantage of the key cloud capabilities (i.e. elasticity and reliability). We will discuss 7 patterns for application design that yield progressively more benefit for applications deployed in the cloud, but come with increasing development complexity. While cloud applications can be implemented using traditional tools, PaaS products and services are gaining in popularity. The seminar provides an overview of the different types of PaaS tools and illustrates their capabilities through product examples.

Our application development strategy also needs to consider the high demand by employees and customers to get mobile access to our business systems. We will compare the three approaches to building enterprise mobile applications: device native, web based, and hybrid. Depending on the development approach we choose, we need to consider different ways of integrating mobile apps with our enterprise systems - but this is just one piece of the integration puzzle. Data and applications are proliferating and we also need to integrate on-premise with cloud based applications, as well as applications within and across clouds.

IT organizations today are facing an extended ecosystem that goes beyond applications that are under their control – business partners want to connect their systems to ours, and external app developers are building consumer apps that provide easy access to the products and services of major companies. APIs are rapidly becoming the predominant approach to externalizing applications and to evolve the digital enterprise. In fact, many companies find the API approach so valuable that they apply it to their internal development as well.

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Benefits of attending:

- Understand how to develop applications for the cloud.
- See what the strategies of major PaaS vendors are and how their tools stack up.
- Learn about the three different approaches to building mobile apps and how to decide between them.
- Understand what Web APIs are, how they can be used to connect with your business partners, and how to attract a broad community of app developers to promote your brand.
- Distinguish between hype vs. reality so that you can use the right technology to solve the right problem in your organization
- Learn how integration middleware can facilitate integration of applications within your enterprise, the Cloud, and mobile apps.

Who should attend:

- IT Managers that need to understand the challenges and opportunities when developing cloud-based systems and mobile apps.
- IT Architects who want to define an architecture to facilitate successful application development and integration projects.
- IT professionals who need to see when and how different technologies can be applied.
- Developers and IT Managers who want to obtain an overview of the different approaches to application development that are available today.
- IT Managers and IT Strategists selecting new technologies.
- IT Architects and Managers who need to develop an application development strategy for their company.
- IT professionals looking for best practices to be applied in development projects.
- Consultants who need to recommend different strategies for implementing cloud-based and enterprise mobile applications.

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Agenda:

1. Introduction

- Today's challenges to Enterprise IT
  - Consumerization of IT
  - The Nexus of Forces, or The Third Platform
- Systems of record vs. systems of engagement
- The threat of new technology silos
- IT goes global: introducing the pace-layered architecture

2. Overview of Cloud Computing

- Evolution or revolution: what makes cloud disruptive?
- Cloud definition: IaaS, PaaS, and SaaS
- National Institute of Standards and Technology (NIST) cloud reference architecture
- Cloud adoption and typical use cases
- What makes a cloud a cloud?
  - Resource virtualization
  - Automated, on-demand provisioning of resources and management capabilities
  - Shared infrastructure and applications across tenants
- What is multi-tenancy?
  - Multi-tenancy across the technology stack
  - 7 approaches to multi-tenancy
  - Which level of multi-tenancy is right for your applications?
- Cloud benefits and challenges
  - High profile cloud outages
- Exercises for transitioning to the cloud

3. PaaS – Building Applications for the Cloud

- Platform as a Service (PaaS) defined
- A complete PaaS stack
  - Where to draw the line: IaaS+ or pure-PaaS or custom-SaaS?
  - What functionality do we need to build applications for the cloud?
- A detailed look at major PaaS providers:
  - Google App Engine
  - Microsoft Azure
  - CloudFoundry
- The new DevOps model and its advantages
  - How the integration of development & operations creates agility
- Outlook: PaaS adoption and vendor roadmap
- Exercises for utilizing PaaS

4. Mobile Web, Hybrid, or Device Native?

- Overview of the mobile device market
- Decision points: use cases, existing skills, target audience

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- Building device native mobile applications
- Building mobile Web applications
  - New standards: HTML5 and webSocket
- Hybrid (wrapped) mobile applications – best or worst of both worlds?
- Comparison of the device native and mobile Web approaches
- Device independence through Mobile Application Development Platforms (MADP)
- Product examples:
  - Antenna Software
  - Appcelerator
- Exercises: when to select which mobile strategy

5. Integrating Cloud, Mobile, and Enterprise Systems

- The need for (inter)mediation
  - Mediation functionality
  - The Enterprise Service Bus (ESB)
- Cloud integration: From ESB to "Internet Service Bus"
- Product Examples:
  - Windows Azure AppFabric
  - IBM Cast Iron
- Cloud integration architecture choices
- Connecting mobile applications to backend enterprise systems
  - Connection
  - Data retrieval
  - Parsing the responses
  - Populating a database
  - Secure storage
  - App and data de-provisioning
  - Data synchronization
- Why cloud is essential for enterprise mobile apps
- A comprehensive enterprise mobile architecture
- Exercises for integrating the cloud and mobile apps

6. Evolving the Digital Enterprise through APIs

- What are APIs and what are the drivers?
  - The new API economy
- What is the difference between SOA Web Services and APIs?
- Best practices in API creation and design
  - Key considerations for a successful API program
  - Industry examples of leading enterprises
- Key features to look for in an API platform
  - Major product examples
- Exercises for designing an API program

7. Conclusions

- Key take away points
- The Third Platform and the new Enterprise IT
- What to do on Monday

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