

Application Architecture: 2Tier or 3Tier?

What is DBMS's Role?

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ABSTRACT

Experienced panelist will share their views on application architecture, specially, as it relates to database systems. The discussion will focus on what technologies and mechanisms are necessary for developing web applications, and where these mechanisms should reside.

Keywords

Databases, applications, world-wide web.

1. Background

Over the last few years, world-wide web has significantly elevated the role of Intra/Internet in an enterprise. Companies are beginning to use the web technology for Warehousing, Web Data Integration, Web Publishing, Electronic Commerce, Application Integration, etc. Typically, these features are implemented by pre-packaged or custom applications. Currently most of these applications use a 3-tier architecture and build some DBMS-like functionality (e.g. caching, querying), in the middle-tier, often under-utilizing the DBMS. On the other hand, database vendors are trying to subsume the application/business logic by building complete programming environments into their DBMSs. The question is, from an application development perspective, what should be the system architecture? Where should the business logic reside?

2. Discussion Topics

Following (but not limited to) are some discussion topics:

1. Components of a typical Internet application. What are the business requirements? What are the operational requirements? What are the technology requirements?
2. How should the business logic be developed? As middle-tier application? Or as a DBMS stored procedures?
3. Most middle-tier applications require caching and querying capabilities? Is this a reason to push application logic into the database? Or should the DBMS provide modular components for caching and querying that can be used in the middle-tier?
4. Often applications integrate other applications and data sources. Can a DBMS help?
5. XML is becoming popular in web applications. Business objects can be modeled as XML objects. Should databases natively support XML?
6. Should the DBMSs be componentized so that useful database technologies (e.g. cache, querying, queuing) can be used in the middle-tier applications?
7. Does Java support in the DBMS help application development?

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