

# Application Servers: Born-Again TP Monitors for the Web?

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**Matthieu Devin**, Director of Development & Architect, Oracle  
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**Pat Helland**, Application Server Architect, Microsoft  
**Dan Wolfson**, Architect DB2/WebSphere/MQ Integration, IBM

Application Servers (ASs), which have become very popular in the last few years, provide the platforms for the execution of transactional, server-side applications in the online world. While transaction processing monitors (TPMs) have been providing similar functionality for over three decades, ASs are their modern cousins. ASs play a central role in enabling electronic commerce in the web context. They are built on the basis of more standardized protocols and APIs than were the traditional TPMs. The emergence of Java, XML and OMG standards has played a significant role in this regard. ASs integrate developments in a number of areas of computer science: software engineering, distributed computing, transaction processing, database management, workflow management, ... Of course, the traditional TPM-style requirements for industrial strength features such as scalability, availability, reliability and high performance are equally important for ASs also. Security and authentication issues are additional important requirements in the web context. ASs support DBMSs not only as storage engines for user data but also as repositories for tracking their own state.

This industrial panel will explore the currently commercially hot topic of ASs. We will address questions like what ASs are, why they are needed and where they belong in terms of the overall system architecture. All the

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leading application server products like IBM WebSphere [1], BEA WebLogic [2], Oracle Application Server [3], Microsoft .NET [4] and Sun/Netscape iPlanet [5] will be represented by the panelists. A number of debates have been swirling around ASs. Some of the questions that the panelists will be addressing are:

- How are ASs different from decades-old TPMs like CICS and IMS? Why are they needed?
- How are legacy applications, and data sources like IMS and VSAM integrated into the modern application server environments?
- Have ASs come into existence and acquired prominence because of emergence of standards like Java, JDBC, Enterprise JavaBeans, CORBA, XML, IIOP, etc.?
- What is the market share of each of the products?
- How do the products differ architecturally?
- What is the right place for the AS functionality in the software stack - in the OS, integrated with the DBMS or as a separate middleware component?
- How much should ASs interact with or leverage database technology? Are they really needed when DBMS stored procedures, triggers and user-defined functions are available for implementing server-side logic?
- What role do integrated software development tools play in the successful deployment of ASs?
- How easy is to port applications across different ASs?
- What are the systems management issues related to ASs?
- Who are some of the customers that have deployed ASs in production environments?
- What are some of the thorny issues remaining to be solved by the application server vendors?
- What problems should researchers be addressing in the application server arena?

[1] <http://www.software.ibm.com/websphere/>

[2] <http://www.bea.com/products/servers/application.shtml>

[3] <http://www.oracle.com/ip/dep/ias/>

[4] <http://www.microsoft.com/net/>

[5] [http://www.ipplanet.com/products/ipplanet\\_application/](http://www.ipplanet.com/products/ipplanet_application/)