Technology to Go—Peer-to-Peer (P2P) Mobility in the Wireless Era

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This tutorial details the technologies, APIs, architectures, and component solutions for the Java platform, that deliver the "peer"; personal computer and its critical tools and information directly to any wired or wireless device. It also discusses mobile challenges and key technologies, and then establishes a mobile architecture that enables seamless information movement and control across the many mobile devices. Actual demonstrations, code samples, and planning steps enable your solution to get "on the go" quickly. Java technology intelligently and easily extends P2P to the mobile world.

The mobile Java architecture provides access to information that users really care about, resides on their personal computers, and opens the PC for information access and control from remote networked wired and wireless devices. This establishes a user’s PC as a personal application and information server. It is always trusted and up-to-date-- a peer worth watching. This discussion outlines the technical challenges, technologies, architectures, and solutions that deliver the peer to wherever the user is. The technical challenges include remotely driving applications for information extraction, device-appropriate rendering and user interfaces, and continuous adaption to the fast innovation cycle prevalent today.

Java technology offers a rich array of tools to break open the personal computer peer to enable mobile access. Our mobile solutions stretch from embedded KVMs for the Java platform, to setting up the personal computer as a peer server as well as the translation and communication in between. We place Java technology within a mobile component architecture, leveraging complementary technologies including Python for native access, XML for data exchange, various rendering technologies for PDAs and wireless phones, including WML and HDML, and secure peer network communication protocols including BXXP. We demonstrate a working prototype, and highlight key coding and data format examples.

The discussion covers the major challenges, technologies, and architectures leading to actual real-world mobile solutions that provide users with direct access and control of their critical peer-based information, regardless of location or device.

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Dana has over twenty years of experience in designing distributed systems and has written numerous articles on topics ranging from active object data bases to self-managed work teams. Dana is a founding member of the Agent Society and sits on its Board.