

# Wireless Unified Messaging Architecture Analysis

---

Ke Chen

## Abstract

Unified Messaging is a telecommunications technology that brings together Voice Mail, Fax, and E-mail together to allow users to access from unified interfaces, such using telephone to listen to E-mail and Voice Mail, using Fax machine to print E-mail and Fax, or using desktop to read or listen to E-mail, Voice Mail and Fax. Unified Messaging gives its users, especially its enterprise users, easier access to various messages without the need of using different devices for different messages. It benefits enterprises by reducing cost and wasted time and therefore improves productivity. Enterprises and business usages were the initial driven force of Unified Messaging development and adoption. As technologies matured, and enterprise users who are also consumers are well trained, Unified Messaging is evolving into consumer market.

Concept of Unified Messaging has evolved over years. The first wave of Unified Messaging was about PC, desktop phone, and Fax machine. Triggered by the enterprise mobilization trend, the second wave of Unified Messaging is mainly about wireless Unified Messaging which extends existing solution to various mobile devices. Wireless Unified Messaging is viewed as the next step of enterprise mobilization after wireless E-mail. It is part of the enterprise Unified Communications solution. Instant Messaging is being added by many vendors into their wireless Unified Messaging solution. It is a distinct messaging system that can bridge wireless Unified Messaging to Unified Communications solution.

This project focus on discussion of how to extend existing enterprise unified messaging solution to wireless handheld devices, as well as how to integrate IM into Unified Messaging system. The discussion is valuable for both enterprise and consumer Unified Messaging solution.

The whole scope of wireless Unified Messaging was divided into three tiers in this project, which are device tier, channel tier, and enterprise tier. Current situations and difficulties are studied separately for each tier. Based on studies of three tiers, a three-level solution was given. First level is "Notification only solution"; second level is "Non-client based solution"; third level is "Client based solution". Each solution provides better user experience than previous one, however is more complex to deploy.

Unified Messaging market is huge. As the benefits of Unified Messaging are fully recognized, the adoption rate will increase largely in next few years. Vendors compete in this growing market can be categorized into Voice vendor, E-mail vendor, Device vendor, and software vendor. A competitor analysis was done to analyze the position of major vendors from each group, characteristics of their solutions, pros and cons of each solution, and competition strategies on Unified Messaging. The analysis shows first, market is not 'unified'. Vendors' solutions either cover only a segment of a full solution, or have obvious flavor (voice centric, or data centric). Second, Wireless Unified Messaging competition is part of the Unified Communications battle.

This report documents all observations, findings, and thoughts from both technology perspective and business perspective during the project research. Most aspects related to wireless Unified Messaging are touched on. The document can be used as a platform on which future work can be incrementally added to track the evolution of Unified Messaging.