

---

RESONATE | APPLICATION NOTE

**Resonate Central Dispatch™ and Wireless Environments**

*Resonate Central Dispatch Application Note*

By 2005, the number of wireless subscribers will break the one billion mark and a “substantial portion of the phones sold that year will have multimedia capabilities.” These multimedia capabilities include the ability to retrieve email and to push and pull information from the Internet.<sup>1</sup> Given the strict requirements for formatting content and bandwidth restrictions for a tiny cell phone or Personal Digital Assistants (PDAs), it becomes clear

how important it is for companies to know who is entering their site via a small wireless device and who is using a normal desktop browser.

This application note provides a brief background on wireless technology and the role of Resonate Central Dispatch™ in supporting wireless requests.

## Wireless Landscape

The Wireless Application Protocol (WAP) is emerging as the standard transport for Web services being developed and delivered for wireless devices (e.g. cell phones, pagers, PDAs, etc.) According to Phone.com, over 75% of the world’s handset manufacturers have already committed to shipping WAP-enabled hand-

held devices by the end of 2000. By having all handsets designed to support this industry standard protocol, WAP is poised to become the ubiquitous mechanism for wireless communication.

## WAP Technical Architecture

WAP specifies both the protocol and application it uses one of two transports in sending wireless messages: UDP/IP and WDP.

The WAP specification defines the usage of a “WAP Gateway” Web proxy as the core means for connecting wireless devices. A WAP Gateway includes the following:

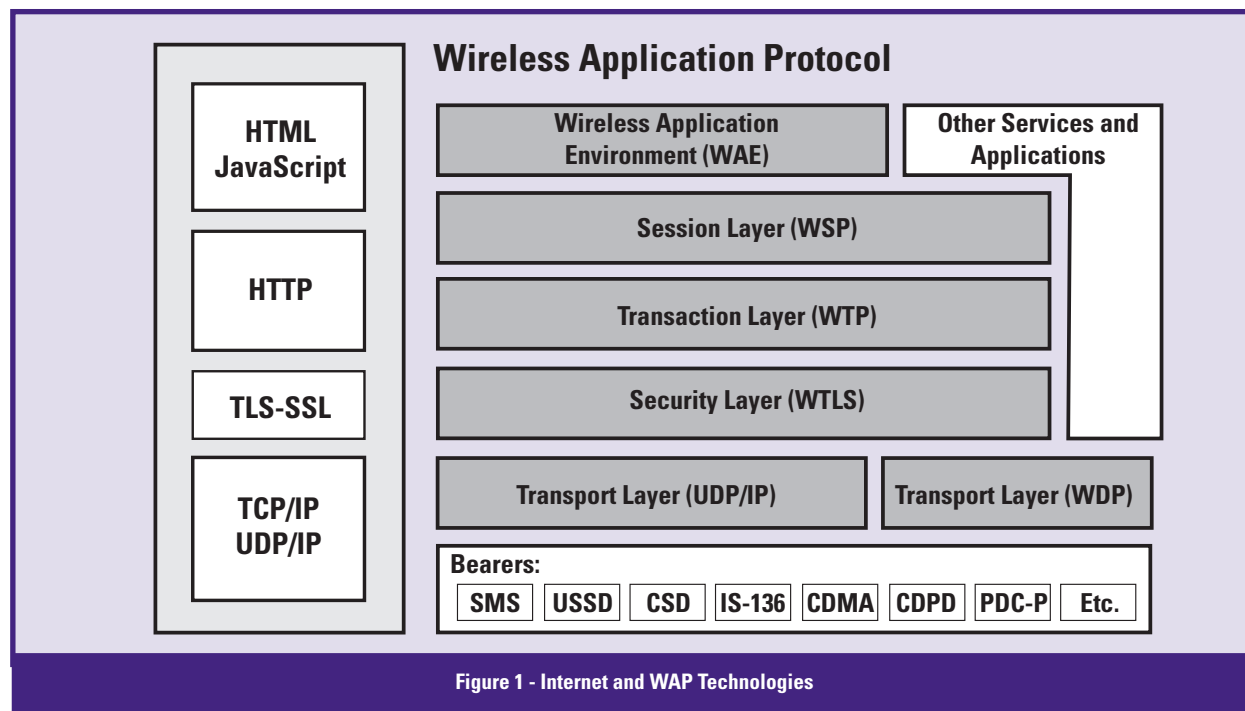


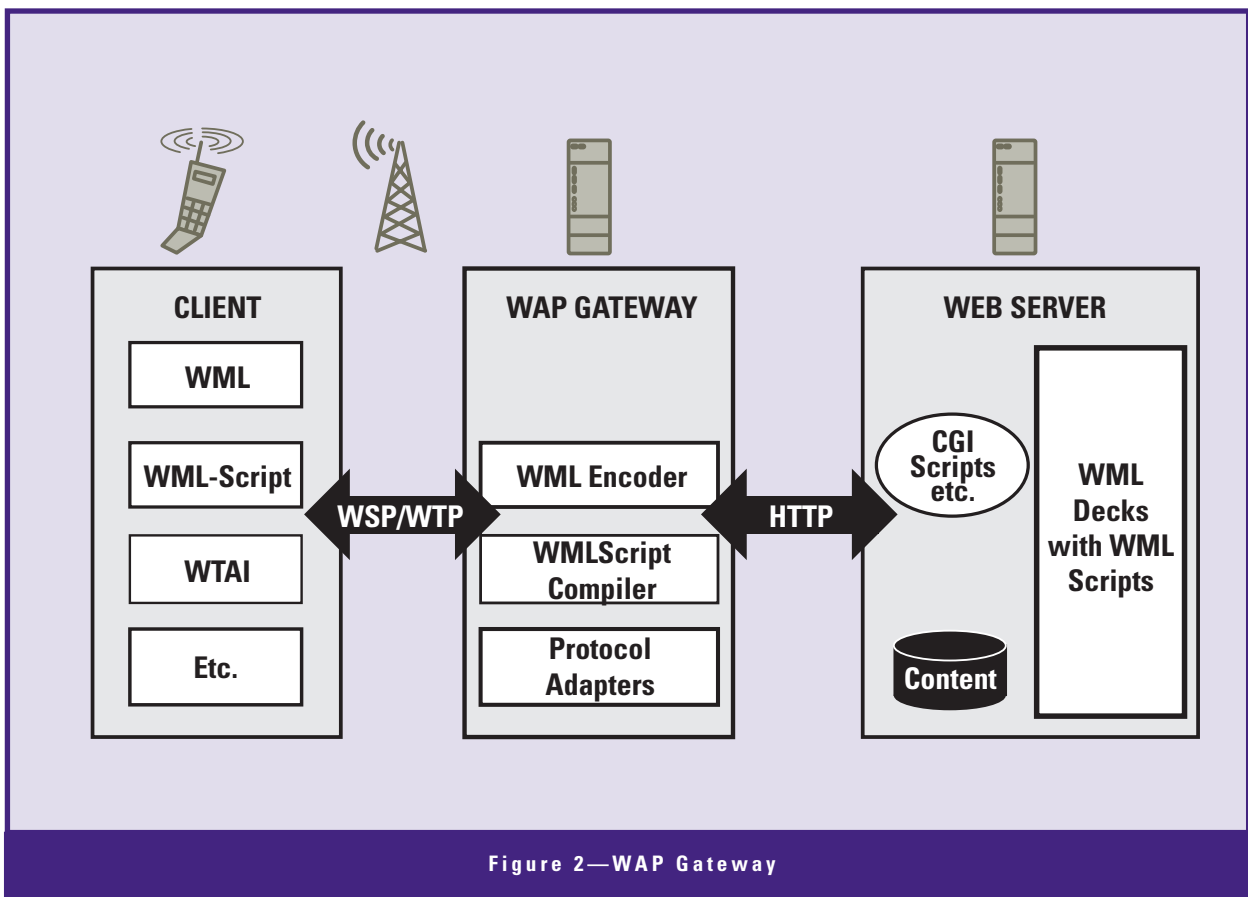
Figure 1 - Internet and WAP Technologies

<sup>1</sup>. <http://www.news.com/News/Item/0,4,26722,00.html?owv>, September 23, 1998. See also, Unwired Planet, Inc., “The Wireless Application Protocol – Wireless Internet Today,” (September 1999).

- Protocol Gateway – Translates requests from the WAP protocol to standard HTTP such that when the request is forwarded to a Web site, it looks like any other Web request.
- Content Encoders and Decoders – Translates Web content into compact encoded formats to reduce the size and number of packets traveling over the wireless data network.<sup>2</sup>

Thus, requests from standard WAP devices communicate to WAP Gateways, hosted by the telecommunications carriers (such as Sprint and Worldcom) and convert the WAP request to a standard HTTP request. By the time the request arrives at the particular Web site, it looks like any other request. Companies developing Web services for both browser users and wireless clients are challenged to differentiate this incoming traffic.

An example of a WAP gateway is shown below.



<sup>2</sup> page 13, "The Wireless Application Protocol: Wireless Internet Today" Whitepaper from Phone.com. Available at <http://www.phone.com/pub/feb99WAPWP.pdf>

## Central Dispatch's Value to Wireless Environments

Central Dispatch leverages its Data Stream Processing technology to provide an out-of-the-box solution that allows companies to distinguish incoming wireless traffic from other traffic. As a result, wireless requests can be intelligently routed to different resources for optimum performance. This enables companies to maintain a single, unified access point for their services, such as through their `www.company.com` hostname, without the need for separate hostnames for wireless content such as `www.wireless-company.com`.

Central Dispatch does this through the TCP Data Stream Processing functionality and by creating custom scheduling rules based on browser type. Central Dispatch includes pre-set rules for wireless applications which are easily tailored to a customer's environment. Using binary expressions that search for unique

wireless browser-types in the HTTP header, Central Dispatch can now identify incoming wireless users and route them accordingly. This is critical, given the very specific interface formatting and bandwidth restrictions on wireless clients.

It is important to note the WAP supported transport protocols User Datagram Protocol (UDP/IP) and Wireless Datagram Protocol (WDP). WDP is a customized variation of the standard UDP/IP protocol. Central Dispatch does not currently load-balance these WAP protocols because they are UDP, not TCP based. A forthcoming release of Resonate Central Dispatch will add support for UDP/IP.

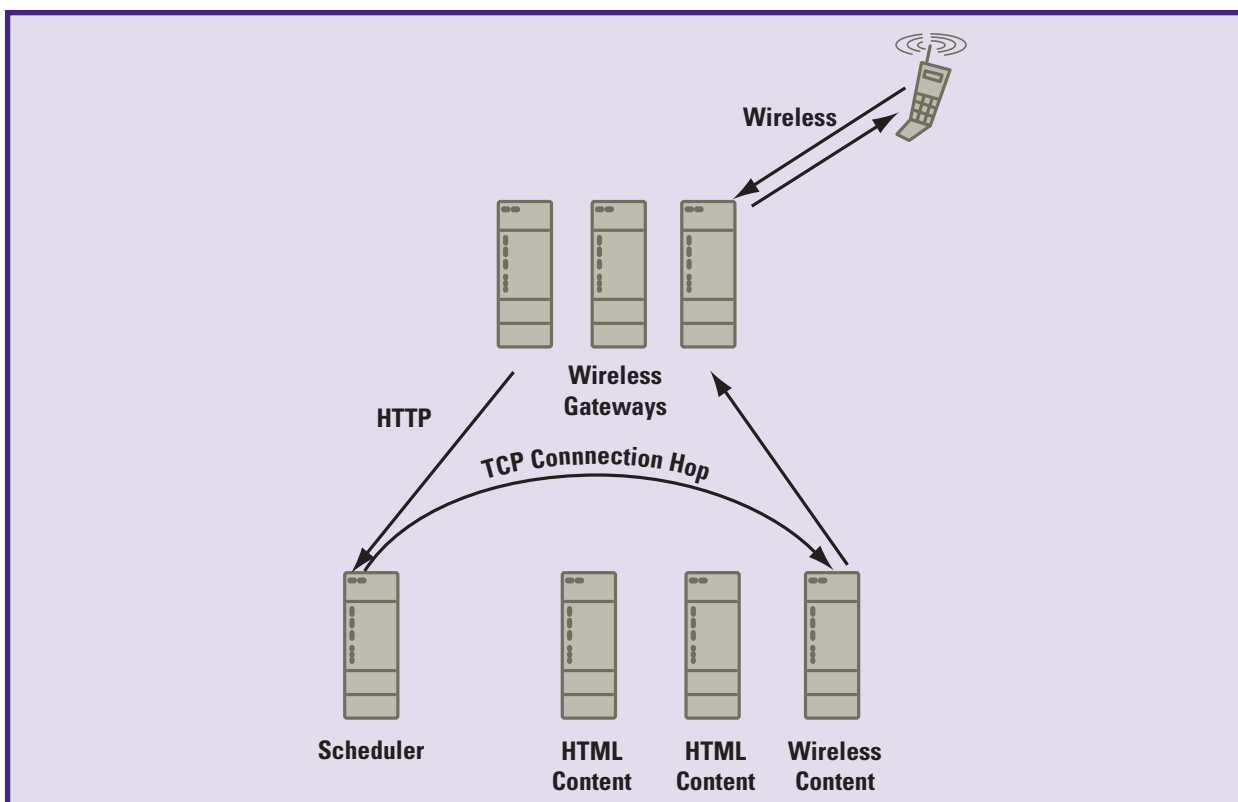


Figure 3 — Central Dispatch's Data Stream Processing



**Resonate**

385 Moffett Park Drive, Sunnyvale, California 94089

tel: 408.548.5500 fax: 408.548.5679

[www.resonate.com](http://www.resonate.com)

**APPLICATION NOTE**

*Resonate is a registered trademark, the Resonate logo, Keeping E-Business Open for Business, and Resonate Central Dispatch are trademarks of Resonate, Inc. All other trademarks are the property of their respective owners. Copyright © 2000 Resonate, Inc. 11/00 AN003*