

# Ignify Consulting

## Wireless Application Protocol

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## WAP (Wireless Application Protocol)

- Objective
- WAP Forum
- WAP Programming Model
- WAP Protocol Stack
- WAP Security
- WAP & WML
- Limitations
- WAP versus iMode



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## What is WAP ?

Wap is the gateway to a new world of mobile data. It provides a universal standard which enables users to easily access Web-based interactive information services and applications from the screens of their mobile phones.

## WHAT IS WAP FOR ?

### **PURPOSE**

To enable easy fast delivery of relevant information to mobile users.

### **DEVICES USING WAP**

Phones, pagers etc

### **WIRELESS NETWORK**

Wap works with CDPD, CDMA, GSM, PDC, PHS, TDMA, FLEX, ReFLEX, iDEN, TETRA, DECT, DataTAC, Mobitex.

### **OPERATING SYSTEM**

can be built on any operating system including PalmOS, EPOC, Windows CE, FLEXOS, OS/9, JavaOS etc.

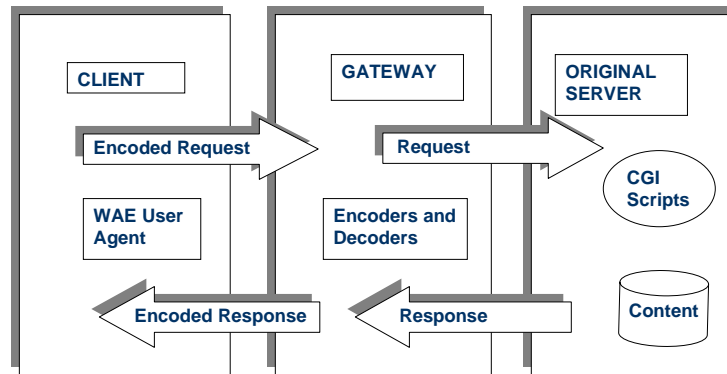
## Wap Forum

- Ericsson, Nokia, Motorola and Unwired Planet founded the WAP Forum in the summer of 1997 with an initial purpose of defining industry- wide standards for developing applications over wireless networks.
- The Wap Forum is the industry association comprising over 500 members that has developed the de-facto world standard for wireless information and telephony services on digital mobile phones and other wireless terminals.

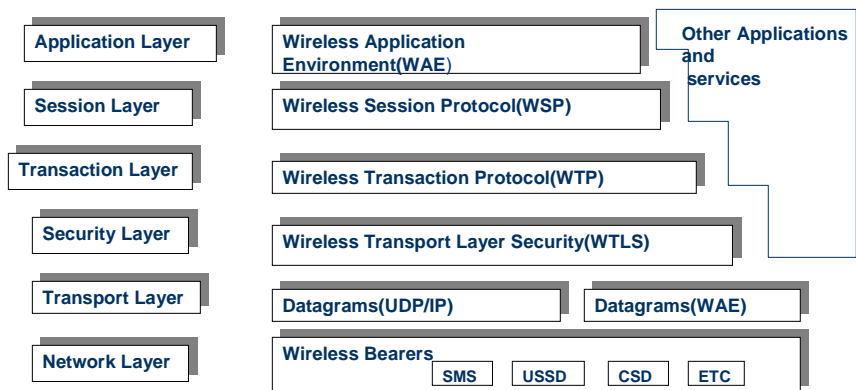
## Goals of Wap Forum

- To bring internet content and data services to wireless phone.
- To create global wireless protocol specification that works across all wireless network technologies
- To enable creation of content and applications that scale across a wide range of wireless bearer network
- To extend existing standards and technology wherever possible and appropriate.

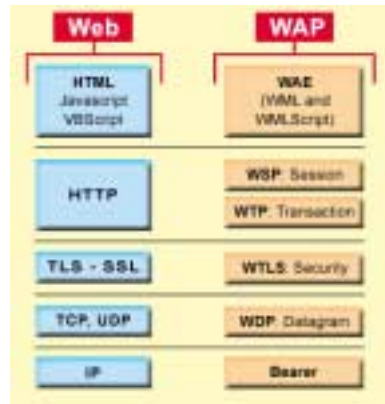
## Wap Programming Model



## Wap Protocol Stack



## WAP model vs WEB Model



## Security

- WTLS is a security protocol based on industry standard TLS(Transport Layer Security) formerly known as SSL(Secure Socket Layer) .
- Data Integrity: Data sent between terminal and application remains unchanged and uncorrupted.
- Privacy: Data sent is private and cannot be understood by any intermediate parties who have intercepted the data stream
- Authentication: Establishes authenticity between terminal and application server.
- Denial-of-ServiceProtection: detecting or rejecting of data that is replayed or not successfully verified.

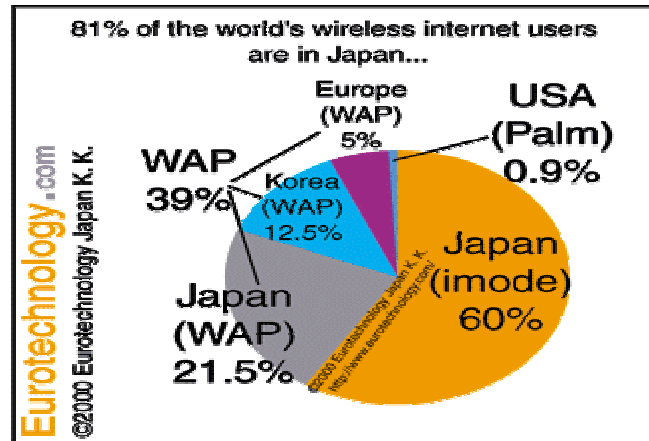
## Why WML

- Wap enabled devices require different mark-up language because of it's size , transmission and mobility and that is where WML comes in picture.
- WML uses the metaphor of a deck of cards to send data to the mobile device
- Each WML transaction usually delivers one deck, which is displayed card by card on a device's screen depending on user interaction.
- With WML we also have WML Script which is a client side scripting language like JavaScript which is used in HTML file.

## Limitations of Wireless Device

- **Small Screens:** As the mobile devices are small it will be difficult to navigate through the sites.
- **Limited Input Capabilities:** The usual mobile devices are phones, which have a phone keypad, which is sufficient to dial a phone number as compared to typing in a really long URL
- **Limited Processor Power:** WAP enabled devices usually have less processing power.
- **Limited Bandwidth:** WAP devices have very little bandwidth.
- **Limited graphic and Limited Deck Size:** Due to less bandwidth , the limited deck size a WAP enabled device supports less graphic.

## WAP versus iMode - Statistics



## Wap versus iMode

### WAP

- 1) Wap uses WML
- 2) Wap in Europe are circuit switched (users need to dial-up in order to connect)
- 3) WAP in Europe is marketed to business
- 4) WAP have handsets showing four lines of text in black/white without images.
- 5) Marketing of WAP based services in Europe presently focus on business applications (banking, flight booking)

### iMode

- 1) iMode uses chtml
- 2) iMode is packet-switched (always connected, as long as the user's handset is reached by the iMode radio signal).
- 3) iMode is mainly marketed to ordinary consumers
- 4) iMode handsets in Japan have large full color (256 colors) displays and ten lines of text or more
- 5) iMode in Japan focus on fun and everyday life-style: games etc

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