

CS8601 –MOBILE COMPUTING

UNIT 4

MOBILE TRANSPORT AND APPLICATION LAYER

4.7. Wireless application environment (WAE)

WAE is used to create a general-purpose application environment based WWW. Allow service providers, software manufacturers, or hardware vendors to integrate their applications. WAE has already integrated the following technologies and adapted them for use in handheld devices.

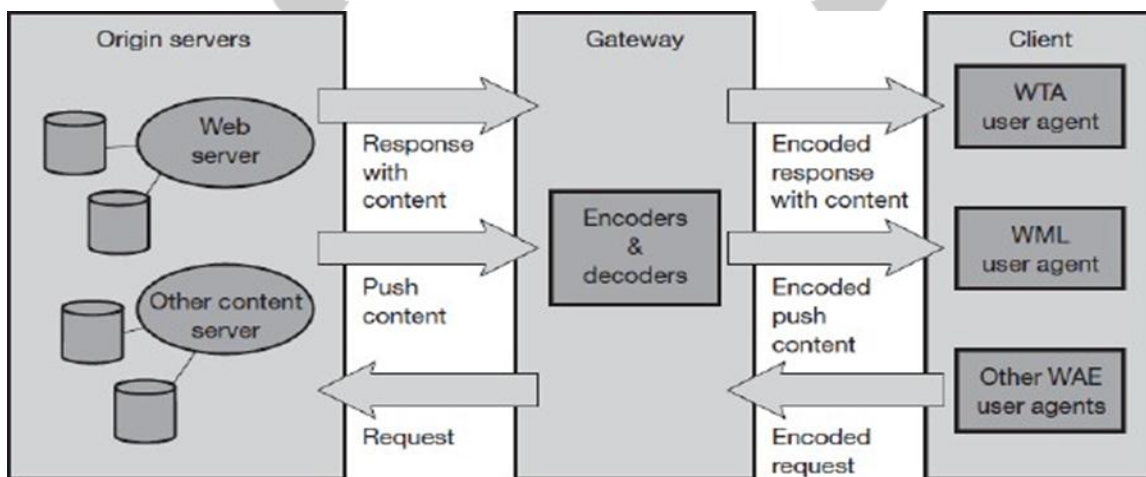
Integrated technologies: HTML, JavaScript, and the handheld device mark-up language HDML form the basis of the wireless mark-up language (WML) and the scripting language WMLscript. The exchange formats for business cards and phone books vCard and for calendar vCalendar have been included.

URLs from the web can be used. A wide range of mobile telecommunication technologies have been adopted and integrated into the wireless telephony application (WTA).

Goal: To minimize over-the-air traffic and resource consumption on the handheld device.

WAE: Logical model:

- Model is close to WWW model but assumes an additional gateway.
- **Client:** Issues an encoded request for an operation on a remote server. This is usually a WAP browser
- **Encoding:** Used to minimize data sent over the air and to save resources on the handheld device
- **Decoders:** Translate the encoded request into a standard request as understood by the origin servers. This could be a request to get a web page.
- **Gateway:** Transfers the request to the appropriate origin server.



• **Origin server:** Standard web servers running HTTP and generating content using scripts, providing pages using a database, or applying any other technology. Origin servers will respond to the request. Then the gateway encodes the response and its content & then transfers the encoded response with the content to the client.

• **Push services:** The WAE logical model also includes push services.

- ✓ Then an origin server pushes content to the gateway.
- ✓ The gateway encodes the pushed content and transmits the encoded push content to the client.

• **User Agent:** Several user agents can reside within a client.

- ✓ User agents include such items as: browsers, phonebooks, message editors etc.
- ✓ WAE does not specify the number of user agents or their functionality.
- ✓ User agent handles access to, and interaction with, mobile telephone features.

