

WIRELESS LAN AND PERSONAL AREA NETWORK PROTOCOLS

Lesson 03

Wireless Application Protocol

WIRELESS APPLICATION PROTOCOL (WAP)

- Provides Web contents to small-area display devices in mobile phones
- Service providers format contents in the WAP format
- WAE wireless application environment and WSL (Wireless session layer) in WAP 2.0 is now a days HTTP, HTTPS.
- WTP (wireless Transport Protocol) is used in WAP 1.0 only

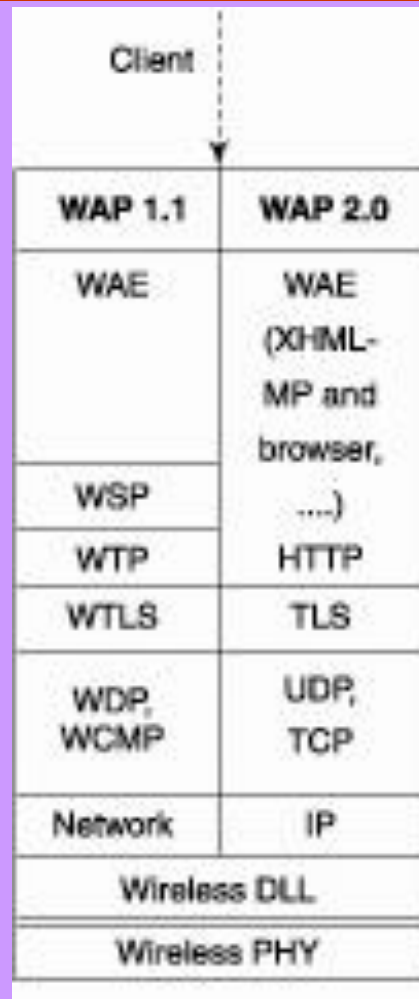
COMPONENTS IN WAE IN WAP 1.1

- WML
- WMLScript
- WBXML (WAP binary XML)
- WTA
- Data formats [vCard 2.1, vCalendar 1.0, address book, pictures (jpg, gif, ..) etc.]

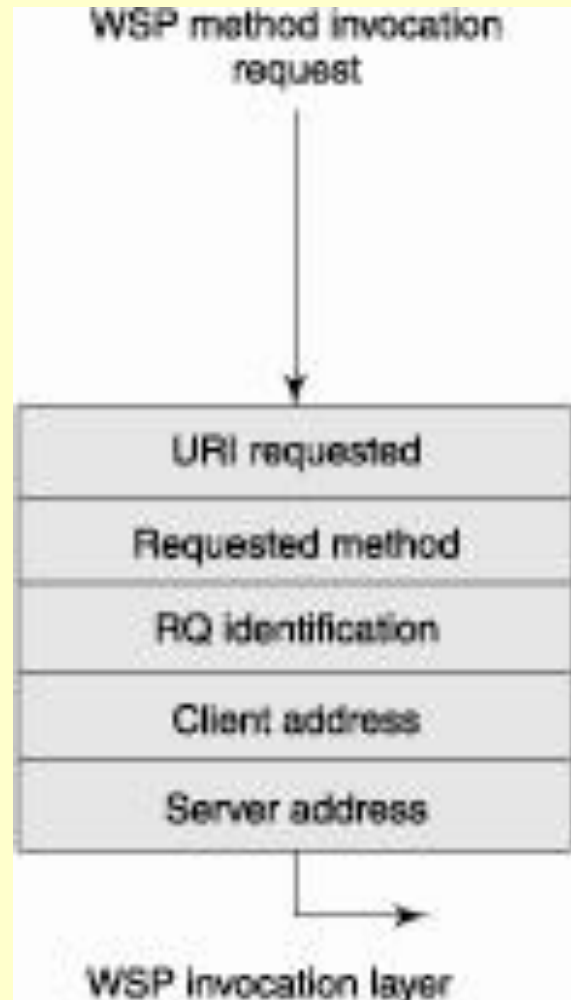
WAP TRANSMISSION PHYSICAL LAYER

- Can be HSCSD
- SMS
- GPRS in GSM
- CDPD
- 3G bearer (SMS, MMS, ...) services

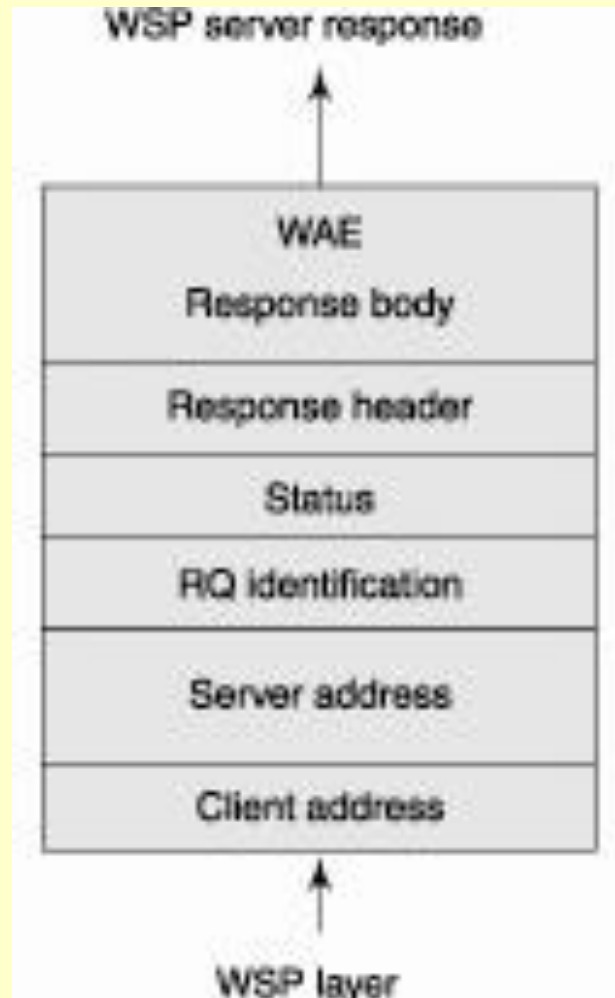
WAP 1.1 AND WAP 2.0 PROTOCOL LAYERS



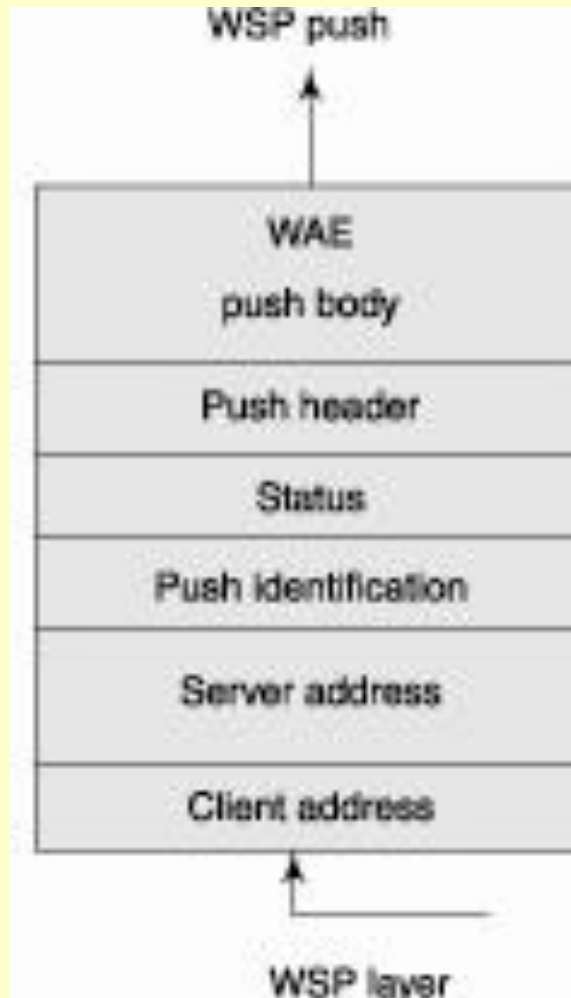
WSP HEADER FOR THE METHOD INVOCATION AND REQUEST TO SERVER



WSP HEADER FOR SERVER RESPONSE



WSP HEADER WHEN WSP PUSH



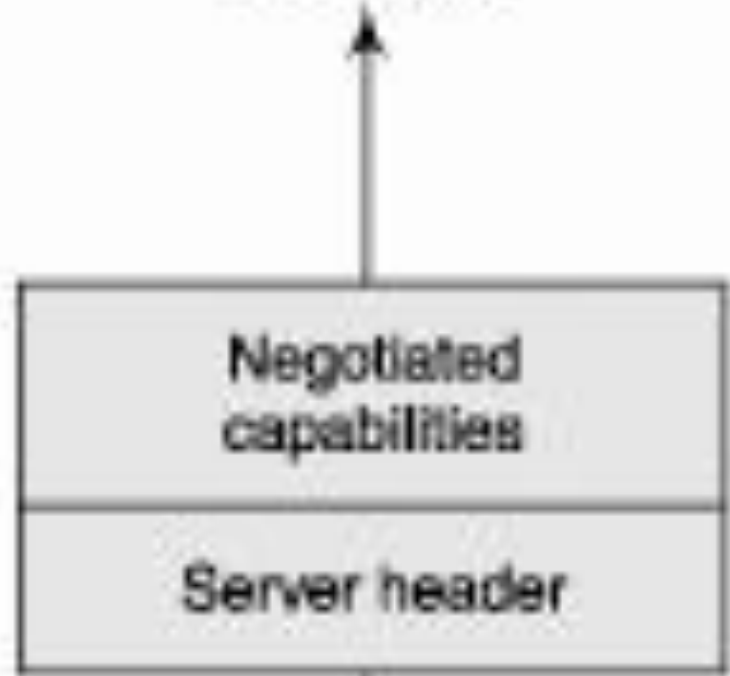
WSP PROTOCOL SESSION CONNECTION ESTABLISHMENT AND RESULTING RESPONSE HEADERS IN WAP 1.0

WSP session establishment request



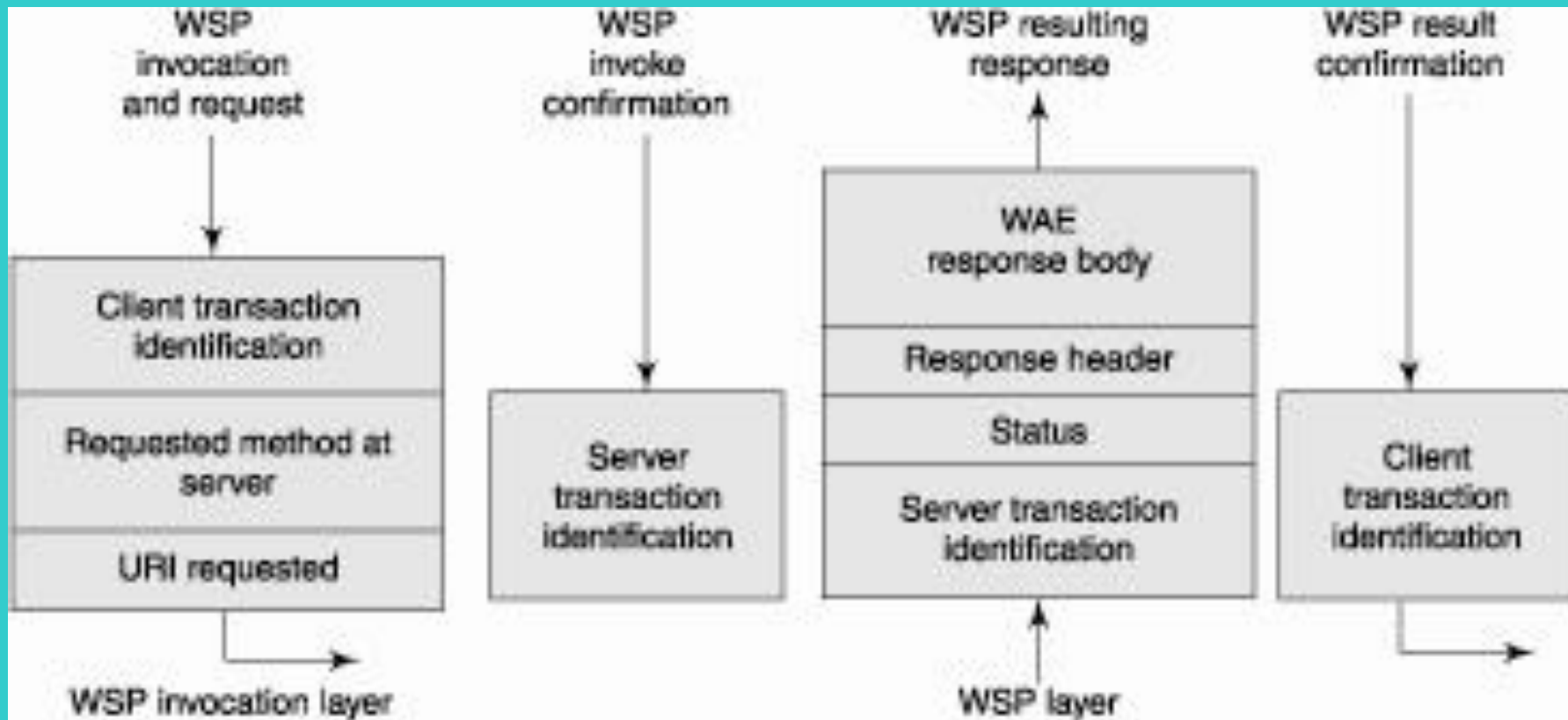
WSP layer

WSP session establishment response



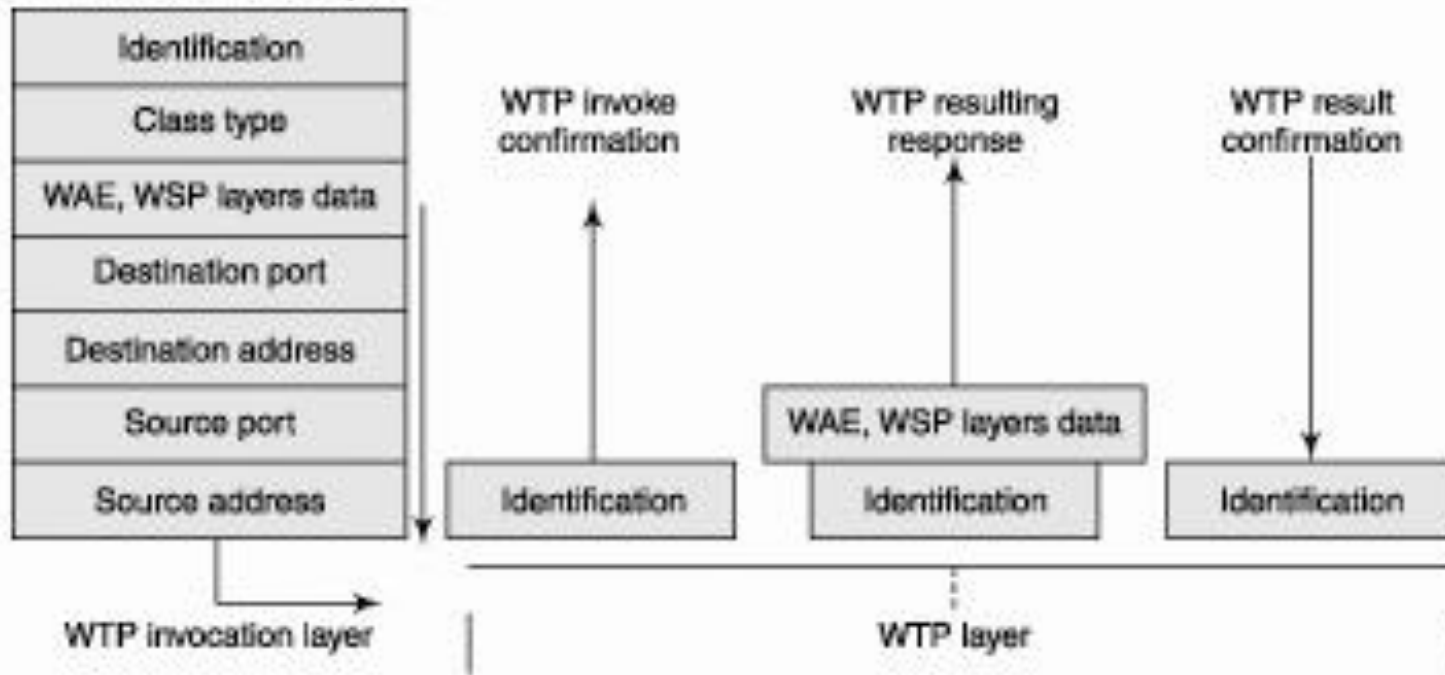
WSP layer

WSP HEADERS WHEN SENDING WSP INVOCATION AND REQUEST



WTP HEADERS WHEN SENDING WTP INVOCATION AND REQUEST FOR RESULTS, CONFIRMATION OF WTP INVOCATION

WTP invocation and request



WAP 2.0 CLIENT AND GATEWAY

- WAP 2.0 client in mobile connecting to the service provider network using a gateway
- XHTML: extensible hypertext markup language, HTTP: hypertext transfer protocol, and HTTPS : HTTP secure]
- WAE (for example HTML,XHTML, HTTP Browser) and WTLS (Wireless Transport Layer Security)

WAP 2.0 CLIENT AND GATEWAY

- UDP: user datagram protocol, TCP: transport control protocol
- DLL: data link layer
- PHY: physical layer

WAP 2.0 CLIENT AND GATEWAY

Refer Figure 2.5

SUMMARY

- Physical layer— HSCSD, GPRS, CDPD and 3G Bearer service
- WDP datagram layer in WAP 1.0
- WTLS transport layer security protocol layer in in WAP 1.0 and 2.0

SUMMARY

- WTP transaction protocol layer in WAP 1.0
- WSP session layer in WAP 1.0
- WTA Push and WTA Push OTA in WAP 1.0

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