

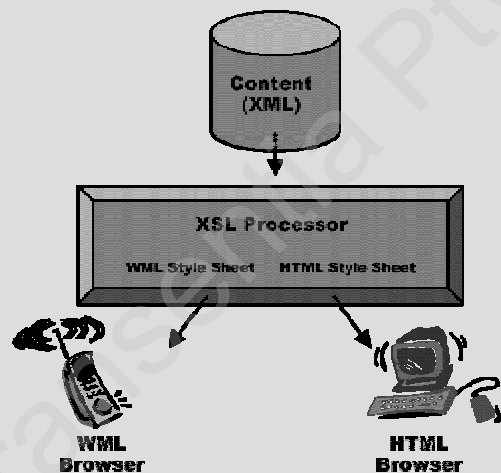
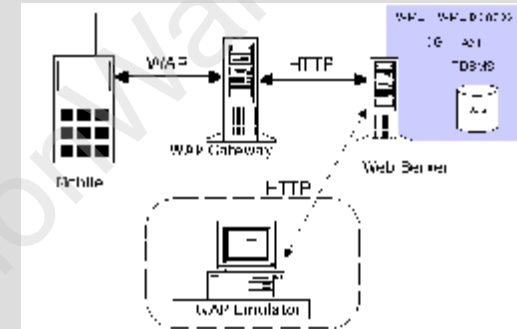
Wireless Application Protocol

m1



- Standard for the presentation and delivery of wireless information and telephony services on mobile phones and other wireless terminals
 - aim is to give “real, anytime, anywhere information access” with a simple and effective user interface, available on a variety of networks and devices
 - estimated 1 billion mobile phone subscribers by 2004...
 - why is WAP necessary?
 - *the device is different*
 - *the network is different*
 - *subscribers have a different set of desires and needs*
 - WAP is quickly growing very popular
 - *many web sites are becoming “WAP Enabled”*
 - *Microsoft is betting on WindowsCE instead*
 - due to the belief that many existing constraints will disappear in time and users will demand ever more...

- **Include:**
 - the WAP Programming Model
 - *architecture*
 - an XML-based markup language
 - a ‘microbrowser’
 - *includes ‘WMLScript’*
 - a lightweight network stack
 - a framework for Wireless Telephony Applications



HTTP/TCP/IP	WSP/WTP/UDP
1. → TCP SYN	1. → Data Request
2. ← TCP SYN, ACK of SYN	2. ← ACK, Reply
3. → ACK of SYN, Data Request	3. → ACK, Data Request
4. ← ACK of Data	4. ← ACK, Reply
5. → Reply	5. → ACK, Data Request
6. ← ACK of Reply	6. ← ACK, Reply
7. → Data Request	7. → ACK
8. ← ACK of Data	
9. → Reply	
10. ← ACK of Reply	
11. → Data Request	
12. ← ACK of Data	
13. → Reply	
14. ← ACK of Reply	
15. → TCP FIN	
16. ← TCP FIN, ACK of FIN	
17. → ACK of FIN	

*Bold packets contain payload
Non-bold packets are overhead*

HTTP/TCP/IP	WSP/WTP/UDP
17 packets	7 packets
65% Overhead*	14% Overhead*

**Does not account for DNS, SSL, Authentication or Cookies*

- A WML document is composed of a deck, and a deck contains multiple cards

```
<?xml version="1.0"?>
<!DOCTYPE WML PUBLIC "-//WAPFORUM//DTD WML 1.1//EN" "http://www.wapforum.org/DTD/wml_1.1.xml">
<wml>
    <!-- root element -->

    <card id="card1" title="Example 1">
        <p>
            <!-- a card can only contain P blocks or DO blocks -->
            <do type="accept" label="go to card 2">
                <go href="#card2"/>
            </do>
            This is the first card.
        </p>
    </card>

    <card id="card2" title="Example 1">
        <p>
            This is the second card.
        </p>
    </card>
</wml>
```

