

# SMART CLIENT, DATA STORE, APPLICATION AND ENTERPRISE SERVER BASED ARCHITECTURE

## Lesson 08

### Gateway

# GATEWAY

- Connects two networks, each using different protocols in their network layers

# GATEWAY BETWEEN GPRS AND DATA NETWORK FOR PACKETS

- A GPRS mobile service network deploys SGSNs (serving GPRS support nodes)
- A SGSN interface to BSCs (base station controllers)
- The SGSNs on the other hand interfaces to GGSNs (Gateway GPRS support nodes)
- On the other hand, GGSNs connect to a packet data network like Internet

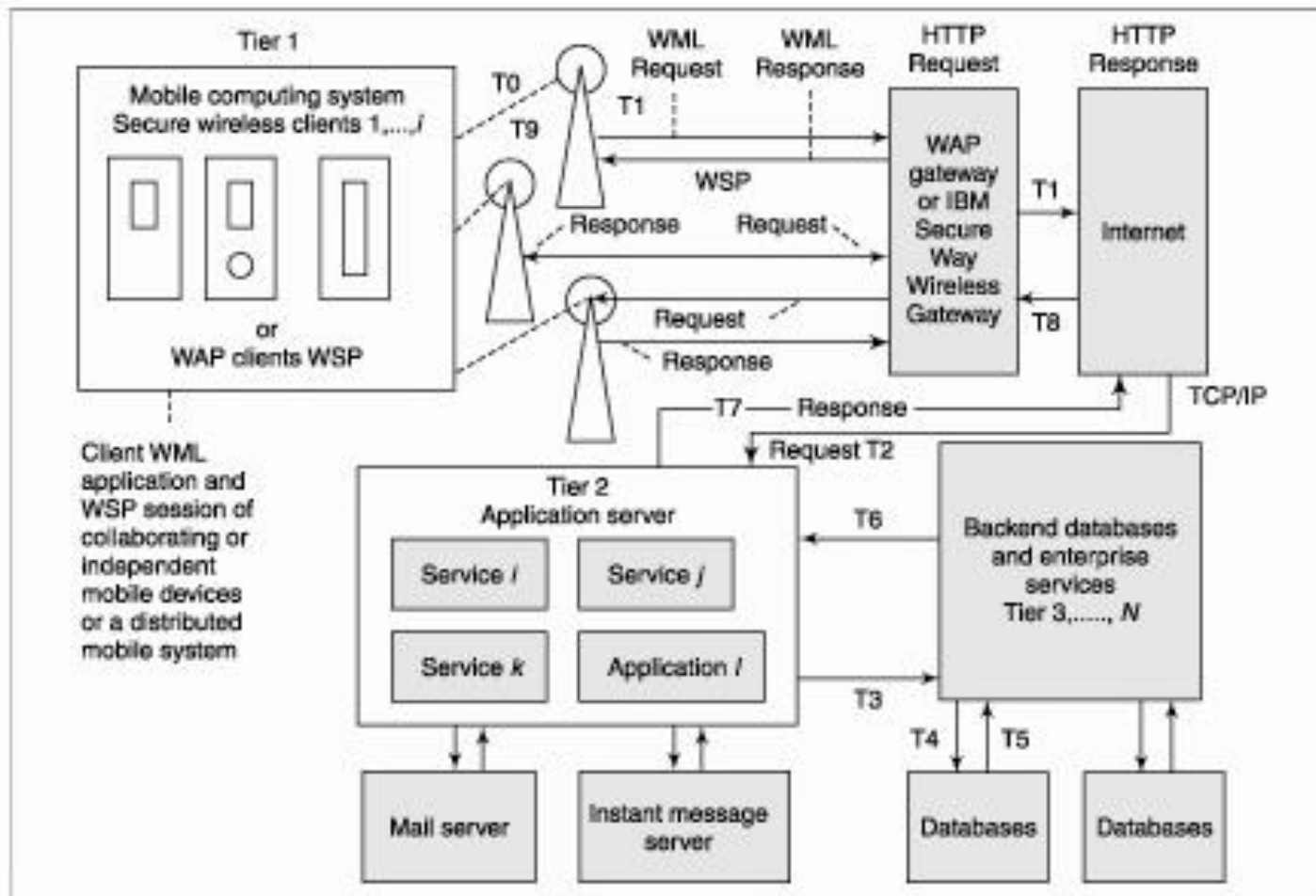
# PROTOCOL CONVERSION GATEWAY

- Connection gateway— software which is used to connect two application layers using two different protocols
- Connects client application and application server

# WAP OR IBM SECUREWAY WIRELESS GATEWAY

- Between wireless devices, the Internet, and application-server-based  $N$ -tier architecture ( $N \geq 3$ )
- Requests processed at the application server using backend databases and system

# WAP OR IBM SECUREWAY WIRELESS GATEWAY



# TIER 1

- A client sends requests for the service required by collaborating or independent mobile devices or a mobile computing system
- The client sends the application service request and obtains the responses

# TIER 2 APPLICATION SERVER (AS)

- Connects to tier 1 through the Internet
- The Internet end uses TCP/IP, while the wireless device ends use WAP or other protocols
- When the protocol used is WAP, a gateway which connects tier 1 to Internet which has the AS is called WAP gateway



# IBM SECUREWAY WIRELESS GATEWAY

- A WAP gateway which connects these two tiers— 1 and 2
- The connection establishes through WSP

# IBM WEBSPHERE PARTNER GATEWAY

- Used for the connections and transcoding between the tiers

# TRANSCODING GATEWAY

- A gateway when it adapts its response to the content format of the client device and requests to it in the format required by the application running on the application server

# TRANSCODING PROXY

- Conversion, computational and analyzing capabilities, while a gateway has conversion and computational capabilities only
- A proxy can execute itself on the client system or application server

# TRANSCODING GATEWAY APPLICATIONS

- Format, data, and code conversions from one end to another when the multimedia data transferred from a server to the mobile TV, Internet TV, WAP phone, and Smart Phone as the client devices

# TRANSCODING GATEWAY APPLICATIONS

- Filtering
- Compression
- Decompression
- Configurable transcoding gateway to provide authoring and deployment

# TRANSCODING GATEWAY APPLICATIONS

- Used for converting XML style sheets to WML or HTML
- Video to images
- Image to hyperlink
- One image format to another
- Scaling, mapping, and colour adaptation

# TTS AND STT TRANSCODING GATEWAY

- Facilitates TTS (text-to-speech) conversion and STT (speech-to-text) conversion



# HOME NETWORK

- Home — Number of systems—Cable TV or set-top box, personal computer, laptop, digital camera, iPod, home theatre, iPhone or mobile phone, and Bluetooth-enabled appliances

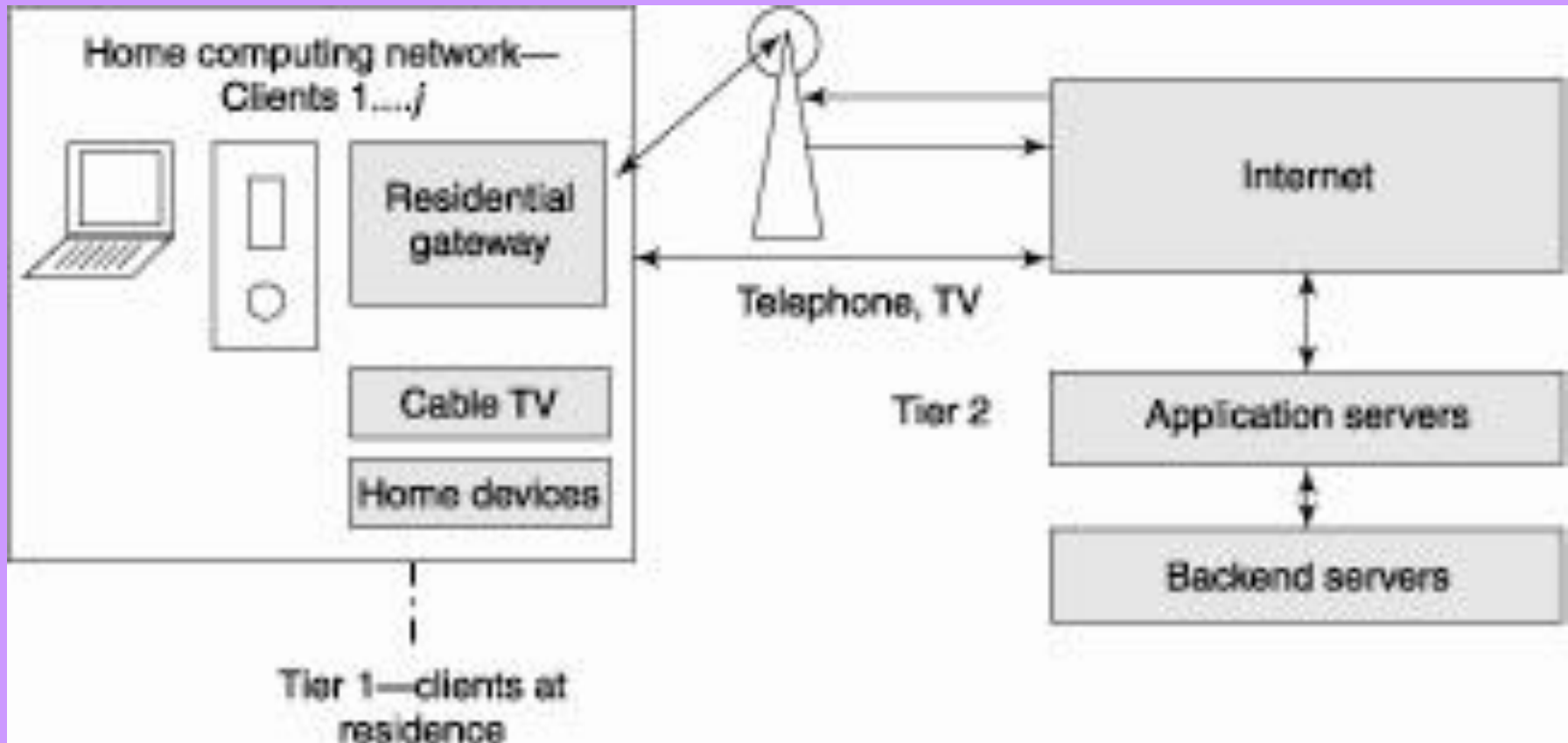
# OUTSIDE WORLD

- Typically consists of Internet, enterprise server, backend database servers, and application servers
- Consists of high speed Internet IPv6

# RESIDENTIAL GATEWAY

- A wireless device which provides connectivity through a service provider
- The network also connects to application servers and backend server through the Internet
- Residential gateway a gateway between a network of home devices and the outside world

# RESIDENTIAL GATEWAY ARCHITECTURE



# SUMMARY

- Connects two networks, each using different protocols in their network layers
- Connection gateway— software which is used to connect two application layers using two different protocols
- Gateway enable access of client using one protocol to application server using another protocol

# ...SUMMARY

- Transcoding Gateway Conversion, computational and analyzing capabilities, while a gateway has conversion and computational capabilities only
  - Enables transcoding
  - Transcoding for Filtering
  - Compression
  - Decompression

# End of Lesson 08 Gateway