MAJOR SEMINAR ON

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Content

- Wireless Technology
- Evolution from 0G-5G
- Introduction to 5G
- Need of 5G
- 5G Hardware and Software
- 5G Feature & Applications
- iPhone 5G & iPod 5G
- Bibliography
Given a choice, people will demand the freedom to communicate wherever they are, unfettered by the infamous copper wire.
EVOLUTION FROM 0G TO 5G SYSTEM
0G WIRELESS SYSTEM

- Satellite phones were developed.
- Available as a commercial service.
- Part of the public switched telephone network.
- Part of a closed network such as a police radio or taxi dispatch system.
- Mobile telephones were usually mounted in cars or trucks.
- Models are in briefcase style

ref[2]
1G WIRELESS SYSTEM

- Developed in 1980s.
- 1G based on analog system.
- Speed up to 2.4kbps.
- Advance mobile phone system (AMPS) launched by US.
- Allows users to make voice calls in 1 country.
- Services provide with circuit switching

ref[2]
2G WIRELESS SYSTEM

- Fielded in the late 1980s and finished in the late 1990s.
- Based on digital system.
- Speeds up to 64kbps.
- Services such are digital voice & SMS with more clarity.
- Semi Global facility. ref[4]
2.5G WIRELESS SYSTEM

• Provide GPRS Service.
• CDMA Multiplexing.
• Deliver data at high speed during browsing internet.
• Data transmission rates of 144 kbps.
• Higher capacity packetized data.
• 2.5G system use 2G system infrastructure, but it implements a packet-switched network.
2.75G EDGE WIRELESS SYSTEM

• Allows for faster downloading.
• Faster than GPRS.
• EDGE is an official ITU ratified 3G technology.
• Allow people to watch streaming video and download mp3 files faster.
• Uploading speed is not so high.
Disadvantages of 2G GSM

- GSM has a fixed maximum cell site range of 35 km, which is imposed by technical limitations.
- In less populous areas, the weaker digital signal may not be sufficient to reach a cell tower.

Disadvantages of 2G IS-95

- Most technologies are patented and must be licensed from Qualcomm.
- IS-95 covers a smaller portion of the world.
- IS-95 phones are generally unable to roam internationally.
3G WIRELESS SYSTEM

• High-speed transmission upto 2mbps.
• Advanced multimedia access.
• Global roaming.
• Enhanced audio and video streaming.
• Video-conferencing support.
• Web and WAP browsing at higher speeds.
• IPTV (TV through the Internet) support.
• Offer greater security than their 2G predecessors.
Standards
- UMTS (UTRAN)
- WCDMA-FDD
- WCDMA-TDD

Applications
- Mobile TV
- Video on demand
- Video conferencing
- Multiplayer gaming
- Tele-medicine
- Location-based services
- Wireless Advertising

Disadvantages
- High Bandwidth requirement
- Huge capital [ref][5]
4G WIRELESS SYSTEM

- Expected to emerged around 2010 - 2015
- Watch T.V programs with the clarity as to that of an ordinary T.V
- Provided very smooth global roaming ubiquitously with lower cost
- Deliver 100mbps to a roaming mobile device globally
- 1Gbps to a stationary device
- The larger bandwidth for data sharing are relatively inexpensive
- Ad hoc and multi hop networks
Technology

- OFDM
- Ultra wide Radio Band
- Millimeter Wireless
- Smart Antennas

Applications

- Traffic Control
- Disaster Mgmt
- Telemedicine
- Telegeoprocessing
- VoIP for IPv6

Disadvantages

- Yet not available just anywhere
- New technology which makes it more expensive than 3G
5G WIRELESS SYSTEM

• 5G is a completed wireless communication with almost no limitation somehow people called it REAL wireless world

• 5G wireless system is only theory and not real

• 5G with incredible transmission speed with no limitation for access and zone size.

ref[1]
WHY SHOULD 5G?

For Domestic Purpose
- 5G cell technologies to hook your phone to your laptop for broadband Internet access
- Uploading and downloading speed touching peak
- Offering connectivity just about the world

For Office Purpose
- Similar to a PDA you can now have your whole office within the phone
- Phones with gigabytes of memory storage Latest operating systems.
- Real-time financial information
5G HARDWARE

**UWB Networks** :- higher bandwidth at low energy levels.

**Bandwidth** :- 4000 megabits per second, which is 400 times faster than today’s wireless networks

**Smart antennas** :- Switched Beam Antennas, Adaptive Array Antennas

**Multiplexing** :- CDMA (Code Division Multiple Access)
5G SOFTWARE

- 5G will be single unified standard of different wireless networks, including wireless LAN technologies (e.g. IEEE 802.11), LAN/WAN/PAN and www, Unified IP and seamless combination of broadband.

- Software Defined Radio, Packet Layer, Implementation of Packets, Encryption, Flexibility, Anti-Virus
5G FEATURES

- 5G technology offer high resolution for crazy cell phone user and bi-directional large bandwidth shaping.
- The advanced billing interfaces of 5G technology makes it more attractive and effective.
- 5G technology also providing subscriber supervision tools for fast action.
- The high quality services of 5G technology based on Policy to avoid error.
- 5G technology is providing large broadcasting of data in Gigabit which supporting almost 65,000 connections.
- 5G technology offer transporter class gateway with unparalleled consistency.
- The traffic statistics by 5G technology makes it more accurate.
- Through remote management offered by 5G technology a user can get better and fast solution.
- The remote diagnostics also a great feature of 5G technology.
- The 5G technology is providing up to 25 Mbps connectivity speed.
- The 5G technology also support virtual private network.
- The new 5G technology will take all delivery service out of business prospect.
- The uploading and downloading speed of 5G technology touching the peak.
5G TECHNOLOGY

- Unified IP
- Cognitive Radio
- LAN
- WAN
- PAN
- Wi-Fi
- WLAN
- WWWWW ref[6]
5G APPLICATIONS

- Wearable device with AI capabilities.
- Pervasive networks
- Media Independent Handover
- Radio Resource Management
- High altitude stratospheric platform station (HAPS) systems.
- VoIP-enabled device
5G TELECOM SERVICES DEVELOPING COUNTRIES

- Japan
- Korea
- Africa
- China

5G TELECOM SERVICES DEVELOPING COMPANIES

- NASA
- Apple
- Archos
iPhone 5G

- It’s invisible.
- Float in mid-air
- Can be small or larger as you wanted it to be
- Very advance texting method (telepathy)
- High resolution face-to-face picture
- MSRP US$800
iPod 5G

- Music
- Genius
- FM Radio
- Fitness
- Accessibility
- iTunes
Introducing
ADVANTAGE

- **Data bandwidth** :- 1 gbps or higher
- **Zone issue** :- Globally accessible
- **Services** :- Dynamic information access
- **Cost** :- Benificial to domestic user available at low cost
# Quick Overview

<table>
<thead>
<tr>
<th>Technology / Features</th>
<th>1G</th>
<th>2G/2.5G</th>
<th>3G</th>
<th>4G</th>
<th>5G</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Bandwidth</strong></td>
<td>2 kbps</td>
<td>14.4-64 kbps</td>
<td>2 Mbps</td>
<td>200 Mbps to 1 Gbps for low mobility</td>
<td>1 Gbps and higher</td>
</tr>
<tr>
<td><strong>Standards</strong></td>
<td>AMPS</td>
<td>2G: TDMA, CDMA, GSM 2.5G: GPRS, EDGE, 1XRTT</td>
<td>WCDMA, CDMA-2000</td>
<td>Single unified standard</td>
<td>Single unified standard</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>Analog cellular technology</td>
<td>Digital cellular technology</td>
<td>Broad bandwidth CDMA, IP technology</td>
<td>Unified IP and seamless combination of broadband, LAN/WAN/PAN and WLAN</td>
<td>Unified IP and seamless combination of broadband, LAN/WAN/PAN/WLAN and www</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td>Mobile telephony (voice)</td>
<td>2G: Digital voice, short messaging 2.5G: Higher capacity packetized data</td>
<td>Integrated high quality audio, video and data</td>
<td>Dynamic information access, wearable devices</td>
<td>Dynamic information access, wearable devices with AI capabilities</td>
</tr>
<tr>
<td><strong>Multiplexing</strong></td>
<td>FDMA</td>
<td>TDMA, CDMA</td>
<td>CDMA</td>
<td>CDMA</td>
<td>CDMA</td>
</tr>
<tr>
<td><strong>Switching</strong></td>
<td>Circuit</td>
<td>2G: Circuit 2.5G: Circuit for access network &amp; air interface; Packet for core network and data</td>
<td>Packet except circuit for air interface</td>
<td>All packet</td>
<td>All packet</td>
</tr>
<tr>
<td><strong>Core Network</strong></td>
<td>PSTN</td>
<td>PSTN</td>
<td>Packet network</td>
<td>Internet</td>
<td>Internet</td>
</tr>
<tr>
<td><strong>Handoff</strong></td>
<td>Horizontal</td>
<td>Horizontal</td>
<td>Horizontal</td>
<td>Horizontal and Vertical</td>
<td>Horizontal and Vertical</td>
</tr>
</tbody>
</table>
What After 5G ...??

- The 6G mobile technology is the next generation wireless mobile resources and the 6g technology will surely make a phenomenal changes in mobile technologies.

- The google hot trends has rated the term 6g as the 17th most searched word in the search engines.

- Expand your data center configuration options

- 6g technology haven't been fully revealed yet but search phrases like what is 6g mobile technology, 6g technology, 6g mobile, 6g network, 6g wiki, 6g technology ppt are getting more familiar with new mobile technology getting evolved ref[6][7]
Websites:
[1]. http://www.techteasy.org/2007/03/12/2g-3g-35g-4g-5g-6gcleaning

Books:
[5]. “Migration towards 4G wireless communications,”
    By T. B. Zahariadis.
[6]. “Interoperability Issues between IPv4 and IPv6”
    By J. Govil.
Queries...??