

# Implementation of 3g Services in Wireless Communication Link

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**Abstract:** *This paper deals with the '3G' services. After that the frequencies for '3G' services, new communication features provided by '3G' services. Evolution of broadband for mobile along with '3G' services is also mentioned.*

**KEYWORDS:** Bandwidth, Frequency

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## INTRODUCTION

### WHAT IS 3G:

3G refers to the third generation of mobile telephony (cellular) technology. A radio communications technology that will create a "bit pipe" for providing mobile access to internet-based services. It will enhance and extend mobility in many areas of our lives.

3G services will add an invaluable mobile dimension to services that are already becoming an integral part of modern business life: Internet and Intranet access, video-conferencing, and interactive application sharing.

### HISTORY OF 3G:

Third generation mobile phone services started in Japan in the year 2001. NTT Docomo plans to start W-CDMA services in March 2001 in Tokyo based on its W-CDMA (Wide Band Code Division Multiple Access) standard. Other carriers will start services at the same time as, or soon after Docomo.

Docomo's desire to implement W-CDMA is driven primarily by shortages of frequency. Docomo has already implemented half-rate PDC (Personal Digital Cellular) and

smaller cells in order to increase the number of subscribers that the PDC system can accommodate. It also plans to introduce dual-mode PHS (Personal Handyphone System) and PDC phones in April, 1999 in order to move some of its cellular traffic over to the fairly open PHS frequencies. It now appears that most carriers who now offer GSM services will adopt Docomo's W-CDMA standard. Since GSM services are offered in more than 100 countries with more than 100 million subscribers (as compared to 12 million for IS95 CDMA) as of mid-1998, it is very likely that Docomo's W-CDMA technology will become the defacto worldwide third generation standard.

The 'first generation' of analogue mobile systems was followed by GSM (so-called 2G). Currently 12 countries have issued '3G' or 'third generation mobile communications' licenses. 3G mobile communications combine wireless mobile technology with data transmission capacities. '3G' officially refers to systems and services based on the ITU family of standards under its International Mobile Telecommunications programme 'IMT-2000'. The first 3G services on the market in Europe are expected early 2003.

### 3G SERVICES:

#### MTNL 3G JADOO MOBILE SERVICES

India leaps into 3G Mobile arena with the launch of 3G Mobile services by Mahanagar Telephone Nigam Limited

(MTNL) for its Delhi Network. MTNL is the first Mobile operator in India to launch 3G services named Initially, the coverage for 3G services would have core of Delhi covering Connaught Place, Sanchar Bhawan, Rajaji Marg, India Gate, Pragati Maidan, Delhi Gate and Minto Road.

3G Mobile services would enable MTNL users to enjoy:

- Video Telephony – Customers can watch and talk simultaneously through Video Call.
- High speed internet for smart-phones and Laptop from 256 Kbps to 2 Mbps.
- A multitude of data related VAS services like
  - Mobile TV
  - Location surveillance
  - Streaming Video on Demand
  - Gaming etc.

The country's second largest telecom operator BSNL launched 3G mobile services on a commercial basis in 11 cities across the country. With this, BSNL became the country's second operator after MTNL to commercially launch the services. Earlier this month, MTNL launched its 3G services commercially in the Delhi circle.

BSNL has invested Rs 2,600 crore to start 3G services. The services essentially provide for faster download of data, Internet downloads and high speed gaming.

Before SomeTime, BSNL launched the services in Agra, Ambala, Jalandhar, Jaipur, Dehra Dun, Ranchi, Shimla, Lucknow, Jammu.

The company also announced its tariff plans. In a Rs 2,500 plan, a rate of Re 1 per minute for video call has been fixed. The voice call would be available for 10 paise per minute under monthly.

### **ECONET WIRELESS GETS FREQUENCIES FOR 3G SERVICE:**

Econet Wireless, the country's leading mobile operator, on Tuesday 2 April 2009 secured frequencies for 3G service. 3G refers to the third generation of mobile telecommunications technology that supports more diverse applications among them, wide area wireless voice telephony, video calls and broadband wireless data. 3G

follows two earlier generations, the first generation which began in the early 1980's with commercial deployment of Advanced Mobile Phone Service cellular networks and the second from the 1990 when mobile operators deployed two competing digital voice standards.

Over the past two years the country's cellular networks have been waiting to get 3G frequencies from POTRAZ; who have since been instructed by the Information Communication Technology minister, Nelson Chamisa, to make frequencies available for the expansion of the networks.

Econet Wireless will also intend to launch by June this year, which will allow subscribers to receive emails on their mobile phones.

### **THE 3G MOBILE BROADBAND EVOLUTION:**

UMTS/HSPA is the leading 3G technology used by the majority of wireless operators and subscribers worldwide today. Globally, the demand for wireless data services is driving the growth of 3G HSPA technology with more than 270 commercial HSDPA networks today. UMTS/HSPA will represent 1.4 billion subscriptions or an 85% share of the mobile wireless broadband market by year-end 2012 and 1.8 billion by year-end 2013 according to Information.

### **THE MINISTRY OF INFORMATION AND COMMUNICATIONS THURSDAY ANNOUNCED FIVE MOBILE PHONE NETWORKS HAVE QUALIFIED TO SUPPLY 3G SERVICES.**

The qualified networks include the military-run Viettel, Vietnam Posts and Telecommunications Group (VNPT), MobiFone, EVN Telecom and Hanoi Telecom.

3G is a general technology for mobile networks that allows operators to offer more advanced services, including video calls and wireless broadband **3G services to bring new communication features:**

1) '3G' services allow the users to move from one form of communication to the next without a break in the flow of conversation. For example, two co-workers on IM can easily bring in a colleague or supplier into a real-time video meeting over IP, on his 3G mobile phone.

2) Another powerful capability can be found by incorporating UC into the Contact Center or Customer Service area. Contact Center can use 3G to provide [interactive voice](#) and video response (IVVR) service. With IVVR in place, contact centers can show callers relevant videos such as promotions, new product announcements, advertisements, etc., while they are waiting in queue.

3) New applications and devices provide business users with greater flexibility and more efficient communications, while lowering the cost of operation to the enterprise.

4) Security is an issue : It is important to note that security is an ongoing practice of procedures and improvements that help reduce the likelihood of a "break-in," but do not guarantee that your network cannot be compromised if the right opportunity is presented.

**In '3G' the same level of security, monitoring and control as any other mission-critical piece of equipment are kept protected by using practices and procedures that are generally accepted as appropriate for equipment of this importance. BSNL starts 3G services, offers video call at Re 1** Due to 3G Services all companies reduced the call rate upto 50% extent.

For e.g: In B.S.N.L (Bharat Sanchar Nigam Limited) the local call rate is 0.50 rupees/- and S.TD call rate is 1.50 rupees/- and offering video call at re 1/-. In the same way other companies like . M.T.N.L,Airtel etc. reduce the call rates and increase the features.

#### **WHAT ARE THE ADVANTAGES OF 3G:**

##### Advantages

1. Faster data connectivity; i mean you can download faster and surfing is lot more
- 2.Uninterrupted video streaming on phones.
- 3.Video calls and big mms.

But now its available only in metros of India.

#### **CONCLUSION:**

3G services has many advantages in our life. It overcome the '2G'. It is firstly launched by M.T.N.L and BSNL. With the help of 3G we can send the send the text, images at fast speed and at low cost. With the help of 3G application we can get the secure and uninterrupted data.