

Building a foundation for new technologies (e.g. law, regulation and culture)

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The Indian Experience

- The process of switching over from technology, service and area specific licensing regime to Unified Access License and now moving towards a totally Unified License has been a roller coaster experience in India.
- And it has paid dividend.
- The new Unified License would lead to a Ubiquitous environment and would accelerate growth.
- Any licensee with one wire or wireless connection would be able to provide all services-telephony, Internet, broadband, broadcast, cable TV or any other value-added service.

The Indian Experience (contd.)

- The transition would have conditionalities to ensure ‘no-worse off’ situation for existing operators.
- Existing services shall be permitted to continue.
- The new regime would be technology-agnostic.
- Let us trace the path.....

Building a foundation for new technologies –tracing the path

- **Traditional Regime**
- **Need for a Change**
- **Migration to a regime that encourages free growth of new technologies**
- **Challenges ahead**

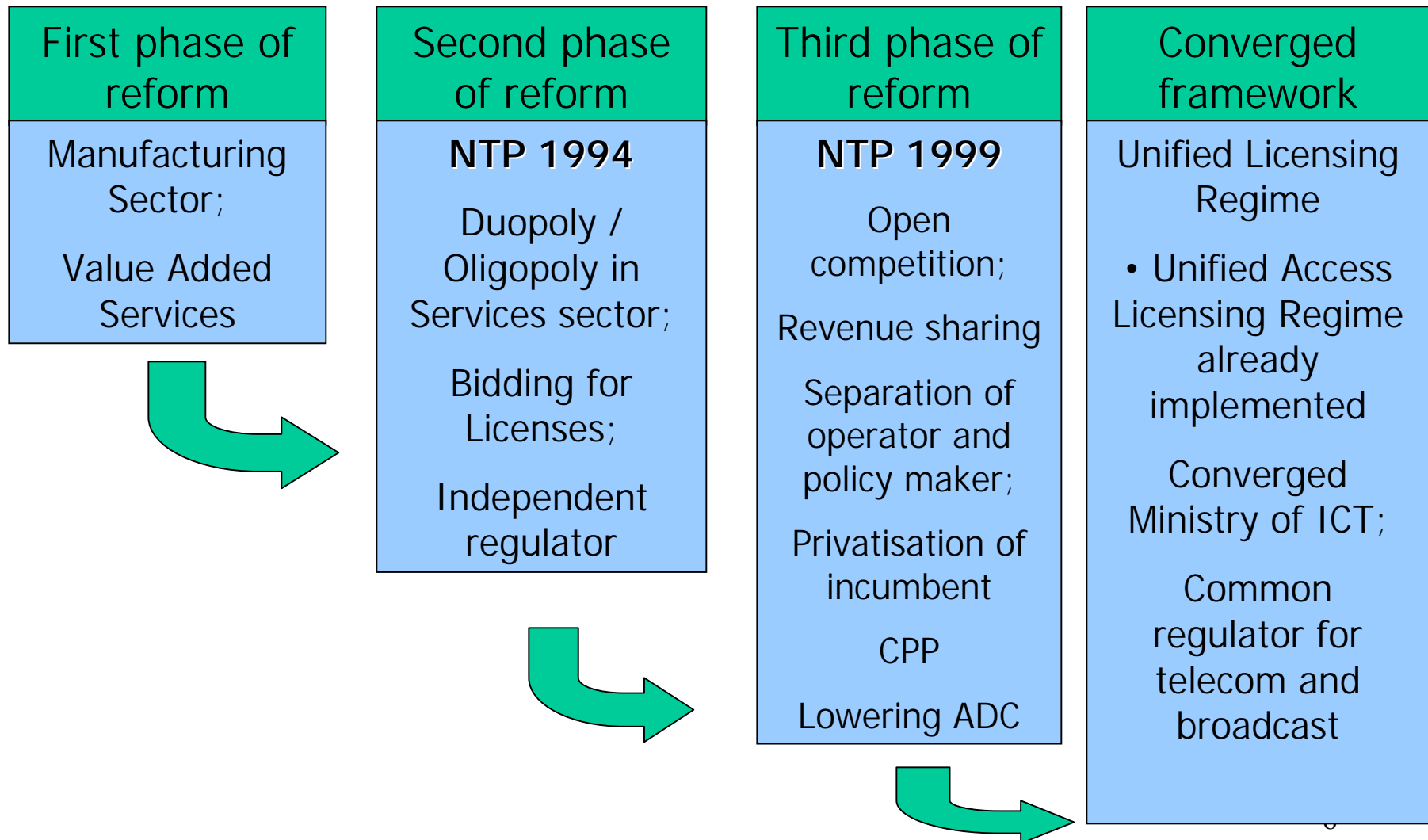
Traditional Regime

- Traditionally service specific and technology specific licenses were awarded.
 - Cellular Mobile licenses mandated use of GSM technology in 1994-95.
 - Later WLL license in CDMA spectrum were awarded for limited mobility.
- These restrictions led to one of the service providers converting the limited mobility license to full mobility with the help of technology.
- The license conditions were not breached.
- Consequently the sector went into protracted litigations, losses to service providers and no fresh investments.
- Conversion of service specific to Unified access license with penalties imposed on the licensee who breached the spirit of the license led the sector back into equilibrium.
- This also led to aggressive competition between operators and consequent explosive growth.
- The changes in the licensing regime are explained in the next slide.....

Restriction in law, regulation, culture should not come in the way of technology deployments.

Migration to a regime that encourages free growth of new technologies - The Indian Story

Phases of Policy reforms-at a Glance



Specific licenses: Problems

- Email Vs. Internet/SMS
- Radio Paging License Vs. SMS
- Public Mobile Radio Trunking services Vs. Push to Talk
- National Long Distance telephony Vs. Inter-service area connectivity of mobile operators
- IP Telephony Vs. Long distance Telephony

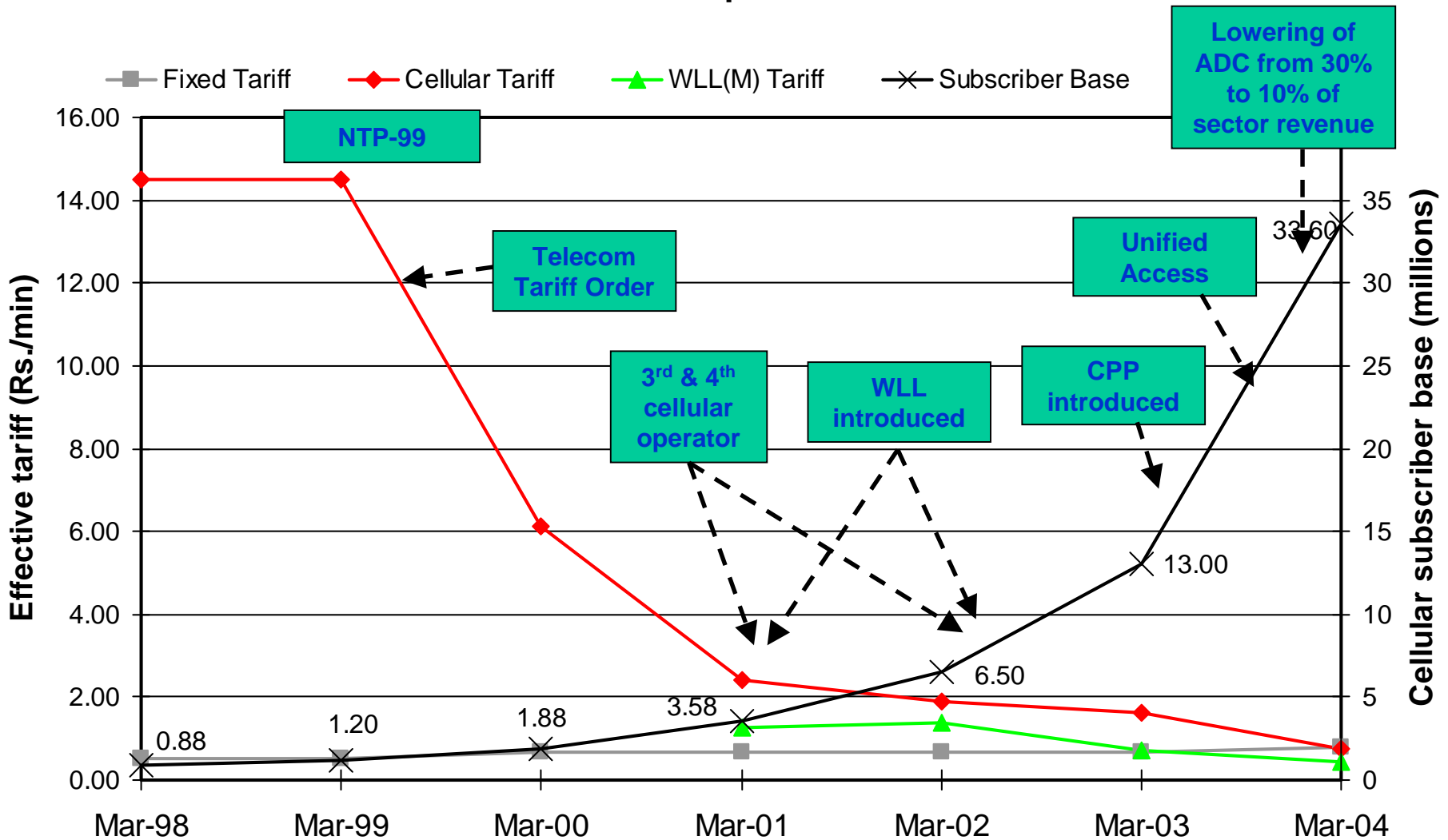
Whenever technologies or licenses have not been restricted by regulation/license conditions, growth has been phenomenal e.g. SMS, Cable TV

Our experience with unified access license was similar

What was achieved

GROWTH IN CELLULAR SUBSCRIBER BASE

- Cellular subscribers and effective tariff per minute



Need for Change

- **Technological developments**
 - Emerging developments trends leading to flux in telecom.
 - Multi service capabilities of technologies.
 - Trends towards convergence
- **Market Trend**
 - Consumers perspective
 - Service providers perspective

Emerging development trends leading to flux in Telecom

- **Enhanced transmission capacities on Optic Fiber Networks (through incremental cost on electronics).**
- **Capacity growth and new application services on Wireless.**
- **Emergence of Next-Generation Networks (IP-based).**

Multi-service capabilities of technologies

- Cable TV network for video, data and voice.
- Copper cable for voice and broadband.
- VSAT for voice and data.
- DTH for broadcast and broadband.
- Wireless for fixed and mobile access.
- GSM, CDMA, Wi-fi and Wi-max for voice, data, broadband.
- IP based network for data, voice and video

Trends towards Convergence

- **Evolving Networks leading to Convergence of Voice, Data & Video services on a common network infrastructure results into cost saving and performance improvements as well as leading to new avenues for revenue generation.**
- **Convergence of Telecom, Broadcast and Internet leading to multimedia services.**
- **Evolving NGNs capable of guaranteed QOS and high level of security and reliability.**

Market Trends

- Consumers perspective
 - Ubiquitous environment: any service, anytime, from anywhere, to anywhere, with any device, through any media
 - Any licensee with one wire or wireless providing converged services – leading to lowest possible tariff for consumers.
- Service provider perspective
 - Converged networks
 - Economies of scope and scale
 - Explosive growth in addressable market.

Consequently there are changes in consumer behavior and expectations leading to a new culture in the sector

Impact on Regulatory policies

- **Regulatory Regime to be technology agnostic and should meet the objectives of growth.**
- **Encourage entrepreneurship in regard to development of new application services to serve the consumers best.**
- **Move towards Unified Licensing/ Authorization Regime to simplify the procedures and removing entry barriers.**
- **Ensure level-playing field and adequate flexibility to the operators.**
- **Such regime can help to tackle the challenges thrown open by the evolving trends in telecom.**

Indian Experience

- **Common Regulator for Voice, Data (Internet & Broadband) & Media (Radio & TV Broadcast, Cable).**
- **Technology Neutrality for service providers.**
 - **Unified Access (wired or wireless, fixed or mobile).**
 - **Circuit-switched or Packet-switched(IP).**
 - **Any media including cable TV for last mile.**
- **Move towards Unified Licensing/ Authorization.**
 - **Service Providers shall be able to offer any or all telecom services using technology of their choice.**
 - **Economies of scope/scale and flexibility in Regime shall result in new/existing services being offered to consumers at affordable prices**

Key Objectives of Unified Licensing

- **To encourage free growth of new applications and services**
- **Simplify licensing procedure**
- **Reduce legal disputes on scope of license**
- **Ensure flexibility and efficient utilisation of resources**
- **Ensure level playing field, easy entry and fair transition to the new regime.**
- **Encourage efficient small operators to cover rural, remote and telecommunication facilities wise less developed areas**

Challenges Ahead

- Unified licensing regime which offers flexibility for growth of new technologies is not enough.
- It is imperative to establish fair, clear, predictable (to the extent possible) policy pertaining to:
 - Radio spectrum
 - Interconnection
 - Competition

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THANK YOU

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