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Changes for the Better

"New Business Chances and Economic Opportunities"
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The Scalable Video Technologies Towards Fixed Mobile Convergence

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Outline

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   - Fixed Satellite Convergence (FSC)
2. Ubiquitous Content Sharing by FMC
3. Digital Home extended to Mobile Access
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4. Progress of Video Coding Technologies toward Full Color Standard
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   - AVC/H.264 4:4:4 Profile
   - Ubiquitous Full-Color Video Contents Service
5. Conclusion

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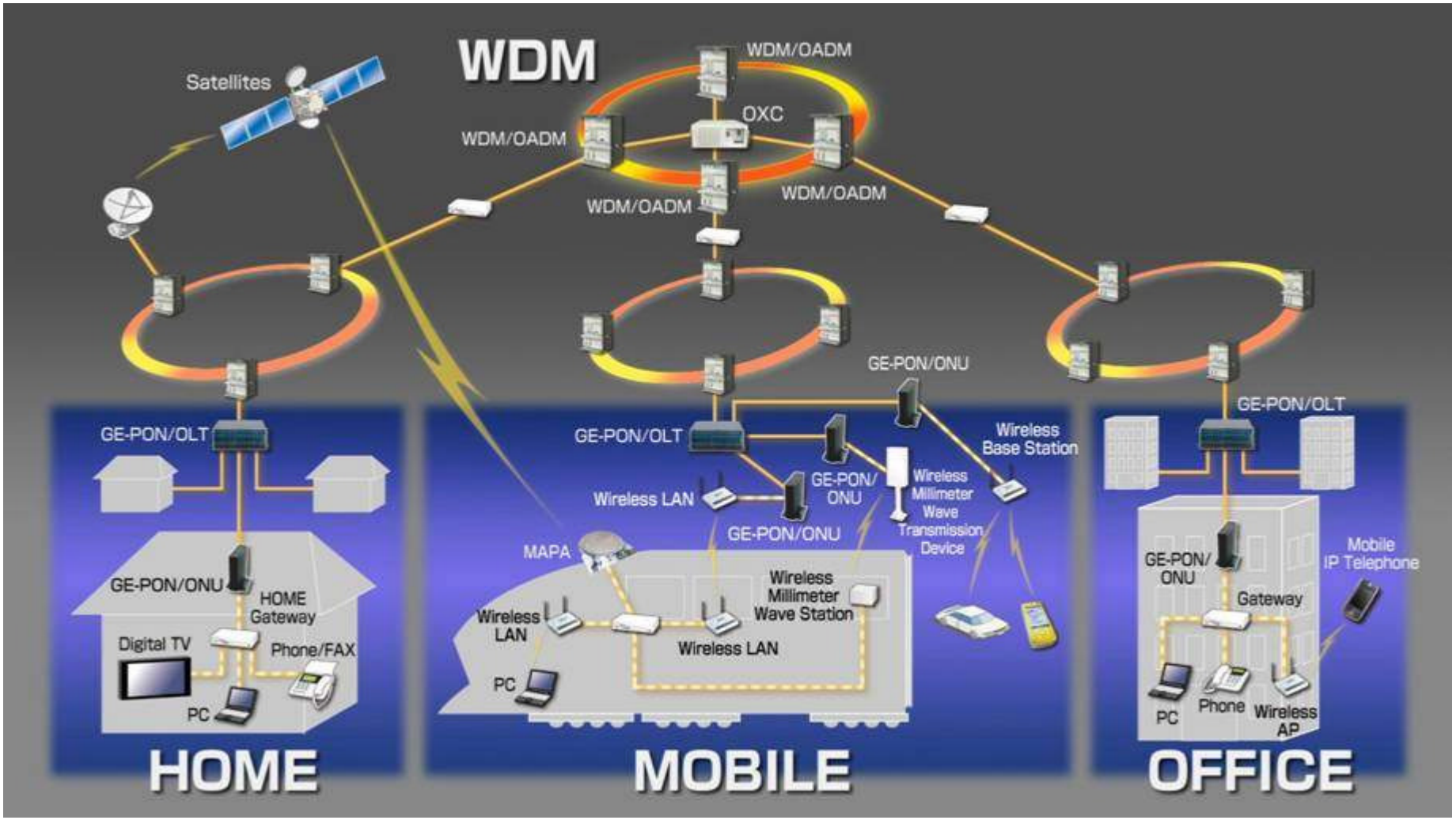
NGN Infrastructure



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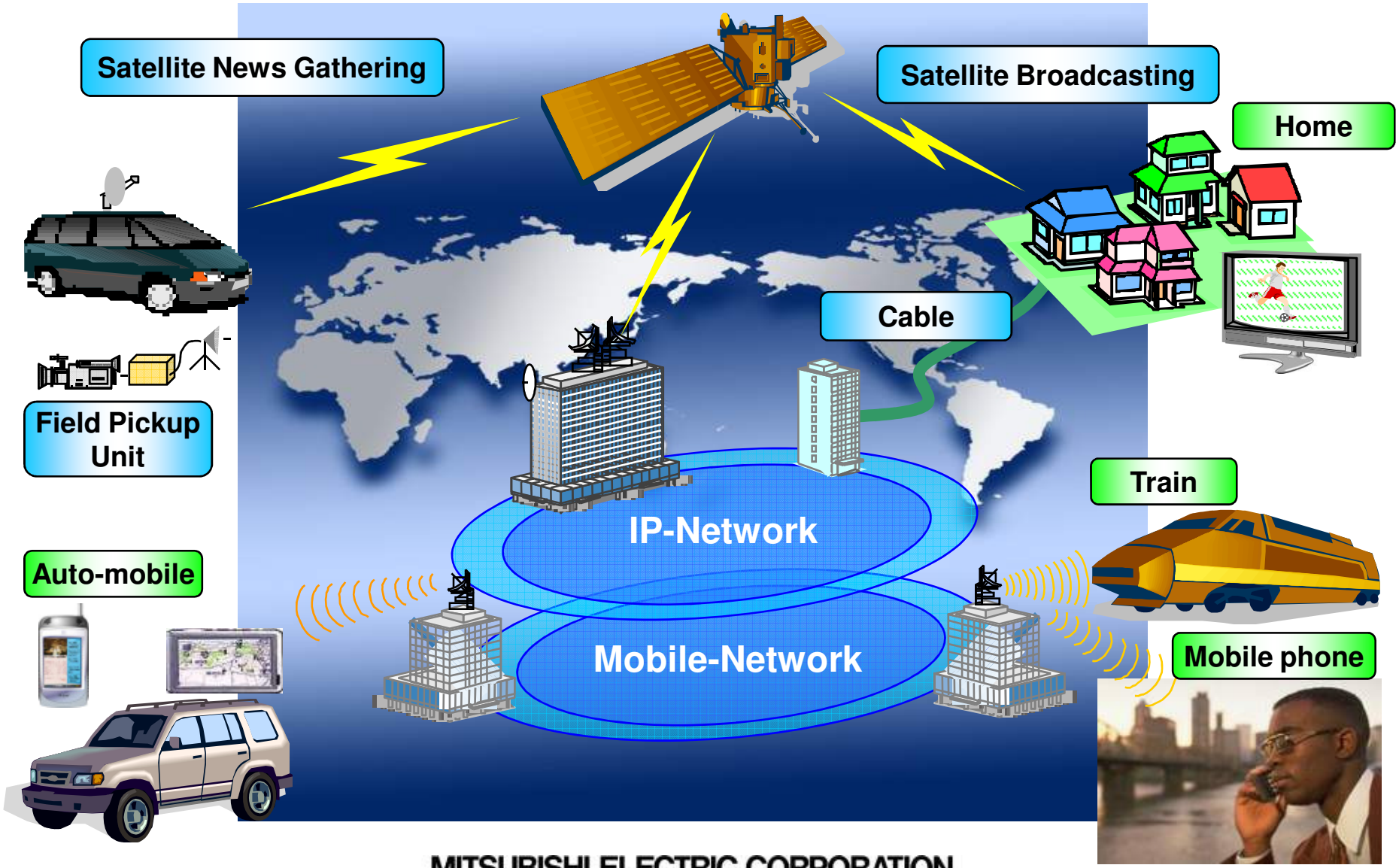
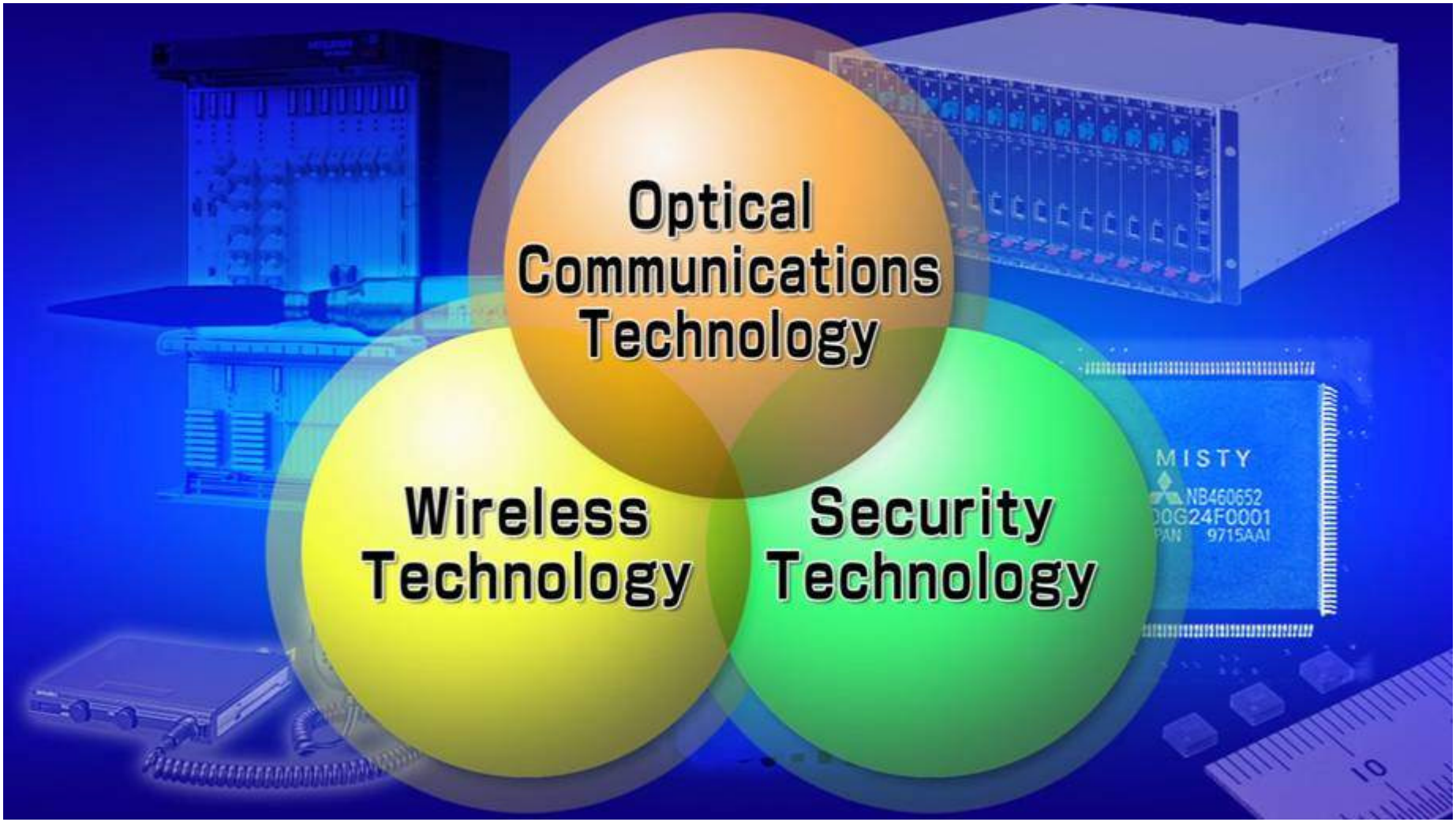
Fixed Satellite Convergence (FSC)

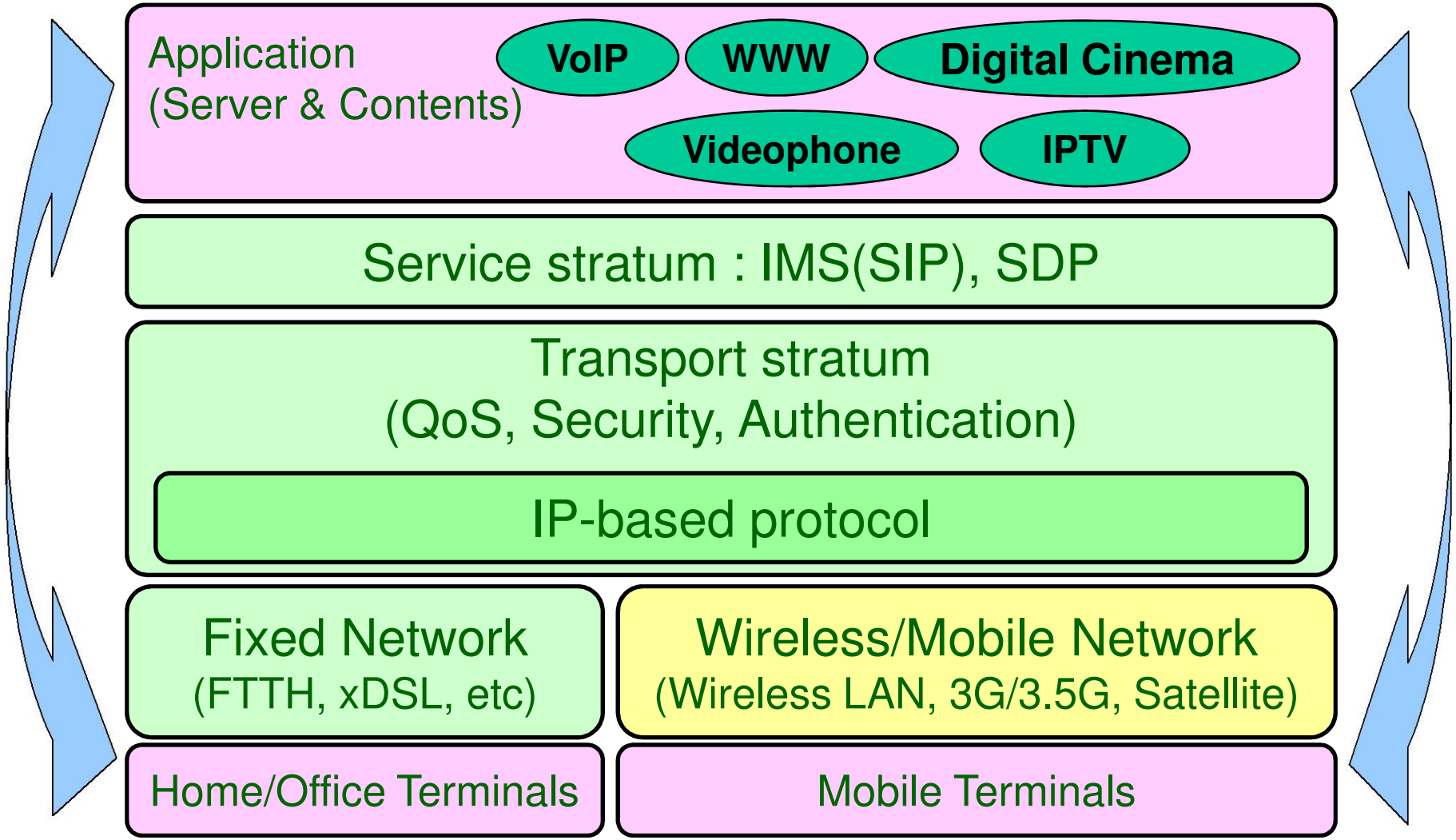
Global scale service by IPv6-base satellite



Integration of Communication Technologies



Ubiquitous Content Sharing by FMC



IMS:IP Multimedia Subsystem, SIP:Session Initiation Protocol, SDP: Service Delivery Platform, QoS: Quality of Service

Digital Home extended to Mobile Access

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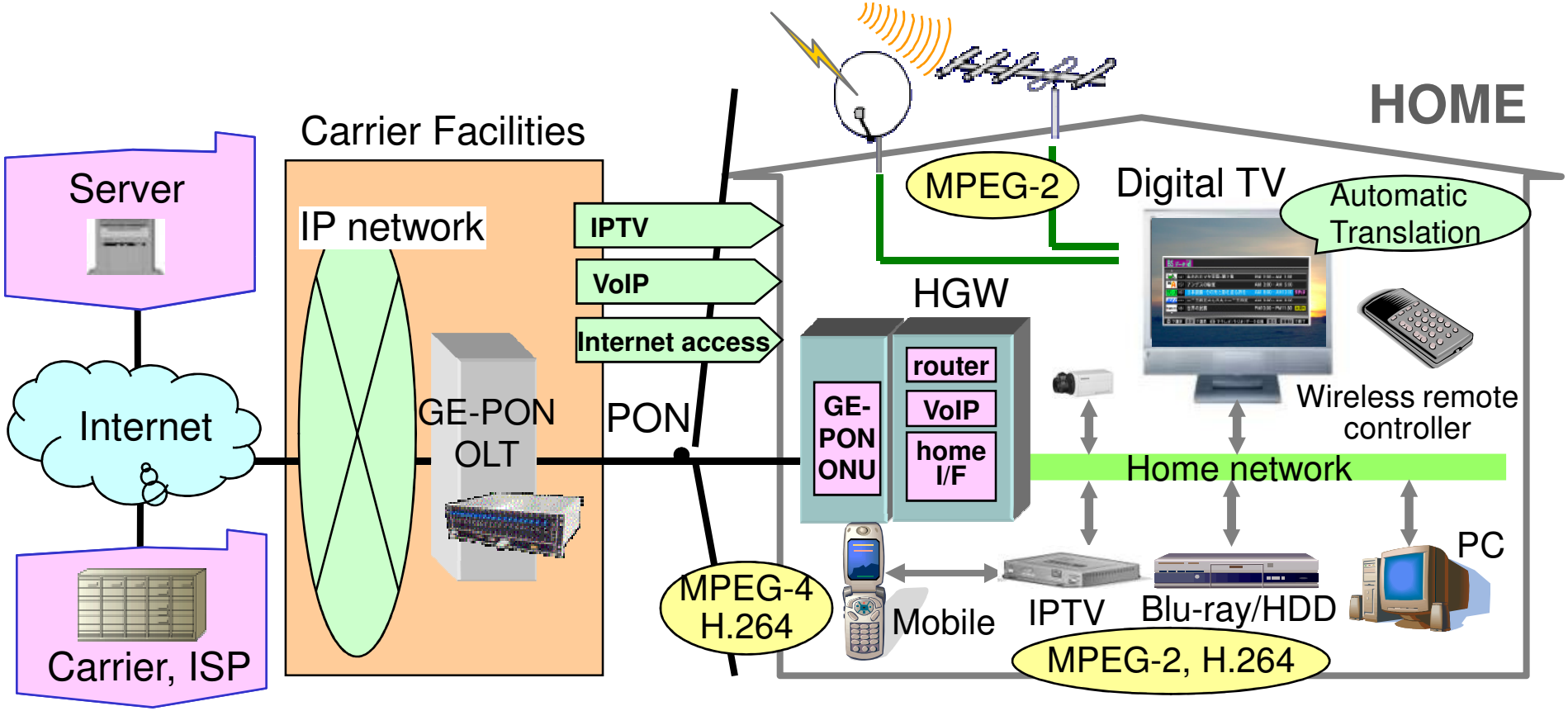
- FTTH provides high-speed access to the devices on the Home network.
- Service integration of Digital broadcasting, Video-on-demand and Web-based global contents retrieval
- Seamless access from Mobile terminal to Home server



PON : Passive Optical Network GE-PON : Gigabit Ethernet PON OLT : Optical Line Terminal STB : Set Top B
ONU : Optical Network Unit HGW : Home Gate Way

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Scalable Video Service

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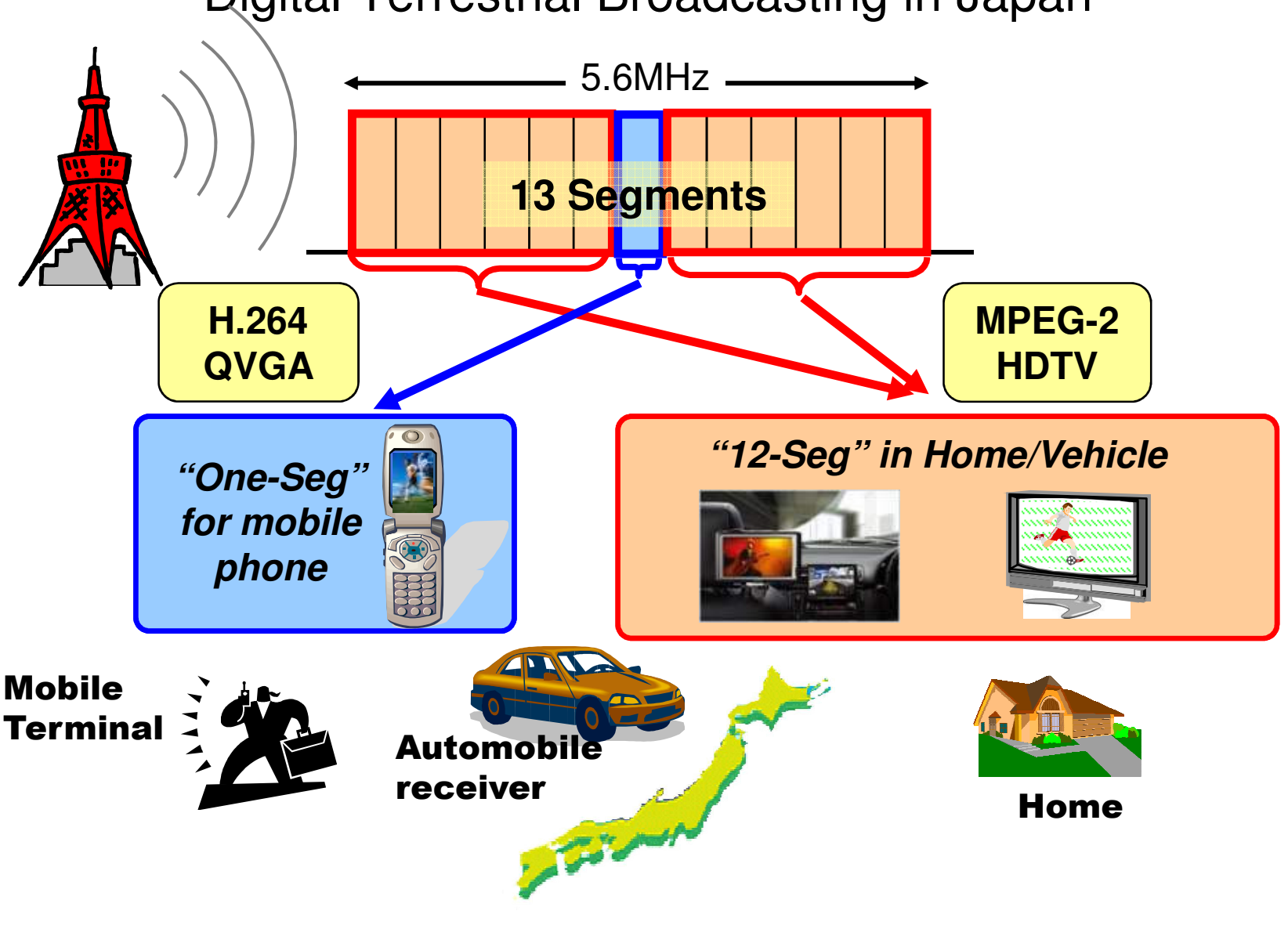
Digital Terrestrial Broadcasting in Japan



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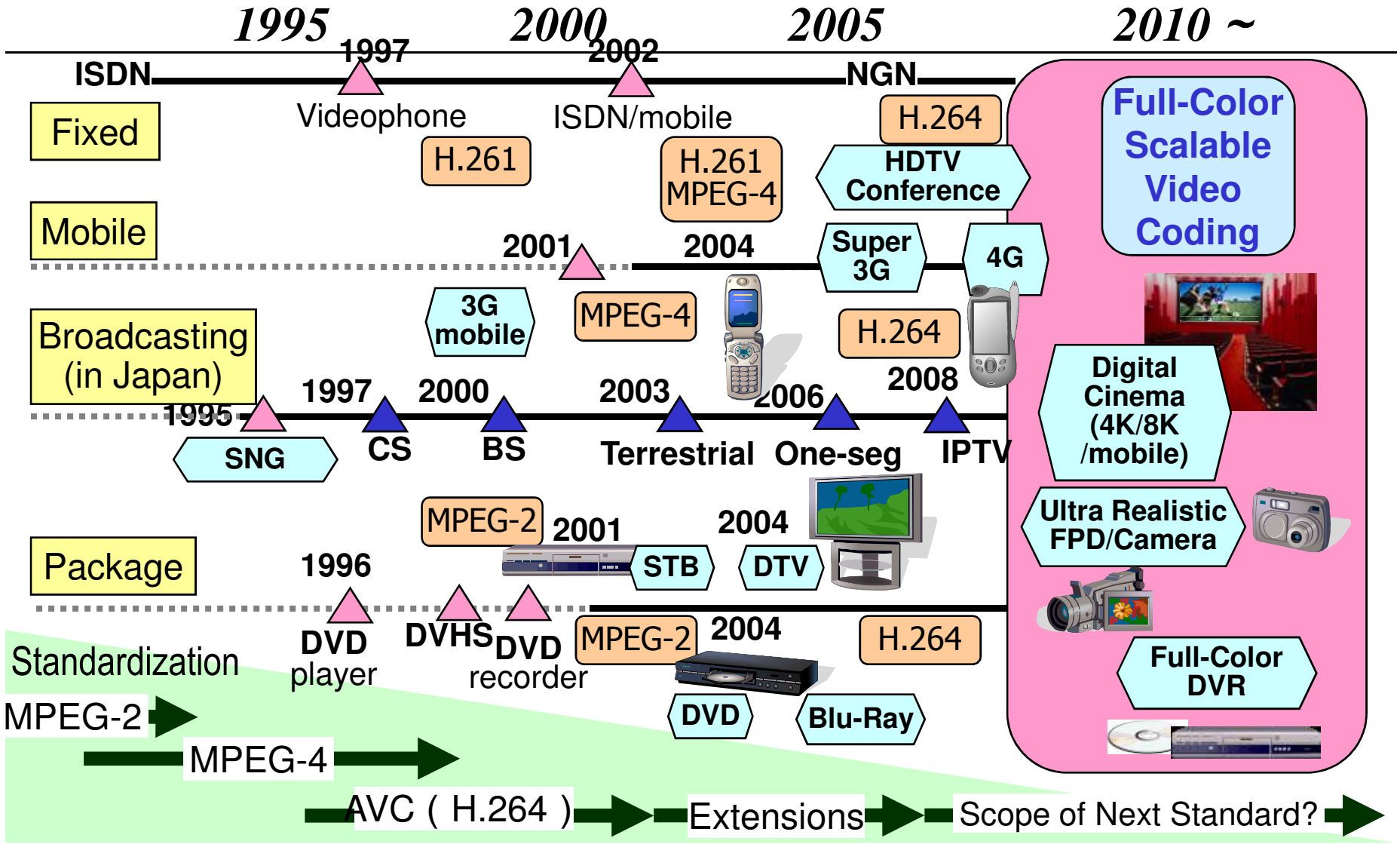
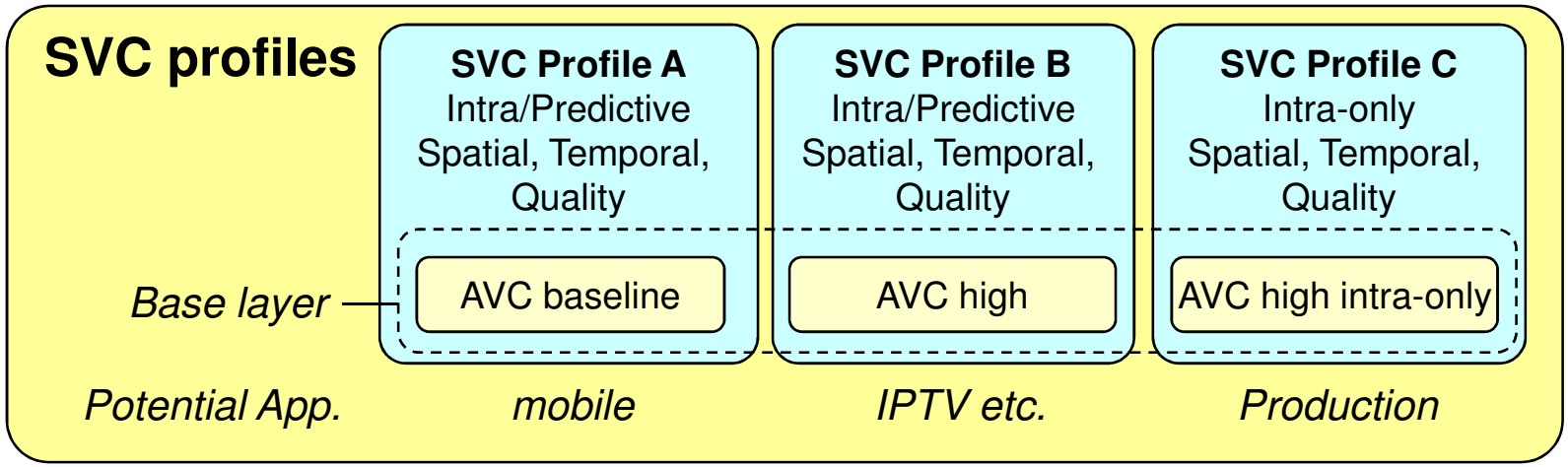
Progress of Video Coding Technologies toward Full-Color Standard



Scalable Video Coding in AVC/H.264

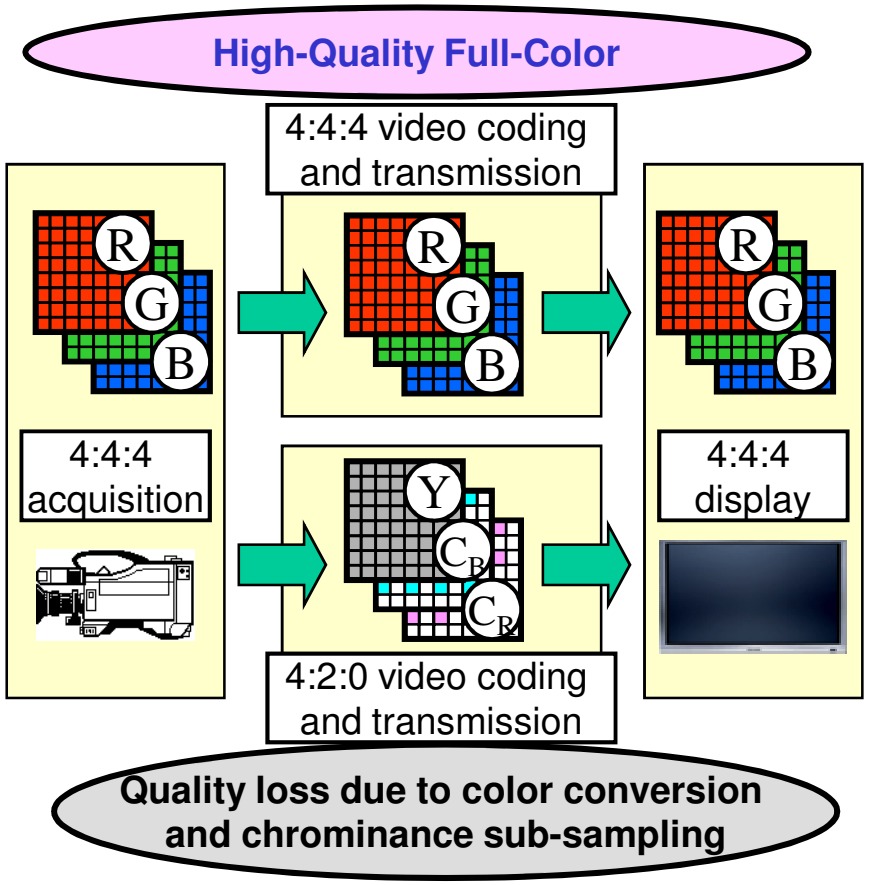
- Requirements
  - Efficient, flexible multi-use of contents over heterogeneous consumption environment (network, terminal, display size etc.)
- SVC Standard (ISO/IEC 14496-10/AMD3)
  - Competitive coding efficiency compared with single-layer coding
  - Final draft almost completed (by April '07)
  - 3 Profiles
    - Spatial/Temporal/Quality scalability
    - Supports **4:2:0 / 8bpp ONLY**



Full-Color (4:4:4) Video Coding Standard

*~ For more **realistic** visual experience ~*

- **Full-Color (4:4:4) Video Coding**
  - High quality video coding that can preserve color representation fidelity
    - Professional contents (Archives, Cinema, Other Digital Stuff etc.)
    - Suitable for "***All Digital System***" (FPD, Digital Camera, etc.)
- **4:2:0 Video Coding**
  - Legacy video signal in Analog TV era
    - Not the best for All Digital System
  - Loss of color fidelity due to color space conversion and sub-sampling of chrominance signal



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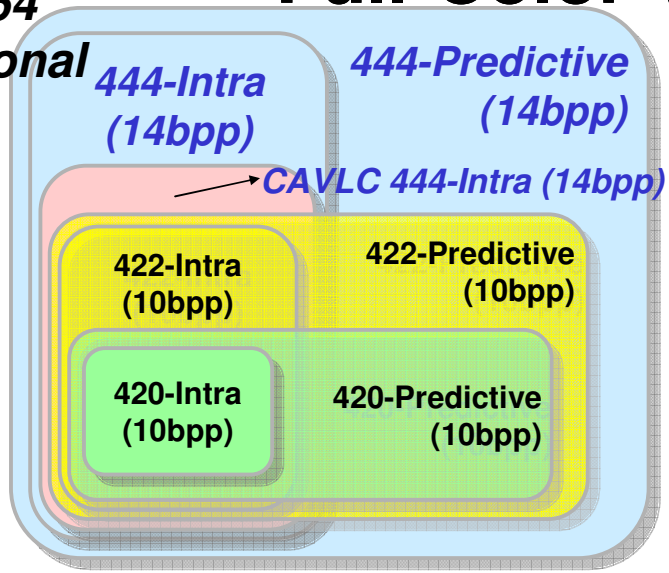
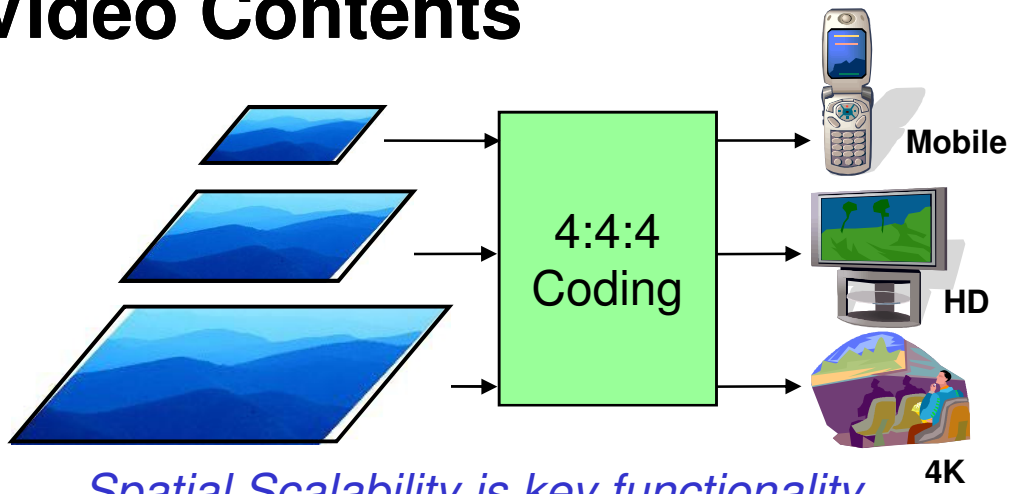
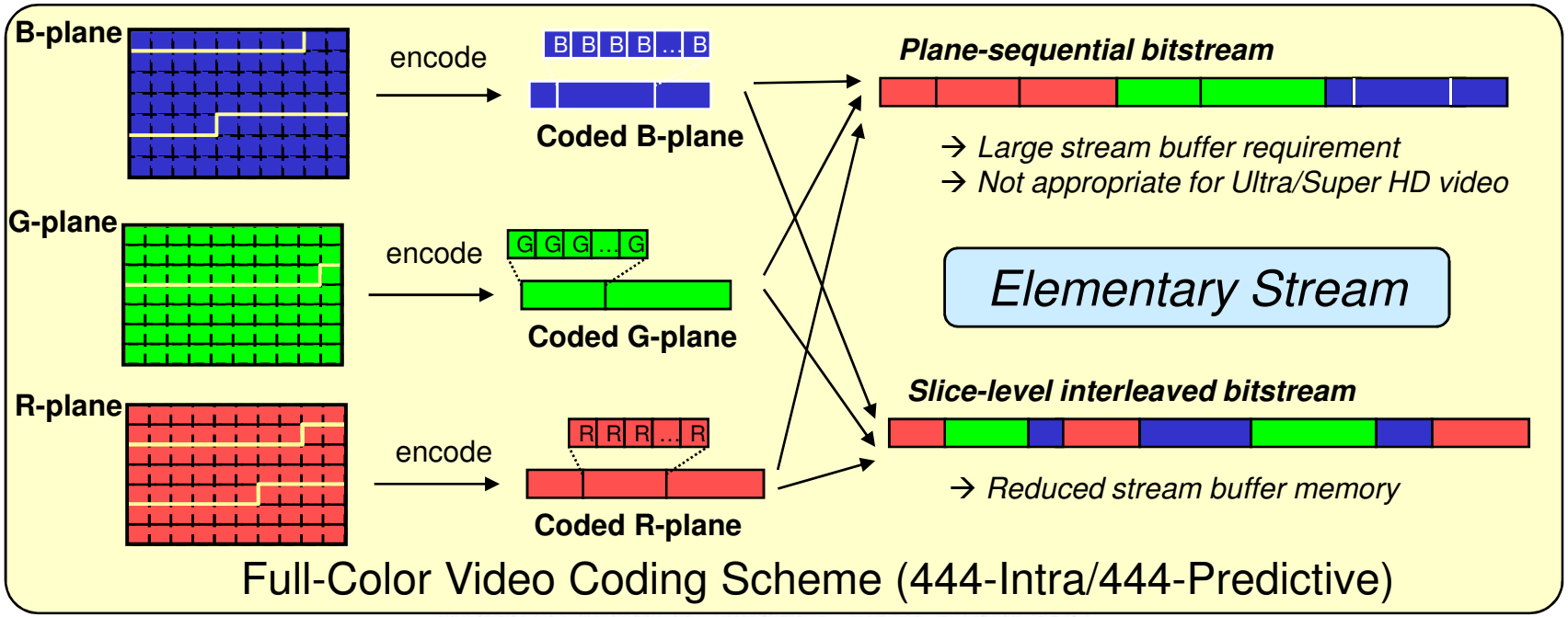
Scalable Service of Full-Color Video Contents

AVC/H.264 Professional Profiles





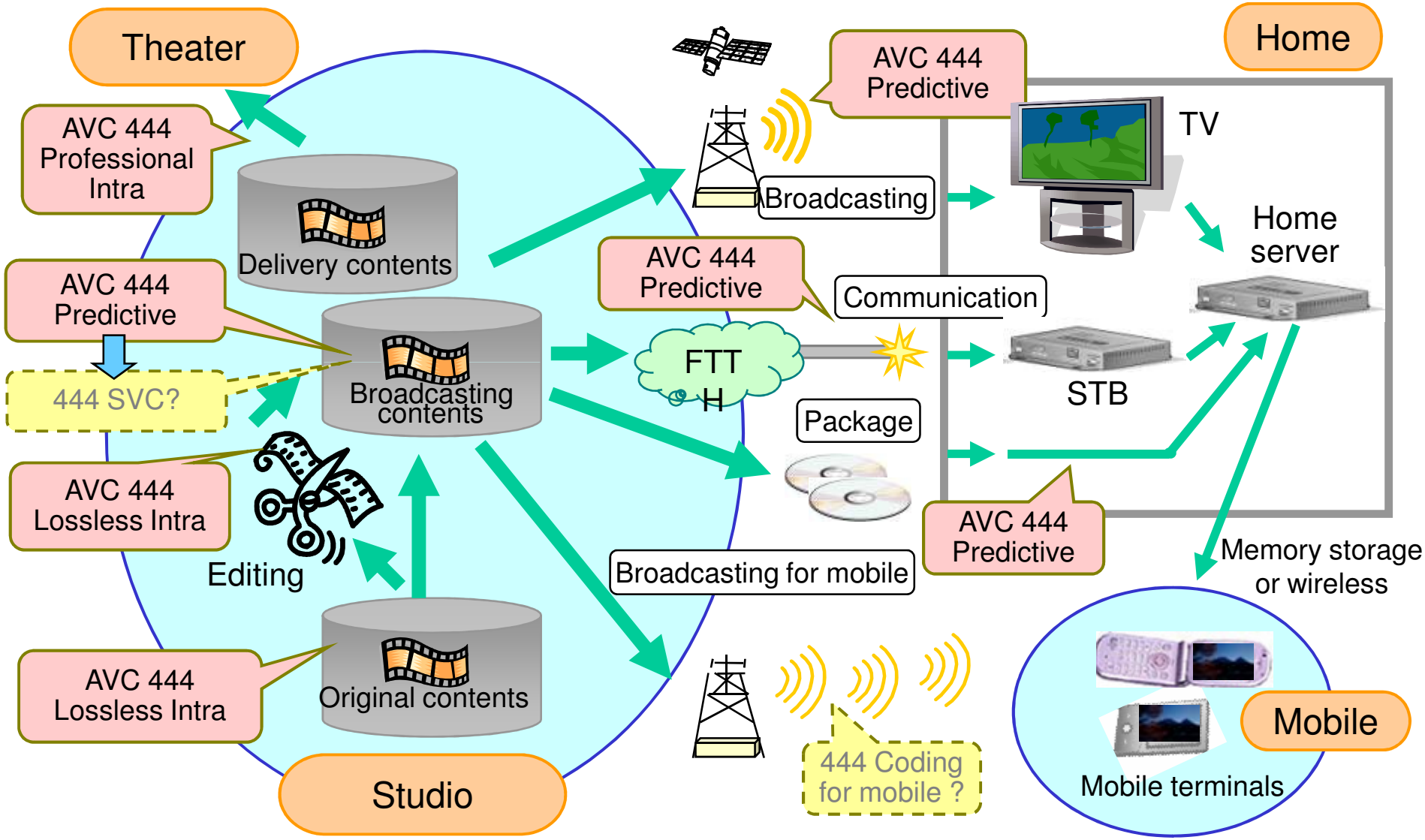
Spatial Scalability is key functionality for full-color video service



Full-Color Video Coding Scheme (444-Intra/444-Predictive)

Toward Ubiquitous Full-Color Video Services

4:4:4 Standard plays a key role for Ultra-Realistic Video Services



Conclusion

- FMC is essential requirement to realize ubiquitous service environment
- Video Content Sharing will be a killer application for next-generation FMC network
  - Digital Home to be linked to Mobile Terminal
  - Additionally, IP-based Satellite is expected
- Video Coding Technology should be evolved to Full-Color Standard that will realize scalable video content services
- Full-Color (4:4:4) Video Coding is ready NOW
  - To enjoy ubiquitous and realistic video service through next-generation FMC network