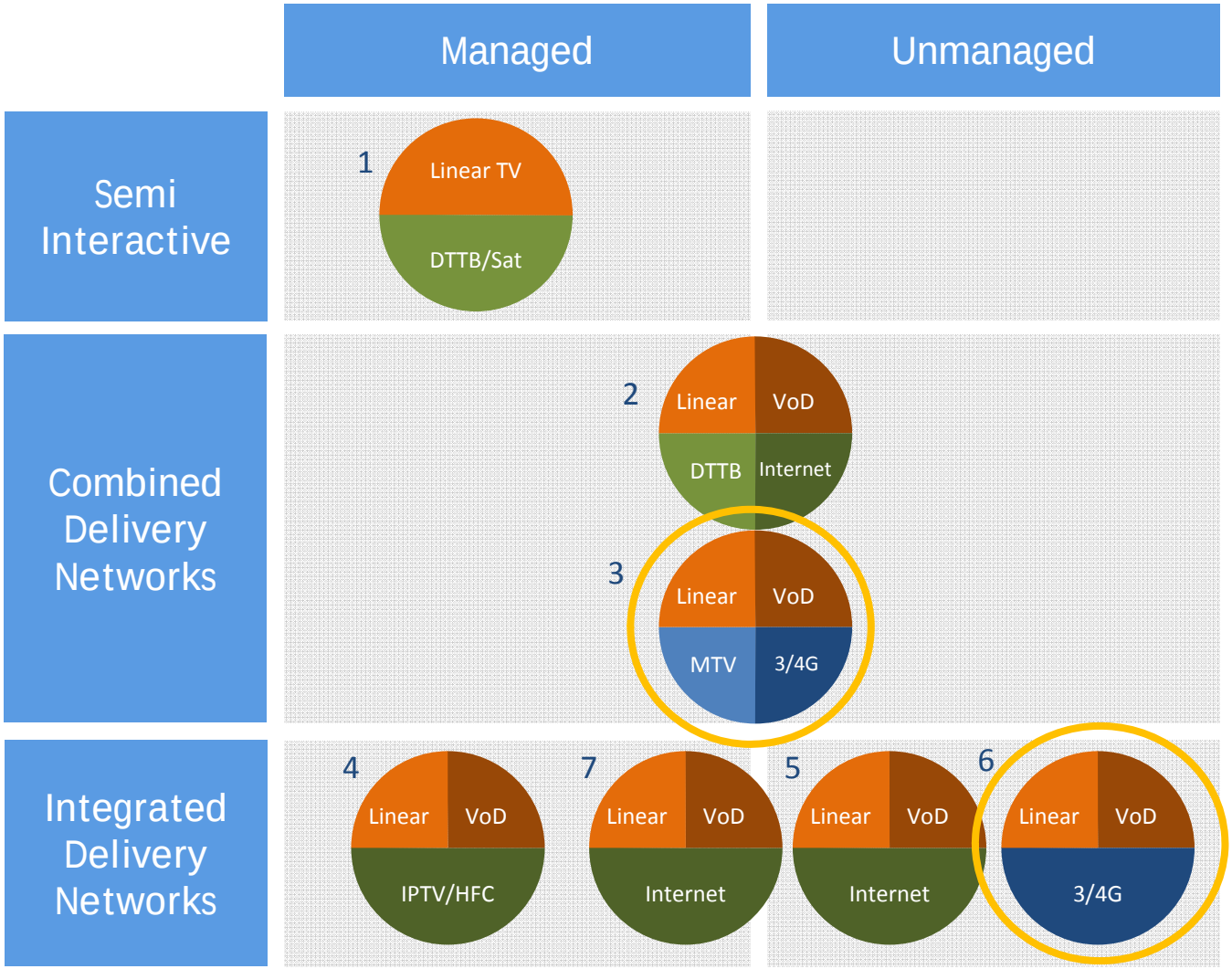
Session 1
Interactive Multimedia & Mobile Video Services

Peter Walop, ITU expert

Presentation Overview

- Defining services
- Why Mobile TV?
- Mobile Video Challenge

1. Defining Services



Source: ITU

1. Defining Services

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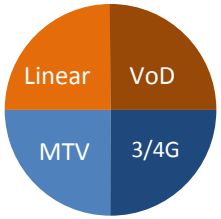

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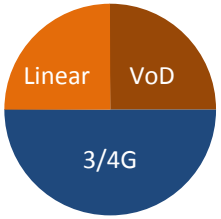
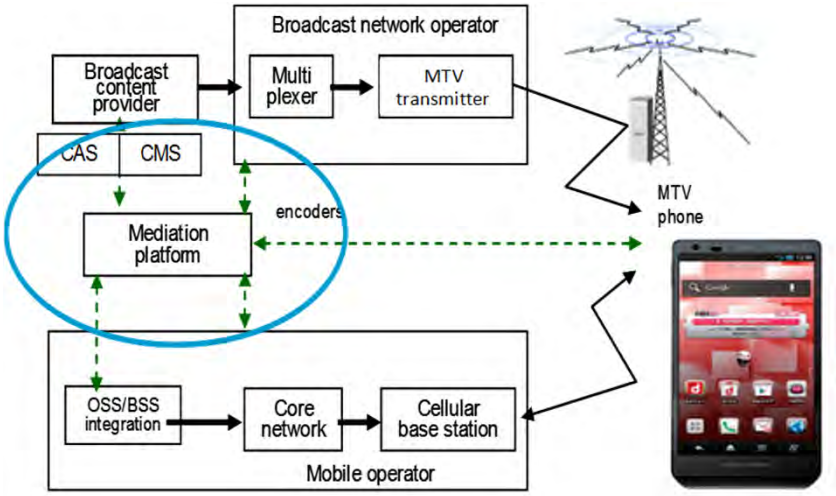


Source: KBS, KT

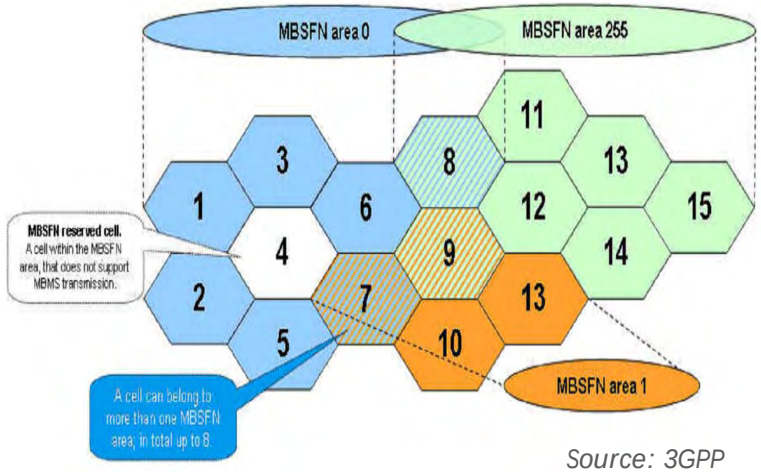
1. Defining Services

MTV



- Like digital radio & TV networks
- CAS often DRM based
- Mediation platform
- In-band systems can switch between base service & MTV

LTE-eMBMS

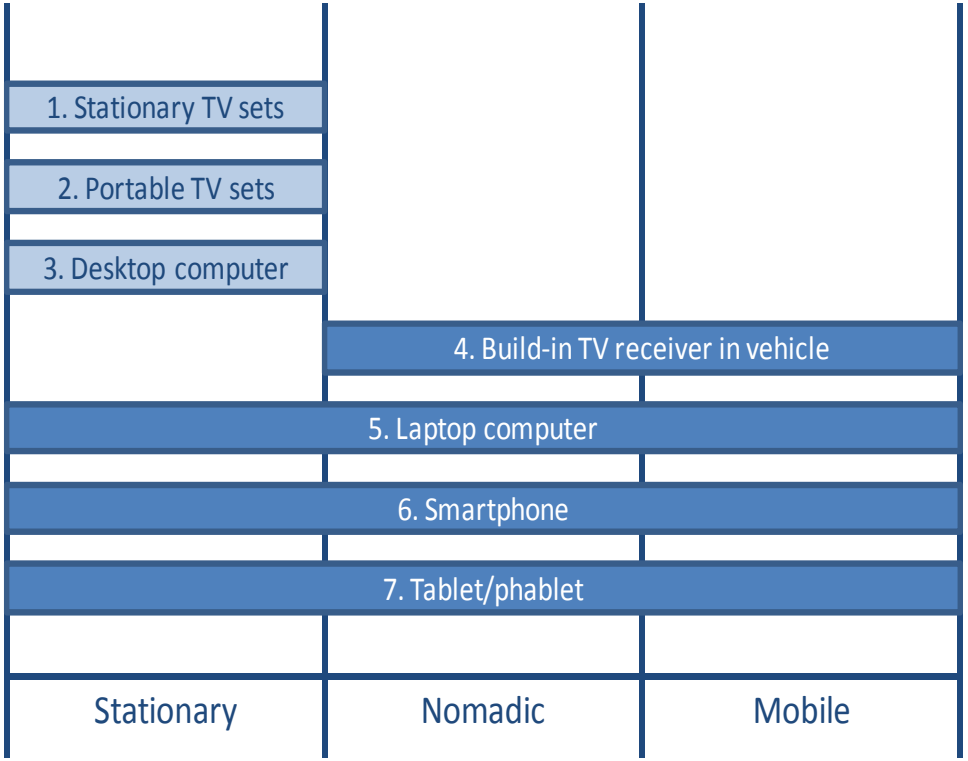


Source: 3GPP

- eMBMS is LTE system's evolution for broadcasting (based on LTE-A)
- Flexible switching between *unicast* and *broadcast* mode (per system cell and time period)

1. Defining Services

Combinations of user environments and receiver types



Source: ITU, EBU

- Requirements per use case are different
- Two technology platforms:
  - Broadcast networks
  - Mobile networks

Presentation Overview

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- Mobile Video Challenge

2. Why Mobile Video? .. Again?

System	*In commercial operations?*
T-DMB/AT-DMB	**Yes**, T-DMB only. For example in Korea, Ghana & China
ATSC-M/H (in-band system)	**No**, tested in the USA and Canada (2013)
ISDB-T 1Seg (in-band system)	**Yes**, for example in Japan, Brazil, Costa Rica & Chile
ISDB-Tmm	**Yes**, in Japan only
DVB-H	**No**, all DVB-H services discontinued
Media-Flow	**No**, all Media-Flow services discontinued
DVB-T2 Lite (in-band system)	**No**, only tested, for example in the UK and Italy (2012/13)

Source: ITU

Delivery of mobile television & video services started early 2000's:

- Mainly on broadcast networks as there was no LTE/4G

- DVB-H and Media-Flow discontinued

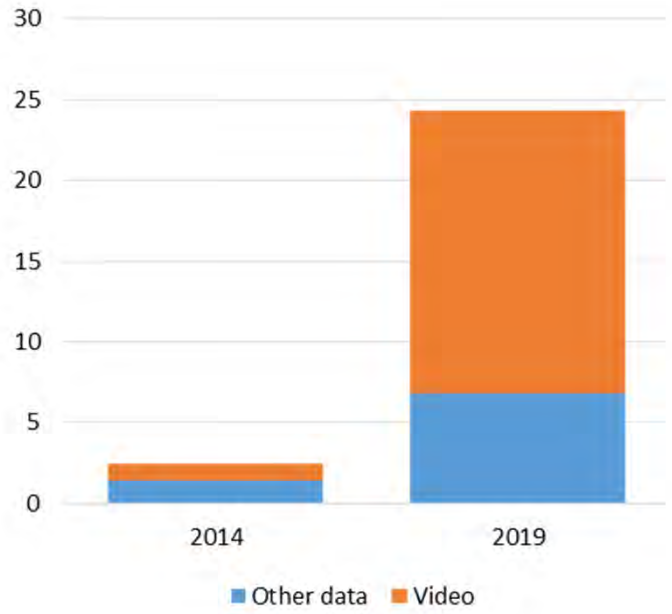
2. Why Mobile Video?

Because of Hockey.. sticks

2. Why Mobile Video?

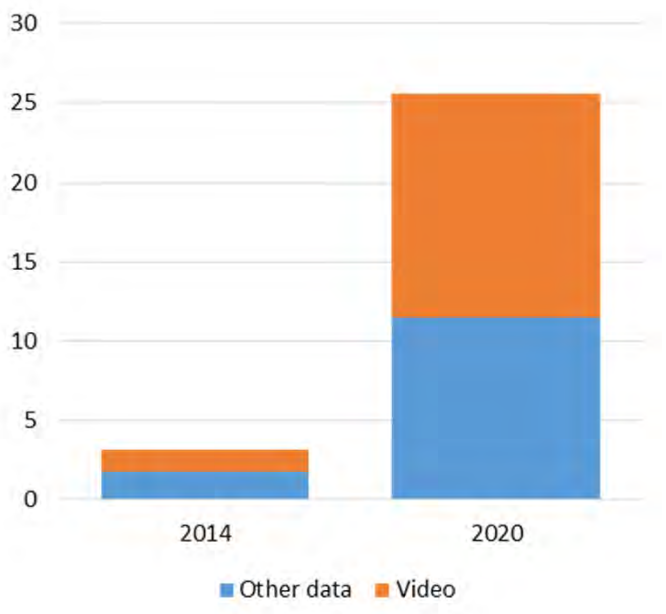
Global IP traffic (in EB/month)

Cisco



Source: Cisco VNI Index

Ericsson

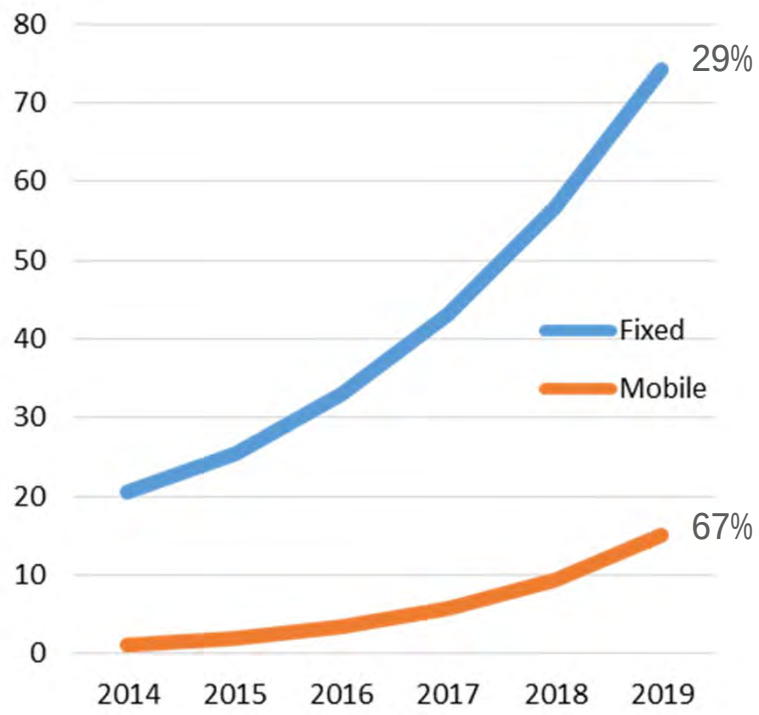


Source: Ericsson Mobility Report

- Video = VOD + linear TV services, fixed and mobile
- Most growth from consumers

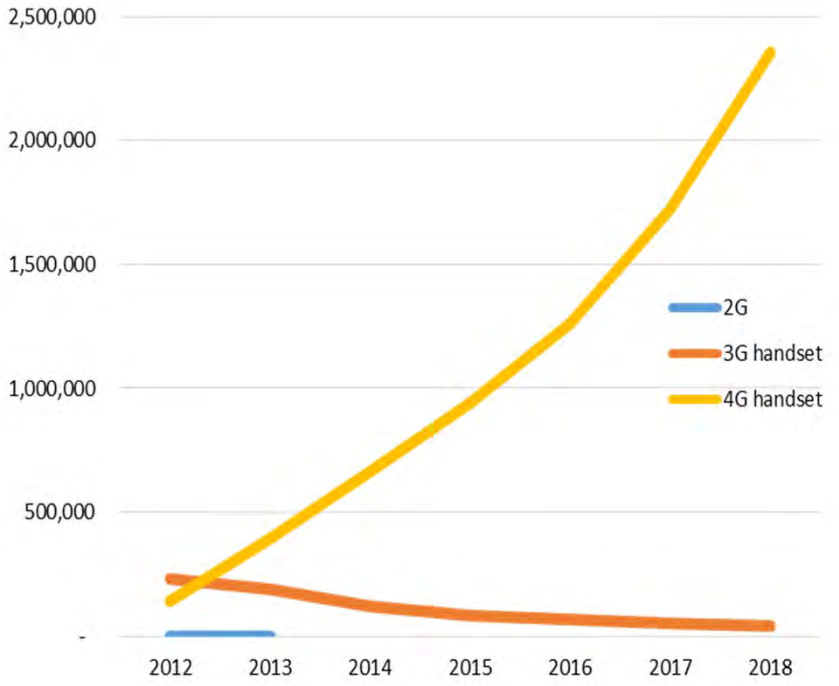
2. Why Mobile Video?

Global Consumer IP Video (TB/month)



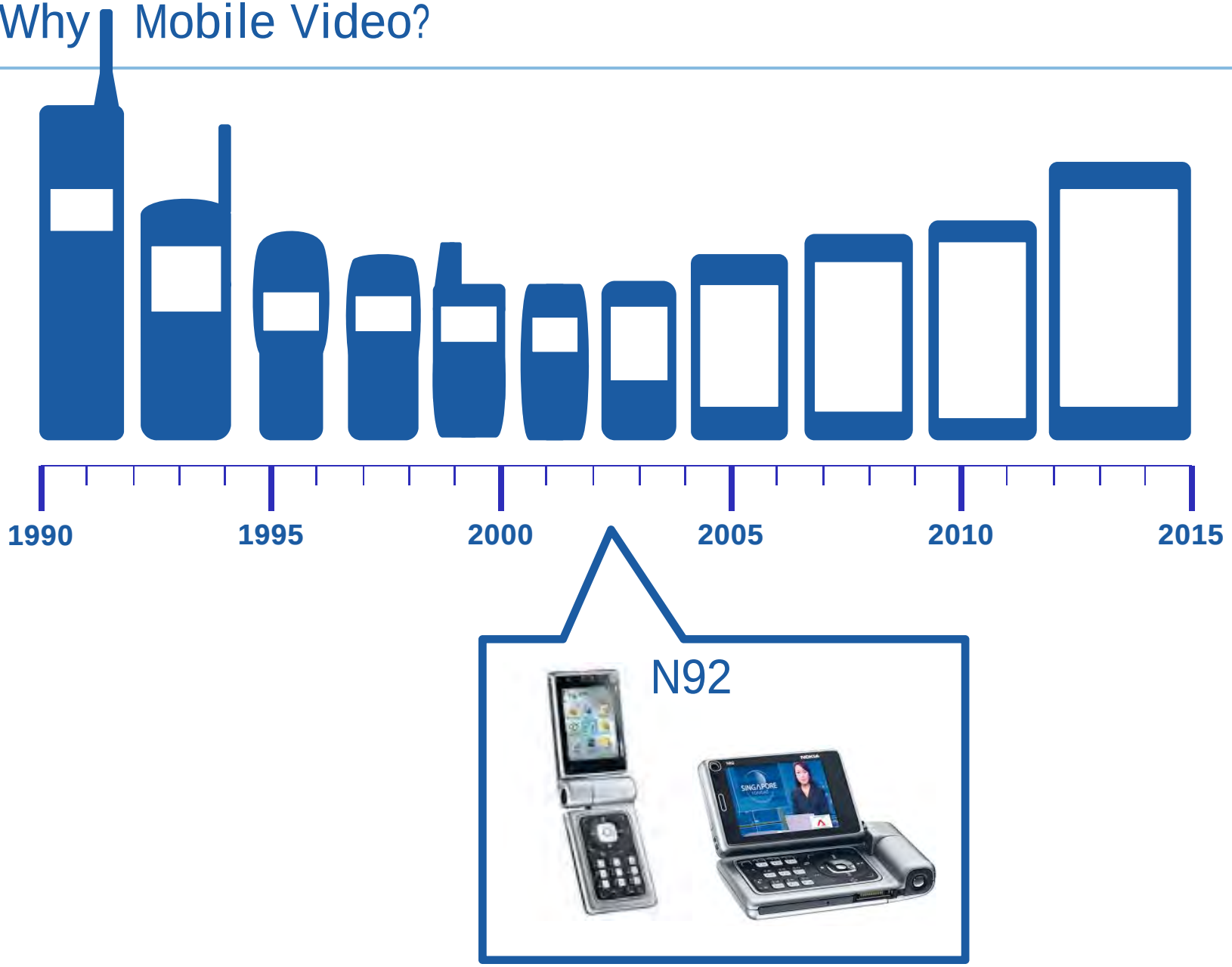
Source: Cisco VNI Index

Traffic per Handset Type in Korea (TB/year)



Source: Analysis Mason

2. Why Mobile Video?



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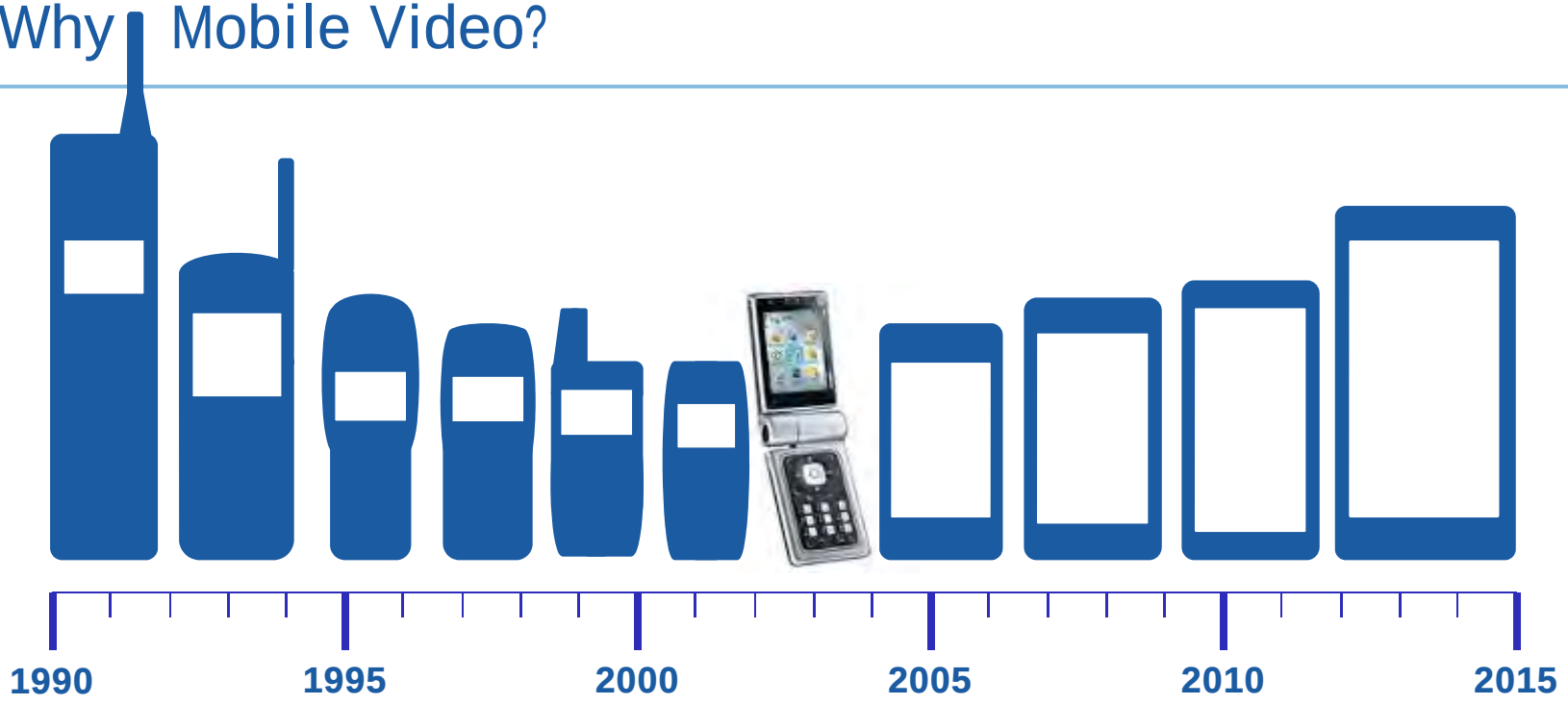

2. Why Mobile Video?

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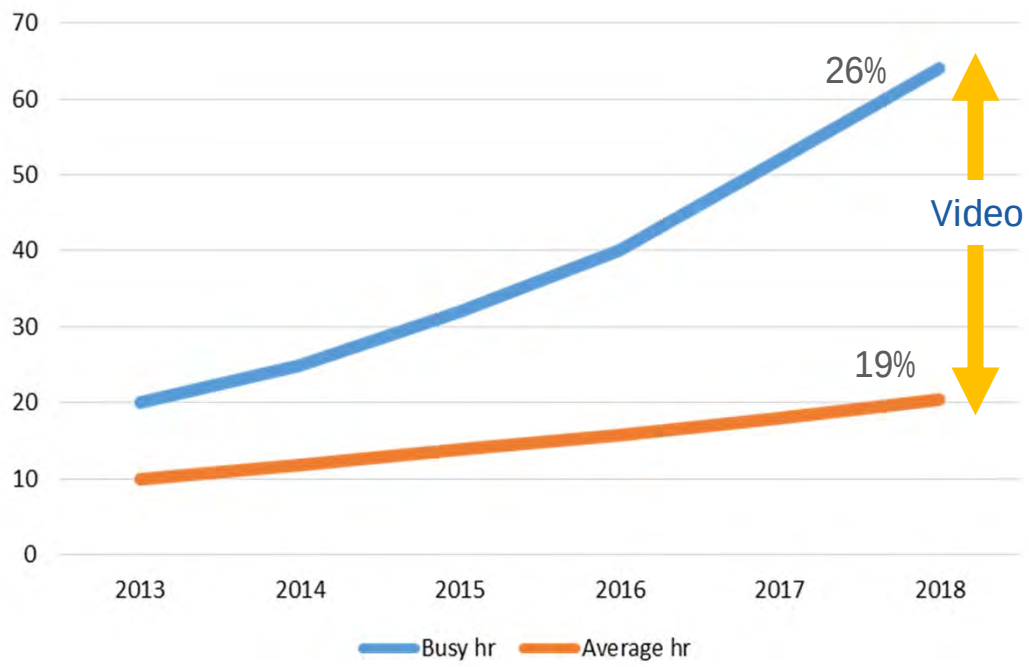
3. Mobile Video Challenge

Busy Hour vs Average Hour – SE Asia (Gbps)

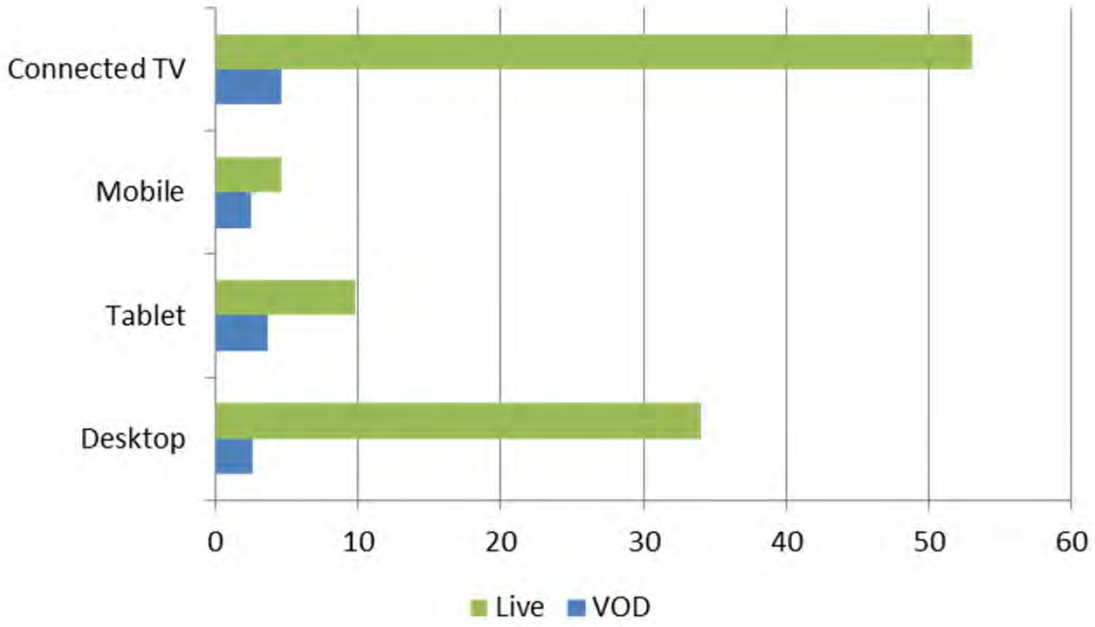


Source: Cisco VNI Index

- Globally busy hour will be 3.3 x higher than average hour by 2018
- Driven by video delivery
- Video carried over IP networks, fixed and mobile

3. Mobile Video Challenge

Minutes per Session per Device Type

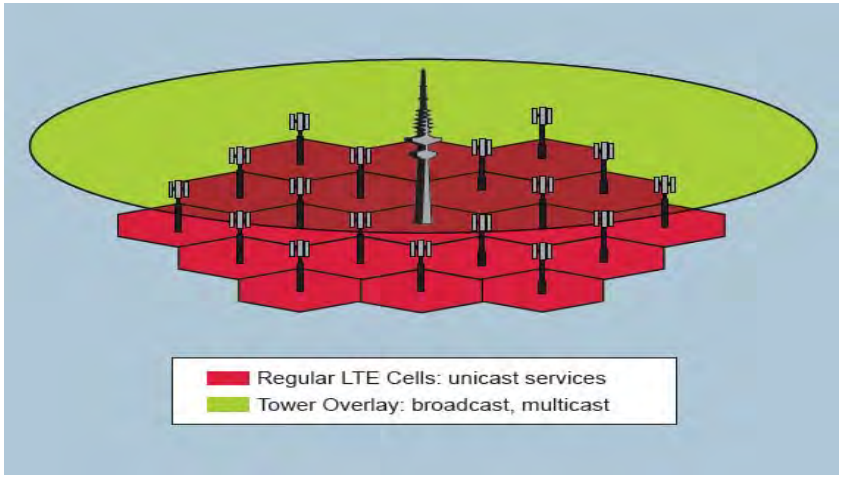


Source: OOYALA

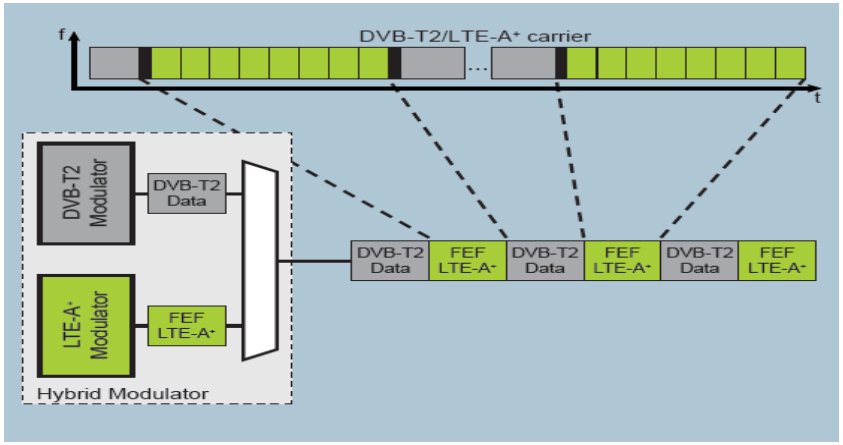
- How many VOD/Live session?
- Is demand restricted by available capacity and/or price?
- Is demand for Live on mobiles distinct or subset of premium content?

3. Mobile Video Challenge

High Tower, High Power overlay



In-Band system with DVB-T2



Source: TDF, GatesAir

- Off-loading needed:
  - Fixed/Wi-Fi from mobile devices
  - Fixed/Wi-Fi from Wi-Fi only devices
- Live video off-loading to:
  - LTE eMBMS
  - MTV system
  - Hybrid (Tower Overlay)
    - LTE A+ hand-sets
    - Mediation platform
    - Business model

Thank you !

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