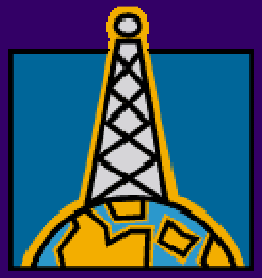
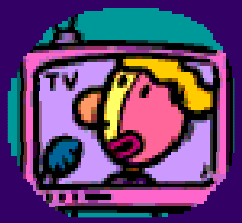
The Emerging IPTV Requirements for Wireless Transport Networks



— ***Embrace Transport Network***



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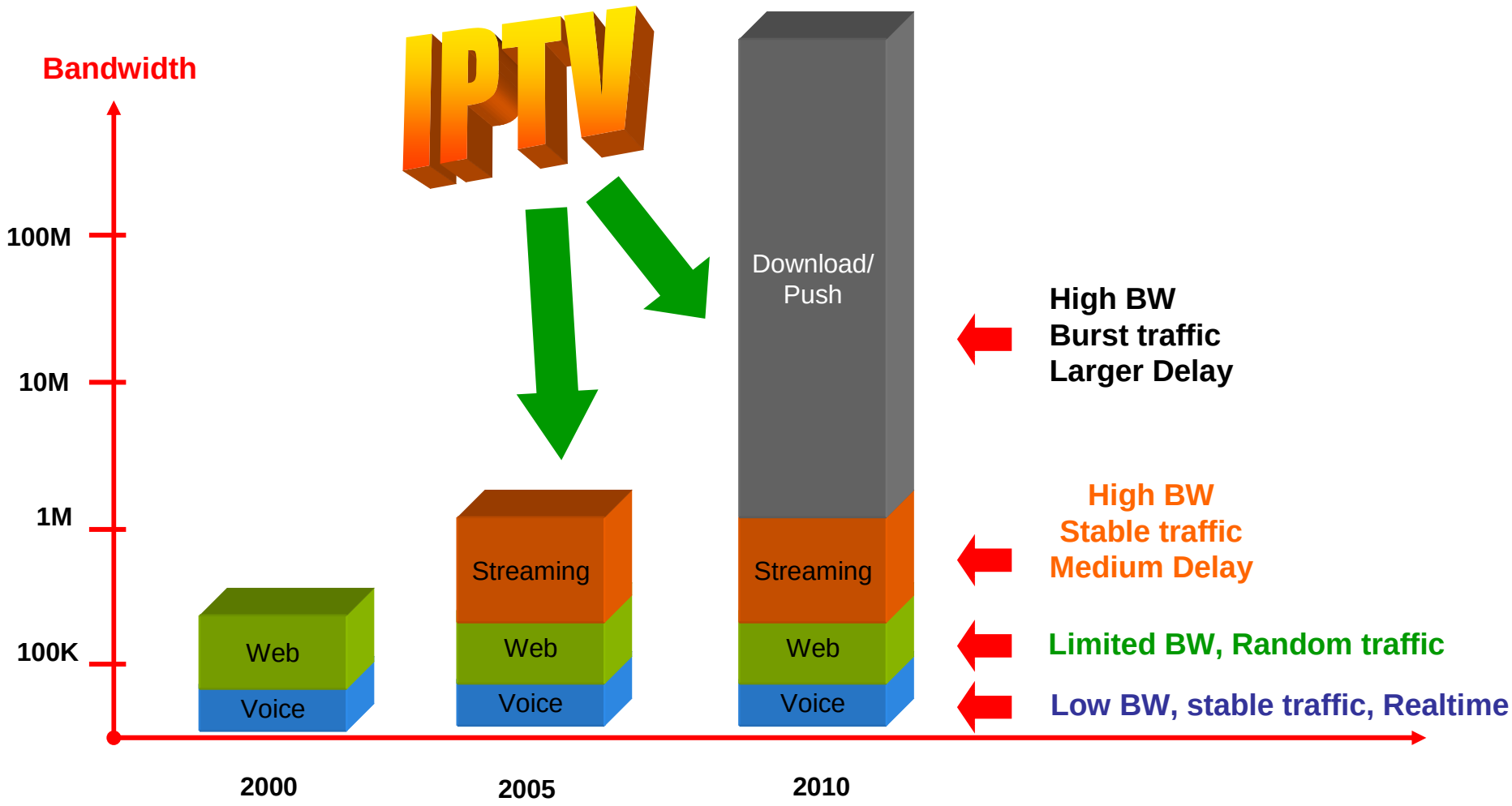
Service Changes Traffic Pattern



A Transport Revolution: from Division to Assembly

- ***Past*: Arithmetic resource distribution for voice communication**
  - Network was only designed for end-to-end transport
  - Allocating link resource by fixed, static and tiny granularity
- ***Now*: Still arithmetic distribution for data and streaming services**
  - Store-transfer is enabled in switches/routers
  - Computing, storing and transfer in terminals
  - Sharing link resource by fixed, static and huge granularity
- ***Future*: Statistic resource allocation for IPTV burst data services**
  - All transport nodes are capable for computing, store and transferring
  - Involving edge nodes and terminals into peer to peer computing
  - Dynamic monitoring, prediction and allocation with all resources

IP is an Orthogonal Transform, How about Transport Network?

- **Control complexity in future transport networks**
  - Dynamic monitoring of the network status
  - Real-time prediction of traffic status
  - Time-scale Tiny-granulating resource allocation
- **Efforts for deducting the complexity of network controls**
  - SS7 and IN for PSTN/ISDN/B-ISDN service controls
  - IP has achieved service independency and 1st-order adjacent dependency by an orthogonal transform on network layer
  - P2P applications are route-independent by an overlay virtual link layer in application layer over IP network
- **It is a timely opportunity to build a new transport network theory**
  - Developing peer-to-peer transport network based on emerging technologies
  - Developing new orthogonal transform algorithm for link layer network
  - Providing huge bandwidth, accurate resource allocation for QoS guaranteed IPTV

Emerging IPTV is spurring a new transport network theory!

Thanks !

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