



International Telecommunication Union

Networked PVR based services and application over IPTV

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US Consumer Attitudes toward Interactive IPTV Applications

■ List of applications

- Time Shifted TV
- Follow Me TV
- Remote Programming
- Remote Parental Control
- Interactive Information
- Interactive Purchases
- TV on the Go
- Caller ID on TV
- Call Logging
- Do Not Disturb
- Voice Mail
- Voice Telephony via TV
- Watch TV with Online Friends
- Video Telephony/Video Chat
- Video Surveil

■ Result of the survey

Service	Interest	pay
Time-shifted TV	90	58
Video telephony/chat	53	48
Video Home Surveillance	43	37
Caller ID on TV	63	0

(In-Stat, 2006/3/1 US Consumer Attitudes toward Interactive IPTV Applications)



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Service classification & terms

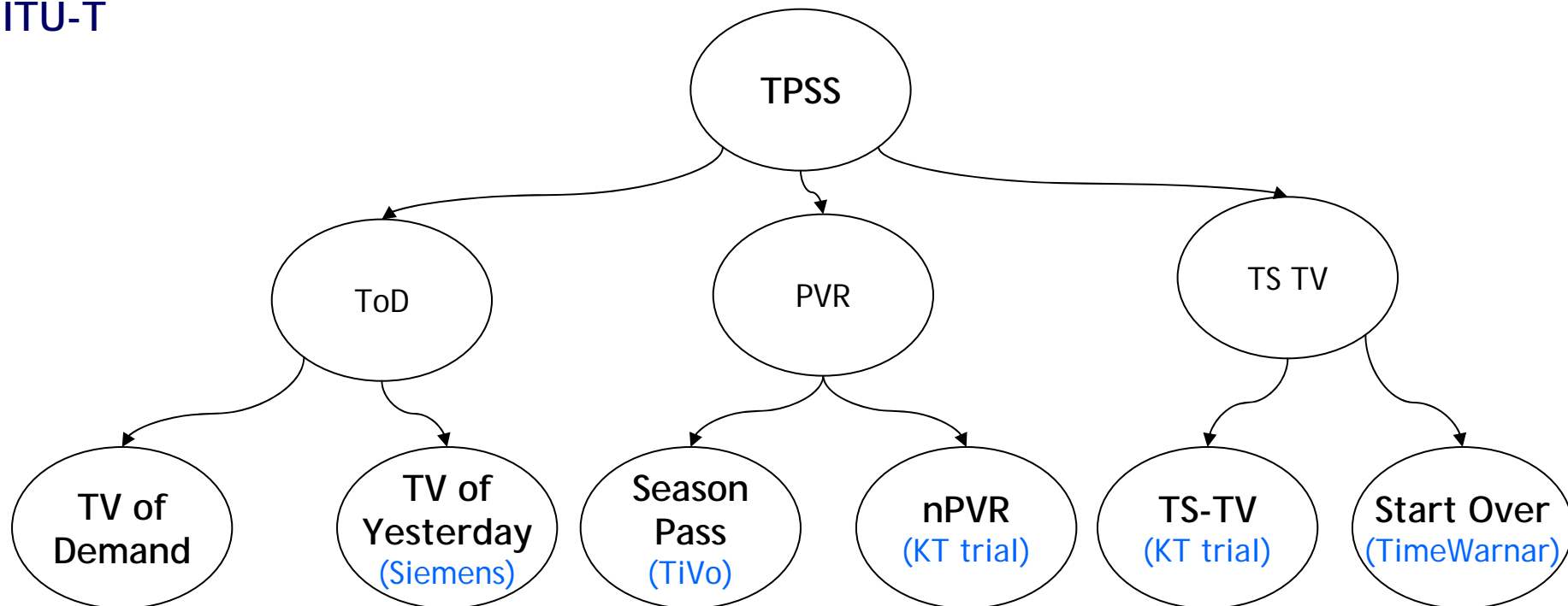
■ TPSS(TV Program Storing Service)

Service name	So called	Service definition
Time-shifted TV	Pause TV	<ul style="list-style-type: none">- record all the channels for 1 to 2 hours- ready to use at any time
TV on Demand	Time-shifted TV	<ul style="list-style-type: none">- record all the channels programs for 3 to 7 days- ready to use after hours
PVR	DVR	<ul style="list-style-type: none">- record the user requesting programs- ready to use after the program ended



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Example Services





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Space convergence

■ Any Time, Any where

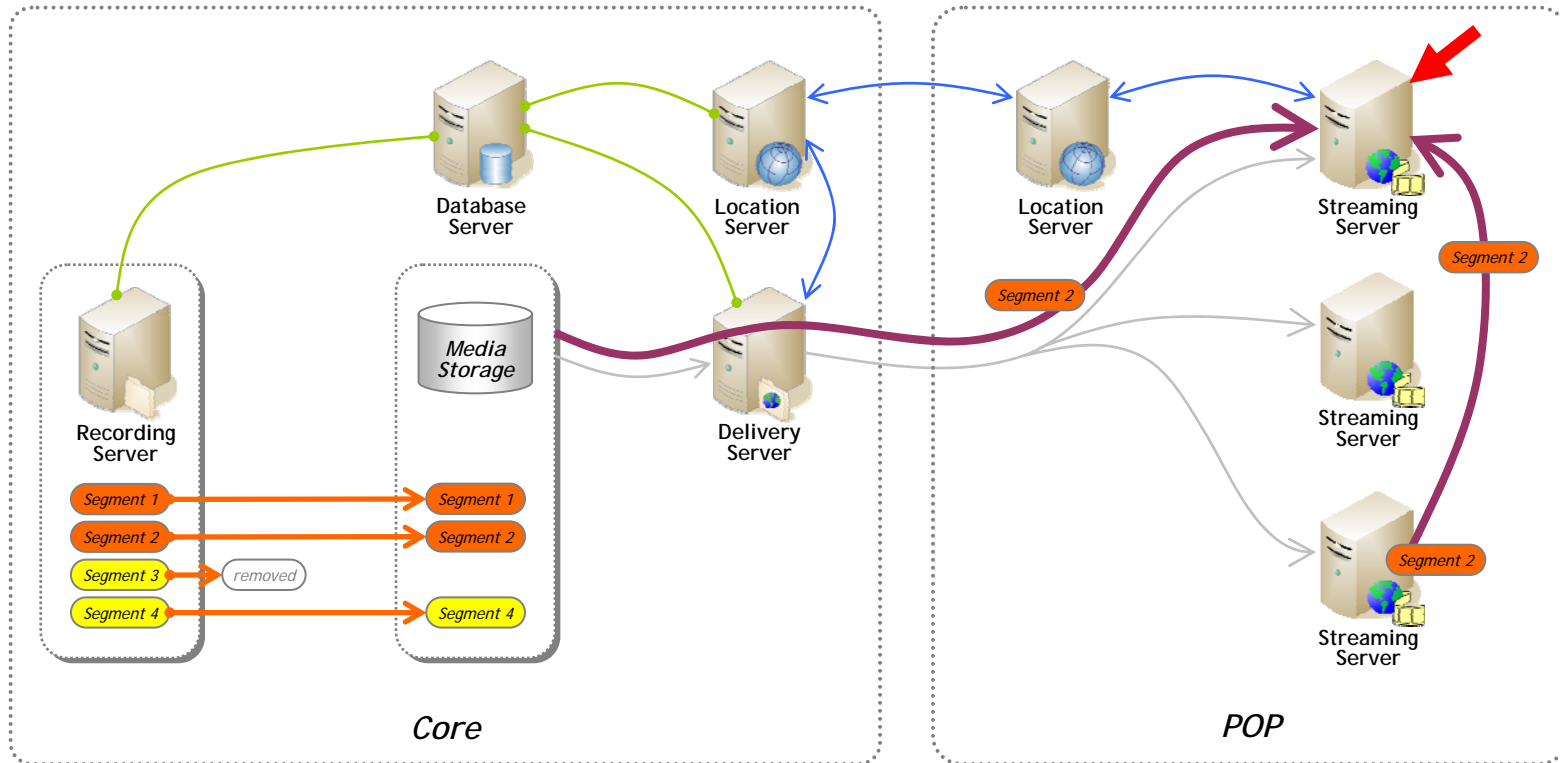


Follow me TV



TiVoToGo

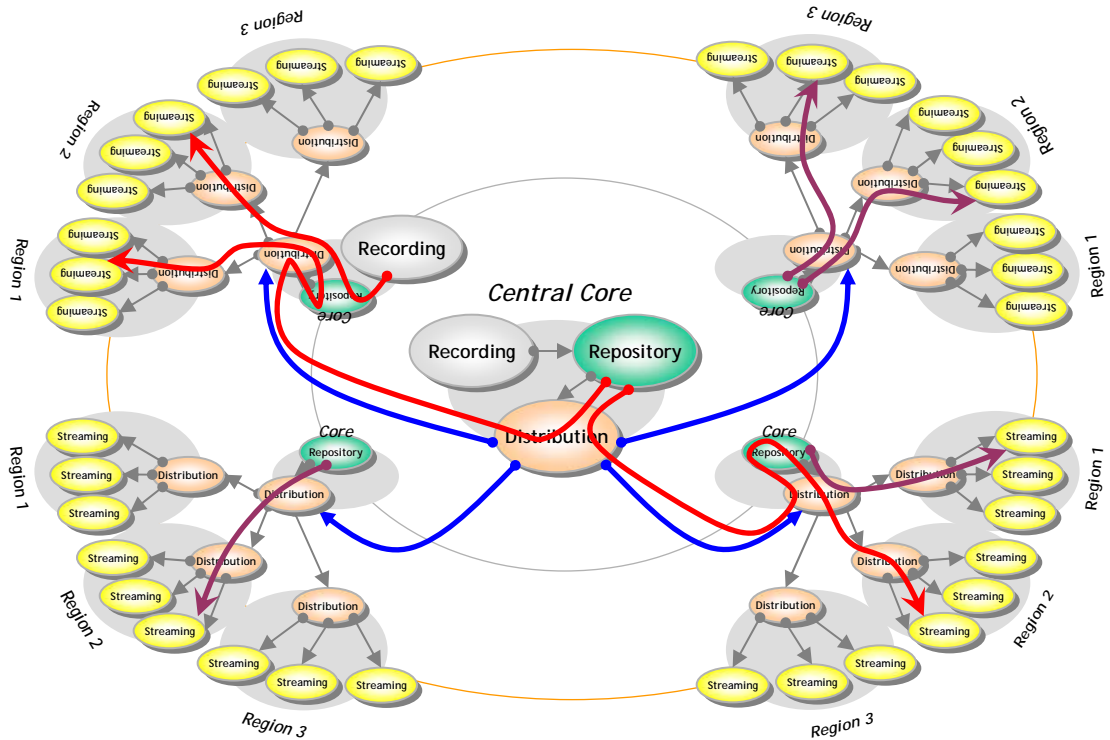
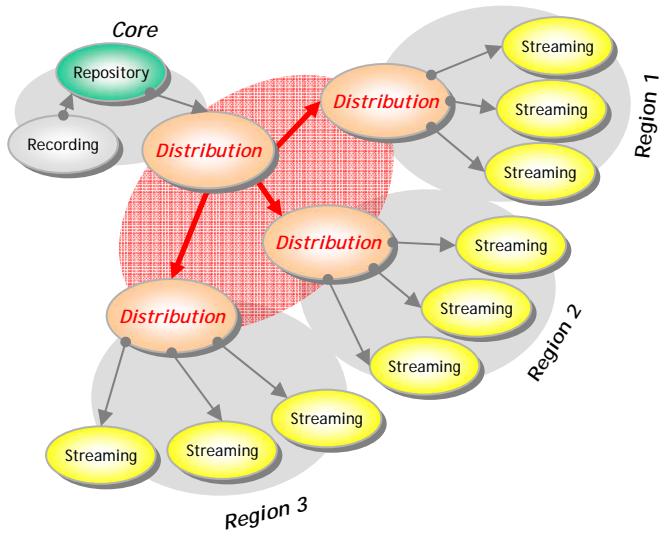
ToD system





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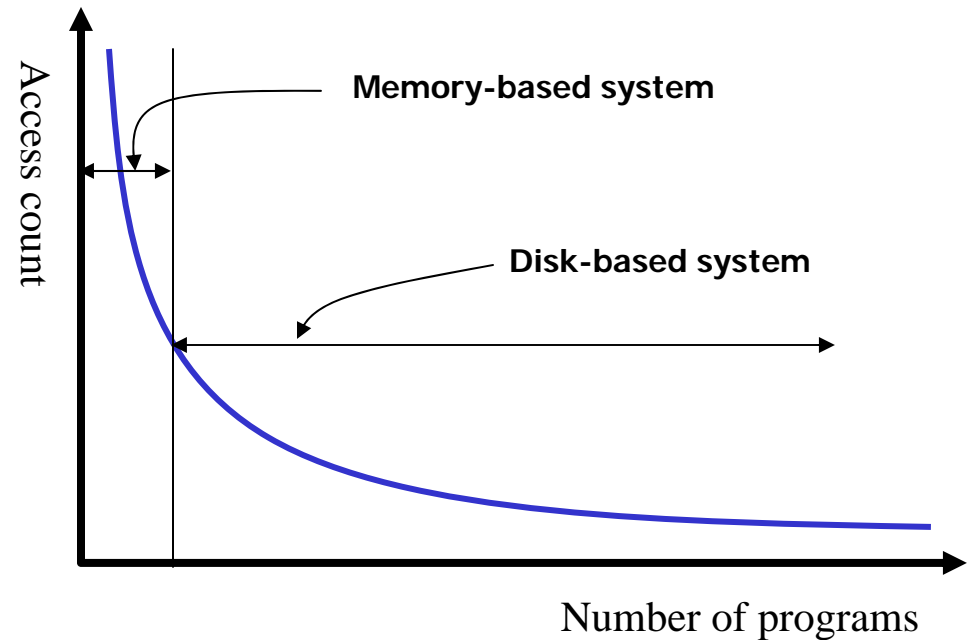
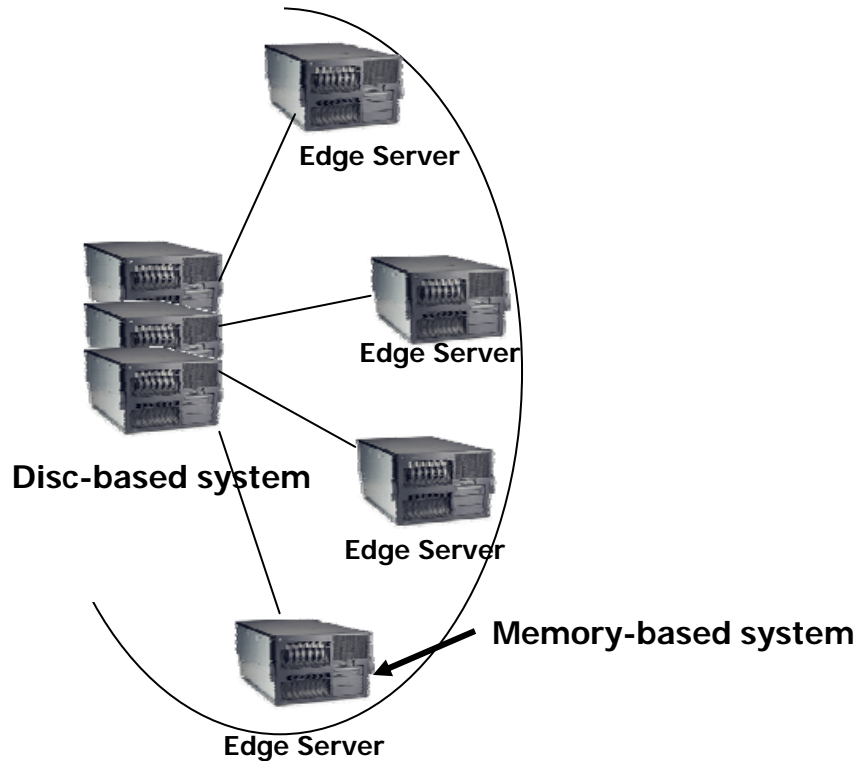
Deploy the ToD service



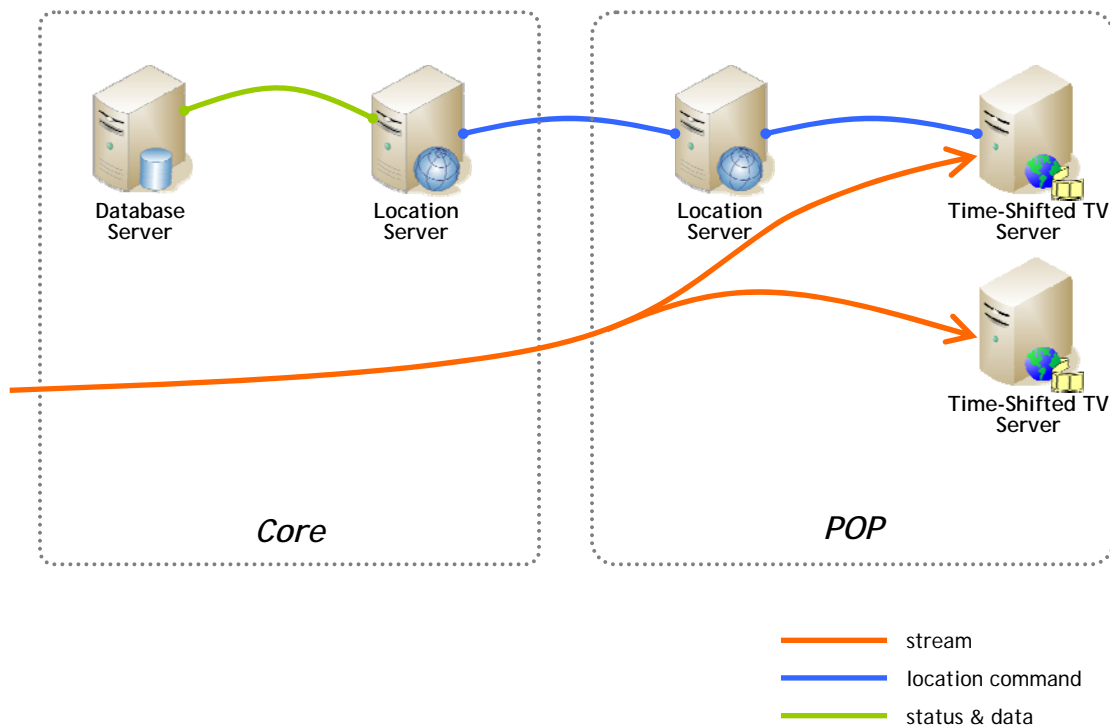
Distribution Control ————
Recording Core ————
Regional Core ————

Method of reducing TCO

- a few programs take large portion of total access count
- memory-based system's performance is higher than disk-based system's
- reduce about 30% of TCO

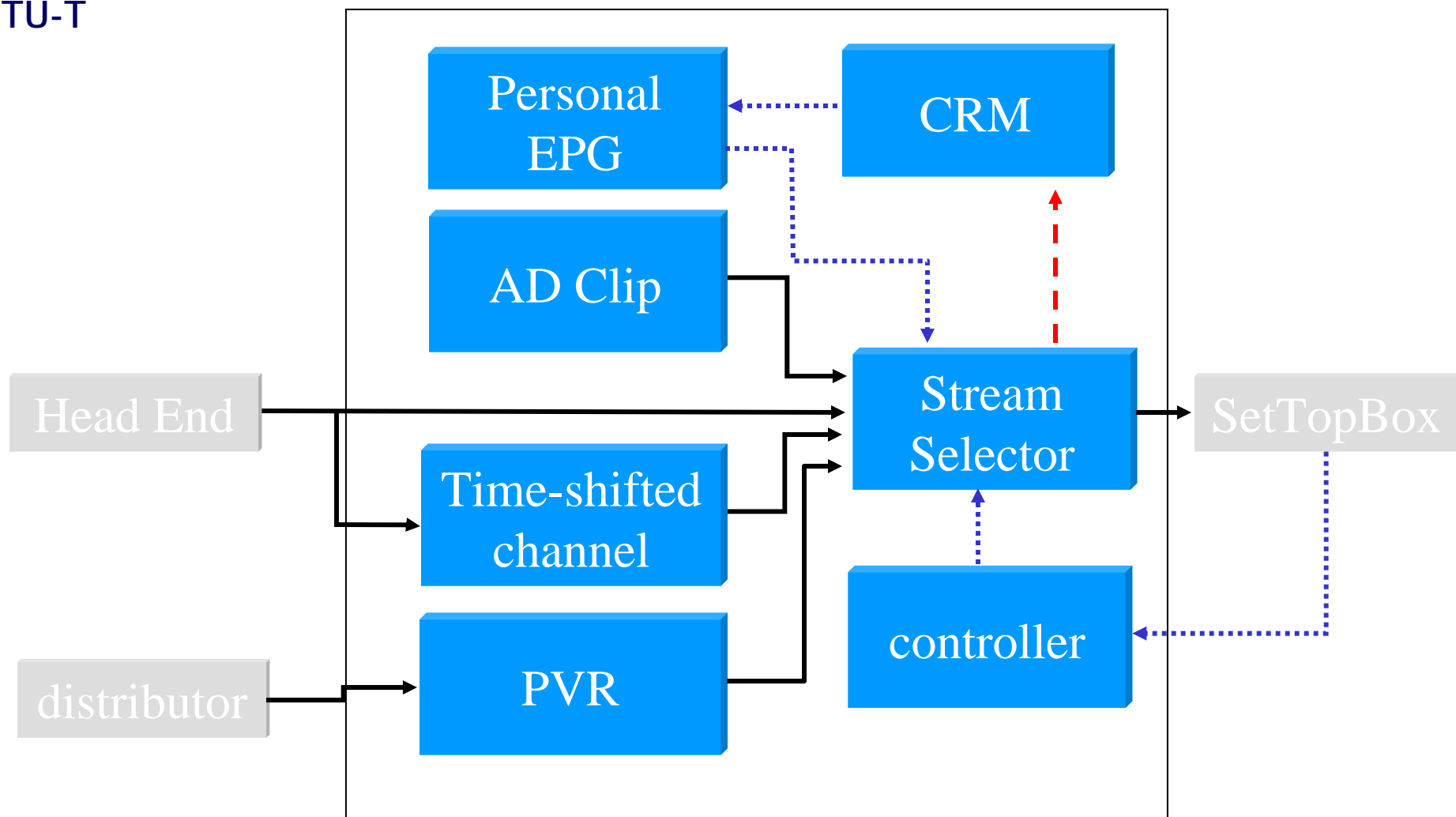


Time-shifted TV system



- Time-shifted TV do not need distribution servers.

Personal channel & AD service system



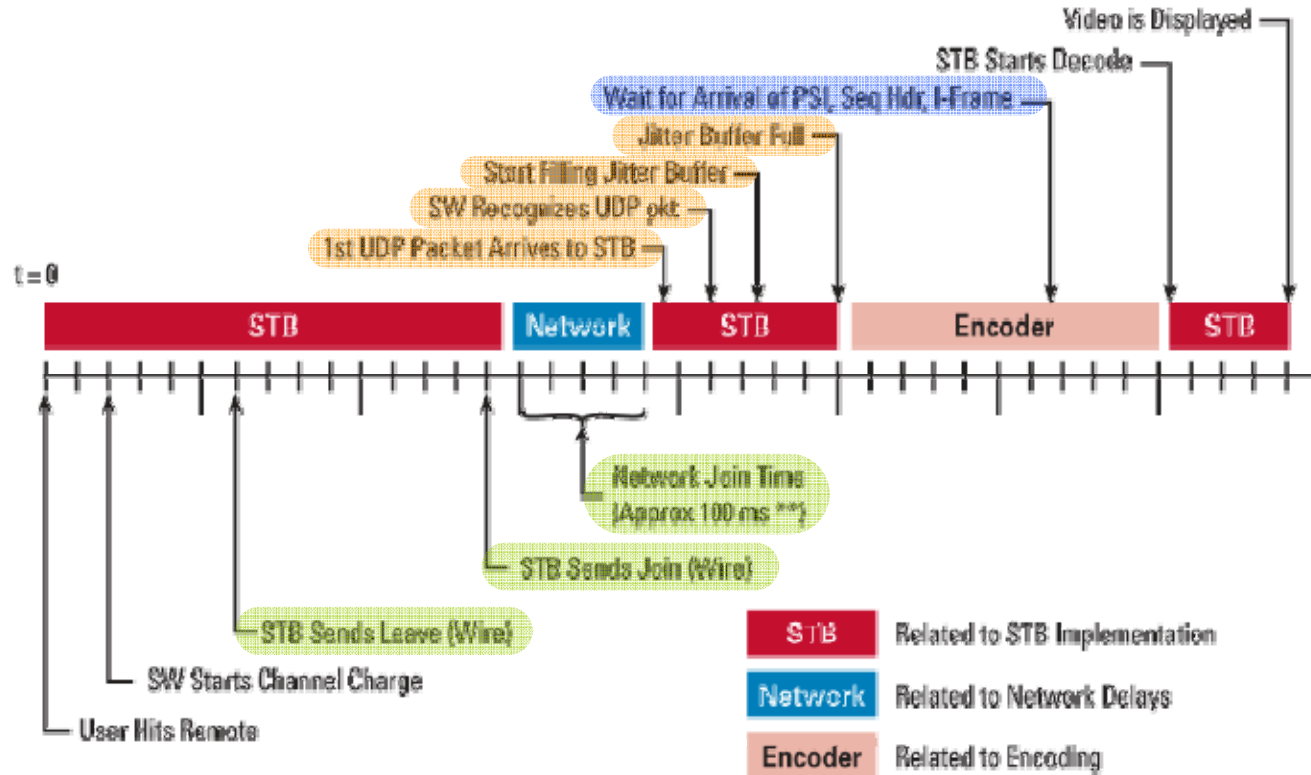


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Break down the channel zapping time

- Channel zapping time : 2 ~ 3 sec

Multicast



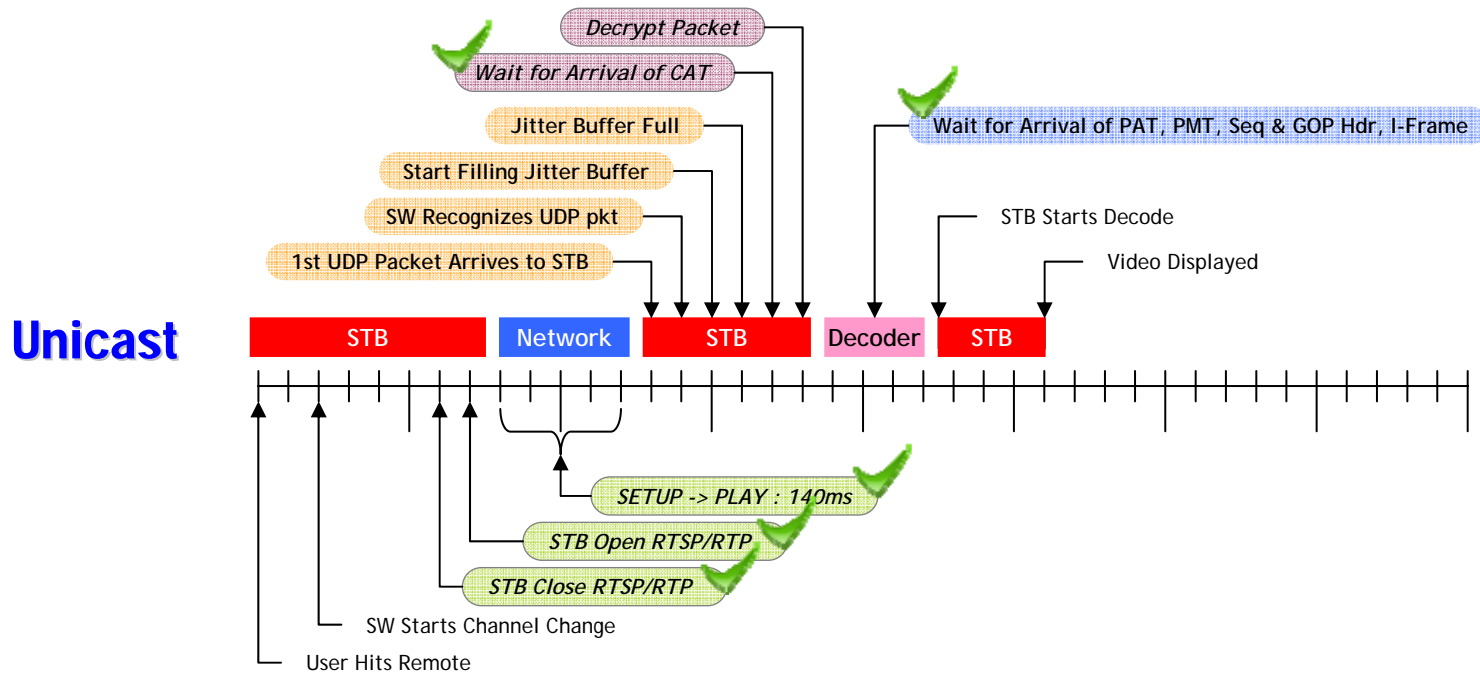
- quote from 'Managing delay in IP video networks', CISCO



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Channel zapping reduction method

- Channel zapping time : 0.5 sec



- error packet retransmission
- AD insertion for target AD
- stream monitoring