



## **Buffer Handling Media Attribute in SDP for Seamless Session Mobility**

draft-mingqiang-mmusic-session-mobility-attribute-00.txt

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## **Overview**

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- ◆ Requirements for seamless session mobility for video on demand
- ◆ Proposed media handling approach
- ◆ Possible protocol extension for the media handling approach
- ◆ Open issues, Next steps

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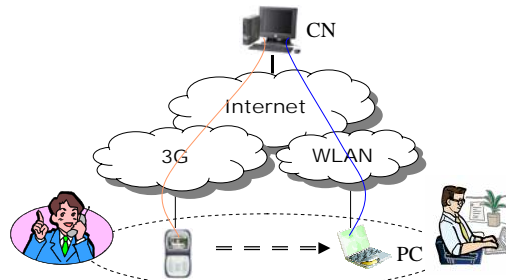
## About Session Mobility

### ■ Session mobility:

A mechanism that allows a user to transfer an ongoing communication session from one device to another device

### ■ Seamless session mobility (SSM):

- Minimum media disruption
- Instant media transfer



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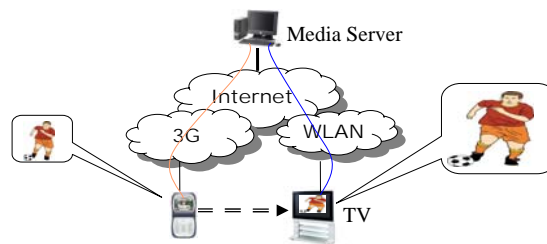
## Session Mobility for VOD

### ■ Target Application: VOD

### ■ Characteristics of VOD

- Data buffering is required in streaming clients for continuous playback
- Playback delay is caused by filling the buffer to a desired level

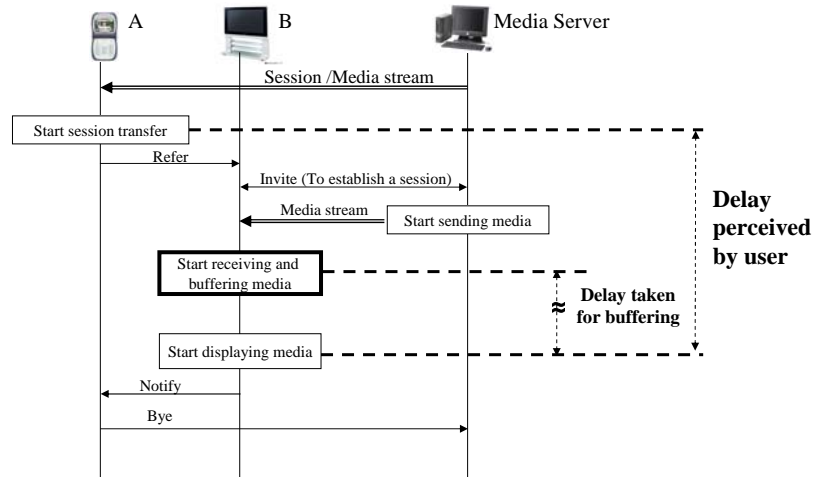
What happens during session transfer for VOD ?



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## Session Mobility Using REFER for VOD

- Playback delay in the selected device will be perceived by user



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## Requirements for SSM for VOD

### ■ What happened during session transfer for VOD

- Data buffering will be started in the selected device
- Buffering time will be perceived by user

Delay perceived by user = Session setup delay + Buffering time

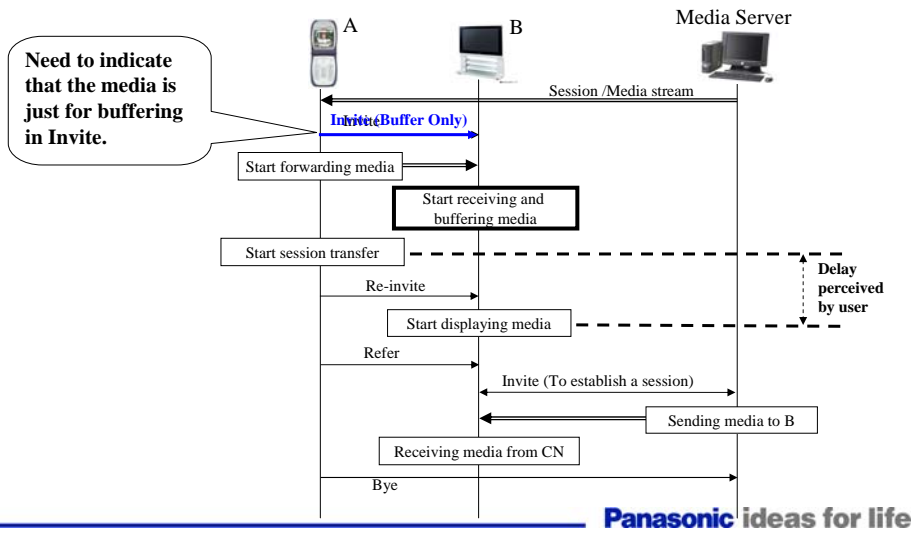
### ■ Requirement for SSM for VOD:

Need to eliminate the buffering time so that user can feel media is transferred instantly

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## Proposed Media Handling for Seamless Session Mobility

Forward media from A to B directly before starting session transfer



## Possible Protocol Extensions for Media Handling

### ■ Choice 1: SDP

Define a new SDP property attribute :

Attribute Name: a=bufferonly

### ■ Choice 2: SIP

➤ Define a new option-tag :

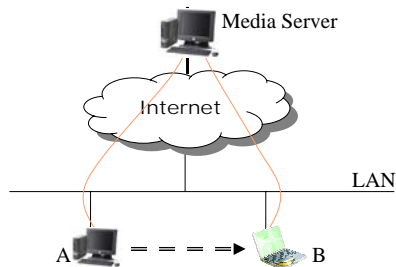
Option-tag Name: bufferonly

➤ Define a new media feature tag :

Media feature tag name: mediahandling="bufferonly"

## Performance

- Experiment Environment



	Media Server	A	B
CPU	2.4GHz	3.0GHz	1.6Ghz
Memory Capacity	512MB	512MB	512Mb
OS	Windows XP		
Streaming Platform	Microsoft DirectShow		
Buffer	100 frames		

- Experiment Results

	Minimum (ms)	Average (ms)	Maximum (ms)
Media Delay (without Media Handling)	3333	3409	3533
Media Delay (with Media Handling)	33	65	100

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## Seamless Session Mobility in IETF

- **Shacham's draft for session mobility**

Title: Session Initiation Protocol (SIP) Session Mobility  
(draft-shacham-sipping-session-mobility-01.txt)

- Seamless is proposed as a requirement for session mobility
- Estimated total transfer delay should not be much longer than 1s

- **Relation with Shacham's draft**

- ✓ Targeting for the applications with long buffering time
- ✓ Complementary to Shacham's draft

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## Open Issues

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- ◆ Other use cases for the proposed extension ?
- ◆ Where to put the proposed extension, SDP or SIP ?

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## Next Steps

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- ◆ Add media synchronization section
- ◆ Make clear the targeted application as VOD
- ◆ Add a performance section

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