

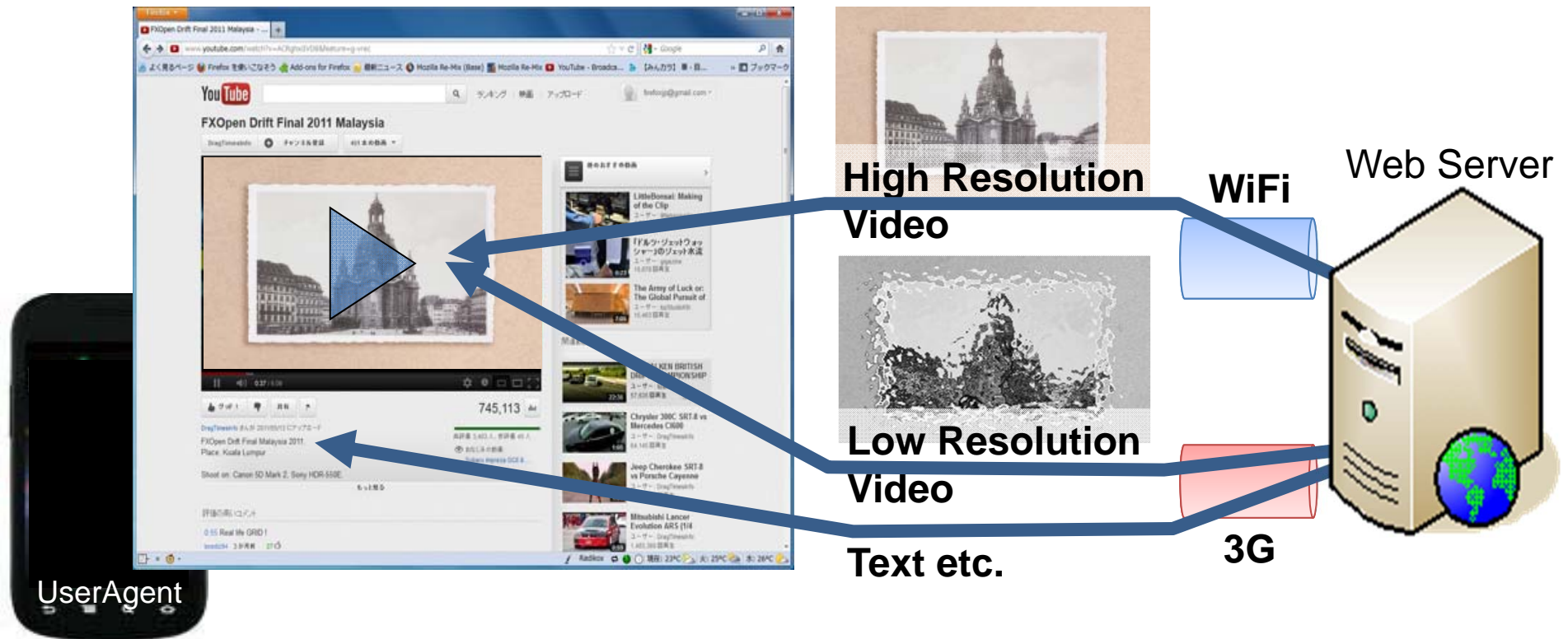
Use-case of
“smart network utilization”
for better user experience

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KDDI

11/08/12 @ W3C workshop

Use-case in Smart network utilization



Network(WiFi/3G) and contents(video/image/audio) are flexibly chosen according to user environment.

- (1) Choose better **contents** based on the network I/F.
(e.g. High quality content for WiFi, low quality content for 3G)
- (2) Choose better **network I/F** depending on content type.
(e.g. WiFi for High quality content, 3G for Text)
- (3) **Adjust traffic volume** according to the interface usage and network condition
(e.g. Skip downloading when the NW I/F is heavily used or packet loss rate is high)

Presentation at TPAC2012

- TPAC 2012 29 Oct to 2Nov in Lyon, France
- “Smarter Apps for Smarter Phone” session
 - <http://www.w3.org/wiki/TPAC2012/smarterwebapps>
 - Hosted by **Network-Friendly App and WebApp Best Practices Community Group** (AT&T and Many telecom operators)
 - Attendees
 - Telecom Operators
 - Google, Apple, Qualcomm, Samsung
 - Agenda
 - 2.1 Smarter Webapps for Smarter Phones
 - 2.2 What you can do today: UX focus
 - 2.3 What you can do today: efficiency focus
 - **2.4 Network awareness in a multiple-network environment (KDDI)**
 - 2.5 What more do you need?
 - 2.6 What Should W3C Do as Next Steps

Presentation at TPAC2012

- Discussion at the presentation
 - Who should take care of smart network utilization?
 - WebApp developers
 - OS/browsers
 - What kind of adaptations are necessary?
 - Choose **contents** based on network status
 - Choose **network** based on content
 - How to overcome policy conflicts when choosing network?
 - Policy in web apps
 - Policy in OS
 - Policy in User

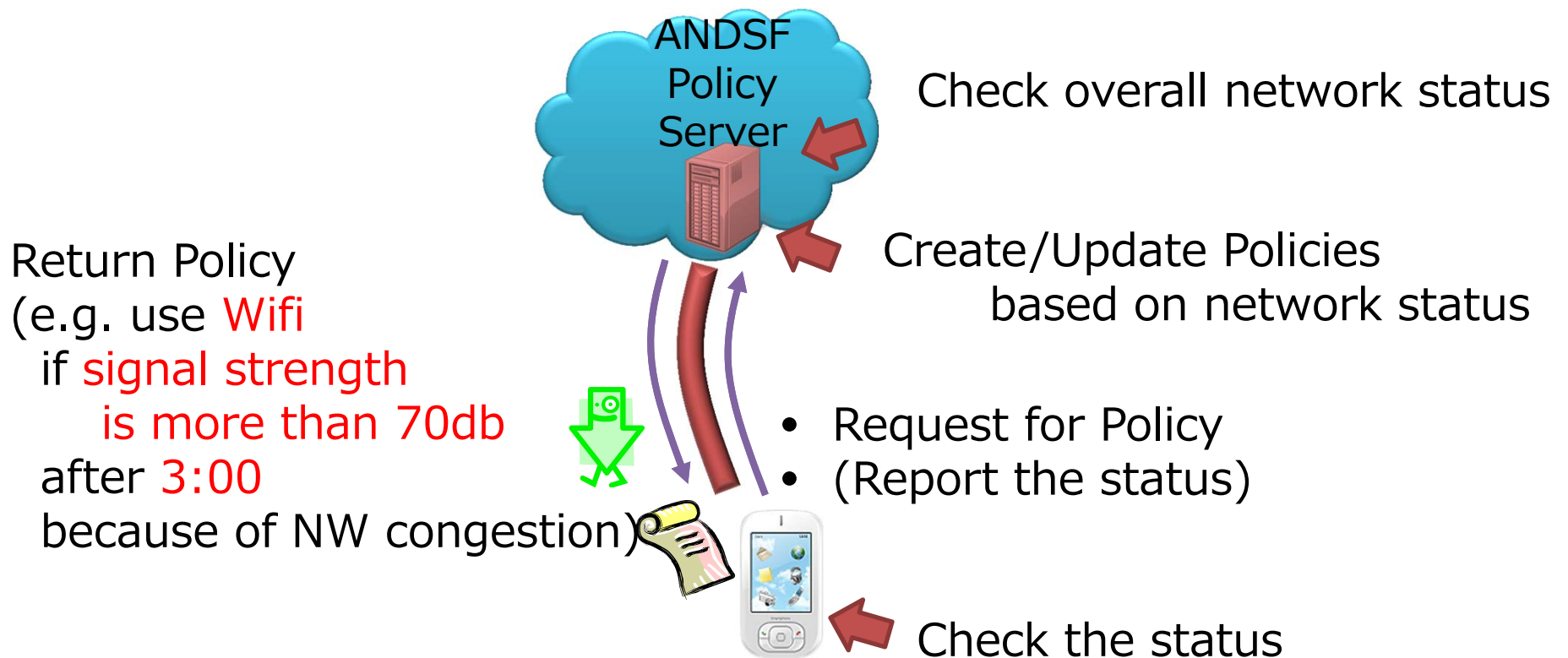
Questions about Smart Network Utilization

- What do you think of the discussion at TPAC 2012?
- Telecom operators have the ability to provide info improving **overall network condition** such as network selection rules for user equipment via NW I/F (3GPP ANDSF*, etc.). Do you need such info? Why?

***ANDSF (Access network discovery and selection function)**

<http://www.3gpp.org/ftp/Specs/html-info/24312.htm>

ANDSF usage example



Thank You

Possible approaches

- Web API to retrieve more detailed information on the network interface(s) for more efficient network usage
 - Network information obtained solely by the terminal (e.g., Cellular and WiFi base stations, signal strength, error rate, throughput)
 - Network information obtained by cooperating with the network (e.g. access network load, backhaul load, congested APs) via 3GPP ANDSF or WFA Hotspot 2.0

→ Extension to Network information API?
- Web API to control network interfaces for fine-grained network selection
 - Network interface control should support not only open/close, but also attachment to a specific base station in WiFi network, establishment of a dedicated bearer in cellular network, etc.
 - Support of concurrent usage of multiple networks and access network selection based on the content type (video/voice/text)

→ Extension to/new features for Network interface API?