Multi-Screen Device Control Protocol

UPnP Forum
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Multi-Screen Trends

- Today multi-screen/second-screen solutions are proliferating
  - However, each is a proprietary vertical for particular vendor(s)

- Users expectations aren’t being met:
  - Seamless interoperability across vendors
  - Ability for second screen integrated usages rather than 100s of different apps

- UPnP Forum members actively working to create an open interface to enable this interoperability between devices and applications
  - Already: CableLabs, Cisco, Intel, LGE (chair), PacketVideo, TP Vision, ZTE
Goal

- Enable time-sensitive and interactive services, including implementation-specific applications, among various display devices
- Device/Service Discovery, Description, Eventing and Notification with the UPnP Device Architecture as the basic framework
Terms used for Informative Usage

- **Multi-Screen service**: Time-sensitive and interactive services, including implementation-specific applications, among various display devices. The display devices can be categorized into the main screen device and companion screen device by the roles and usages of the specific applications.

- **Main screen device**: Usually the main screen device is assumed as a lean-back display device such as a TV or set-top box which is controlled by companion screen devices. But any display device such as a smart phone, tablet, etc. can be a main screen device depending on usage scenarios.

- **Companion screen device**: Usually the companion screen device is assumed as a lean-forward & handheld display device such as a smart phone or tablet which controls main screen devices. But any display device such as a TV or set-top box, etc. can be a main screen device depending on usage scenarios.
UPnP Components
designed by Multi-Screen DCP

- **Screen Device**: The Screen Device is a UPnP component used to provide various interactive services (i.e., Multi-Screen services) with other display devices which are implemented with the Screen Control Point.

- **Screen Control Point**: The Screen Control Point is a UPnP component used to provide various interactive services (i.e., Multi-Screen services) with other display devices which are implemented with the Screen Device.
The Basic Interaction Model can be applied to the use cases requiring interactions between multiple Main screen devices and multiple Companion screen devices.
The Extended Interaction Model can provide more sophisticated interactions and flexible architectures. I.e., it allows Main screen devices to interact with each other, and Companion screen devices to interact with each other.
Services of Multi-Screen DCP

- Phase 1
  - Application Management
    - Multi-Screen service notification, Remote App installation/activation, App information/status transfer
  - App-to-App Communication Management
    - Configure and Setup/Teardown App-to-App communication
  - Key-Press Protocol (being considered)
  - Synchronization (being considered)

- Phase 2
  - Gathering new requirements
Schedule – Phase 1

- Preliminary Design Completion (v0.80)
  - Feb 28\textsuperscript{th} or March 31\textsuperscript{st}, 2014
- Plugfest
  - April 30\textsuperscript{th}, 2014
- Design Complete date
  - May 15\textsuperscript{th}, 2014
- Submission to Steering Committee
  - May 31\textsuperscript{st}, 2014
- Approval and Publication (v1.0)
  - July 31\textsuperscript{st}, 2014
For the interconnected lifestyle