PTIN 2012/2013

OASIS

Open Access System to Internet Media Services

Media delivery ecosystems and their limitations

Real Time Applications

Providing Third-party Content

Network Providers and Digital Content Providers need to form specific alliances to improve quality. Large providers can also form alliances with Content Distribution Networks, but service guarantees are still not available to end users.

Digital Media Libraries

NETFLIX hulu amazon.com youview YouTube

Content Distribution Networks

Akamai LIMELIGHT NETWORKS

Real Time Applications

No service guarantees available to support real-time apps over the current Internet, which severely limits the reach and usability of these apps.

Network Access Provider

3 Play Networks

Scarcity in the offering of media products with guaranteed service

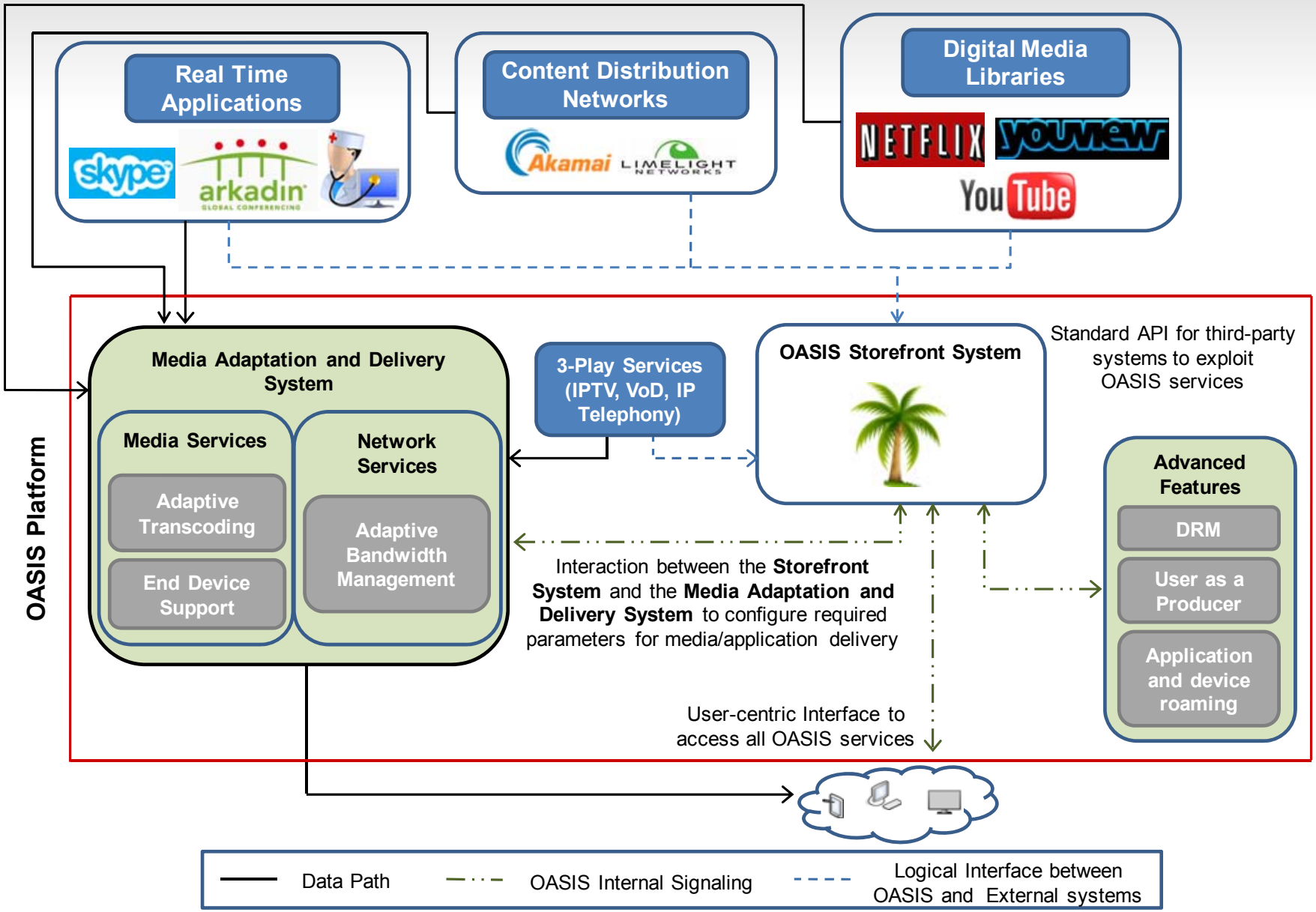
Current 3-play service platforms use a separate network infrastructure and dedicated content. Therefore offerings of media products are limited and specific to the network operator and do not exploit the full reach of current broadband access.

IP Access Networks

Fixed Bandwidth

Lack of application-based bandwidth provisioning means that application specific service guarantees are not possible, making it difficult to deliver media with high quality in a multi-service provisioning scenario

The Proposed Platform…



OASIS: Final Objectives

<u>Objective 1</u>: ***Open approach to APIs, various players and interfaces (Storefront System):*** This objective aims to provision means to connect supply and demand of media services at the logical-level, and thereby enable access both to products and to consumers beyond those of the network access provider. The “Storefront System” will provide an open interface (open API) allowing third-party multimedia applications and services to be efficiently and seamlessly integrated with the OASIS platform, and thereby be offered to consumers with the enhancements in bandwidth management, adaptive transcoding, and end-device support.

OASIS: Final Objectives

Objective 2: ***Effective adaptation of media formats and transcoding as well as media delivery (Media Adaptation and Delivery System):*** This objective deals with developing a feature-list for multimedia applications, and the platform targets to provide a delivery system, including critical aspects of network and media management. Networking aspects will include mechanisms for caching and bandwidth management for multimedia content delivery and will include, whenever possible, mechanisms to provide support for application-layer mobility and guaranteed provisioning, while media management will include features such as end-device adaptation and adaptive transcoding. Jointly these features will allow third-party applications to adapt the digital media delivery to the specific hardware of the users' device and the access network in an easy manner, eliminating duplication of functions and improving the user's experience. We also envision that OASIS will have a simple form of signaling to interact with users while hiding the internal complexity of some media environments (e.g., IMS, third-party IPTV systems) in the background.

OASIS: Final Objectives

Objective 3: ***Addressing heterogeneity of user's ecosystem:*** This objective targets to allow users to search for, select, and consume media products and services through a unified and user-centric interface, which can be customized according to the preferences and aptitude of users (e.g., can be adapted differently to the elderly, to children, etc.). Indeed, the interface can be highly personalized, facilitating the search and selection of the content offered through the OASIS Platform. The OASIS interface will be context aware, seamlessly adapting to different devices, yet always configured to meet the user's needs. OASIS targets the development of a user-centric interface with sufficient potential to progressively increase the involvement of consumers and foster innovation and the emergence of more sophisticated products.

OASIS: Final Objectives

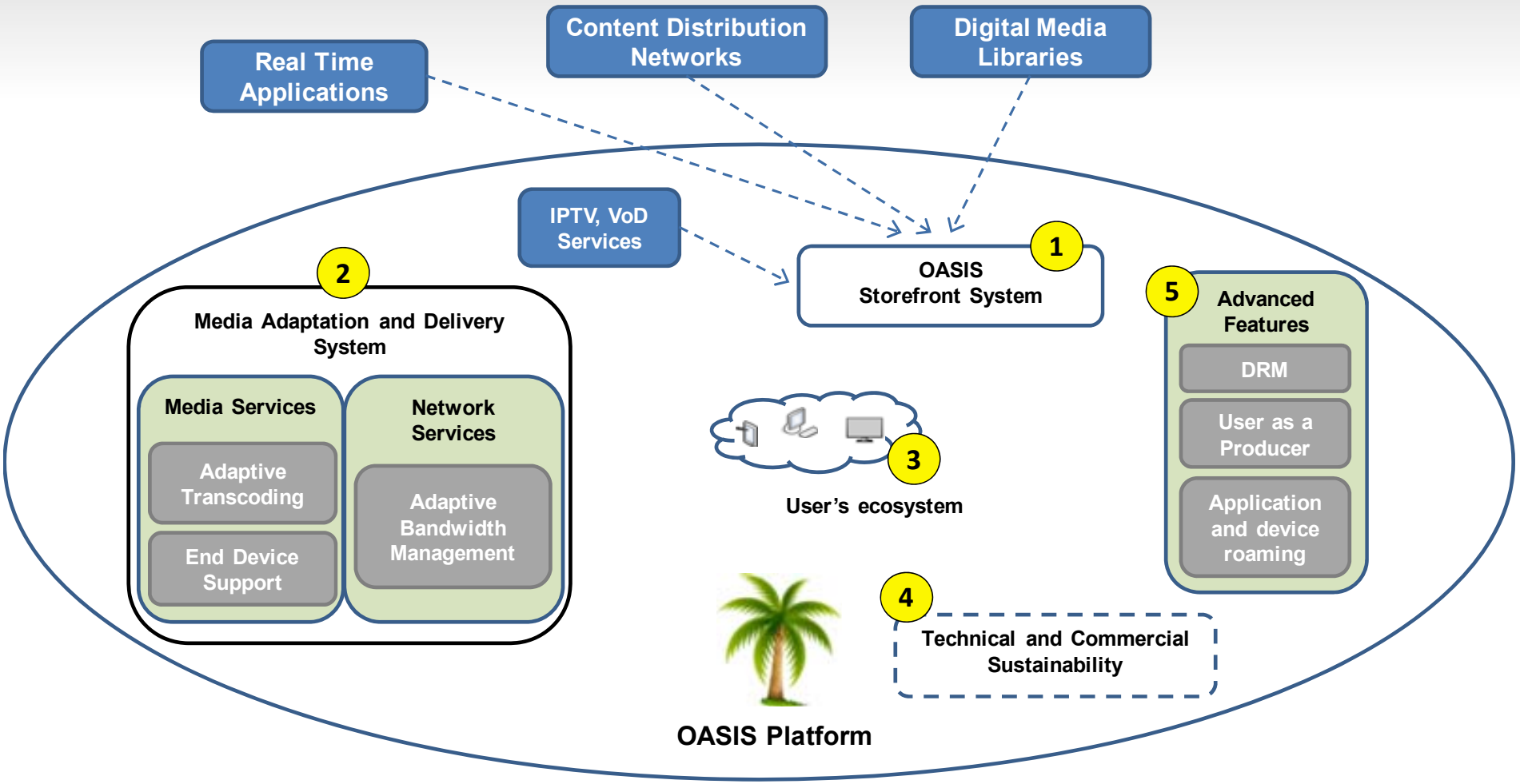
Objective 4: ***Media Ecosystem for Sustainability:*** Today, there is a significant challenge in creating a sustainable ecosystem of content producers, content providers, network and access providers, as well as users. This objective will address issues of fragmentation and scarcity in the offering and delivery of media products in the access provider market (today limited basically to triple-play bundles), and cover both financial and non-financial incentives towards open APIs for delivering content with high quality requirements from third-party applications and providers (see Figure 3). Market interactions among content providers, consumers, and access providers shall be analyzed, with sustainability in mind as key point. Analysis of use cases and definition of consumer usage models and media rights towards technically and economically sustainable delivery models are the main elements of our analysis, in addition to the Telecom regulatory framework and its expected evolution.

OASIS: Final Objectives

Objective 5: ***Extensible OASIS design to allow wider deployment:*** This objective deals with more advanced features that could be progressively integrated in the OASIS Platform. In particular, OASIS will carefully consider the aspects of digital rights management (DRM), in order to endow the platform with control mechanisms that can limit the use of digital content as required by the content provider. In addition to DRM, two other features will be explored. First, when users become media producers, analyzing mechanisms to estipulate how these user-made products should be offered, accessed, and delivered through the OASIS Platform.* Second, we will investigate both application and device roaming functionalities requiring transcoding and provisioning adaptations both in real-time and non-real time scenarios. The potential impact of DRM access during roaming will be investigated, especially, when the access provider changes.

* It is worth noting that OASIS is strongly oriented as a platform for the offering and delivery of media "products" and "services", so OASIS is not conceived for making available arbitrary content produced by users, unless such content is properly regulated by means of local or third-party applications, e.g., through OASIS-enabled personal environment applications, more advanced versions of social networks, etc.

Objectives Summary



Objectives and OASIS building blocks