

# OIPF DAE

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2014.3.11

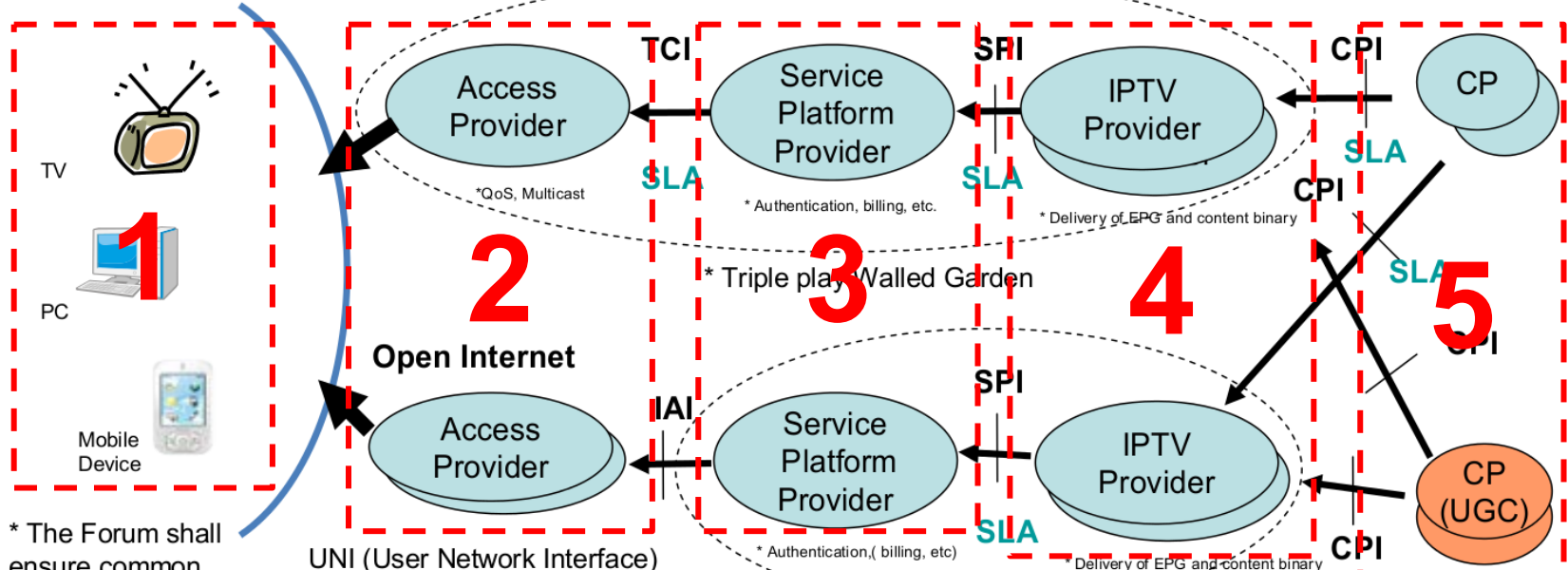
# OIPF R2 V1 Functional Arch.

File Server:

B2G/TV\_Project/OIPF/[V1] OIPF-T1-R2-Functional-Architecture-v2\_3-2014-01-24.pdf

# Open IPTV common UNI

## Managed Network



\* The Forum shall ensure common UNI to support services from Open Internet and managed network environment

- UNI (User Network Interface)
- TCI (Transport and Control Interface)
- SPI (Service Provider Interface)
- IAI (Internet access Interface)
- CPI (Content Provider Interface)

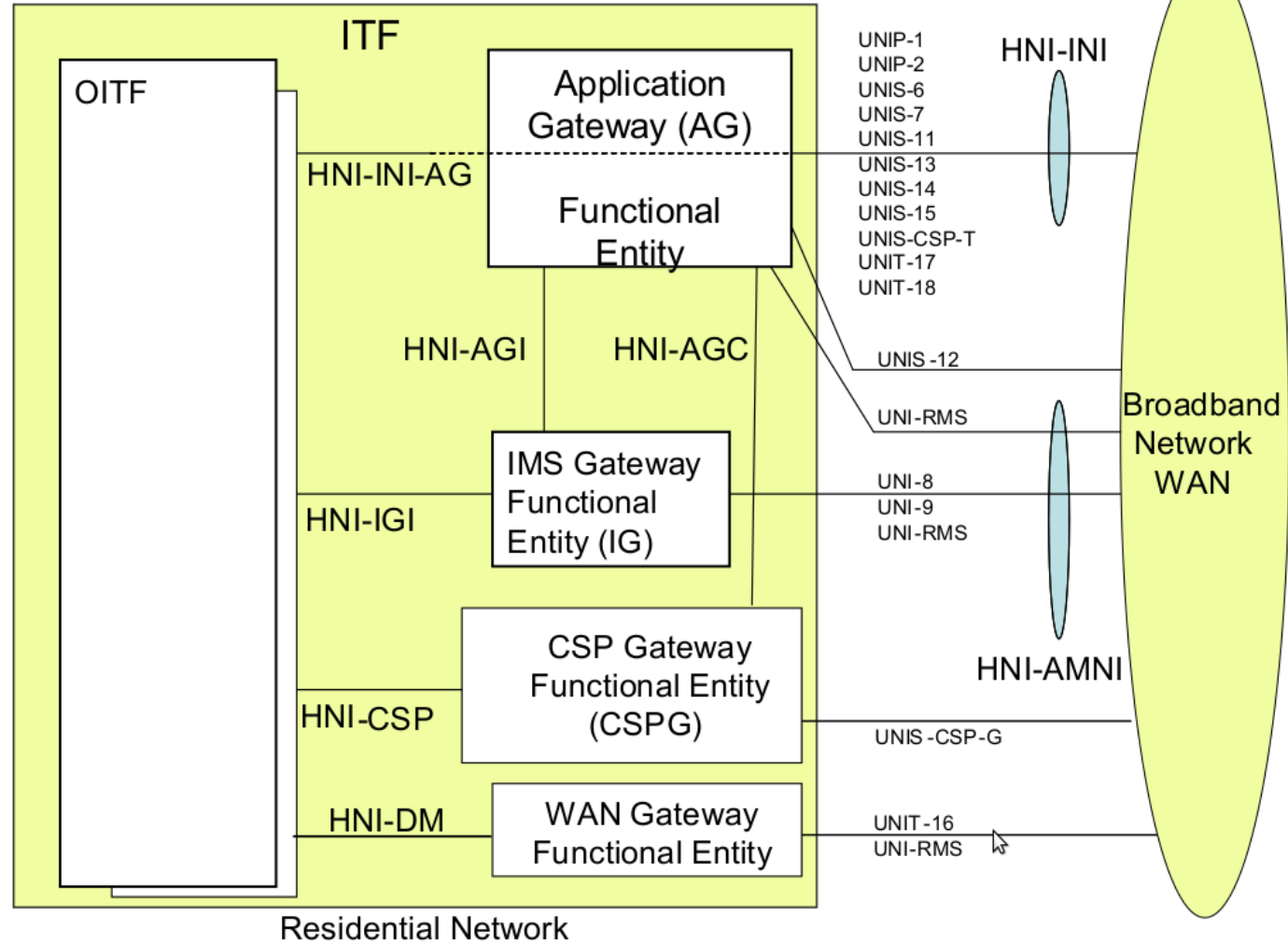
\* Portal site W

1. Consumer Domain
2. Network Provider Domain
3. Platform Provider Domain
4. IPTV Service Provider Domain
5. Content Provider Domain

# Consumer Domain

- The domain where the IPTV services are consumed. A consumer domain can consist of **a single terminal** or **a network of terminals** and **related devices** for service consumption.
- Also known as “Residential network”

# Residential Network Architecture



# OITF

## (Open IPTV Terminal Function)

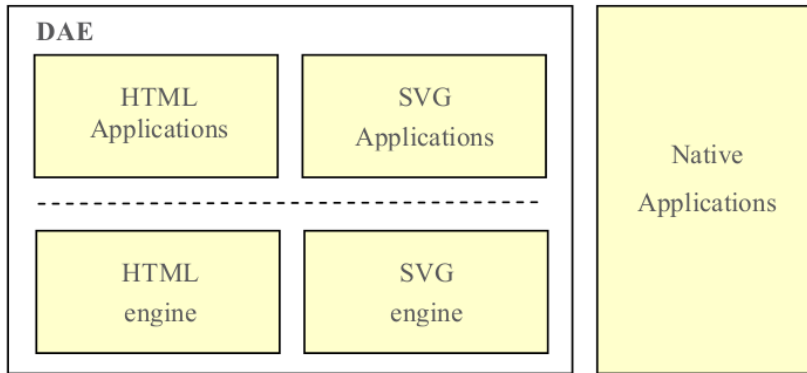
Includes:

1. Its own direct user interaction (e.g., remote control, keyboard)
2. Audio/video rendering functionalities
3. Optionally, grabbing functionalities (e.g. display, speakers, cameras, microphones)

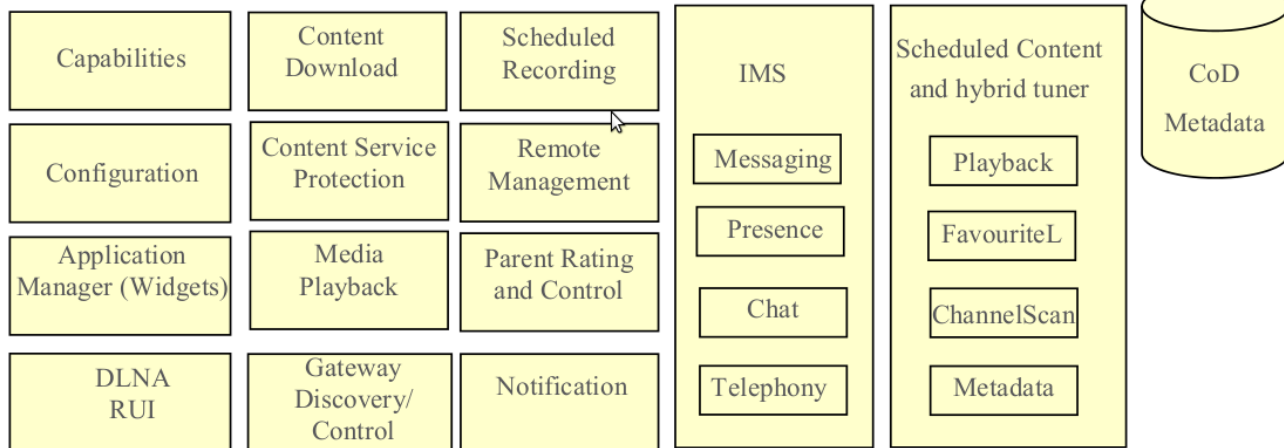


# OITF Architecture

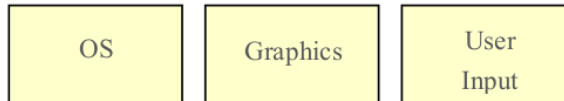
## OITF



## System Services



## Platform Services



# OIPF R2 V5 DAE

File Server:

B2G/TV\_Project/OIPF/[V5] OIPF-T1-R2\_Specification-Volume-5-Declarative-Application-Environment-v2\_3-2014-01-24.pdf



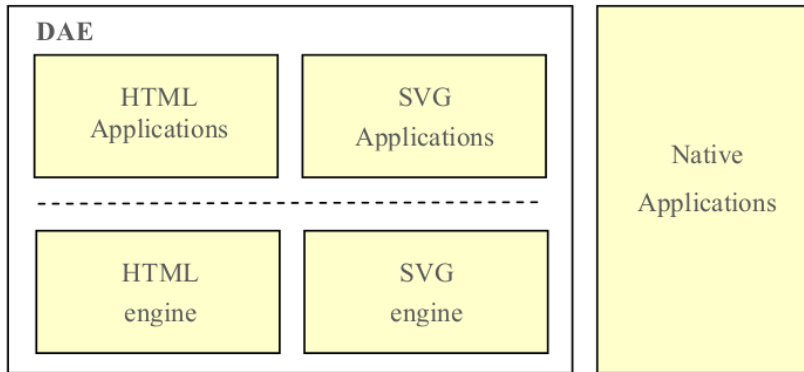
# DAE

## (Declarative Application Environment)

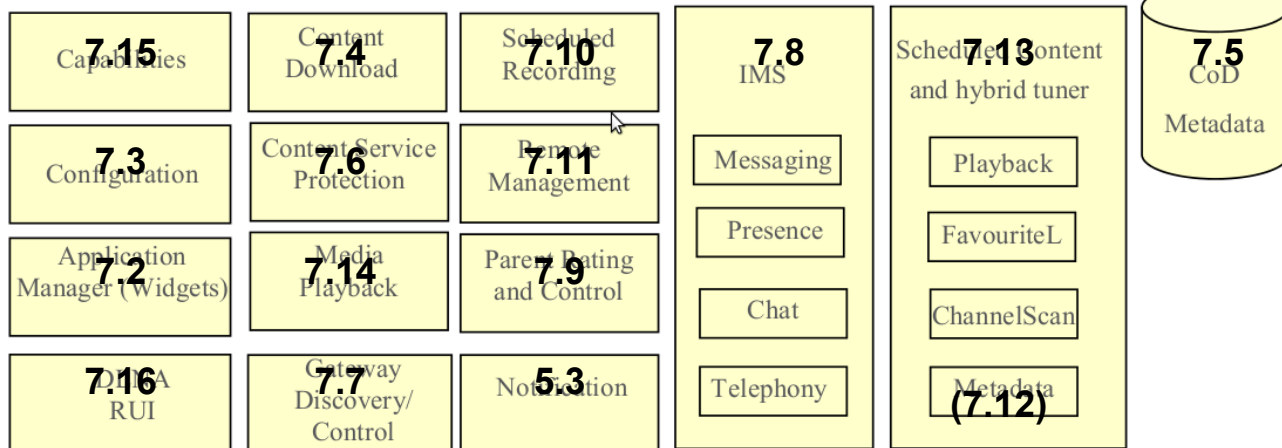
- A declarative language based environment (browser) based on the OIPF Web Standards TV Profile for presentation of user interfaces and including scripting support for interaction with network server-side applications and access to the APIs of the other OITF functions.
- Build on a selection of W3C specifications with additions in order to expose to an IPTV service provider the capabilities of any particular OITF.

# OITF Arch.

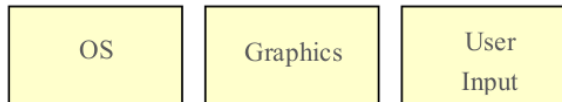
## OITF



## System Services



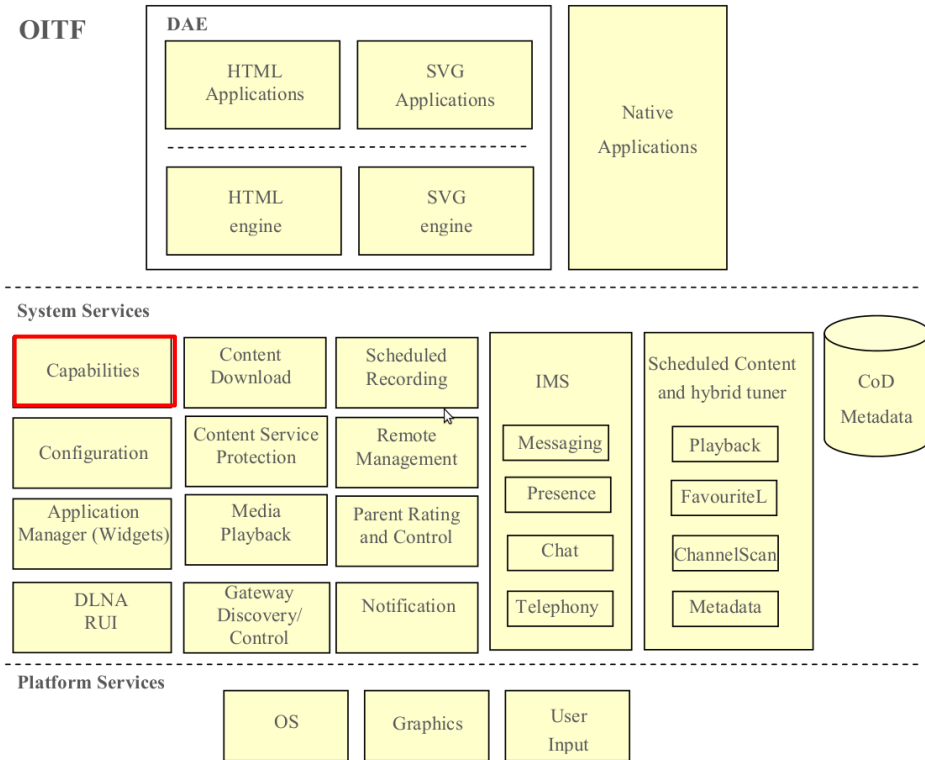
## Platform Services



# Capabilities

This service handles terminal capabilities and exposing them to applications.

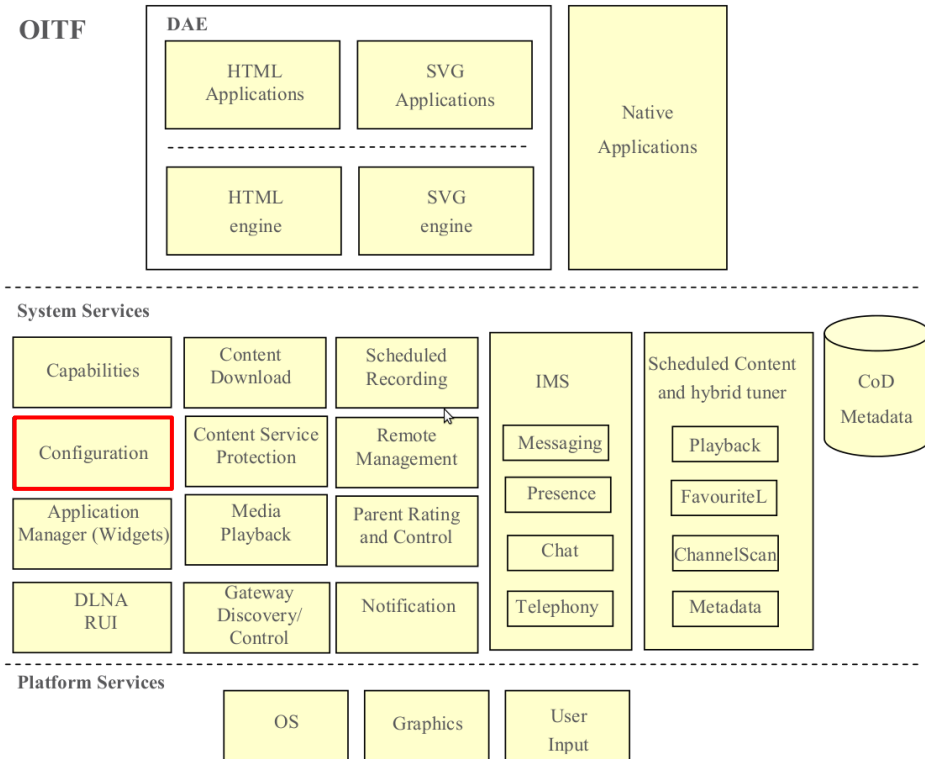
See 7.15.3 and 9.3.



# Configuration and Setting API

This service handles reporting and changing device configuration and power management.

See 7.3.

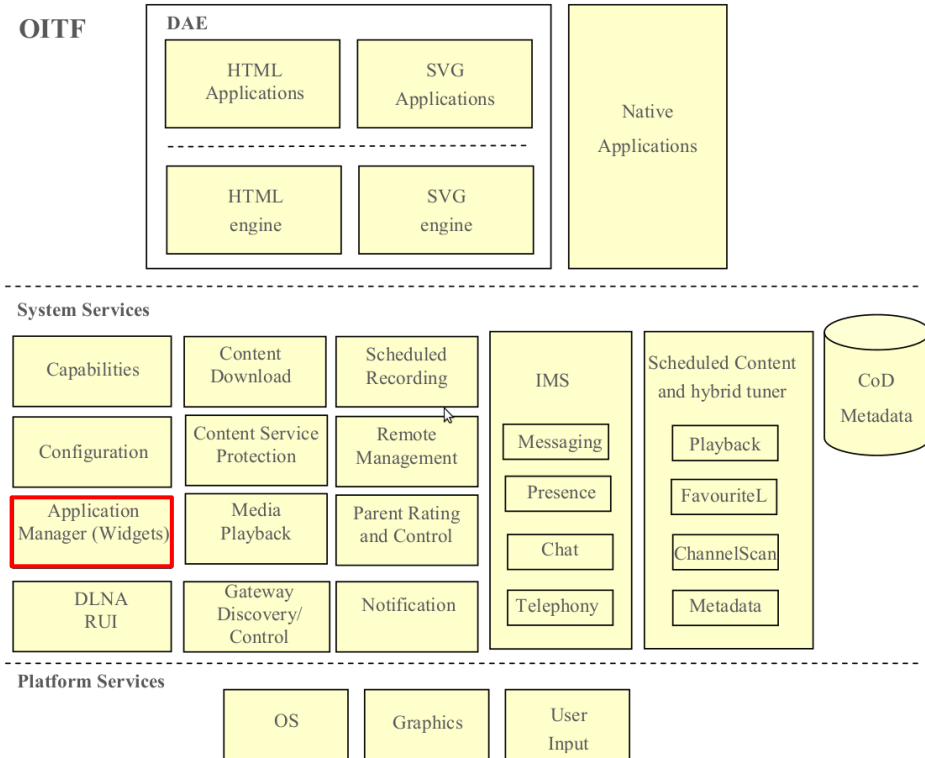


# Application Management API

This service handles:

- The starting and stopping of applications.
- The downloading, starting, stopping and removal of widgets.

See 4.3, 5.1, 5.2.8, 7.2 and 11.



# DAE Application vs DAE Widget

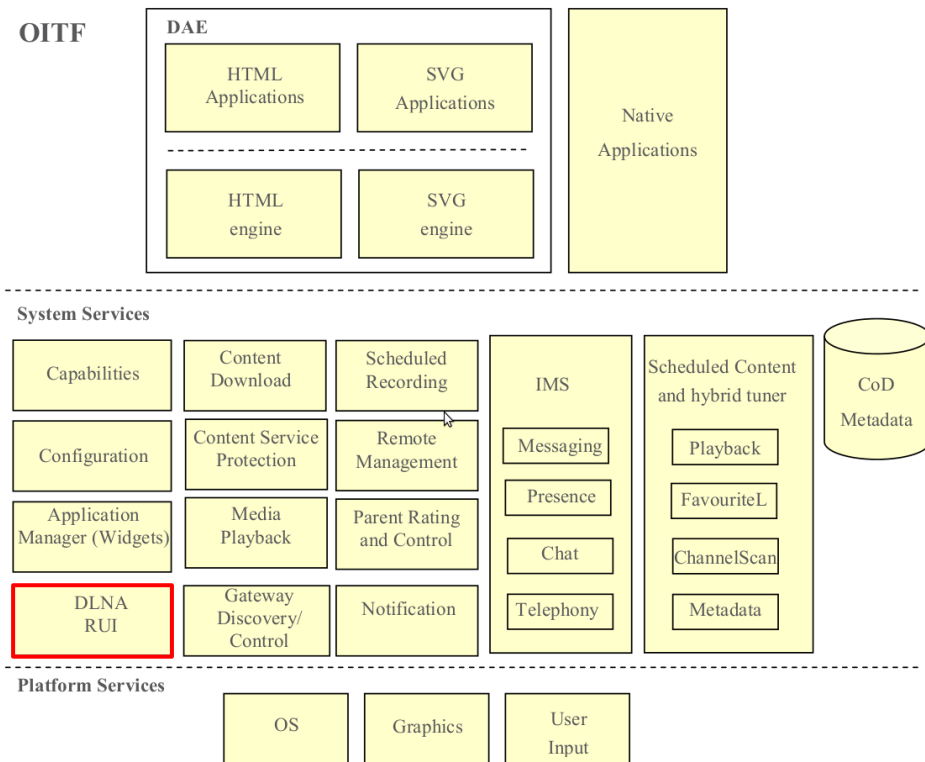
- DAE Widgets are a specialization of DAE applications and share aspects with **W3C Widgets**.
- Widgets can be primarily seen as **packaged DAE applications**.
- A Widget SHALL be packaged in order to allow a **single** download and installation on an OITF.

# DLNA RUI

## Remote Control Function API

This service enables a DAE application on an OITF to export a user interface to another device in the home as defined by the DLNA remote UI specification.

See 4.9, 7.17 and 8.5.

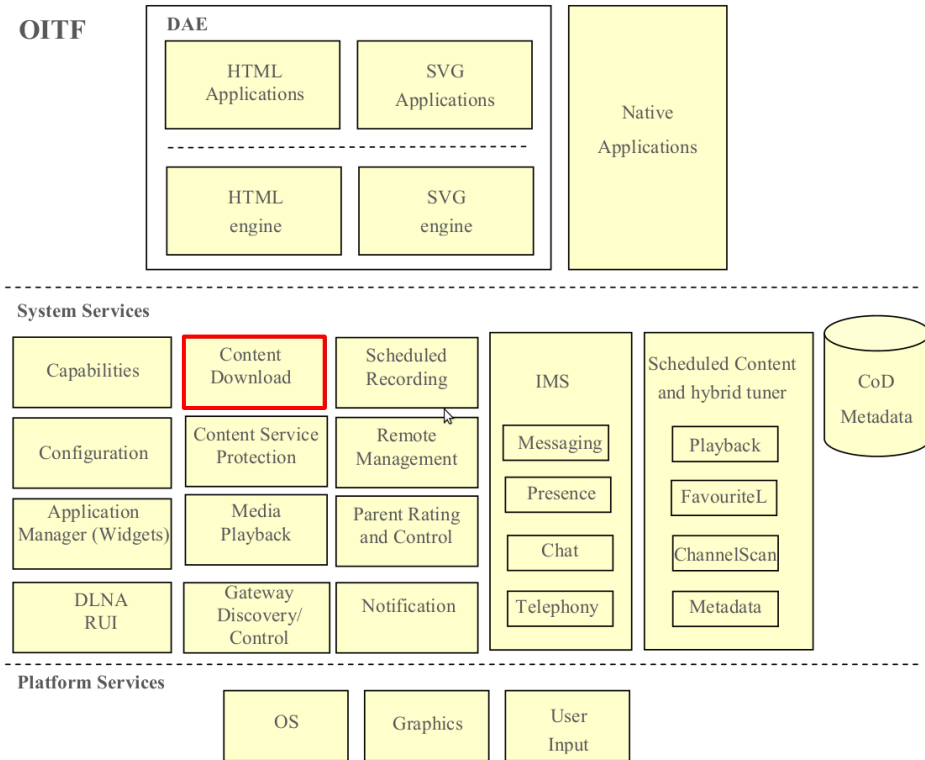


# Content Download API

This service handles:

- Initiate downloading of content by applications.
- Download the content.
- Manage content once downloaded.

See 4.6.1 and 7.4.

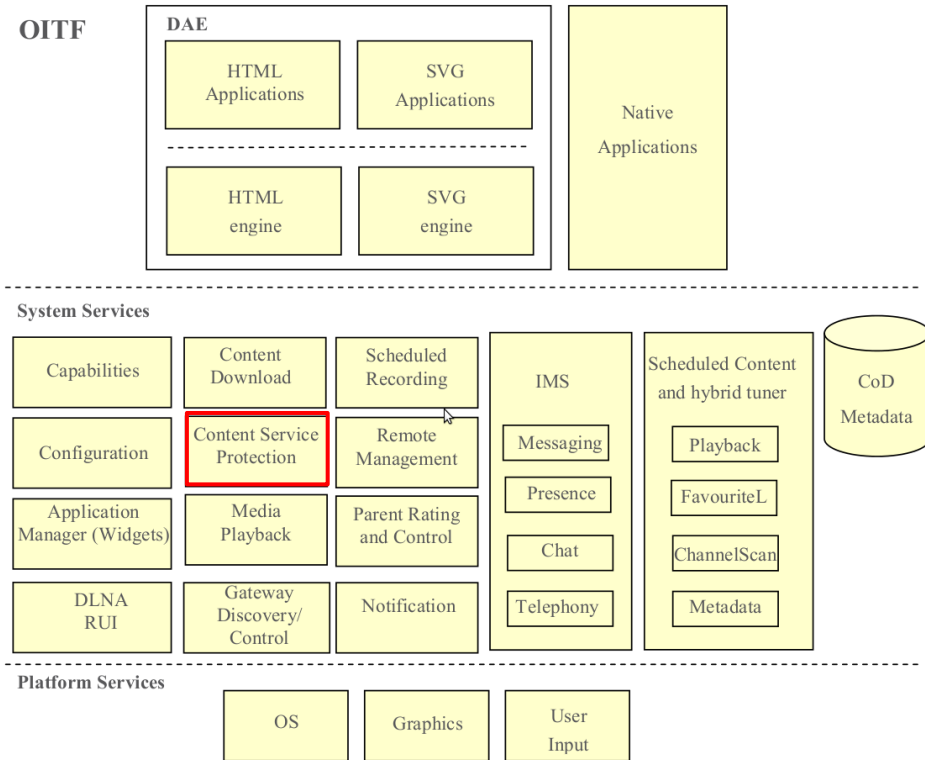




# Content Service Protection API

This service handles content and service protection.

See 7.6.

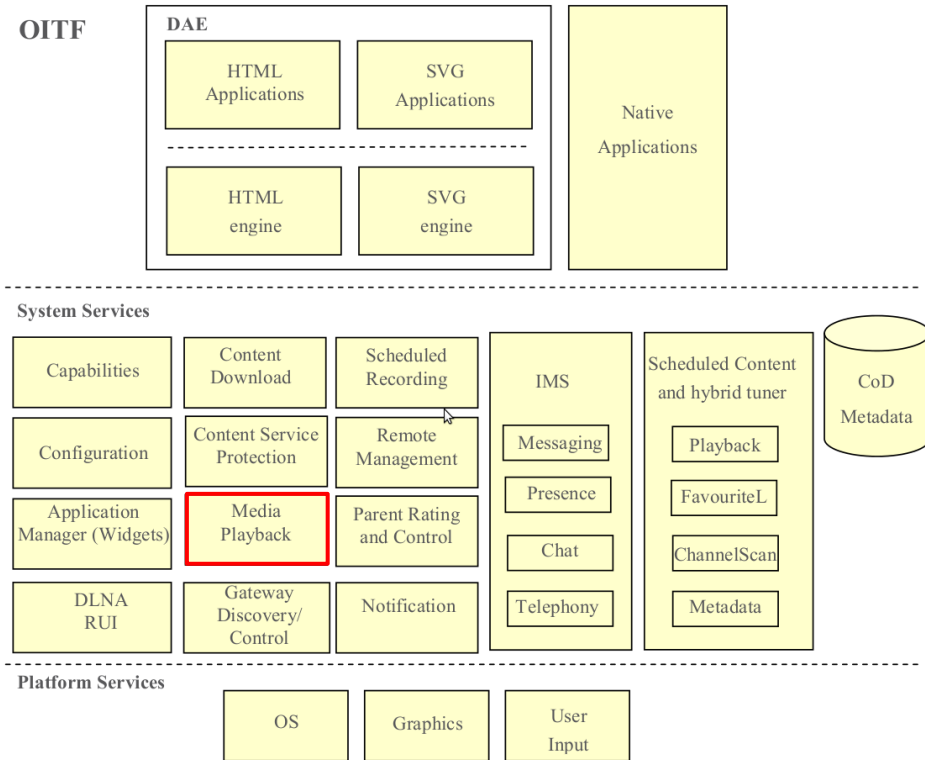


# Media Playback API

This service handles playback of media including:

- Streaming on-demand
- Downloaded content
- Scheduled content which has been recorded (but no live scheduled content).

See 4.7.1 and 7.14.



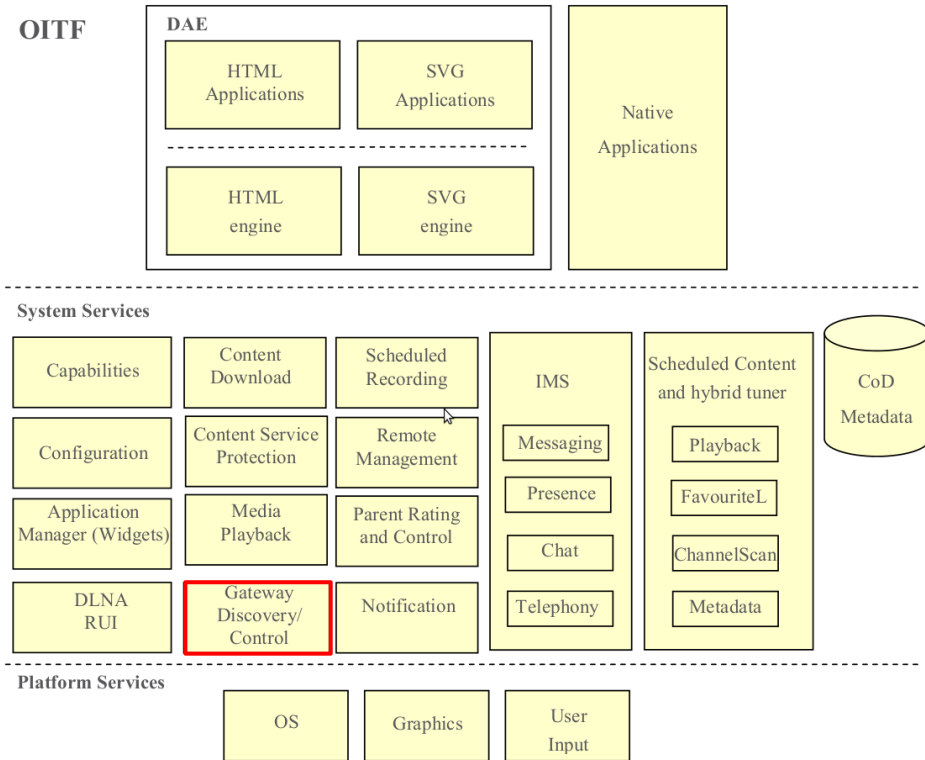
# Scheduled Content

- An IPTV service where the playout schedule is fixed by an entity other than the User. The content is delivered to the user for immediate consumption.

# Gateway Discovery and Control API

This service handles gateways, including discovery and managing information about them.

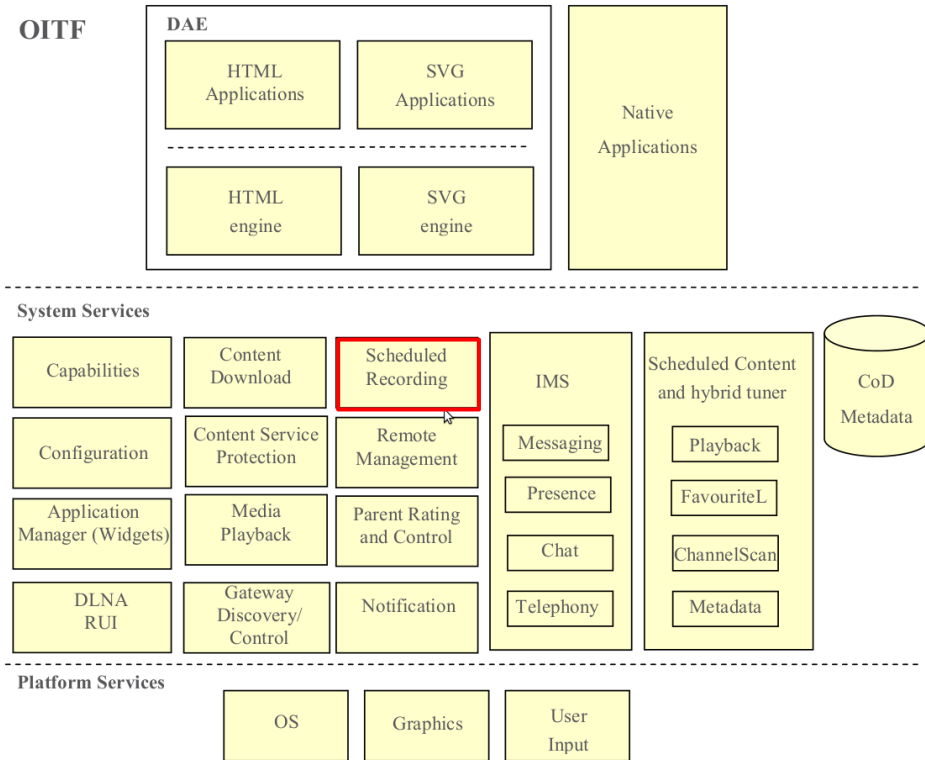
See 4.2 and 7.7.



# Scheduled Recording API

This service handles recording of scheduled content.

See 7.10.



# Time Shifting

- The recording of programming to a storage medium to be viewed or listened to at a time more convenient to the consumer.
- Typically, this refers to TV programming but can also refer to radio shows via podcasts.
- In recent years, the advent of the digital video recorder (DVR) has made time shifting easier, by using an EPG and recording shows onto a hard disk.

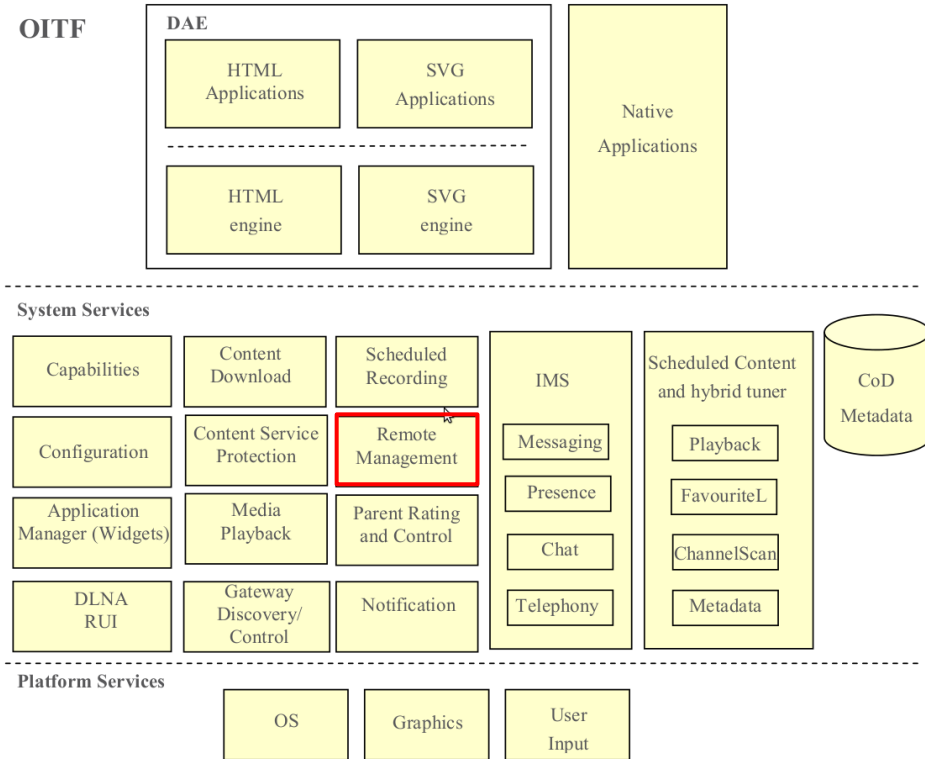
# Personal Video Recording (PVR)

- The PVR is a service that permits the IPTV User with appropriate rights to record content available through this offering.

# Remote Management API

This service handles remote management when supported as a DAE application.

See 7.11.

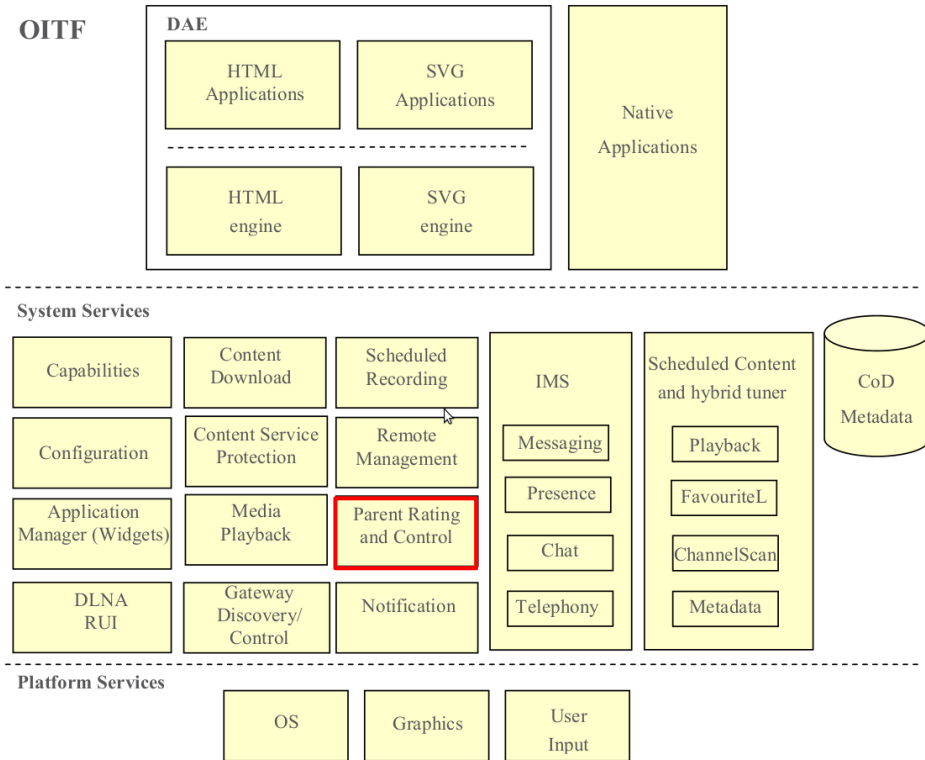




# Parental Rating and Parental Control API

This service handles parental rating and control including reporting of changing of parental rating status and providing parental rating PIN codes.

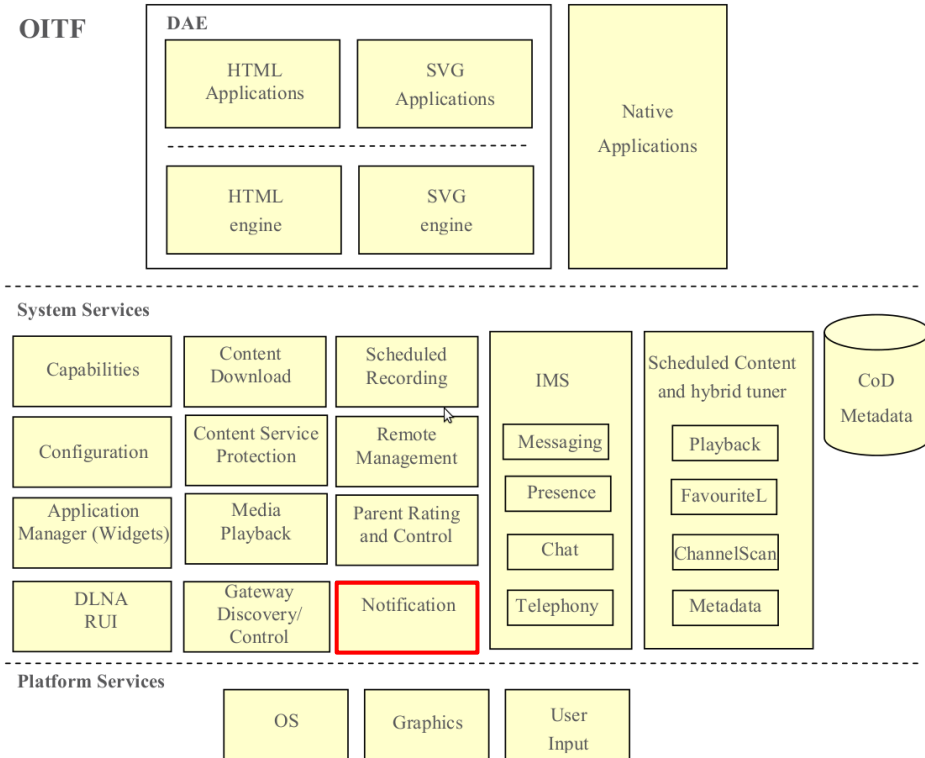
See 4.5, 7.9, 7.13.5 and 7.14.5



# Notification

This service handles notifications from the network to the OITF.

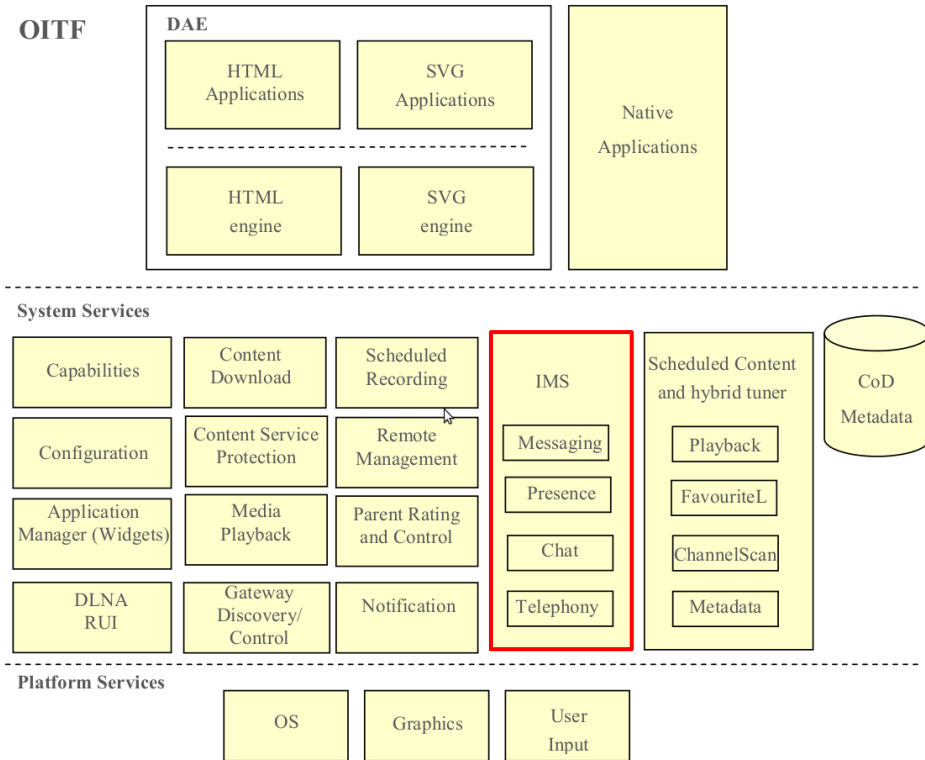
See 5.3.



# Communication Services API

This service handles IMS including messaging, presence, chat and telephony.

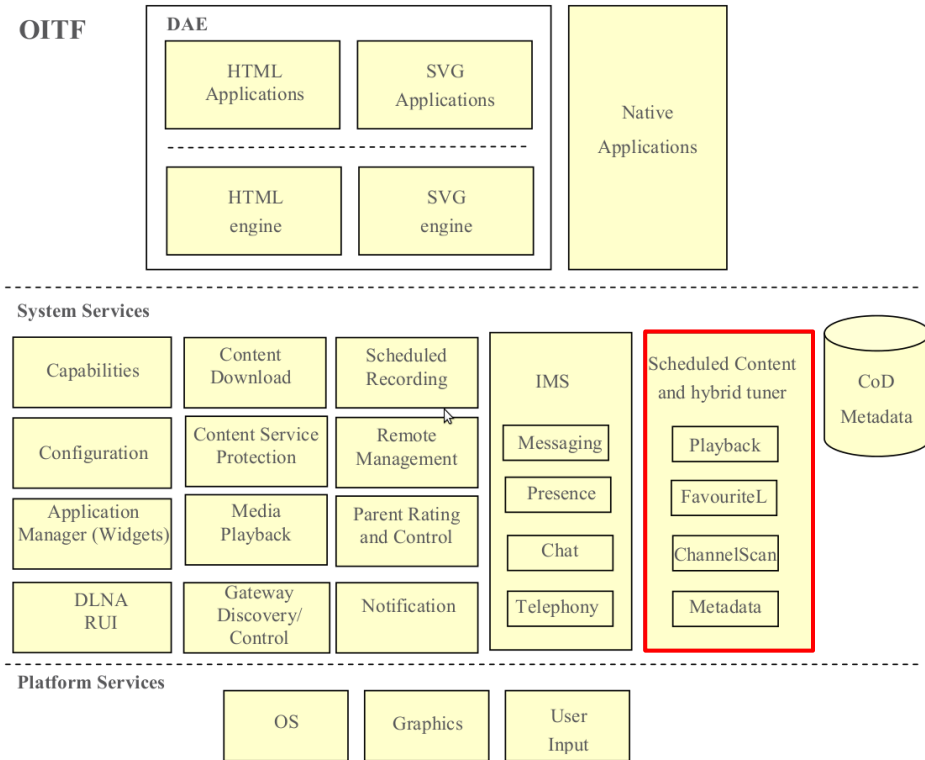
See 7.8.



# Scheduled Content and Hybrid Tuner API

This service handles scheduled content services whether these are delivered by IP or by a classical cable, satellite or terrestrial tuner in a hybrid device.

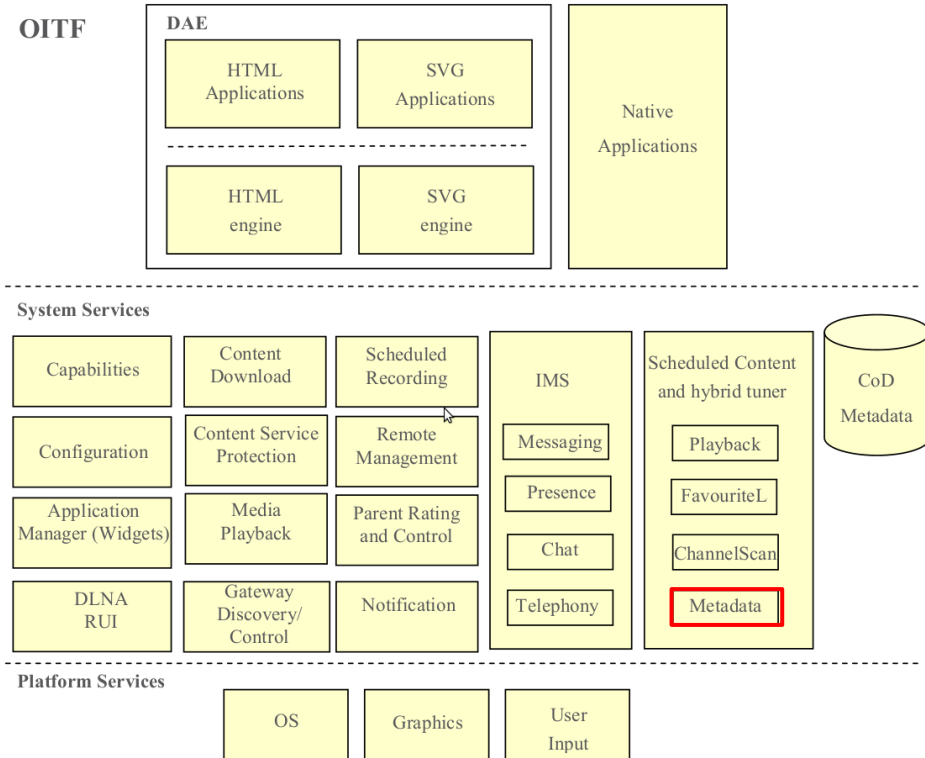
See 4.7.1.2, 4.8, 7.12 and 7.13.



# Metadata API

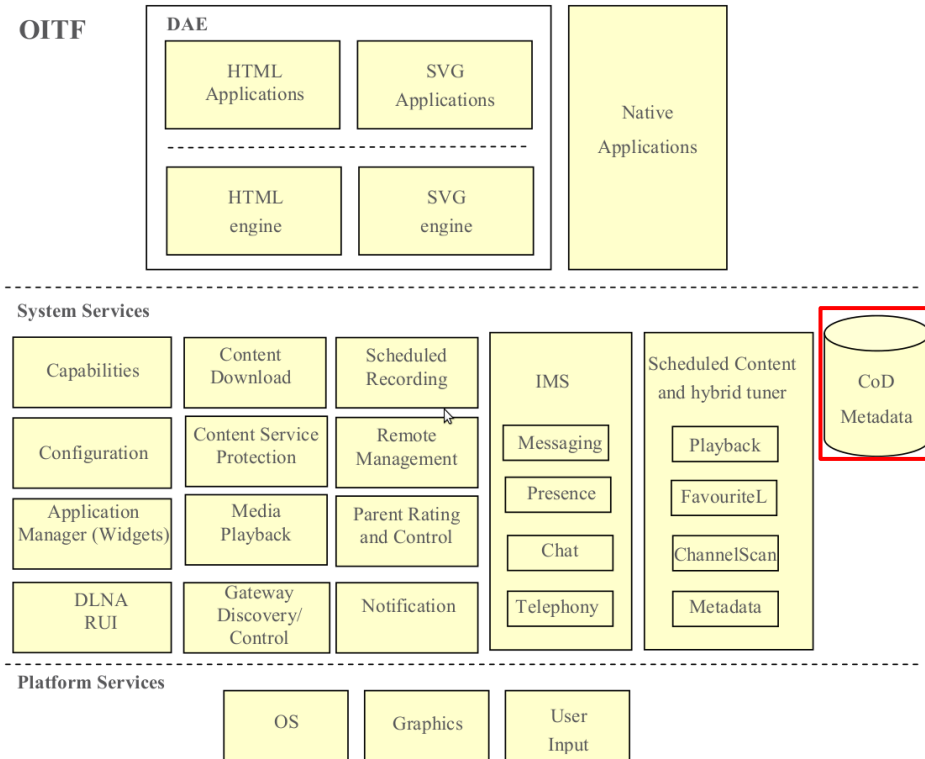
This metadata API provides DAE applications with high-level access to metadata about programmes and channels.

See 7.12.



# Content on Demand Metadata API

This service handles the downloading, storage and retrieval of CoD metadata.



See 7.5.

# Content on Demand (CoD)

- A Content on Demand service is a service where a user can select the individual content items he or she wants to watch out of the list of available content. Consumption of the content is started on user request.

# OIPF DAE APIs

[https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive\\_web#gid=0](https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive_web#gid=0)



# UML Class Diagrams (Simple)

1. <https://docs.google.com/a/mozilla.com/drawings/d/13dBK1OnaSUTwh2U4sA10gpPEynR2BCdBpIWhoAQPw0o/edit>
2. [https://docs.google.com/a/mozilla.com/drawings/d/14CN\\_XetLmghZQGII1PttivjzYVTs\\_cMRar1XN5zzenE/edit](https://docs.google.com/a/mozilla.com/drawings/d/14CN_XetLmghZQGII1PttivjzYVTs_cMRar1XN5zzenE/edit)
3. <https://docs.google.com/a/mozilla.com/drawings/d/1daFkA2ZOttaaTvTrd0LIJDVdTZXdd0RwBRZMzmmw4Vh4/edit>
4. [https://docs.google.com/a/mozilla.com/drawings/d/1A05iCC0NT0p48uZN9ZOIKt44eGzVqh\\_9D8ra3Ennitg/edit](https://docs.google.com/a/mozilla.com/drawings/d/1A05iCC0NT0p48uZN9ZOIKt44eGzVqh_9D8ra3Ennitg/edit)

# Configuration and Setting API

- Configuration
- LocalSystem
- Tuner
- AVOutput

[https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive\\_web#gid=3](https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive_web#gid=3)

# Metadata API

- MetadataSearch
- Query
- SearchResults

[https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive\\_web#gid=12](https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive_web#gid=12)

# Scheduled Recording API

- ScheduledRecording
- Recording

[https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive\\_web#gid=10](https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive_web#gid=10)

# Application Management API

- Application
- ApplicationPrivateData

[https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive\\_web#gid=2](https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive_web#gid=2)

# Scheduled Content and Hybrid Tuner API

- ChannelConfig
- ChannelList
- Channel

[https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive\\_web#gid=13](https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive_web#gid=13)

# Shared Utility Classes and Features

- Programme

[https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive\\_web#gid=16](https://docs.google.com/a/mozilla.com/spreadsheet/ccc?key=0AmOIMVN96ohVdHJqUHJ1NFRLNUw1YURWdmc0MW5uVGc&usp=drive_web#gid=16)

# Q&A

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