Pop-Up Channels

Spinning up on-demand channels using cloud resources

Whether you are running pre-planned events or responding to changes brought about by regional or global events, being able to launch a channel quickly and for a limited time may be a great capability to have, or a critical business need. Having on-premises resources on standby that can be used in these scenarios may not be a luxury you can afford or justify from a space or environmental standpoint.

In many cases using the public cloud is a better solution since there are few ongoing expenses – once the event is over, the resources can be shut down. The cost is very low if the channel is only needed for a few hours a week, or once or twice a year.

What is a Pop-up Channel?

A pop-up channel provides a temporary and unique viewing experience. It can be used in addition to the normal channel lineup to add extra services, meeting a short-term demand, or to create added value for consumers.

When used in the context of a public cloud deployment, it is an on-demand service that is deployed, operated, and spun down without the need to roll out complex or high-value capex equipment.

It can be available for use in minutes or hours of identifying demand, and in many cases can have the same level of refinement and flexibility as a conventional on-prem channel, complete with scheduled content, live events, graphic branding, ad insertion, triggers for downstream workflows, and a host of other features. This includes supporting highly interactive workflows and changes up to the moment of going on-air.

### Field-proven Playout Solutions and the Requirements of Pop-up Channels

Imagine Communications offers a wide range of playout solutions that can meet and exceed the requirements of the most demanding broadcasters and content owners in the world.

With its comprehensive cloud playout solution, you can deliver great AV quality and seamless program-ad-promo transitions and live events.

Utilizing cloud orchestration to reliably manage playout services and leverage the flexibility of cloud infrastructure, you can easily start and stop cloud-based pop-up and 24/7/365 playout channels, add channel redundancy, run a business continuity channel, enable you to monitor your system and channel health, and much more.

The unified UI gives engineers and operators anywhere-anytime access and control of some of the most sophisticated workflows for channel origination in the cloud, combining clips, live events, real-time graphics, subtitles and SCTE insertion.

Our overarching approach to channel management and operation means that the requirements for pop-up channels are already handled by our solution. Our channel deployment tool allows channels to be configured, launched, stopped, and restarted as needed. And because we share the same operator user interfaces on-prem and in the cloud, there is no learning curve or alternative workflows, including managing complex live events and I/O issues.
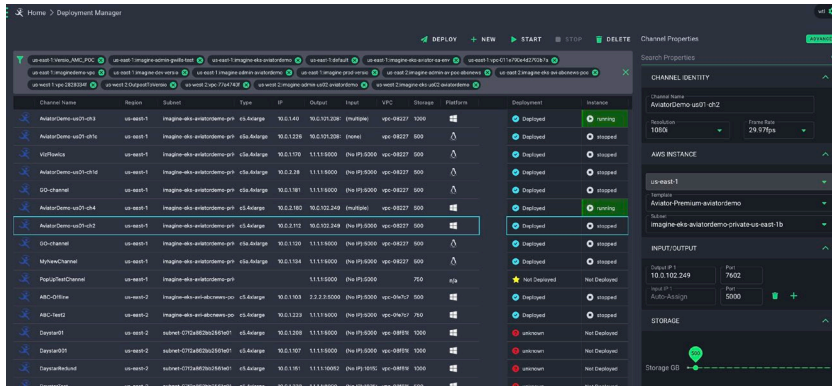
How Do You Configure, Start, and Stop Pop-up Channels?

Imagine Aviator makes it very easy to launch new channels. Channels are created using one of several pre-defined templates that set up a channel's features. From there, other user-defined features such as resolution, frame rate, and storage high water mark can be set.

There are two general approaches that can be used to configure and then start a channel. Both methods work for pop-up channels as well as for other user cases.

Pre-defined Channels

If you know in advance that you will need a pop-up channel, for example, during the summer or winter games, or for an upcoming election, it can be built and tested ahead of time. In most cases, Imagine can create the channels for you, helping to ensure they have appropriately configured file-based workflows, any needed live input(s), traffic integration, and user interface(s) for each channel's needs.

In the Aviator Deployment Manager, the channel sits in a 'stopped' state until you choose to use it. To start it, simply click on the channel and then click 'Start' from the tool ribbon. Within a few seconds, it is ready for use. Once it receives a schedule from traffic, it will automatically look to all connected storage systems in the cloud or connected to the cloud, and it can access and pull any needed content for playout on and start playing on schedule or as soon as it starts receiving valid assets.

When the event has ended, the channel instance can be turned off and will no longer use cloud resources.

Creating Channels On The Fly

If you need a channel in a hurry and you do not have a pre-defined channel available, it is possible to create it on the fly. The Aviator Deployment Manager asks for a few simple inputs to set up the type of channels, its input(s) and output, and within a few minutes the channel will be up and running. Once running, the quickest way to begin using the channel is to drag and drop content into the channel's playlist. You can also import an existing playlist that has been built and saved offline or set up a workflow to receive playlists from a traffic system.

What Workflows Can a Pop-up Channel Support?

All automation and media workflow tools are included with Aviator. This means that users have access to a feature-rich channel origination solution, all running in the cloud. As a result, a vast array of workflows are possible.

Functionality is controlled by channel licenses rather than the automation and media management system. Everything is included in the automation and media management part of the solution. This in turn makes channel deployment more streamlined.

A channel created in Aviator has access to the Playlist and Control apps. These apps can be used with any native Aviator channel. The exact functionality available is dependent on the template and licensing of the channel itself.

Playlist App

The Playlist app is used for scheduled playout. The operator can monitor and manage the playlist, adding, modifying, reordering, and deleting events as needed. This includes working with live events, managing breaks and their associated SCTE triggers. The playlist will generate an as run list to reconcile events played with a traffic system. There is also an As Run app in Aviator to see as run data over time before the playlist ends.
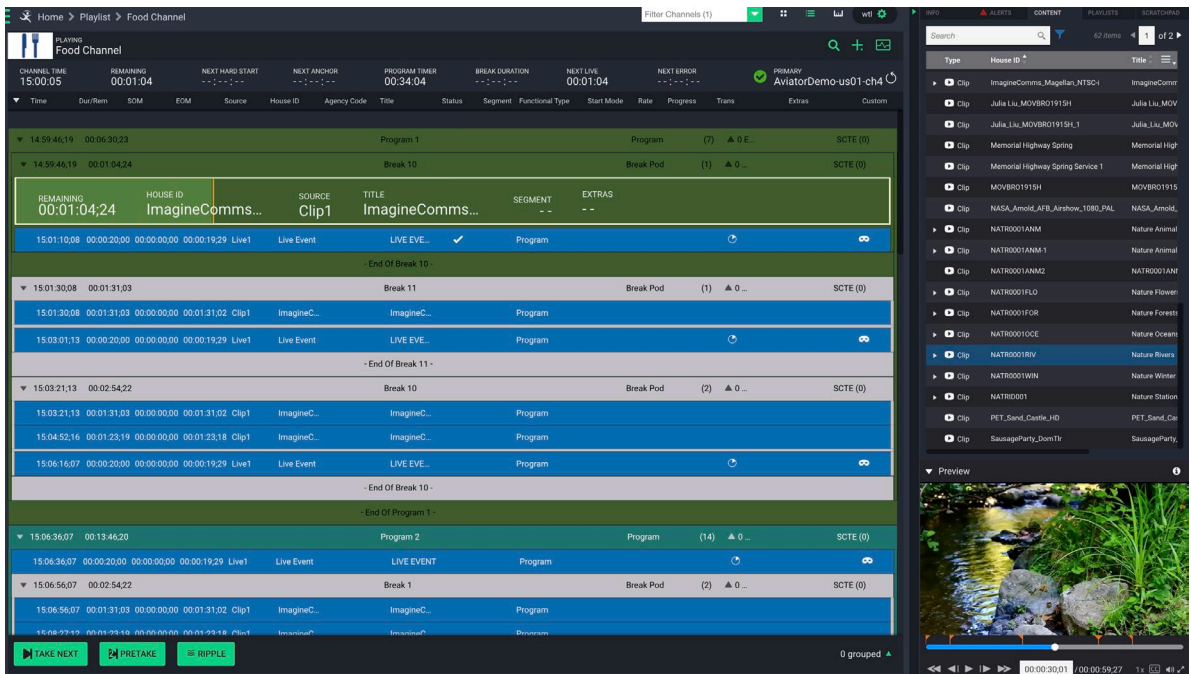
Control App

The Control app is used for master control workflows including live events. It provides access to the build-a-panel user interface to create custom layouts so that master control operators have the right tools for the job when needed. As many layouts as needed can be created. Those used most often can be tagged as favorites, making them easy to locate and use. For example, a layout for an awards show can be created and saved and easily found the following year when its specific feature set and organization of tools are needed again.

Channel Redundancy

It is often essential that a playout channel has some form of redundancy. And this is also true of pop-up channels. Aviator makes it easy to enable and reconfigure redundancy strategies based on need rather than limiting it to fixed rules.

Redundancy is defined for each channel, with a primary channel being able to share a backup channel with other channels (n+1), a group of primary channels share redundancy with a smaller number of backup channels (n+m), or have more than one backup per channel (e.g., 1+1+1). A main channel can have between 0 and 4 backup channels tied to it.

When running a channel with redundancy, the operator will normally use the 'logical' channel, which shows the status for the primary and all connected backup channels. Should a situation occur where one of the main and/or backup(s) are out of sync, the operator can drill down to a view of all actual running channels to see where the issue is and then decide on which channel(s) to continue with. The redundancy solution also includes support for rules, allowing decisions for the operator if desired when defined failure scenarios occur.

Accessing Live Streams, Assets, and Schedules

Unless you already have all your live streams, assets, and schedules accessible in the cloud, you will need a way to get them there. The various on-ramps and off-ramps to the cloud are a source of continual improvement and are readily available from Imagine and other providers.

Live Streams

It is easy to uplink live streams to the cloud. These are typically contribution encoded streams to keep latency low so viewers have the best overall experience. The uplink technology should use ARQ technologies such as SRT and ZIXI providing secure, error- corrected streams that can be used as live inputs to pop up channels.

Assets

Clips, graphics, audio, and other file-based assets can be copied from any storage location accessible via the internet to the cloud. As long as the assets can be tracked along with their metadata, they can easily be used in a pop-up channel. This includes assets specifically created for the pop channel – the graphic branding and likely some or all of the video clips – and assets that are being repurposed such as ads, promos, and library and stock footage.

Schedules

Schedules can be made directly in the pop-up channel using drag and drop from the available asset list(s), enabling events to be covered quickly and to respond to unexpected demands or changes in events. This includes support for breaks and associated triggers for downstream ad insertion.

Alternatively, schedules can be sent to the pop-up channel from a traffic system in the same way as they are to normal playout channels.

Imagine partners with vendors to enable contribution encoding and secure uplink of live streams to the cloud. We also provide on-prem and cloud-based routing control, making it possible to manage the full path of live streams and which channels in the cloud can consume them. We also support sophisticated file-based workflows that can be tailored to the needs of pop-up channels along with other channels running on-prem or in the cloud. And we integrate with all the common traffic systems, making integration of schedules simple, including creating playlists on the fly using tools built directly in our user interface.

Use Cases and Operating Modes

There are no practical limits to the use cases for pop-up channels.
Here is a selection of common use cases:

| ELECTIONS | SPORTING EVENTS | AWARDS CEREMONY | CLIMATE EVENTS | HISTORIC EVENTS |

The Imagine Advantage

Imagine delivers clear advantages when deploying pop-up channels:

1. We provide a common user interface for on-prem Versio channels and the Aviator cloud-based playout channels, so there is no learning curve for operators and no special or different processes for handling on-air issues.
2. We support scheduled and live events within our playout environment. This includes support for playlist creation and manipulation, handling for live events, and control of graphic branding and audio to suit the channel's needs.
3. We make it easy to launch pop-up channels for a one-off event, or start them on a regular basis for reoccurring or seasonal events.
4. We provide customizable user interfaces to suit the channel's needs. These configurations can be saved and recalled the next day, week, month or year when the channel is needed next.
5. We make it easy to monitor each channel with clear playlist and control UIs, built-in content preview and a viewer for the channel program and preset outputs, and integration via Prometheus and Grafana for visualizations of key performance metrics of the channel.