



Pearl Network Consortium RUN3TV Broadcaster Application V2.0 Release Notes

Document Version: 1.0

Date: June 22, 2023

Release notes

This release contains the RUN3TV (TM pending) ATSC 3.0 application framework version 2.0 as well as a separate reference broadcaster starter kit.

In this starter kit, the current 'common application' has now been superseded by the new user experience. The starter kit contains SIX services with each service carrying a different test application. This new user experience was initially demonstrated during NAB (April 2023) and is currently being used by several broadcasters wishing to launch their NEXTGEN TV application in the coming months.

It conforms to ATSC 3.0 "A/344:2022-03 dated 28 March 2023" with additional support for extensions going through the specialist and ad-hoc groups within ATSC.

Application functionality

The new user experience supports all the features that have previously been available in the common application.

- **The Application**

The User experience application is more content rich and has been designed to work with standard RSS feeds. It is currently being employed by several broadcasters who are planning to release their NEXTGEN TV application in 2023. In addition, enhanced Console logging functionality has been added allowing detailed debugging to take place whilst using any background application.

- **Documentation**

Several new Framework and User experience related documents have been published. These include many design documents as well as RSS feed specification document.

- **Updated 'Broadcaster Starter Kit' documentation.**
- **Updated Emulator with new on-screen Remote control.**
- **Several bug fixes and minor improvements.**

Starter Kit

The starter kit has been re-configured and contains SIX distinct services. Each service offers the user a different application for testing and demonstration purposes. The services can either be changed by pressing CH_UP or CH_DOWN keys using an on-screen navigator OR by using the 'U' and the 'D'

keys on the keyboard. The services are configured to rotate in a cyclic fashion. Thus, pressing U key when watching Service 6 will take the user back to Service 1.

Each service displays different video content in the background. This simulates a more realistic TV-like experience when using the starter kit for demonstration purposes. In addition, both **mp4** and **mpd** formats are now supported on each service.

The SIX services are configured as follows:

1. tag:run3tv.org,2023:globalServiceID/1

This service contains no application and is included for exception handling tests.

2. tag:run3tv.org,2023:globalServiceID/2

This service contains FIELD TEST Application for data metrics + background A/V. Application is delivered via broadband internet. (OTT)

3. tag:run3tv.org,2023:globalServiceID/3 (OTT)

This service contains the new user experience application.

4. tag:run3tv.org,2023:globalServiceID/4 (API-NRT – App Service)

This service contains our API tester application which is delivered via NRT on an App based service.

Note: This service is only available in the stream (PCAP).

5. tag:run3tv.org,2023:globalServiceID/5 (API App- AV Service with Multiperiod + Event streams)

This service contains our API tester application which is delivered via IP on an AV service with Multiperiod and Event Stream.

Note: This service is only available in the stream (PCAP).

6. tag:run3tv.org,2023:globalServiceID/6 (OTT)

1. This service contains the older Common App. It has an example BAAppear image / text and 'Default Blue Menu application + background A/V.
2. Application is delivered via broadband internet. (OTT)
3. This service also contains the following:
 - Google DAI (see DASH section under FEEDS)
 - Madhive DAI (see HLS section under FEEDS)
 - Live stream support (see HLS section under FEEDS)

Note: This service contains the Common application as per release 1.11 (Service 3).

Application Access

Two PCAP streams have been created for this release; a (default) unsigned version and a (new) signed version. Each PCAP contains the broadcast channels and applications.

The PCAPs can be downloaded from the following addresses:

UNSIGNED VERSION:

https://frwk-releases.a3fa.yottacloud.tv/pcaps/v2.0.0/Framework_Release.pcap

SIGNED VERSION:

https://frwk-releases.a3fa.yottacloud.tv/pcaps/v2.0.0/Framework_Release_Signed.pcap

These URLs are whitelisted (restricted to registered IP Addresses).

If issues are found, please contact us to add your IP Address to the list.

NOTE: All CE manufacturers are encouraged to test these PCAPs to validate functionality.

Broadcast Configuration

The PCAP stream contains SIX broadcast services. Application is delivered via NRT within the stream.

Broadcast Channel Details

Service Name	SID	Major-Minor	GSID	Service Category	IP Address	UDP Port
R3AV	5001	1-1	tag:run3tv.org,2023:globalServiceID/1	1	239.255.1.1	5001
R3FT	5002	2-1	tag:run3tv.org,2023:globalServiceID/2	1	239.255.2.1	5002
R3QB	5003	3-1	tag:run3tv.org,2023:globalServiceID/3	1	239.255.3.1	5003
R3NT	5004	4-1	tag:run3tv.org,2023:globalServiceID/4	1	239.255.4.1	5004

R3ME	5005	5-1	tag:run3tv.org,2023:globalServiceID/5	1	239.255.5.1	5005
R3CA	5006	6-1	tag:run3tv.org,2023:globalServiceID/6	1	239.255.6.1	5006
ESG	5007	N/A	N/A	4	239.255.0.255	5007

Application Loading

Broadcast NRT

Service Name	File	AppContextId	IP address	UDP Port
R3NT	nrt-app.multipart	tv:nrt-test-app.run3tv.org	239.255.4.251	5004

Broadcast HELD

```
<HELD xmlns="tag:atsc.org,2016:XMLSchemas/ATSC3/AppSignaling/HELD/1.0/">
  <HTMLEntryPackage
    appContextId=" tv:framework.run3tv.org"
    bcastEntryPackageUrl="framework20_R.multipart"
    bcastEntryPageUrl="index.html"/>
</HELD>
```

Broadband

Service Name	URL	AppContextId
R3FT	https://frwk-releases.a3fa.yottacloud.tv/framework-app/releases/v2.0.0/run3tv-common/index.html	tv:framework.run3tv.org
R3QB	https://frwk-releases.a3fa.yottacloud.tv/framework-app/releases/v2.0.0/run3tv-common/index.html	tv:framework.run3tv.org
R3CA	https://frwk-releases.a3fa.yottacloud.tv/framework-app/releases/v2.0.0/run3tv-common/index.html	tv:framework.run3tv.org
R3ME	https://atsc3-api-tester.a3fa.yottacloud.tv/run3tv-common/index.html	tv:api-test-

		app.run3tv.org
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Broadband HELD (R3QB, R3CA and R3ME)

```
<HELD xmlns="tag:atsc.org,2016:XMLSchemas/ATSC3/AppSignaling/HELD/1.0/">
  <HTMLEntryPackage
    appContextId=" tv:framework.run3tv.org" bbandEntryPageUrl=" https://frwk-
    releases.a3fa.yottacloud.tv/framework-app/releases/v2.0.0/run3tv-
    common/index.html "/>
</HELD>
```

Installation

FRESH INSTALL

If installing a fresh copy, please follow the instructions exactly as outlined on NPM site.

UPDATING YOUR CURRENT INSTALLATION

If upgrading from 1.11 to this 2.0 release, please follow the procedure outlined below:

First, go to your working (current) 1.11 directory. Run / execute the following command:

```
npx @a3fa/a3fa-broadcaster-starter-kit@latest
```

Then execute:

```
npm i
```

and then execute:

```
npm run build
```

This concludes the update process. Run the default application in local emulator by executing the appropriate command. For windows platform, the command is as follows:

```
npm run win conf=".emulator/atscCmd-2023.mc.json"
```

After updating your existing installation and upon running the new Starter kit, go to the user experience application, (found on ServiceID/3), then go to SETTINGS / System Info section and verify that FMW version is as follows:

FMW build: v2.0.0 (2023-06-22 11:42:23)

Framework Testing

Several new features have been added to this release. Most of these features have now been tested on the current CE devices (listed in subsequent sections). However, we encourage all partners to test these PCAPs and validate all newly added features. This release is now available for OTA testing.

Electronic Service Guide Testing

The PCAP files for this release contain a valid ESG data service. This ESG data is timestamped at the time of recording. In order to recover and process this data successfully, the tester may need to either set the TV time manually to the time of recording (see Application Access section above), and/or set the time embedded in the stream on playback.

Using a Dektec ATSC3.0 modulator running ATSC3Express application the stream time can be set on the main window under **Time info insertion** section. The SW can also display when the capture was made by viewing the **PLP Source Selection** window and reading the **Start Time PTP** box. Screen shot example below.

