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## Programmer Onboarding

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### **DAI Launch Guide**

ISSUED – 06/02/2015

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## Document History

Version	Date	Revised By	Notes
0.1.0	7/25/2012	Brewster, Samuelson, Shepard	Initial Version – First end to end pass at onboarding for Phase 1
0.2.0	10/22/2012	Shepard	Updates
1.0.0	10/25/2012	Brewster	Copy Edit
1.0.1	11/09/2012	Shepard	<u>Sec 9.4.4</u> : Update to CSV file naming convention
1.0.2	11/30/2012	Shepard	<u>Sec 8.1</u> : 5 frames of lead/trail black for ad assets now listed as required
1.0.3	12/04/2012	Shepard	Section 3.3: Fixed NPT reference Section 4.3: Updated DMAs for Canoe's footprint. Section 9.5: Updated CSV instructions to support multi-MSO.
1.1.0	04/15/2013	Shepard	<u>Sec 3</u> : Updated to current. Added ORT checklist. <u>Sec 4</u> : Updated to current. <u>Sec 5</u> : New capabilities, updated IO. <u>Sec 6</u> : New ad-asset reporting. <u>Sec 7</u> : New Ad Map template, more details surrounding Assignment Rules. <u>Sec 8</u> : Updated ad asset metadata requirements, black frames of lead/trail now optional. <u>Sec 9</u> : Updated to include entertainment asset requirements, updated break capabilities. Added metadata requirement to differentiate C3/D4 and to perform Series targeting. <u>Sec 10</u> : New invoice template.
1.1.1	4/22/2013	Shepard	<u>Sec 8.1</u> : Added bullet that starts "Bit Rates MUST" <u>Sec 9.2</u> : Added " HD" examples for Series targeting.
1.1.2	4/24/2013	Shepard	<u>Sec 9.3</u> : Added SFTP site name.
1.1.3	5/13/2013	Shepard	<u>Sec 8.4</u> : Added "Asset_ID" requirement. <u>Sec 9.2</u> : Clarified Series targeting by "Title Brief". <u>Sec 9.3</u> : Added request entertainment metadata be sourced as far downstream as possible. <u>Sec 9.6.4</u> : Updated notes for Asset ID and Asset Name. <u>Sec 9.9</u> : Added break point metadata fallout operational troubleshooting details.

Version	Date	Revised By	Notes
I04	7/19/14	Shepard	<ul style="list-style-type: none"> <li>• Formatting changes to align with document standards used for Policies and Procedures Manual</li> <li>• Updated ORT checklist with new headers and added check where Canoe verifies internal system</li> <li>• Added Title Long, Series ID, Series Name targeting</li> <li>• Updated Ad Map template</li> <li>• Updated IO template</li> <li>• Added sample ad asset metadata</li> <li>• Added capabilities from July 2014 release</li> </ul>
I05	7/29/14	Roberta	Prepare copy for review by Mark Shepard
I06	9/11/14	Shepard	<u>Sec 10.6</u> : Updated break point requirements to account for local breaks
I07	10/09/14	Shepard	<u>Sec 10.6.1/4</u> : Minor modifications to local break point requirements: <ul style="list-style-type: none"> <li>• Updated _Local descriptions in 10.6.1</li> <li>• Clarified file format header in 10.6.4</li> <li>• Added additional details to _Local requirements in 10.6.4</li> </ul>
I08	10/17/14	Brewster	<u>Sec 8.5</u> : Addition of incident reporting contact information
I09	12/2/2014	Shepard	<p><u>Sec 5.2.1</u>: Updated to accommodate multiple networks (7/2014).  <u>Sec 5.2.3</u>: Updated 5.2.3 to provide examples and additional details around "within episode" frequency capping (7/2014) and "across episode" frequency capping (9/2014 release).  <u>Sec 8.4</u>: New section to detail Ad Map restriction of 50 content segments.  <u>Sec 8.4/8.5</u>: Updated to include new Ad Maps distribution email list.  <u>Sec 10.6.1</u>: Updated 10.6.1 to add requirement that states only one (1) local sub-region per break is supported.</p>
I10	4/8/2015	Shepard	<p><u>Sec 1.3</u>: Expanded Impression definition.  <u>Sec 2</u>: Updated Executive Summary to include onboard MSOs.  <u>Sec 10.6</u>: Added description around assets without break points.</p>
ISSUED	4/10/2015	Brewster	<u>Issued for external audience</u>
ISSUED	4/17/2015	Shepard	<p><u>Sec 2</u>: Updated Executive Summary to add VOD HHs enabled.  Added Addendum that lists current footprint geography.  <u>Sec 7</u>: Clarified reporting time windows.</p>
ISSUED	6/01/2015	Shepard	<p><u>Sec. 6</u>: New (Canoe web-based portal)  <u>Sec. 8.1</u>: New. (Reporting Methodology)  Copy edits throughout.</p>
ISSUED	6/02/2015	Shepard	<u>8.1.1, 8.1.2</u> : Consistency edits.

## Key to Document Status Codes

<b>Work in Progress</b>	An incomplete document, designed to guide discussion and generate feedback within the drafting group. May include several alternative positions for consideration.
<b>Draft</b>	A document considered largely complete, but lacking review by project stakeholders. Drafts are susceptible to substantial change during the review process.
<b>Issued</b>	A stable document that has undergone rigorous stakeholder review and approval. The document is ready for broad distribution and can serve as the basis for product design and development.

# 1 Introduction

## 1.1 Purpose

The purpose of this document is to provide Programmers with a guide for preparing their VOD content for Dynamic Ad Insertion (DAI). This document is **not intended** to be an operations manual. Rather, it is designed to provide Programmers with an orientation to the advertising product, the content preparation, workflows and timelines that will assist in the planning and execution of VOD DAI.

## 1.2 How to Use This Guide

The DAI Launch Guide is divided into chapters in a way that should address specific parts of the Programmer's organization. Some of the sections include a Frequently Asked Question (FAQ) pertaining to the section's topic as well as information on how to get additional support. The following table provides a brief summary of each section as well as the suggested audience:

SECTION	DESCRIPTION	SUGGESTED AUDIENCE
<b>Introduction</b> (Pg.8)	The Introduction provides an overview of the Guide, including a lexicon of the terms and acronyms used throughout the document.	All
<b>Executive Summary</b> (Pg. 13)	This section provides a general overview of the Canoe DAI service and the key components that make up the system.	All
<b>Getting On Board</b> (Pg. 14)	This section details the steps necessary to prepare the Programmer's business and content distribution operations systems and processes for the launch of the Canoe DAI service. It includes a detailed checklist of all the key workflow components that will be assessed during the initial engagement and tracked throughout the onboarding process.	<ul style="list-style-type: none"> <li>• Ad/Business/Sales Operations</li> <li>• Content Distribution</li> <li>• Project Management</li> </ul>
<b>Selling DAI</b> (Pg. 27)	This section provides guidelines for selling DAI.	<ul style="list-style-type: none"> <li>• Ad/Business/Sales Operations</li> </ul>



SECTION	DESCRIPTION	SUGGESTED AUDIENCE
<b>Insertion Orders</b> (Pg. 29)	This section details to the Programmer’s Ad Operations group the flow of IO’s from Programmer to Canoe, as well as the current capabilities of the Canoe DAI footprint.	<ul style="list-style-type: none"> <li>Ad/Business/Sales Operations</li> </ul>
<b>Reporting</b> (Pg. 40)	This section provides the current state of reports with examples, as well as details the short-term reporting roadmap.	<ul style="list-style-type: none"> <li>Ad/Business/Sales Operations</li> </ul>
<b>Ad Maps</b> (Pg. 43)	This section provides details of how to configure Ad Maps as well as current capabilities.	<ul style="list-style-type: none"> <li>Ad/Business/Sales Operations</li> <li>Content Distribution</li> </ul>
<b>Ad Asset &amp; Metadata</b> (Pg. 50)	This section provides the Canoe requirements for preparing and distributing ad assets for DAI.	<ul style="list-style-type: none"> <li>Content Distribution</li> </ul>
<b>Entertainment Asset &amp; Metadata</b> (Pg. 53)	This section provides the Canoe requirements for preparing and distributing entertainment metadata.	<ul style="list-style-type: none"> <li>Content Distribution</li> </ul>
<b>Billing</b> (Pg. 62)	This section details Canoe’s billing process.	<ul style="list-style-type: none"> <li>Ad/Business/Sales Operations</li> </ul>

### 1.3 Terms and Acronyms

The following terms and acronyms are either used in this document or may be used in discussions with Canoe team members and Programmers throughout the on-boarding process:

TERM	DESCRIPTION
Ad Decision	The ‘Ad Decision’ also means the statistical process of converting campaign instructions and the current state of the campaign into an ad playlist. Also referred to as ‘Scheduled Insertion.’
Ad Avail	See ‘Placement Opportunity’.
Ad Map	Programmer-created template that controls the Ad Load for any entertainment asset that meets a specific criteria. For example, a “Long Form Ad Map” might target any entertainment content duration greater than 15 minutes (or where ‘Series’ = ‘X’, Title = ‘Y’, etc.) with a single 30s pre-roll opportunity, two mid-roll breaks with single 60s opportunities each, and a single 60s post-roll opportunity.

TERM	DESCRIPTION
Break	<p>Same as 'Pod'. Break is defined as a grouping of placements in one of the following categories:</p> <ol style="list-style-type: none"> <li>1. Pre-Roll – group of placements scheduled previous to entertainment content beginning or immediately following content start (e.g., after a network open bumper)</li> <li>2. Mid-Roll – group of placements scheduled within the entertainment content. A VOD Session could have multiple Mid-roll breaks (e.g. Mid-roll 1, Mid-roll 2, etc.)</li> <li>3. Post-Roll – group of placements scheduled following the end of the entertainment content or immediately preceding content end (e.g., prior to movie credits)</li> </ol> <p>Note: For technical audiences, a Break is defined as 1 or more Placement Opportunities sharing the same PO Group Index.</p>
Campaign	A Canoe Campaign is the instruction set container for executing a Canoe Order. A Campaign may contain one or multiple Campaign Items.
Campaign Item	<p>The set of Scheduling / Targeting logic surrounding one or multiple Ad Assets for a particular Campaign. A Campaign may have one or multiple Campaign Items.</p> <p>Note: Also referred to as a Contract Line Item and/or Campaign Line Item.</p>
CIP	Campaign Information Package
CIP-FN	CIP Feedback Notice
CIS	Content Information Service
CM	Campaign Manager
Content Segment	Any portion of a VOD playlist at an MVPD. For example, each time a section of the entertainment asset plays out this would count as a content segment. Similarly, every ad that plays out would be a separate content segment.
DAI	Dynamic Ad Insertion
Household	A Unique Viewing Subscriber's Household. A Household can have one or multiple viewing devices (i.e. Set top Box) associated with it.

TERM	DESCRIPTION
Impression	<p>An Impression is defined as the first frame of the ad asset being presented at NPT scale of 1 (normal play mode) in the forward direction. If the Viewer leaves the asset entirely (either rewinding before it starts or by routinely beginning the next asset in the playlist) and returns to the first frame presented at NPT scale of 1 in the forward direction, this would count as an additional impression.</p> <p>Note that it is possible for an impression(s) to be counted by Canoe’s system if a viewer is watching a Video On Demand program and the viewer either (a) changes the input on their television without turning off their STB or (b) turns off the television without turning off the STB. In both cases, the number of impressions accrued would be limited to ads served into the single program the viewer had been watching.</p> <p>Note: Also referred to as a ‘View.’</p>
Insertion Order	<p>A Canoe developed Programmer order form that allows for DAI campaigns to be input across multiple Operators. The Insertion Order creates a common ground between the different systems involved.</p>
MSO	<p>Multi-system operator. In the context of this document, refers to Brighthouse, Charter, Comcast, Cox, Cablevision, and/or Time Warner Cable.</p> <p>Note: Also referred to as ‘Operator’</p>
Network	<p>The network owner of the entertainment asset into which the ad asset was inserted. Network can refer to any type of Content Provider that supplies VOD content, including Broadcast, Cable and Non-Linear only organizations.</p> <p>Note: Network refers the branded content network offering (i.e. Bravo, NBC, ExerciseTV, AMC, TBS, etc.), and not the parent programming network group (i.e. NBCU, AMC Networks, Turner, etc.).</p>
Operational Readiness Test (ORT)	<p>Must occur as part of onboarding. Programmer will work directly with Canoe to validate processes and run a series of test campaigns in a production environment. Once ORT is complete, a Programmer is ready to run paid campaigns.</p> <p>For details, see Section 3 Getting Onboard.</p>
Opportunity	<p>See ‘Placement Opportunity’.</p>
Order	<p>A Canoe Order represents the list of Advanced Advertising Products and Services a Programmer enlists the Canoe Stewardship for use. An order may contain one or multiple campaigns.</p>

TERM	DESCRIPTION
Placement Opportunity	<p>Can mean same as ‘Opportunity’ or ‘Ad Avail’. A distinct location where advertising can be placed. Placement Opportunities are defined in Ad Maps, and have a minimum and maximum duration assigned. Only 1 ad asset can currently be placed in any given Placement Opportunity.</p> <p>One or more Placement Opportunities constitute a Break and are defined as part of a Programmer’s Ad Map(s).</p>
Play Time	<p>Play Time measures the amount of time an asset was viewed in Play Mode (NPT scale of 1 in forward direction) regardless of any trick modes (e.g., fast forward, pause, jump backward) that may have been invoked in between. Play Time is a subset of Run Time; Play Time does not include session set-up/tear-down time or any time relating to FF (fast forward), Rewind, or Pause (which may all be included in Run Time). Play time may exceed ad duration. Play time is measured for an ad asset each time an ad is inserted into program content (the same ad may be entered multiple times during the customer’s viewing of a VOD entertainment asset).</p>
Pod	See ‘Break’.
Program Identifier	<p>The CableLabs Provider ID/Asset ID (PAID) to identify the entertainment asset the ad is being inserted into.</p> <p>Note: Also referred to as an Entertainment Title and/or Main Content Asset.</p>
POIS	Placement Opportunity Information System
Programmer	The parent company of ‘Networks’ (i.e., Bravo, AMC, History) is referred to as the ‘Programmer’ (e.g., NBCU, Rainbow, A&E Networks).
PSN	Placement Status Notification
Run Time	<p>Run Time is measured from the time a view was initiated until the time the stream was exited including any trick modes that may have been invoked in between. Run Time may be described as the “wall clock” time that an ad asset was engaged by a customer. Run Time is measured for an ad asset each time an ad is entered from program content (the same ad may be entered multiple times during the customer’s viewing of a VOD entertainment asset).</p>
Scheduled Insertion	The output of an ‘Ad Decision,’ rendering a playlist of ‘Ad Asset’ title at the time of VOD Session Creation.
SMSI	Service Measurement Summary Interface
STB	Set Top Box
View	See ‘Impression’

## 2 Executive Summary

Canoe is an advertising technology company that provides software and services to national television programming networks. Canoe was founded in 2008 by six multi-system operators (MSOs): Brighthouse, Charter, Comcast, Cox, Cablevision, and Time Warner Cable. Our original mission was to develop products for four lines of business: Addressability, iTV, Data, and Video on Demand Dynamic Ad Insertion (VOD DAI). In 2012, the company evolved to focus on a single line of business, VOD DAI. At the time of this publication, Canoe's DAI footprint includes Comcast, Time Warner Cable, Brighthouse and Cox Communications, representing 34.9M households that are VOD enabled. For a current list of MSOs and household footprint geography, please contact Canoe.

For Programmers looking to monetize Free On Demand content, the Canoe platform provides opportunities for new revenue streams. Through the coordination and implementation of industry standards with the MSO community, the Canoe Stewardship Platform orchestrates the insertion of traditional advertising in pre, mid, and post positions in nationally distributed VOD entertainment content. Canoe gives programmers the ability to place ads and manage campaigns across the diverse on-demand video infrastructure of multiple MSOs with a single campaign instruction. In addition to providing scale for programmers to execute campaigns on a national footprint, the Canoe clearinghouse provides a rapidly aggregated view of campaign results. With Programmers integrated to our platform and executing campaigns, our service assurance team monitors the campaign across the ecosystem for optimal performance.

Today, the current DAI solution is a dedicated platform for VOD. We anticipate the need in the future to combine these capabilities to provide single order execution across multiple digital media distribution paths. The Canoe Stewardship Platform is designed to integrate with many products in the VOD eco-system as well as with leading video ad management systems. Our platform interoperates with products from VOD distribution vendors including Arris, BlackArrow, Concurrent, Ericsson, SeaChange, and THIS Technology; and with products from program network vendors including CMC, Vubiquity, Clearleap, DART, FreeWheel and Google/DFP.

Canoe has developed a comprehensive program designed to fully prepare Programmers who have agreed to offer VOD DAI services. The 'on-boarding process' ensures that all content and metadata workflows are defined and executed by content distributors, the ad operations group is trained on executing order instructions and the reporting capabilities, and the sales/business group understands the scope of the VOD DAI offering today and in the future.

Canoe's DAI product is the first service of its kind to be offered to national programmers. It will enable Programmers to unlock new ad inventory while providing unparalleled accountability to your advertisers. We're excited to begin working with your team to bring you "on-board" as a Canoe enabled programmer and look forward to mutually rewarding relationship.

### 3 Getting On Board

Canoe has put together a comprehensive guide to fully preparing Programmers for VOD DAI. The ‘onboarding’ process ensures that all technical systems and communications are in place, business processes are updated, and sales and operations personnel are thoroughly trained. Onboarding is considered complete when a Programmer has successfully executed its first set of campaigns during the Operational Readiness Test.

At the beginning of the onboarding process, a Programmer will be assigned a Canoe Operations representative to oversee each step of the process. This person will serve as the Programmers primary point of contact throughout the process, ending with a successful Operational Readiness Test (ORT). At that point, Canoe will continue to provide ongoing operational support through regular calls with the Programmer’s ad support personnel, daily support of insertion orders and reports, and technical support/troubleshooting.

This section details the steps Canoe will work through with the Programmer’s sales, business operations and technical operations teams to bring the Programmer completely on board with the VOD DAI service. Programmers should expect this process to require approximately 6 weeks from the kickoff meeting:

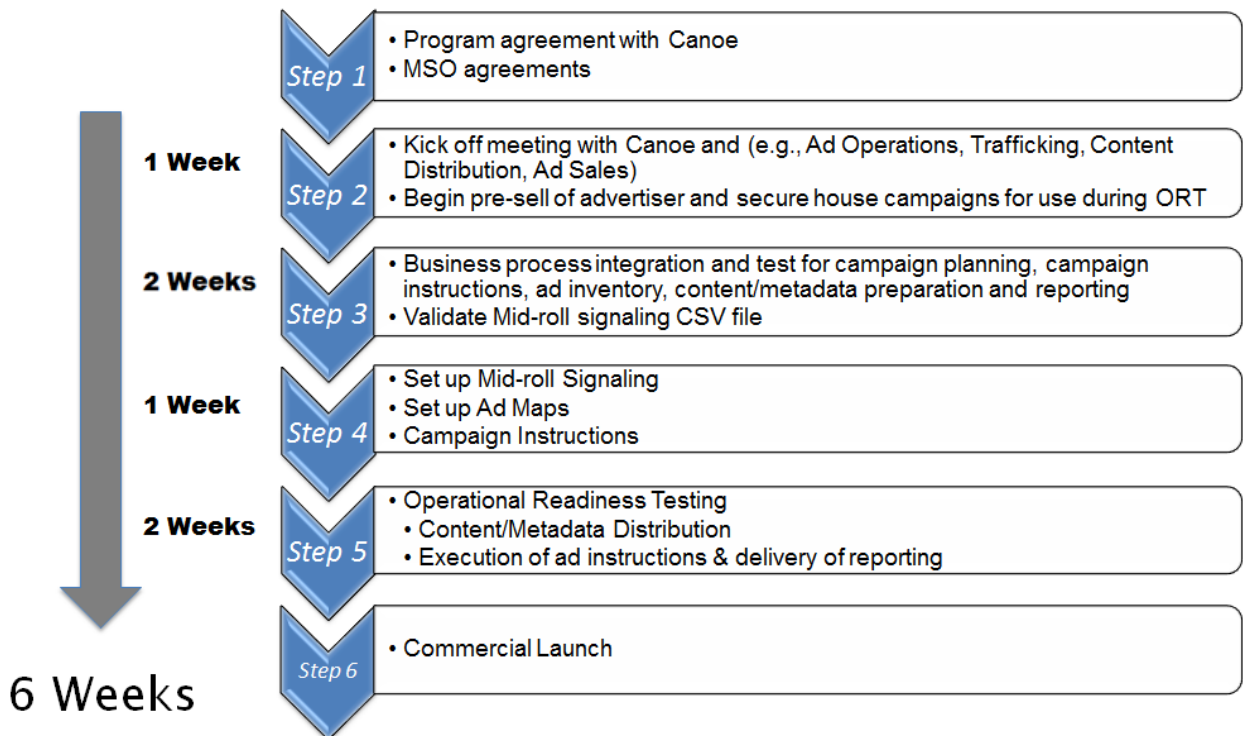


Figure 1: Onboarding Schedule

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### **3.1 Kickoff Meetings**

The first step is to hold one or more kick off meetings with the Programmer's sales, ad operations, VOD distribution group, inventory analysts, and business operations. The kickoff meetings can be held as individual breakout sessions with focus on each functional area, or as a single, all-inclusive meeting. The kickoff meetings can be accomplished in 1 day. Below is a proposed agenda:

1. Canoe's DAI product discussion
  - a. Overview of current capabilities
  - b. Roadmap of capabilities
2. Programmer's feedback for how DAI addresses their current and future needs
3. Programmer's current operations
  - a. Ad sales today
  - b. Content distribution business process
4. Ad map and inventory
  - a. Detail discussion of ad map capabilities
  - b. Uses of ad maps to create and manage inventory
  - c. Configuring ad maps
5. Sales process
  - a. ROS capabilities
  - b. National sponsorship capabilities
6. Insertion Orders
  - a. Detail discussion of order instruction capabilities
  - b. Review insertion order form
7. Ad (creative) workflow
  - a. Ad content metadata
  - b. Ad mpeg
8. Entertainment workflow
  - a. Entertainment content metadata
  - b. Entertainment insertion break metadata
9. Operations Readiness Testing
  - a. Timelines and project management
  - b. Process workflow and ORT assignments
10. Reports
11. Billing

---

## ***3.2 Business Process Integration and Test***

Following the kickoff meeting and the establishment of onboarding assignments, Canoe will work with the Programmer's business and operations team to review their current VOD practices in order to set up the VOD DAI workflows. Key to integration with Canoe is validation of entertainment and ad metadata as it is passed through the ecosystem, guidelines for content preparation and pitching, and the creation and distribution of entertainment break data files for mid-roll insertions.

Canoe uses industry standards for VOD metadata (ADI 1.1) in order to accomplish the targeting of ad creative on specific entertainment content. While ADI 1.1 is a standard format for metadata, it has varying implementations across the VOD distribution ecosystem. Canoe will work with the Programmer to validate their metadata, and will jointly work to solve any discrepancies in implementation.

The preparation of content must follow some specific practices that, most likely, are already implemented as part of current VOD packaging and pitch operations. The addition of ad creative to the process of distributing content to the MSOs should be low impact to existing operations.

As part of enabling entertainment content for mid roll insertion, the Programmer must include steps in the packaging and distribution that include the identification of mid roll placements. This involves the identification of Normal Play Time (NPT) for a specific insertion point or points within the entertainment content. Pending broader ecosystem support for ADI 3.0, where break point metadata will be bundled as part of the entertainment metadata, this break point metadata is currently passed via a separate workflow to Canoe for distribution to the MSOs.

## ***3.3 Operational Readiness Testing (ORT)***

Canoe will coordinate an Operational Readiness Test (ORT) with each Programmer. This begins with a validation of new and updated workflows required by DAI, and ends with the verification of a production (usually Network promo) campaign. After ORT is complete, a Programmer is considered fully on-boarded and may run campaigns at will. All ORT Documentation will be retained by Canoe for a minimum of 13 months.

### **3.3.1 ORT Prerequisites**

#### **Agreements/Certifications**

- Programmer/Canoe agreement complete.
- Programmer/MSO certifications complete.



**Initial Configuration**

- Programmer must determine which Network(s) will be eligible for DAI.
- Programmer must determine if they will submit campaigns/IOs directly through Canoe (Excel order form) or via the Canoe API using a northbound interface (e.g., FreeWheel, Google/DFP).
- Canoe to coordinate configuration of Network(s) for DAI across each DAI-enabled MSO.
- Canoe must configure Network(s) for DAI within its systems.
- Canoe must issue metadata SFTP credentials for Programmer (ADI 1.1, CSV break point).

**Ad Maps**

- Programmer must decide on initial Ad Map(s) for ORT. **See Section 0** for Ad Map capabilities.
- Programmer must fill out Ad Map template and submit to Canoe. **See Section 9.2.**

**Ad Asset MPEG**

- Programmer must select at least one SD and HD ad asset for use in ORT.
- Programmer must ensure ad(s) adheres to required encoding. **See Section 10.1.**

**Ad Asset Metadata (ADI 1.1 XML)**

- Programmer must add workflow for ad asset metadata creation. **See Section 10.4.**
- Programmer must create ad metadata for the SD and HD ORT ad assets selected above.
- Programmer must add Canoe as endpoint to receive ADI 1.1 ad metadata. **See Section 0.**

**Entertainment Asset MPEG**

- Programmer decides whether DAI will use C3 or D4 assets. If D4, Programmer must decide whether assets will contain baked-in ads or will be ad-free. **See Section 3.5 (3a).**
- Programmer must ensure entertainment adheres to required encoding. **See Section 11.1.**

**Entertainment Asset Metadata (ADI 1.1 XML)**

- Programmer must review whether updates are required to entertainment metadata. **See Section 11.2.**
- Programmer must add Canoe as endpoint to receive ADI 1.1 entertainment metadata. **See Section 11.3.**

**Entertainment Asset Break Points (CSV)**

- Programmer must create workflow to identify break points in entertainment using mpeg NPT of I-Frames and create CSV with break point metadata. **See Section 11.6.**
- Programmer must create workflow to communicate break points to Canoe via SFTP. **See Section 11.7.**

**Insertion Orders (IOs)**

- Programmer must fill out ORT IO that includes with traffic instructions and required ad asset metadata. **See Section 5.**
- Programmer must send ORT IO to Canoe. **See Section 5.4.**

---

### 3.3.2 ORT Steps

#### Initial Configuration

- Canoe to confirm DAI is enabled as expected for each MSO and Programmer Network.
- Canoe to confirm DAI is enabled as expected within its own systems.

#### Ad Maps

- Canoe to confirm ORT Ad Map(s) have been implemented successfully at each MSO.

#### Ad Asset MPEG

- Canoe to verify ORT ad asset and metadata available at the edge of each MSO network.

#### Ad Asset Metadata (ADI 1.1 XML)

- Content Distributor to validate ad metadata.
- Canoe to validate ad metadata.
- Canoe to validate receipt of ADI 1.1 entertainment metadata to Canoe SFTP.

#### Entertainment Asset Metadata (ADI 1.1)

- Canoe to validate receipt of ADI 1.1 entertainment metadata to Canoe SFTP.
- Canoe to validate ADI 1.1 entertainment metadata exists in MSO DAI systems (should occur as part of enabling DAI for each MSO and Programmer Network).
- Canoe to validate metadata accurately allows DAI to be targeted to only content in the D4 window. **See Section 11.2.**
- If applicable, Canoe to validate metadata allows for Series targeting. **See Section 11.2.**

#### Entertainment Asset Break Points (CSV)

- Programmer to send CSV to Canoe SFTP for Canoe to validate file and CSV workflow.
- Canoe to pass along validated CSV to MSOs to verify break point metadata in lab.

#### Insertion Orders (IOs)

- Canoe to validate and input Programmer ORT IO into Campaign Manager.
- Canoe to activate campaign, initially targeting only a subset of entertainment assets.

#### Campaign Validation

- Canoe and MSOs to validate proper insertion of ads.
- Once validated and all parties are in agreement, Canoe will open the ORT campaign at the Programmer's direction (e.g., target all D4 content on a given Network).
- Canoe will begin delivering daily reports to Programmer as part of ORT. **See Section 6.**

---

### ***3.4 Configure Systems for Active Operations***

The process of configuring for operations will establish the basic operations parameters for placing dynamic ads in entertainment content. Working with the Programmer's ad operations group, Canoe will explain the options for configuring the Ad Map in order to correctly set out the conditions that will create a request for an ad playlist.

Ad Maps provide the tool for Programmers to create an inventory of opportunities for placement of ad content. This global configuration can also provide a filter on the type of content eligible for DAI that is not part of a campaign instruction parameter. For example, Ad Maps could allow for a dynamic pre-roll opportunity up to 60 seconds for entertainment content greater than 15 minutes in length, and then target content less than 15 minutes with either a shorter dynamic pre-roll opportunity or no dynamic pre-roll opportunity at all.

### 3.5 Workflow Set-Up of Eco-System

1. Agreement between Programmer/Canoe, Programmer/MSOs.
2. Ad Map(s)
3. Entertainment Asset Pitch, ADI 1.1 Entertainment Metadata
4. Entertainment Break Point Metadata
5. Ad Asset Pitch, ADI 1.1 Ad Metadata

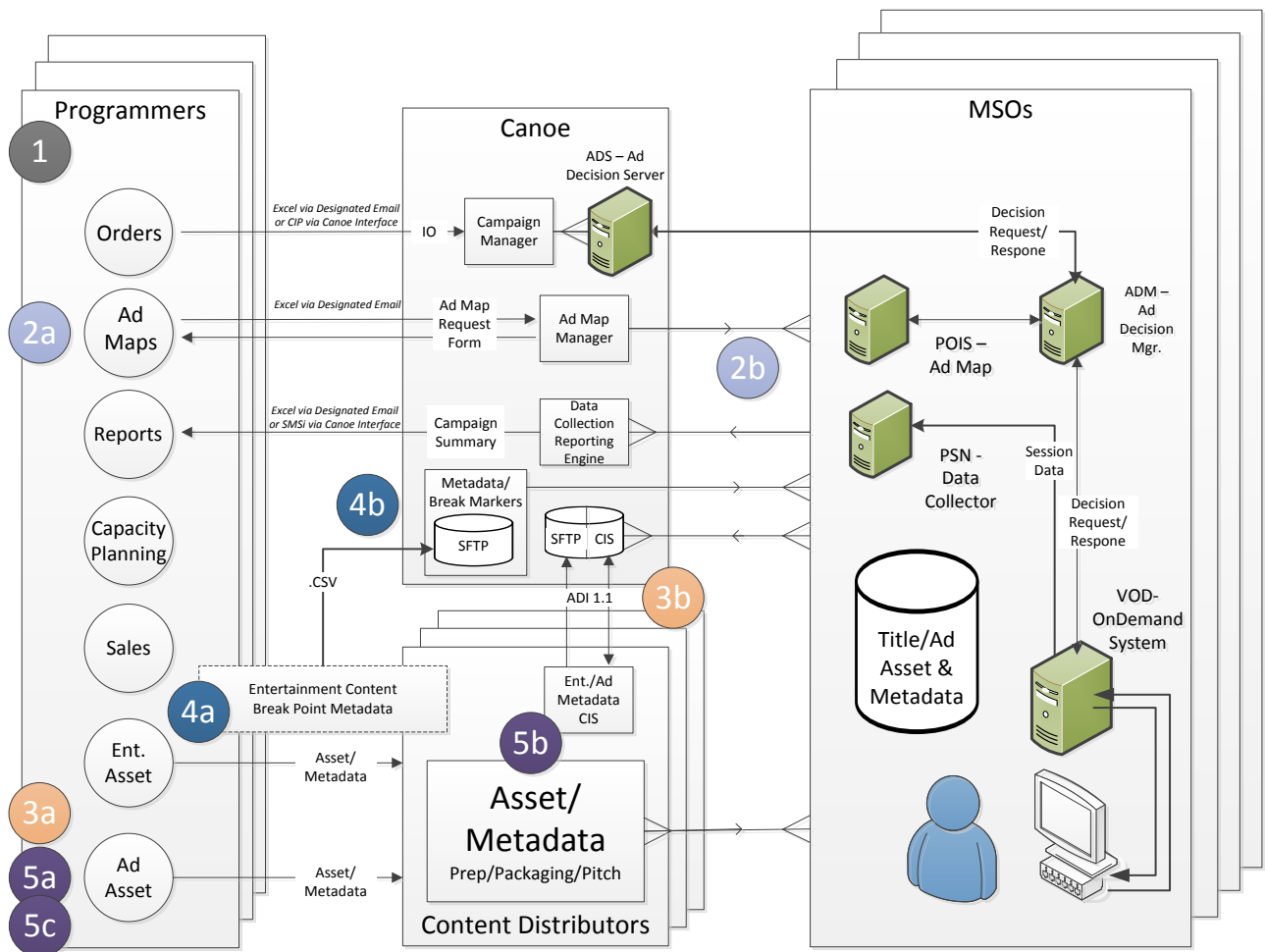


Figure 2: Ecosystem Set-Up

Step	Description	Implementation Notes
1	Programmer completes commercial agreements with each MSO ('certification') and with Canoe.	<ul style="list-style-type: none"> <li>Programmers can initiate the process of setting up ORT workflows during negotiations of MSO and Canoe agreements.</li> </ul>

Step	Description	Implementation Notes
<p>2a</p>	<p>Programmer establishes Ad Map(s). This is separate from establishing an ad split with the MSOs. A Programmer should review their agreement for specific proscriptions around building an Ad Map. The Ad Map comes in the form of an Excel form <u>request</u> that Canoe will facilitate with each MSO.</p>	<ul style="list-style-type: none"> <li>• Ad Maps establish the ad capacity for VOD streams. See <b>Section 0</b>.</li> <li>• Ad Maps provide the Programmer the ability to only set up campaigns against specific kinds of content (e.g., target 30 minute episodic content for a particular series with an extended ad load in pre, mid, and post-rolls).</li> <li>• While the workflow for mid-rolls is being established (and usually takes a longer time to complete), Ad Maps can be set up early to create pre and post-roll capacity.</li> </ul>
<p>2b</p>	<p>MSOs <u>approve</u> the Programmer's request. The MSOs will validate the request against the terms of the agreement with the Programmer.</p>	<ul style="list-style-type: none"> <li>• Canoe and the MSO will provide guidance on ways in which the Programmer can set up their Ad Map to optimize the process.</li> </ul>
<p>3a</p>	<p>Programmers with episodic entertainment content must decide whether they want to insert over 'baked in' ads in their C3, or if they want to insert on D4 content that gets pitched separately. There are pros and cons to each approach.</p>	<ul style="list-style-type: none"> <li>• Inserting ads over C3 'baked' ad content will allow the Programmer to avoid another pitch of content.</li> <li>• Inserting ads over C3 'baked' ad content will preserve all bottom-third overlays/bugs in the entertainment asset which may contain information that grows stale over time (e.g., "Coming up next...").</li> </ul>
<p>3b</p>	<p>Programmer sends Canoe entertainment metadata. In order to target entertainment content with dynamically inserted ads, Canoe will need to receive the entertainment metadata in ADI 1.1 format prior to the entertainment content's license start date.</p>	<ul style="list-style-type: none"> <li>• Canoe can receive ADI 1.1 XML on its SFTP site for processing.</li> <li>• Canoe will need to review with the Programmer any metadata transformations that may take place for specific MSOs.</li> <li>• Guidelines for Ent. Metadata can be found in <b>Section 11</b> below.</li> </ul>

Step	Description	Implementation Notes
<p>4a</p>	<p>Programmer identifies the entertainment content ‘break points’.</p> <p>These break points can be insertion <u>points</u> or <u>ranges</u>, depending on whether ads already exist in the content.</p>	<ul style="list-style-type: none"> <li>• If a Programmer is using ad-free D4 content, only insertion points are required; on the other hand, if a Programmer uses C3 content or D4 content with baked-in ads, ranges are required so as to collapse the existing ad breaks.</li> <li>• Break point metadata identifies the leading black of the entertainment content, pre-roll and mid-roll break(s) insertions points or ranges, and whether the post-roll plays out after the end of the entertainment content or slightly prior (e.g., prior to title credits).</li> <li>• Break point values must be provided using NPT of I-Frames in MPEG. See <b>Section 11.6</b> for detailed guidelines and instructions.</li> </ul>
<p>4b</p>	<p>Programmer communicates entertainment content ‘break points’ to Canoe SFTP site.</p> <p>Until the ecosystem has transitioned from ADI 1.1 metadata to ADI 3.0, Programmers must use a separate .CSV-file format to convey the entertainment signaling metadata. (With ADI 3.0, the break point metadata will be included as part of the overall entertainment metadata package.)</p>	<ul style="list-style-type: none"> <li>• Getting the file format correct may require a few iterations.</li> <li>• <b>Section 0</b> provides guidance for building the entertainment content break point metadata .CSV file.</li> <li>• Programmers will publish .CSV files to Canoe’s SFTP service. Canoe will manage this part of the workflow to ensure the files are received and processed by each MSO.</li> </ul>
<p>5a</p>	<p>Programmer prepares and packages Ad Assets for pitch using required ad asset ADI 1.1 metadata.</p>	<ul style="list-style-type: none"> <li>• Guidelines for Ad Asset metadata can be found in <b>Section 10.4</b> .</li> </ul>
<p>5b</p>	<p>Programmer provides Canoe Ad Asset metadata.</p> <p>In order to associate campaign instructions to a specific piece of ad content, Canoe requires ad asset metadata.</p>	<ul style="list-style-type: none"> <li>• Canoe obtains Ad Asset metadata via the Insertion Order process today. Similar to entertainment content metadata, Canoe supports receipt of ad asset metadata ADI 1.1 XML on its SFTP site.</li> </ul>
<p>5c</p>	<p>Programmer prepares Ad Assets using Ad Asset guidelines, which detail lead/trailing frames of black.</p>	<ul style="list-style-type: none"> <li>• Ad Asset guidelines can be found in <b>Section 10.1</b>.</li> </ul>

### 3.6 DAI Operations – Ecosystem View

1. Inventory Planning
2. Insertion Order (Programmer)
3. Insertion Order (Canoe)
4. Ad Decisioning
5. Reporting Data
6. Reporting/Invoicing

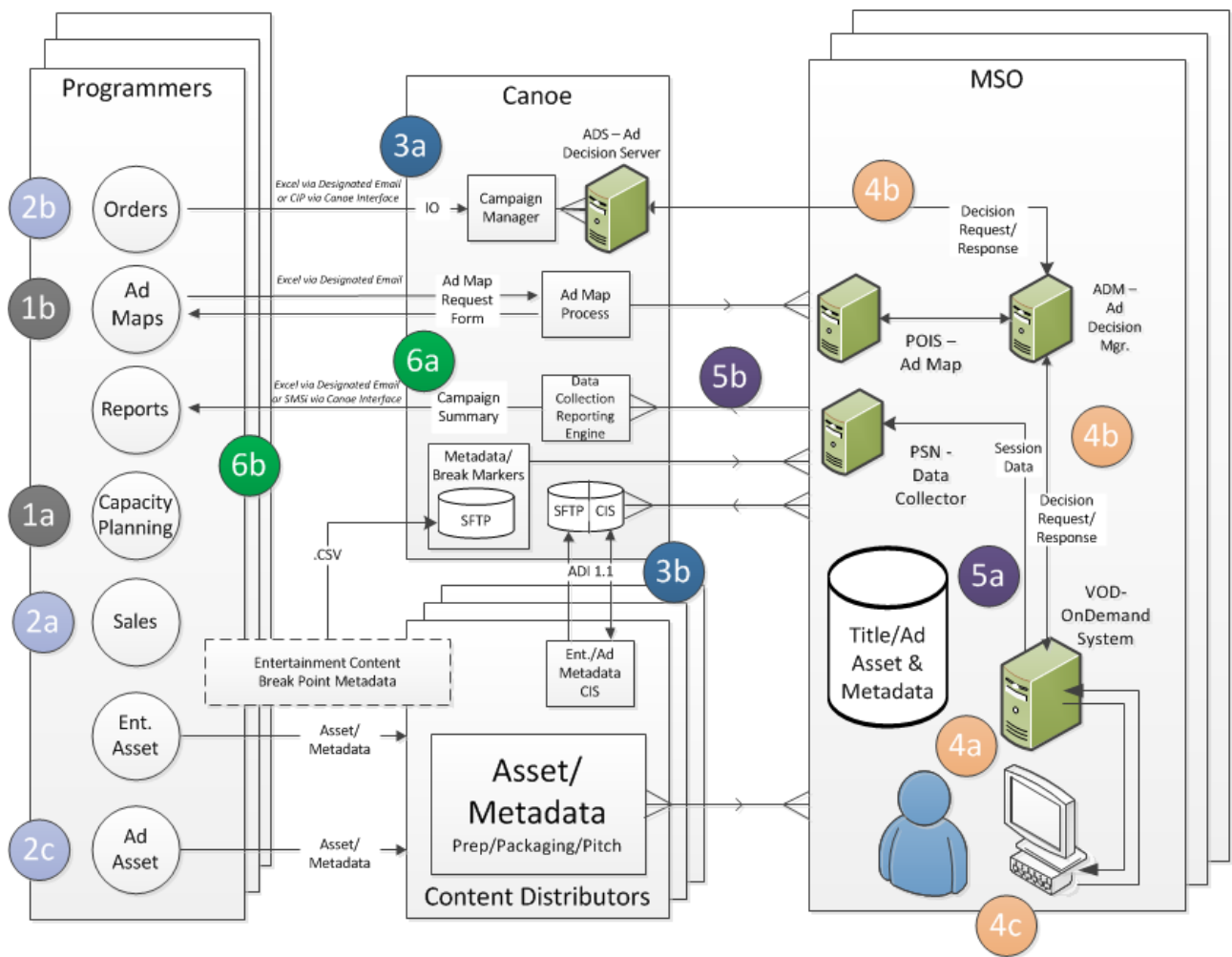










Figure 3: Ecosystem Operations

Step	Description	Execution Notes
1a	Programmer uses VOD viewership data and Ad Map(s) to develop forecasting tools.	<ul style="list-style-type: none"> <li>Modeling should include the distribution of impressions across pre, mid and post-rolls.</li> <li>Modeling should include the national/local split.</li> <li>Modeling should include anticipated Ad Map(s) (e.g., 'x' opportunities in each break, larger ad load for longer content, etc.).</li> <li>Canoe will review modeling assumptions.</li> <li>Canoe will provide any data points necessary to help modelers reflect the current state of the DAI footprint.</li> </ul>
1b	Programmer modifies Ad Map configuration based on contractual terms with MSO to increase/decrease inventory.	<ul style="list-style-type: none"> <li>In addition to modulating inventory capacity, Ad Maps provide the programmer the ability to designate the content to which the Ad Maps apply. For example, a certain Ad Map applies for 15-minute plus content, while a different Ad Map applies to a 15-minute less. See <b>Section 0</b> for details.</li> <li>Ad Maps can be set up by date ranges with different ad loads on the same entertainment content. A certain Ad Map can apply for a date range, and then it can change to another Ad Map when that window expires (e.g., D4, D7).</li> </ul>
2a	Programmer Sales initiates the order process.	
2b	Programmer generates an Insertion Order (IO) and sends to Canoe.	<ul style="list-style-type: none"> <li>IO form is generated and sent to Canoe. See <b>Section 5</b> for details.</li> </ul>
2c	Programmer initiates the process to package and distribute creative ad content.	<ul style="list-style-type: none"> <li>Programmer or Content Distributor validates the frames of black before and following the creative content. See <b>Section 10.1</b> for details.</li> </ul>
3a	Canoe receives and builds IO into Campaign Management system within 1 business day.	<ul style="list-style-type: none"> <li>Programmer will receive an automated email receipt that Canoe has received the IO request. If Programmer does not receive a receipt, it should resend and/or contact the Canoe ad management representative.</li> </ul>



Step	Description	Execution Notes
	<p>Canoe validates that ad asset(s) are available on the edge of each MSO network, available for insertion.</p>	<ul style="list-style-type: none"> <li>• Canoe expects the ad to be available within 5-days from the notification of successful pitch. See <b>Section 0</b>.</li> <li>• Canoe queries the MSO content libraries for the specific ad asset(s) that are part of the upcoming campaign.</li> <li>• Canoe troubleshoots a situation where the ad asset is absent. See <b>Section 10.3</b>.</li> <li>• Canoe’s system will filter out missing ad assets from a playlist.</li> </ul>
	<p>MSO Customer selects entertainment content from ON Demand user interface.</p>	<ul style="list-style-type: none"> <li>• VOD System receives request and initiates building a session based on the consumer’s title request.</li> </ul>
	<p>MSO ADM pulls together a playlist by calling different systems.</p>	<ul style="list-style-type: none"> <li>• ADM calls the Placement Opportunity Insertion Service (POIS) to obtain an Ad Map for the title selected.</li> <li>• ADM calls a service to obtain the break points for the title selected.</li> <li>• ADM makes a weighted coin-flip decision for each ad opportunity to determine National and Local ad avails.</li> <li>• ADM calls the national Ad Decision Service (ADS) with the title information and Ad Map to obtain a placement decision and playlist of ads from the Programmer. Simultaneously, the ADM calls a local ADS to obtain the placement decision and playlist for the local ad avails.</li> <li>• ADM combines national and local decisions to create a single playlist that is then returned to the VOD System.</li> </ul>
	<p>MSO VOD system begins calling entertainment asset and ad asset(s) from pump and organizing insertions of content based on the playlist.</p>	<ul style="list-style-type: none"> <li>• Playlist directs VOD system to insert ads into opportunities located in the pre, mid, and post positions. The break information directs the system to insert mid-rolls at the designated NPT break, and then directs it to continue the title content at the designated NPT break.</li> </ul>
	<p>MSO VOD passes Placement Status Notification (PSN) data at the end of the session to the PSN-Data Collector.</p>	<ul style="list-style-type: none"> <li>• Impressions are counted as the first frame of the ad asset viewed in normal play mode.</li> </ul>

Step	Description	Execution Notes
	MSO PSN-Data Collector passes data about the session to Canoe for aggregation across MSOs.	<ul style="list-style-type: none"> <li>Data is received within 15 minutes from the end of a VOD session.</li> </ul>
	Canoe's data reporting and collection engine processes campaign data across the multiple MSOs and provides a daily Campaign Summary report for Programmers.	<ul style="list-style-type: none"> <li>Reports are delivered the following business day, which includes impression data through 11:59:59PM local time the previous day.</li> </ul>
	Canoe's data reporting and collection engine processes campaign data by month to create a Programmer invoice.	<ul style="list-style-type: none"> <li>Invoices are delivered monthly.</li> </ul>

## 4 Selling DAI

With VOD DAI, Canoe has provided a set of capabilities to dynamically serve advertisements in Video On Demand programs. The following section describes the type of ad instructions allowed at this time with VOD DAI.

### 4.1 Scheduling ROS VOD DAI

Just as with linear video, Ad Avails are shared between national and local. Unlike linear, however, there are NO Ad Avails assigned to dedicated national or local Breaks (aka Pods) in VOD. Each ad insertion is decided by a real-time coin flip that gives the Programmer an Ad Avail with an x% chance of a national ad assignment.

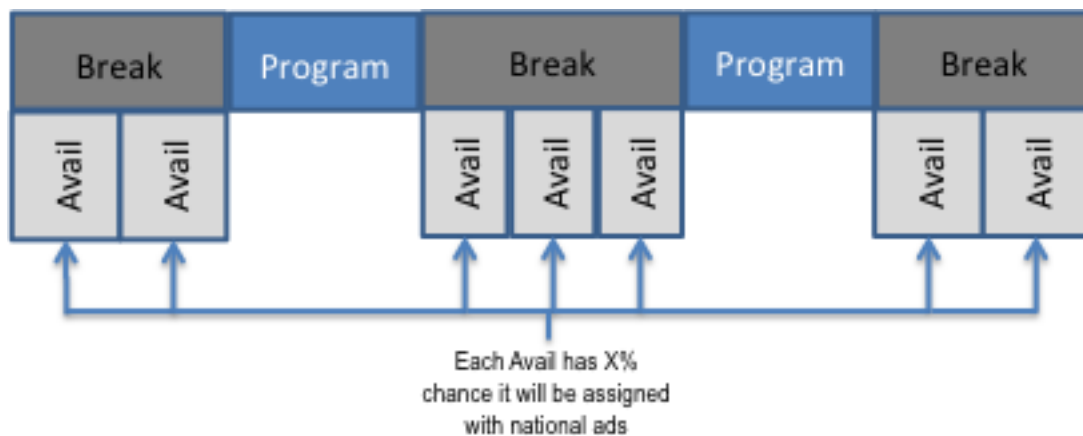


Figure 4: Ad Avail Assignments

- All avails could be assigned with national ads
- No avails could be assigned with national ads
- National ads will occur x% of the time; and the rest of the time, local ads will be inserted

In other words, exclusivity is NOT currently guaranteed within the VOD program because of the possibility that the assignment of any Ad Avail may be local. With this understanding of assigning Ad Avails, the following are some of the parameters with which a campaign can be created.

Programmer CAN schedule by:

- Network
- Group of Networks within Programmer family
- Time (e.g., Month, Week, Day, Daypart)
- Program Attributes (e.g., Title, Series, Genre, Rating)
- Break (e.g., Pre, Mid, Post)
- Break Position (e.g., Position A, Position Z)

Selling ROS Recommendations:

- Sell ROS only with the above scheduling parameters
- Do not guarantee exclusivity
- Do not guarantee a specific Break can be filled with an ad due to local/national split
- Do not sell ad durations greater than current Programmer/MSO agreements

Be careful about selling:

- Long form spots like movie trailers. The total number of Ad Avails in Ad Map(s) may need to be constrained to accommodate long form spots, which can then reduce overall inventory and affect other campaigns. It could also be possible to have multiple trailers in the same video session, which is likely an undesirable consumer experience.

## ***4.2 Scheduling National Sponsorship VOD DAI***

While there is NO full sponsorship across every Avail in the video program, a national sponsorship is possible. For example, if there is an x/y national-to-local split of Ad Avails, sponsorship can be offered for all nationally assigned Ad Avails (x% of total Ad Avails).

Selling National Sponsorship Recommendations:

- Sell national sponsorship with the same scheduling parameters as ROS
- National sponsorship must be delivered ASAP (i.e., cannot be evenly paced)
- Promise only exclusivity on national inventory
- Do not guarantee a specific Break can be filled with an ad due to local/national split

## ***4.3 FAQ's***

**Q - What is the required Creative (ad asset) lead time from pitch to availability at MSOs?**

**A - 5 days. This can be (much) earlier, but there is no guarantee the creative will be available across the entire DAI footprint at the onset of the campaign.**

**Q - Will I need one creative for SD and another for HD?**

**A – Yes. Canoe will always match SD entertainment content with SD ads and HD entertainment content with HD ads.**

**Q - How often do we get Reports of my campaign?**

**A – Each Canoe business day.**

## 5 Insertion Orders (Manual Excel Process)

Canoe offers Programmers the ability to send campaigns/orders via an automated interface (Canoe API) or via a manual process where order instructions are communicated via an Excel template. This section focuses on the manual process.

The Programmer's Ad Ops group will be in communication with a Canoe Ad Operations employee who will oversee each step. This person will serve as the Programmer's primary technical point of contact through the Order process and will continue to provide ongoing technical support as the Campaign progresses to a "Live" state.

This section provides details about: (1) how a Programmer should use the Order Form, (2) how to communicate campaign instructions to Canoe, (3) Service Level Agreements, and (4) Frequently Asked Questions concerning campaign features.

Note that in the Excel template, all fields are defined when clicking on the column header.

### 5.1 Order Header

In this section, the Global/Header information for the entire campaign is entered. Required fields are denoted with an asterisk (\*).

Canoe VOD DAI Order Form	
<small>Please fill out in Excel and send to: <a href="mailto:orders@canoeventures.com">orders@canoeventures.com</a></small>	
<small>Click any column header for additional details (e.g., *Line Item Description*, *Strategy*)</small>	
<small>For revisions, please HIGHLIGHT any updates in yellow</small>	
* Programmer	_____
<b>Campaign Details</b>	
* Description	_____
* Start Date/Time	_____
* End Date/Time	_____
Programmer Ref ID	_____
* Product Category Name	_____
* Product Category Separation	_____
<b>Programmer Contact Details</b>	
* Name	_____
* Email	_____
* Phone	_____
<b>Revision Details</b>	
* Submit Date	_____
* Update Date	_____
* Update Notes	_____

Figure 5: IO Form Header

- Provide the name of the **Programmer**.
- Provide the Programmer Contact **Name**, **Email** and **Phone**.
- Provide any relevant revision details, including the initial **Submit Date**, and if applicable, an **Update Date** and **Update Notes**.
- Provide Campaign Details, including a **Description** of the campaign.
- Provide **Start and End date/date** fields refer to the entire campaign. There are additional flight windows at the campaign line level. This is the all-encompassing flight window.

- Optionally, provide a **Programmer Ref ID** field, which is an internal Programmer order ID from within the Programmer’s sales or trafficking system. A Canoe Order number will be generated upon the submission of this form. Both of these numbers will be used in conjunction to track and reference the campaign.
- Provide a **Product Category Name** for the product being advertised, which will be used for ad placement exclusion rules.
- Provide a **Product Category Separation** setting of None, Break or Session/Program. None will allow ads with the same product category to place in the same ad break. Setting this to Break and/or Session will ensure only one ad from a product category can place in the same break/session.

## 5.2 Campaign Line Items

In the Campaign Line Item (also: Line Item) area, logical groupings are defined for specific parts of a Campaign. Line Items allow for a single campaign to cover many different targeting aspects.

### 5.2.1 Strategy, Goal, Priority

Campaign Line Item Details								
Line Item #	* Line Item Description	* Network(s)	* Strategy	* Goal	* Start Date/Time	* End Date/Time	Priority	
							Preferred / Promo Flag	* Priority (1-100)
1							Default	50

Figure 6: 10 Line Item Instructions

- Provide a **Line Item Description**. This will be used in reporting. Optionally, a Programmer can also use an internal Line Item Reference ID in this description.
- Provide one or more **Network(s)** where the Line Item will be executed.
- Provide **Strategy** of “Even”, “ASAP” or “Unlimited”
  - “Even” places a daily impression limit on the campaign line based on the number of days left in the campaign/campaign line and the overall goal of the campaign line. The allocation and goal are re-evaluated at regular intervals.

- 
- “ASAP” sets no daily impression limit and places ads until the goal is met. An ASAP campaign may finish well before its campaign line end date, depending on available inventory.
  - “Unlimited” sets no impression limit.
  - Provide an impression **Goal** number of views to be delivered over the flight window. Not applicable if Strategy is set to Unlimited.
  - Provide a campaign line **Start Date/Time** and **End Date/Time**, also referred to as the flight window for the *Line Item*. Within this window, the campaign line item becomes active – and ad assets associated to it are now eligible for placement, assuming the ad asset(s) are within their license windows as defined in the ADI 1.1 metadata. If these fields are not specified, the campaign window will be used.
  - Optionally, select the **Promo/Preferred Flag**.
    - “Default” indicates no override.
    - “Preferred” will force a campaign line to play with the maximum priority. A “Preferred” campaign line is different from just using a high Priority, as Canoe will make no attempt to gauge the health of other campaign lines in the system, but will instead treat the campaign line as absolute highest priority. Multiple Preferred campaigns will be treated as equals.
    - “Promo” is the opposite of Preferred and will only play the campaign line if no other campaign lines are eligible (e.g., this would satisfy a business case where a Programmer desired to run promos with a “backfill” strategy only where inventory was available after all Advertiser-based campaign lines were either on pace or not eligible).
  - Provide **Priority** to define a relative priority of the Line Item with a number between (0-Low to 100-High). All other things equal, ads from a campaign line with a higher Priority will be placed before a campaign line with a lower Priority.

### 5.2.2 Break Targeting

- Provide **Break Targeting instructions**.
  - “Pre-roll” will target the pre-roll break only (any position).
  - “Mid-roll” will target any mid-roll break (any position).
  - “Post-roll” will target the post-roll break only (any position).
  - “Any” will target any break. This is the default option if no targeting is selected.
  - Any combination of above may also be selected (e.g., Pre+Mid)
  
- If you selected Mid-roll for break targeting, provide the **Midroll(s)** position:
  - “Any” will target any mid-roll break position.
  - “First” will target the first mid-roll break position.
  - “Last” will target the last mid-roll break position.
  - 1 thru 15 will target a specific mid-roll break positions.
  
- Provide the **Position(s)** for the break position you selected:
  - “Any” will target any position within the break.
  - “First” will target the first position within the break.
  - “Last” will target the last position within the break.
  - 1 thru 15 will target a specific position within the break.

Break/Position Targeting		
Break(s)	Midroll(s)	Position(s)

Figure 7: Break/Position Conditions



### 5.2.3 Frequency Capping

It is important to remember that Canoe “pre-decisions” every episode. Therefore, frequency capping instructions are handled within episode and across episodes:

1. As discussed in the first section below (5.2.3.1), “within episode” frequency capping details how many decisions Canoe makes for a given campaign line or for a given ad within a given episode, and additionally defines and required ad separation;
2. As discussed in the second section (5.2.3.2), “across episode” frequency capping details how many impressions Canoe allows for a given campaign line for a user device over a defined period of time.

Note that “across episode” frequency capping should NOT typically be used without also setting up “within episode” frequency capping. That said, “within episode” frequency capping CAN be used without also setting up “across episode” frequency capping. Please reach out to your Canoe Ad Operations representative for additional details.

#### 5.2.3.1 Frequency Capping, within episode

This section details controlling the number of decisions Canoe makes within an episode.

The following rules are set by campaign line.

- Provide campaign line **Maximum Placements per Break** value
  - Setting this value limits the number of decisions Canoe will make for this campaign line in a given break (e.g., max one decision in pre, mid1, mid2, etc.).
  - ‘1’ is default, meaning only one ad from a campaign line can place in a single break.
  - Overriding this to ‘2’, for example, would allow two ads to place from the campaign line in the same break.
- Provide campaign line **Maximum Placements per Episode** (i.e., VOD Session) value
  - Setting this value limits the number of decisions Canoe will make for this campaign line across an episode.
  - There is no default to this value, meaning an ad from a campaign line would be eligible to play out in every break unless otherwise specified in Break Targeting
  - Overriding this to ‘1’, for example, would prohibit any ad from the campaign line from being placed more than 1 time in an episode.
- Provide campaign line **Minimum Break Separation** value
  - Setting this value controls the minimum break separation.
  - ‘0’ is default, meaning the campaign line is eligible in all breaks.

- Setting this to '1' would cause at least 1 break to be skipped before placing ads from the campaign line again (e.g., if placed in mid1, ads from the campaign line would not be eligible again until mid3).
- Provide campaign line **Minimum Placement Separation** value
  - Setting this value controls the minimum placement separation.
  - '1' is default, meaning ads from the same campaign line could not be placed back-to-back (within a break, or across breaks).
  - Setting this to '2' would cause at least 2 placements to be skipped before placing ads from the campaign line again (e.g., if placed in mid1 position A, ads from the campaign line would not be eligible again until mid1 position D).

Freq Cap (within episode)			
* Max Placements per Break	Max Placements per Episode	* Min Break Separation	* Min Placement Separation
1 (max one placement per break) [DEFAULT]	No Limit [DEFAULT]	0 (allow in all eligible breaks) [DEFAULT]	1 (prevent back-to-back placements) [DEFAULT]

Figure 8: Frequency Capping within episode (campaign line)

The following rules are set by individual ad:

- Provide ad **Maximum Placements per Break** value
  - Setting this value limits the number of decisions Canoe will make for a given ad (globally, regardless of campaign line) in a given break.
  - '1' is default, meaning only a distinct ad can place only one in a single break.
  - Overriding this to '2', for example, would allow the same ad creative to place twice in the same break.
- Provide ad **Maximum Placements per Episode** (i.e., VOD Session) value
  - Setting this value limits the number of decisions Canoe will make for this ad (globally, regardless of campaign line) across an episode.
  - There is no default to this value, meaning an ad from a campaign line would be eligible to play out in every break unless otherwise specified in Break Targeting.
  - Overriding this to '1', for example, would prohibit a given ad from being placed more than 1 time in an episode.

Note 1: Where instruction sets overlap, the more restrictive rule will always take precedence.

For example, if **Maximum Placements per Break** is set to 1 and **Minimum Placement Separation** is set to 1, then the minimum placement separation restriction will be ignored in favor of the more restrictive maximum placement per break. As a result, a maximum of 1 ad would be placed from a campaign line per break.

Note 2: Frequency capping instructions can be combined.

For example, consider a campaign line with 3 ads with the following restrictions:

- (a) **Campaign Line Max Placements per Break** = 1
- (b) **Campaign Line Minimum Break Separation** = 2
- (c) **Campaign Line Max Placements per Episode** = 3
- (d) **Ad Max Placements per Episode** = 1 (for each of the 3 ads)

The result would be as follows:

- (a) No more than 1 ad would be placed in a given break.
- (b) Ads would never be placed in back-to-back breaks (i.e., skip a break).
- (c) No more than 3 ads would be placed in the episode.
- (d) Each ad creative would be placed no more than 1 time in the episode.

Therefore, a viewer might see the following from this campaign line in an episode:

Pre : Ad 2  
 Mid1 : -  
 Mid2 : Ad3  
 Mid3 : -  
 Mid4 : Ad1  
 Mid5+ : -

Ad Freq Cap (within episode)	
* Max Placements per Break	Max Placements per Episode
1 [DEFAULT]	No Limit [DEFAULT]
1 [DEFAULT]	No Limit [DEFAULT]
1 [DEFAULT]	No Limit [DEFAULT]
1 [DEFAULT]	No Limit [DEFAULT]
1 [DEFAULT]	No Limit [DEFAULT]
1 [DEFAULT]	No Limit [DEFAULT]
1 [DEFAULT]	No Limit [DEFAULT]
1 [DEFAULT]	No Limit [DEFAULT]

Figure 9: Frequency Capping within episode (ad)

### 5.2.3.2 Frequency Capping, across episodes

This section details controlling the number of *impressions* Canoe allows across episodes per user device within a defined interval. These instructions should typically only be used in combination with “within episode” frequency capping detailed in the previous section.

The following rules are set by campaign line.

- Provide campaign line **Interval** value
  - Setting this value controls the interval over which the maximum number of impressions is calculated. This is a rolling period of time.
  - Allowed values: 1 hour, 2 hours, 6 hours, 1 day, 3 days
  - Default: None
  
- Provide campaign line **Max Impressions** value
  - Setting this value controls the maximum number of impressions Canoe will allow over the previously defined interval.
  - Allowed values: Any
  - Default: None

Freq Cap (across episodes)	
Interval	Max Impressions

Figure 10: Frequency capping, across episodes (campaign line)

### 5.2.4 Entertainment Metadata Targeting

Optionally, provide **Entertainment Metadata Targeting**. Multiple values can be combined with an “OR” (e.g., Series Name is Program A OR Program B; Series Name is not Program A OR Program B). All targeting is against what the Programmer has sent Canoe in the ADI 1.1 entertainment metadata.

- **Title Brief** targets what is contained in the *Title: Title\_Brief* metadata.
  - Allowed operators: equals, does not equal, starts with, does not start with, contains
- **Title** targets what is contained in the *Title: Title* metadata. Also: Title\_Long.
  - Allowed operators: equals, does not equal, starts with, does not start with, contains
- **Series Name** targets what is contained in the *Title: Series\_Name* metadata.
  - Allowed operators: equals, does not equal, starts with, does not start with
- **Series ID** targets what is contained in the *Title: Series\_ID* metadata.
  - Allowed operators: equals, does not equal
- **Genre** targets what is contained in the *Title: Genre* metadata.
  - Allowed operators: equals, does not equal
- **Rating** targets what is contained in the *Title: Rating* metadata.
  - Allowed operators: equals, does not equal
- **Show Type** targets what is contained in the *Title: Show\_Type* metadata.
  - Allowed operators: equals, does not equal
- **Episode ID** targets what is contained in the *Title: Episode\_ID* metadata.
  - Allowed operators: equals, does not equal
- **Episode Name** targets what is contained in the *Title: Episode\_Name* metadata.
  - Allowed operators: equals, does not equal
- **Advisory** targets what is contained in the *Title: Advisory* metadata.
  - Allowed operators: equals, does not equal

Entertainment Metadata Targeting		
Target	Operator	Value(s)

Figure 11: Entertainment Metadata Targeting

---

### 5.2.5 Day of Week / Time of Day Targeting

- Optionally, provide the **Day(s) of Week** and **Time of Day**. This targeting will apply to all ad assets assigned to the campaign line item.

Example: Campaign line is eligible only on Fridays, Saturdays and Sundays from 8PM-12PM.

Note: All times are local viewer time.

### 5.2.6 Limitations

There are certain campaign instructions that require multiple line items to be created, meaning that the advertiser's campaign instruction can be configured – but it requires the Programmer to split the goal. Please see below for the current list of situations that require separate Line Items.

#### Inputs that require separate Campaign Line Items

1. Ad Assets to be scheduled at different times or different days of the week from each other
  - Two Ad Assets, one to be played on Tuesdays and the other on Wednesdays
  - One Ad Asset, scheduled on Tuesdays from 1-4 pm and on Fridays from 8-11 pm
2. Ad Assets targeting different Breaks
  - Two Ad Assets, one targeting Pre-roll and the other to targeting "All" break
3. Goal Strategy
  - Two Ad Assets, one to be placed "Even" and the other "ASAP"

### 5.3 Associating Ad Asset(s)

In this section, the Programmer provides required information on the Ad Assets associated with a particular Line Item. At least one Ad Asset per line item is required. Depending on the targeting strategy it may be necessary to include the same ad asset across multiple Line Items. Please note that while the form has space for ten Ad Assets per Line Item, more rows for additional Ad Assets can be added as necessary.

Ad Asset metadata must be pitched to each Operator in the same way Entertainment Metadata is currently formatted (ADI 1.1 XML). In addition, Programmers MUST provide a few key excerpts of Ad Asset metadata to Canoe as part of the Campaign Order form. Canoe uses the ad asset metadata from the order form to both tie the ad asset to the campaign and to confirm each ad asset exists at the edge of all active MSO networks for placement in the entertainment content.

Ad Asset Details							
* Ad Description	* Provider ID	* Runtime (sec)	Placement Limit (Ad)		Flight Window		Ad Weight/Rotation
			* Break	Program	* Start Date/Time	* End Date/Time	
	programmer.com		1				
	programmer.com		1				
	programmer.com		1				
	programmer.com		1				

Ad Asset Details			
SD Ad Details		HD Ad Details	
* SD Ad "Movie Asset ID"	SD ISCI/AD-ID	* HD Ad "Movie Asset ID"	HD ISCI/AD-ID

Figure 12: Ad Asset Details

- Provide **Ad Description** of each ad asset. This description will be used in Reporting.
- Provide **Provider ID** from the ad asset metadata (ADI 1.1). This is typically always the same value for a Programmer (e.g., programmer.com).
- Provide **Runtime** in seconds. This specifies the length of the Ad Asset (:15, :30, :60, etc.)
- Provide ad asset **Flight Window Begin** and **End** from ad asset metadata. This is different from the license window contained in the ad metadata (ADI 1.1) and can be used to further constrict an individual ad’s eligible flight window.

Note that ultimately an ad’s license window in the ADI 1.1 metadata, which cannot be modified by Canoe, will control whether an ad is eligible for play out. That is, the flight window CANNOT override an ad’s license window contained in the ad metadata.

See **Section 10.4** for additional recommendations surrounding ad asset license windows.

- Provide **SD/HD Movie Asset ID** from ad asset metadata (ADI 1.1). This specifies the ad(s) to be associated with this campaign. Note that this is different from the Package Asset ID and Title Asset ID. A typical Asset ID is 4 alpha characters followed by 16 numeric (e.g., ABCD1234567890123456).
- Optionally, provide the **SD/HD ISCI or AD-ID** of the ad asset. This will be returned in reporting.
- If providing more than one ad asset on a campaign line, provide the **Rotation %** of each ad asset. If not included, Canoe will treat the rotation as equal for all active ads.

- For details on Placement Limit at the ad level, see Section 5.2.3.1.

Note: By default, Canoe will never place the same ad in the same break, even if the ad exists across multiple campaign lines.

## ***5.4 Transport and Communication***

Programmer emails Canoe Excel Order Form to [orders@canoeventures.com](mailto:orders@canoeventures.com) and will receive an automatic response and ticket number. It is understood that the form will not always be the only means of communicating the campaign instructions. It is, however, a good basis to start conversation and get questions answered.

## ***5.5 Operational Parameters***

- Ad Operations (M-F, 9am-6pm ET, holidays excluded)
  - New Campaigns
    - Response: immediate confirmation; submission within 1 business day
    - Contact: [orders@canoeventures.com](mailto:orders@canoeventures.com)
  - Campaign Updates
    - Response: immediate confirmation; update within 1 business day
    - Contact: [orders@canoeventures.com](mailto:orders@canoeventures.com)

## **6 Insertion Orders (Web Portal)**

Canoe offers a web-based campaign manager portal where Programmers can create and manage their own campaigns directly. The features are similar to what is laid out in the previous section.

Please contact Canoe for more details and to request access. Access can be granted on a per user basis by network with either create/edit access or read-only access.

## **7 Insertion Orders (Canoe API)**

In the event a Programmer is using a third-party to send campaign instructions to Canoe and receive reporting details back (e.g., FreeWheel, Google DFP), as part of the onboarding exercise Canoe will work with the integrator to ensure all configurations are set up correctly.

As part of Operational Readiness Testing, the configurations will be tested to ensure all campaign instructions and reporting data are flowing as expected.



## 8 Reporting

### ***8.1 Description of Methodology***

The MSO VOD systems provide performance information related to each VOD session's playout as the subscriber's session terminates. MSOs forward that performance information to Canoe on a regular basis and this aggregated information is used to produce various aspects of the campaign performance reporting Canoe provides to its Programming customers.

Performance information resulting from the placement and viewing of ads on campaign items in VOD sessions are returned to Canoe either immediately upon termination of the subscriber's VOD session or delayed up to 30 minutes – all dependent upon the particular MSO's VOD infrastructure.

#### **8.1.1 Performance Data Processing**

Campaign performance information received from MSO systems is validated for correct data formatting according to an industry agreed upon schema coordinated by CableLabs. For those messages received by Canoe which fail this data validation screening, the message is isolated from the data stream and reported to Canoe's Technical Operations team for further inspection and investigation and resolution with the sourcing MSO. Correction and resubmission of corrupted performance data is typically resolved within 24 hours but may take up to three days.

No further data manipulation occurs on the submitted performance data transmitted to Canoe by the MSOs beyond message schema validation. Performance information is reconciled to defined campaigns within the Canoe stewardship system and campaign goal information is updated according to the business rules for each campaign. Today, each campaign impression count by campaign line item is incremented by the number of impressions defined in the MSO's performance record.

#### **8.1.2 Delay in Processing**

Performance information receipt may be delayed up to three days in certain cases. However, that information is not excluded from the campaign's performance reporting. Data arriving after the three day capture window is excluded from performance reporting.

#### **8.1.3 Reporting Completeness and Accuracy**

Canoe Ventures, LLC ("Canoe") uses commercially reasonable efforts to assure the completeness and accuracy of all data prior to issuance. However, Canoe recognizes the possibility of human and technological error, and such data are not represented to be error-free. Possible non-sampling data errors include incomplete or inaccurate: campaign instructions entered into

Campaign Management Systems (“CMS”); and performance results provided from VOD DAI systems. Canoe endeavors to minimize the possibility of data errors through onboarding validation testing of each CMS, working with participating VOD system operators to ensure the accuracy of VOD DAI data being delivered, and inspecting data and reports prior to issuance.

#### **8.1.4 Reporting Issuance/Reissuance**

On a daily basis, Canoe’s Ad Operations team reviews Campaign Summary reporting generated for each Programmer’s networks activity for the prior day. A general review of each report is done by a team member assigned to each Programmer and detailed spot checks are made against a 10% sampling of all reports issued each day. These reviews include a review of the daily activity, its reasonableness in accordance with historical campaign performance and its variance from normal overall activity trending for the campaign and entertainment assets.

Data received by Canoe which is found to be corrupt or erroneous and which exceeds a 5% threshold of all activity to date for an active campaign item triggers an internal review by the Canoe Technical Operations team who must provide a review and impact statement to Canoe’s executive team with five days. A determination will be made during that review period and notice of action will be transmitted to all affected Programming entities. In certain cases, previously published reports will be re-issued and marked as such.

#### **8.1.5 Reporting Specific Definitions**

Canoe Distribution Footprint - Today, Canoe stewards dynamic advertising insertion across the free VOD enabled households of:

- Comcast
- Time Warner Cable
- Brighthouse Networks
- Cox Communications

View/Impression - defined as the first frame of the ad asset being presented at NPT scale of 1 (normal play mode) in the forward direction. If the Viewer leaves the asset entirely (either rewinding before it starts or by routinely beginning the next asset in the playlist) and returns to the first frame presented at NPT scale of 1 in the forward direction, this would count as an additional impression.

VOD Content Measurements – Only Free Video On Demand session are included in Canoe’s stewardship and reporting.

### 8.1.6 Data and Reporting Retention

Canoe, under the contractual obligations in place with its MSO distribution partners, retains the underlying campaign performance data for a period of 25 months.

## 8.2 Available Reporting

For Programmers inputting campaigns directly through Canoe, Canoe currently offers programmers three different reports to track the performance of campaigns.

- (1) Campaign Line by Ad Asset
  - a. For each campaign line, show performance by ad asset.
  - b. Format: Excel (XLS)
  - c. Transport: Email each business day
- (2) Campaign Line by Program (Entertainment) Asset
  - a. For each campaign line, show performance by program asset.
  - b. Format: Excel (XLS)
  - c. Transport: Email each business day

Note: This can be rolled up by the Programmer to view performance by Series.

- (3) Campaign Line by Ad Asset + Entertainment Asset by Day
  - a. Encompasses granularity of both reports above, with additional daily break out
  - b. Format: Comma delimited file (CSV)
  - c. Transport: FTP

During onboarding, the Programmer will provide Canoe with a reporting distribution list. Canoe will provide access to a secure FTP site, if applicable. The Programmer will also define which of the above reports they would like to receive as well as the default reporting ranges (i.e., campaign to date, month to date).

Canoe Ad Operations will provide daily reporting to the Programmer each business day. Data will be current through 11:59:59PM local set top box time the previous day. For example, a Wednesday report is current through 11:59:59PM Tuesday.

## 8.3 Operational Parameters

- Ad Operations (M-F, 9am-6pm ET, holidays excluded)
- Specific request reports
  - Response: immediate confirmation; response within 1 business day
  - Contact: [reports@canoeventures.com](mailto:reports@canoeventures.com)

## 9 Ad Maps

Ad Maps provide structural overlay to the entertainment content, creating Ad Avail capacity while providing for the enforcement of rules based on entertainment metadata. Ad Maps apply to different categories or groupings of a Programmer’s content. The creation of an Ad Map establishes Avail inventory over an otherwise structure-less piece of digital content.

As part of the VOD session set-up, the Ad Map is called in order to construct the playlist of ad assets to insert on the content selected by the consumer. The ownership of the inventory is not assigned until the set-up of a VOD session when a weighted coin flip determines national versus local owners for each unit of inventory. The location of the mid-roll insertion is identified separately in the metadata for mid-roll markers described elsewhere in this document.

### 9.1 Overview

The Ad Map is based off of three types of **Breaks**: Pre-Roll, Mid-Roll, and Post-Roll. Within a Break, there are **Opportunities** (Ad Avails) that define the type of placement to be inserted. **Types** provide additional control over the session. **Duration** provides the min/max of a placement with the Opportunity. Finally, **Max Asset** defines the number of assets within a given Opportunity.

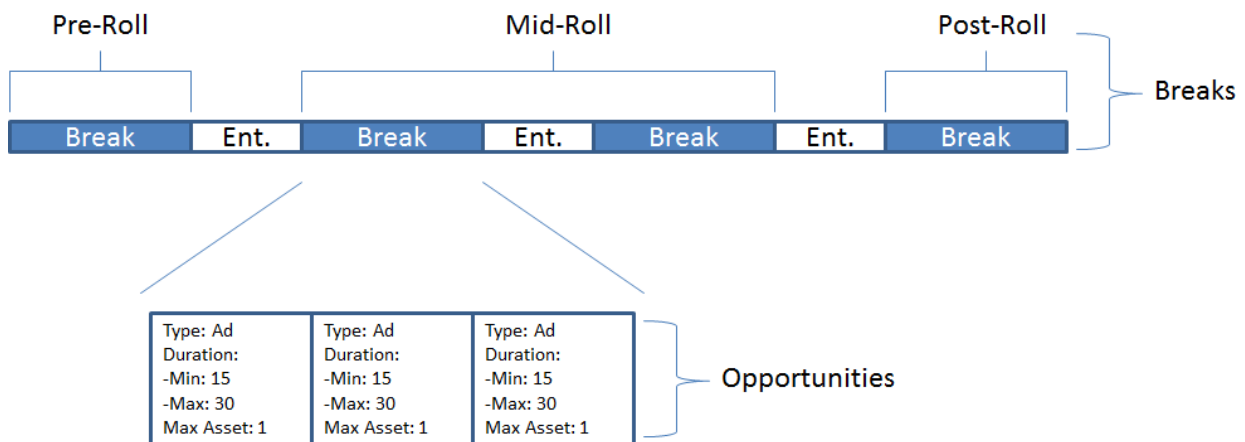


Figure 13: Ad Map Break Structure

In the diagram above, there is an Ad Map with one Pre, two Mid, and one Post Roll Break defined. A Mid-Roll can have multiple occurrences of breaks, each with its own set of rules. Each Break has a set of Opportunities defined. In the diagram an expanded view of the Opportunities is shown in the first break of a two-break Mid-Roll. There are three Opportunities defined each with Type: Ad; Duration (min/max): 15/30 seconds; and Max Asset: 1.

Considering only the expanded view of Opportunities from the first break of the Mid-Roll, each Opportunity would receive a single Ad Placement with an ad duration of between 15 and 30 seconds. The 'Max Asset: 1' configuration limits the Opportunity to a single ad. Assuming available campaigns, there would be three Ad Placements in the first break of the Mid-Roll in this example.

Note: Max Asset is currently limited to '1' and cannot be changed (i.e., only 1 placement can occur within an Opportunity), which is why this example shows back-to-back Opportunities in a Break instead of a single Opportunity in a Break with multiple Placements.

## 9.2 Request Form

A complete expanded view of the Ad Map would look like **Figure 14: Ad Map Configuration**. The Pre-Roll is defined by two Opportunities. The second Mid-Roll has the same number of Opportunities as the first, and it has the same configuration. The Post-Roll has two Opportunities, but a change in the Max duration to 120 and 60 seconds. The longer durations can accommodate a single ad of length between 15 and 120 seconds in the case of the first Opportunity, and 15 to 60 seconds in the case of the second.

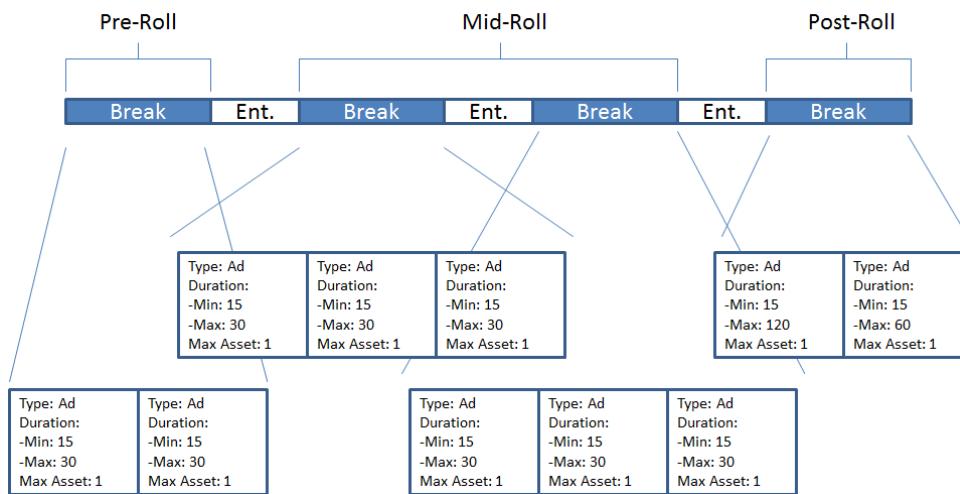


Figure 14: Ad Map Configuration

The Ad Map from the diagram above is depicted below in the Canoe VOD DAI Ad Map Request Form example for Ad Format ID = NET.01. As can be seen in the form, the Column for configuring Max # of Assets is defaulted to '1' and disabled. Currently, Canoe only offers a one-to-one configuration of Ad Placements to Opportunities.



Programmer:		ACME	
Programmer Contact Name:		Jane Smith	
Programmer Contact Phone:		212-555-5555	
Operator (MSO):		Comcast, TWC	

ID	Description	Network(s)	Ent. Duration		Broadcast Window	Program/ Series	Asset(s)	Created/Last Updated		Break	Type	Mid Break #	# Ad Opp's per Break	Ad Opp. Duration		Action	Notes
			Min	Max				Date	Name					Min	Max		
01	Network1: Short Form	ACME Comedy	00:00:01	00:15:00	4+ days			07/01/13	Smith	Pre	Ad	1	1	10	30	Replace	
										Post	Ad	1	1	10	30	Fill	
02	Network1: Medium Form	ACME Comedy	00:15:01	00:32:00	4+ days			07/01/13	Smith	Pre	Ad	1	3	10	60	Replace	
										Mid	Ad	1	3	10	60	Replace	
										Mid	Ad	2	3	10	60	Replace	
										Mid	Ad	3	3	10	60	Replace	
										Post	Ad	2	2	10	120	Fill	
03	Network1: Long Form	ACME Comedy	00:32:01	no max	4+ days			07/01/13	Smith	Pre	Ad	1	3	10	60	Replace	
										Mid	Ad	1	3	10	60	Replace	
										Mid	Ad	2	3	10	60	Replace	
										Mid	Ad	3	3	10	60	Replace	
										Mid	Ad	4	3	10	60	Replace	
										Mid	Ad	5	3	10	60	Replace	
										Mid	Ad	6	3	10	60	Replace	
										Post	Ad	1	1	10	120	Fill	

Figure 15: Ad Map Request Form Example

Assuming a 100% allocation of Ad Placement Decisions to the Programmer, the Ad Map #3 above would target D4 content greater than 32 minutes with an Ad Map as follows:

- Pre-roll : 1 ad, up to 60s
- Mid1 : 3 ads, up to 60s each
- Mid2 : 3 ads, up to 60s each
- Mid3 : 3 ads, up to 60s each
- Mid4 : 3 ads, up to 60s each
- Mid5 : 3 ads, up to 60s each
- Mid6 : 3 ads, up to 60s each
- Post : 1 ad, up to 120s

In addition to defining the structure of the Avail inventory across an entertainment asset, the Ad Map Request form allows a Programmer to define the Ad Map Assignment Rules. In this area of the form, Programmers can do things like: limit the Ad Map configuration described above to a particular type of content (e.g., >15 minutes entertainment content, activate Ad Map during a particular window of time, etc.).

## 9.3 Capabilities

This section details the capabilities of the current Ad Map ecosystem.

### 9.3.1 Capabilities by Ad Map via Assignment Rules

- Target one or more **Network(s)**
- Target one or more **MSO(s)**
- Optionally, target **Entertainment Duration (min)**
  - 00:00:01, 00:07:01, 00:15:01, 00:32:01, 00:40:01, 01:02:01, or 01:30:01
- Optionally, target **Entertainment Duration (max)**
  - 00:07:01, 00:15:01, 00:32:01, 00:40:01, 01:02:01, or 01:30:01 or no max
- Optionally, target **Broadcast Window**
  - All, 0-3 (C3), 4+ (D4), or 7+ (D7)
- Optionally, target **Program/Series**
- Optionally, target **Show Type**
- Optionally, target **Genre**
- Optionally, target **Season**
- Optionally, target **Episode**
- Optionally, target **Movie Asset ID**

### 9.3.2 Capabilities by Opportunity (Avail)

- Select **Action**
  - “Fill” is used to insert a dynamic ad or ads at a specific time. This is most commonly used for a pre-roll break where no baked-in pre-roll exists, or to insert a post-roll slightly prior to the end of the entertainment content (the latter assumes the appropriate Entertainment Break Point metadata is provided).
  - “Replace” is used to replace the baked-in ad break with a dynamic ad break. This assumes a range has been provided in the Entertainment Break Point metadata.
  - “Delete” is used to collapse a range provided in the Entertainment Break Point metadata and replace with nothing. For example, collapse the baked-in ads for Mid-Roll Breaks 4 and 5 and replace with no dynamic ads.
- Select **Minimum Duration** and **Maximum Duration** of opportunity. This is the shortest and shortest ad length that can be placed in the opportunity.

## 9.4 Restrictions

This section details the restrictions of the current Ad Map ecosystem.

A maximum of 50 “content segments” are supported by one MVPD in the DAI ecosystem, meaning Ad Maps submitted to Canoe need to take into account this metric. Canoe will QA Ad Maps to ensure submitted Ad Maps to not exceed these restrictions.

A “content segment” is defined as any portion of the entertainment asset or an entire ad asset, all of which make up a VOD playlist at an MVPD. For example:

Content Segment #	Content Type	Description
1	Entertainment	Lead Black (0-3s)
2	Ad	Pre-roll
3	Entertainment	Content
4	Ad	Mid1, Ad A
5	Ad	Mid1, Ad B
6	Ad	Mid1, Ad C
7	Ad	Mid1, Ad D
8	Entertainment	Content
9	Ad	Mid2, Ad A

etc.

## 9.5 Transport and Communication

Programmer emails Canoe Ad Map Request Form to [admaps@canoeventures.com](mailto:admaps@canoeventures.com) and will receive an automatic response and ticket number. Canoe will pass the Ad Map to each MSO for implementation, verify implementation, and will respond to Programmer when Ad Map has been successfully implemented.



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## 9.6 Operational Parameters

- Ad Operations (M-F, 9am-6pm ET, holidays excluded)
  - New Ad Maps
    - Response: immediate confirmation; submission within 1 business day
    - Contact: [admaps@canoeventures.com](mailto:admaps@canoeventures.com)
  - Updated Ad Maps
    - Response: immediate confirmation; update within 1 business day
    - Contact: [admaps@canoeventures.com](mailto:admaps@canoeventures.com)
  
- Technical Operations (M-F, 9am-6pm ET, holidays excluded)
  - Incident Reporting
    - Response: immediate confirmation; same day response
    - Contact: [techops\\_support@canoeventures.com](mailto:techops_support@canoeventures.com)
    - For immediate response 24/7, contact the Canoe on-call phone at 877-239-8480, or your Canoe ad ops team representatives. In non-business hours, you will receive a response to an on-call phone message within 2 hours.

---

## 10 Ad Asset & Metadata

The preparation and distribution of Ad Assets and metadata are the responsibility of the Programmer, and these activities should continue to follow a similar workflow to what is used to today for entertainment assets. This section provides the guidelines for (1) preparing Ad Assets for pitch, (2) creating Ad Asset metadata, (3) understanding the time required after pitch, and (4) monitoring and troubleshooting processes.

Canoe will work with the Programmer as part of onboarding to ensure that workflows are established in order to get the Ad Asset and its metadata propagated throughout the ecosystem.

### ***10.1 Ad Asset Preparation & Pitch***

The following are requirements and guidelines for preparing ad assets to pitch to MSOs participating in VOD DAI. Implementing these practices will enable downstream VOD systems to properly identify and play ad assets according to DAI processing.

- Ads for VOD DAI SHOULD have 0 frames of lead black and 0 frames of trailing black. Ads MUST have no more than 5 frames of lead black and 5 frames of trailing black.
- Programmer's Content Distributor MAY facilitate ad pitching.
- All MSOs accept both HD and SD ads for VOD DAI.
- HD Ad Resolution (e.g., 1080i) MUST match that of Programmer's entertainment content (e.g., do not send 720p HD ad assets if all Programmer HD entertainment content is 1080i).
- Bit rates MUST match between the entertainment assets and the ads that will be trafficked against them. HD entertainment and ads and MUST match. SD entertainment and ads MUST match.
- VOD DAI ads MUST be encoded to standard VOD MPEG-2 specifications, except to adhere to the prep and metadata detail specified for DAI ads in this document.
- Encoding MUST comply with CableLabs encoding specifications, with special consideration to Dial Norm Value settings to comply with the CALM act.
- Ads MUST be pitched 5-days in advance of the campaign window.

---

## ***10.2 Ad Asset Availability Timing***

One of the keys to successful advertising on VOD is the ability to quickly create, change, or remove a campaign nationwide. Canoe provides the ability to do this within the following timeframes:

- Canoe requires a 1-day lead time during normal business hours to input or update a campaign.
- MSOs require a 5-day lead time after pitch to ensure ad assets are available for dynamic insertion, although this is generally much quicker.

## ***10.3 Ad Asset Troubleshooting***

Upon receiving notification from the Programmer or their Content Distributor that an ad asset has been successfully pitched to the MSOs, Canoe will initiate a monitoring process that will ensure that ads reach the edge of the MSO's distribution path at the VOD systems.

With a 5-day window to get ad assets ready for insertion, Canoe will begin to actively troubleshoot the distribution of ad assets after 3-days. As part of Canoe's Service Assurance process, the ad asset will be monitored for ongoing availability at the edge of each MSO's VOD system(s). As appropriate, Canoe's Operations team will initiate troubleshooting efforts between the Programmer or its Content Distributor and each MSO to ensure ad assets are available within the 5-day window and can be played out successfully over the course of the campaign.

## ***10.4 Ad ADI 1.1 Metadata Requirements***

Ad Assets MUST have associated ADI 1.1 Metadata, which can be distributed in the same manner as a Programmer's existing entertainment metadata. Ad Asset metadata requirements and guidelines for VOD DAI are as follows:

- **Asset\_ID** value for the "Movie" MUST be the same across all DAI-enabled Operators. That is, Movie Asset IDs cannot change across Operators. Additionally, if the Movie Asset ID is re-versioned the ad asset(s) must be re-pitched to all Operators with the new Asset ID, and Canoe must be made aware of the updated Movie Asset ID via an updated IO.
- **Asset\_Name** value for the "Movie" Asset Name MUST be either the ISCI, AD-ID or other internal identifier of the ad. If the same ad is re-purposed, then variations of the Asset\_Name may be used.
- **Category** value MUST be "Help & Services/AdCopy"
  - Identifies the asset as an advertisement (versus entertainment)

- **FFWD** (fast forward) disable flag **MUST NOT** be set in the metadata. FFWD capability is defined by each MSO and is presently controlled at the entertainment asset level.
- **Licensing\_Window\_Start** value **MUST** be earlier than the actual campaign start date. Use 4-days as the standard. This allows the ad ADI metadata to be available for configuring in the campaign management system prior to the start date of the campaign.
- **Licensing\_Window\_End** value **MUST** be present. An ad asset will **NOT** play out after its license window ends, regardless of the campaign and campaign line flight windows. If a campaign is likely to be extended, a Programmer may benefit by pitching the ad asset with an extended license window end.
- **Provider** **MUST** be in the format <EXISTING\_ENT\_PROVIDER\_VALUE>\_ADS for SD ad assets, and <EXISTING\_ENT\_PROVIDER\_VALUE>\_ADS\_HD for HD ad assets (e.g., NBCU\_ADS/NBCU\_ADS\_HD, FEARNET\_ADS/FEARNET\_ADS\_HD). These two values may support multiple Networks within a Programming Group.
- **Product** value **MUST** be “ADTV” for all 3 ADI asset classes (package, movie, title)
  - Identifies the asset as an advertisement (versus entertainment)
- **Provider\_ID** value **MUST** be in the format <programmer\_domain.com> (e.g., nbcuni.com, fearnet.com). One value may support multiple Networks within a Programming Group.
- **Run\_Time** value for ads **MUST** match a length defined in the Campaign System. For example, even if the content is actually 29.5 seconds in duration, the Run\_Time should be “00:00:30”.

---

### ***10.5Ad ADI 1.1 Metadata Optional Attributes***

The following can be optionally included in the ad metadata and would be available in Canoe reporting.

- **Ad\_Description** value for the “Title”.

Example:

```
<App_Data Value="Coke_Dancing_Bear_30s" Name="Ad_Description" App="MOD"/>
```

- **Advertiser\_Name** value for the “Title”.

Example:

```
<App_Data Value="Coca-Cola_International" Name="Advertiser_Name" App="MOD"/>
```

- **Brand** value for the “Title”.

Example:

```
<App_Data Value="Coke" Name="Brand" App="MOD"/>
```

- **Ad\_Id** value for the “Title”.

Example:

```
<App_Data Value="afty159647853972" Name="Ad_Id" App="MOD"/>
```

### ***10.6Ad ADI 1.1 Metadata Delivery to Canoe***

Canoe provides a secure FTP (SFTP) drop for Programmers to upload their ad asset metadata. Ad Metadata should be supplied to Canoe in the same format it is currently provided to all MSOs (ADI 1.1 XML), prior to the license date start of any ad asset.

### ***10.7Ad ADI 1.1 Metadata Lead Time to Canoe***

Canoe requires a 1-hour turnaround for processing new/updated ad metadata.

### ***10.8Ad ADI 1.1 Metadata Troubleshooting***

Since Canoe is just an endpoint on the distribution of ad asset metadata, there should not be any issues with data inconsistency. Nevertheless, Canoe’s Operations group will perform ongoing checks of its system and will notify the Programmer if there are issues with the ad asset metadata process that may impact VOD DAI insertions.

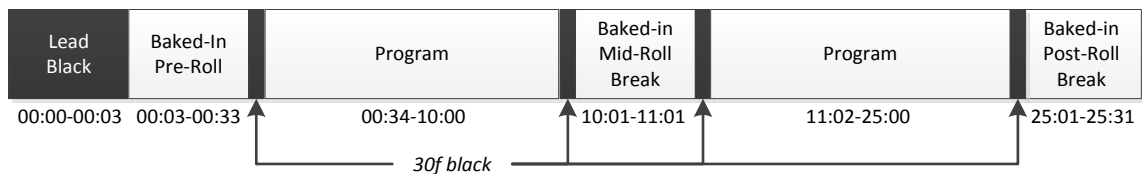
## 11 Entertainment Asset & Metadata

Canoe receives decision requests directly from the MSOs. In order to configure a campaign to target specific entertainment content in the DAI System, Canoe must collect entertainment asset metadata directly from the Programmer or its Content Distributor. Additionally, to insert mid-rolls at the appropriate break point(s), Canoe collects mid-roll break point data for each mid-roll enabled entertainment asset and distributes this information to each DAI-enabled MSO.

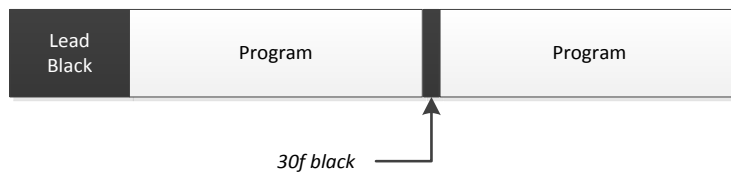
### 11.1 Ent. Asset Preparation and Pitch

The following are requirements and guidelines for preparing entertainment assets to pitch to MSOs participating in VOD DAI. Implementing these practices will enable downstream VOD systems to splice ads in without clipping or other video anomalies.

- Entertainment **MUST** start with 3s of black (this should be standard procedure).
- **OPTION #1: Both** break in and out points **MUST** have 30 frames of black *with silent audio*. For example, if the entertainment content has baked in ads:



For entertainment content without baked-in ads, it is slightly simpler:



- **OPTION #2:** Entertainment **SHOULD** be compliant with [CableLabs Content Encoding Profile \(CEP\) 3.0](#). Note that conditioning content using CEP 3.0 negates the requirement for 30 frames of black above, as this then enables more accurate splice points where adding 30f of black is not practical (e.g., C3 content). Summarized:
  - Start of each ad break (or local avail) **MUST** be an I-Frame
  - Start of next segment (national ad, program content) **MUST** be an I-Frame
  - Start/end time provided to Canoe **MUST** be defined as
    - NPT of first frame of local ad (I-Frame)
    - NPT of first frame of national ad/program content following local ad

At minimum, the GOP preceding local ad **MUST** be closed (i.e., frames referenced in the GOP leading up to the splice point **CANNOT** reference a future frame).

---

## **11.2Ent. ADI 1.1 Metadata Requirements**

Slight changes to entertainment metadata may be required to support various VOD DAI features.

### **PCT (Provider Content Tier) to identify C3/D4 Content**

- The Broadcast Date for Nielsen measurement windows **MUST** be established for each asset.
- In order for MSO systems to accurately identify entertainment content in the C3 window, the ADI 1.1 entertainment metadata **MUST** include “**\_C3\_**” **within the ADI 1.1 PCT field for all C3 entertainment assets.**
- MSO systems then reference the License Window Start to establish measurement rules.

#### Example:

C3 Assets: `_C3_` [required]

D4 Assets: `_C3Plus_ or _C3D4_ or null or { anything but _C#_ }`

### **Series\_ID / Series\_Name**

- If a Programmer wishes to execute campaigns using Series targeting (include or exclude), the ADI 1.1 Series\_ID or Series\_Name **MUST** be included in the ADI 1.1 entertainment metadata sent to Canoe. This should be in a consistent format with no SD/HD designators in the text describing the Series.

## **11.3Ent. ADI 1.1 Metadata Delivery to Canoe**

While Canoe will ultimately support the ability to obtain entertainment metadata directly from a CIS interface, Canoe presently provides a secure FTP (SFTP) drop for Programmers to upload their entertainment metadata (`metadata.canoe-ventures.com`, port 22).

Entertainment Metadata should be supplied to Canoe in the same format it is currently provided to all MSOs (ADI 1.1 XML), prior to the license date start of any entertainment asset. The only change required on behalf of a Programmer should be to include Canoe as an additional entertainment metadata endpoint.

Canoe requests this entertainment metadata be sourced as far downstream as possible, as any change to Movie Asset IDs will require the Programmer to send updated entertainment metadata to Canoe to ensure (a) Canoe can decision for each entertainment asset, and (b) Canoe can report by rolled-up entertainment asset (e.g., Title).

## **11.4Ent. ADI 1.1 Metadata Lead Time to Canoe**

Canoe requires a 1-hour turnaround for processing new/updated entertainment metadata.

### ***11.5Ent. ADI 1.1 Metadata Troubleshooting***

Since Canoe is just an endpoint on the distribution of entertainment metadata, there should not be any issues with data inconsistency. Nevertheless, Canoe's Operations group will perform ongoing checks of its system and will notify the Programmer if there are issues with the entertainment metadata process that may impact VOD DAI insertions.

### ***11.6Ent. Break Point Metadata Requirements***

This material describes the requirements for providing entertainment break point metadata. The implementation of this workflow is part of the broader onboarding effort, which will involve validation of data and processes. **Please coordinate with Canoe as part of the onboarding effort before implementing this process.**

Canoe and its MSO partners support an out-of-band (OOB) solution to handle collapsing existing pre-roll content, mid-roll insertions, and playing post-rolls slightly prior to the end of the content. When entertainment metadata is pitched, the Programmer must also send Canoe a separate file containing timings for each mid-roll insertion.

Note that IF content does not have break points associated to it AND the content qualifies for an active Ad Map that contains one or more pre-roll ad opportunities and/or one or more post-roll ad opportunities, then MSO system will add the pre-roll opportunities ahead of the content, and the post-roll opportunities after the content. That is, DAI will still occur, but not within the content.

Note that this is an interim solution, pending ecosystem support of CableLabs Metadata 3.0.

#### **11.6.1 Capabilities**

Programmers are able to define the following as part of identifying break points within entertainment assets. An asterisk (\*) is used to denote required fields.

- **Lead Black\***: Used to avoid a delay between the end of the dynamic pre-roll break and the start of the entertainment. That is, each Operator will first play out the Lead\_Black range of entertainment first (e.g., 0-2.75s), followed by a dynamic pre-roll break, and then resume the entertainment content starting at the Lead\_Black end (e.g., 2.75s+).
- **Pre-Roll**: Used to collapse a baked-in pre-roll break, such that a dynamic pre-roll break can be inserted in its place. If this value is NOT included, the dynamic pre-roll break will play out immediately following the Lead\_Black end. This value MUST be contiguous with the Lead Black end value.
- **Mid-Roll**: Used to EITHER (a) replace baked-in mid-roll breaks with dynamic mid-roll breaks, OR (b) insert dynamic mid-roll breaks where no baked-in mid-roll breaks exist. Accepts multiple mid-roll breaks using pipe ('|') delimiter. If this value is NOT included, no dynamic mid-roll breaks can play out for the entertainment asset.



- **Post-Roll:** Used to insert a dynamic post-roll break PRIOR to the end of the entertainment content (e.g., insert a post-roll prior to movie credits or prior to trailing black on the end of an entertainment asset).

The Post-Roll value is an insertion point ONLY and therefore CANNOT be used to collapse an existing post-roll break baked into the content (to accomplish the latter, a Programmer could instead supply an additional Mid-Roll Break). If this value is NOT included, the dynamic post-roll break will be inserted after the end of the entertainment content.

- **Pre-Roll\_Local:** Used to define the location of the local avail in the pre-roll.
  - The local range MUST full overlap with the corresponding full “Pre-Roll” break.
  - If the local region aligns with the start or end of a whole Pre-Roll break, Pre-Roll\_Local MUST use the exact same start or end break-time.
  - Only one (1) local sub-region may be included. If back-to-back local ads exist, a single range MUST be used that encompasses all local ads.
- **Mid-Roll\_Local:** Used to define the location of the local avail in the mid-roll(s).
  - Accepts multiple mid-roll breaks using pipe (‘|’) delimiter.
  - The local range MUST full overlap with the corresponding full “Mid-Roll” break.
  - If the local region aligns with the start or end of a whole Mid-Roll break, Mid-Roll\_Local MUST use the exact same start or end break-time.
  - Only one (1) local sub-region may be included per break. If back-to-back local ads exist within a break, a single range MUST be used that encompasses all local ads within that break.
- **Post-Roll\_Local:** Used to define the location of the local avail in the post-roll.
  - The local range MUST full overlap with the corresponding full “Post-Roll” break.
  - If the local region aligns with the start or end of a whole Post-Roll break, Post-Roll\_Local MUST use the exact same start or end break-time.
  - Only one (1) local sub-region may be included. If back-to-back local ads exist, a single range MUST be used that encompasses all local ads.

### 11.6.2 Identification Process

Programmers are responsible for identifying the breaks in their assets and communicating the breaks to Canoe. Canoe distributes the break information to each MSO. Canoe supports Programmers providing specifications, working closely with Programmer operations to test and establish production processes, and distributing the information to each MSO.

In order for an entertainment asset to be eligible for (a) collapsing a baked-in pre-roll break, (b) mid-roll insertions, or (b) playing the post-roll slightly prior to the end of the content, the content provider must supply break point data. Each region of a VOD program asset that is deemed

eligible for replacement with a dynamic ad(s) must be described with either a single break point (in the case of ad-free content) or a pair of break points (in the case of content with baked-in ads).

Programmers must first determine the break points. Programmers have options from various service providers to assist in fulfilling these requirements for break identification. Content Deliverers are developing DAI break-point identification solutions for their customers. Canoe's MSO partners will support Programmers in the effort by providing specifications and working closely with Programmer operations to test and establish production processes.

Additionally, Canoe has detailed a manual process, separate from this document intended for any Programmer wishing to do self-service, should that be desired. If a Programmer is interested in pursuing this track, please contact Canoe and request the latest version of Canoe's *VOD DAI Break Point Timing and CSV Instructions*.

### 11.6.3 MPEG Analysis

A break point pair is used by the VOD streaming server to locate I-frames to be used as splice points. The process of determining a break point starts with identifying the corresponding I-frames around an encoded (or static) ad break.

A break point **start time** should correspond to the first I-frame of the encoded ad-break (or local avail). A break point **end time** should correspond to the first I-frame of the program content (or national ad) that follows the ad-break.

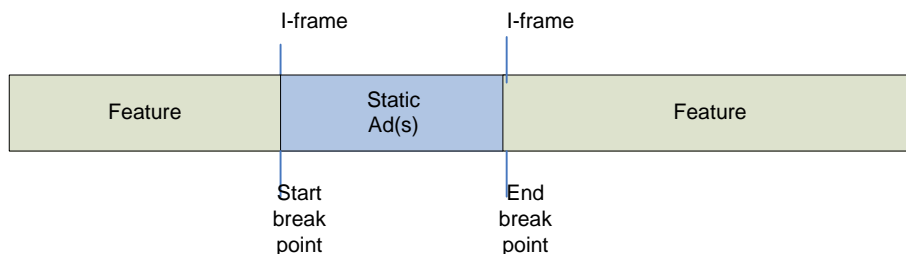


Figure 16: Break Point Pair Example

Break time MUST “correspond” to an I-frame, meaning that the value should match the “NPT” value associated with that particular I-frame. This is further explained in section 6.11 of CableLabs Content Encoding Profiles 3.0 Specification: <http://cablelabs.com/specifications/OC-SP-CEP3.0-103-120123.pdf>

Summarizing from the CEP spec, an NPT value for a frame is the difference between that frame's PTS value and the PTS of the first I-frame of the mpeg file.

Below is an example based on analysis of an actual VOD asset index file:

I-frame #1	PTS=0x9f9b	NPT=0
I-frame #25	PTS=0x10d831	NPT=11.8118

NOTE:  $NPT = \text{float}(\text{pts} - \text{pts}_1) / 90000$  (for the 90Khz clock which the PTS counter represents)

### 11.6.4 Format (CSV)

The header of the comma delimited (CSV) file MUST be expressed as follows. The same header applies regardless of whether local break points are being sent (i.e., if no local break points are being sent, the Pre-Roll\_Local, Mid-Roll\_Local and Post-Roll\_Local columns should be left blank).

```
Action,Provider_Ext_Ref,Provider_ID,Asset_ID,Asset_Name,Lead_Black,Pre-Roll,Mid-Roll,Post-Roll,Pre-Roll_Local,Mid-Roll_Local,Post-Roll_Local
```

Break points are expressed as a pair of values representing a time range where the start and end times are in terms of NPT (Normal Play Time) with millisecond granularity. There are two options for formatting these NPT values:

- Decimal with fractions for millisecond (e.g., 481.343-511.567)
- HH:MM:SS.mmm where “HH:MM:SS” represents the hours, minutes and seconds and “mmm” represents the number of milliseconds (e.g., 00:08:01.343-00:08:31.567).

The break point time ranges are entertainment asset specific. Once received in the proper CSV format, MSOs will ingest them into their respective VOD DAI Program Libraries.

Below are a series of examples of the CSV file format. Canoe will transform these into the formats required by individual MSOs as part of its CSV SFTP workflow. The Programmer/Content Distributor is responsible only delivering a single, MSO-agnostic CSV to Canoe.

(1) Minimum fields required using decimal timing format:

- CSV Header plus 3 entertainment asset records
- Lead\_Black: defined for each
- Pre-Roll, Post-Roll: optional, left blank (i.e., no baked-in pre-roll to replace, play dynamic post-roll after the end of the content)
- Mid-Roll: 5 breaks with ranges to collapse baked-in ad/ads
- No local break points

```
Action,Provider_Ext_Ref,Provider_ID,Asset_ID,Asset_Name,Lead_Black,Pre-Roll,Mid-Roll,Post-Roll,Pre-Roll_Local,Mid-Roll_Local,Post-Roll_Local
Update,NETWORK,network.com,ABCDXXXXXXXXXXXXXXXXX1,SeriesA_XXXXXXXX_title,0.000-3.002,,713.594-944.514|1666.937-1897.180|2228.530-2379.017|2412.915-2558.669|3175.070-3410.265,,,,
Update,NETWORK,network.com,ABCDXXXXXXXXXXXXXXXXX2,SeriesA_YYYYYYYY_title,0.000-3.002,,676.641-907.031|1531.111-1691.332|2233.937-2469.058|2528.936-2679.063|3243.611-3429.458,,,,
Update,NETWORK_HD,network.com,ABCDXXXXXXXXXXXXXXXXX3,SeriesB_XXXXXXXX_title,0.000-3.002,,676.709-907.141|1531.159-1691.402|2234.173-2469.169|2529.037-2679.144|3244.176-3429.657,,,,
```

Figure 17: CSV Example 1

(2) C3 asset with local breaks defined:

```
Action,Provider_Ext_Ref,Provider_ID,Asset_ID,Asset_Name,Lead_Black,Pre-Roll,Mid-Roll,Post-Roll,Pre-Roll_Local,Mid-Roll_Local,Post-Roll_Local
Update,NETWORK,network.com,ABCDXXXXXXXXXXXXXXXXX1,SeriesA_XXXXXXXXX_title,,,,,
713.594-743.514|1867.937-1897.180,
```

Figure 18: CSV Example 2

All optional fields included, with the exception of local breaks:

- CSV Header plus 1 entertainment asset record
- Lead\_Black: defined
- Pre-Roll: range defined to collapse baked-in pre-roll break after Lead\_Black and replace with dynamic ad/ads
- Mid-Roll: 5 breaks defined, each with ranges to collapse baked in mid-roll ad/ads and replace with dynamic ad/ads
- Post-Roll: defined to place post-roll slightly prior to end of entertainment asset (e.g., prior to movie credits)
- Local breaks not defined

```
Action,Provider_Ext_Ref,Provider_ID,Asset_ID,Asset_Name,Lead_Black,Pre-Roll,Mid-Roll,Post-Roll,Pre-Roll_Local,Mid-Roll_Local,Post-Roll_Local
Update,NETWORK,network.com,ABCD2012102400000917,ProgramName101_SD_gaFQz_Title
,00:00:00.000-00:00:03.069,00:00:03.069-00:00:13.079,00:10:32.198-
00:10:52.219|00:20:33.299-00:20:43.309|00:30:43.410-
00:30:53.420|00:31:36.460-00:31:56.480|00:41:18.550-
00:41:28.559,00:44:35.739,,,
```

Figure 19: CSV Example 3

**Notes:**

- The **Action** must always be Update.
- The **Provider\_Ext\_Ref** must always be the title asset's Provider value. Canoe will need to configure all expected Provider\_Ext\_Ref values to ensure proper CSV processing.
- The **Provider\_ID** must always be the title asset's Provider\_ID value.
- The **Asset\_Name** must correspond to the title asset's Asset\_Name
- The **Asset\_ID** must correspond to the movie asset's Asset\_ID
  - Note: This MUST match what is ultimately ingested by each Operator. If Movie Asset ID values are different by Operator (e.g., changed by Content Distribution partner en route to Operator), separate/updated CSV records must be created.
- There is 1 column for all national mid-roll breaks with each individual break separated by the pipe "|" delimiter. The same is true for local mid-roll breaks.
- The **Pre-roll**, **Mid-Roll** and **Post-roll** (as well as their local equivalents) break-time values are optional.
- Defining a **Pre-Roll** range allows the Programmer to collapse the existing pre-roll. (If undefined, the default behavior is to insert the pre-roll after the Lead\_Black value.)
- Defining a **Post-Roll** value (a range is not supported) allows the Programmer to define a post-roll insertion point other than after the end of the entertainment content (e.g., a Programmer may wish to place the post-roll break prior to the movie credits of a film).

---

## **11.7Ent. Break Point Metadata Delivery to Canoe**

The following describes the CSV distribution process.

1. Save the file as **<PROGRAMMER>\_<DATE\_TIME>.csv**
  - a. PROGRAMMER should be the programmer group (e.g., NBCU, FEARNET).
  - b. DATE\_TIME can be in any format. Canoe's only requirement is that each uploaded file be uniquely named.

Examples:

*FEARNET\_201210101235.csv*                      or                      *NBCU\_20121010123505123.csv*

2. Provider or their Content Distributor (CMC/DCF, Vubiquity, Clearleap, etc.) drops CSV file(s) with break-times for one or multiple assets (1 asset per row) to a Canoe secure FTP (SFTP) site (sftp.canoe-ventures.com, port 22).
3. Every hour, Canoe combines all files received per Programmer into a single file, transforms that file into the format required by each MSO.
4. At regular intervals, each MSO loads the CSV file into their system. Any troubleshooting occurs directly between the MSO and the Programmer and/or Content Distributor.
5. The MSO moves the file into a /completed directory on the SFTP site.

Note: Separately, mid-roll Ad Maps are set up for the VOD DAI platform and campaigns with mid-roll instructions may then be scheduled against the enabled assets.

## **11.8Ent. Break Point Metadata Lead Time to Canoe**

Canoe will automatically process break point metadata (as it is received).

Break point metadata for D4 assets should be delivered to Canoe no later than the D4 content is pitched to each MSO, ideally at least 72 hours prior to the license window start in order to ensure break points are available when the asset goes live.

---

## ***11.9 Ent. Break Point Metadata Troubleshooting***

- Canoe will monitor its own workflow to ensure files are successfully processed and made available to each MSO.
- Canoe will monitor to ensure each MSO successfully retrieves the break point metadata and marks as complete.
- Canoe delivers exception reports to each Programmer if it determines there are any DAI-eligible entertainment assets (either within license window or within 'x' days of license start) for which there exists no break point metadata.

It is then the Programmer's responsibility to troubleshoot missing break point metadata internally, and if applicable, with their Content Distribution partner(s).

Exception examples are as follows:

- Programmer or Expert Agent does not send Canoe break point metadata for entertainment asset.
- Programmer or Expert Agent sends different Movie Asset ID or Title Asset Name in break point metadata than what is ingested at one or more Operators.

## 12 Billing

This section details billing and invoicing for each Programmer.

### 12.1 Timing

Canoe will invoice each Programmer on a monthly basis.

### 12.2 Delivery

Canoe will deliver the invoice either by email or postal mail, depending on Programmer preference.

### 12.3 Invoice Format

A single invoice is created for each Programmer. For Programmers that have multiple Networks, sub-totals are provided by Network.

### 12.4 FAQs

**Q – Is it possible a campaign will over deliver?**

*A – Yes, it is possible. Due to timing delays in Canoe’s multi-Operator footprint, it is possible for individual Campaign Line Items to over deliver stated Goals by up to 3%.*

**Q – What happens if a campaign Line Item ends on the same date an invoice is created?**

*A – Assume a campaign Line Item ends on 8/31 and an invoice is created for 8/1-8/31. Some impression data for 8/31 may arrive after the invoice was cut.*

*Programmers should assume, especially in this case, that the following month’s invoice will contain additional impression data for this completed Line Item.*

*Note that Campaign Summary reports are delivered each business day for all impressions as of midnight the previous day, so a Programmer will have reporting confirmation for each campaign Line Item much faster than the same impressions may appear on an invoice.*

**Q – What happens if impression data arrives after an invoice has been created?**

*A – Similar to above, this impression data will simply be included on the following month’s invoice.*

**Q – Can I receive separate invoices for each network?**

*A – Currently, Canoe delivers a single invoice for each Programmer and includes sub-totals by Network in that invoice.*



**Q – Do you have a sample invoice we can view?**

**A – Absolutely.**



Canoe Ventures, LLC  
160 Inverness Drive West, Suite 200  
Englewood, CO 80112  
303-224-3000  
invoicing@canoeventures.com

**Bill To:** ACME  
Attention: Jane Smith  
1 Main Street  
New York, NY 10022  
jane.smith@acme.com

**Invoice Period Start:** 03/01/2013  
**Invoice Period End:** 03/31/2013  
**Programming Group:** ACME  
**Network(s):** Sports, Movies, Comedy, Horror, News  
**Previous YTD Impressions:** 1,234,567

**Invoice Date:** 04/01/2013  
**Invoice Number:** 1111

**INVOICE**  
**PLEASE REMIT TO:**  
Canoe Ventures, LLC  
Attention: Accounting Department  
160 Inverness Drive West, Suite 200  
Englewood, CO 80112

**TERMS : NET 30 DAYS**  
**FEDERAL TAX ID : 26-2372059**  
*Invoice # is required on all remittances*

**RATE CARD (current Tier in yellow)**

Tier	CPM	YTD Impressions
Unlimited	\$10.00	1,234,567
500,000	\$12.00	704,545
150,000	\$15.00	150,000
849,805	\$18.00	849,805
487,830	\$20.00	487,830
477,830	\$22.00	477,830
500,000	\$25.00	500,000
270,647	\$28.00	270,647
304,346	\$30.00	304,346
258,340	\$35.00	258,340

Invoice Line #	Campaign Reference ID	Campaign Name	Network	Start Date	End Date	Goal	Total Impressions Delivered	Previously Billed Impressions	Current Billed Impressions	CPM	Total
001	10321	Sports Promo	Sports	01/05/13	12/31/13	Unlimited	1,234,567	1,234,567	1,234,567	\$10.00	\$12,345,670
002	10322	Movies Promo	Movies	01/05/13	12/31/13	Unlimited	1,234,567	1,234,567	1,234,567	\$12.00	\$14,814,804
003	10323	Comedy Promo	Comedy	01/05/13	12/31/13	Unlimited	1,234,567	1,234,567	1,234,567	\$15.00	\$18,518,505
004	10324	Horror Promo	Horror	01/05/13	12/31/13	Unlimited	1,234,567	1,234,567	1,234,567	\$18.00	\$22,222,222
005	10382	News Promo	News	01/28/13	03/31/13	500,000	500,000	500,000	500,000	\$25.00	\$12,500,000
006	10381	Widgets	Sports	01/28/13	03/31/13	704,545	704,545	704,545	704,545	\$20.00	\$14,090,900
007	10421	Cheese	Bravo	02/19/13	03/21/13	150,000	150,000	150,000	150,000	\$15.00	\$2,250,000
008	10445	Car	Sports	03/01/13	03/31/13	849,805	849,805	849,805	849,805	\$18.00	\$15,296,490
009	10445	Car	Movies	03/01/13	03/31/13	487,830	487,830	487,830	487,830	\$20.00	\$9,756,600
010	10445	Car	Comedy	03/01/13	03/31/13	477,830	477,830	477,830	477,830	\$22.00	\$10,512,260
011	10482	Wireless Carrier	News	03/12/13	05/31/13	500,000	500,000	500,000	500,000	\$25.00	\$12,500,000
012	10483	Fashion	Sports	03/12/13	04/14/13	270,647	270,647	270,647	270,647	\$28.00	\$7,578,116
013	10483	Fashion	Movies	03/12/13	04/14/13	304,346	304,346	304,346	304,346	\$30.00	\$9,130,380
014	10483	Fashion	Comedy	03/12/13	04/14/13	258,340	258,340	258,340	258,340	\$35.00	\$9,041,900

**Sub-totals by Network:**

Sports	\$15,296,490
Movies	\$9,756,600
Comedy	\$10,512,260
Horror	\$22,222,222
News	\$12,500,000
<b>Total:</b>	<b>\$60,287,572</b>

**Invoice Comments:**

Due to timing delays across Canoe's multiple-Operator footprint, it is possible that:  
1) impressions delivered within 48 hours of the report generation time may not be included; and if so, those impressions will be billed in the next invoice, and  
2) Individual Campaign Line Items may over deliver stated Goals by up to 3%.

Please detach this portion and return with your remittance to:

Canoe Ventures, LLC  
Attention: Accounting Department  
160 Inverness Drive West, Suite 200  
Englewood, CO 80112

**Invoice Date:** 04/01/2013  
**Invoice Number:** 1111  
**Programmer:** ACME  
**Network(s):** Sports, Movies, Comedy, Horror, News

Sports \$ 15,296,490  
Movies \$ 9,756,600  
Comedy \$ 10,512,260  
Horror \$ 22,222,222  
News \$ 12,500,000  
**Amount Due: \$ 60,287,572**

Figure 20: Sample Invoice