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A COMCAST COMPANY

THE DEFINITIVE GUIDE TO UNIFIED VIDEO

THE FUTURE IS DYNAMIC & DATA ENABLED

Most new advances in video advertising over the past decade have worked to shift the industry towards a future that is more dynamic, where different viewers see different ads, and ads are tailored to viewers' interests.

In the pages ahead, we explore the different worlds of video advertising along two axes:

1. The differences between scheduled ads traditionally seen on linear television and dynamically inserted ads most common in digital advertising

2. Ways to incorporate sophisticated data in planning, targeting, and measuring video advertisements

For each section, we explore the world as it exists today as well as different initiatives underway to bring those worlds together.

NON-DATA ENABLED

DATA ENABLED

DYNAMIC

DAI

Desktop | (C)TV | Mobile

ADDRESSABLE TV & TARGETED DIGITAL VIDEO

$ | $$

SCHEDULED

TRADITIONAL TV
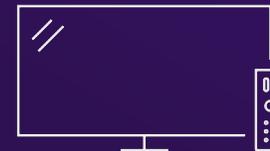
AUDIENCE OPTIMIZED ADVANCED TV

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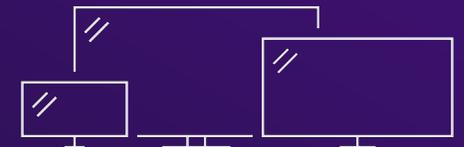
CHALLENGES OF UNIFYING VIDEO

While video ads may look the same to the viewer, the systems and processes used to buy, execute, and measure those ads look very different depending on how the ad is delivered. We looked at five areas where the new world of dynamic, often digital, video ads look different from traditional scheduled linear ads to explore the challenges involved in bringing them together.

AD DELIVERY
Trafficking methods and how they translate to which audience sees the ad

INVENTORY MANAGEMENT
Transaction types used to monetize ad opportunities

UNITS OF MEASUREMENT
Metrics used to evaluate campaign performance and contracted between a marketer and supplier

MEASUREMENT SOURCES
Methodologies to validate how the campaign delivered

WAYS TO BUY
Contractual agreements and transaction mechanisms

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UNITS VS. IMPRESSIONS

Many of the differences between traditional linear and digital television tie back to the fundamental way they insert advertising. Linear advertising carves up a daily schedule into 'units' of time, while digital advertising treats each opportunity to serve an ad as unique.

UNIT
TIME ON THE LOG

In traditional linear television, advertising appears as a **"unit"** – a moment of time interrupting content on a 24-hour log. In linear television, a time on the log is an **'avail'** and **"inventory"** refers to the number of spots available to sell. The total number of viewers or households who see an ad is later translated into "impressions". **Capacity** refers to both the maximum number of ads you can sell and the number of impressions those ads deliver.

BRAVO
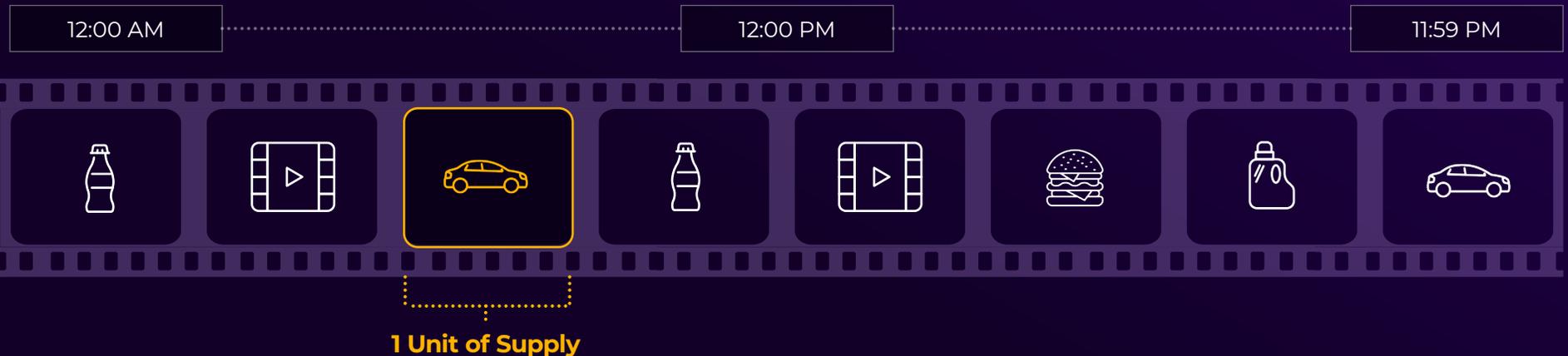
| 12:00 AM | 12:00 PM | 11:59 PM |

1 Unit of Supply

AD DELIVERY

INVENTORY
MANAGEMENT

UNITS OF
MEASUREMENT

MEASUREMENT
SOURCES

WAYS TO BUY

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IMPRESSION
ONE AD OPPORTUNITY

For dynamic ads, each ad break is a unique **opportunity** to serve an ad, and different viewers can see different ads. Rather than being decided in advance, an Ad Decisioning System decides in real time the right ad to show viewers. Because of this, the available **'inventory'** is the total number of ad impressions that can be shown. **Capacity** refers only to the number of impressions, there is no limit on the number of ads.

BRAVO
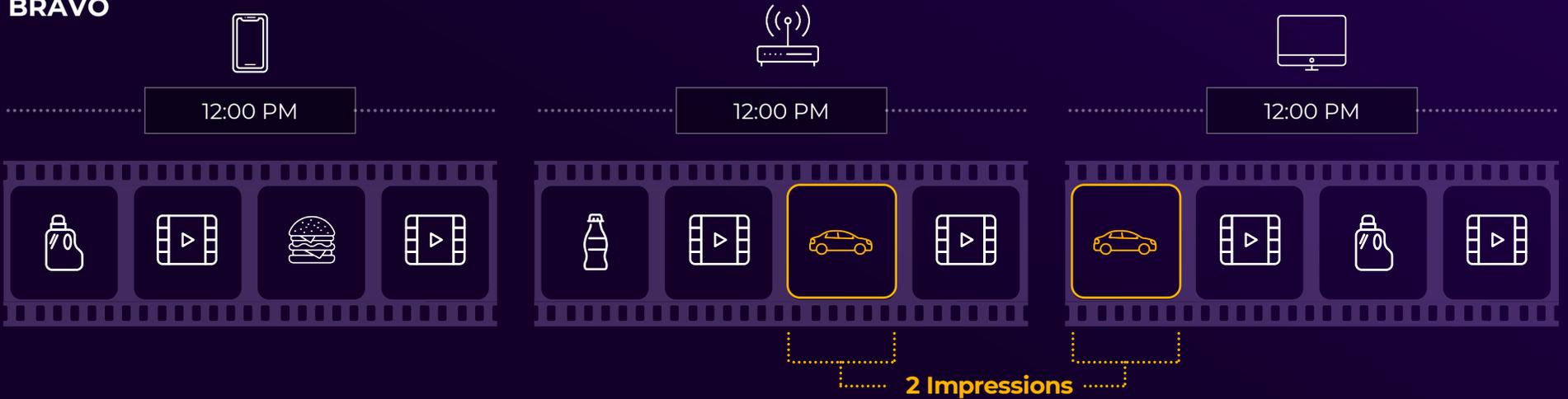
12:00 PM   12:00 PM   12:00 PM

2 Impressions

GRPs

GRPs only count people who are in the target audience who see the ad.

TARGET AUDIENCE   M18-34

UNIVERSE
The total number of people within the target

6 UNIVERSE | 6 people fall into the M18-34 Universe

REACH
The number of people within the universe who saw the ad

5 REACH | Out of the 6 people, 5 of them were exposed to the ad

FREQUENCY
The number of times the ad was seen

1   2   2   1   4

2 FREQUENCY | The 5 people who were exposed saw the ad an average of 2 times

GRP
(Reach / Universe) * Frequency

1.67 M18-34 GRPS | (5 / 6) * 2 = 1.67 M18-34

AD DELIVERY

INVENTORY
MANAGEMENT

UNITS OF
MEASUREMENT

MEASUREMENT
SOURCES

WAYS TO BUY

SAMPLE VS. CENSUS

Distributors and publishers rely on two different measurement source methodologies for reporting.

SAMPLE

To determine how many people watched an ad, measurement providers create a **representative sample** based on the total population of TV viewing households. Participants in the panel report back on their individual TV viewing, which is then **extrapolated out to the broader population**. However, smaller networks, geographies, or demographics, may not have enough members in the sample to be measured accurately.

CENSUS

Digital devices and some cable or satellite set-top boxes report back viewing behavior for every single ad opportunity in **near real time**. As a result, **everyone on the platform is included** and more granular targets (e.g., audiences or geographies) will be included. However, because the data is collected from a device, rather than a panelist , it can be hard to gather information about viewers.
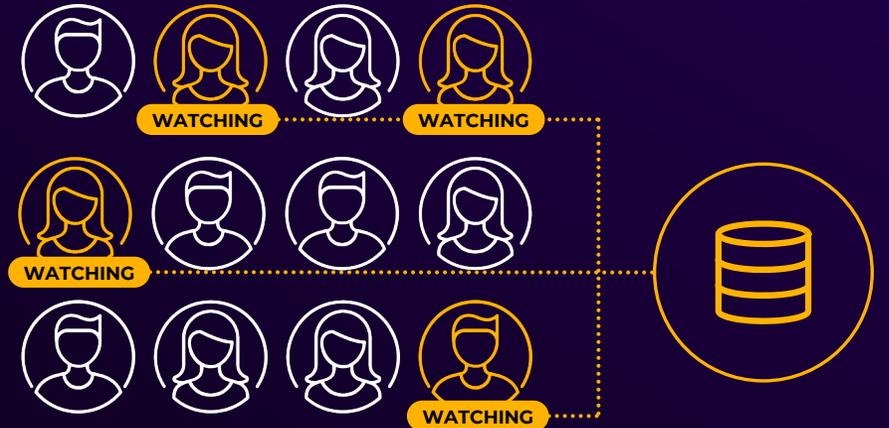
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MEASUREMENT TRADEOFFS: SAMPLE VS. CENSUS

Different approaches to measurement have different advantages and disadvantages, making it difficult to bring both together into a 'best of both worlds' methodology.

	SAMPLE / PANEL	CENSUS
PRECISION	Viewership extrapolated from a sample	Every impression is tracked
SCALE	Provides a total picture of sample members viewing	Visibility limited to the footprint of the measurement system
DEMOGRAPHIC	Reported demographic data about the viewer	Limited data about the viewer
LATENCY	Lag between viewing and data availability	Data available near real time
CO-VIEWING	Captures multiple people viewing the same device	Multiple people sharing a device only count as one impression
MEASUREMENT METHODOLOGY	National: Telecast average commercial audience or C3 Local: Quarter Hour Ratings	Commercials measured individually

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VIDEO BUSINESS MODELS

Depending on how video ads are bought and sold, the delivery, measurement, and transaction models will look very different, making it difficult to piece together a full plan from all the available opportunities.

AD DELIVERY

INVENTORY MANAGEMENT

UNITS OF MEASUREMENT

MEASUREMENT SOURCES

WAYS TO BUY

	LINEAR				DIGITAL
	LOCAL BROADCAST & CABLE INTERCONNECT	**NATIONAL BROADCAST**	**MVPD**	**NATIONAL CABLE**	
DESCRIPTION	Local TV Stations and Cable Interconnects	National Television Network	Video distributor selling an avail based on various geos: zip, cable zone, and/or DMA	National cable networks	Digital advertising sold by both traditional and new media companies
EXAMPLE	WNBC New York, New York Interconnect	NBC	Comcast, Charter	Bravo	Xumo
UNITS OF MEASUREMENT	GRP (universe estimate is DMA)	GRP (universe is National TV HH)	Spot	Impressions	Impressions
MEASUREMENT SOURCE	Nielsen (Sample), Quarter Hour Ratings OR ComScore (Participating MVPD Footprint Census)	Nielsen (Sample), National commercial minute, C3	Return Path Data Report and 'as run logs'	Nielsen (Sample), National commercial minute, C3	Ad Server (Census)
INVENTORY MANAGEMENT	Units	Units	Spot	Units	Impressions
MAKE GOOD MANAGEMENT	GRP	Units	Spot	Impressions	Depending on Agreement

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UNIFYING NATIONAL CABLE AND DIGITAL INVENTORY: CFLIGHT

CFlight merges digital and linear concepts to maximize the value of publisher's unified pool of supply.

In response to the challenges inherent in unifying different transaction models and types of supply, NBCU created "CFlight", a hybrid measurement solution that allows them to "make good" on underdelivered scheduled ads using dynamic digital inventory.

In order to overcome measurement challenges, CFlight equivalizes dynamic ads by using Nielsen's Digital Ad Ratings to ensure that digital delivery represents the same audiences while also including a co-viewing factor.

	NATIONAL CABLE	CFLIGHT	DIGITAL
DESCRIPTION	National cable network	NBCU's cross-platform unified advertising metric	Digital advertising sold by both traditional and new media companies
EXAMPLE	Bravo	Bravo Linear Channel + Bravo OTT App	Xumo
UNITS OF MEASUREMENT	Impressions	Impressions	Impressions
MEASUREMENT SOURCE	Nielsen (sample), National commercial minute, C3	Nielsen + Nielsen DAR	Ad Server (Census)
INVENTORY MANAGEMENT	Units	Impressions	Impressions
MEASUREMENT METHODOLOGY	Impressions	Impressions	Depending on Agreement

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AD DELIVERY

INVENTORY
MANAGEMENT

UNITS OF
MEASUREMENT

MEASUREMENT
SOURCES

WAYS TO BUY

UNIFYING MVPD & DIGITAL INVENTORY: ADDRESSABLE

Linear addressable applies digital concepts to linear supply to drive incremental revenue.

In order to make linear inventory more flexible, many programmers and distributors are using technology to convert traditional scheduled ads into dynamic ads through technology embedded in cable set-top boxes and smart-TVs. Linear Addressable ads still run at a scheduled time but can deliver different ads to different devices. Digital addressable ads run dynamically. Audience addressable campaigns deliver impressions across both linear and digital.

	MVPD	ADDRESSABLE	DIGITAL
DESCRIPTION	Video distributor selling an avail based on various geos: zip code, cable zone, and/or DMA	Ad product enabling audience targeted ads to be delivered to identified households across linear and digital	Digital advertising sold by both traditional and new media companies
EXAMPLE	Comcast, Charter	Linear avail, OTT, STB VOD	Xumo
CURRENCY	Spot	Impressions	Impressions
MEASUREMENT SOURCE	Return Path Data Report / as run logs	Return Path Data Report / as run logs, ad server	Ad Server
INVENTORY MANAGEMENT	Spot	Impressions	Impressions
MAKE GOOD MANAGEMENT	Spot	Impressions	Depending on Agreement

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HYBRID SOLUTION: LINEAR ADDRESSABLE

Leveraging linear addressable to make linear look more like digital.

DYNAMIC + 1:1 BY HOUSEHOLD
LINEAR ADDRESSABLE

In Linear Addressable advertising, a scheduled **unit** is made dynamic and **divided into unique impressions for each household.**

12:00 PM

12:00 PM
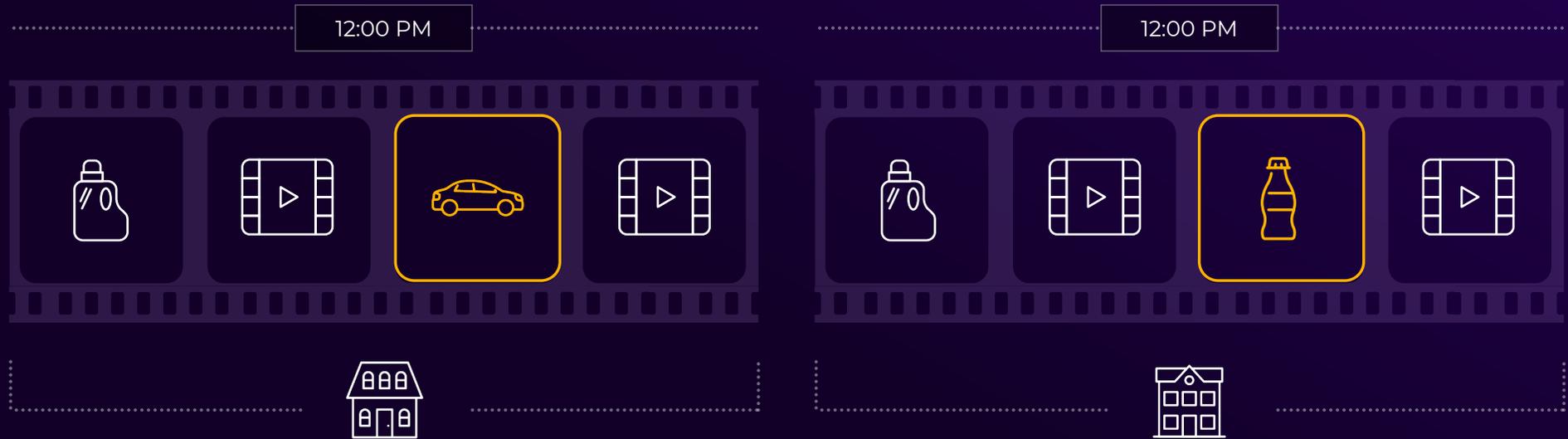
USING DATA FOR ADVANCED TARGETING

CHALLENGES WHEN USING DATA IN VIDEO

IDENTIFYING
THE VIEWER

CONNECTING
IDENTITY
TO ATTRIBUTES

TARGETING
DELIVERY BASED
ON ATTRIBUTES

THREE WAYS TO IDENTIFY A VIEWER

Every viewer has various identifiers.

HOUSEHOLD

People who live in the same home together, share a **physical address** and **household IP address**, and often share purchasing decisions.

INDIVIDUAL

A **unique person**, with a name and usually a personal e-mail address, who watches video.

DEVICE

A screen where a person consumes content and sees ads. Each device is usually embedded with a **unique device identifier**.

TWO WAYS TO JOIN AUDIENCE IDENTIFIERS TOGETHER

Identifiers are linked together to create a more detailed picture of identity.

DETERMINISTIC MATCHING

Deterministic matching uses first party data collected directly from consumers, such as information collected during registration or IDs collected from devices.

This first party data can then be linked to third party data, which is sourced and aggregated by a company that is typically not the original collector of the data.

PROBABILISTIC MATCHING

Probabilistic matching uses statistical algorithms to connect different device identifiers based on their interactions with devices or other information like location.

Probabilistic data can be used in situations where deterministic data isn't available, or where the deterministic data may capture multiple individuals in a household under the same identifier (i.e. multiple people in a family sharing a user account).

IDENTIFYING THE VIEWER

CONNECTING IDENTITY TO ATTRIBUTES

TARGETING DELIVERY BASED ON ATTRIBUTES

DEALING WITH DATA: DETERMINISTIC RESOLUTION

Deterministic data allows for better precision in targeting, but more limited scale.

MATCHING DEVICES TO PEOPLE OR HOUSEHOLDS

By making a link between device information and information about the viewer:

- Email Address
- Billing Address
- Subscriber ID

Desktop Laptop
- Cookie
- Custom ID
- IP Address

Mobile
- Device IDs (Mobile)
- Custom ID
- IP Address

Over-the-Top (OTT)
- Custom ID (OTT)
- IP Address

STB VOD
- Custom ID (OTT)
- Device Address

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IDENTIFYING
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DEALING WITH DATA: PROBABILISTIC RESOLUTION

Probabilistic data offers greater scale but can be less precise.

MATCHING DEVICES TO PEOPLE OR HOUSEHOLDS

Statistical modeling uses the following information to identify relationships between devices:

- IP matching
- Operating system
- Location
- Wi-Fi network (IP address)
- Browsing history

Desktop Laptop

For this shared device, it's possible to differentiate browsing activity within a household

Cookie

Custom ID

IP Address

Recipe Website

Weather Search

ADULT

Popular Teenage Magazine Website

Social Media Websites

TEENAGER

AUDIENCES ATTRIBUTES

Marketers look to target specific attributes that belong to individuals and households.

IDENTIFYING THE VIEWER

CONNECTING IDENTITY TO ATTRIBUTES

TARGETING DELIVERY BASED ON ATTRIBUTES

GEOGRAPHY
DISCRETE

Segments using information based on where the viewer is generally located. Geotargeting can be performed at various levels – from zip code to country. Geography can be resolved based on device information or address information. Interestingly, units of geography differ across traditional linear and digital.

DEMOGRAPHIC
MUTUALLY EXCLUSIVE

Demographic categories like age and gender provide marketers categories that directly align to measurements in the US census. The segments are mutually exclusive (i.e. an individual viewer belongs to only one age and gender). Demographic data is widely and often publicly available or easy to infer.

40% F18-34

60% M18-34

PSYCHOGRAPHIC & BEHAVIORAL
OVERLAP

Psychographic and behavioral segments infer information about a viewer's lifestyle, opinions, interests, or actions. These segments are built by data providers who infer them from self-reported information or publicly available data.
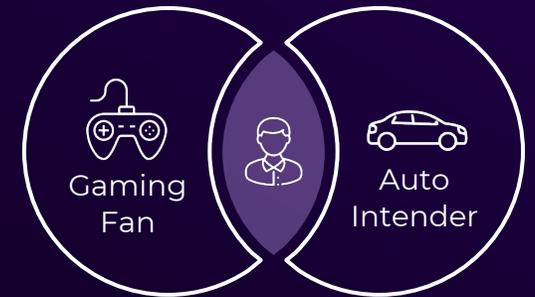
Gaming Fan

Auto Intender

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UNITS OF GEOGRAPHY

Linear and digital businesses plan, sell and execute geotargeting with different units of locality.

IDENTIFYING
THE VIEWER

CONNECTING
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ON ATTRIBUTES

LOCAL CABLE TV

DMA
Designated Marketing Areas that can receive the same television stations

ZONE
Designated area smaller than a DMA; Zones can span across states

SUPER ZONE
A collection of zones

SYSCODE
4-digit numeric code that represents the geography; this is used for zone, super zone, & DMAs

DIGITAL

STATE
U.S. State

DMA
Designated Marketing Area

ZIP CODE
U.S. Postal codes that can span multiple zones

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UNITS OF GEOGRAPHY

Combining digital and linear in the same campaign can lead to fitting a square peg into a round hole.

LOCAL CABLE TV

A **Zone** is the most granular form of geographic targeting

Zones can span across both DMAs and States

DIGITAL

Zip codes can be targeted more granularly and can also represent areas where an MVPD is under-represented due to lack of coverage in an area.

In this case, you can see that Zip Codes can overlap across Zones.

HOW ATTRIBUTES ARE ASSIGNED TO IDENTIFIERS

Once a profile for a user or household is created, attributes are assigned based on deterministic or probabilistic methods.

DETERMINISTIC ASSIGNMENTS

Deterministic attributes are linked with a user or household based on known information collected during user registration or based on a user's past interactions with a site, public records, or device.

For instance, a user might share their birth year during the registration process and the age range can be inferred from that.

PROBABILISTIC ASSIGNMENTS

Probabilistic attributes can be linked with a user or household by using a model that scores a user as being likely to exhibit other behavior or by inferring a characteristic about that person or household based on past behavior.

For example, if someone has purchased dog food in the past, it can be inferred that she has a dog, but it's not known with certainty.

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IDENTIFYING
THE VIEWER

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DELIVERY BASED
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COMBINING DATA

Marketers, distributors and publishers face numerous challenges
when creating and executing data enabled campaigns.

CAR DEALERSHIP

1st Party
People who have given me their
e-mail address

2nd Party
List of expiring auto registrations
(Polk) that link to addresses

3rd Party
Devices that have searched for cars

Geographic
People near my dealership

1. **ID Matching**
To create an audience segment, parties involved in the matching
process must deal with device IDs across multiple devices
(cookies, mobile device IDs, etc.) and combine them with other
attribute lists.

2. **Data Refreshes**
Device IDs can refresh overtime causing data loss of a particular
Any pauser-like cookies or IP addresses.

3. **Privacy**
Any party involved in the addressable ecosystem must ensure opt
ins and opt outs are managed appropriately. One added challenge
is that privacy regulations can vary across endpoints and states.

4. **Deprecation of Existing IDs**
With a greater emphasis on privacy, many browsers are
deprecating 3rd party cookies. Marketers heavily reliant on this
type of ID will need to find new methods of identifying audiences.

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WAYS TO TARGET

Marketers reach audiences across linear and digital via content targeting or audience targeting.

IDENTIFYING THE VIEWER

CONNECTING IDENTITY TO ATTRIBUTES

TARGETING DELIVERY BASED ON ATTRIBUTES

## CONTENT TARGETED
IMPRESSION STEERING

Publishers place ads in specific content based on the predicted viewing audience but can't target specific viewers.

9:00 PM
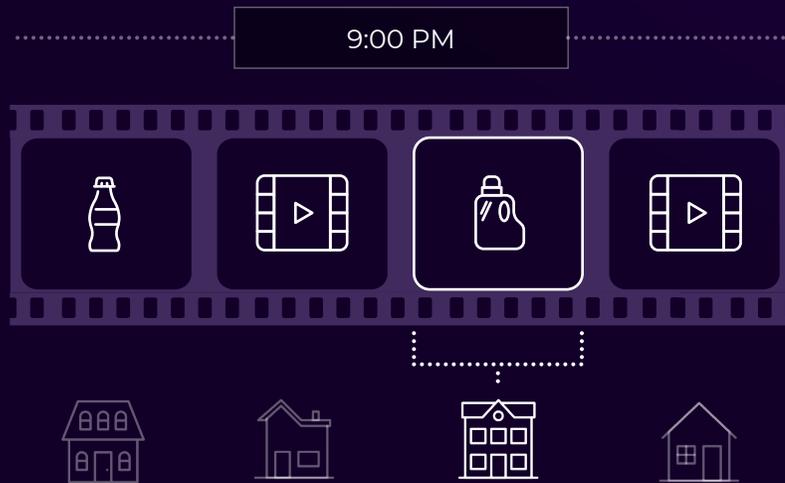
AUDIENCE TARGETED
AUDIENCE DATA

In fully targeted campaigns, devices are targeted based on segments created with a combination of identity and attribute information.

9:00 PM

IDENTIFYING
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DELIVERY BASED
ON ATTRIBUTES
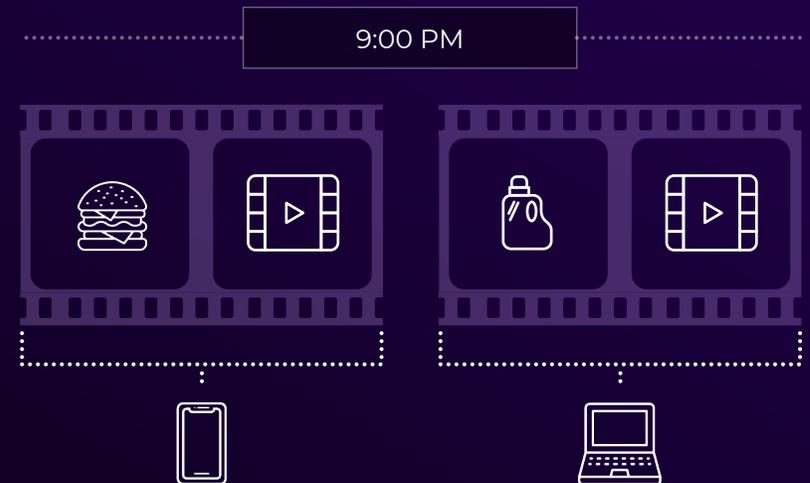
HYBRID SOLUTION: LINEAR OPTIMIZED
Starting to make linear look more like digital.

SCHEDULED + DATA
LINEAR OPTIMIZED

In Linear Optimized, a unit is identified as having a desirable audience (e.g., Auto Intender) by using demographic, psychographic, and behavioral data, but the unit is NOT divided into unique impressions, but rather every household sees the ad. Distributors use 1st party viewership data to validate in-target household delivery.

DATA INPUTS		LINEAR SCHEDULE		LINEAR OPTIMIZED SCHEDULE
		UNIT 1		UNIT 1
		UNIT 2		UNIT 2
Psychographic and Behavioral Data (e.g., Auto Intender)	+	UNIT 3	→	AUTO INTENDER
		UNIT 4		UNIT 4
		UNIT 5		UNIT 5
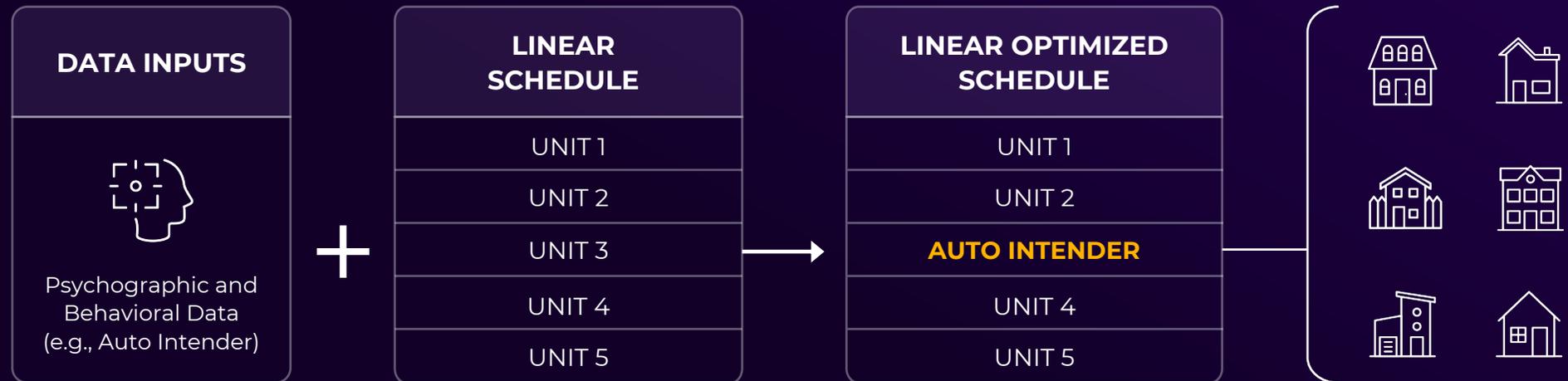
HOW ADVISORY SERVICES IS HELPING DRIVE THE INDUSTRY FORWARD
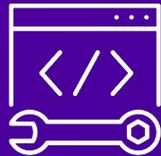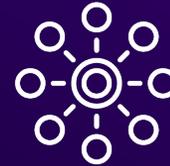
IMPLEMENT NEW TECHNOLOGY → **ONBOARD DATA** → **UNIFY YOUR OPERATIONS** → **DEVELOP NEW SALES OFFERINGS**

ADVISORY SERVICES
WORKSHOP

Bringing your video teams together is hard...
Our Unified Video Workshop brings your linear
and digital investment teams together in a fun,
collaborative environment to learn the
landscape and plan for the future. Please reach
out to ddworin@freewheel.com.

UNIFIED VIDEO

IMPLEMENT NEW
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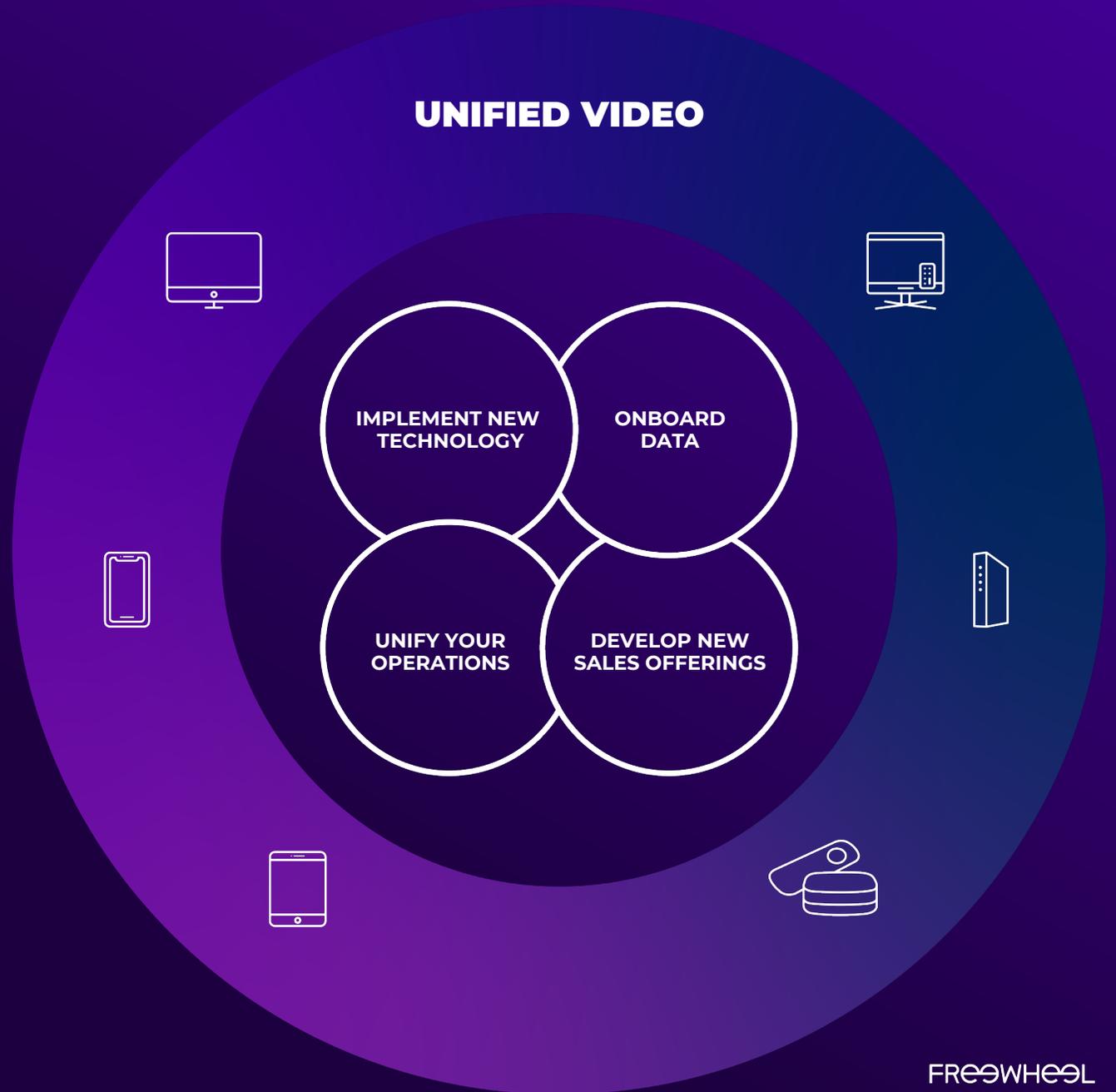
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ABOUT THE AUTHORS

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Leads FreeWheel's Global Advisory Services team, where he helps clients navigate the ever-evolving premium video ecosystem. Prior to joining FreeWheel, David spent a decade leading growth strategy initiatives at leading agencies, consultancies, and professional services firms.

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Julia Zangwill is a Director in FreeWheel's Global Advisory Services and oversees the team's thought leadership. Her areas of expertise include addressability enablement, monetization strategy, and unification assessment. Prior to FreeWheel, Julia worked at Viacom Media Networks and AMC Networks in business development, focused on growing advertising revenue.

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SPECIAL THANKS TO: Josh Cohen, Effectv, Lisa Ahern, Effectv, Frank Rizzo, NBCUniversal