

Video VAST Tag Parameters

HBX Video VAST Tag Parameters

This document provides a comprehensive breakdown of all parameters in the HBX video VAST tag endpoint, including what each parameter should contain, priority levels, and examples based on the Bold Exchange macro system.

VAST Tag URL Structure

```
1 | https://hbx.boldcollective.co/vast/<TAG_ID>?[parameters]
```

Parameter Breakdown

CRITICAL Parameters

These parameters are absolutely required for every request:

Parameter	Macro	OpenRTB Source	Description	Example	Notes
ip	{{ip}}	device. ip	User's IPv4 address	192.168 .1.1	
ua	{{ua}}	device. ua	User agent string (URL encoded)	Mozilla /5.0 (iPhone ; CPU iPhone OS 15_0...)	
deviceid	{{deviceid}}	device. ifa	Device advertising identifier (IFA/IDFA/AAID)	123e456 7-e89b- 12d3- a456- 4266141 74000	
country	{{country}}	device. geo.country	ISO 3166-1 alpha-3 country code	USA	

appbundle	{{appbundle}}	app.bundle	App bundle identifier	com.example.deoapp	One of sitedomain or appbundle must be passed.
schain	{{schain}}	source.ext.schain	Serialized supply chain object (sellers.json)	1.0,1lexchange.com,12345,1,..	
ipv4	{{ipv4}}	device.ip	Device IPv4 address	192.168.1.1	Same as ip
tmax	{{tmax}}	tmax	Timeout in milliseconds	1000	Max time for bid response

HIGH Priority Parameters

These parameters are strongly recommended for optimal performance:

Parameter	Macro	OpenRTB Source	Description	Example	Notes
gdpr	{{gdpr}}	regs.ext.gdpr or regs.gdpr	GDPR applies flag (0 or 1)	0	
consent	{{consent}}	user.ext.consent	IAB TCF consent string (required if gdpr=1)	CPc...	
usprivacy	{{usprivacy}}	regs.ext.us_privacy	US Privacy (CCPA) string	1YNN	
model	{{model}}	device.model	Device model	iPhone12	
publisherid	{{publisherid}}	app.publisher.	Publisher ID	311205	

	}	id or site.publisher. id			
content genre	{{contentgenre}}	app.content.genre or site.content.genre	Primary content genre	Action	
lat	{{lat}}	device.geo.lat	Latitude (6 decimal places)	40.7128	
lon	{{lon}}	device.geo.lon	Longitude (6 decimal places)	-74.006	
zip	{{zip}}	device.geo.zip	ZIP/postal code	10001	
placement	{{placement}}	imp[0].video.placement	Video placement type	1	1=In-Stream, 2=In-Banner, 3=In-Article, 4=In-Feed, 5=Interstitial/Slider/Flipping
mimes	{{mimes}}	imp[0].video.mimes	Supported MIME types (comma-separated)	video/mp4,video/webm	Dispatches to video object
mindur	{{mindur}}	imp[0].video.induration	Minimum ad duration in seconds	5	Default: 1
maxdur	{{maxdur}}	imp[0].video.maxduration	Maximum ad duration in seconds	30	Default: 120

		axdurat ion	duration in seconds		
dnt	{{dnt}}	device. dnt	Do Not Track flag	0 or 1	Required for privacy compliance
lmt	{{lmt}}	device. lmt	Limit Ad Tracking	0 or 1	iOS/Android tracking limit
os	{{os}}	device. os	Operating system	iOS	OS name
content livestream	{{contentlives tream}}	app.con tent.liv estrea m or site.co ntent.l ivestre am	Live stream flag	1	Critical for live video
coppa	{{coppa }}	regs.co ppa	COPPA flag (Children's Online Privacy Protection Act)	0 or 1	When 1, restrict user data
secure	{{secure}}	imp[0]. secure	Secure (HTTPS) flag	1	1=HTTPS required
publisherdomain	{{publisherdomain}}	app.pub lisher. domain or site.pu blisher .domain	Publisher domain	example media.c om	
inventorydomain	{{inventorydomain}}	app.ext .invent orypart nerdoma in or	Inventory partner domain	partner .com	

		site.ex t.inven torypar tnerdom ain			
deviceheight	{{deviceheight}}	device.h	Device height in pixels	1920	Screen height
devicewidth	{{devicewidth}}	device.w	Device width in pixels	1080	Screen width
width	{{width}}	imp[0].video.w	Video player width in pixels	1920	Player width
height	{{height}}	imp[0].video.h	Video player height in pixels	1080	Player height

MEDIUM Priority Parameters

These parameters improve targeting and fill rates:

Parameter	Macro	OpenRTB Source	Description	Example	Notes
linearity	{{linearity}}	imp[0].video.linearity	Video linearity	1	1=Linear/In-Stream, 2=Non-Linear/Overlay
skip	{{skip}}	imp[0].video.skip	Skippable flag	1	0=No, 1=Yes
skipmin	{{skipmin}}	imp[0].video.skipmin	Minimum seconds before skip enabled	5	Seconds until skip button appears
skipafter	{{skipafter}}	imp[0].video.s	Seconds after	5	Same as skipmin

		kipafte r	which skip is allowed		
playbac kmethod	{{playb ackmeth od}}	imp[0]. video.p layback method	Playback methods (comma- separated)	1, 3	1=Auto- play sound on, 2=Auto- play sound off, 3=Click- to-play, etc.
startde lay	{{start delay}}	imp[0]. video.s tartdel ay	Start delay / ad position	0	0=pre-roll, -1=mid- roll, -2=post- roll
protoco ls	{{proto cols}}	imp[0]. video.p rotocol s	Supported video protocols (comma- separated)	2, 3, 5, 6	OpenRTB protocol enums (VAST 2.0, 3.0, 4.0, etc.)
battr	{{battr }}	imp[0]. video.b attr	Blocked creative attributes (comma- separated)	1, 2, 3	OpenRTB creative attribute enums
api	{{api}}	imp[0]. video.a pi	Supported API framework s (comma- separated)	1, 2	VPAID, MRAID, OMID, etc.
appname	{{appna me}}	app.nam e	Applicatio n name	Example Video App	
appstor eurl	{{appst oreurl} }	app.sto reurl	App store URL	<https: //play. google. com/sto re/apps /detail s?	

				id=com. example .app >	
appcat	{{appcat}}	app.cat	App categories (comma-separated IAB codes)	IAB1, IAB2	
appdomain	{{appdomain}}	app.domain	App domain	example.com	
appid	{{appid}}	app.id	App ID	12345	
ipv6	{{ipv6}}	device.ipv6	Device IPv6 address	2001:db8::1	Optional if IPv6 available
devicetype	{{devicetype}}	device.devicetype	Device type	1	1=Mobile, 2=PC, 4=Phone, 5=Tablet, 7=Set-top box
make	{{make}}	device.make	Device manufacturer	Apple	Device make
osv	{{osv}}	device.osv	OS version	15	OS version string
carrier	{{carrier}}	device.carrier	Mobile carrier	Verizon	Important for mobile
ifatype	{{ifatype}}	device.ext.ifa type	IFA type	dpid or idfa or aaid	Type of device identifier
contentid	{{contentid}}	app.content.id or site.content.id	Content ID	video123	
contentepisode	{{contentepisode}}	app.content.ep	Episode number	5	

	de}}	isode or site.co ntent.e pisode			
content title	{{conte nttitle }}	app.con tent.ti tle or site.co ntent.t itle	Content title	Breakin g News Special	
content series	{{conte ntserie s}}	app.con tent.se ries or site.co ntent.s eries	Series name	Evening News	
content cat	{{conte ntcat}}	app.con tent.ca t or site.co ntent.c at	Content categories (comma- separated IAB codes)	IAB1- 7,IAB1- 5	
content duratio n	{{conte ntdurat ion}}	app.con tent.le n or site.co ntent.l en	Content duration in seconds	3600	
content context	{{conte ntconte xt}}	app.con tent.co ntext or site.co ntent.c ontext	Content context	1	1=Video, 2=Game, 3=Music, 7=Audio
content rating	{{conte ntratin g}}	app.con tent.co ntentra ting or site.co ntent.c ontentr ating	Content rating	TV-PG	

content keyword s	{{contentkeywords}}	app.content.keywords or site.content.keywords	Content keywords (comma-separated)	news,politics, breaking	
content dur	{{contentdur}}	app.content.length or site.content.length	Content duration	3600	Default: 3600
content language	{{contentlanguage}}	app.content.language or site.content.language	Content language (ISO 639-1)	en	Default: en
network	{{network}}	app.content.network.name or site.content.network.name	Network name	NBC	
network domain	{{networkdomain}}	app.content.network.domain or site.content.network.domain	Network domain	nbc.com	
channel	{{channel}}	app.content.channel.name or site.content.c	Channel name	NBC News	

		hannel. name			
channel domain	{{chann eldomai n}}	app.con tent.ch annel.d omain or site.co ntent.c hannel. domain	Channel domain	nbcnews .com	
tid	N/A	source. tid	Transactio n ID	trans- 123	Unique per auction
pchain	{{pchai n}}	source. pchain	Payment chain	pubmati c.com:1 2345	Payment chain identifier
region	{{regio n}}	device. geo.reg ion	Region/sta te code	NY	ISO 3166- 2 region code
metro	{{metro }}	device. geo.met ro	Metro area code	501	Nielsen DMA code
display manager	{{displ aymanag er}}	imp[0]. display manager	Display manager SDK name	Example SDK	SDK rendering the ad
tagid	{{tagid }}	imp[0]. tagid	Tag/place ment ID	placeme nt-123	Publisher' s ad unit identifier
ssai	{{ssai }}	imp[0]. ssai	Server- side ad insertion flag	1	1=SSAI, 0=client- side
userid	{{useri d}}	user.id	User ID	user123	Publisher user identifier
pos	{{pos}}	imp[0]. video.p os	Ad position on screen	1	0=Unkno wn, 1=Above the fold, 3=Below the fold,

					7=Full screen
companiontype	{{companiontype}}	imp[0].video.companiontype	Companion ad types (comma-separated)	1,2	VAST companion ad resource types

OPTIONAL Parameters

These parameters provide additional data but are not required:

Parameter	Macro	OpenRTB Source	Description	Example	Notes
minbitrate	{{minbitrate}}	imp[0].video.minbitrate	Minimum bitrate in kbps	300	Optional quality constraint
maxbitrate	{{maxbitrate}}	imp[0].video.maxbitrate	Maximum bitrate in kbps	1500	Optional quality constraint
maxextended	{{maxextended}}	imp[0].video.maxextended	Max extended duration	30	For extendable creatives
delivery	{{delivery}}	imp[0].video.delivery	Delivery methods (comma-separated)	1,2	Streaming vs progressive download
sequence	{{sequence}}	imp[0].video.sequence	Sequence number (for multi-impression requests)	1	Used in podded auctions
boxingallowed	{{boxingallowed}}	imp[0].video.boxingallowed	Letterboxing allowed	1	1=allowed, 0=not allowed
companionad	{{companionad}}	imp[0].video.companionad	Companion ad array	(complex)	Array of companion

	}	ompanio nad			n banner specs
appver	{{appver}}	app.ver	App version	1.2.3	
appkeywords	{{appkeywords}}	app.keywords	App keywords (comma-separated)	video, streaming, entertainment	
publishername	{{publishername}}	app.publisher.name or site.publisher.name	Publisher name	Example Media Corp	
publishercat	{{publishercat}}	app.publisher.cat or site.publisher.cat	Publisher categories (comma-separated)	IAB1, IAB2	
js	{{js}}	device.js	JavaScript support	1	1 if supported, 0 otherwise
connectiontype	{{connectiontype}}	device.connectiontype	Connection type	2	0=Unknown, 2=Wifi, 3=Cellular
contentseason	{{contentseason}}	app.content.season or site.content.season	Season identifier	Season 2	
contentcattax	{{contentcattax}}	app.content.cattax or site.content.cattax	Category taxonomy	2	

product ionqual ity	{{produ ctionqu ality}}	app.con tent.pr odq or site.co ntent.p rodq	Production quality	3	
userrat ing	{{userr ating}}	app.con tent.us erratin g or site.co ntent.u serrati ng	User rating	8.5	
qagmedi arating	{{qagme diarati ng}}	app.con tent.qa gmediar ating or site.co ntent.q agmedia rating	QAG media rating	2	
produce rid	{{produ cerid}}	app.con tent.pr oducer. id or site.co ntent.p roducer .id	Producer ID	prod123	
produce rname	{{produ cername }}	app.con tent.pr oducer. name or site.co ntent.p roducer .name	Producer name	NBC Univers al	
produce rcat	{{produ cercat }}	app.con tent.pr oducer. cat or site.co	Producer categories (comma- separated)	IAB1, IA B2	

		ntent.p roducer .cat			
produce rdomain	{{produ cerdoma in}}	app.con tent.pr oducer. domain or site.co ntent.p roducer .domain	Producer domain	nbcuni. com	
display manager ver	{{displ aymanag erver}}	imp[0]. display manager ver	Display manager version	1	SDK version
impmult iply	{{impmu ltiply} }	imp[0]. ext.doo h.impmu ltiply	Impressio n multiplier	1000	DOOH audience multiplier
venueid	{{venue id}}	device. ext.doo h.venue id	Venue ID	venue12 3	DOOH venue identifier
venuety peid	{{venue typeid} }	device. ext.doo h.venue typeid	Venue type ID	5	DOOH venue type
positio n type	{{posit ion type }}	device. geo.ext .dooh.p osition type	Position type	2	DOOH screen position
userkey words	{{userk eywords }}	user.ke ywords	User keywords (comma- separated)	sports, tech,ne ws	User interest keywords

Priority Levels Summary

CRITICAL (Required for Every Request)

1 | ip, ua, deviceid, country, appbundle, schain, ipv4, tmax

Important: `appbundle` must be provided.

HIGH (Strongly Recommended)

```
1 | gdpr, consent (if gdpr=1), usprivacy, model, publisherid, contentgenre,  
2 | lat, lon, zip,  
3 | placement, mimes, mindur, maxdur, dnt, lmt, os, contentlivestream,  
   | coppa, secure,  
   | publisherdomain, invpartnerdomain, deviceheight, devicewidth,  
   | playerwidth, playerheight
```

MEDIUM (Recommended for Better Targeting)

```
1 | linearity, skip, skipmin, skipafter, playbackmethod, startdelay,  
   | protocols, batrr, api,  
2 | appname, appstoreurl, appcat, appdomain, appid, ipv6, devicetype, make,  
   | osv, carrier,  
3 | ifatype, contentid, contentepisode, contenttitle, contentseries,  
   | contentcat, contentduration,  
4 | contentcontext, contentrating, contentkeywords, contentdur,  
   | contentlanguage, network,  
5 | networkdomain, channel, channeldomain, tid, pchain, region, metro,  
   | displaymanager,  
6 | tagid, ssai, rwd, userid, pos, companiontype
```

OPTIONAL (Nice to Have)

```
1 | minbitrate, maxbitrate, maxextended, delivery, sequence, boxingallowed,  
   | companionad, appver,  
2 | appkeywords, publishername, publishercat, js, connectiontype,  
   | contentseason, contentcattax,  
3 | productionquality, userrating, qagmediarating, producerid,  
   | producername, producercat,  
4 | producerdomain, displaymanagerver, impmultiply, venueid, venueidtype,  
   | positiontype,  
5 | userkeywords
```

Macro Template for HBX Integration

```
1 | https://hbx.boldcollective.co/vast/<TAG_ID>?ip={{ip}}&ua=  
   | {{ua}}&deviceid={{deviceid}}&country={{country}}&appbundle=  
   | {{appbundle}}&sitedomain={{sitedomain}}&contenturl=  
   | {{contenturl}}&schain={{schain}}&ipv4={{ipv4}}&tmax={{tmax}}&gdpr=  
   | {{gdpr}}&consent={{consent}}&usprivacy={{usprivacy}}&model=  
   | {{model}}&publisherid={{publisherid}}&contentgenre=  
   | {{contentgenre}}&lat={{lat}}&lon={{lon}}&zip={{zip}}&placement=  
   | {{placement}}&mimes={{mimes}}&mindur={{mindur}}&maxdur={{maxdur}}&dnt=  
   | {{dnt}}&lmt={{lmt}}&os={{os}}&contentlivestream=  
   | {{contentlivestream}}&coppa={{coppa}}&secure=  
   | {{secure}}&publisherdomain={{publisherdomain}}&invpartnerdomain=  
   | {{invpartnerdomain}}&deviceheight={{deviceheight}}&devicewidth=  
   | {{devicewidth}}&playerwidth={{playerwidth}}&playerheight=  
   | {{playerheight}}&linearity={{linearity}}&skip={{skip}}&skipmin=  
   | {{skipmin}}&skipafter={{skipafter}}&playbackmethod=  
   | {{playbackmethod}}&startdelay={{startdelay}}&protocols=  
   | {{protocols}}&batrr={{batrr}}&api={{api}}&appname=  
   | {{appname}}&appstoreurl={{appstoreurl}}&appcat={{appcat}}&appdomain=  
   | {{appdomain}}&appid={{appid}}&ipv6={{ipv6}}&devicetype=  
   | {{devicetype}}&make={{make}}&osv={{osv}}&carrier={{carrier}}&ifatype=  
   | {{ifatype}}&contentid={{contentid}}&contentepisode=  
   | {{contentepisode}}&contenttitle={{contenttitle}}&contentseries=  
   | {{contentseries}}&contentcat={{contentcat}}&contentduration=  
   | {{contentduration}}&contentcontext={{contentcontext}}&contentrating=  
   | {{contentrating}}&contentkeywords={{contentkeywords}}&contentdur=  
   | {{contentdur}}&contentlanguage={{contentlanguage}}&network=  
   | {{network}}&networkdomain={{networkdomain}}&channel=  
   | {{channel}}&channeldomain={{channeldomain}}&fd={{fd}}&tid=  
   | {{tid}}&pchain={{pchain}}&region={{region}}&metro=  
   | {{metro}}&displaymanager={{displaymanager}}&tagid={{tagid}}&ssai=  
   | {{ssai}}&rwd={{rwd}}&userid={{userid}}&pos={{pos}}&companiontype=  
   | {{companiontype}}
```

Example Populated URL

```
1 | https://hbx.boldcollective.co/vast/<TAG_ID>  
   | ip=192.168.1.1&ua=Mozilla%2F5.0%20(iPhone%3B%20CPU%20iPhone%20S%2015_0
```

```
...)&deviceid=123e4567-e89b-12d3-a456-426614174000&country=USA&appbundle=com.example.videoapp&contenturl=http%3A%2F%2Fstream.example.com%2Fvideo&schain=1.0%2C1%21boldcollective.co%2C311205%2C1%2C...&ipv4=192.168.1.1&tmax=1000&gdpr=0&usprivacy=1YNN&model=iPhone12&publisherid=311205&contentgenre=Action&lat=40.7128&lon=-74.006&zip=10001&placement=1&mimes=video%2Fmp4%2Cvideo%2Fwebm&mindur=5&maxdur=30&dnt=0&lmt=0&os=iOS&contentlivestream=0&coppa=0&secure=1&publisherdomain=examplemedia.com&deviceheight=1920&devicewidth=1080&playerwidth=1920&playerheight=1080
```

Important Notes

App Requirements

CRITICAL: The following must be provided:

- `appbundle` - For in-app inventory

Video-Specific Behavior

1. **Media Type Dispatch:** The HBX system automatically dispatches to the `imp[0].video` object for all shared media macros (mimes, mindur, maxdur, protocols, etc.) when the tag's media type is configured as "video".

2. **Video Placement Values:**

- `1` = In-Stream (pre-roll, mid-roll, post-roll)
- `2` = In-Banner (video ad within a banner)
- `3` = In-Article (video within article content)
- `4` = In-Feed (video in social feed)
- `5` = Interstitial/Slider/Floating

3. **Playback Method Values:**

- `1` = Auto-play sound on
- `2` = Auto-play sound off
- `3` = Click-to-play
- `4` = Mouse-over to play
- `5` = Entering viewport with sound on
- `6` = Entering viewport with sound off

4. **Start Delay Values:**

- `0` = Pre-roll (before content)
- `-1` = Generic mid-roll
- `-2` = Generic post-roll (after content)
- `>0` = Mid-roll at specific second offset

5. **Linearity Values:**

- `1` = Linear/In-Stream video ad (user must watch)
- `2` = Non-Linear/Overlay ad (overlay on video content)

Privacy & Compliance

1. **GDPR Logic:** If `gdpr=1`, the `consent` parameter MUST contain a valid IAB TCF consent string. The HBX exchange will reject requests missing consent when GDPR applies.

2. **COPPA:** When `coppa=1`, user demographic data should be omitted and special privacy protections apply.

3. **US Privacy:** The `usprivacy` parameter follows the IAB US Privacy String format (e.g., `1YNN`).

4. **DNT/LMT:** Both `dnt` (Do Not Track) and `lmt` (Limit Ad Tracking) should be passed when available for privacy compliance.

Technical Details

1. **URL Encoding:** All macro values are automatically URL-encoded by the Bold Exchange macro parser. Values containing special characters (spaces, commas, etc.) will be properly encoded.
2. **Comma-Separated Arrays:** Parameters like `mimes`, `protocols`, `battr`, `api`, `playbackmethod` etc. expect comma-separated values from OpenRTB arrays.
3. **Supply Chain Format:** The `schain` parameter follows the OpenRTB SupplyChain specification (`ads.txt/sellers.json`). Example: `1.0,1!exchange.com,12345,1,bid-request-id,publisher.com,direct`
4. **Transaction ID:** The `tid` parameter should contain a unique transaction identifier for the auction, useful for debugging and reconciliation.
5. **Timeout:** The `tmax` parameter is CRITICAL as it defines the maximum time the exchange will wait for bid responses. Recommended value: 1000ms (1 second).
6. **Player Dimensions:** The `playerwidth` and `playerheight` parameters specify the video player dimensions and are important for creative selection.

Integration Checklist

- All CRITICAL parameters implemented and validated
- `appbundle` is always populated
- Video-specific parameters (placement, mimes, mindur, maxdur, playerwidth, playerheight) populated from `imp[0].video`
- Privacy parameters (GDPR, US Privacy, COPPA, DNT, LMT) implemented
- Supply chain (schain) parameter populated with valid sellers.json format
- Content metadata (genre, title, series, livestream) populated when available
- Location data (lat, lon, zip, country) populated when available
- Device data (os, model, deviceheight, devicewidth) populated when available
- Publisher data (publisherid, publisherdomain) populated
- Timeout (tmax) set appropriately (recommended: 1000ms)
- Video player dimensions (playerwidth, playerheight) populated
- Playback method and linearity specified
- Skip parameters (skip, skipmin, skipafter) configured appropriately
- Empty/missing fields handled gracefully (empty string vs omitted parameter)
- URL encoding verified for special characters
- Tested with live video stream requests
- Validated compliance with privacy regulations (GDPR, CCPA)

Minimum Viable Parameter Set

For basic video ad serving with HBX, the absolute minimum parameter set is:

```
1 ip={{ip}}&ua={{ua}}&deviceid={{deviceid}}&country={{country}}&appbundle={{appbundle}}&schain={{schain}}&ipv4={{ipv4}}&tmax={{tmax}}
```

For production deployments, we strongly recommend including all CRITICAL and HIGH priority parameters for optimal fill rates and eCPM.

Example URLs by Priority Level

Example 1: CRITICAL Parameters Only (Minimum Viable)

App-based inventory:

```
1 https://hbx.boldcollective.co/vast/<TAG_ID>?ip=[replace_me]&ua=[replace_me]&deviceid=[replace_me]&country=[replace_me]&appbundle=[replace_me]&contenturl=[replace_me]&schain=[replace_me]&ipv4=[replace_me]&tmax=[replace_me]
```

Example 2: CRITICAL + HIGH Parameters (Recommended)

App-based inventory with all HIGH priority parameters:

```
1 https://hbx.boldcollective.co/vast/<TAG_ID>?ip=[replace_me]&ua=[replace_me]&deviceid=[replace_me]&country=[replace_me]&appbundle=[replace_me]&contenturl=[replace_me]&schain=[replace_me]&ipv4=[replace_me]&tmax=[replace_me]&gdpr=[replace_me]&consent=[replace_me]&usprivacy=[replace_me]&model=[replace_me]&publisherid=[replace_me]&contentgenre=[replace_me]&lat=[replace_me]&lon=[replace_me]&zip=[replace_me]&placement=[replace_me]&mimes=[replace_me]&mindur=[replace_me]&maxdur=[replace_me]&dnt=[replace_me]&lmt=[replace_me]&os=[replace_me]&contentlivestream=[replace_me]&coppa=[replace_me]&secure=[replace_me]&publisherdomain=[replace_me]&invpartnerdomain=[replace_me]&deviceheight=[replace_me]&devicewidth=[replace_me]&playerwidth=[replace_me]&playerheight=[replace_me]
```

Example 3: CRITICAL + HIGH + MEDIUM Parameters (Full Integration)

Complete app-based video request with extensive metadata:

```
1 https://hbx.boldcollective.co/vast/<TAG_ID>?ip=[replace_me]&ua=[replace_me]&deviceid=[replace_me]&country=[replace_me]&appbundle=[replace_me]&contenturl=[replace_me]&schain=[replace_me]&ipv4=[replace_me]&tmax=[replace_me]&gdpr=[replace_me]&consent=[replace_me]&usprivacy=[replace_me]&model=[replace_me]&publisherid=[replace_me]&contentgenre=[replace_me]&lat=[replace_me]&lon=[replace_me]&zip=[replace_me]&placement=[replace_me]&mimes=[replace_me]&mindur=[replace_me]&maxdur=[replace_me]&dnt=[replace_me]&lmt=[replace_me]&os=[replace_me]&contentlivestream=[replace_me]&coppa=[replace_me]&secure=[replace_me]&publisherdomain=[replace_me]&invpartnerdomain=[replace_me]&deviceheight=[replace_me]&devicewidth=[replace_me]&playerwidth=[replace_me]&playerheight=[replace_me]&linearity=[replace_me]&skip=[replace_me]&skipmin=[replace_me]&skipafter=[replace_me]&playbackmethod=[replace_me]&startdelay=[replace_me]&protocols=[replace_me]&batrr=[replace_me]&api=[replace_me]&appname=[replace_me]&appstoreurl=[replace_me]&appcat=[replace_me]&appdomain=[replace_me]&appid=[replace_me]&ipv6=[replace_me]&devicetype=[replace_me]&make=[replace_me]&osv=[replace_me]&carrier=[replace_me]&ifatype=[replace_me]&contentid=[replace_me]&contentepisode=[replace_me]&contenttitle=[replace_me]&contentseries=[replace_me]&contentcat=[replace_me]&contentduration=[replace_me]&contentcontext=[replace_me]&contentrating=[replace_me]&contentkeywords=[replace_me]&contentdur=[replace_me]&contentlanguage=[replace_me]&network=[replace_me]&networkdomain=[replace_me]&channel=[replace_me]&channeldomain=[replace_me]&fd=[replace_me]&tid=[replace_me]&pchain=[replace_me]&region=[replace_me]&metro=[replace_me]&displaymanager=[replace_me]&tagid=[replace_me]&ssai=[replace_me]&rwdd=[replace_me]&userid=[replace_me]&pos=[replace_me]&companionontype=[replace_me]
```

Example 4: ALL Parameters (CRITICAL + HIGH + MEDIUM + OPTIONAL)

Complete app-based video request with ALL available parameters:

```

1 https://hbx.boldcollective.co/vast/<TAG_ID>?ip=[replace_me]&ua=
[replace_me]&deviceid=[replace_me]&country=[replace_me]&appbundle=
[replace_me]&contenturl=[replace_me]&schain=[replace_me]&ipv4=
[replace_me]&tmax=[replace_me]&gdpr=[replace_me]&consent=
[replace_me]&usprivacy=[replace_me]&model=[replace_me]&publisherid=
[replace_me]&contentgenre=[replace_me]&lat=[replace_me]&lon=
[replace_me]&zip=[replace_me]&placement=[replace_me]&mimes=
[replace_me]&mindur=[replace_me]&maxdur=[replace_me]&dnt=
[replace_me]&lmt=[replace_me]&os=[replace_me]&contentlivestream=
[replace_me]&coppa=[replace_me]&secure=[replace_me]&publisherdomain=
[replace_me]&invpartnerdomain=[replace_me]&deviceheight=
[replace_me]&devicewidth=[replace_me]&playerwidth=
[replace_me]&playerheight=[replace_me]&linearity=[replace_me]&skip=
[replace_me]&skipmin=[replace_me]&skipafter=
[replace_me]&playbackmethod=[replace_me]&startdelay=
[replace_me]&protocols=[replace_me]&battr=[replace_me]&api=
[replace_me]&appname=[replace_me]&appstoreurl=[replace_me]&appcat=
[replace_me]&appdomain=[replace_me]&appid=[replace_me]&ipv6=
[replace_me]&devicetype=[replace_me]&make=[replace_me]&osv=
[replace_me]&carrier=[replace_me]&ifatype=[replace_me]&contentid=
[replace_me]&contentepisode=[replace_me]&contenttitle=
[replace_me]&contentseries=[replace_me]&contentcat=
[replace_me]&contentduration=[replace_me]&contentcontext=
[replace_me]&contentrating=[replace_me]&contentkeywords=
[replace_me]&contentdur=[replace_me]&contentlanguage=
[replace_me]&network=[replace_me]&networkdomain=[replace_me]&channel=
[replace_me]&channeldomain=[replace_me]&fd=[replace_me]&tid=
[replace_me]&pchain=[replace_me]&region=[replace_me]&metro=
[replace_me]&displaymanager=[replace_me]&tagid=[replace_me]&ssai=
[replace_me]&rwdd=[replace_me]&userid=[replace_me]&pos=
[replace_me]&companiontype=[replace_me]&minbitrate=
[replace_me]&maxbitrate=[replace_me]&maxextended=[replace_me]&delivery=
[replace_me]&sequence=[replace_me]&boxingallowed=
[replace_me]&companionad=[replace_me]&appver=[replace_me]&appkeywords=
[replace_me]&publishername=[replace_me]&publishercat=[replace_me]&js=
[replace_me]&connectiontype=[replace_me]&contentseason=
[replace_me]&contentcattax=[replace_me]&productionquality=
[replace_me]&userrating=[replace_me]&qagmediarating=
[replace_me]&producerid=[replace_me]&producername=
[replace_me]&producercat=[replace_me]&producerdomain=
[replace_me]&displaymanagerver=[replace_me]&impmultiply=
[replace_me]&venueid=[replace_me]&venueypeid=
[replace_me]&positiontype=[replace_me]&userkeywords=[replace_me]

```

Key Differences by Priority Level

Priority Level	Parameter Count	Use Case	Expected Fill Rate
CRITICAL only	8 parameters	Testing, minimum viable integration	~60-70%
CRITICAL + HIGH	33 parameters	Recommended production deployment	~85-90%
CRITICAL + HIGH + MEDIUM	83 parameters	Full integration with maximum targeting	~95%+
ALL PARAMETERS	108 parameters	Complete integration with all available data	~95%+ (diminishing returns)

Notes on Example URLs

- Placeholder Format:** All parameter values use `[replace_me]` placeholders. Replace these with actual values from your OpenRTB bid request.
- Required Substitutions:** At minimum, replace all CRITICAL parameter placeholders with real values for the URL to be valid.
- Video-Specific Values:**
 - `placement` : Use `1` for in-stream, `2` for in-banner, `3` for in-article, `4` for in-feed, `5` for interstitial
 - `mimes` : Comma-separated video formats (e.g., `video/mp4,video/webm,video/x-flv`)
 - `startdelay` : Use `0` for pre-roll, `-1` for mid-roll, `-2` for post-roll
 - `contentlivestream` : Use `1` for live streams, `0` for on-demand/VOD
 - `linearity` : Use `1` for linear/in-stream, `2` for non-linear/overlay
 - `playbackmethod` : Use `1` for auto-play sound on, `2` for auto-play sound off, `3` for click-to-play
 - `skip` : Use `1` if skippable, `0` if not skippable
- Supply Chain:** The `schain` parameter follows the format:
`version,complete!domain,seller_id,relationship,,,`
 - Example: `1.0,1!boldcollective.co,311205,1,,,`
- Privacy Compliance:**
 - `gdpr` : `0` or `1` depending on whether GDPR applies
 - `consent` : IAB TCF consent string (required if `gdpr=1`)
 - `usprivacy` : IAB US Privacy string (e.g., `1YNN`)
 - `dnt` and `lmt` : `0` (tracking allowed) or `1` (tracking restricted)
- Player Dimensions:** Provide actual video player dimensions in `playerwidth` and `playerheight` for optimal creative selection.
- URL Encoding:** Remember to URL-encode special characters in actual values (spaces as `%20`, colons as `%3A`, commas as `%2C`, etc.)

These URL templates can be used directly for integration by replacing the `[replace_me]` placeholders with macro values like `{{ip}}`, `{{ua}}`, etc.