



# Universal Analytics (UA) vs Google Analytics 4 (GA4)

Countdown to GA4 and the Event-Based future of Measurement.



# What are we talking about

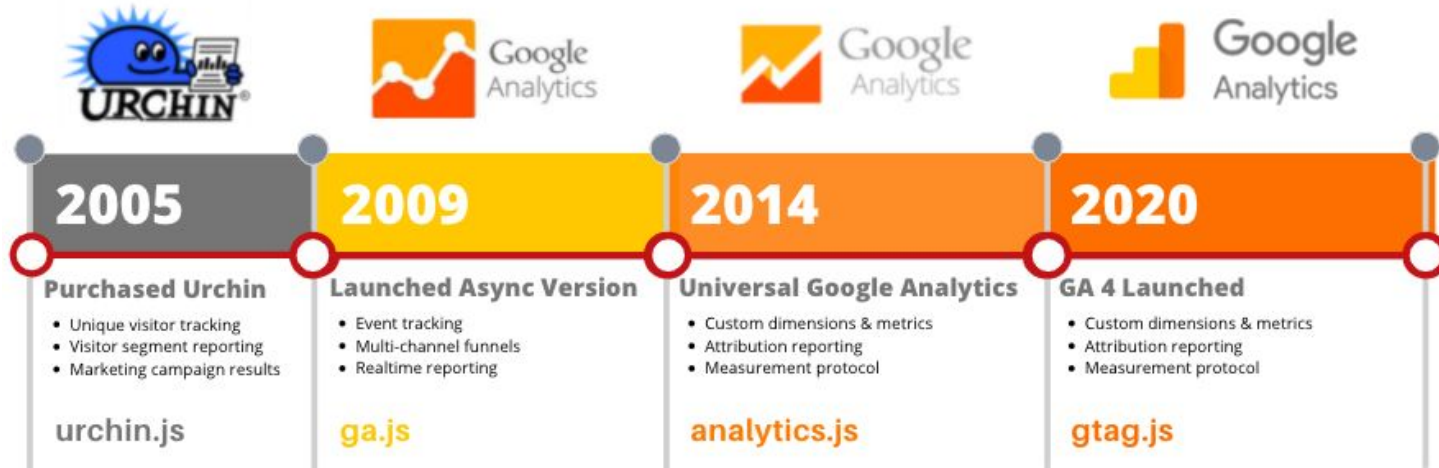
## Yes, we'll cover.

- Key differences
- What stands out
- Next steps to transition

## Another time.

- Platform Overview
- Reporting
- Dashboards
- Data Warehousing
- Audiences

# A brief history of Google Analytics





# Did you know

**UTM** stands for **Urchin Tracking Module (UTM)** parameters and are widely used to track traffic campaigns. Urchin (formerly Quantified Systems) were the creators and Google bought them.

THERE ARE **5 PARAMETERS** YOU CAN ADD TO YOUR LINKS





# Prepare for the future with Google Analytics 4

There are many differences between GA4 and UA that are rooted in the philosophical shift toward reporting and analysis that is User and Audience focused and away from session and page focused.

Engagement > Volume

*“GA4 isn’t so much an update, but an entirely new way of doing analytics – set up to scale for the future, work in a cookieless world, and be a lot more privacy-conscious...”*

- updated data model,
- works in a cookieless world,
- and privacy implications.



# UA vs. GA4

## UA

Based on Sessions

- Code Base is 25-years Old
- Pre-Web 2.0, eCommerce, Mobile, Social, Broadband
- Pre-Privacy Era

## GA4

Based on Events

- Built for Current Environment and future. The future is now.
- Multi-surface, eCommerce-dominant, Mobile-first Landscape
- Privacy-Forward Era

# Key differences

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# User differences

## UA

### 2 User metrics

1. **Total Users: Primary user metric in UA:** Total number of users
2. **New Users:** Number of users who interacted with your site for the first time

## GA4

### 3 User metrics

1. **Total Users:** Total number of unique users who logged an event
2. **New Users:** Number of users who interacted with your site or launched your app for the first time.
3. **Active Users: Primary user metric in GA4:** Number of distinct users who visited your website or application. An active user is any user who has an engaged session or when Analytics collects specific events.





# Keep in Mind

Universal Analytics highlights Total Users (shown as Users) in most reports, whereas GA4 focuses on Active Users (also shown as Users).

So, while the term Users appears the same, the **calculation for this metric is different between UA and GA4** since UA is using Total Users and GA4 is using Active Users.

Depending on how frequently your users return to your website, the Total Users metric in UA and the Active Users metric in GA4 may be more or less similar.

Google Analytics 4 can use four different methods to unify users into a single cross-device user journey:

- User-ID (i.e. logins)
- Google signals (i.e. signed into a Google Account)
- Device ID (Your device or app)
- Modeling (i.e. when cookies and identifiers are denied)



# Pageviews differences

## UA

### Two Metrics

- Pageview
  - Total number of pages viewed.
  - Repeated views of a single page are counted.
- Unique Pageview
  - Total number of pages viewed but duplicates are not counted

## GA4

### One Metric

- Pageview aka Views:
  - Total number of app screens and/or web pages your users saw.
  - The Views metric found in the reporting interface is the combination of pageviews and screenviews.
  - Repeated views of a single screen or page are counted.



# Session differences: UA

- Period of time a user is actively engaged with your website or app
- Has defined parameters for what may cause it to end e.g. a session will end when there has been **more than a 30-minute period of inactivity** (depending on the session timeout settings), the **timestamp has been cut off at midnight** (according to the timezone the view is set up in), or **new campaign parameters** are encountered.
- If a user comes back after a session timeout, it will start a new session
- If the user is on the website when midnight arrives, a new session will be started
- If a user picks up new campaign parameters (UTMs) while on the website, a new session will be started



# Session differences: GA4

## aka Session Start

- To determine the session that each event comes from, **the session\_start event** generates a session ID and Analytics associates the session ID with each subsequent event in the session
- A session will end when there has been more than a **30-minute period of inactivity** (depending on the session timeout settings)
- Sessions are **not restarted at midnight** or when new campaign parameters are encountered
- If a user comes back after a session timeout, it will start a new session

Google Analytics provides a number of session metrics, including **Session**, **Engaged sessions**, and **Engaged sessions** per user. These metrics allow you to see data about the number of sessions that have started on your site or app.

## Session Metrics

- Average session duration
- Bounce rate
- Engaged sessions
- Engaged sessions per user
- Engagement rate
- Low engagement sessions
- Session conversion rate
- Sessions
- Sessions per user
- Views per session



# Keep in Mind

The difference in session count between UA and GA4 can vary from business to business depending on several factors, including:

- **Geography** - consider the timezones of your users and how likely they are to cross the midnight threshold to restart a session. This is especially relevant if you have a global customer base.
- **Use of UTM's on owned websites or apps** - Using UTM tagging on your own website is not recommended since it will reset the session in Universal Analytics. If you do use UTMs on your own website, you may see a much higher count of sessions in UA than in GA4.
- **Filters** - The data in UA reporting may be subject to view filters that exclude data.
- **Estimation** - Google Analytics 4 properties use a statistical estimate of the number of sessions that occurred on your website or app by estimating the number of unique session IDs, while Universal Analytics properties don't estimate the number of sessions. The estimates used by Google Analytics 4 properties more efficiently count sessions with high accuracy and low error rate.



# Conversion differences

## UA

### Goals

- You define a goal to indicate that a particular user action is to be considered a conversion. For example, if you define a “Form Submit” goal, a conversion will be registered each time a user submits the form.
- UA counts only one conversion per session for each goal. So, if a user submits the form twice during the same session, only one conversion will be counted for the “Form Submit” goal.

## GA4

### Conversion

- You specify a **conversion event** for each action that you want to count as a conversion. For example, if you specify that the “Form Submit” event is a conversion event, a conversion will be registered each time a user submits the form.
- GA4 usually counts every instance of the conversion event, even if the same conversion event is recorded multiple times during the same session. So, if a user submits the form twice during the same session, two conversions will be counted.



# Keep in Mind

Universal Analytics supports five goal types: **destination, duration, pages/session, smart goals, and event goals**. GA4, in contrast, only supports conversion events. It may not always be possible to use GA4 conversion events to precisely duplicate some UA goal types. For example, it's not possible to duplicate a smart or duration goal using GA4 conversion events.

**UA counts only one conversion per session**, for the same goal. **GA4 usually counts multiple conversions per session**, for the same conversion event. To reduce conversion count differences between your UA property and corresponding GA4 property, update your GA4 conversion counting method setting to Once per session.



# Bounce Rate differences

## UA

Percentage of single page sessions in which there was no interaction with the page.

A bounced session has a duration of 0 seconds.

For example, if a user visits your website and reviews content on your homepage for several minutes, but leaves without clicking on any links or triggering any events being recorded as interaction events, then the session will count as a bounce.

## GA4

Percentage of sessions that were not engaged sessions. For example, if a user visits your website, reviews content on your homepage for less than 10 seconds, and then leaves without triggering any events or visiting any other pages or screens, then the session will count as a bounce.

An engaged session is a **session that lasts 10 seconds or longer, has 1 or more conversion events, or has 2 or more page or screen views.**

If a user doesn't have an engaged session (that is, they don't meet any of the criteria for an engaged session), then Google Analytics counts the session as a bounce.





# Keep in Mind

In Google Analytics 4, **Bounce rate is the percentage of sessions that were not engaged sessions**. In other words, Bounce rate is the inverse of Engagement rate. (The engagement rate is the percentage of engaged sessions.)

In Universal Analytics, Bounce rate is the percentage of all sessions on your site in which users viewed only one page and triggered only one request to the Analytics server.

Additionally, Bounce rate, as it's calculated in Google Analytics 4, provides a more useful way of measuring the level at which customers engage with your site or app. For example, in the blog, you might not mind if customers visit your site to read an article and then leave. You probably care more about the number of customers who visit your site, don't find what they were looking for, and then quickly leave.



# Data differences

## UA

- 7 types of Hit Data  
(pageview hit, screen view hit, event hit, social interaction hit, e-commerce hit, user timing hit, and exception hit)
- Session-based, Pageviews
- Less Sampling / Modeling
- Cookie-based

## GA4

- All “Hit” Data is an Event  
(event, event, event, event, etc.)
- Event-based
- More sampling / Modeling
- “Google signals” + Cookies  
(1st Party-only when chrome blocks 3rd)



# It's all about events

## UA

- Group of hits by a user in a given time period.

A session is a group of user interactions with your website that take place within a given time frame.

For example a single session can contain multiple page views, events, social interactions, and ecommerce transactions.

## GA4

- Group of events by a user in a given time period.

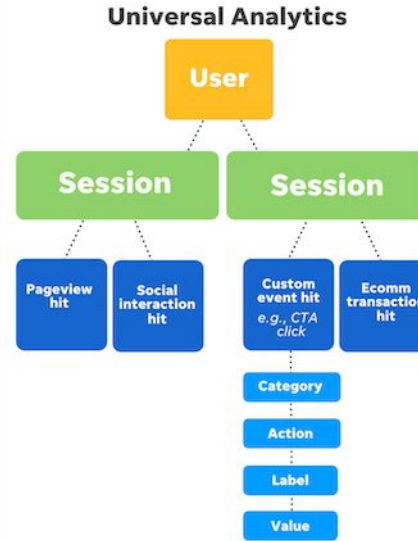
A session initiates when a user either opens your app in the foreground or views a page or screen and no session is currently active (e.g. their previous session has timed out).

By default, a session ends (times out) after 30 minutes of user inactivity. There is no limit to how long a session can last.

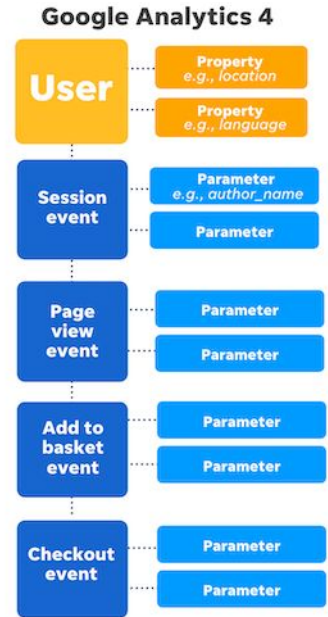
# ∞ Events > 7 Hits

An event allows you to measure a specific interaction or occurrence on your website or app. For example, you can use an event to measure when someone loads a page, clicks a link, or completes a purchase, or to measure system behavior, such as when an app crashes or an impression is served.

- 25 parameters for event
- 30 conversions total



 **WordStream**  
by LOCALIQ





# Event differences

## UA

- Not Tracked Automatically
- Structure Limited  
Category, Action, and Label
- Not Customizable

## GA4

- Automatically Tracked
- Structure Flexible  
Up to 25 parameters for each event.
- Highly Customizable



# Data storage & retrieval differences

## UA

- Duration: Unlimited
- Throttling: Not really a problem.

## GA4

- Duration: 2 months or 14 Months  
*You'll need data warehousing.*
- Throttling: Big Problem  
Affects platforms that access API like Looker Studio.



# Key Takeaways

## A different way to display data

- Universal Analytics' data model is hit-based, characterized by sessions and pageviews. Pageviews are essentially the key to the ignition, being the starting point of data collection for Universal Analytics. In GA4, this proverbial key is instead made up of events.

## Pageviews are out, Views are in

- 'Views' is used over 'pageviews' in GA4 due to the combined nature of web & app properties; 'Views' accounts for both screenviews and pageviews.



# Key Takeaways

## **Session is out, Session Start is in**

- The definition of what creates a session has slightly changed; a session is now determined when a specific event 'session start' is triggered, which generates a session ID that is appended to each event that occurs within the session.

## **Bounce Rate (while still available) is out, Engagement Rate is in**

- Bounce Rate was always based on whether someone's session duration was 0. Engagement Rate measures in the opposite direction, communicating what we were always truly looking to learn from Bounce Rate: What percentage of people are actually interacting with the site?





# Key Takeaways

**Average Session Duration is out, Average Engagement Time is in**

- While the two metrics are calculated differently, Average Engagement Time reports on what Average Session Duration was trying to touch on, but never quite got there: user focus on web or screenpages.

# Next Steps

- Setup your GA4 Property
- Event tracking alignment
- Share differences with stakeholders
- Training to relevant data users
- Setup data-warehousing
- Setup dashboards





# Fin

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# Questions?