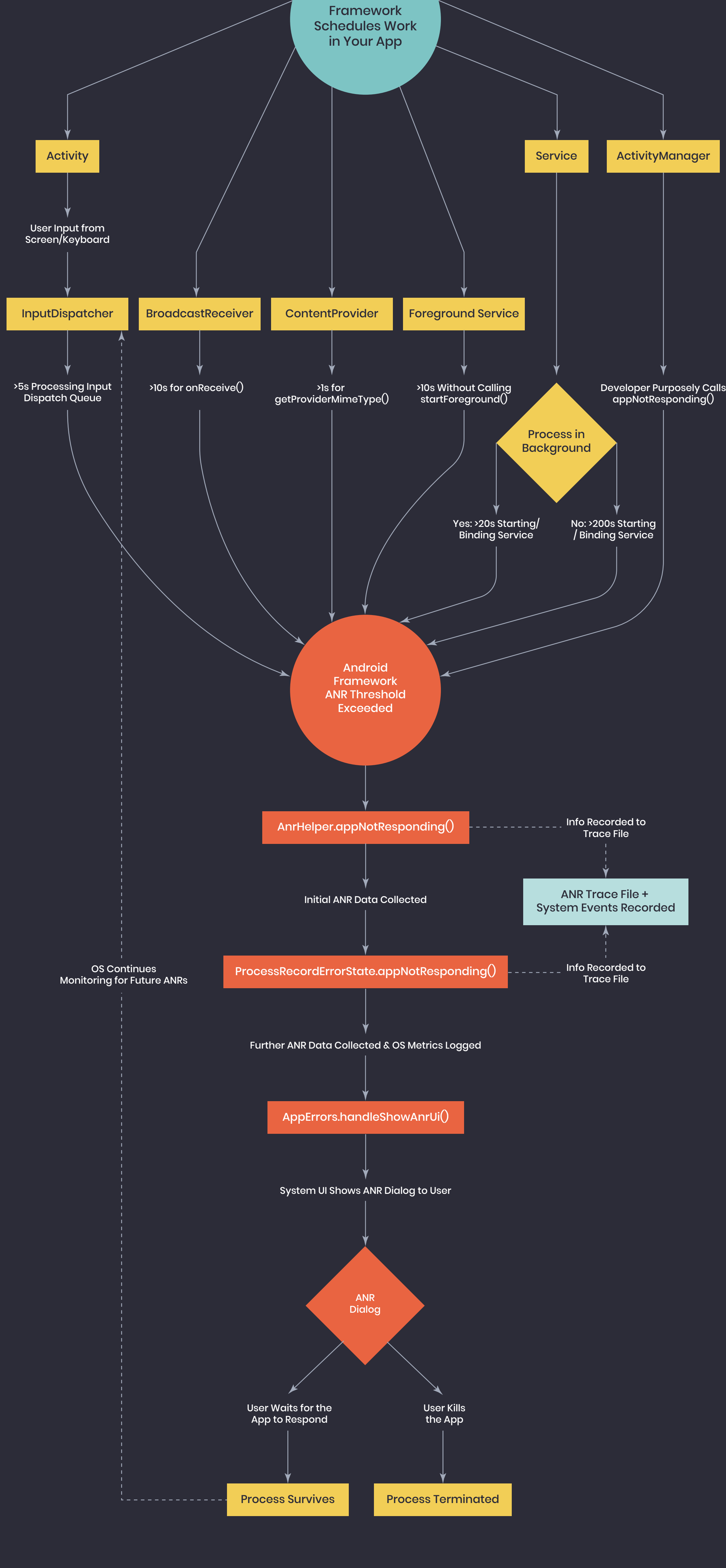


How Android Monitors ANRs

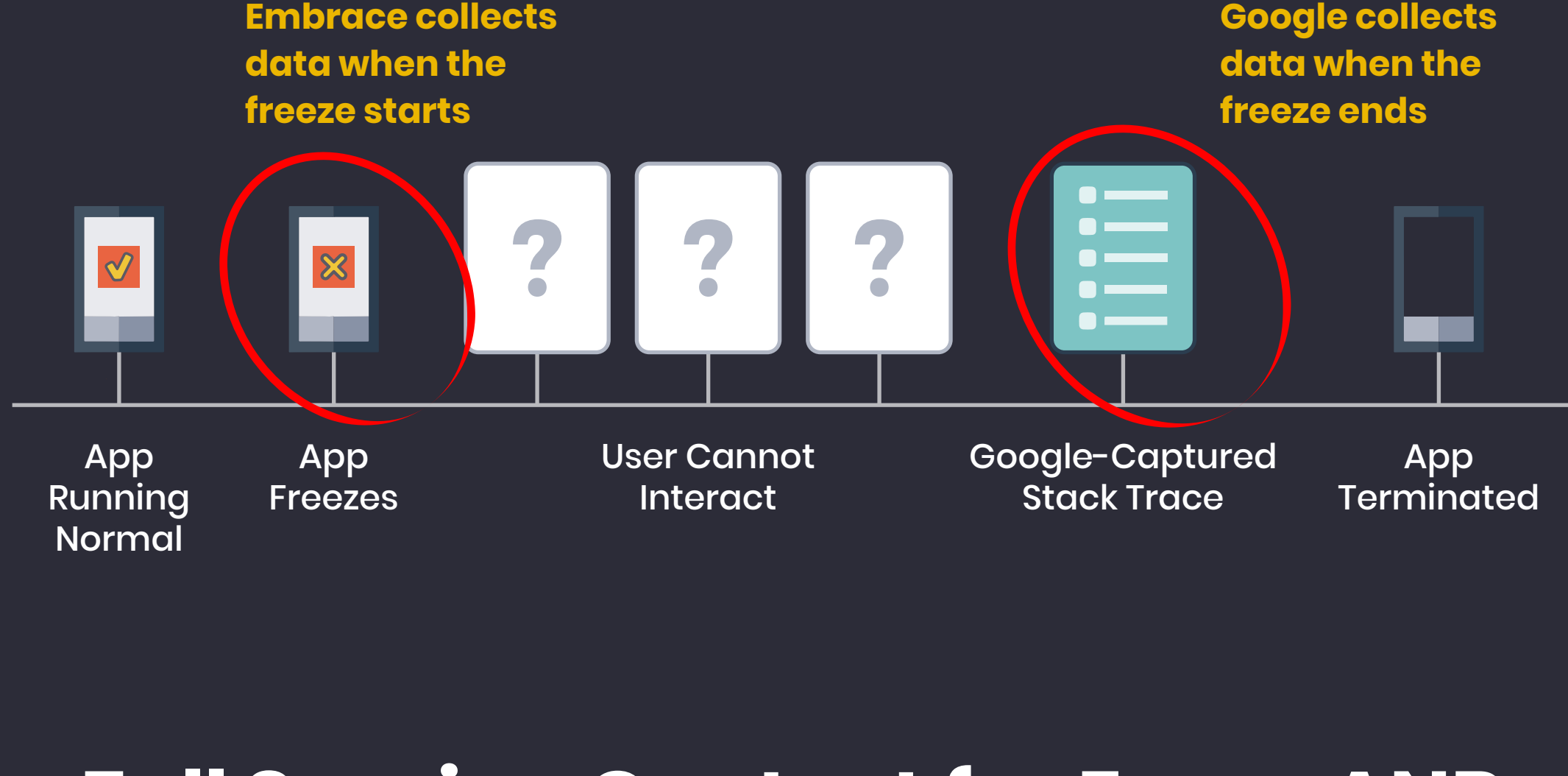


Embrace Is Built to Solve ANRs

	Embrace	Google Play Console	Firebase Crashlytics
Early ANR Detection	✓	✗	✗
Full Session Context for Every ANR	✓	✗	✗
Distributed ANR Stack Trace Sampling	✓	✗	✗
ANR Flame Graphs	✓	✗	✗
ANR Breakdowns by Vendor and Package	✓	✗	✗
ANR Insights Across Key Segments	✓	✗	✗

Early ANR Detection

Embrace collects stack traces as soon as the main thread is blocked for 1s, which is at least 4s earlier than Google and other solutions. See what code was running when the freeze started as opposed to useless final stack traces captured at the end.



Full Session Context for Every ANR

Embrace collects 100% of the data from 100% of user sessions, including views/screens, network calls, device state, user actions, logs/breadcrumbs, and errors. Understand everything that led up to an ANR so you aren't guessing or trying to manually reproduce it.

START TIME	TYPE	DETAILS
23:51:03	Start	App entered the foreground.
23:51:04	Enter View	com.app.ui.MainActivity (17s)
23:51:04	Connectivity	Wi-Fi
23:51:04	Tap	app.center-button (0, 0)
23:51:05	Network	200 OK POST graph.facebook.com (121ms)
23:51:06	Network	200 OK POST api.app.com (1s 321ms)
23:51:06	Device	Low memory warning
23:51:06	Tap	app.right-show-product-button (24, 35)
23:51:06	Breadcrumb	Open Product Modal
23:51:07	Info	Show Product List
23:51:07	Network	Connection Error POST api.app.com/v2/product-details (671ms)
23:51:07	CPU Pegging	CPU usage above 90% (72ms)
23:51:07	ANR Interval	App entered ANR interval (6s 98ms)
23:51:08	ANR Sample	android.app.ActivityThread.main

Distributed ANR Stack Trace Sampling

Embrace captures a stack trace as soon as the app is frozen and continues taking stack traces throughout the entire ANR's duration. Investigate multiple stack traces to understand how the code evolved throughout the ANR.

START TIME	TYPE	DETAILS
02:59:35	Network	200 OK api.app.com
02:59:37	ANR Interval	App entered ANR interval (5s)
02:59:38	ANR Sample	android.app.ActivityThread.main
02:59:38	ANR Sample	android.app.ActivityThread.main
02:59:38	ANR Sample	android.app.ActivityThread.main
02:59:38	ANR Sample	android.app.ActivityThread.main
02:59:38	ANR Sample	android.app.ActivityThread.main
02:59:38	ANR Sample	android.app.ActivityThread.main
02:59:38	ANR Sample	android.app.ActivityThread.main
02:59:39	ANR Sample	android.app.ActivityThread.main
02:59:39	ANR Sample	android.app.ActivityThread.main

ANR Flame Graphs

Embrace stores stack trace flame graphs to show which methods contributed the most to ANRs. Easily identify the largest patterns so you can solve the ANRs that have the largest impact on your users and business.



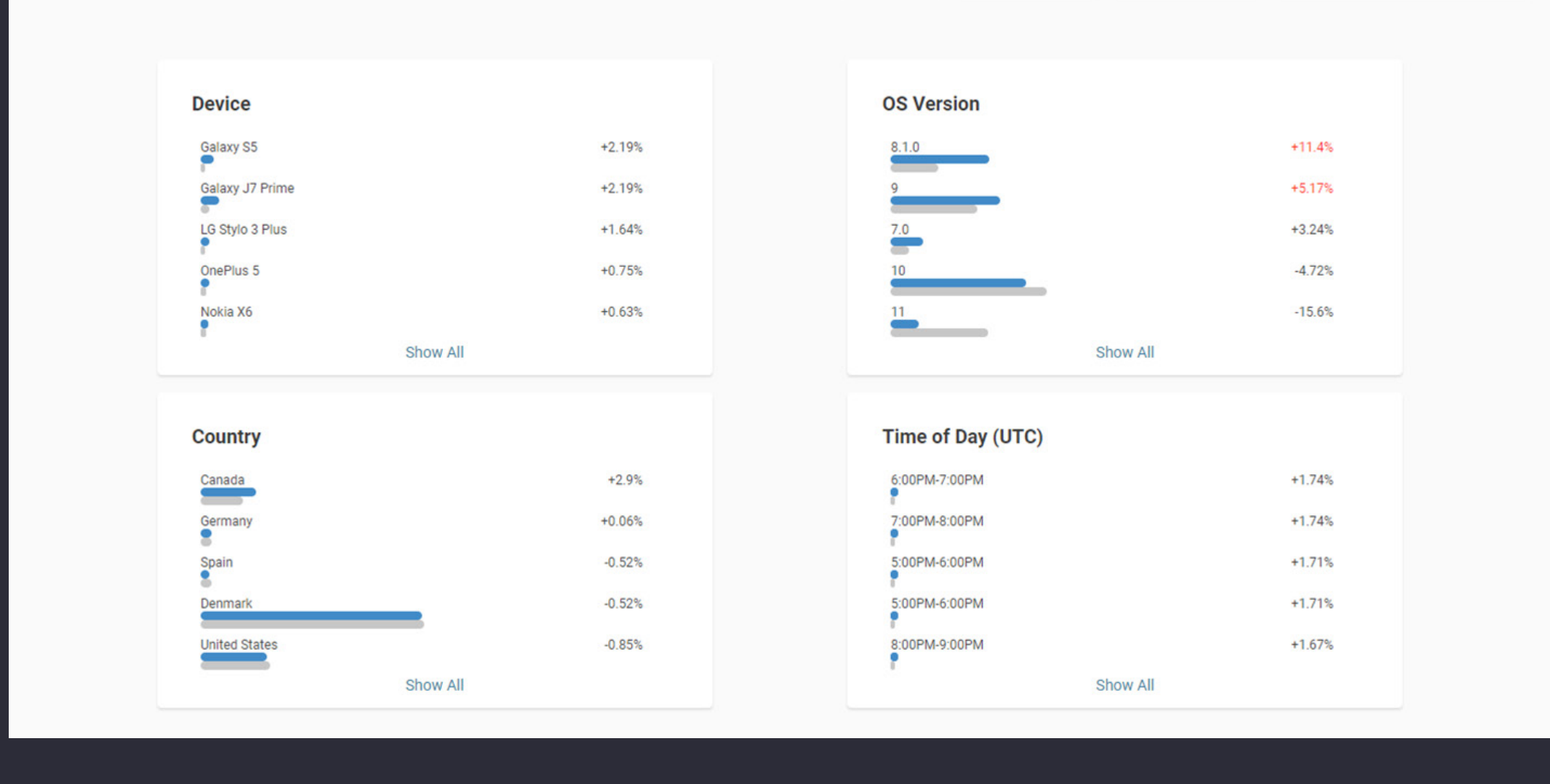
ANR Breakdowns by Vendor and Package

Embrace groups ANRs by package instead of stack trace similarity to reduce noise and highlight problem areas in the code. Understand whether the issue is in your code or someone else's so you know whether to prioritize engineering time or have a vendor fix the issue.

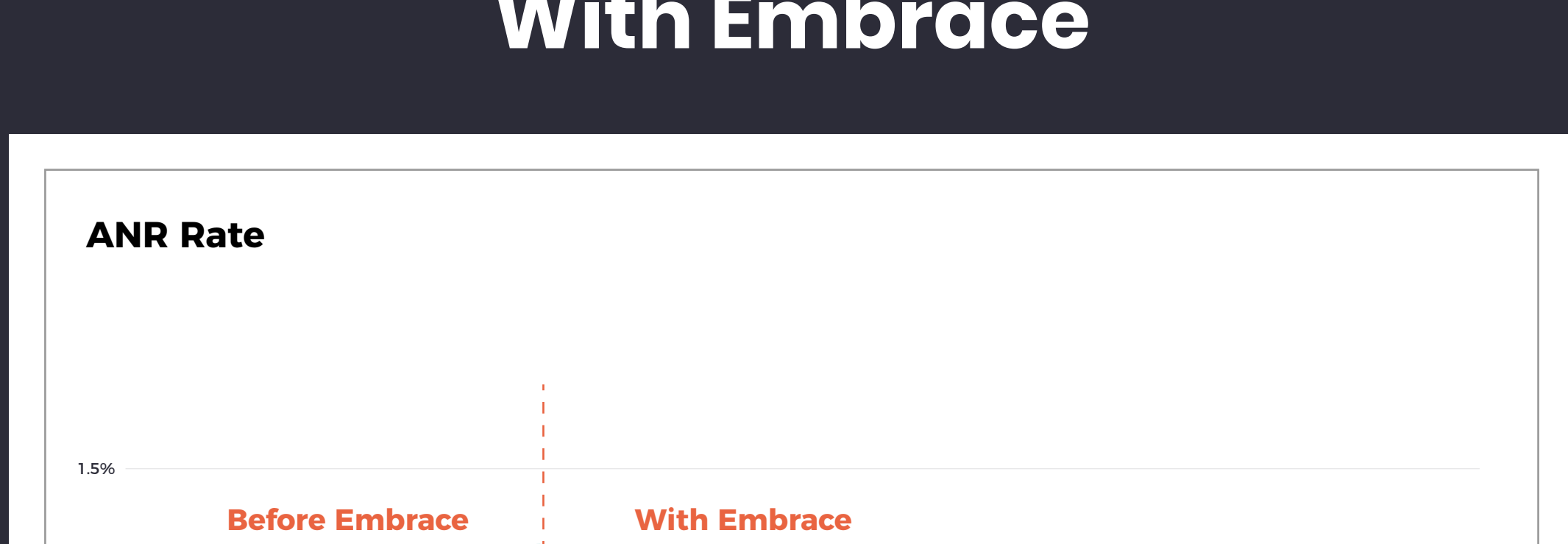
STACK TRACE %	SESSION %	PACKAGE NAME
1.21%	1.28%	com.tapjoy
0.56%	0.58%	com.google
0.42%	0.43%	com.facebook
0.32%	0.33%	com.applovin
0.22%	0.22%	com.scalemonk
0.11%	0.12%	com.vungle
0.10%	0.11%	com.ironsource
0.06%	0.07%	com.appsflyer

ANR Insights Across Key Segments

Embrace collects every session for every user so you have actionable insights derived from complete datasets. Discover where ANRs disproportionately impact devices, OSs, and countries so you can make informed decisions about which ones to prioritize based on their overall business impact.



Stay Below the Orange Line With Embrace



About Embrace

Embrace is the only mobile-centric data analytics and observability company that empowers enterprises to transform their businesses in a mobile-first world. With actionable data and insights derived from 100% of mobile user experiences, engineering and data science teams proactively uncover, prioritize, and instantly solve issues before they affect a business' bottom line.

SOLVE ANRS NOW
embrace.io/request-demo