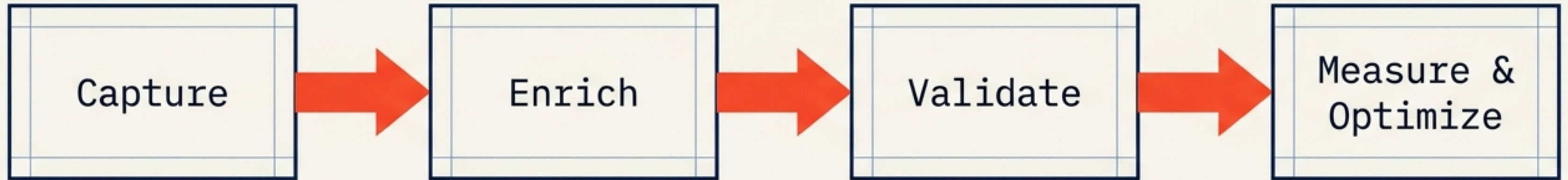


# The Signal Stack: Engineering Microsoft Advertising Conversions

Building High-Fidelity Data Pipelines for the Bing Algorithm

**TARGET:** Google Ads to Bing  
Translation Protocol

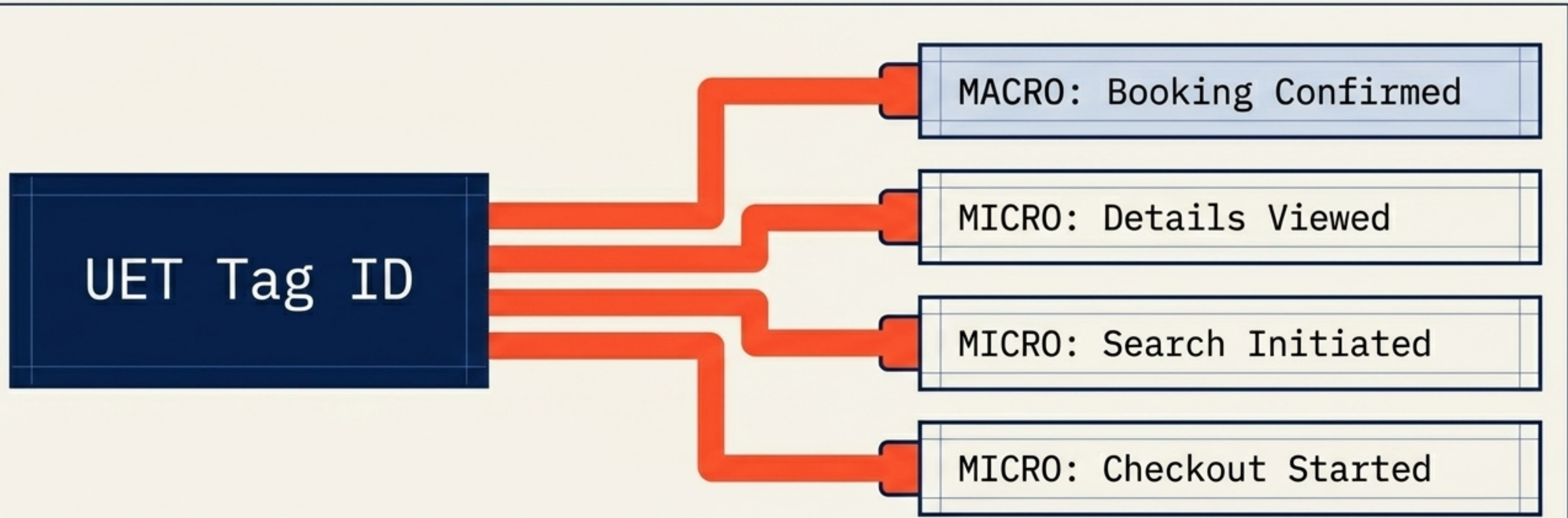


Winning in **Microsoft Advertising** requires mastering a **new architecture**.

While the auction mechanics mirror what you know from Google Ads, the underlying **data architecture does not**.


Microsoft's algorithm relies on a highly specific pipeline of conversion signals.

A single misconfigured **hashing** sequence or deprecated reporting column will starve your bid strategies.  
This playbook is your engineering blueprint for the **Microsoft Signal Stack**. It bridges the gap between basic setup and advanced algorithmic optimization.



**The UET Bridge connects one global tag to infinite parallel goals.** Unlike legacy platforms that require hardcoding separate tags for different actions, Microsoft Advertising routes all behavioral data through a single Universal Event Tracking (UET) ID. One Tag ID bridges the gap between on-site user behavior and the specific macro- and micro-conversion goals driving your automated bidding.

# Architectural Choice: UrlGoal vs. EventGoal

UrlGoal	EventGoal
Automatic on page load.	Explicit <code>window.uetq.push</code> or <u>CAPI</u> payload.
Macro-conversions (e.g., <code>/booking/confirmed</code> ).	Micro-conversions (e.g., <code>view_hotel_details</code> ).
Zero additional code.	Requires data layer event injection.
 Fails. Modals that open without changing the URL record zero conversions.	Required. The only way to capture URL-stable interactions.

# Micro-conversions demand strict string symmetry.

For EventGoals, the event action name configured in the UI must flawlessly match the string pushed via your JavaScript. A single character mismatch produces silent, zero-conversion recording.

## Terminal Code

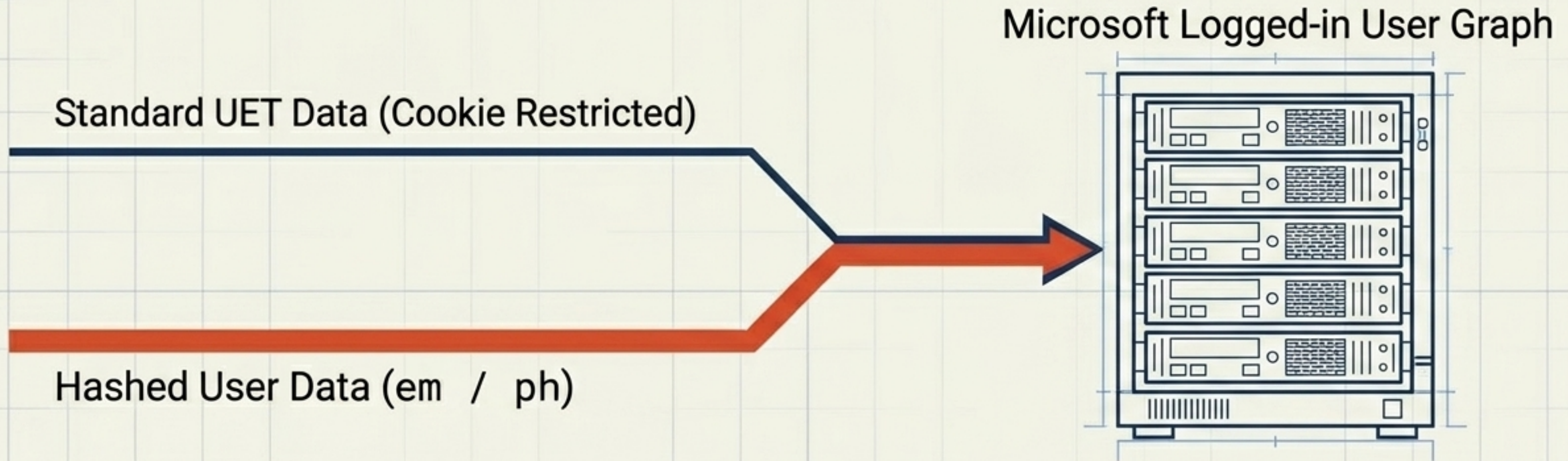
```
window.uetq.push('event',  
  'begin_checkout', {  
    revenue_value: 0  
  });
```

## Microsoft Advertising UI

### Action

begin\_checkout

# Data Merging for Signal Enrichment

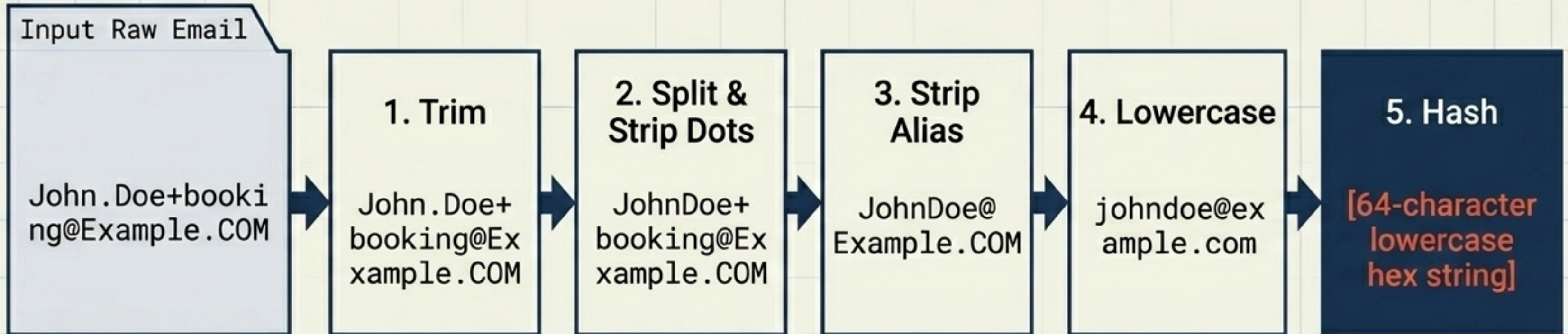


**Enriching the signal repairs tracking gaps left by cookie loss.**

Standard conversion tracking breaks during cross-device journeys or browser cookie restrictions. Enhanced Conversions repairs this by supplementing the standard UET payload with privacy-safe, hashed first-party data. This allows Microsoft to match conversions directly against its deterministic user graph.

# The String-to-Hash Factory: Order is Mandatory

Applying SHA-256 directly to a raw email produces a non-canonical hash that will never match. You must execute this 5-step strict normalization pipeline.



# Anatomy of the CAPI Payload

https://capi.uet.microsoft.com/v1/{tagID}/events

```
{
  "events": [
    {
      "eventName": "purchase",
      "eventValue": 250.00,
      "eventCurrency": "USD",
      "eventTime": "2023-10-27T10:00:00Z",
      "userData": {
        "em": [
          "5a3b...c9d1",
          "f2g3...h4i5"
        ],
        "ph": [
          "8j9k...l0m1"
        ]
      },
      "eventParameters": {
        "msclkid": "1234567890abcdef1234567890abcdef",
        "adStorageConsent": "G",
        "items": [
          {
            "id": "P12345",
            "quantity": 1,
            "price": 250.00
          }
        ]
      }
    }
  ]
}
```

## Anatomy of the CAPI Payload

Server-side events require three critical parameters to attribute revenue accurately:

### userData

Contains the preprocessed, SHA-256 hashed em (email) and ph (phone).

### msclkid

The Microsoft Click ID. Without this, the conversion appears in the account but cannot be attributed to the originating ad click.

### adStorageConsent

Must pass "G" (Granted) or "D" (Denied). Events marked "D" are legally quarantined from attribution.

# Conversion Diagnostics: Validating the Signal Stack



**Never assume the data is flowing. Validate the pipeline.**

Before enabling automated bidding, verify your Enhanced Conversions implementation via the 3-Light Diagnostic Panel in the UI.

A healthy signal stack requires three active indicators:

1. **Goal Status:** Recent conversions recorded.
2. **Tag Status:** Tag is successfully firing and sending events.
3. **Enhanced Conversions Status:** Hashed data is arriving and matching.

# Troubleshooting the “No Data Received” Failure State

Symptom: Enhanced Conversions Status = “No data received”

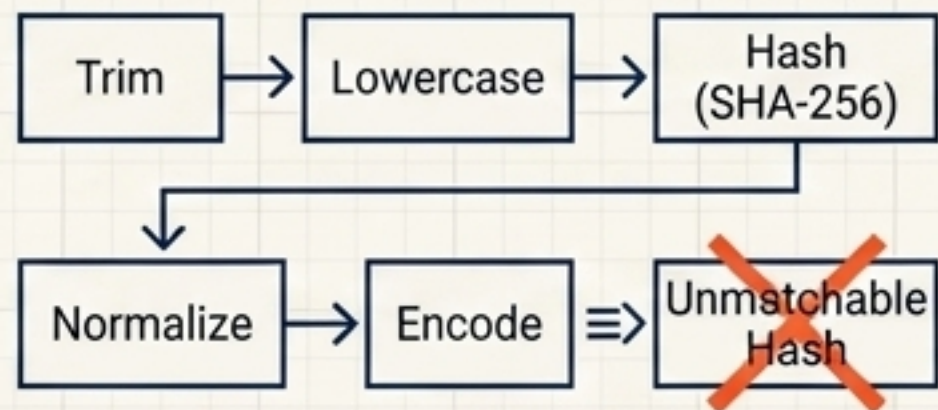
## Path 1: The CAPI Payload

Are the `userData.em` or `userData.ph` fields absent or structurally malformed?

```
{  
  "userData": {  
    "em": "null",  
    "ph": "[]"  
  }  
}
```

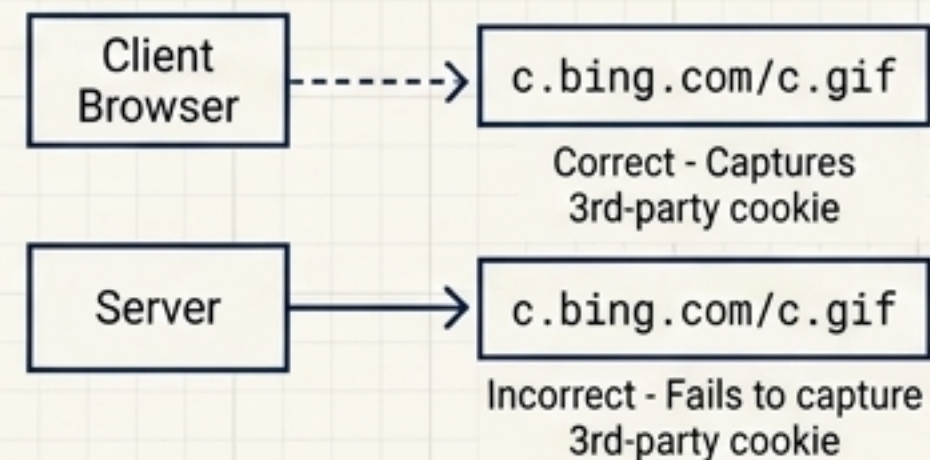
## Path 2: The Normalization Logic

Did the server apply the 5-step preprocessing sequence strictly out-of-order, creating an unmatchable hash?



## Path 3: The ID Sync Pixel

Is the client-side sync pixel (`c.bing.com/c.gif`) firing? Firing this server-side breaks cross-device third-party cookie capture.



# ~~Conversions~~



# ConversionsQualified

## The 2022 Deprecation Trap

If your dashboard shows zero conversions despite active traffic, you are likely looking at a dead column. The `Conversions` and `AllConversions` metrics were permanently deprecated in 2022 and will always return 0.

You must use `ConversionsQualified`—a column built to return double-precision floats that support partial offline attribution.

# The Standard Performance Dashboard Matrix

UI Column Name	API Name	Formula / Notes
Impressions	Impressions	Raw count of ad displays.
Clicks	Clicks	Paid interactions.
Avg. CPC	AverageCpc	Spend / Clicks.
Conversions	ConversionsQualified	The required standard for attribution.
CPA	CostPerConversion	Spend / ConversionsQualified.
ROAS	ReturnOnAdSpend	Revenue / Spend.
Top Impression Rate	TopImpressionRatePercent	Replaces generic Impression Share to show % of mainline positions.

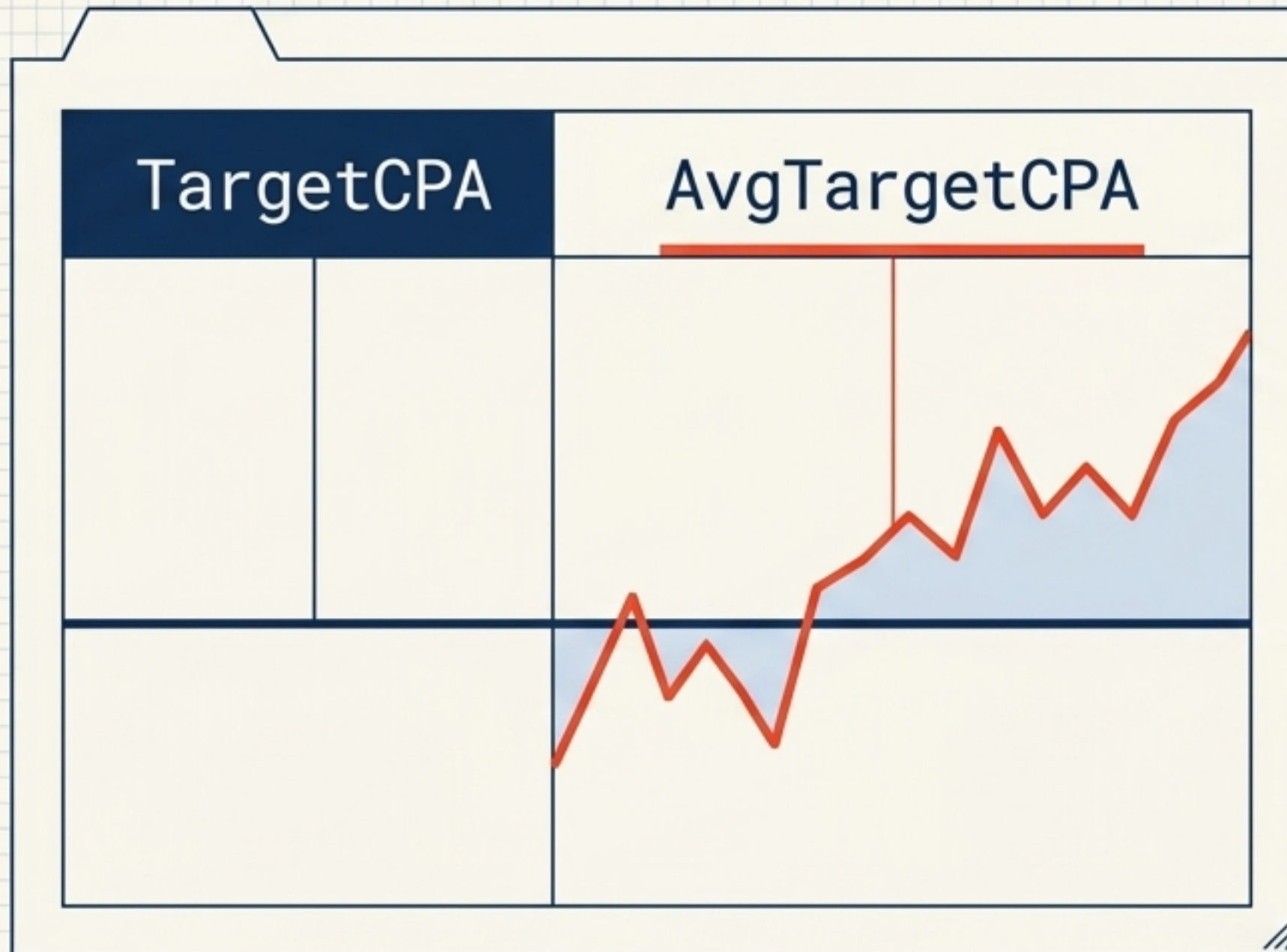


### The “30 in 30” Rule dictates algorithmic survival.

The automated bidding algorithm cannot optimize on sparse data.

Target **CPA** strategies stop optimizing entirely if volume falls below 30 conversions in a 30-day rolling window. **Target ROAS** requires 30 conversions and non-zero revenue. If you dip below this threshold, the strategy remains active in the UI, but bidding degrades to near-random deployment.

# Telemetry Upgrade: Reading the May 2026 Metrics



In May 2026, Microsoft launched new columns to expose **algorithmic drift**.

Do not confuse **TargetCPA** (the static value currently set in your campaign) with **AvgTargetCPA** (the historical daily weighted average).

Comparing these two columns in the Bid Strategy Report reveals **target creep** and explains unexpected **learning period resets**.

# Signal Remediation Matrix: Escaping the Learning Period

Symptom	Diagnosis	Action
<code>ConversionsQualified</code> < 30	Algorithm starved.	Add micro-conversion EventGoals to feed intermediate intent signals.
Rising <code>ConversionDelay</code>	Conversions lagging significantly behind clicks.	Broaden match types to increase top-of-funnel impression eligibility.
<code>CostPerConversionQualified</code> > 150% of <code>Target</code>	System trapped in pattern-matching mode.	Temporarily shift to Maximize Conversions to force volume acquisition.

# The Signal-to-ROAS Flywheel

The stronger the engineering, the smarter the bid.

## 1. High-Fidelity Tracking

Granular **EventGoals** map full-funnel intent.

## 2. Enriched Match Rates

**CAPI** and strict **SHA-256** normalization normalization recover lost identities.

## 3. Accurate Measurement

**ConversionsQualified** dashboards reveal true incremental lift.

## 4. Accelerated Learning

Richer data pipelines keep **Target ROAS** consistently above the **30-conversion** threshold.