

When a Feature Flag Changes a KPI

Managing Analytics Logic Safely

A feature flag can change application behavior.
That behavior can change the KPI itself.

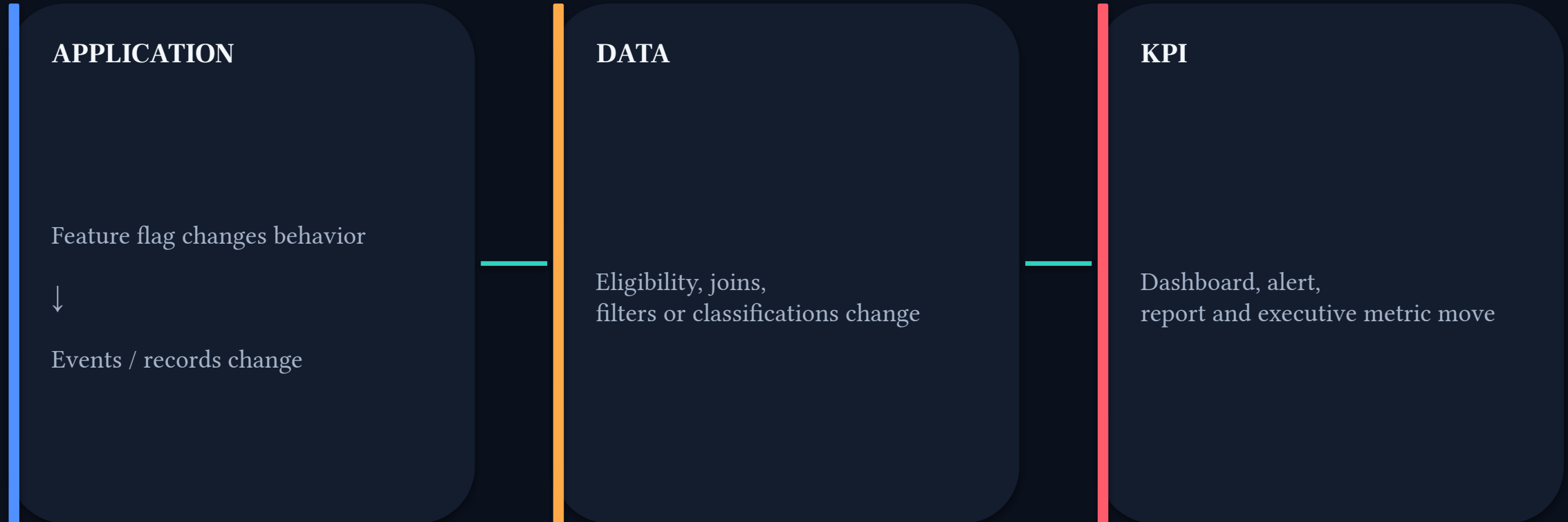
CONVERSION

10.4%

FLAG ON

Same dashboard.
Different logic.

Why This Problem Matters



The Core Idea

Treat metric logic like production code.



The goal is not to stop change. It is to make change explainable and reversible.

A Simple Example

Old definition

COMPLETED ORDERS

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ELIGIBLE SESSIONS

Feature flag changes
eligibility

NEW KPI

10.4%

The numerator did not
change.
The denominator did.

Where the Risk Appears

DASHBOARDS

REPORTS

ALERTS

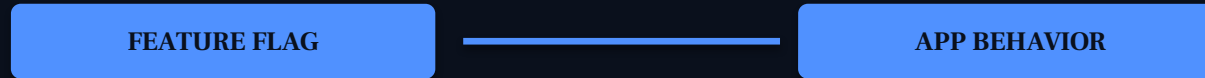
FORECASTS

EXECUTIVE KPIs

One logic change can propagate across the entire reporting surface.

Feature Flags: More Than UI Controls

Traditional view



Data-team view



Map the Metric Before Changing It

Definition

Document it
before changing
it.

Sources

Document it
before changing
it.

Rules

Document it
before changing
it.

Grain

Document it
before changing
it.

Consumers

Document it
before changing
it.

Owner

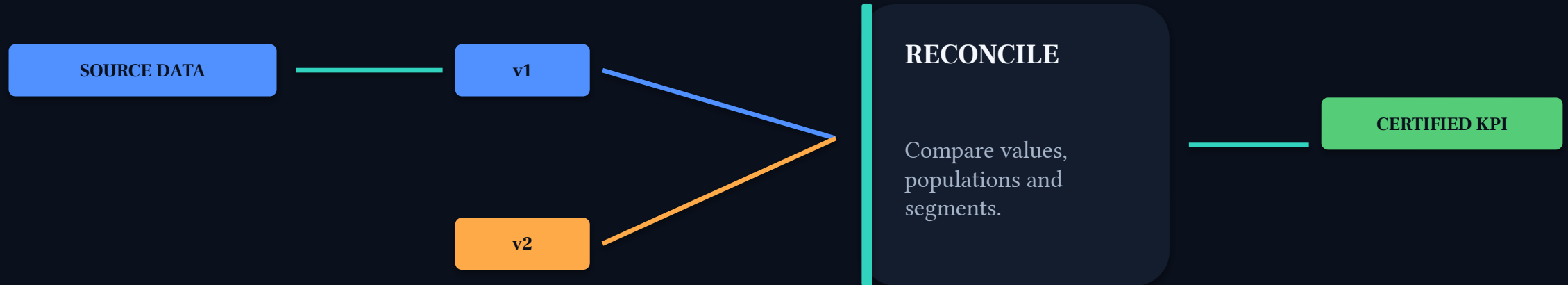
Document it
before changing
it.

Metric Versioning



Build Old and New Logic in Parallel

Run both. Compare before switching.



Reconciliation: What to Compare

Rows

1.02M

Eligible

820K

Numerator

85K

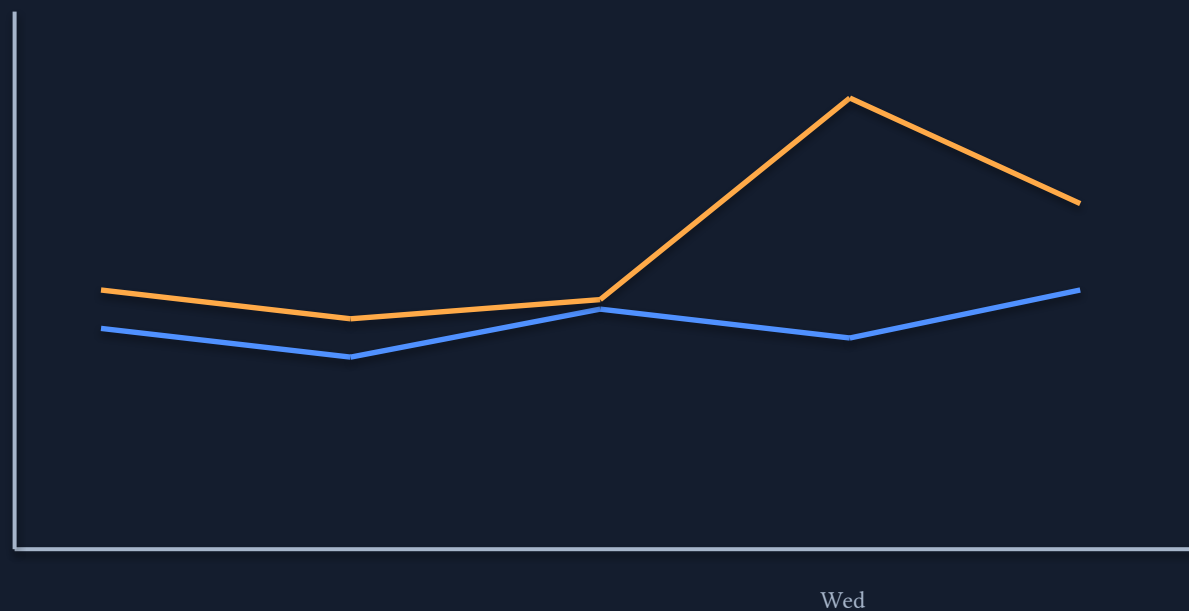
KPI

10.4%

Reconcile the inputs before debating the output.

Example Reconciliation Table

KPI v1 vs v2



v1

v2

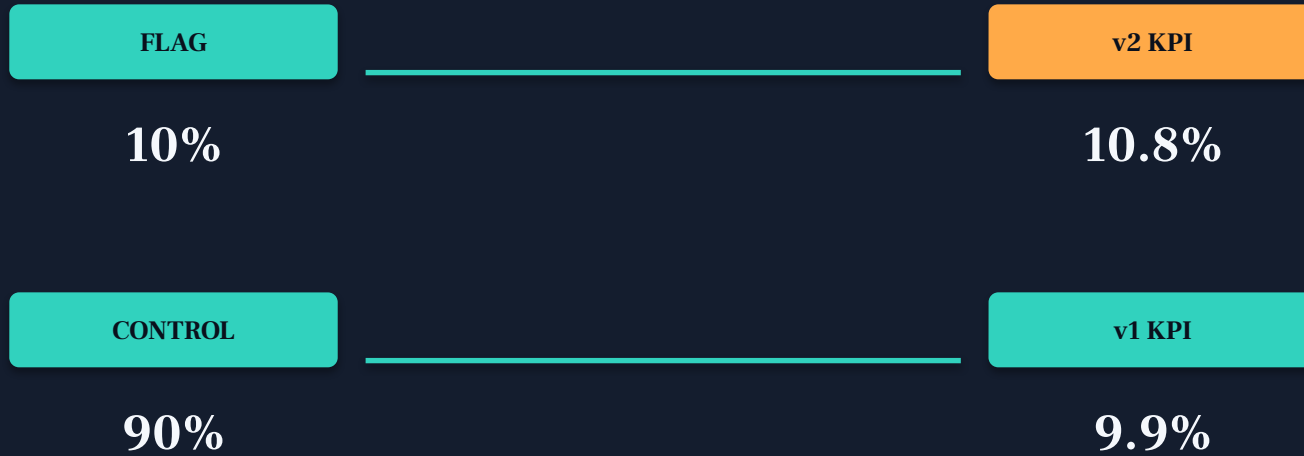
♦1.8 pp

Investigation signal

Find the Source of the Difference



Cohort Thinking



Compare the treatment cohort against the control cohort.

Data Lineage for Analytics Changes



Lineage answers: what changed, where, and who is affected?

Dashboard Validation



Totals



Filters



Drilldowns



Labels



Refresh



Alerts

Safe Rollout Pattern



Controlled deployment for analytics logic

Think of the Rollout as a Data Deployment



Define rollback criteria before you need them.

Monitoring After Release

Monitor the gap while both definitions exist.

KPI DELTA

↗0.2 pp

DATA FRESHNESS

99.8%

SEGMENT SHIFT

2.1%

ALERTS

0

Communicating the Change

METRIC CHANGE NOTICE

Metric	Conversion Rate
Change	Eligibility logic updated
Effective	October 15
Impact	Expected increase in eligible sessions
Owner	Analytics Engineering

v1 retained for comparison

A Practical Change Notice



Silent change



Dashboard first



Wrong population



Overall only



Delete v1



Small code $\neq$ small impact

Common Failure Modes

✓ Definition

✓ Lineage

✓ Consumers

✓ Owner

✓ Reconciled

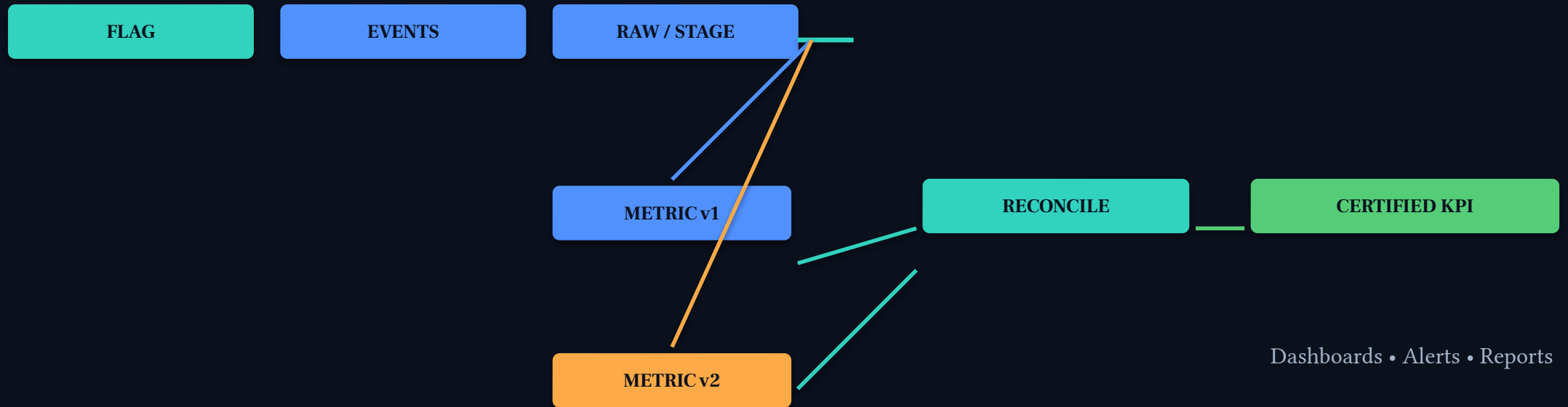
✓ Rollback

✓ Versioned

✓ Dashboard

✓ Monitoring

Beginner-Friendly Control Checklist



A Reusable Architecture

RELEASE

Analytics engineering becomes part of deployment.

GOVERNANCE

Metric definitions become governed assets.

QUALITY

Data checks become release checks.

LINEAGE

Traceability becomes operational.

What This Changes for Data Teams

- 01** A feature flag can change analytics.
- 02** Never replace a KPI without comparison.
- 03** Deploy metric meaning with control.

Three Rules to Remember

BEHAVIOR

FEATURE FLAG

MEANING

KPI DEFINITION

TRUST

VALIDATE + ROLLOUT

Control the change. Explain the difference. Preserve trust.

30-Second Takeaway

Questions?

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Questions