HighLoad++ · November 8, 2018

tinkoff.ru Acquisition from banner click to personalized page

How business goals turned into architecture, processes, and teams around the public web



Tinkoff.ru

HL 2018

HighLoad++

Профессиональная конференция разработчиков высоконагруженных систем

What this talk covers

Agenda Plan

- Goals and engineering principles
- Process and performance marketing
- Frontend and teams
- SEO, personalization, tests

What efficient acquisition means

Goals Acquisition

Three goals, one system

Many and cheap

Channels scale, not isolated wins

Good UI/UX

Banner-to-application path is fast and relevant

Scalable processes

Campaigns and tests without release bottlenecks

Part 1

01

Engineering principles

Abstraction, simplicity, feedback, and communication structure

The model matters more than channel details

Principles Abstraction

- Process model ≠ channel details
- Entities: campaign, form, report
- The level where business meets IT

Universality costs more than it looks

Principles Occam's razor

- No universality until needed
- Compact core, specifics outside
- A simple model serves the goal

Without Check and Act it is not a loop

Principles PDCA

- Plan/Do: goal, campaigns, tests
- Check: KPIs and deviations
- Act: bids, content, resources

Architecture mirrors communication

Principles Conway's Law

- Chaotic teams → sprawling system
- Topology holds ownership boundaries

Part 2

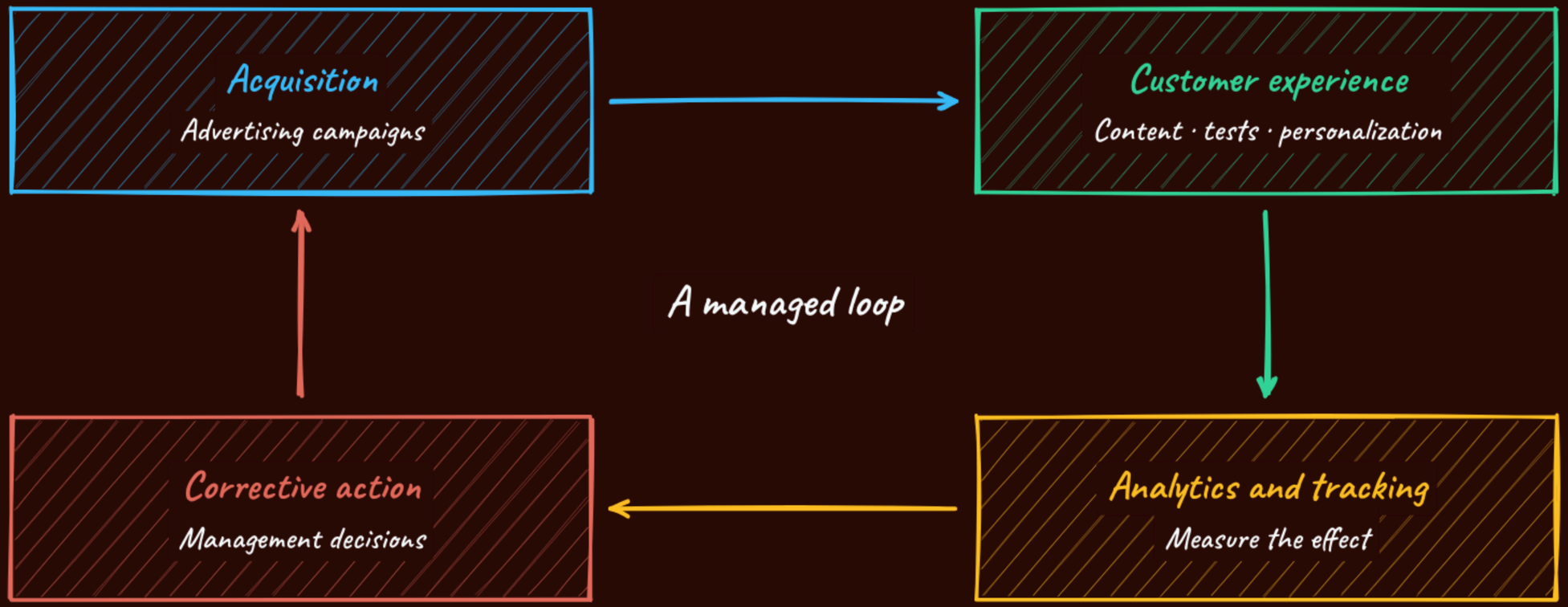
02

Acquisition process

The acquisition loop and the team around it

End-to-end acquisition loop

Process Loop



Organization Matrix

The matrix works only with explicit boundaries

One loop for business and IT

- Business sets the unit economics
- IT covers many technology zones
- Core gives tools, products deliver features
- Works only with explicit boundaries

Part 3

03

Performance marketing on the web

Automating paid search, data, and decisions

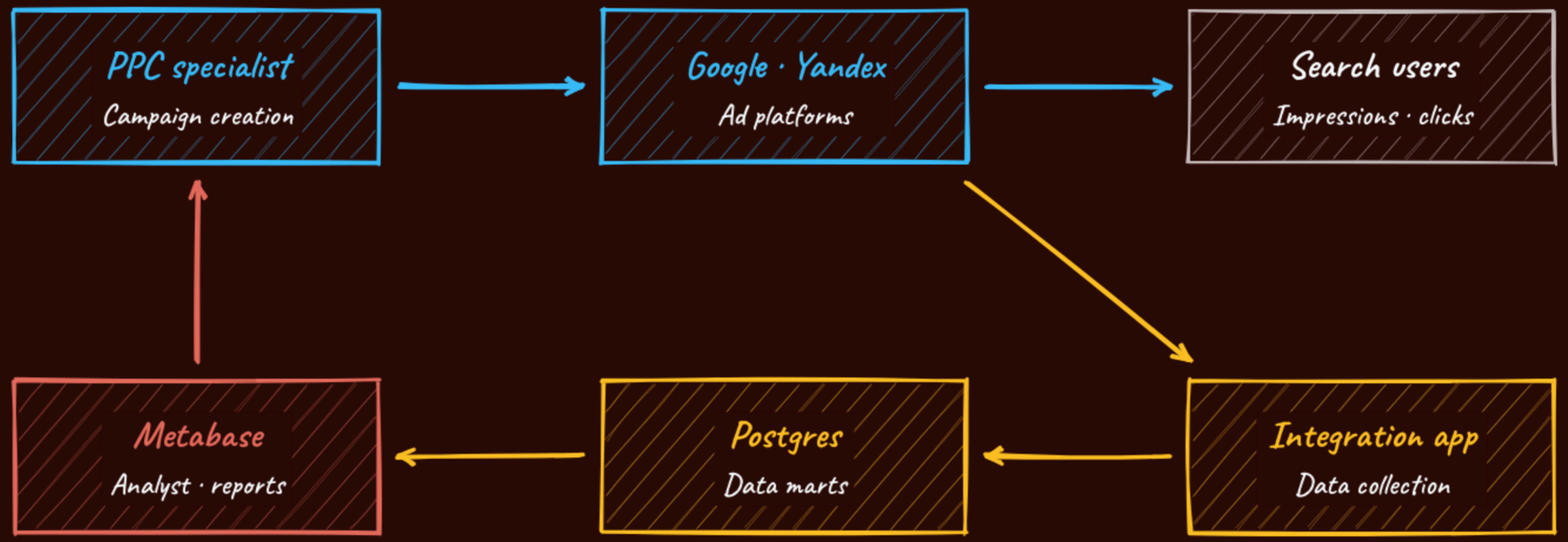
The channel scales only through daily work

Paid search Campaigns

- Campaigns: search, display, targeting
- Scaling winners, killing losers
- Analysis by channel, keyword, product
- Semantics, bids, fast hypotheses

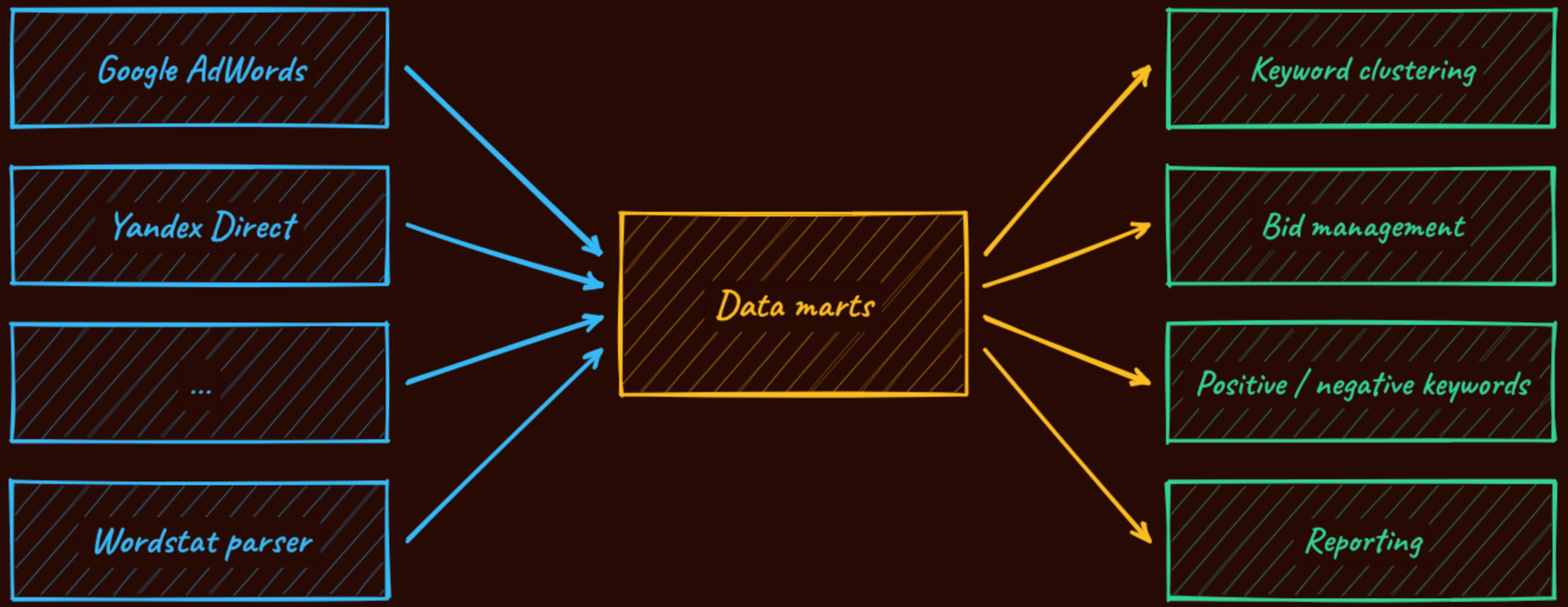
Data closes the paid-search loop

Paid search Pipeline



Shared data powers different tools

Architecture Marketing



Owner holds the goal, lead holds coherence

- Product owner: goal and priorities
- Lead: technical coherence
- Developers and analysts: data and reports

A minimal stack, not a universal one

Team Occam's razor

- Python + Postgres + Rabbit
- PHP + React + Material UI
- Metabase for reporting

Part 4

04

Frontend tinkoff.ru

The main communication channel with potential clients

Frontend Channel

Public web: main acquisition channel

Every business unit is a stakeholder

- Unauthenticated zone: first touch, forms
- Public web ≠ internet bank
- Every unit changes content fast
- Frontend is a delivery platform

Thin frontend, thick engines

Architecture Split

Thin frontend per product, thick backend of reusable engines

+ Frontend

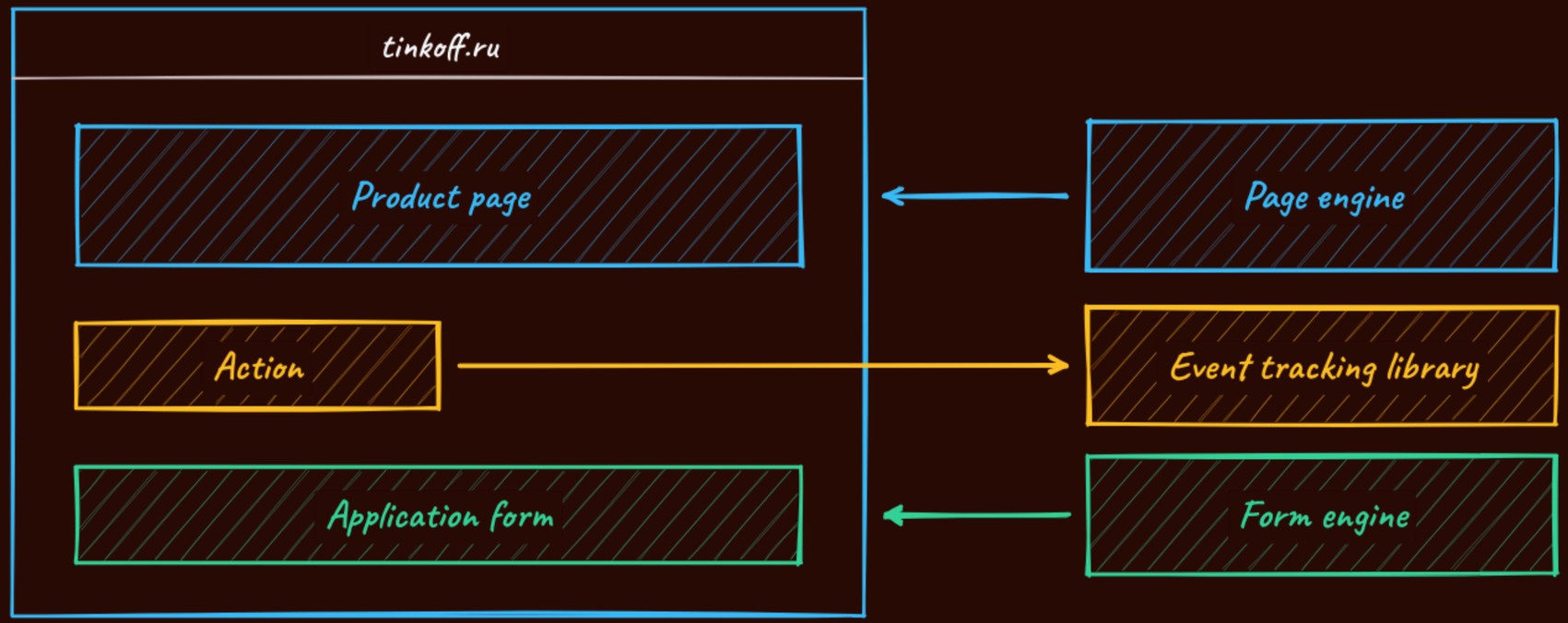
- Split by products
- Shared blocks, forms, tracking
- Change velocity

+ Backend

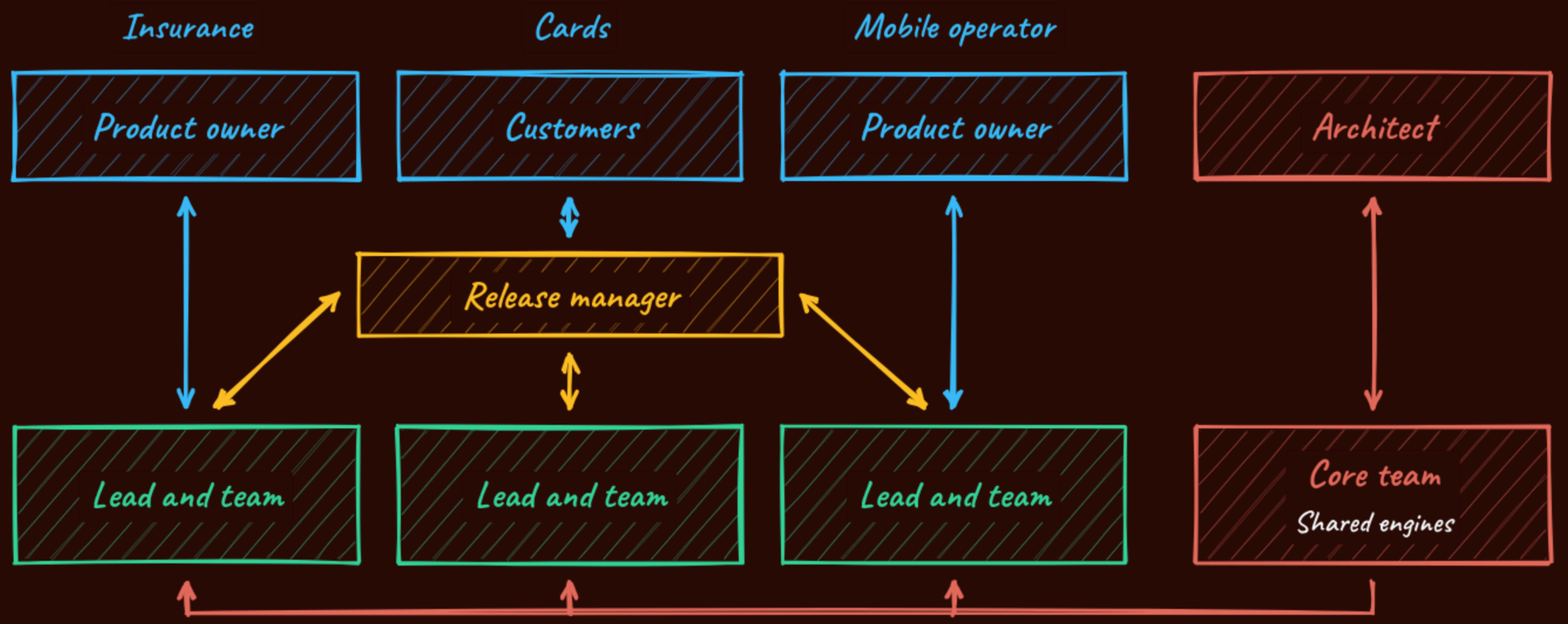
- Separate services and engines
- Content, rules, forms, events
- Less duplication

Speed to products, reuse to engines

Architecture Frontend



Team structure follows architecture



A wrong boundary turns speed into coupling

Ownership Teams

What stays in core and what goes to product teams

+ Core

- Page and block engine
- Form engine
- Tracking, infra, contracts

+ Product teams

- Business-line functionality
- Pages, scenarios, blocks
- Hypotheses, A/B, product P&L

Part 5

05

SEO

Where engineering principles meet delayed feedback

SEO shows where clean principles stop applying

SEO Trade-offs

+ Tasks

- Optimize product pages
- Unify pages and landings
- Behavioral factors via personalization

+ Problems

- Lag between action and result
- Algorithms not transparent
- Deadline beats the perfect model

Part 6

06

Personalization and tests

Conversion through hypotheses, targeting, and real-time feedback

Conversion grows through hypotheses, not releases

Goal Conversion

- Hypotheses without a heavy release
- Relevant content by targeting
- Device, channel, and behavior targeting
- Fast statistics back into decisions

Personalization sits on every user’s path

Complexity Scale

A/B tests become system architecture

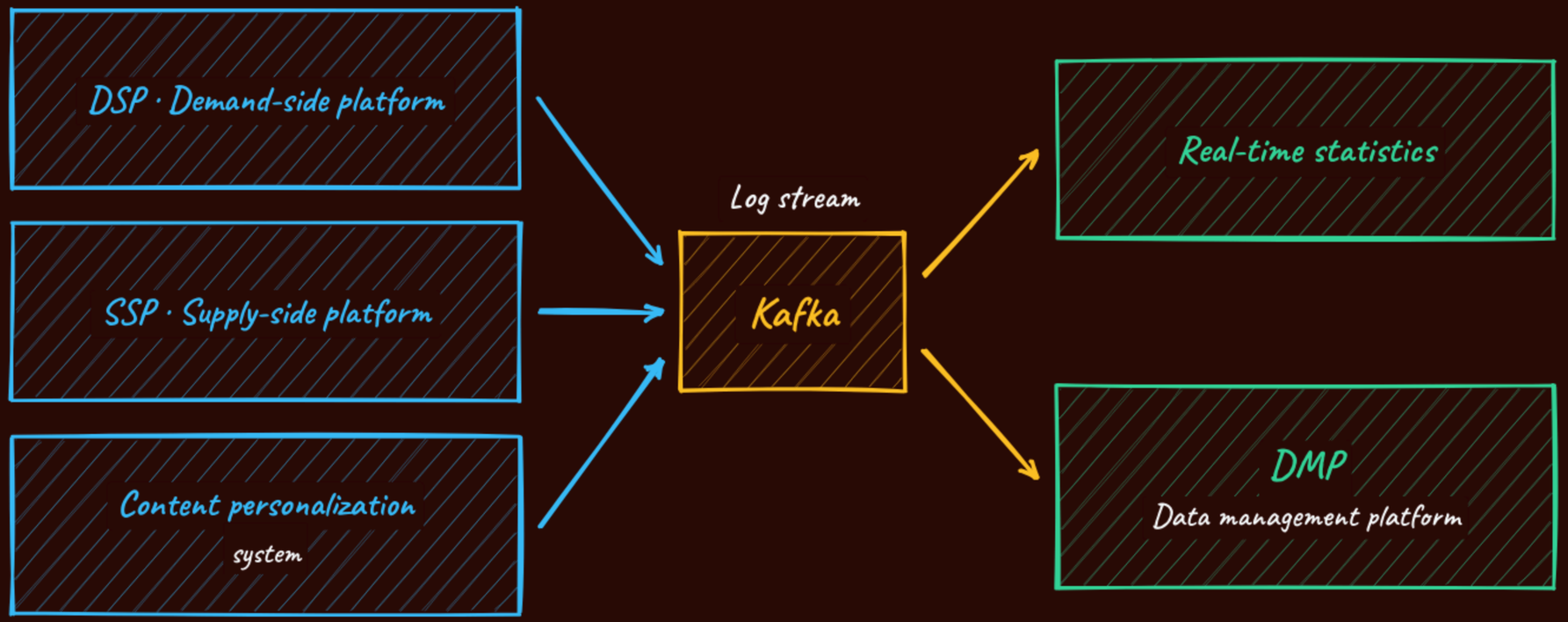
+ **Load**

- On every user’s path
- Decisions must be fast and reliable
- Failures show in conversion

+ **Data**

- Many sources of segments
- Real-time stats per variant
- Logs → business signals

Personalization is architecture



The personalization team is a platform team

Team Platform

Owners appear for domains, data, and infrastructure

- Senior product owner: goal and priorities
- Product owner: the system's backlog
- Lead and infrastructure: platform reliability
- Customers: experimentation loop

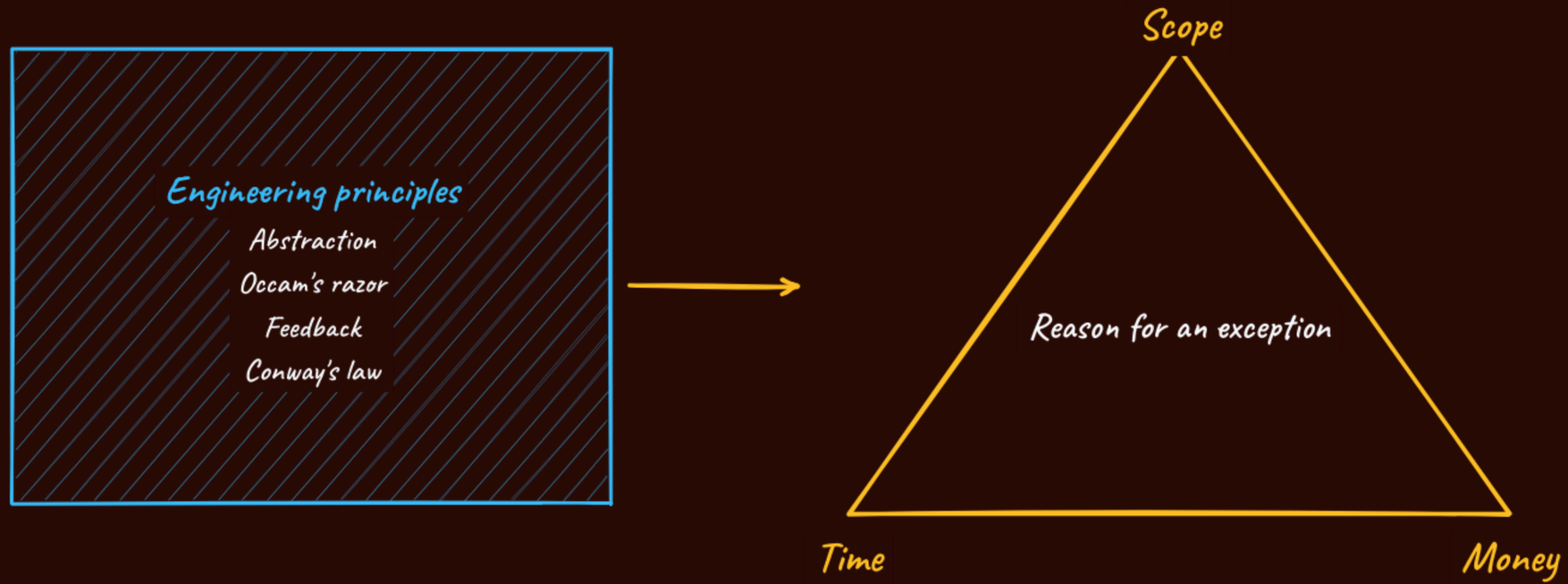
When principles can bend

Boundaries Exceptions

Exceptions usually trace back to the project triangle

- Time critical → targeted bypass
- Budget limited → local solution
- Volume grows → stricter prioritization
- Name the compromise’s reason and lifetime

Constraints explain exceptions to principles



Takeaways

- Goal first — then process and architecture
- Core where needs repeat across products
- PDCA rests on tracking and analytics
- Conway’s Law shapes system and teams

- efficient acquisition = process + architecture + team

Materials

Sources Links

- Talk recording — HighLoad++ 2018
- HighLoad++ 2018 abstract: ↗highload.ru
- Evolution of ↗tinkoff.ru over 3 Years

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Thank you!

All slides and links are in the Telegram channel

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