The Process Automation Map

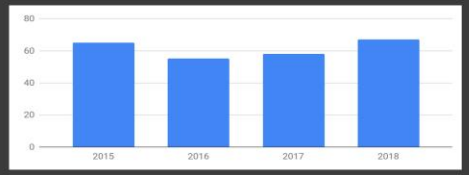
@berndruecker

https://www.theguardian.com/technology/2018/apr/24/amazon-jeff-bezos-customer-data-industries

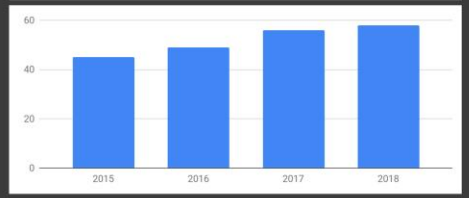
Customer experience

CAMUNDA CON

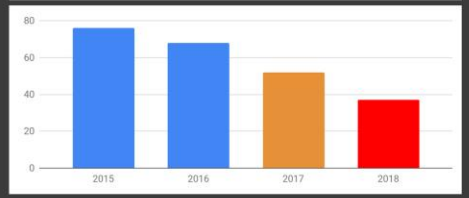
Claim Settlement - Customer Satisfaction



Acceptability



Politeness



Speed

Jakob Freund at CamundaCon 2019

Change is the only constant

-> Agility

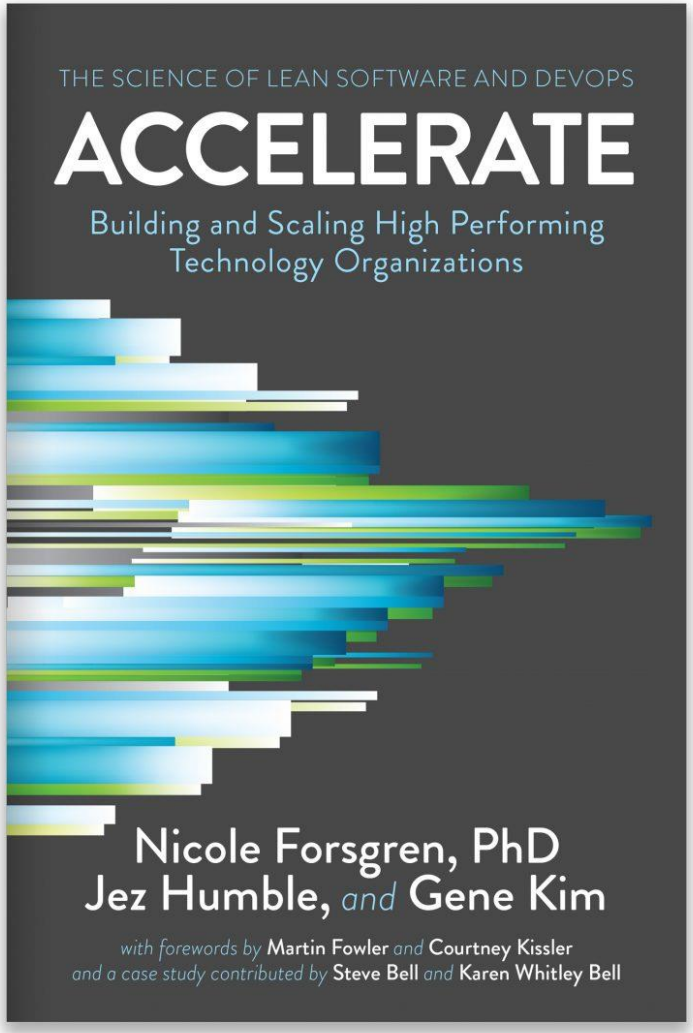
> We don't know what we will need tomorrow.
> But we do know that we will need something.
> We have to be able to move quickly!

CIO of a German insurance company in 2019

During the global pandemic, the metric for cloud success isn’t cost-efficiency or even business agility — it’s velocity. The speed of business transformation is the most critical metric for every company recovering from the pandemic and helping its customers recover, as well.

Cloud Powers The Adaptive Enterprise, November 2020, Forrester Research, Inc.

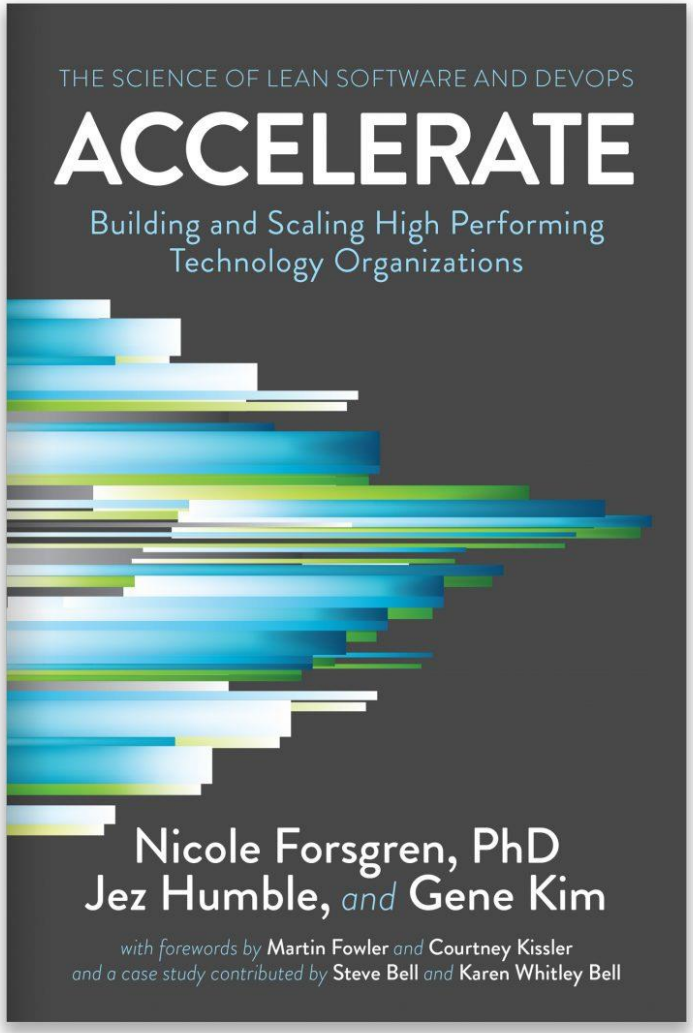
Velocity matters


THE SCIENCE OF LEAN SOFTWARE AND DEVOPS
ACCELERATE
Building and Scaling High Performing Technology Organizations
Nicole Forsgren, PhD
Jez Humble, and Gene Kim
with forewords by Martin Fowler and Courtney Kissler
and a case study contributed by Steve Bell and Karen Whitley Bell


2018
Accelerate:
State of DevOps
Strategies for a New Economy
DORA
DEVOPS RESEARCH & ASSESSMENT
Google Cloud


2019
State of DevOps Report
puppet
circleci
splunk>


2020
State of DevOps Report
puppet
circleci
servicenow
sysdig
splunk>



„...high-performing organizations were consistently twice as likely to exceed these goals [profability, market share, productivity] as low performers."

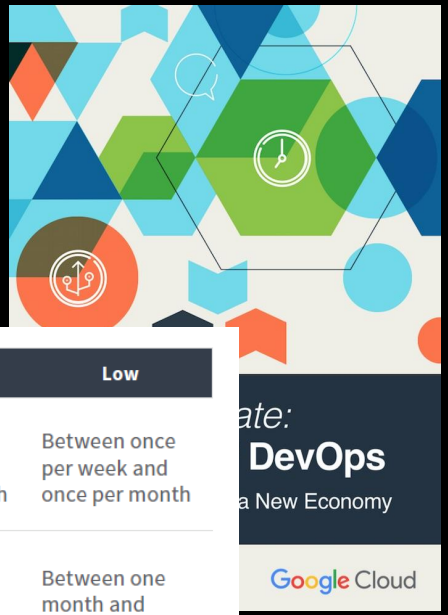
COMPARING THE ELITE GROUP AGAINST THE LOW PERFORMERS, WE FIND THAT ELITE PERFORMERS HAVE...

46 TIMES MORE
frequent code deployments

2,555 TIMES FASTER
lead time from commit to deploy

7 TIMES LOWER
change failure rate
(changes are 1/7 as likely to fail)

2,604 TIMES FASTER
time to recover from incidents



Aspect of Software Delivery Performance	Elite[a]	High	Medium	Low
Deployment frequency For the primary application or service you work on, how often does your organization deploy code?	On-demand (multiple deploys per day)	Between once per hour and once per day	Between once per week and once per month	Between once per week and once per month
Lead time for changes For the primary application or service you work on, what is your lead time for changes (i.e., how long does it take to go from code commit to code successfully running in production)?	Less than one hour	Between one day and one week	Between one week and one month[b]	Between one month and six months[b]
Time to restore service For the primary application or service you work on, how long does it generally take to restore service when a service incident occurs (e.g., unplanned outage, service impairment)?	Less than one hour	Less than one day	Less than one day	Between one week and one month
Change failure rate For the primary application or service you work on, what percentage of changes results either in degraded service or subsequently requires remediation (e.g., leads to service impairment, service outage, requires a hotfix, rollback, fix forward, patch)?	0-15%	0-15%	0-15%	46-60%

-> pro code techniques

Process automation

> Process automation
> is a core enabler of digitalization,
> business agility and velocity
>
> Me quoting myself

Process Automation Benefits

Visibility & Confidence: Understand and manage how your business processes run

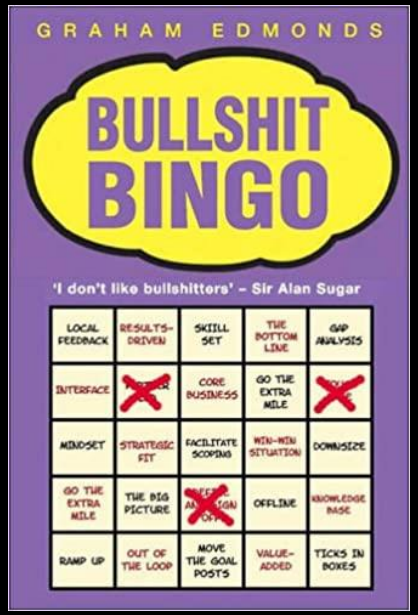
Business Agility: Be able to rapidly change and adapt your business processes

Time-to-value: Bring changes to market quicker

Operational Efficiency: Automate your business in highly efficient and cost-effective way

Scale: Enable your business processes to handle unexpected problems or demand

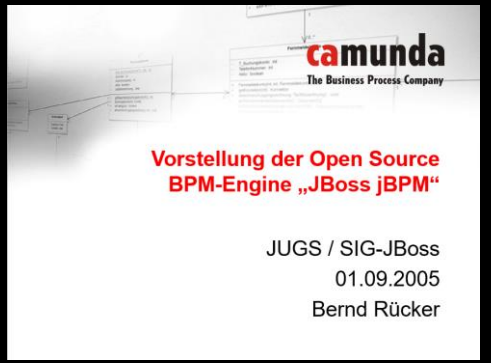
Customer Experience: Satisfy growing customer expectations

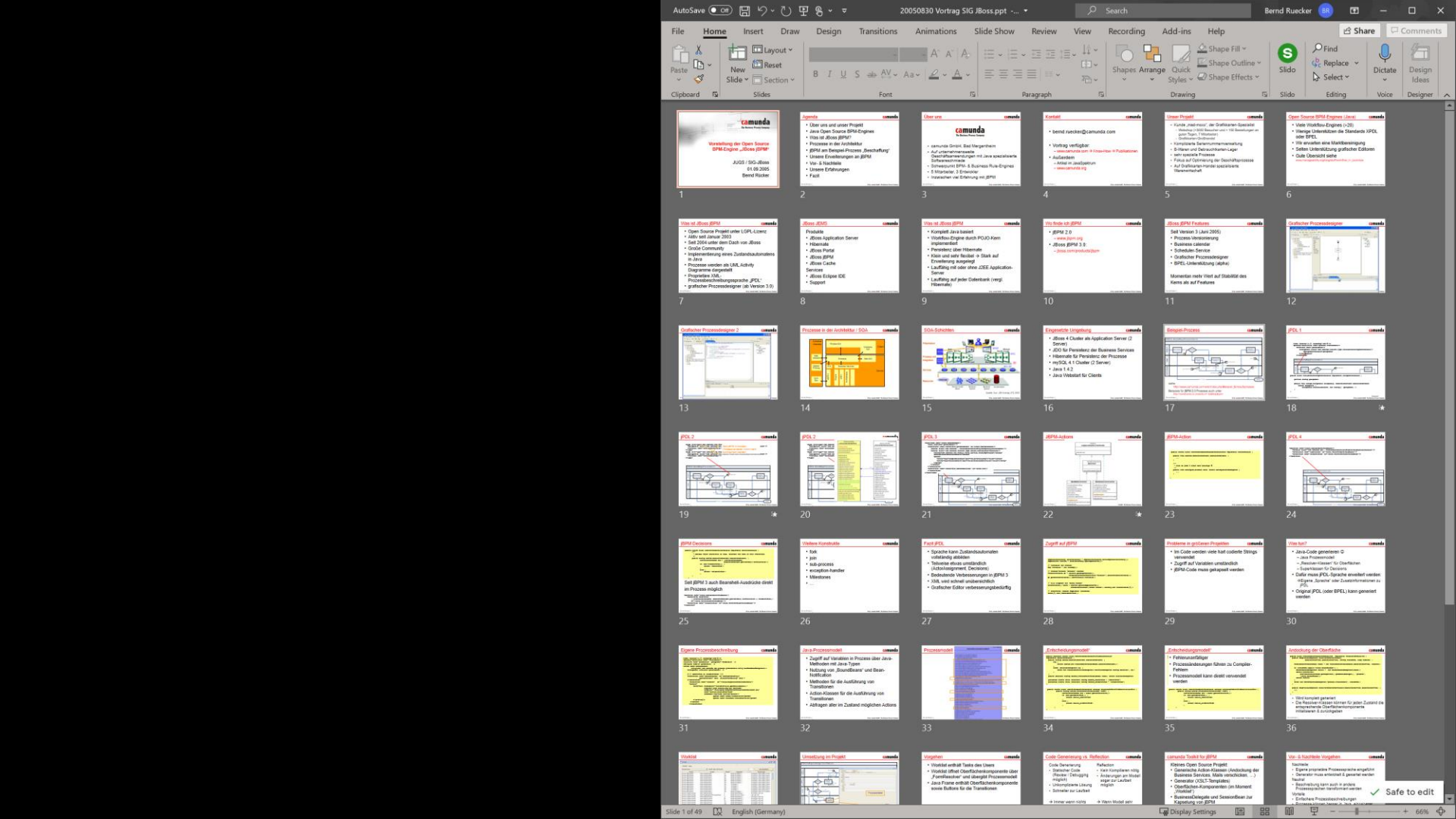

GRAHAM EDMONDS
BULLSHIT BINGO
'I don't like bullshitters' – Sir Alan Sugar
LOCAL FEEDBACK
RESULTS-DRIVEN
SKILL SET
THE BOTTOM LINE
GAP ANALYSIS
INTERFACE
CORE BUSINESS
GO THE EXTRA MILE
MINDSET
STRATEGIC FIT
FACILITATE SCOPING
WIN-WIN SITUATION
DOWNSIZE
GO THE EXTRA MILE
THE BIG PICTURE
OFFLINE
KNOWLEDGE BASE
RAMP UP
OUT OF THE LOOP
MOVE THE GOAL POSTS
VALUE-ADDED
TICKS IN BOXES

What is process automation?

My first contact with process automation

Order Fulfillment
Returned Goods Handling

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Comments
Paste
New Slide
Layout
Reset
Section
Shapes
Arrange
Quick Styles
Shape Fill
Shape Outline
Shape Effects
Slido
Find
Replace
Select
Dictate
Design Ideas
Clipboard
Slides
Font
Paragraph
Drawing
Editing
Voice
Designer
camunda
Vorstellung der Open Source BPM-Engine „JBoss jBPM"
JUGS / SIG-JBoss
01.09.2005
Bernd Rücker
Agenda
Über uns
Kontakt
Unser Projekt
Open Source BPM-Engines (Java)
Was ist JBoss jBPM
JBoss JEMS
Was ist JBoss jBPM
Wo finde ich jBPM
JBoss jBPM Features
Grafischer Prozessdesigner
Grafischer Prozessdesigner 2
Prozesse in der Architektur / SOA
SOA-Schichten
Eingesetzte Umgebung
Beispiel-Process
JPDL 1
JPDL 2
JPDL 2
JPDL 3
jBPM-Actions
jBPM-Action
JPDL 4
jBPM Decisions
Weitere Konstrukte
Fazit JPDL
Zugriff auf jBPM
Probleme in größeren Projekten
Was tun?
Eigene Prozessbeschreibung
Java-Prozessmodell
Prozessmodell
„Entscheidungsmodell"
„Entscheidungsmodell"
Anbindung der Oberfläche
Worklist
Umsetzung im Projekt
Vorgehen
Code Generierung vs. Reflection
camunda Toolkit für jBPM
Vor- & Nachteile Vorgehen
Safe to edit
Slide 1 of 49
English (Germany)
Display Settings
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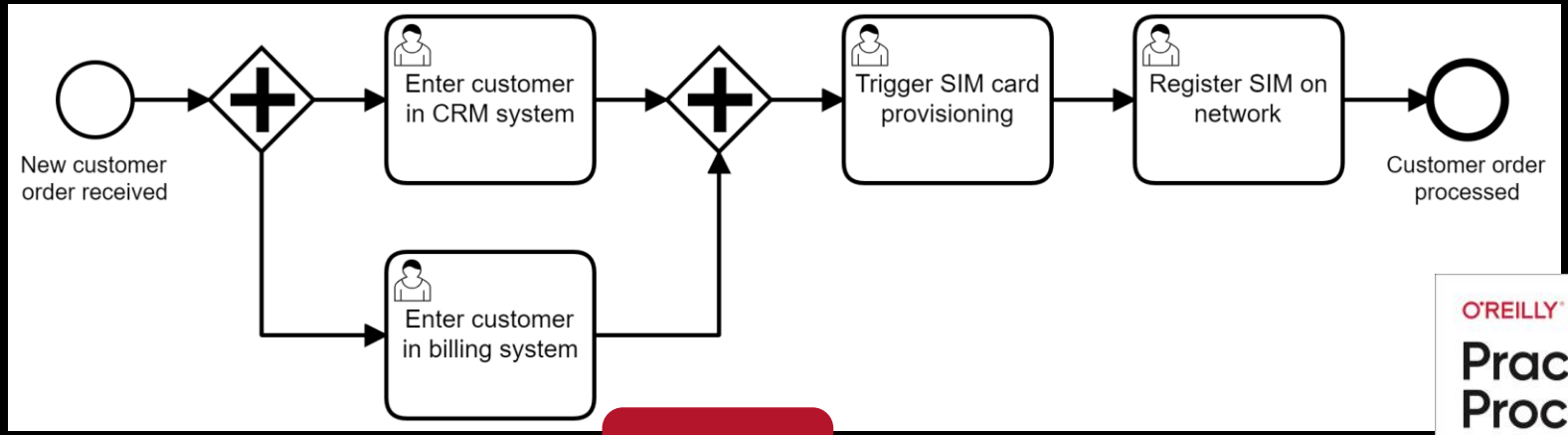
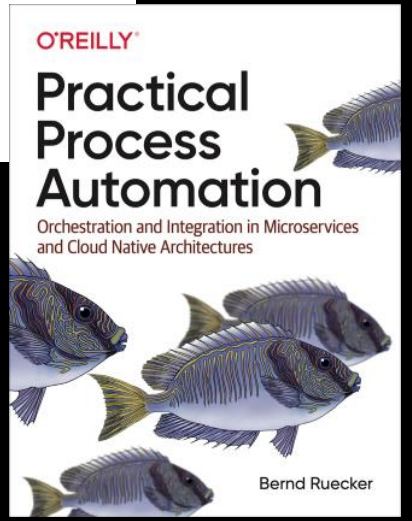
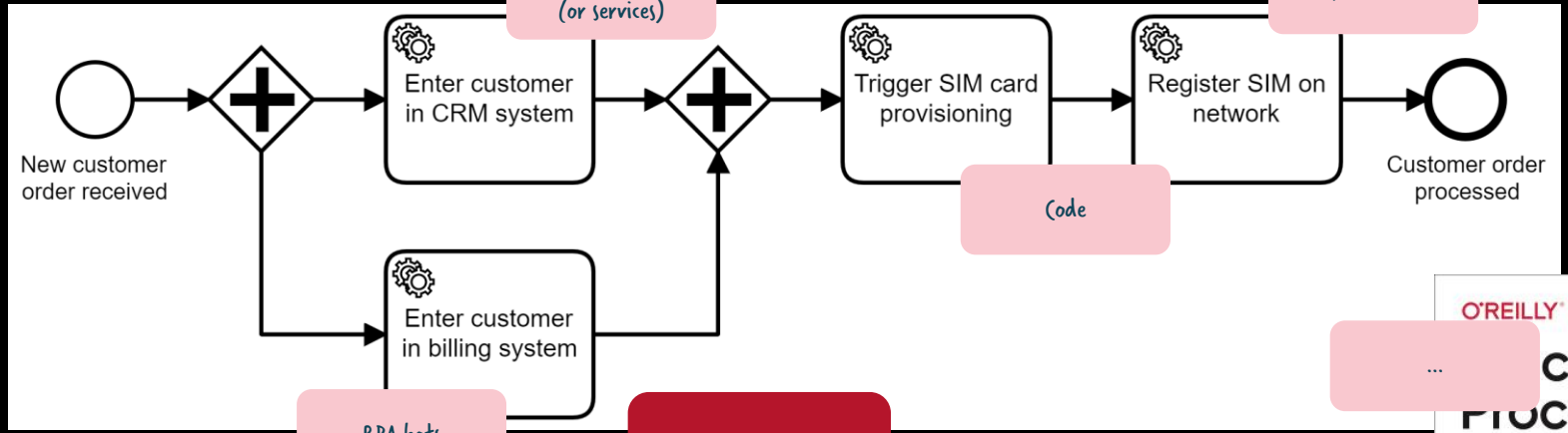
A sample business process: onboarding

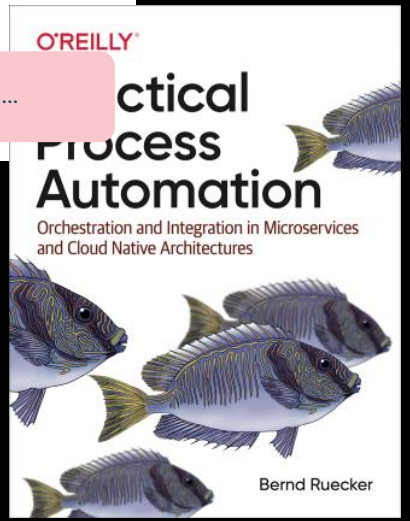


Human Task Management



A sample business process: onboarding





Also a business process?

Trigger
1. New Record in View in Airtable

Choose app & event

Choose account

Set up trigger

Base (required)
Tech Conferences

Table (required)
Conferences

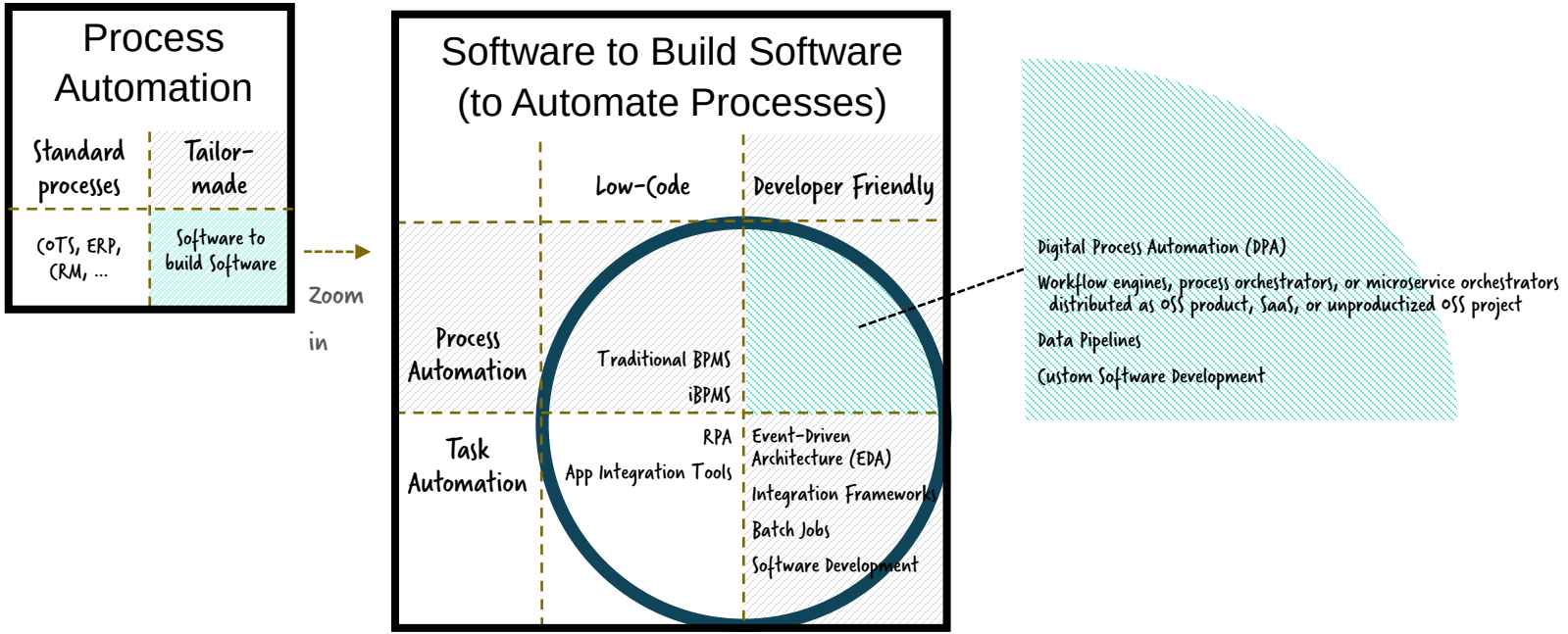
View (required)
CFP Due

Refresh fields

Test trigger

Close

Action
2. Send Channel Message in Slack



https://www.infoworld.com/article/3617928/understanding-the-process-automation-landscape.html


More guidance please!
The process automation map

vs.

Differentiation by standard software?

The story goes that many decades ago MCI's Friends & Family discount plan rapidly gained market share in the US long-distance business because AT&T's systems couldn't support a change in rates based on a customer's "calling circle."

- Gregor Hohpe: Revisiting buy vs. build – 3 traps to avoid

POLICY —

Remembering the "long distance warrior" who took down Ma Bell

He was a "long distance warrior" whose MCI Corporation helped end AT&T's monopoly

MATTHEW LASAR - 8/22/2011, 5:30 PM

The Bell monopoly killer: Bill McGowan of MCI

In the mid-1970s I worked in one of the first Sam Goody record stores. Back then Sam actually owned the places and we carried a lot of obscure, off-label classical content. One day someone phoned in to ask if we had a particularly rare item. We talked about what she wanted for a moment, and I complemented her on her taste.

"Thanks, but please, could you hurry?" she anxiously interrupted. "*This is a long distance call!*"

6 Best Eco Shops For All of Your Eco-Friendly Lifestyle Needs

Do you need to?

1) Made Trade

About: Made Trade is a beautifully curated online retailer of socially and eco-consciously made gifts, clothing, accessories, home decor, and furniture.

Highlights: Standing out from the minimalist aesthetic typical of many 'eco shops', Made Trade's vibe is eccentric, vibrant, and colorful. They support many independent artists and makers from around the world who utilize traditional craftsmanship techniques.

Categories: fashion, lifestyle, home goods, furniture, decor, gifts

Check out Made Trade

2) Eco Roots

About: Eco Roots is a plastic-free shop founded by a couple in Colorado. Its goal is to support a minimalist, eco-conscious lifestyle and to raise awareness for the reality of our single-use consumption.

Highlights: plastic-free packaging; items that support a low-waste lifestyle; ethically and consciously sourced.

Categories: bath and beauty products, dental care, home goods, kitchen goods, totes and everyday-use products.

Check out Eco Roots

3) Earth Hero

About: Earth Hero is an eco-friendly online marketplace that makes buying sustainable products easier by doing all of the research and curating for you. They have a large directory of icons that make it super simple for you to know exactly what type of product they are shopping for, whether recycled, organic, vegan, etc. They also make it really simple to decrease your trash with their curated zero waste collection.

Highlights: Member of 1% For the Planet; low impact production; carbon offset shipping

The Process Automation Map

e.g. accounting software

Standard — Process — Unique

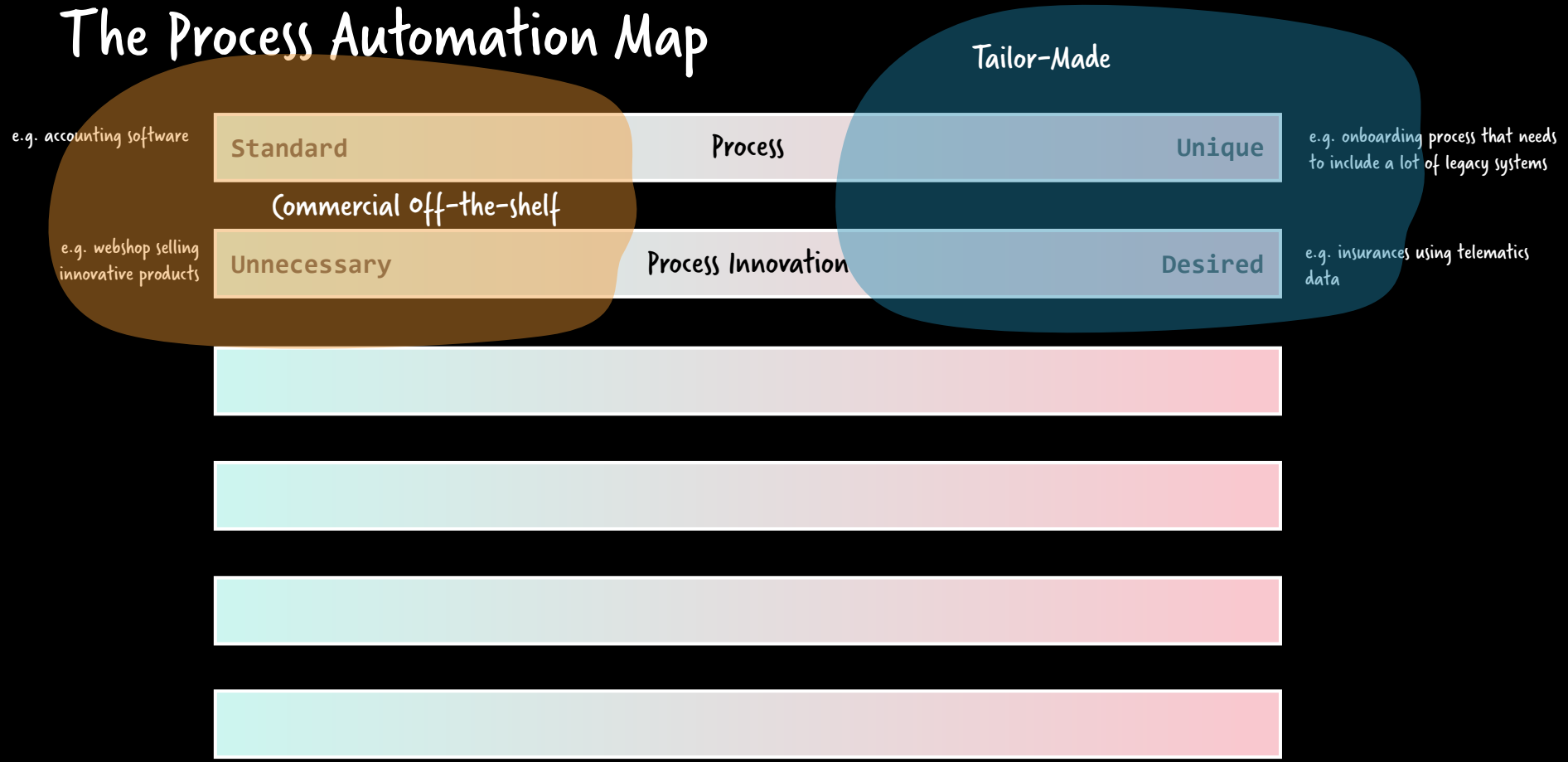
e.g. onboarding process that needs to include a lot of legacy systems

e.g. webshop selling innovative products

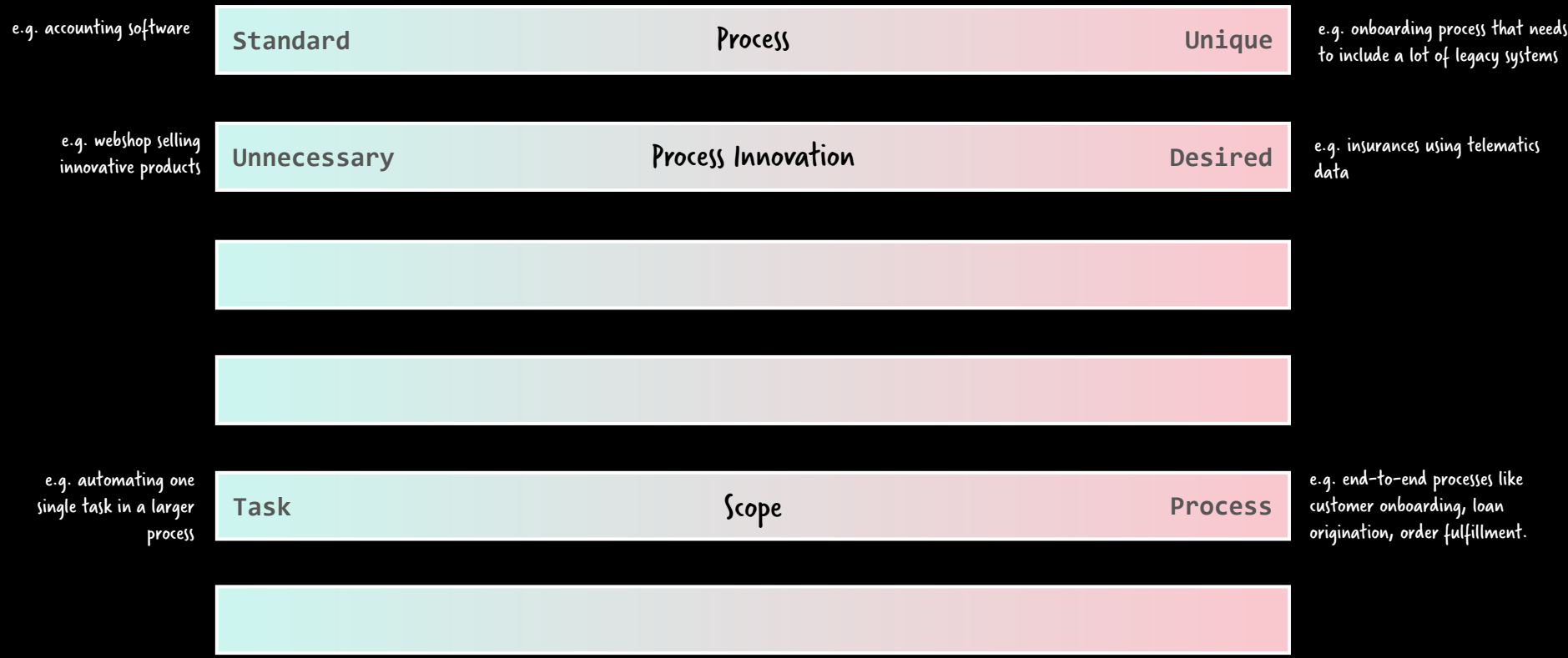
Unnecessary — Process Innovation — Desired

e.g. insurances using telematics data

The Process Automation Map



The Process Automation Map




TEL

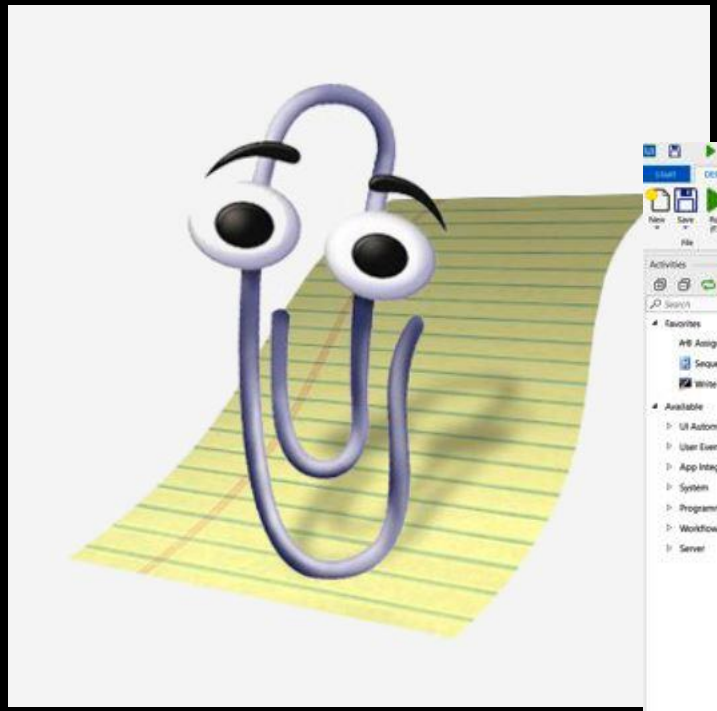
3-5
minutes

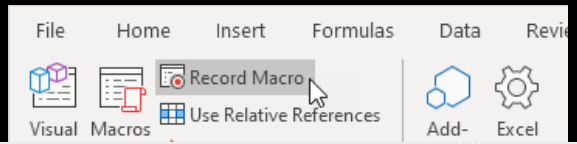
Slow,
expensive ...

... and annoying

Robotic Process Automation
RPA

RPA

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Macros
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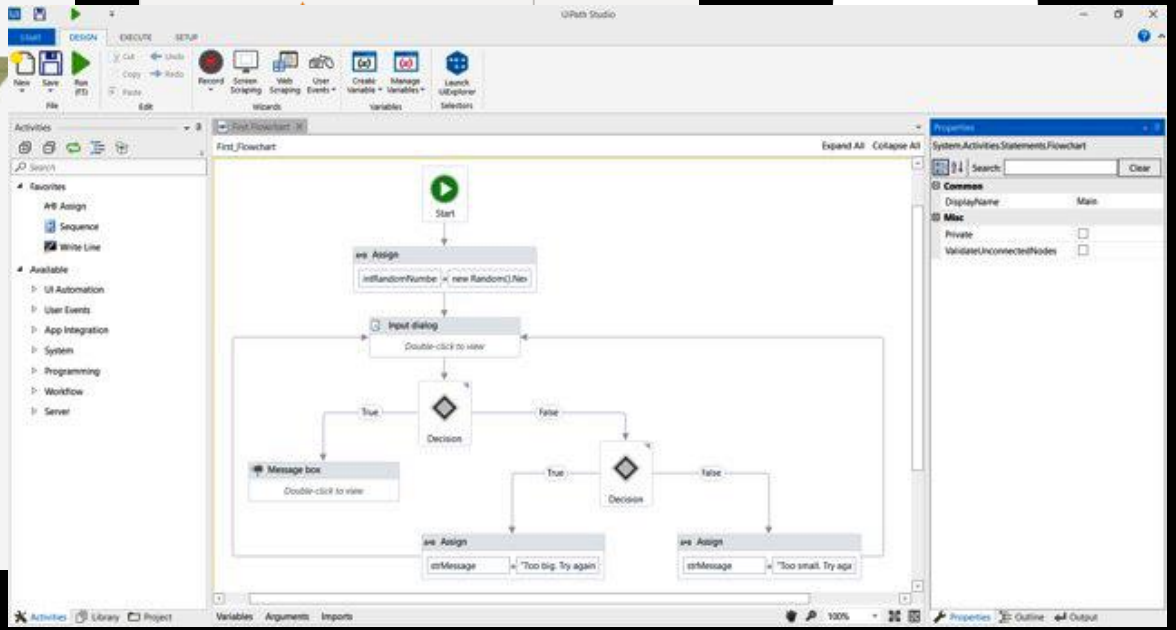
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False
Message box
Double-click to view
Decision
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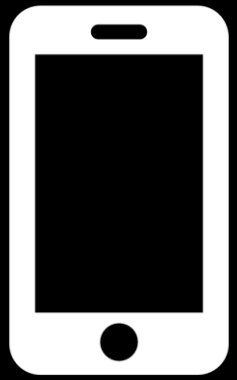
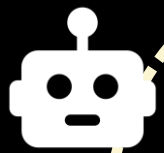
Activities
Properties

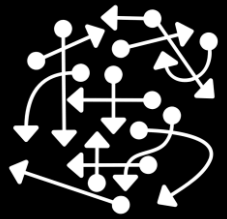


Self-service
Immediate
response



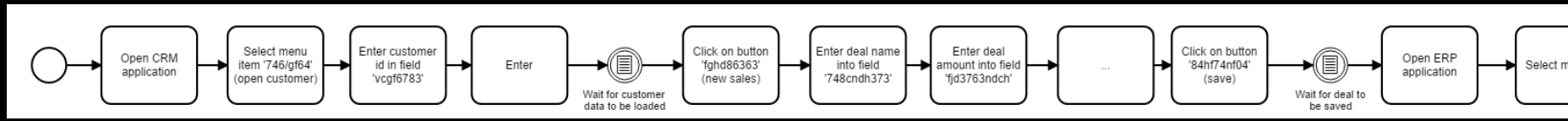
BUT...

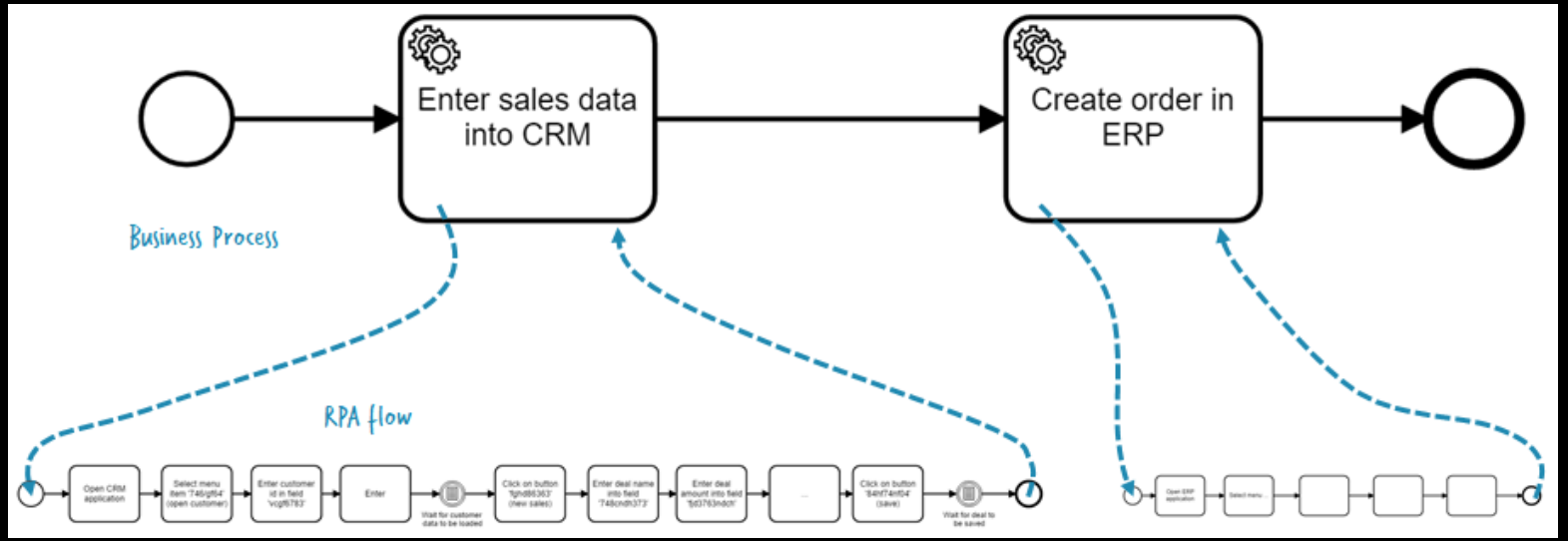
Governance



Mixing task and process automation

Task vs. Process Automation





Process Automation

Task Automation

https://blog.bernd-ruecker.com/how-to-benefit-from-robotic-process-automation-rpa-9edc04430afa

Telekom's Journey

3: FROM FRONTEND AUTOMATION TO BACKEND AUTOMTATION

Christoph A

Manual process

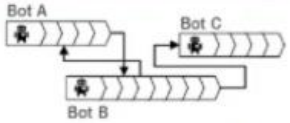
1

Short time-to-market results in "quick & dirty" process design

→ Complex processes including workarounds

RPA / Frontend Automation

2

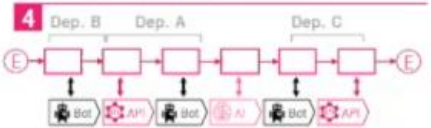


Robotic process automation imitates the human way of working

→ Complex "Spaghetti Bot" automation

Backend Automation

4

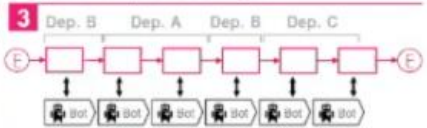


Shift from Bots (Front-End) to APIs (Back-End) and other technologies better fit for purpose

→ Enlarged scope for automation + higher efficiency

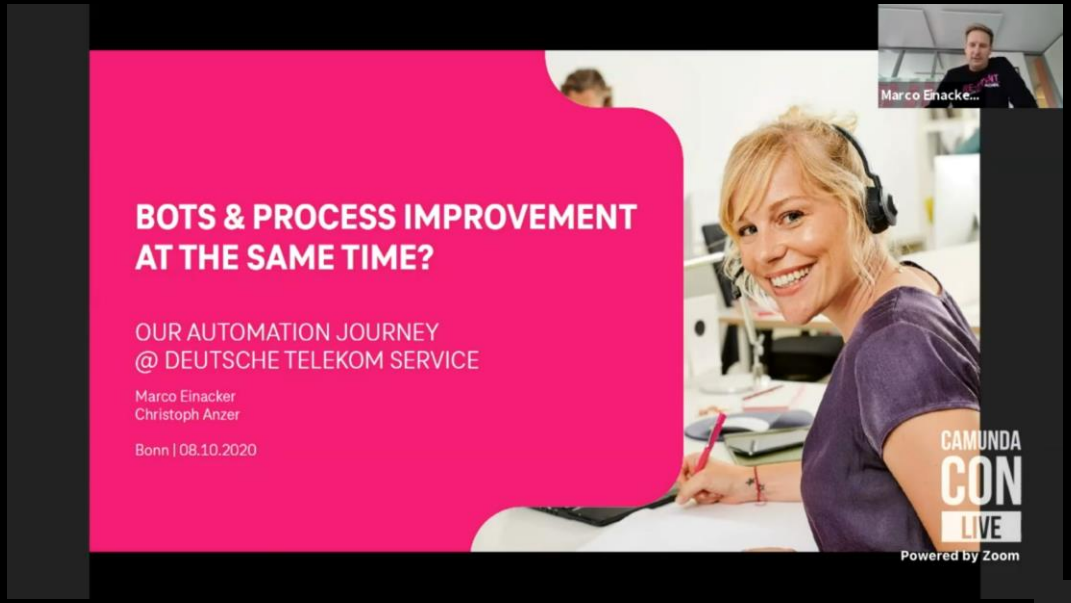
Separation process layer

3

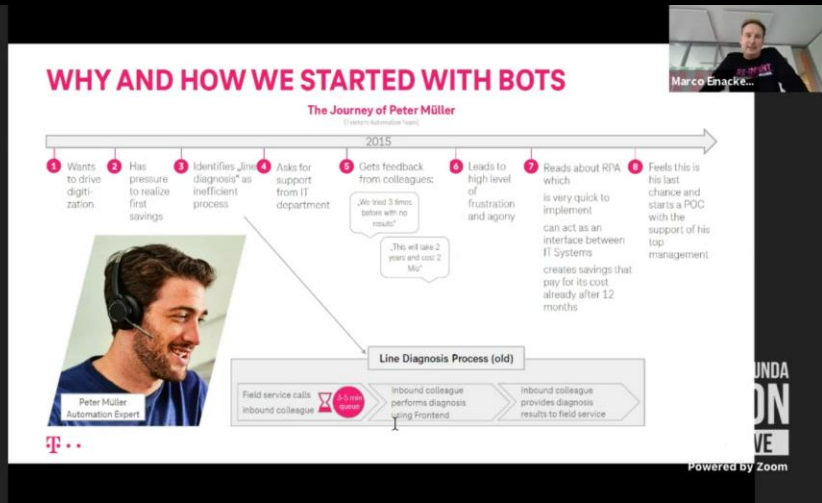


Separation of Process Layer (Bot Orchestration) and Bot Layer

→ Increased process transparency and optimization

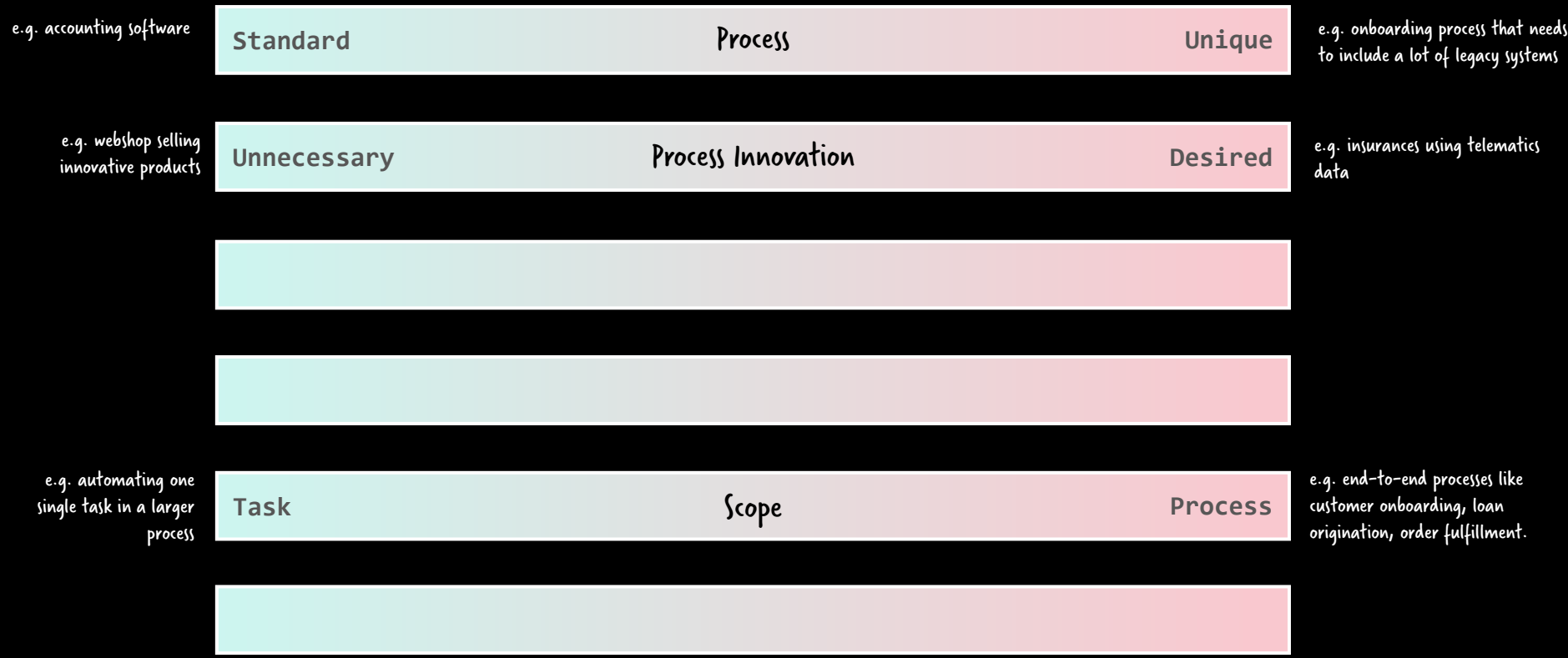


Camunda Con Live 2020

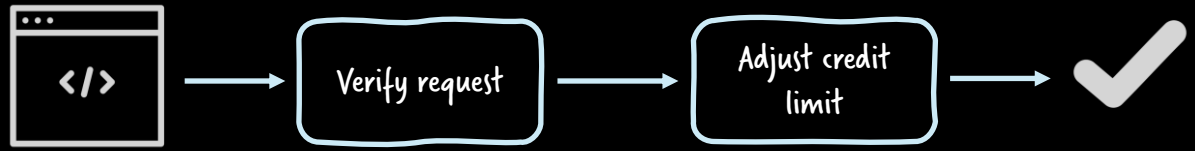


https://blog.bernd-ruecker.com/process-automation-in-harmony-with-rpa-720effdb0513

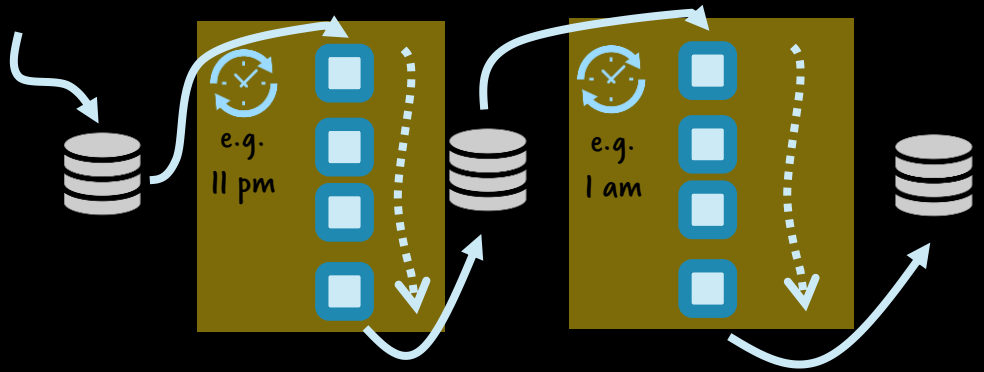
The Process Automation Map



Batch



Batch

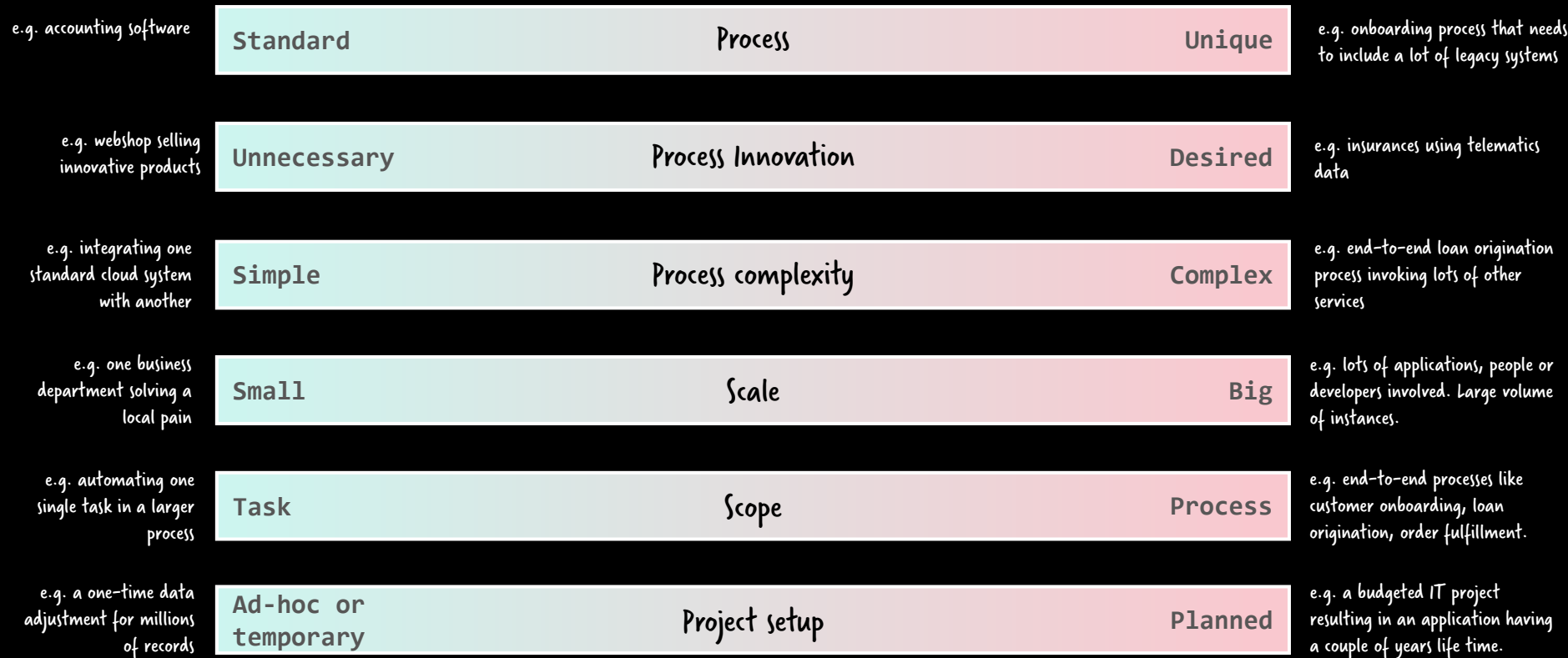


Batches are orthogonal to the real process!

Task Automation

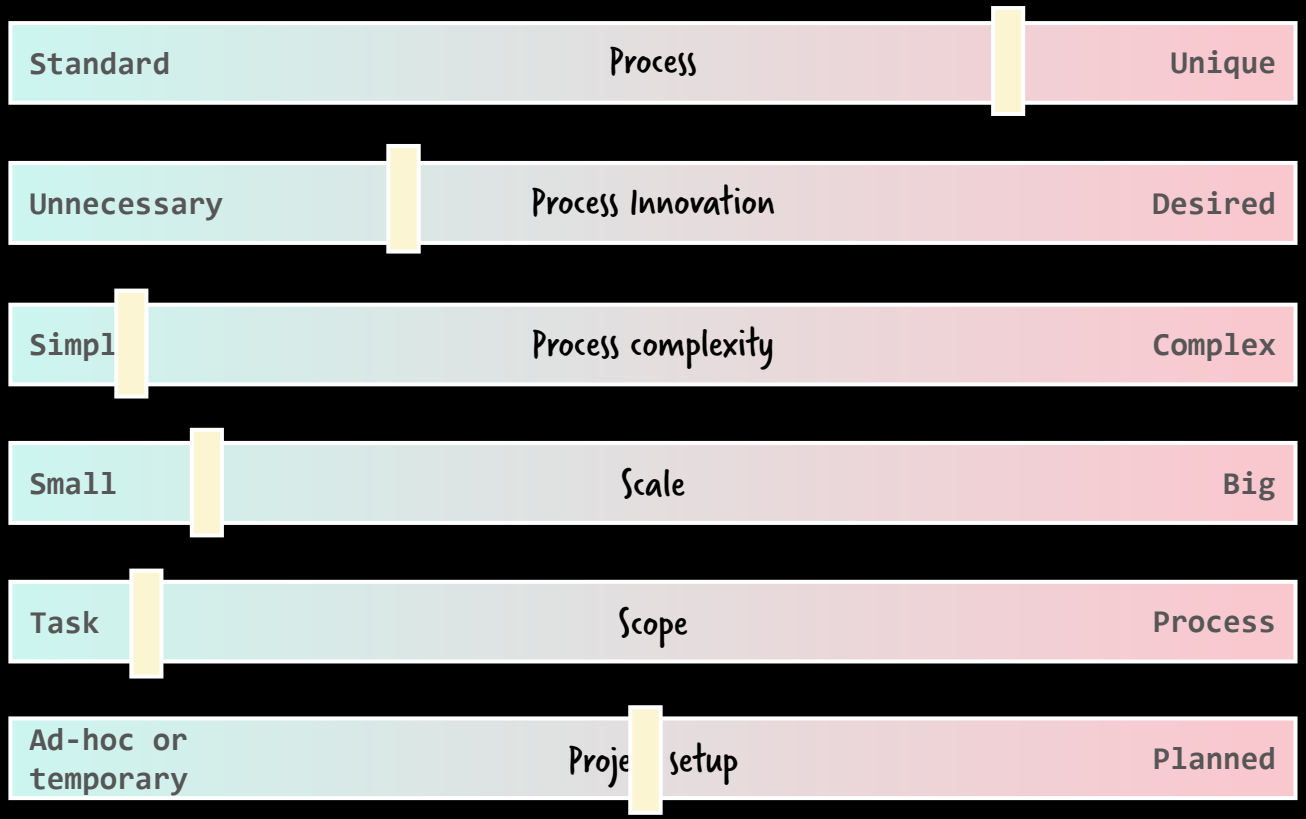
Process Automation

The Process Automation Map




TEL

The Process Automation Map



Selling Insurance Online in 2 Days

Case Study

Helsana

Challenge

Switzerland's largest healthcare insurer needed a quick and compliant way to quickly let customers buy insurance products online.

Solution

New self-service web portal, let customers verify their identity and purchase products directly online. With the 'Helsana Process Cockpit', based on Camunda Optimize, the team can see the status of all applications and automatically alerts internal stakeholders to process issues.

> *"Camunda worked immediately, straight out of the box. This solution allows us to show our stakeholders where problems are arising -- adding value without any added coding.*

Dr. Eric Euerlings
Senior Integration Architect
Helsana

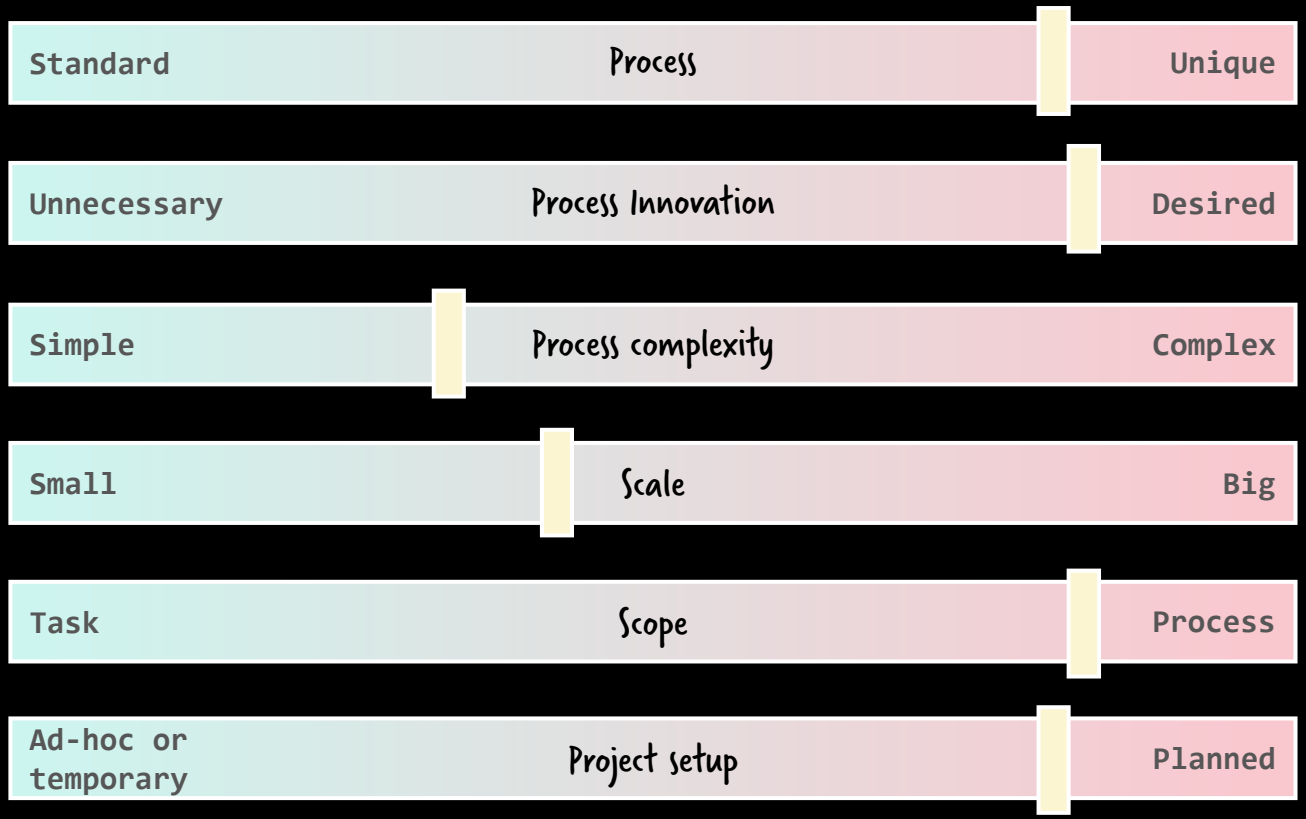
Results with Camunda

15.000+
applications processed in first 3 months

48 hours
to complete backend integration

0 code
no new code needed to deliver self-service documentation portal

The Process Automation Map



Zalando adds transparent and predictable order fulfillment at scale… stay calm and shop online

Case Study

zalando

Challenge

Zalando is Europe's largest online platform for fashion, partnering with over 1,500 brands in 15 European markets. Since 2014, every order placed by Zalando's 16 million customers has been executed by Camunda Platform. Zalando needed to replace a home-grown system that was inflexible and difficult for business stakeholders to use.

Solution

Seamless integration with the existing Java infrastructure was a key reason Camunda was chosen to drive order execution within 300 ms – even at scale. Simple configurability and process transparency that can be updated as requirements change drove Zalando's choice of Camunda.

> *"Camunda's open platform supports our individual needs in a way that closed BPM suites just cannot achieve. Our BPMN process models are executed directly, which improved communication between business and development, which also shortens development cycles.*

Marko Lehn
Software Engineering Team Lead
Zalando

Results with Camunda

300 ms

Process execution time for order completion at scale

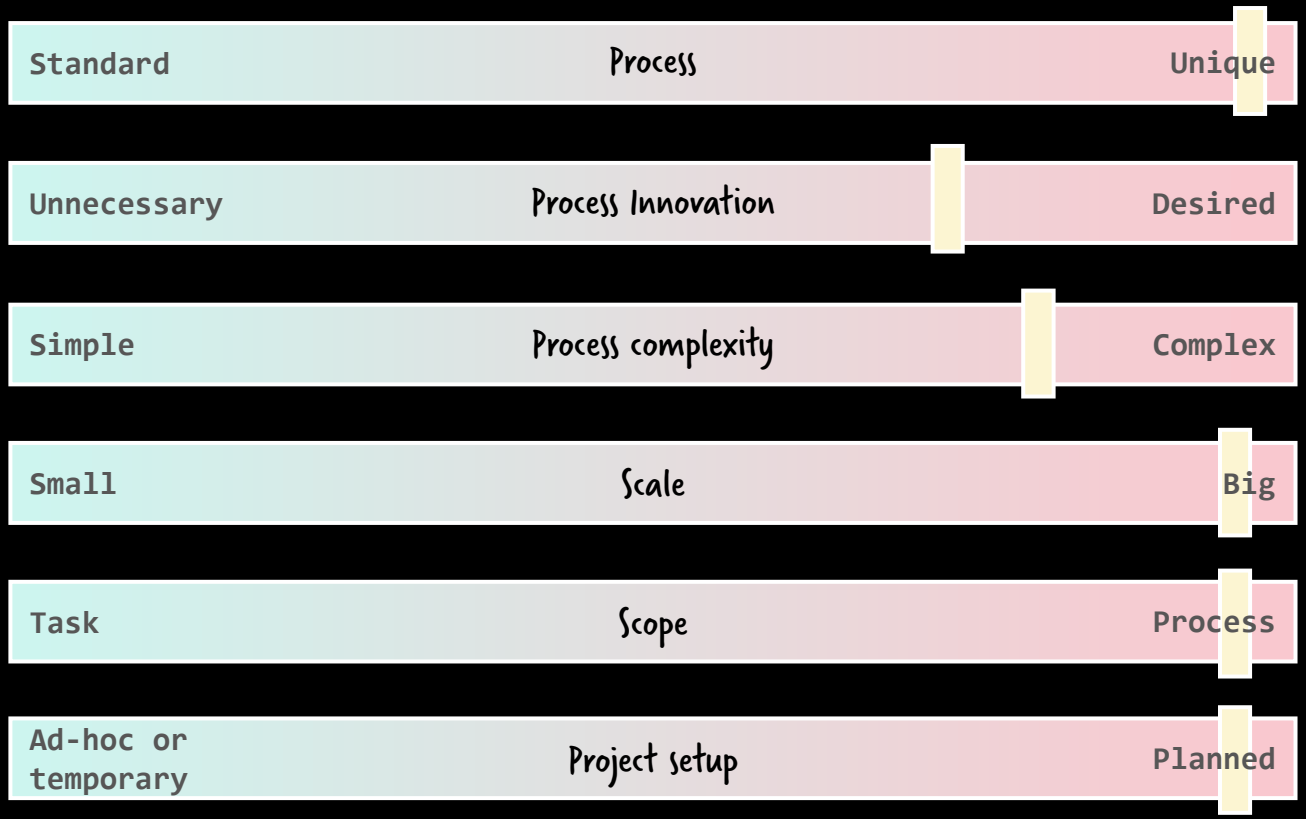
144 million

Annual online orders processed by Zalando using Camunda

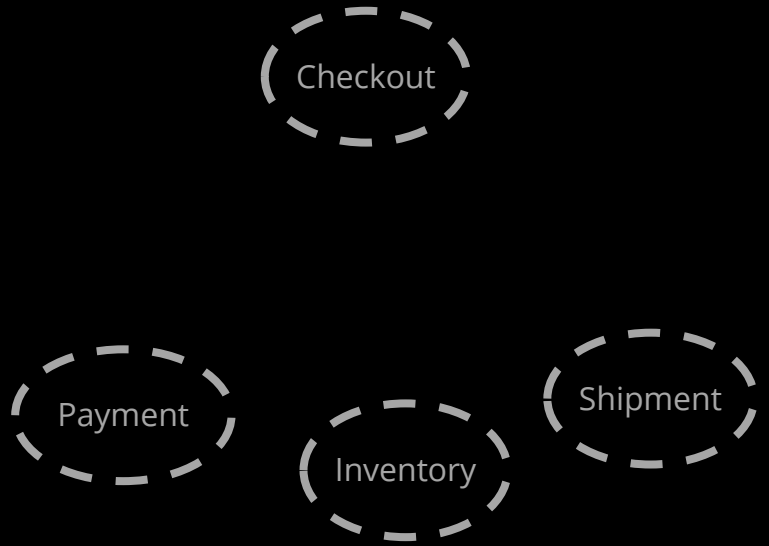
clarity

With documented processes that align technical reality and business expectations

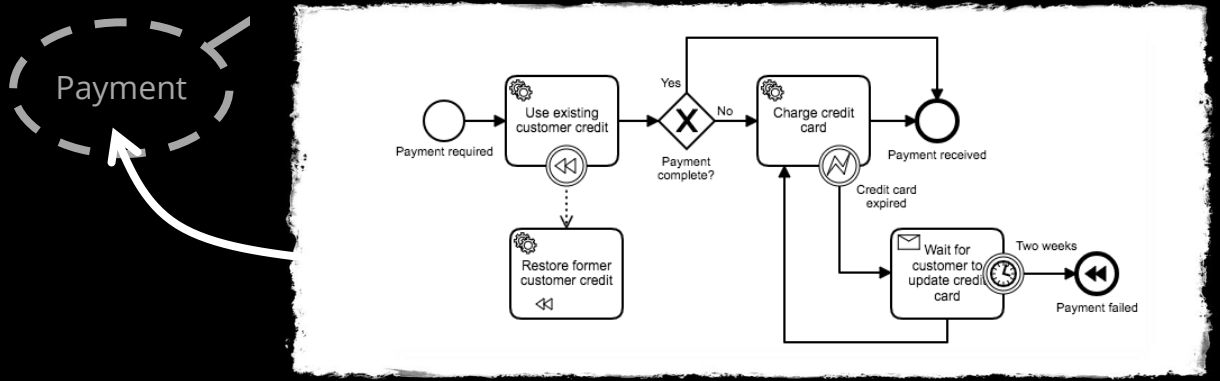
The Process Automation Map



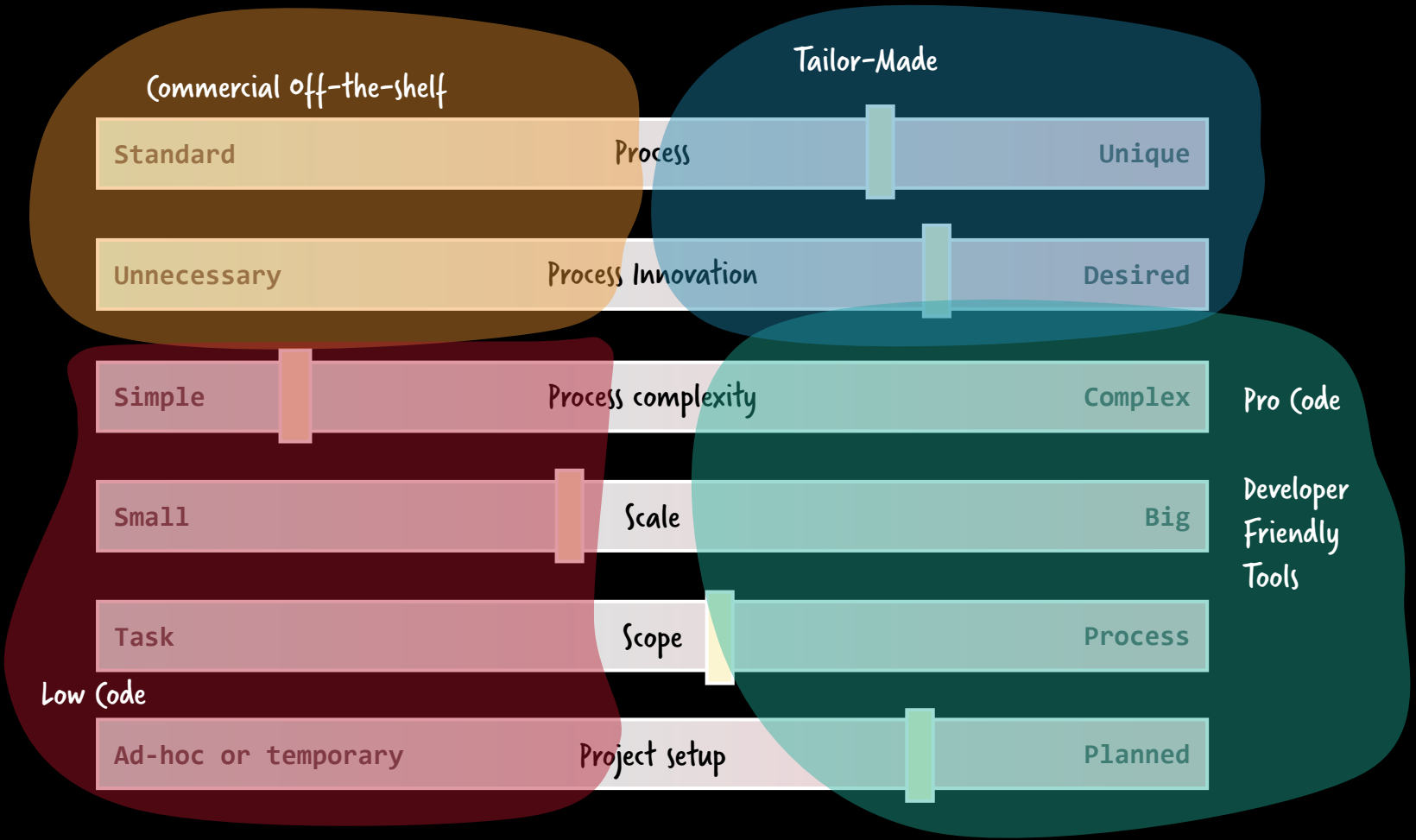
Process Automation + Microservices orchestration



Process Automation + Microservices orchestration



Sweet Spots


Commercial off-the-shelf
Tailor-Made
Standard
Process
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Process Innovation
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Simple
Process complexity
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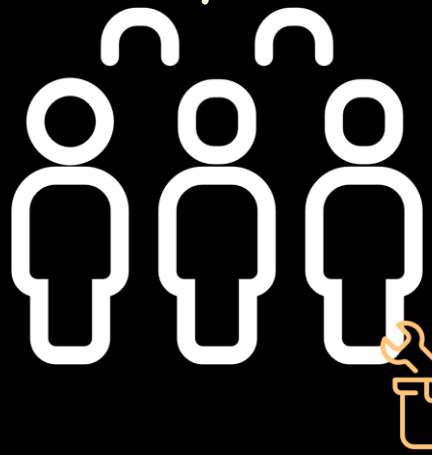
Pro Code
Small
Scale
Big
Developer Friendly Tools
Task
Scope
Process
Low Code
Ad-hoc or temporary
Project setup
Planned

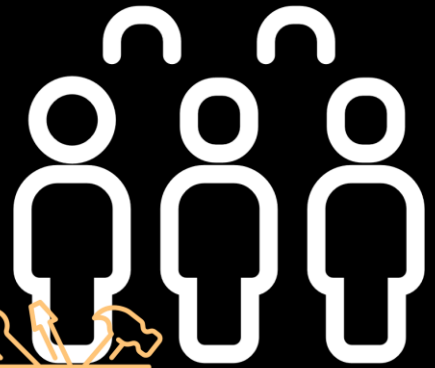
Pro code vs. low code

Developers



Process Automation

Business folks

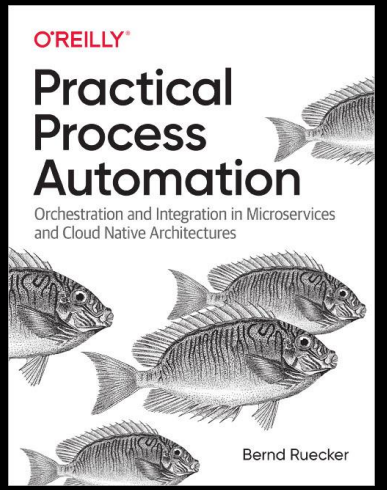


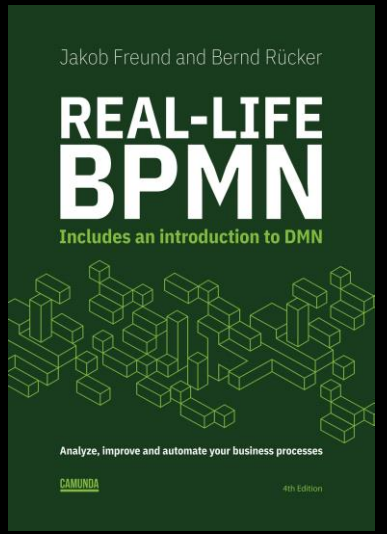
Low code development

Bernd Ruecker

Co-founder and
Chief Technologist of
Camunda

mail@berndruecker.io
@berndruecker
http://berndruecker.io/





Camunda

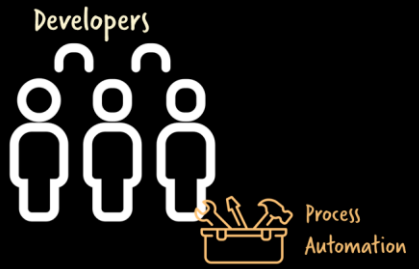
- Source-Available & Developer Friendly
- Supports BPMN
- Mature tooling, widely adopted
- On-prem or cloud
- http://camunda.com/

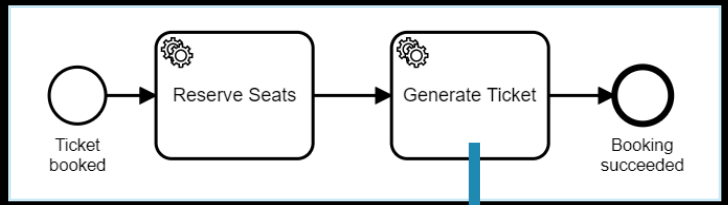
Many use cases (real-life examples)

Industry	Pilot	Lighthouse	Broadscale	Sample Clients
Cross-Industry	Approvals Employee Onboarding Credit Check	Microservices Orchestration Centralized Workflow Platform High Throughput	E2E Process Automation Legacy BPM Replacement Cloud Native Applications IT Service Orchestration	Red Bull, 24 FITNESS, Ministry of Justice
Banking & Finance	Asset Management	Customer Onboarding Loan Origination & Decisioning ATM Provisioning	Enterprise Platform Development Trading Risk Management / Fraud Detection	Santander, DAB BNP PARIBAS, NatWest, BlueStep Bank
Insurance	Audit	Customer Onboarding Claim Service & Settlement Policy Underwriting & Contracts	Integrated KYC Core System Automation Risk Management / Fraud Detection	GENERALI, AXA, TRANSAMERICA, ING, Allianz
Telecommunication	Online Systems Integration	New Product Delivery Cell Tower Provisioning Order Management	Contracting, Upgrading, Termination OSS & BSS Open Network Automation Platform (ONAP)	AT&T, T-Mobile, orange, amdocs, O2
Media & Entertainment	Website Content Delivery System Process Fallout	Subscription Management Licensing Content Distribution	Digital Supply Chain New Product Development Fraud Management	WARNER MUSIC, UNIVERSAL MUSIC GROUP, The Telegraph, viacom
Manufacturing & High Tech	Application prototype	Order Execution Payments Servicing Research & Development	Embedded Workflow Automation Customer Service Supply Chain	Lufthansa Technik, FUJITSU, AUTODESK, intuit, CAMUNDA

Your code to provide a REST endpoint

```
@PutMapping("/ticket")
public ResponseEntity<BookTicketResponse> bookTicket(ServerWebExchange exchange) {
  // TODO: extract data for process from request
  // Start new instance of the ticket-booking workflow
  client.newCreateInstanceCommand()
    .bpmnProcessId("ticket-booking").latestVersion()
    .variables(variables) // Map with variables to pass to process instance
    .send();
  return ResponseEntity.status(HttpStatus.ACCEPTED).build();
}
```





Your glue code to implement the REST call

```
@ZeebeWorker(type = "generate-ticket")
public void callGenerateTicketRestService(final JobClient client, final ActivatedJob job) throws IOException {
  // TODO: prepare request
  // execute REST call
  CreateTicketResponse ticket = restTemplate.getForObject(ENDPOINT, CreateTicketResponse.class);
  // continue in the process and remember response data
  client.newCompleteCommand(job.getKey())
    .variables(Collections.singletonMap(VAR_TICKET_ID_NAME, ticket.ticketId))
    .send()
    .exceptionally(throwable -> { throw new RuntimeException("Could not complete job " + job, throwable); });
}
```

Example: AMQP

berndruecker / camunda-spring-boot-amqp-microservice-cloud-example

Notifications | Star 179 | Fork 110

Code | Issues 4 | Pull requests | Actions | Projects | Wiki | Security | Insights

master | camunda-spring-boot-amqp-microservice-cloud-example / README.md | Go to file

berndruecker updated version — Latest commit b3ad598 on 21 Oct 2020 — History

1 contributor

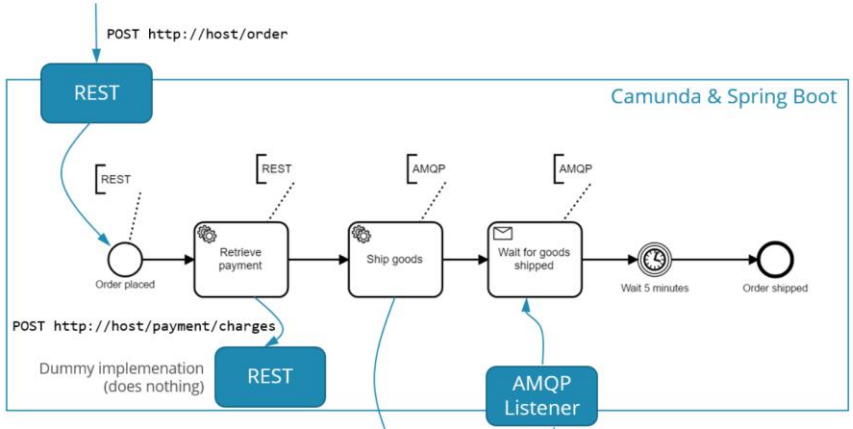
187 lines (121 sloc) | 9.18 KB | Raw | Blame

Camunda Spring Boot example including REST and AMQP, automated tested and deployable in the cloud

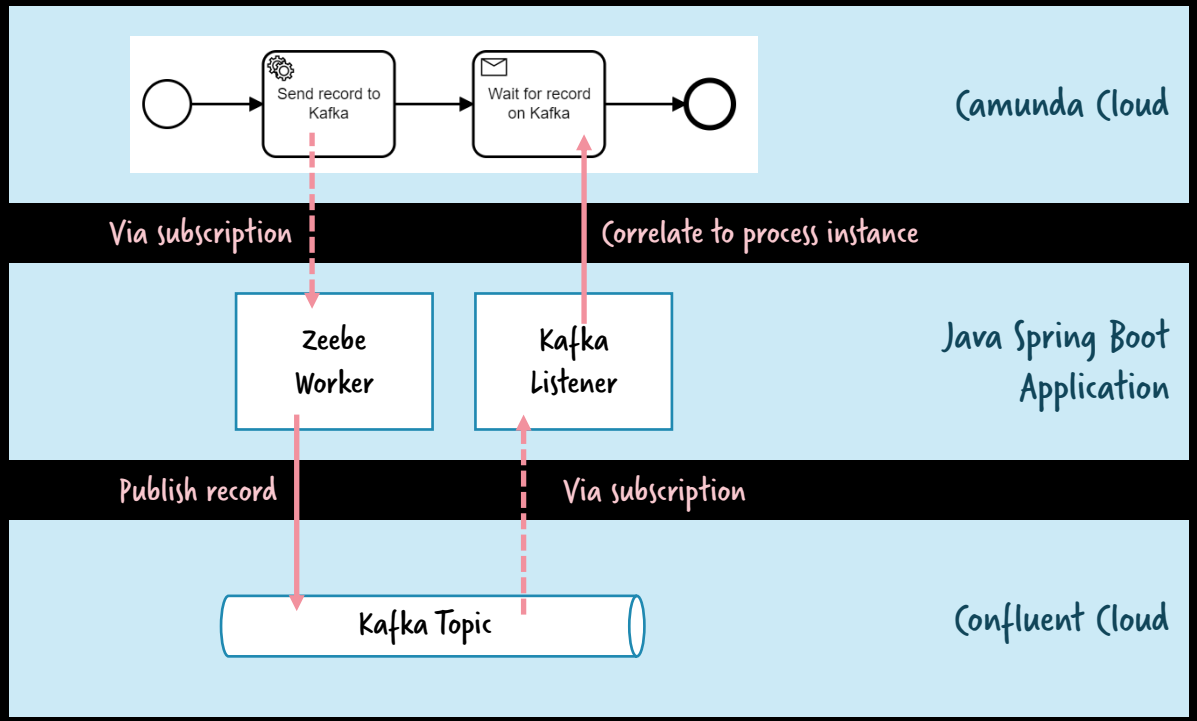
This example shows:

- How to setup Camunda, Spring Boot and various test frameworks correctly in order to work. It can be used as a copy & paste template.
- How to use AMQP and REST in your processes the Spring way.
- How to write proper scenario tests, that test if your process impacts the outer world as you expect (and not tests that Camunda did write a proper workflow engine).
- How this type of application can be easily deployed in the cloud (Pivotal Web Services as an example).

The business example is a very simple order fullfillment microservice (motivated by the flowing retail example):



Technical Example: Apache Kafka



https://github.com/berndruecker/kafka-camunda-spring-simple

Kafka Connect

camunda-community-hub / kafka-connect-zeebe

Watch 5 | Unstar 52 | Fork 23

Code | Issues 15 | Pull requests | Actions | Projects | Wiki | Security | Insights | Settings

master | kafka-connect-zeebe / README.md | Go to file

berndruecker Switched to 1.1 and introduced cloud region parameter (fixes #59) ✓ Latest commit 9b8541c 21 hours ago History

7 contributors

136 lines (76 sloc) 7.74 KB | Raw | Blame

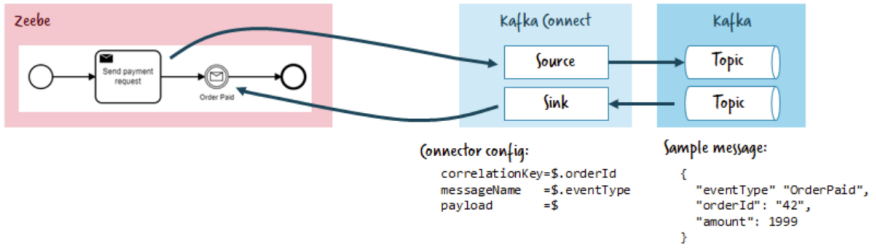
Community Extension | An open source community maintained project | Lifecycle | Incubating

kafka-connect-zeebe

This Kafka Connect connector for Zeebe can do two things:

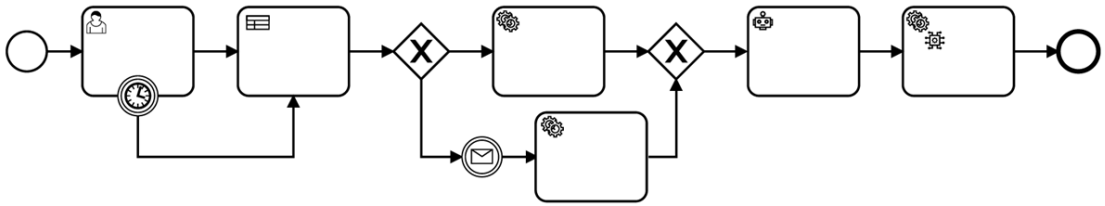
- **Send messages to a Kafka topic** when a workflow instance reached a specific activity. Please note that a `message` is more precisely a kafka `record`, which is also often named `event`. This is a **source** in the Kafka Connect speak.
- **Consume messages from a Kafka topic and correlate them to a workflow**. This is a Kafka Connect **sink**.

It can work with Camunda Cloud or a self-managed Zeebe broker.



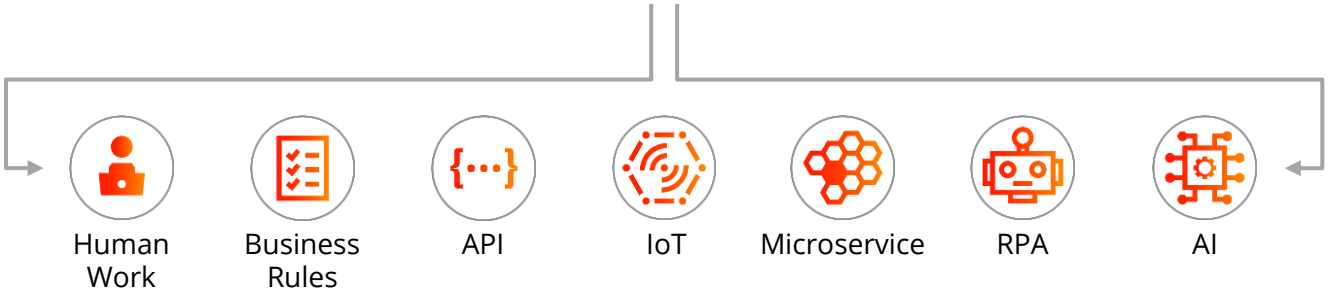
See this blog post for some background on the implementation.


There is much more...

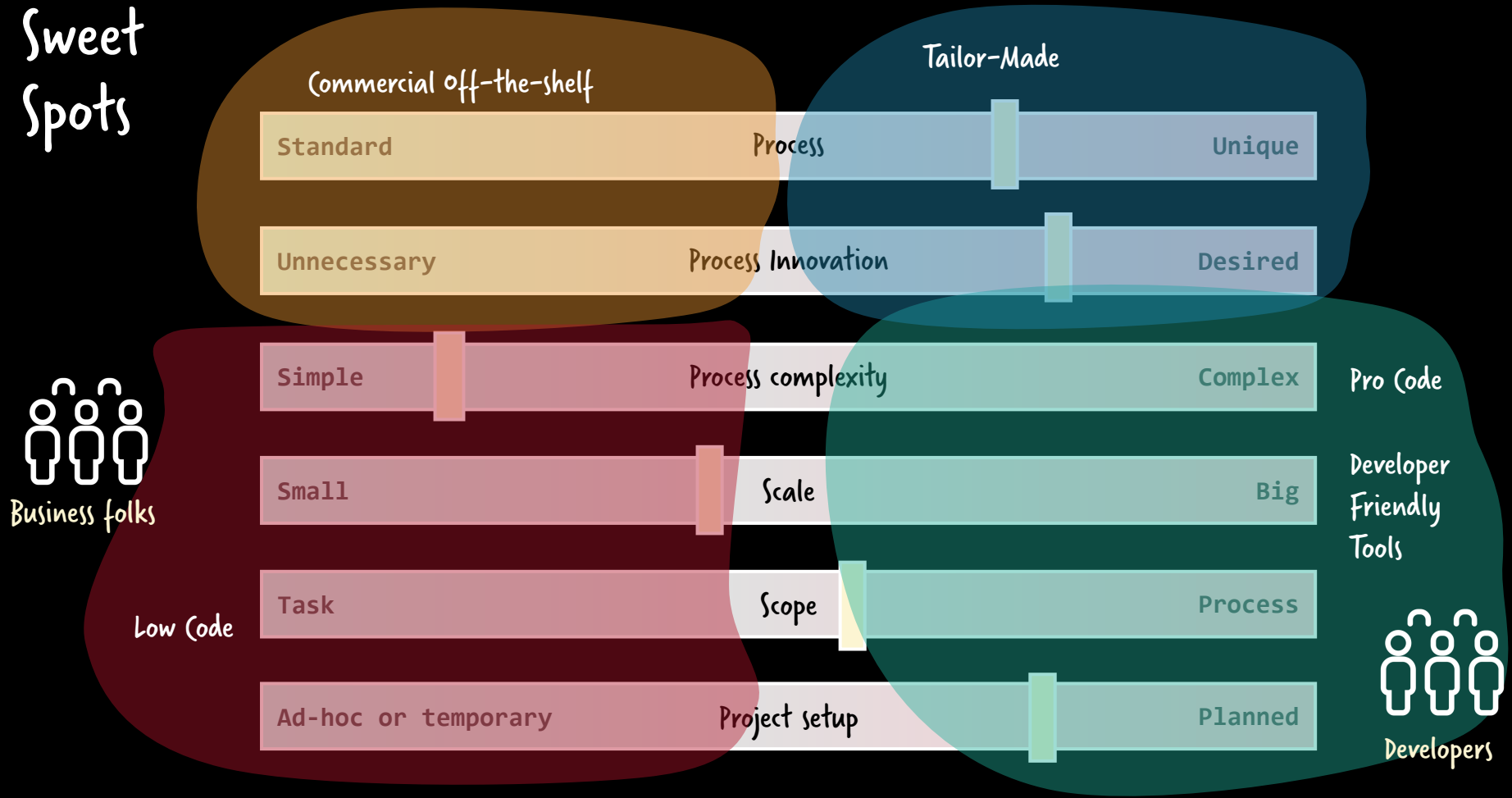


CAMUNDA

Automate Any Process, Anywhere



Sweet Spots


Commercial off-the-shelf
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Developer Friendly Tools
Business folks
Low Code
Task
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Ad-hoc or temporary
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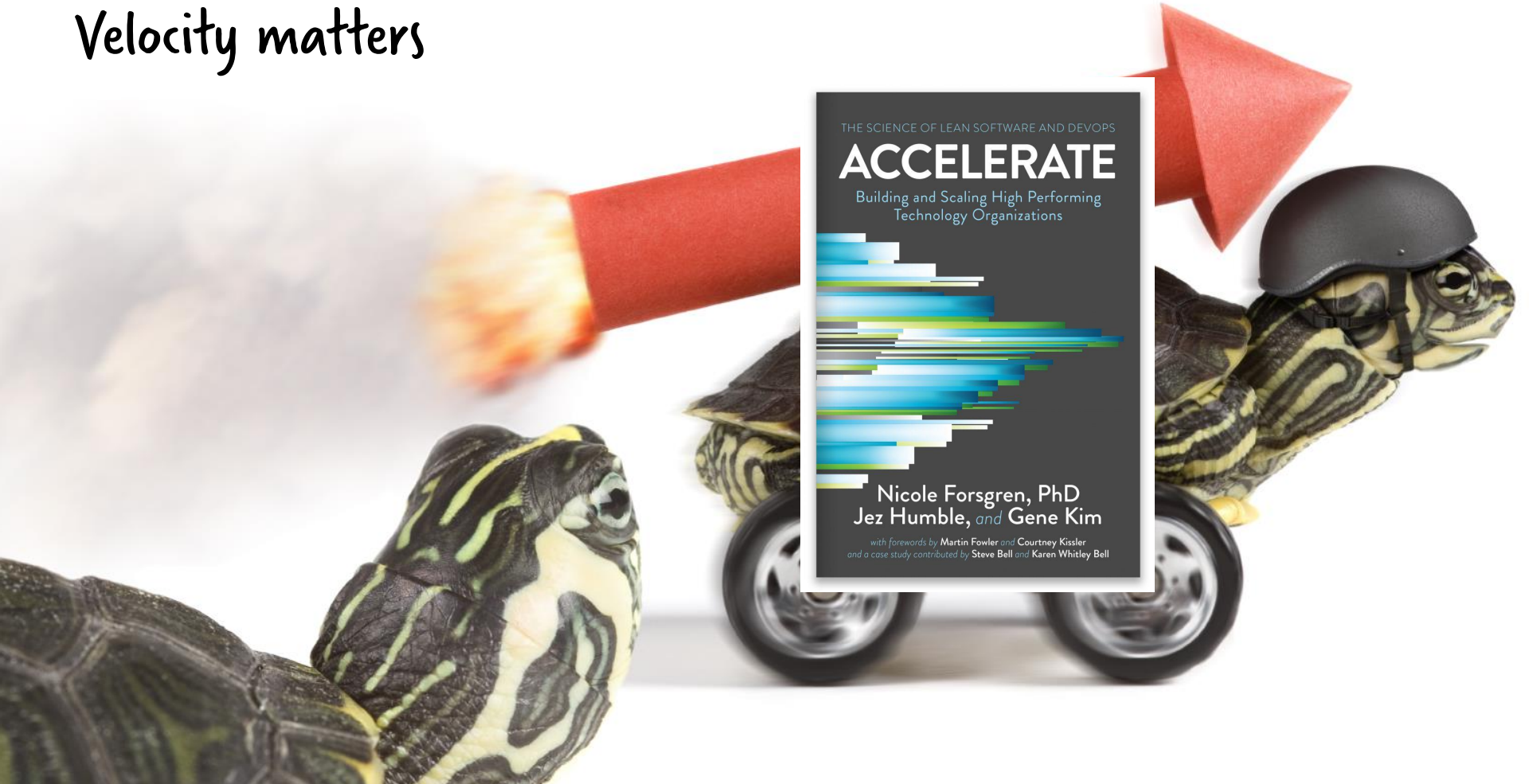
Developers

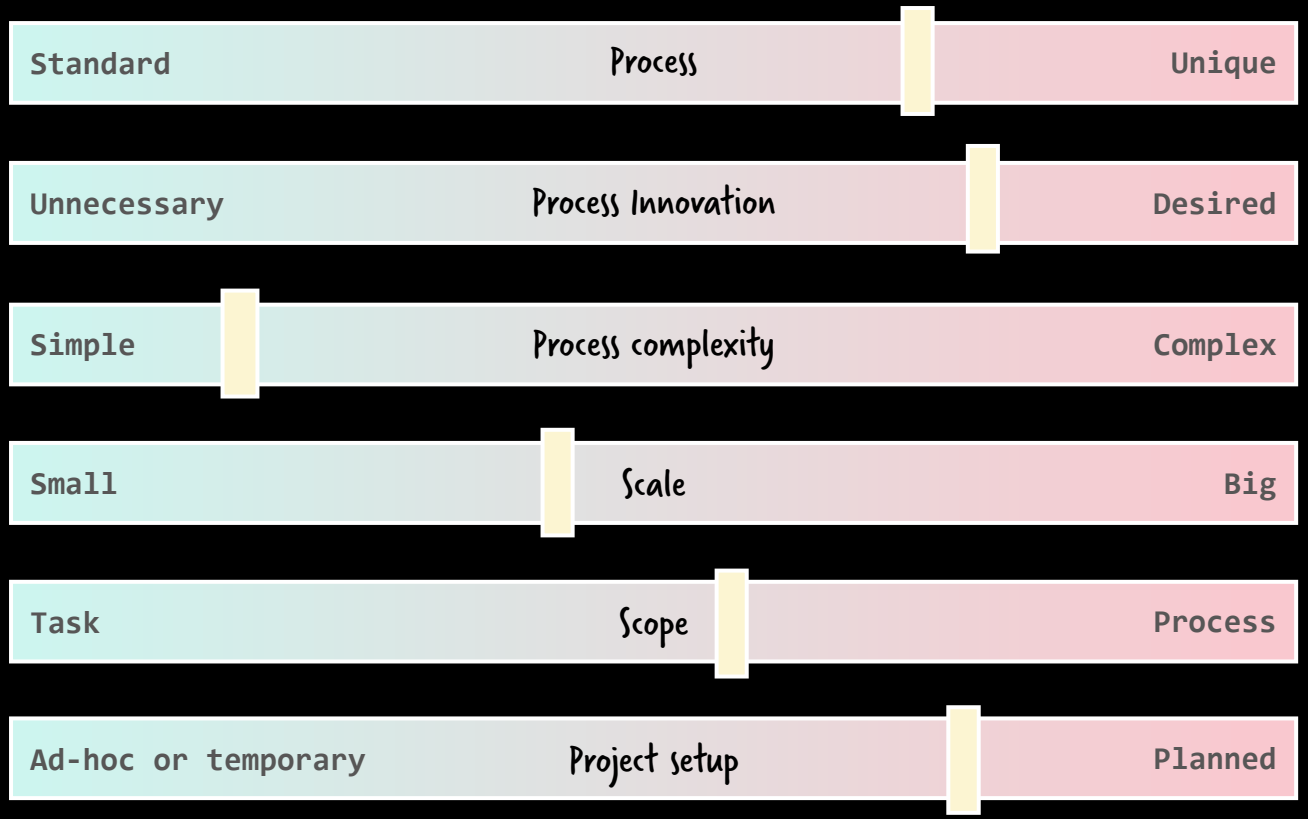
Velocity matters




RPA magicians?


Technology
Hipsters?

Anti-Patterns



Anti-Pattern: Fix missing developer bandwith with low-code

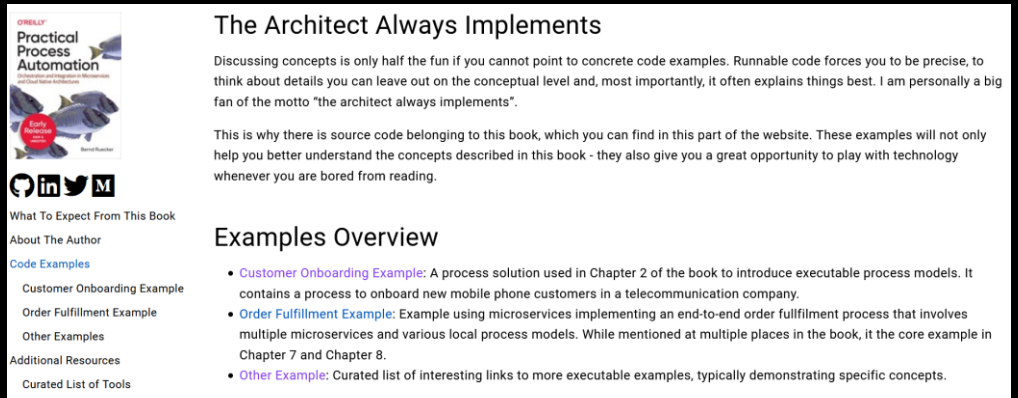
Developer Bandwith

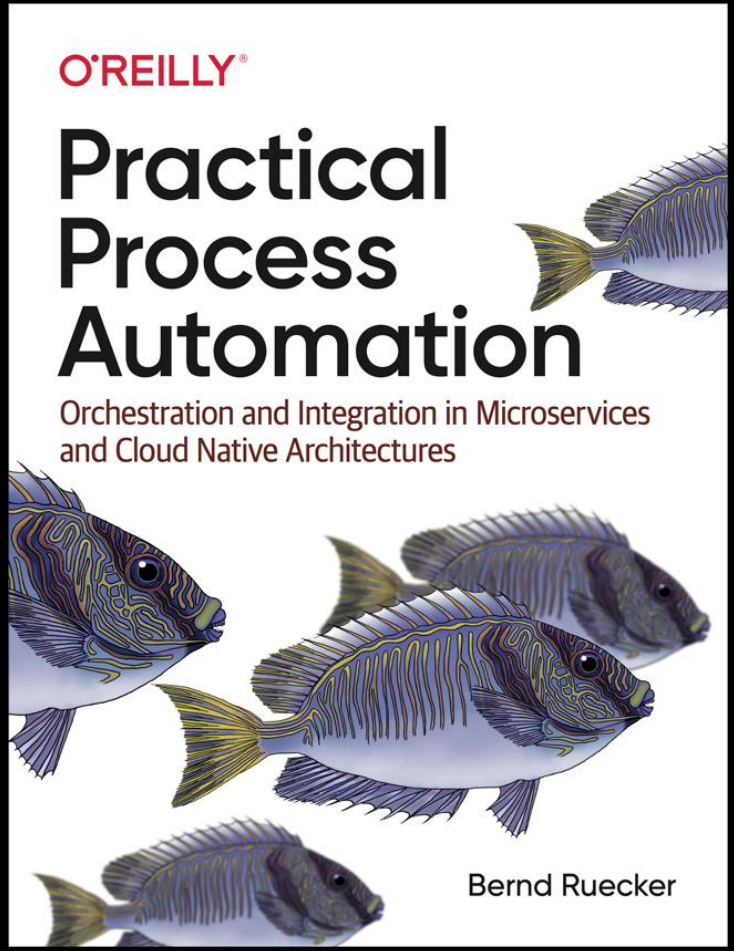
Low Code

Standard	Process	Unique
Unnecessary	Process Innovation	Desired
Simple	Process complexity	Complex
Small	Scale	Big
Task	Scope	Process
Ad-hoc or temporary	Project setup	Planned

Get Started With Developer-Friendly DPA

https://ProcessAutomationBook.com/
Free electronic version available
Working code examples





Thank you!