Stop Tendering – Start Hands-On Prototyping

Friday, September 21, 2018
Core questions:
- How long is it going to take?
- How much is it going to cost?
- What is being built and how?

Core challenges:
- Know-how
- Estimates
Reality Check – Can you answer?

Scenario:
- **You**: Machine Manufacturer
- Project goals
  - Connect machines
  - Store telemetry data
  - Compute KPI in real-time
- Business value
  - Additional service offering
  - Reduce downtime

Core questions:
- How long is it going to take?
- How much is it going to cost?
- What is being built and how?

➤ Inflated estimates
➤ Let’s buy “the whole thing”...
Avoidance Strategy - Buy & Tender (1)

Included in RFP documents – my experience

- Project Plan
- Feature List
- Non-Functional
- User Stories
- Interfaces
- Architecture

Can you really evaluate responses?

RFPs / Tenders only outsource the core challenges!

Core challenges:
- Know-how
- Estimates
Avoidance Strategy - Buy & Tender (2)

How to put yourself out of business

Were is the line between internal & external?

Internal
- UI
- Processes
- Storage
- Core Business
- Compliance
- Infrastructure
- Security

External
- Processes
- Storage
- Core Business
- Compliance
- Infrastructure
- Security

Build it all internally

Overwhelming

Ideal

UI

Storage

Compliance

Infrastructure

Buy "the whole thing"

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Let’s help the machine manufacturer and...

prototype!
IoT ➔ Data Lake in 15 minutes (1)

- IoT Core
  - Download certificates
  - Download Greengrass software
  - Register thing
- Deploy Greengrass
  - \./install-GG.sh gg-1.6.tar.gz
- Deploy Certificates
  - \./configure-GG.sh <ThingId>-setup.tar.gz
IoT ➔ Data Lake in 15 minutes (2)

- Write Lambda
  - Python 2.7 script
- Deploy Lambda on Greengrass Core
  - Add the lambda to the GG group
  - Configure lambda
    - 50 MB / 50 seconds
    - Run infinitely
  - Create subscription
  - Deploy group configuration & lambda
- IoT test
  - Subscribe to #
  - [try prototype/random]
IoT ➔ Data Lake in 15 minutes (3)

- Check S3 bucket
- IoT rule & action
  - select * from prototype/random
  - Action: Forward to Kinesis Firehose
    - Create a stream
    - Forward to bucket „prototype-random“
    - Select role „FirehoseToS3Delivery“
    - Select the new stream
    - Select separator „\n (newline)“
    - Select role „IoT-to-S3-Role“
- Wait for files to appear in bucket
IoT Data Lake in 15 minutes

Greengrass Core

AWS IoT Core

MQTT topic

protoype/random

IoT rule

SELECT * FROM prototype/random

Kinesis Firehose

S3 data lake

MQTT TLS 1.2

Lambda @ Edge

Raspberry Pi
Prototyping Results (1)

• Scenario:

• **You**: Machine Manufacturer

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• Business value
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Core questions:

• How long is it going to take?
• How much is it going to cost?
• What is being built and how?
Prototyping Results (2)

Were is the line between internal & external?
AWS Structured Prototyping Journey

Customer Use Case

Development Resources

AWS Architecture & Development Support

1-3 Weeks Prototyping

Production Scale Prototype

Devices & Cloud

Knowledge Transfer

Effort/Cost Estimates
Let the customer speak...
Summary

**Do**
- Focus on core business ➔ buy heavy-lifting
- End-to-End everywhere
- Estimations after prototyping
- **Structured prototyping**

**Don’t**
- Tender/RFP the solution
- PPT instead of build
- Premature cost/effort estimations
- Pure technology try-outs or unstructured prototyping
Thank you for your attention!

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