



JD Edwards

**INFOCUS**

DIVE DEEP

## Automating positive pay with orchestrations

Presented by:

Mohammad Shujaat, Grant Thornton  
LLP

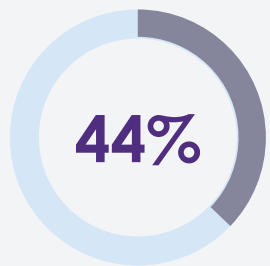
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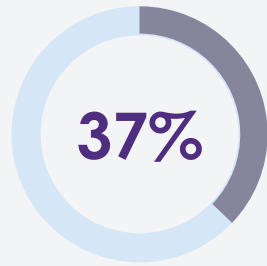
# About Grant Thornton

**Thriving since 1924, our U.S. firm is people-focused and purpose-driven. We believe business should be more personal and that the strongest results start with trust.**

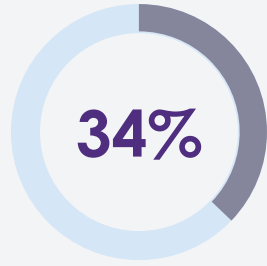
## Who we serve:



Fortune 100  
companies



Fortune 500  
companies



Fortune 1000  
companies

\* Statistics as of July 31, 2020



**\$1.92bn**

in revenue



**8,459**

people, including  
595 partners



**53**

offices

# Our Oracle Practice



## ERP and SCM

Financials | Revenue management | Accounting hub | Project accounting | Risk management | Project execution  
Procurement | Inventory management | Cost management | Maintenance | Manufacturing | Order management | Product lifecycle and data management | Supply chain collaboration and planning



## EPM Analytics

Planning and budgeting | Profitability and cost management | Financial close and consolidation | Tax reporting and provisioning  
Management and operational analytics | Narrative reporting | Account reconciliation | Enterprise data management



## HCM

Culture journey | Talent acquisition | Workforce administration | Talent management | Workforce development  
Alumni network

**Data governance & cloud integration**

**PaaS**

**Solution delivery center (off-shore and on-shore)**

## Industries

Construction,  
Real Estate  
& Hospitality

Consumer  
And Industrial  
Products

Energy

Financial  
Services

Healthcare  
And Life  
Sciences

Not-For-Profit  
Organizations

Private Equity

Public Sector

Technology

Find your silver lining  
[gt.com/silverlining](https://gt.com/silverlining)

# Oracle Partner Excellence Awards



Grant Thornton is the proud recipient of the Oracle JD Edwards 2020 Partner Excellence Awards in three categories: Application Optimization, Process Automation, and Building a Cloud Culture.



The awards recognize Grant Thornton's ability to combine business strategy with JD Edwards' functional and technical capabilities to deliver value.



The 2020 Partner Excellence Awards are the latest in a long line of accolades Grant Thornton has received over decades of collaborating with JD Edwards.

# About Grant Thornton JDE

JD Edwards practice – 80+ dedicated professionals in U.S.

## Project management and functional expertise

- Specialized functional resources
- Project management office
- Implementations
- Upgrades
- Mobile applications
- Third party integration architecture
- Business process re-engineering
- Managed services (functional)
- User materials and training
- Financials
- Distribution
- Manufacturing
- HR / Payroll
- CAM
- Project advisory

## Technical

- CNC
- Development
- Workflow
- Security management
- Technical management
- Database management
- Infrastructure / hosting
- Managed services (technical)
- Private cloud
- Disaster recovery
- Security
- Development (FRICE)

## Trusted business advisor

- Gap assessment
- Transformation
- Industry point of view
- Proven methodologies
- Process excellence
- Benchmarking
- ERP governance
- Data governance
- Master data management
- Reporting strategy
- Change management
- Cloud roadmap / strategy
- FASB planning
- Chart of accounts optimization



### Oracle leadership

- The Leading Oracle Platinum Partner presenter at COLLABORATE, INFOCUS and OpenWorld conferences (more presentations than any other Platinum partner in the past 3 years)
- Featured in PROFIT magazine – JD Edwards Special Issue
- Teaming with JDE product development – we work with JD Edwards on enhancing the code base for customers (e.g. OneView Reporting, Revenue Recognition, Leasing Standards, Configurator)



### Experience and recognition

- More than 250 JD Edwards implementations and upgrades as a practice
- Over 20 implementations in the past 5 years
- Over 50 upgrades in the past 5 years
- 2017 JD Edwards Partner Excellence Award for **User Adoption**
- 2016 JD Edwards Partner Excellence Award for **Vertical Industries**
- Oracle JD Edwards recognized Grant Thornton with its 2014 and 2015 JD Edwards Partner Excellence Award for Outstanding **Upgrades**

# About Me – Mohammad Shujaat



- Mo is a manager with Grant Thornton in the Technology Solutions practice. He has over 7 years of consulting experience, across a diverse set of companies and industries. Mo's experiences include hands on management and implementation of ERP software packages, business process reengineering and system architecture design. Mo is passionate about using JDE usability tools and orchestrations to provide customers with creative and unique solutions which help progress them on their digital journey. Mo is also experienced in blockchain solutions and has implemented machine learning solutions with JDE
- He has experience with the processes and configuration of the JDE Distribution and Manufacturing modules, specifically with the, Procurement, Sales, Inventory, Advanced Pricing, Shipping, Discrete Mfg, MTO Mfg, and Transportation. Mo also has experience with multiple releases of the software, web services, and warehouse data collection. Prior to joining Grant Thornton Consulting, Mo was an experienced consultant at an Oracle Partner

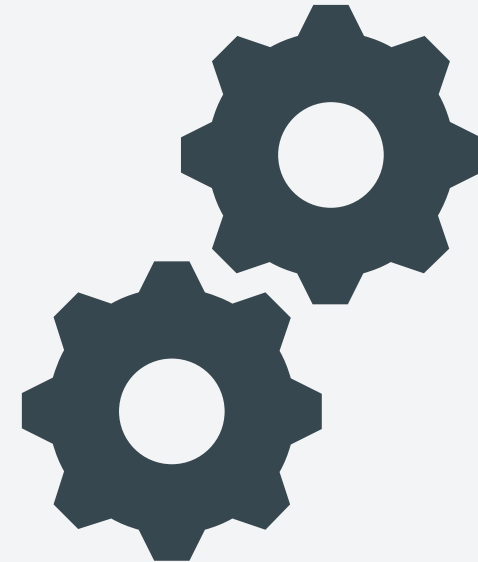
## Industries

- Consumer Products
- Retail
- Metals and Mining
- Mineral Exploration Drilling
- REST integrations
- Construction & Building Materials
- Automotive Parts Manufacturing
- Metals Components
- Data Collection
- Third Party Logistics
- Inbound / Outbound Transportation
- Machine learning
- Blockchain

# Agenda

- Overview
- Background
- Journey
  - Discovery & Design
  - Building Integration
  - Challenges & How we overcame them
  - Benefits we got out of it
- Lessons Learned

# Overview





# Orchestrations



Native JD Edwards API's  
hosted & executed on  
the AIS



Log their state after  
each event with the AIS  
server



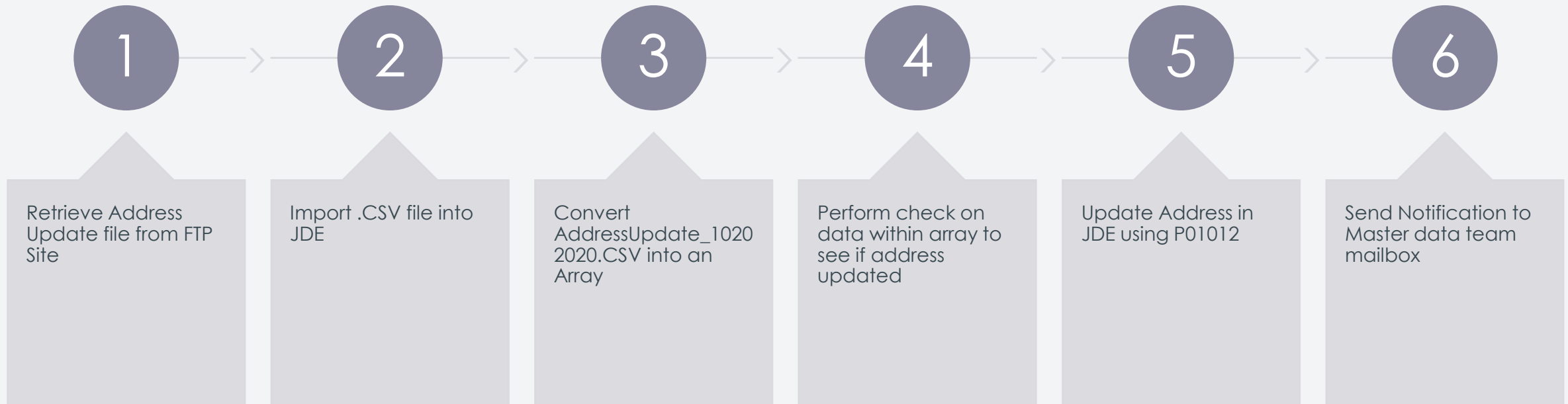
Allow Business analysts  
to create consumable  
microservices that can  
be used and reused



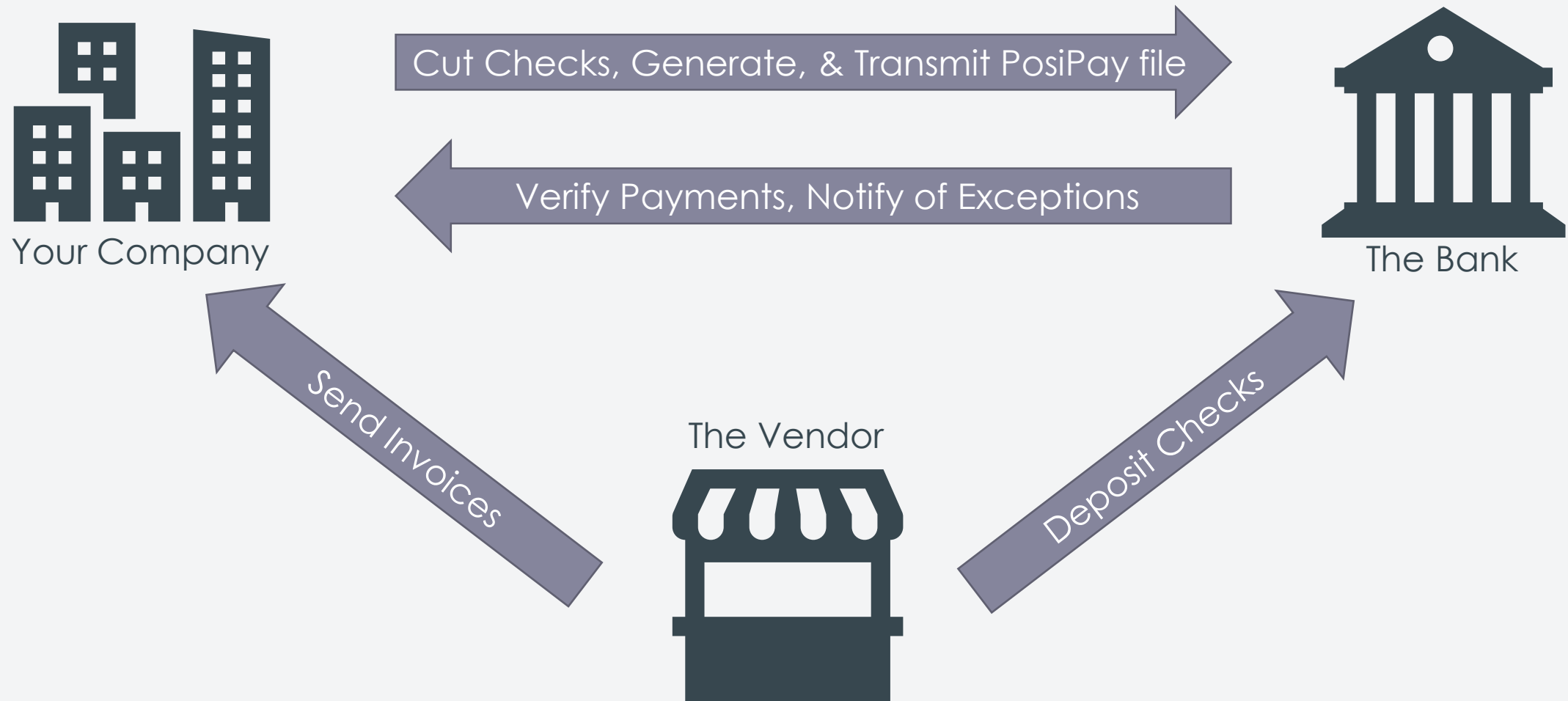
Can be daisy chained  
together to create even  
more powerful  
orchestrations

# Secret to Orchestrator's Power, Revealed!

Stringing together smaller re-useable services to perform large complex tasks with ease!



# Positive Pay Overview



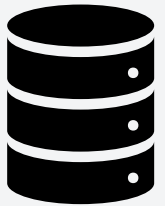
# Background



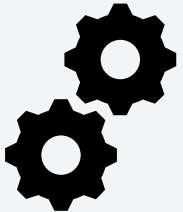
# Client JDE Journey



Sep 2012: Moved from World to E1 9.1



May 2020: Upgraded from 9.1 to 9.2



August 2020: Began exploring the use of Orchestrator

# Client As is Positive Pay Process



High manual processes that required someone to upload a file to the bank multiple times a week usually at the end of the day



Multiple systems were involved so the process continued to get more complicated



Visibility to file transmission, acceptance, and rejection was limited to the person who did the manual upload

# Journey



# Characteristics of a Great Integration



Timely: Gets data/runs processes/does stuff in the right place, at the right time



Consistent: Performs the same way every time (99.99%\* of the time)



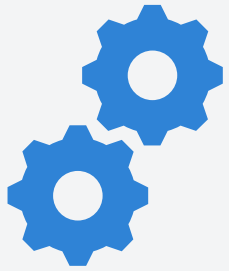
Communicative: Notifies appropriate stakeholders of events, exceptions, successes, and failure



Self-Sustaining: Integration should be able to operate on its own without human intervention



# Project Goals



Automated end to  
end process



Scheduled  
transmission



Real time  
notifications

# Journey Overview

- Client was also going through Agile training to shift their project delivery to a more Agile framework
  - This aligned well with Orchestrations
  - In our experience – Agile/Iterative design methodologies work best for orchestrations

01

## Qualify

- Qualify whether Orchestrator is the right solution for the use case

02

## Understand

- Understand how your integration will need to evolve & change over time

03

## Place

- Ensure the integration fits into your overall systems integration strategy

04

## Plan

- Plan your roadmap in advance
- Embrace MVP concept

05

## Deliver

- Consider how your integration should execute its tasks
- Determine How stakeholders will interact with inputs & outputs

# Design Requirements

Real time  
notifications of  
acceptance

Real time  
notifications of  
exceptions

Real time  
transmissions  
of file

Real time  
notifications of  
transmission

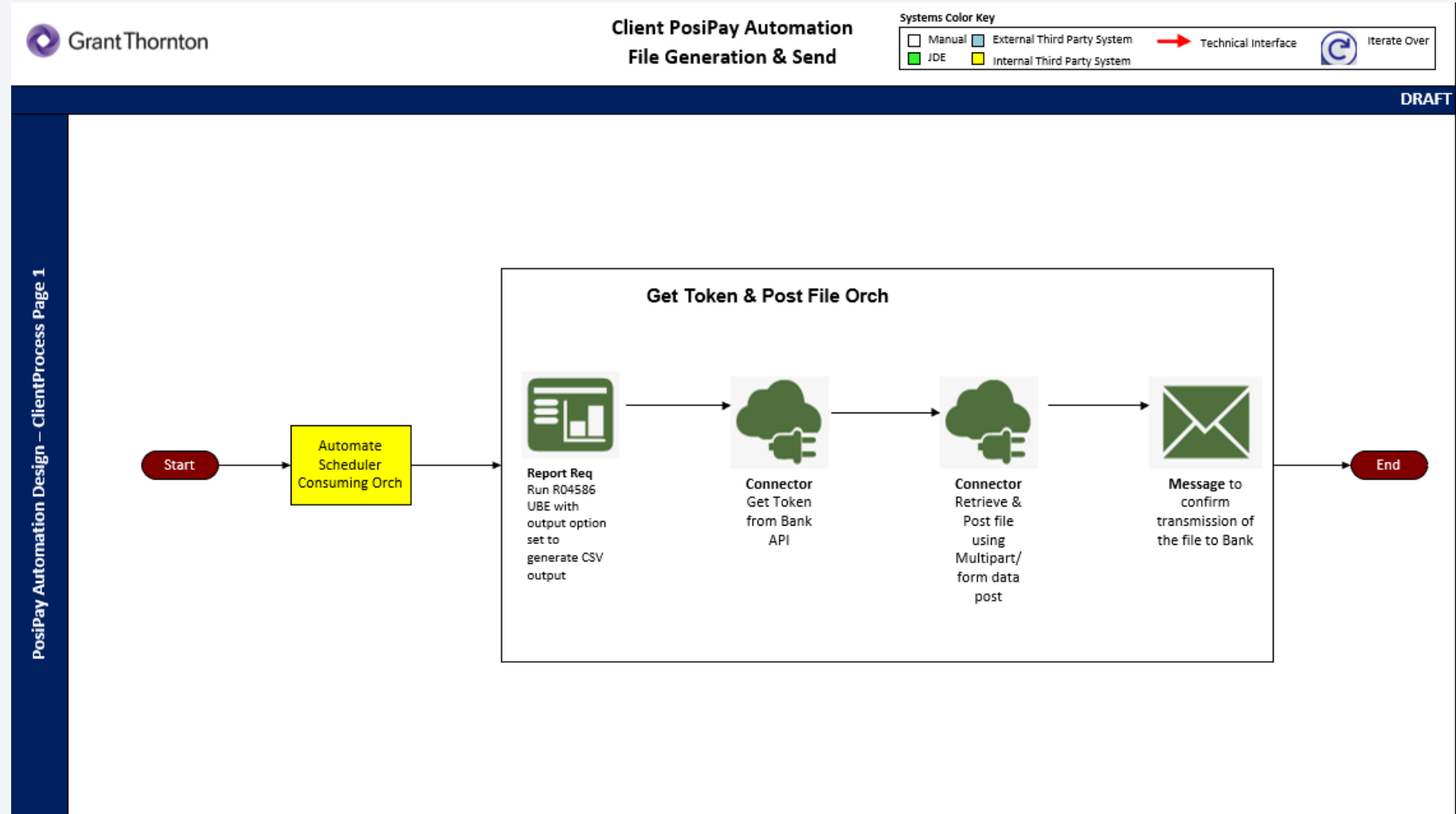
Automated  
Generation of  
file

Automated  
Transmission of  
file

Scheduling of  
Processes

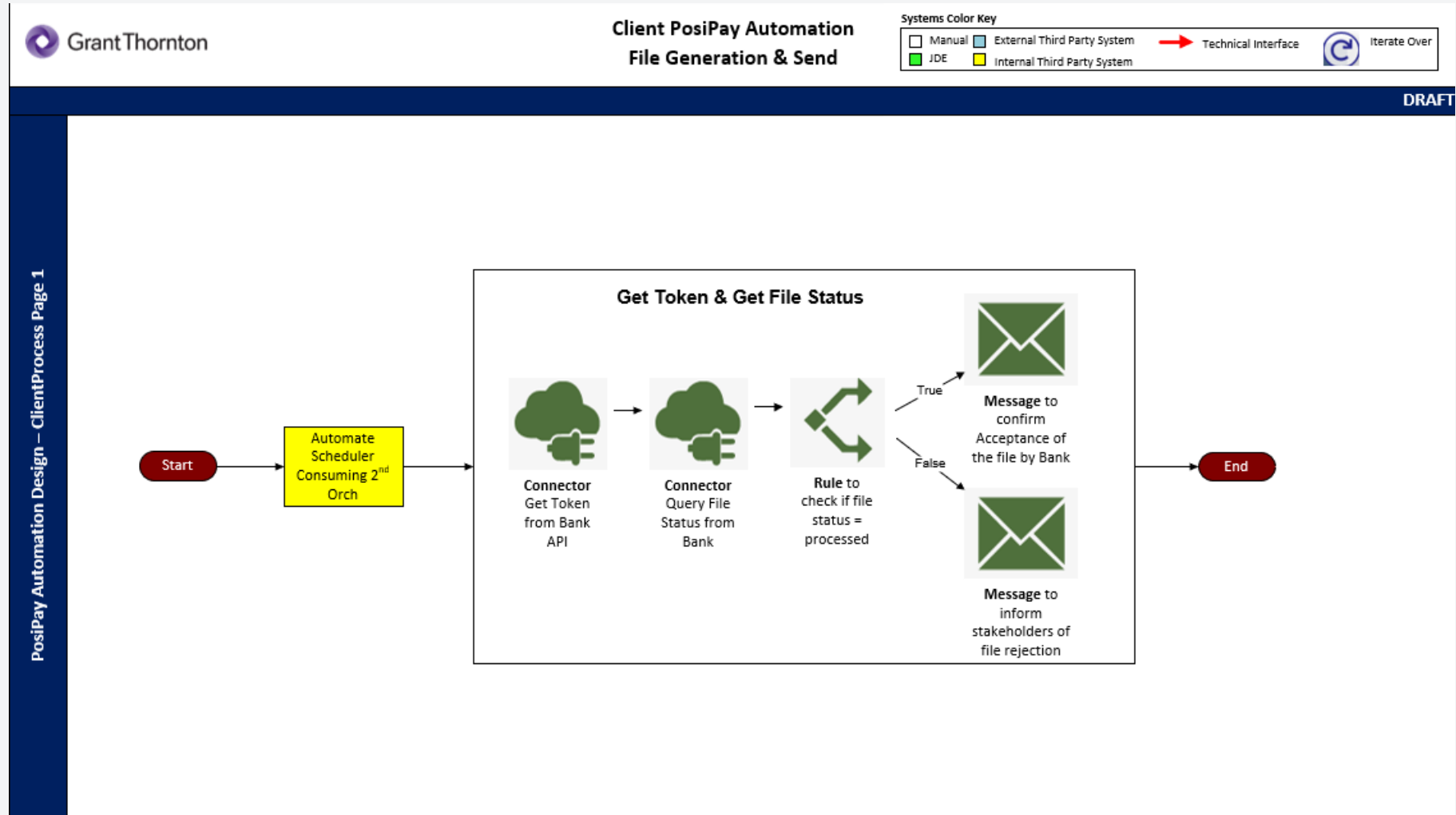
# Design – Orch #1

- Orch 1 of 2
- Scheduled
- Runs R04586 – UBE
  - File Output = CSV
- Retrieves access token from the bank
  - Basic Auth
  - 20 Min Timeout
- Posts File using Connector Service Request
  - Multi-Part/Form Data Post
- Message Service Request once File has been transmitted



# Design – Orch #2

- Orch 2 of 2
- Scheduled
- Retrieves access token from the bank
  - Basic Auth
  - 20 Min timeout
- Retrieve File status using Connector Service Request
  - POST
- Message Service Request to convey file acceptance
- Message Service Request for file rejection



# Rubber meets the road

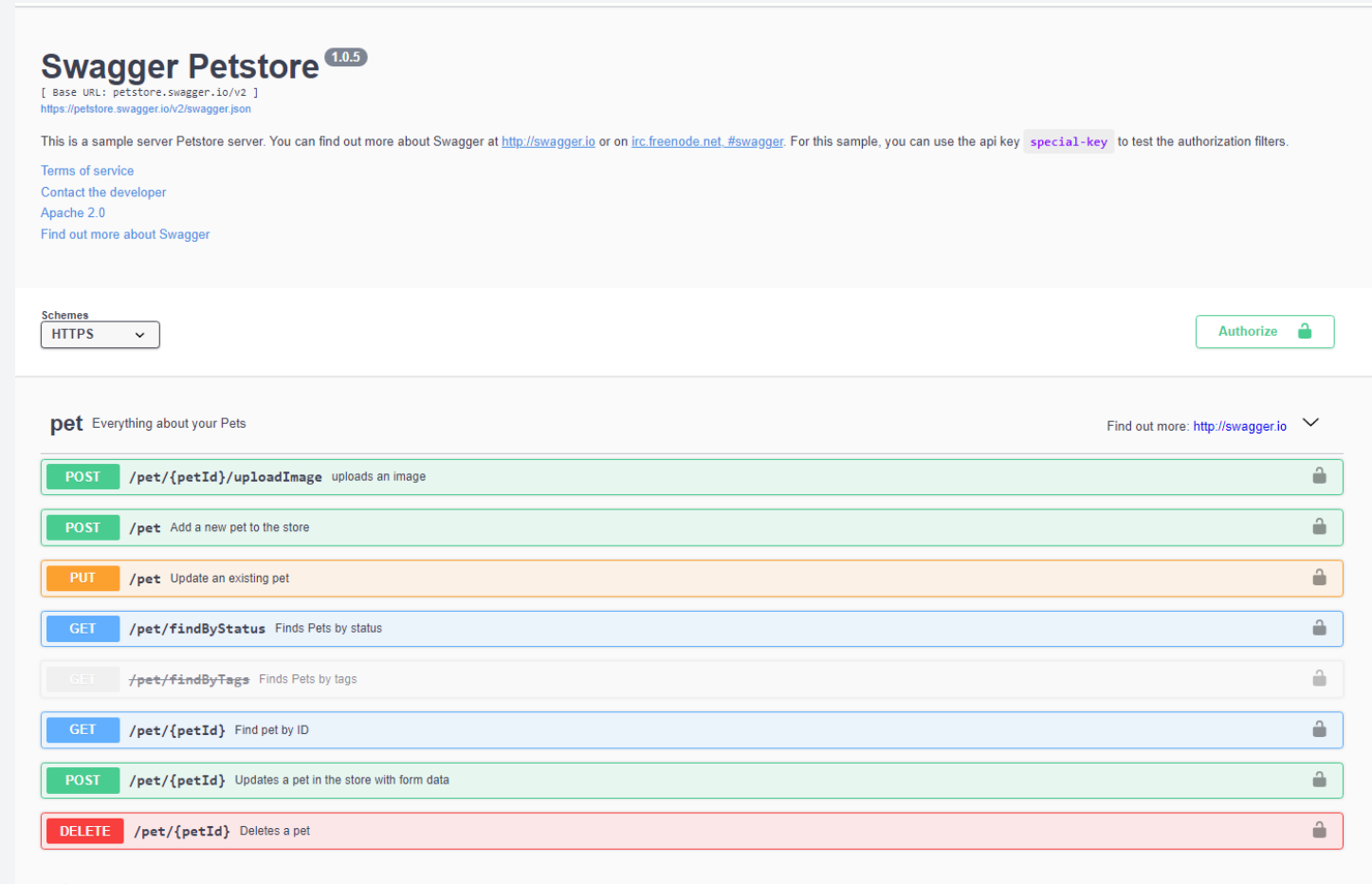


“Everyone has a plan, until they get punched in the face”

– *Mike Tyson*

# Swagger

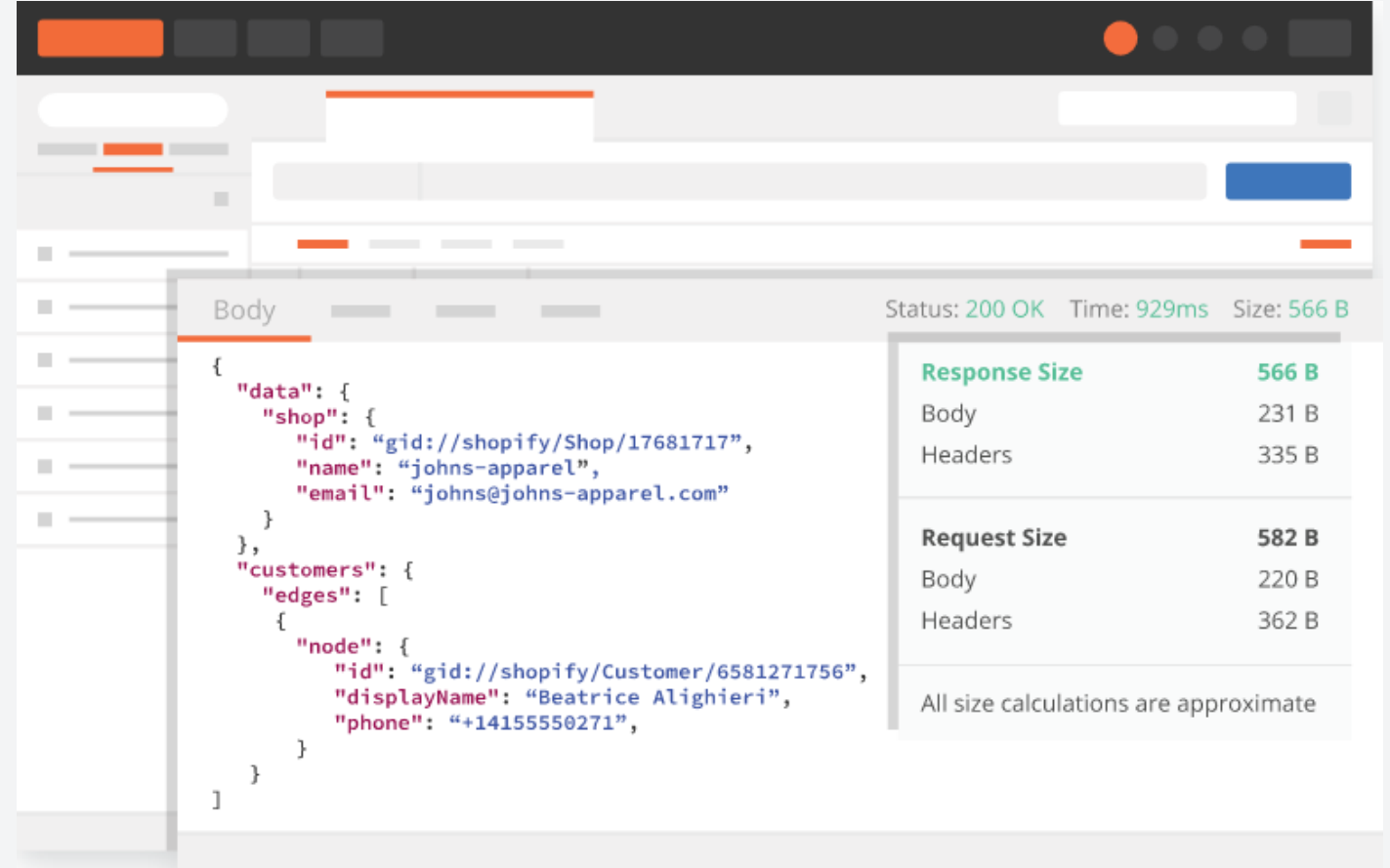
- The bank provided client with their API Swagger
  - Familiarized with their APIs
  - Test & Build request statements
- Can also be created for JDE Orchestrations easily!
  - Great way to build & share an API toolkit to your customers, vendors, partners



The screenshot displays the Swagger Petstore API documentation page. At the top, the title "Swagger Petstore" is followed by a version badge "1.0.5". Below this, the base URL is given as "petstore.swagger.io/v2". A descriptive paragraph states that this is a sample server and provides links for terms of service, developer contact, and more information. An API key "special-key" is highlighted for testing authorization filters. A "Schemes" dropdown menu is set to "HTTPS", and an "Authorize" button is present. The main section, titled "pet Everything about your Pets", lists eight API endpoints with their respective HTTP methods and descriptions: POST /pet/{petId}/uploadImage (uploads an image), POST /pet (Add a new pet to the store), PUT /pet (Update an existing pet), GET /pet/findByStatus (Finds Pets by status), GET /pet/findByTags (Finds Pets by tags), GET /pet/{petId} (Find pet by ID), POST /pet/{petId} (Updates a pet in the store with form data), and DELETE /pet/{petId} (Deletes a pet). Each endpoint entry includes a color-coded method label, the full path, a brief description, and a lock icon.

# Postman

- Used a third party API testing tool first
  - Postman
  - Allowed us to get familiar with consuming REST APIs
- Provided us with prebuilt Code templates to use





# Challenges

- Once we started to build, we encountered some challenges along the way...

## Java issues with AIS

- Limited to client environment, other environment worked with no issues
- Delayed AIS troubleshooting...for now!
- Explored temporary alternatives

## Our Mindset

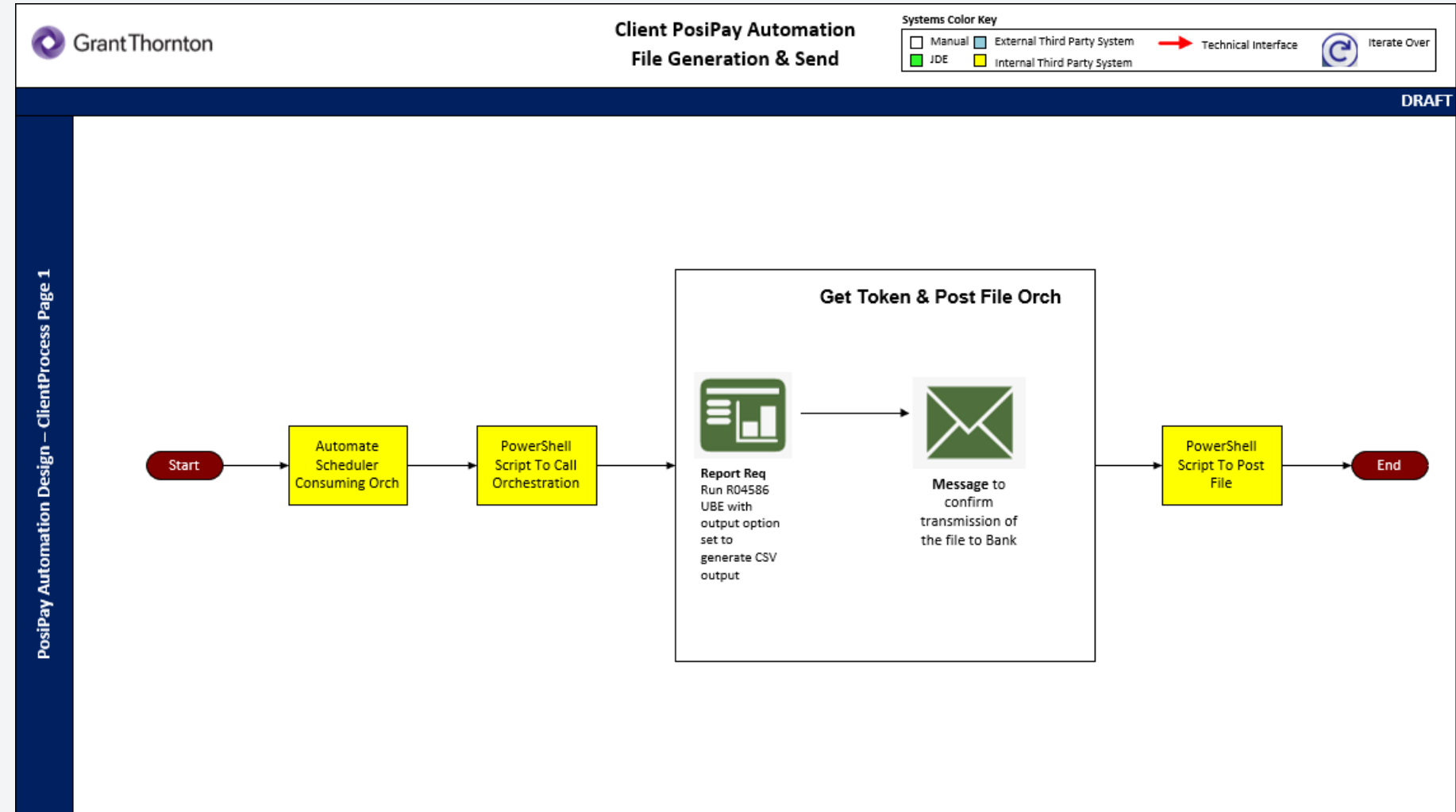
- Learning curve on a new tool
- Expectations from the tool
- Different people picked up things at different paces

## Timeline considerations

- Replaced with hybrid Orchestration/PowerShell solution to Generate & Transmit file
- Continue to use Orchestrations for Status check & Notifications

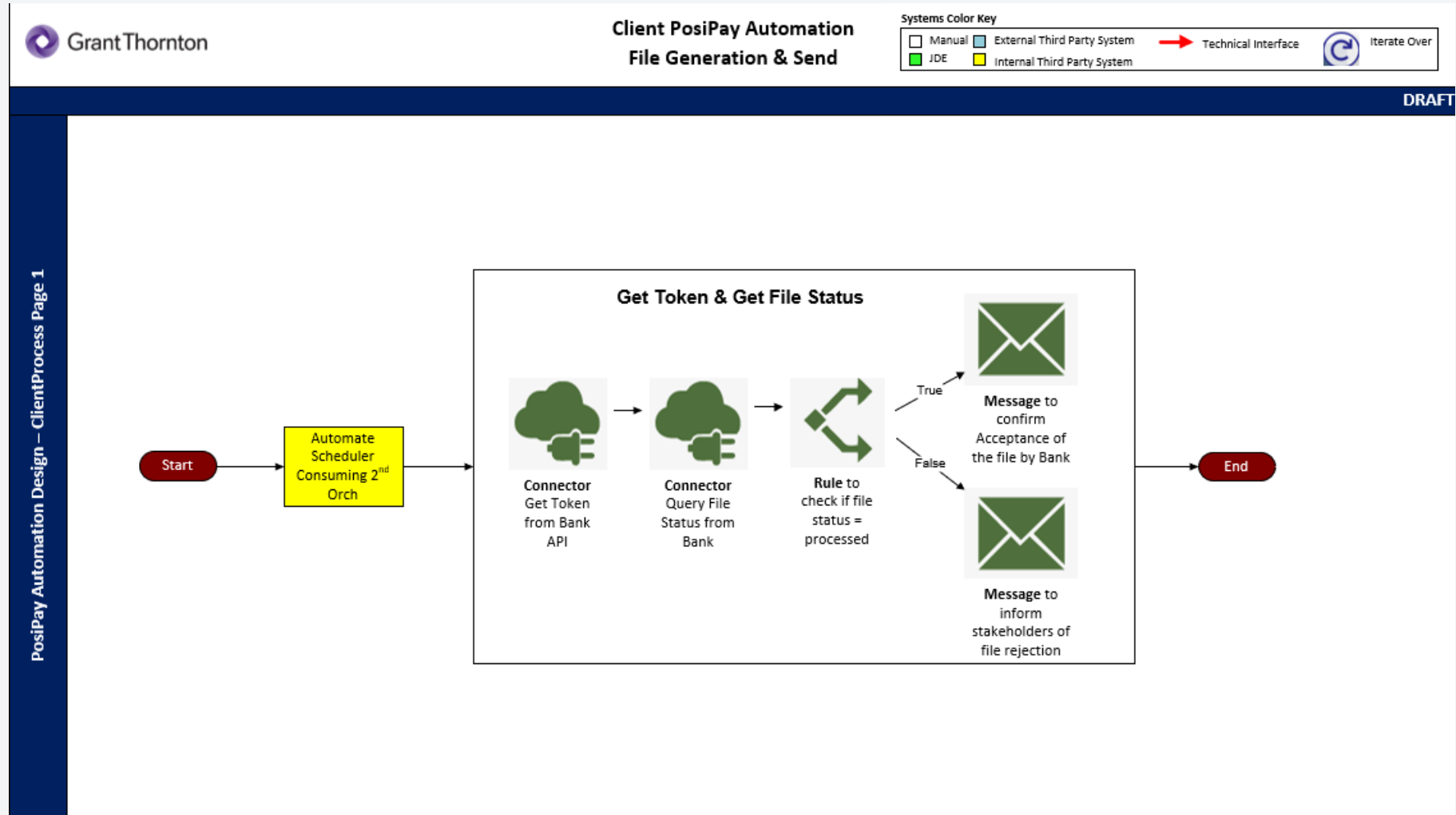
# Build – Orch #1

- Orch 1 of 2
- PowerShell script used instead of connector service request
  - JAVA issue within client environment
  - Time constraints to investigate JAVA issues
- Orchestrator still had to be used to generate the UBE output in CSV

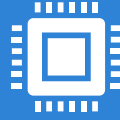


# Build – Orch #2

- Orch 2 of 2
- No API or JAVA issues with Orchestration #2
- File status connector request passed back file location
- Orchestration being used to send acceptance or rejection notifications to the appropriate stakeholders



# Overcoming Challenges



Orchestrator still at the center of the solution to generate & transmit the positive pay fields



Operationalized transmission success messages



Utilize Microservices architecture & design principles wherever possible



Operationalized exception handling messages to inform:

IT, business, service desk

# Wins



# Wins



Great use case to get our feet wet with Orchestrations & start a Program around orchestrations



Learned about how orchestrator can extend JDE functionality



Automated a manual processes and increased visibility to this process across the organization



Established testing guidelines with the bank to avoid disruptions to future endeavors

# Lessons Learned



# Qualify & Design



Compartmentalize your integration

Its not a contest to write the biggest & most complex orchestration!  
Break the logic out into reusable, logical chunks of functionality

- Orchestra example



Keep it simple

Don't try to overcomplicate things

- Transformations



Don't try to fit a square peg in a round hole

What should happen in a UBE, should stay in a UBE!



# Lessons Learned

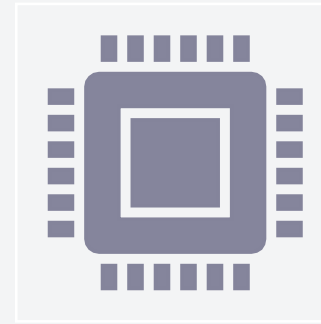


## Create Re-useable microservices to save future work

Compartmentalize

Specialize

Follow the Ron Swanson Model!



## Microservices Architecture – Integrations as a service

Microservices can be used repeatedly as new systems are added into your ecosystem

Resulting in a lower cost to create & serve for each new integration between a 3<sup>rd</sup> party system & JDE

# Lessons Learned



## Road mapping for your Orchestrations

Phase 0 – Prove it out

Phase 1 – Delivery of Must & Should Have Features

Phase 2 – Delivery of Could & Wish to have features



## Minimum Viable Product Methodology for Orchestrations

What are my required features?

What can I delivery first to satisfy users?

What can I add on later so the user sees continuous improvement?

# Lessons Learned

1

Expect the unexpected

- Unexpected issues can derail your idea

2

Have no sunk cost – when not prohibitive!

- Pivot & change, especially with a fast tool like orchestrator

3

Learn to be creative

- Orchestrator enables creative solutions - you dream it, we build it!

4

Don't let our perfect get in the way of everyone's good

- Spending too much time perfecting an item can get in the way of progress

# Into the future

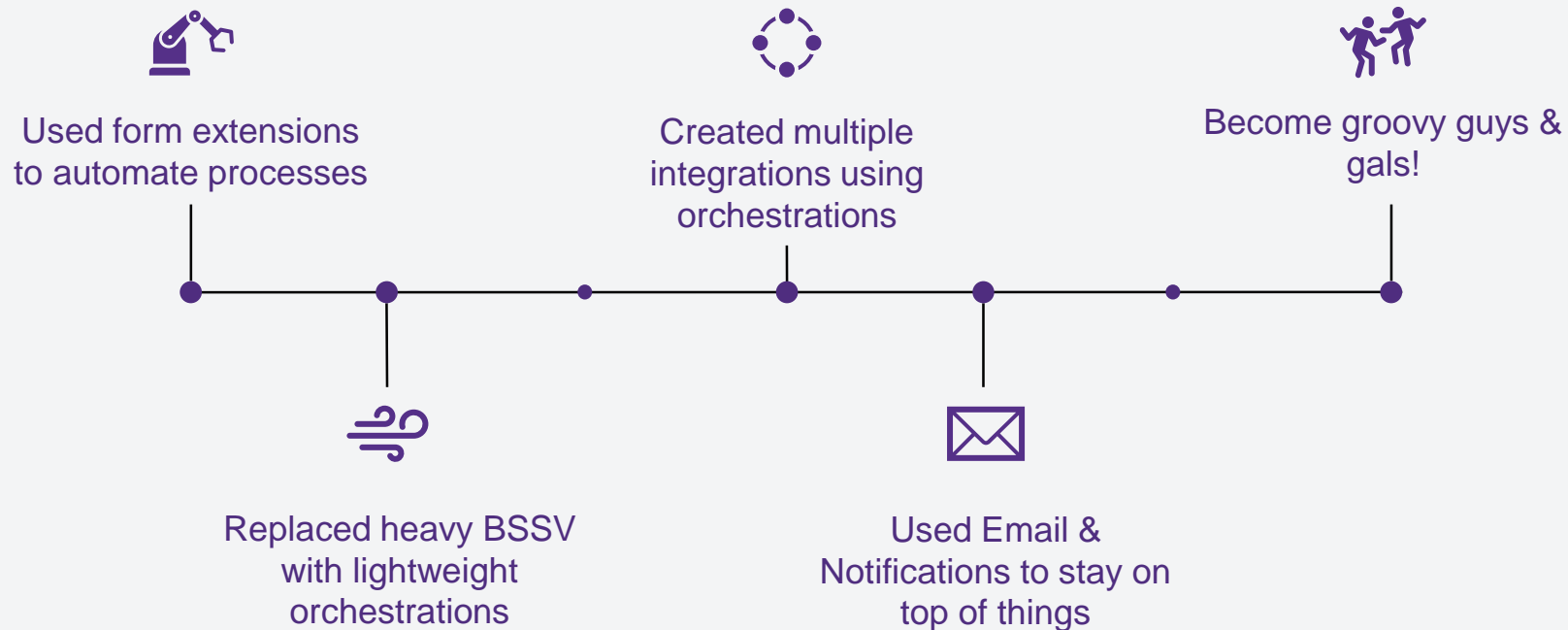


# Orchestration Roadmap

- Client has taken numerous other orchestrations live since then:
  - Form extensions to automate processes
  - Replacing bloated BSSV with lightweight Orchestrations
  - Integrations of large systems with JDE using orchestrations
  - Notifications everywhere!
  - Groovy dudes & gals!

# Orchestration Roadmap

- Since this first orchestration project...



Q & A



# At Quest, you belong.

Swap stories, ask questions, find answers, and learn from other Oracle users.

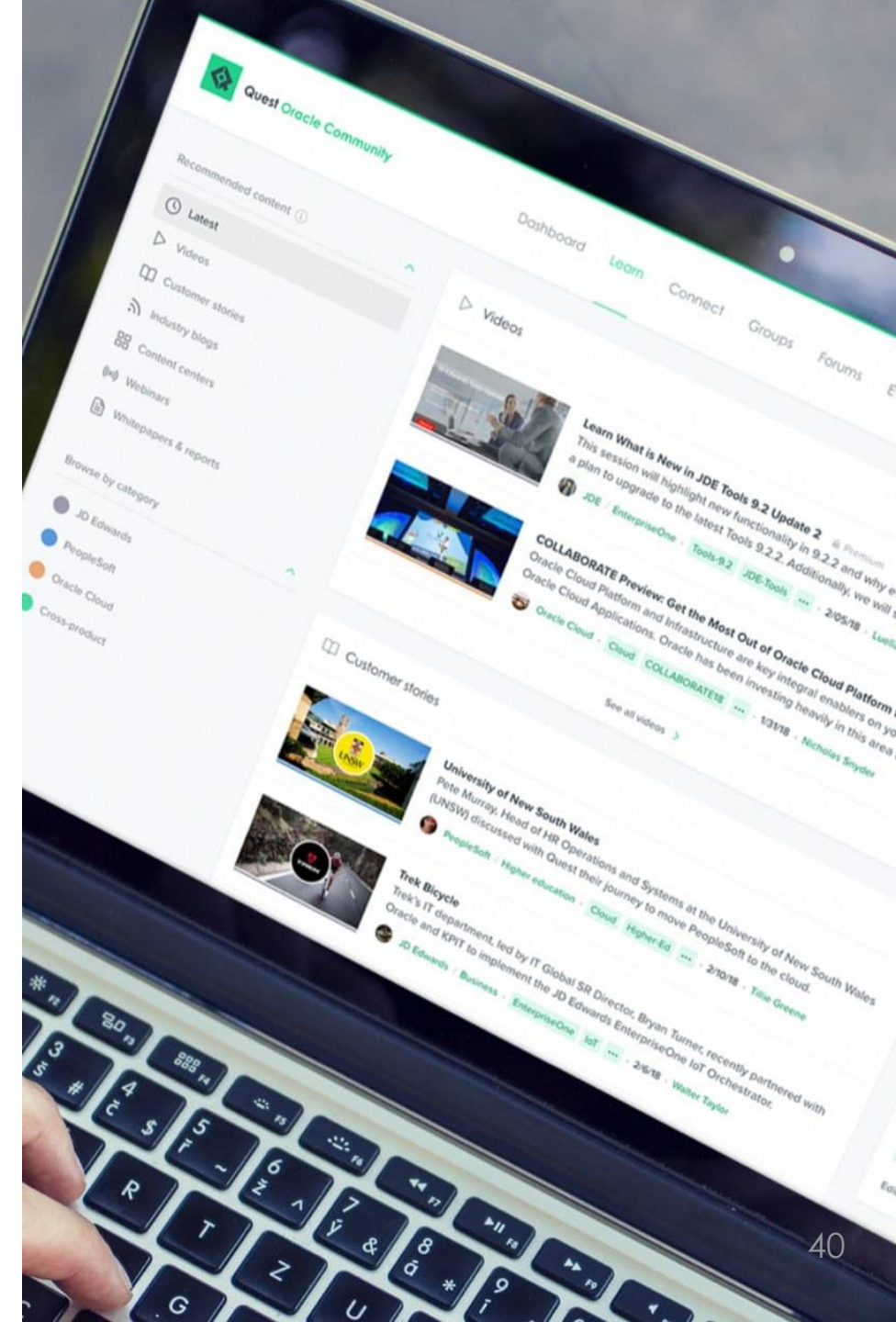
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- Make better, informed decisions.
- Increase their sphere of professional influence and advance their careers.

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- Become more efficient in their use and deployment of Oracle products.
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