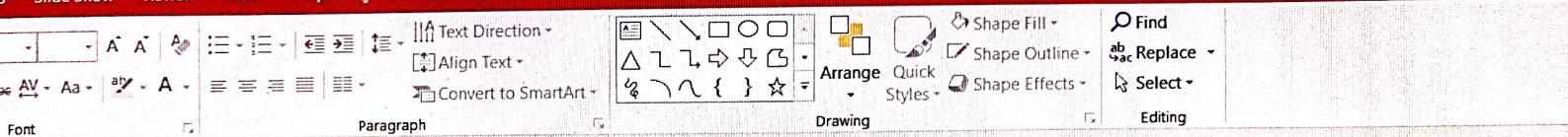


Slide Show Review View Help Tell me what you want to do

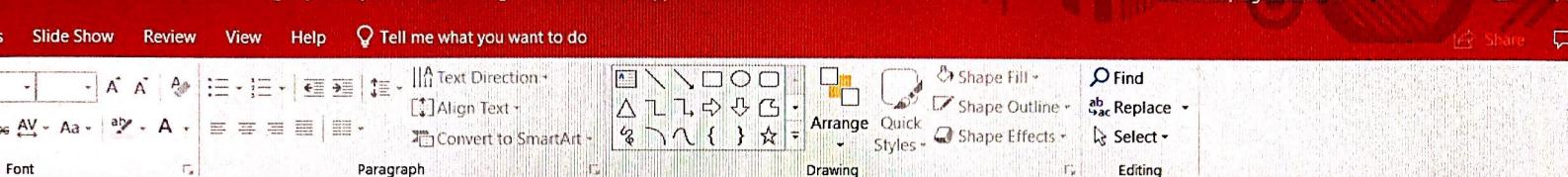


High Speed Pipeline as a Product using InnerSource model

Q2/2019

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Scanned with CamScanner



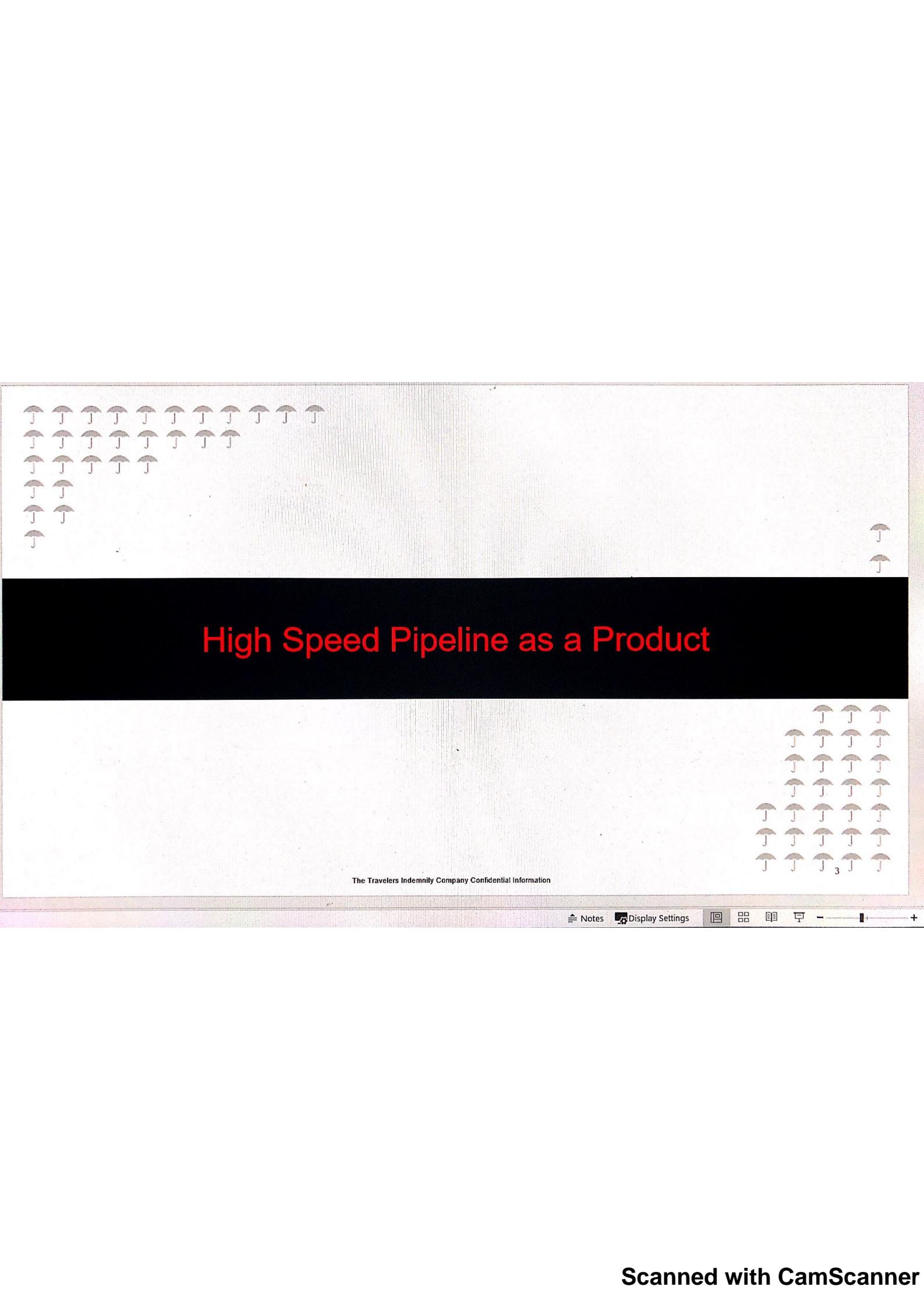
Executive Summary

High Speed Pipeline (HSP) is an touch-less and automated Continuous Integration/Continuous Delivery (CI/CD) pipeline built based on Architecture drivers - Architect for Velocity, Security and Scalability. Started as a reimagined pipeline in Claim, HSP has evolved as a Product and using InnerSource Development model to collaboratively develop and adopted by various lines of businesses at Travelers. HSP is an early adopter of both "Product" (in-house built) and "InnerSource" concepts at Travelers and is defining InnerSource MVP model and process at Travelers.



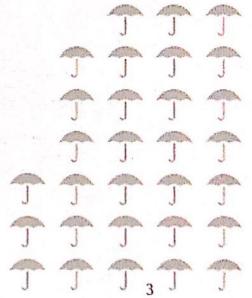
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High Speed Pipeline as a Product

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The screenshot shows the Microsoft Word ribbon with the "Home" tab selected. The ribbon includes sections for Font, Paragraph, Drawing, and Editing. The "Font" section has buttons for font style, size, and color. The "Paragraph" section includes alignment, spacing, and a "Convert to SmartArt" button. The "Drawing" section contains tools for shapes, text boxes, and tables. The "Editing" section includes "Find & Replace" and "Select" options.

High Speed Pipeline – Definition and Key Characteristics

HSP is an touch-less and automated Continuous Integration/Continuous Delivery (CI/CD) pipeline that is defined and managed by Product team (think empowered; self-service; pipeline-as-a-code) to migrate/move their self-contained application from Source Code management system (GitHub) to various run-time environments through the food chain (dev, test, stage, mo, prod), with automated testing and meets all necessary controls (audit, release management, change management, security and enterprise standards/policies).

Key Characteristics

- Customer-centric self-service capabilities without black-boxes but with guardrails (big-rocks)
 - Customer being Product team (developers/engineers)
- Driven by App level Rules/Config
- Rules defined by Architecture and implemented by HSP/DevOps product team
- No DevOps request by Product team to setup
- Product team defines and maintains necessary configurations the pipeline (like target dev env; test scripts; etc.) using industry defined “pipeline-as-a-code”
- Audit reporting should be automated, meaning...no manual intervention (by really any team) to gather information to satisfy any audit reporting (irrespective of the frequency), but HSP should generate this by default
- Security and Audit controls are built from the get-go and not as an after-thought

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Font Paragraph Drawing Styles Editing

Guardrails – “Big Rocks”

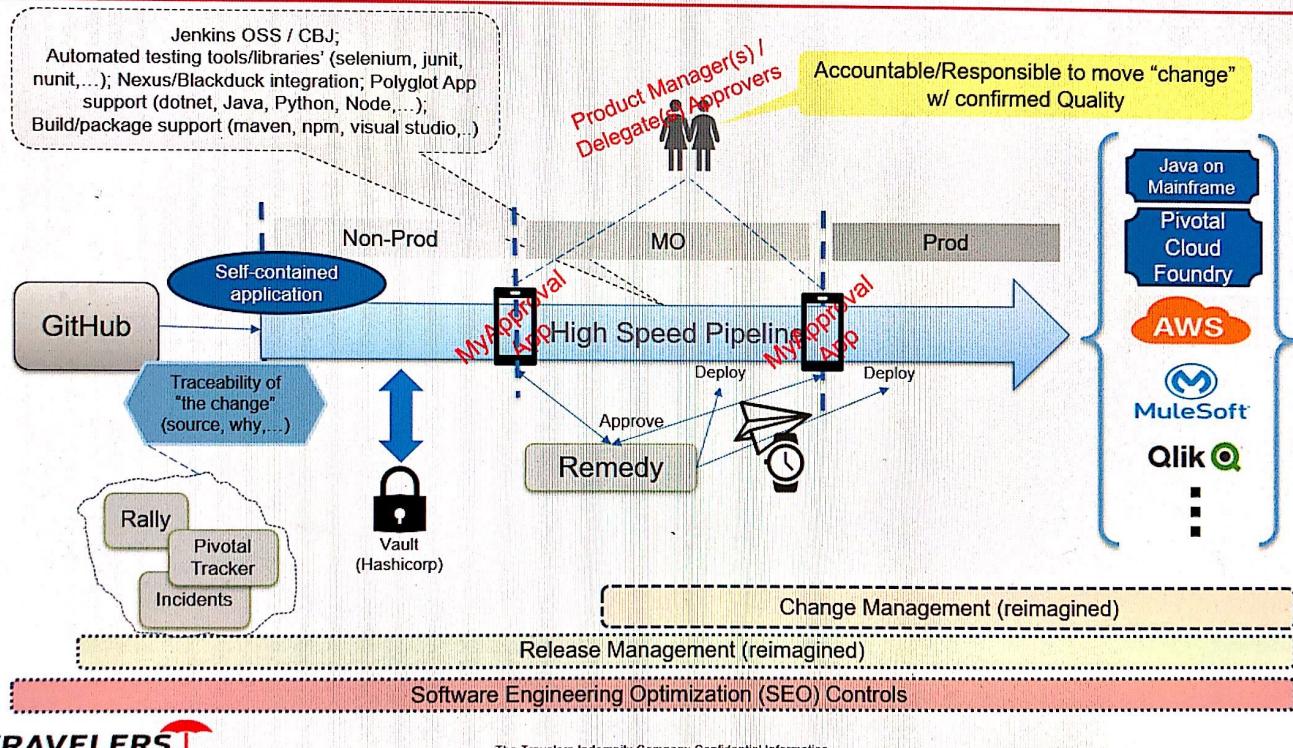
HSP as a product adheres to the following “Big Rocks” and strategic themes

- Appropriate Self-service capabilities to Developers and Operations
- Automation through APIs
- Meets all security and audit controls
- Ticketless environment that reduces/eliminates “team-to-team” dependencies
- Self-contained Architecture
- Application Secrets Management
- Application Testing Framework and Strategy (includes automated testing)
- Multiple platform (Public cloud, Private PaaS/IaaS and Mainframe) environment alignment and support for applications
- Operating model that supports Federated w/ appropriate self-service and automation
- InnerSource Development model to collaboratively build and expand HSP-as-a-Product

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High Speed Pipeline (HSP) Product – Conceptual View

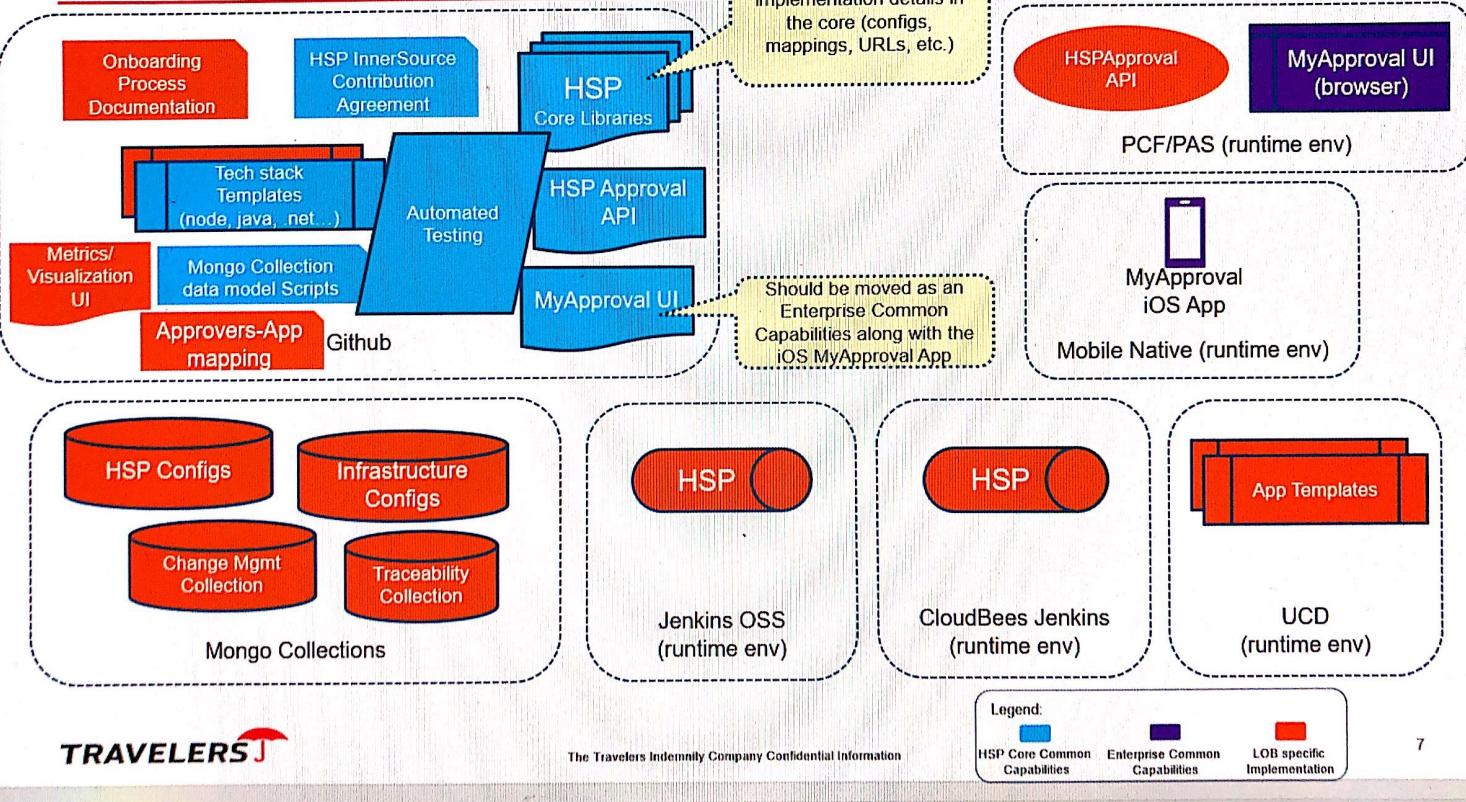


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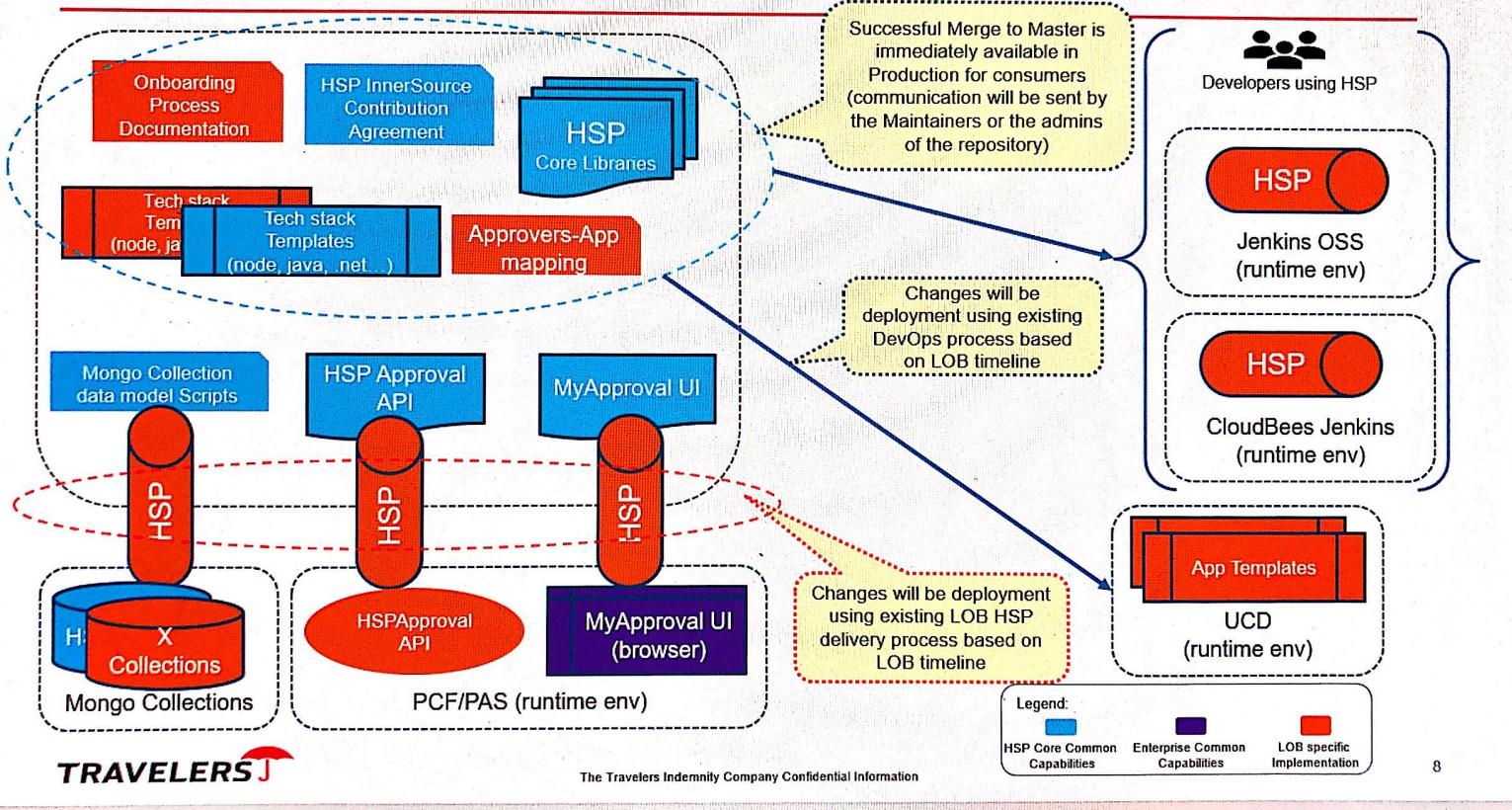
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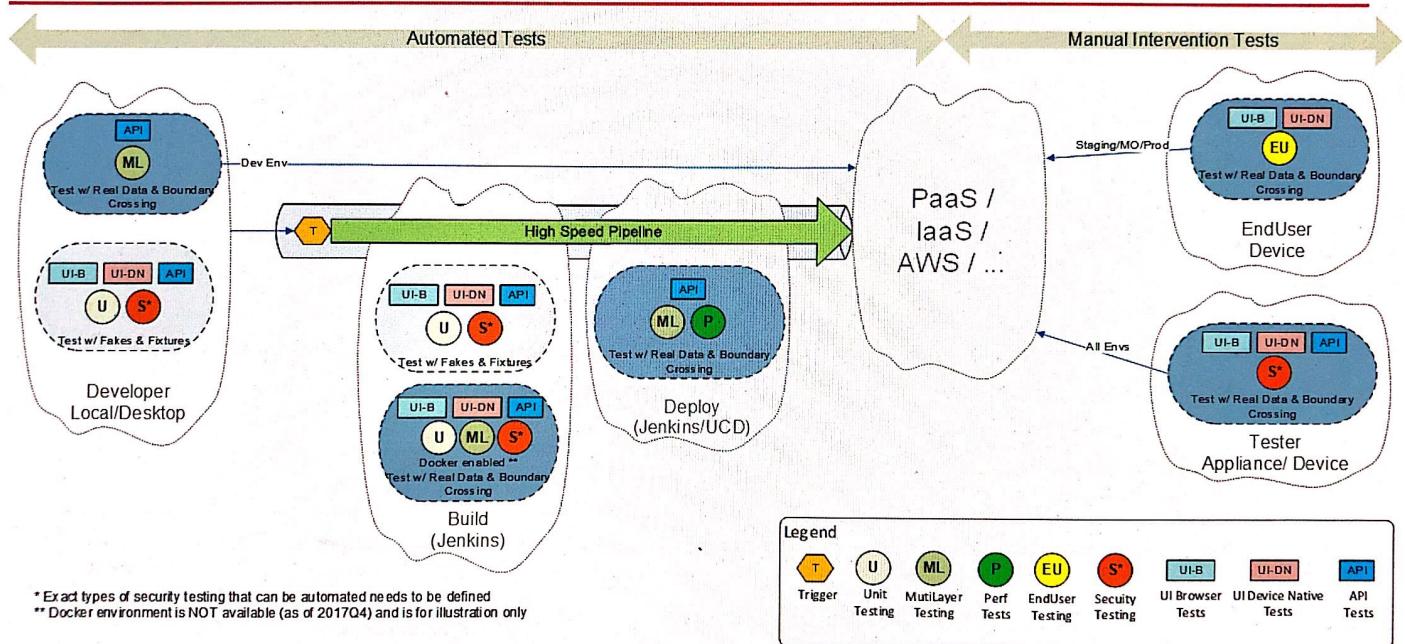
HSP-as-a-Product Capabilities Blueprint



HSP Release Management Framework



High Speed Pipeline (HSP) Product – Continuous Testing Framework



Note: additionally Application Testing Framework understanding is required to better understanding the different type of testing mentioned above. Framework details can be found in the Appendix.

HSP Security and Audit compliance

Following are the highlights of how applications meet security and audit compliance when using High Speed Pipeline (HSP).

Non-prod (Dev, Test, Staging)

- Developer has full control of the app source code
 - Security/audit – Github has access control and tracks change activity
- Developer has full control of which target environments the app is deployed
 - Security/audit –
 - Pipeline-as-a-code (JenkinsFile) is part of the source code in Github that has access control and tracks change activity
- Developer has full control of what and how many tests are completed in each environment
 - Security/audit –
 - Pipeline-as-a-code (JenkinsFile) is part of the source code in Github that has access control and tracks change activity
- HSP expects Developer to confirm successful testing (at a minimum - binary success/fail) in each environment
 - Security/audit –
 - Pipeline-as-a-code (JenkinsFile) has information of which tests were run; Part of the source code in Github that has access control and tracks change activity
 - HSP does not track or confirm quality of the change. Product Owner accepting the story in Rally (or Pivotal Tracker) is the "gate" for testing complete or quality being met



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HSP Security and Audit compliance – continued

Ticketed environment (MO/Prod)

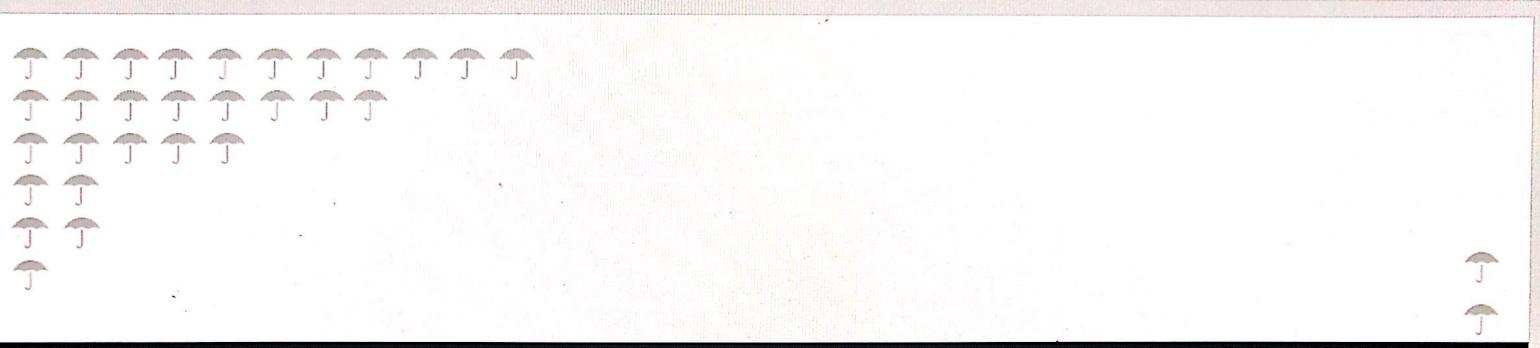
- Snapshot from non-prod (tested) is what will be deployed
 - Security/audit –
 - UCD or Jenkins should already meet security/audit requirements
- Product Manager should identify the "change owner(s)" (MUST not be the developer) that would approve deployment in HSP
 - Security/audit –
 - Approval is ONLY enabled in MyApprovals for identified "change owner(s)"
 - HSP and MyApprovals captures and tracks approvals
- HSP creates appropriate gating and approval using MyApproval
 - Security/audit –
 - HSP MyApproval process should meet security/audit requirements
- HSP creates AdHoc ticket (automated and auto-approve) in Remedy
 - Security/audit –
 - Existing Remedy process and reporting for usecases that use Adhoc ticket processing
- Change owner will approve using HSP approval process using MyApprovals (it cannot be the developer - separation of duty must be maintained) that will deploy to the target
 - Security/audit –
 - HSP and MyApproval captures and tracks approvals to meet security/audit requirements
 - HSP will create appropriate tickets and approval capture (automatically) as an additional enterprise tracking tool
- Developer has full control of what and how many tests are completed in each environment
 - Security/audit –
 - Product Owner accepting the story in Rally (or Pivotal Tracker) means that appropriate quality was met. HSP does not track or confirm quality of the change
 - Pipeline-as-a-code (JenkinsFile) is part of the source code in Github that has access control and tracks change activity
- HSP expects Developer to confirm and define next steps on based on successful testing (at a minimum - binary success/fail) in each environment
 - Security/audit –
 - Pipeline-as-a-code (JenkinsFile) has information of which tests were run; Part of the source code in Github that has access control and tracks change activity
 - HSP does not track or confirm quality of the change. Product Owner accepting the story in Rally (or Pivotal Tracker) is the "gate" for testing complete or quality being met
 - HSP will have references to the links of the test results (as instructed by the Developer in the Pipeline-as-a-code) for evidence of testing

HSP will track the business requirement of every change with the reference to Rally (or Pivotal Tracker) feature/story



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HSP InnerSource Model

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