**SLALOM, LLC**

**Statement of Work No. 0040**

**Value Capture Tansformation - Cloud Enablement**

**1. Effective Date – April 1, 2019**

**2. Agreement & Terms**

This Statement of Work (“SOW”) is made subject to and will be governed by the terms and conditions of the Master IT Agreement between Monsanto (“Monsanto”) and Slalom Monsanto (“Supplier”) dated May, 23, 2017 (“Agreement”).

1. **Term.** Work under this SOW is scheduled to start on April 1, 2019 to September 9, 2019.

**3. Description of Services**

The Services and Deliverables to be provided, delivered and performed by Supplier for the Project under this SOW are described below. This SOW establishes the work to be completed by the Supplier team in collaboration with the Monsanto team.

Working in collaboration with the Value Capture Transformation (VCT) development team(s), Slalom will design and build an independent AWS environment according to secure industry practices to migrate the existing Value Capture platform to support additional external customers.

**4. Approach**

* + - * 1. Supplier is using the Agile Scrum methodology in which the entire scope is not fully defined at project start, but rather during the project itself through constant engagement between Supplier and Monsanto. The term "Product" refers to the functional capabilities defined by the user stories as prioritized by a single Monsanto representative also known as the “Product Owner”. The main elements of the Agile development/build phase include:
* Daily Standups
* Sprint Workshops
* Sprint Retrospective
* Sprint Release
* Sprint Artifacts (Sprint Burndown Charts, Release Burndown, Sprint Velocity)
* Story Review, Sprint Plan

The Professional Services provided pursuant to this SOW will be performed in the following stages pursuant to the methodology below.

## Project Kick-off

### At the start of the engagement, Monsanto will host a kickoff meeting to define the objectives, milestones, deliverables, expectations, success criteria, and risks for the engagement. In addition, Monsanto will define the extent of Supplier’s involvement in QA testing and deployment. Timing of ceremonies will be solidified and communicated at that time. Monsanto reserves the right to participate in ceremonies.

### Monsanto will communicate technical architecture and best practices at the time of the kick-off.

## Iteration 0 - Specification & Design

1. The Iteration 0 phase of the SOW is intended to develop and understand the initial backlog of user stories and to establish a high-level design as well as the necessary detailed design to begin the development effort. Since Supplier leverages an iterative methodology some design tasks are ongoing during the development iterations of the Professional Services.

## The Iteration 0 phase is comprised of the following activities and deliverables:

## Design Review and Technical Specification Meetings (activity)

## As needed, Monsanto will conduct Design Review and Technical Specification Meetings to review design deliverables and further expand upon the information collected during the Definition phase to in order develop a design and detailed technical specifications for defined data and system integrations, as well as legacy data migration.

## Iterations 1 through n

1. Multiple iterations of product backlog and refining of backlog.
2. Expectation is working software. Team working off a prioritized product backlog
3. PO will prioritize backlog, Team will work on highest priority
4. Supplier will configure and customize the system based on stories for each iteration.
5. Supplier will be on-site as needed, but most construction will be performed remotely.
6. At the conclusion of each iteration, Supplier and Monsanto will conduct an iteration review and retrospective.

Project Closeout, Integration and Transition

Supplier will provide requested documentation and developers on the project will conduct a final review.

Key members of Supplier’s project team will be available to assist Monsanto with questions or issues that may arise.

Deliverables will be set in the Sprint 0 and will be mutually agreed upon in writing between Monsanto and Supplier.

1. Monsanto Product Development Teams are required and expected to participate in a bi-weekly Software Demo. Supplier will be expected to present working software within this forum.
2. Sprint review will occur every one or two weeks or as agreed upon at kick-off meeting.
3. Supplier will work towards delivering a prioritized set of the following activities to Monsanto:

* **AWS Design & Migration** 
  + Configure IAM
  + Design & implement Account and VPC strategy
  + Setup and configure bastion host(s)
  + Migrate existing resources (S3, SNS, SQS, lambdas, API Gateway configs, etc) from Legacy Monsanto AWS to newly designed AWS environment

Open Questions:

1. If we had guidance from cloud ops team, can we do this internally.
2. Does not mention implantation of AWS infrastructure controls (ISO, Cloudops).

* **App Container/ Serverless Epic** 
  + Create migration strategy for CloudFoundry & AWS Lambdas to ECS with Fargate or similar solution
  + Analysis of CI/CD tooling to integrate with ECS/Fargate or similar solution
  + Migrate front end services from Cloud Foundry to AWS ECS or mutually agreed upon solution
  + Migrate Cloudfront from legacy AWS environment to the new account structure
  + Setup and configure Service Discovery

Open Questions:

1. Only talks about migration strategy. Does not detail out the implementation of the container management system.
2. For CI/CD, only commites to analysis, does not detail out implemetation.
3. For migration of CF to ECS with fargate it only speaks of front ent serices, not backend services mention.

* **Database Services & Compliance Epic** 
  + Develop and operationalize a strategy to move databases into net new AWS account
    - Potential solutions - Snapshots, VCP Peering, Postgres dump/restore
  + Supplier will review current processes and analyze for SOX compliance
  + Migrate Elasticache instances from legacy environment to new AWS account structure
  + Analyze and implement an alternative for the current Event Store Database

Open Questions:

1. Only strategy is mentioned, not implementation of solution (in conjunction with bayer dev team).
2. SOX controls only mentions a review, not implementation

* **Messaging Platform Epic**
  + Perform analysis and make recommendations for refactoring from current Kafka instance to one or multiple of the following technologies:
    - AWS MKS
    - Confluent Kafka as a Service
    - AWS Kinesis
    - Dedicated Kafka Instance

Open Questions

1. Bayer is confident AWM MKS is the solution. Need Slalom to help implement and integration with Bayer services as well as migration of data from current kafka instance.

* **API Management Epic**
  + Evaluate, plan and design move from Bayer’s Akana/Ocelot to independent instances
  + Evaluate API Gateway and Ping integration
  + Setup proof of concept of NGINX+

Open Questions

1. Analysis of alternatives should only occur if the use of API Gateway does not work as expected.

2. Only speaks of evaluation, does not commit to implementation and migration.

* **Secrets Management Epic**
  + Conduct discovery and analysis on current Vault implementation and make recommendations for replacing Jumpbox and Secrets storage
  + Integration testing with AWS Secret Manager to ensure rotation of keys between VCT and POD platforms <- this needs to detail the setup for key rotation for secret management credentials.
  + Build test environment to support jumpbox and rotation of keys
  + Develop Database credential rotation automation
  + Implement AWS SSM Parameter Store or similar solution

Open Questions

1. Only speaks of evaluation, does not commit to implementation and migration.

* **Identity and Access Management Epic**
  + Develop tool migration plan from Bayer Ping to a “cost per use” based solution that supports OAuth2 and SAML such as AWS Cognito
  + Develop requirements matrix for SOX compliance <- what does this mean?
  + Design RBAC and group authentication policies/controls
  + Implement an entitlement management solution to replace existing Value Capture solution
    - Integrate into new IDM
    - Migrate legacy entitlements to new account structure
    - Legacy integration support with SAML until cutover <-what does this mean?
  + Develop a migration strategy to migrate users from Ping to Cognito or like solution

Open Questions:

1. Points 1 and 5 Only speaks of evaluation, does not commit to implementation and migration.
2. RBAC Only speaks of evaluation, does not commit to implementation and migration.
3. Need ability to federate identity from new system to existing value capture system.

* **Monitoring & Logging Epic**
  + Perform analysis and make recommendations for logging and monitoring
  + Analysis between maintaining an ELK stack and using Splunk Cloud
  + Design baseline dashboards in ELK or Splunk
  + Configure CloudWatch Alerts and centralized logging

Open Questions:

1. Points 1, 2 and 3 Only speaks of evaluation, does not commit to implementation and migration.
2. Only mentions logging tools, no monitoring tools are mentioned.

* **DevOps Tools Epic**
  + Build and deploy new instances of Jira and GitHub Enterprise <- does this effort remain the same for cloud versions of Jira and GitHub
  + Setup and configure database instances <-what is this? Should this be in db epic?
  + Setup new instance of Grafana <- should be in monitoring
  + Create new instances of Nexus, NPM, and design migration from existing Bayer infrastructure <- mentions design migration, not implementation.

**5. Project Fee(s)**

All services provided under this SOW will be invoiced to Monsanto on a time and materials basis, at the bill rates below:

1. **Team Allocation**.

|  |  |  |
| --- | --- | --- |
| Role | Rate | % Dedicated |
| Engagement Leader / SME | $180.00 | 20% |
| Solution Owner | $180.00 | 100% |
| Cloud Architect | $180.00 | 100% |
| Cloud Engineer | $180.00 | 100% |
| Cloud Engineer | $180.00 | 100% |
| Cloud Engineer | $180.00 | 100% |

Fees for this engagement is **$876,960**.

Estimation /Cost:

* $876,960 Services Costs
* $20,000 Expenses
* $896,960 Total

1. **Reimbursable Expenses (“Expenses”)**

In addition to Fees billed for professional Services as set forth above, Supplier may invoice Monsanto for travel-related Expenses (transportation costs and meals), based on actual costs. All travel expenses shall comply with the travel policy set forth in the Agreement.

Expenses will be invoiced separately from the Project fees and separately listed with supporting documentation attached.

**6. Monsanto & Supplier Responsibilities & Assumptions**

The in-scope Services, start date, end date, and fees for this SOW are based on the following Assumptions and Monsanto Responsibilities.

1. **Monsanto Responsibilities:**
   * Revisions to deliverables from Monsanto, to be secured within 2 business day of submission otherwise, it is assumed that the deliverables are accepted. Any delays in access or approval will may delay delivery, and subsequent deliverables and timeline.
   * Designate the Monsanto individuals who possess the suitable skills, knowledge and/or experience to support this project and serve as the Project Sponsor and Stakeholders.
   * Provide access to, and make available, the Project Sponsors, Stakeholders and other key personnel as required during the course of the project.
   * Provide, on a timely basis (within 5 business days), such information, documentation, decisions, approvals and assistance that are necessary to Supplier’s work or that Supplier reasonably requests.
   * Provide suitable workspace, furniture, and IT infrastructure (including workstations, systems access, software licenses, application environments, and data), necessary to perform the Services described within this SOW. A minimum of 2 weeks’ advance notice will be given for any requirements in this category.
   * Ensure to the best of its ability that all information provided to Supplier is complete, accurate and current in all material respects, contains no material omissions and is updated promptly and continuously during the course of the engagement.
   * Assume responsibility for any delays, additional costs, or other liabilities caused by or associated with any deficiencies in (i) discharging the Monsanto Responsibilities, and (ii) the Assumptions.
   * Monsanto will provide subject matter expertise in regards to technical implementation, limitations, source systems, and data models.
   * Monsanto will ensure use and procurement of appropriate licenses.
2. **Supplier Assumptions:**

The in-scope Services, start date, end date, and fees for this SOW are based on the following Assumptions and the Supplier’s Responsibilities.

* + Supplier shall be entitled to rely on all decisions and approvals of Monsanto in connection with the project work.
  + There will be a weekly status review meeting to determine accomplishments with the plan and identify issues that need immediate resolution. For critical issues, a response is required within one business day. For other issues, a response is required in two business days.
  + Supplier will utilize reasonable efforts to retain and maintain assigned resources throughout the lifecycle of this project. Supplier reserves the right to utilize any and all resources necessary to complete the project including resources that were not originally assigned to the project.
  + In the event Supplier chooses to change, remove, or add resources to the project, Supplier will review resource updates with Monsanto as soon as reasonably possible prior to making resource changes.
  + Supplier will not be responsible for delays due to Monsanto or Monsanto-affiliated third party resources, including hardware, software, or other services.
  + Monsanto’s failure to assign Monsanto personnel having skills commensurate with their role with respect to such engagement could adversely affect Supplier’s ability to provide the Services.
  + To the extent that Supplier fails to meet its obligations with respect to milestone or delivery dates and such failure is due to Monsanto’s failure to perform its responsibilities described in this

**7. Changes**

Any change or modification in the scope, type, quality or requirements of the Deliverables and Services, Project Fees, or any other aspect of this SOW, will be by SOW Amendment. All SOW Amendments will be accomplished in strict compliance with the procedures set out in the Agreement.

In witness whereof, the Parties have executed this SOW as of the dates below.

MONSANTO SLALOM, LLC

By: Monsanto

By By

Name Name

Title Title

Date Date