APN Partner Deal Acceleration Program – Project Plan

[*MATE*] – [**MIND**] – [Date]

Submitted By
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MMM-DD-YYYY

Partner Credentials on AWS

REVISION HISTORY

VERSION	DATE	AUTHOR	CHANGES
1.0	21-12-2021	PRACHI GULIHAR	INITIAL DRAFT OF SOW

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Disclaimer

This deck outlines general guidance from AWS on what expectations we have to cover broader base of customer requirements. The intent is to make it easier for APN partners to work on funding requirements and reduce the cycle time. With sample text to refer, this is helpful for partners in building comprehensive SoW (Statement of Work). However, this deck shouldn't be looked at as an ideal SoW. Sections identified below may not always apply and based on specific customer requirements, the contents of SoW will have to be updated/carved out by the partner team.

Please seek your own legal advice when writing SoW for customers

1 PROJECT OVERVIEW

1.1 EXECUTIVE SUMMARY

MothersonSumi INfotech & Designs Ltd. (MIND) is a part of Joint venture between **Samvardhana Motherson Group** (SMG) of India and **Sumitomo Wiring Systems** of Japan (SWS).

MIND is a provider of end-to-end software and engineering design solutions to companies around the globe. MIND started as an IT arm of the group in the year 2000 to support the IT needs of Samvardhana Motherson Group and Sumitomo Wiring Systems worldwide. MIND has further ventured into European and American Market to customers who are non-SWS and SMG to expand our services.

MIND's headquarters and development centers are in Noida (near New Delhi), India. MIND is a CMMi Level 5, an ISO 9001:2008 and ISO 27001 certified company. Since its inception in 2000, MIND has emerged as a strong world class IT Company with projects across the globe. MIND has multi-lingual software development capabilities including Japanese and German.

MIND is a Microsoft Gold Certified Partner, AWS, Azure & Google Cloud Service Provider, Oracle GOLD OPN partner and partner with other big IT brands.

MIND has Data Center (Level 3) services, Security Consulting Services Enterprise IT Helpdesk (Multi-lingual), Remote Application Management, Performance Management & Capacity Planning, Network Management Services and Application Hosting. MIND has defined Business Continuity (BC) and Disaster Recovery (DR) plans to mitigate risk of business disruption for its customers.

Motherson Automotive Technologies & Engineering (MATE) is the polymer division of Motherson Sumi Systems Ltd. MATE units are located across India in different locations. MATE manufactures a wide range of plastic components for the automotive and the non-automotive industry. Motherson Automotive Technologies & Engineering (MATE) specializes in large size injection molding, blow molding, compression molding and vacuum forming, which are supported by post molding operations.

MATE wanted to create a fully automated solution for extracting texts from various invoices. They want solution should be cost effective and auto scalable.

1.2 BUSINESS REQUIREMENT

MATE's back-office operations team, process Invoices as a part of back-office operations for their customers, all these invoices which they receive from their customers are manually processed. In this manual processing they pick information manually from scanned invoice documents and put in system, below information is extracted from invoices –

- Header information (e.g. Supplier Name, Invoice No., Invoice Date, GSTN No etc.)
- Footer information (e.g. Taxes & Invoice Amount etc.)
- Line level information: Item level information (e.g. part no., Qty, amount etc.)

This is quite time consuming, error prone and tedious for them to accomplish for nearly 30K Invoices every month, a team of 12 people are engaged in this processing leads to lot undifferentiated activity which creates scope of automation. Other OCR solutions which were being tried had their own shortcomings so couldn't be adopted as a solution.

Customer desires highly robust and cost-effective solution capable of delivering a quality end user experience regardless of the demands on the platform. The platform will use best in breed AWS services in order to achieve this goal.

Below are the requirements:

- ✓ Creation of a scalable solution that can scan up to 30 thousand invoices every month

- ✓ The solution must the easy to use and must be able to process various invoices.

- ✓ The solution must efficiently extract the header information, footer information and line level information from the invoice

1.3 PAIN POINTS IN THE CURRENT ENVIRONMENT

Challenges faced by the *CUSTOMER* in the current environment include

- ✓ Currently the customers use 12 people to manually process the invoices

- ✓ Manual processing of invoices is susceptible to error which reduces the efficiency.

- ✓ An automated solution will save a lot of man hours and cost for the customer

1.4 PROJECT SUCCESS CRITERIA

- ✓ Successful implementation of complete solution for digitalization of invoices

- ✓ Reduction in efforts and cost

1.5 PRE-REQUISITES

- ✓ Architecture diagram, documentation, inventory, and performance details of the existing environment will be made available

- ✓ AWS Administrator/necessary access to AWS Partner to start and work on the project

- ✓ Customer to provide support on understanding the Stored Procedures and business logic

- ✓ Assign an executive to work collaboratively with joint accountability of the program

1.6 DEPENDENCIES

- ✓ Network bandwidth requirement for end user connectivity to AWS

- ✓ Dependencies from on-premises data center on file server, license server and antivirus server

1.7 ASSUMPTIONS

- ✓ Invoices should be of good quality i.e. not too much cutting, pen marks on the scanned invoices.

- ✓ There should not be too much cutting, pen marks on the scanned invoices.

1.8 IN-SCOPE

Scope-1: Data uploading and pre-processing

- ✓ The invoices will be uploaded to S3 bucket through a web application.
- ✓ After the documents have been uploaded to S3 bucket document will be pre-processed.
- ✓ Here the document is processed by calling Textract API functions on the document where the it will be sent to textract for processing and will be getting a json response back from textract.
    - o Header information: Supplier Name, Invoice No., Invoice Date, GSTN no.
    - o Footer Information: Taxes & Invoice Amount
    - o Line level: Item level information like part no., qty & amount
- ✓ The JSON output will be saved in DynamoDB.
- ✓ After saving the data in DynamoDB following information will be displayed on the screen
- ✓ After this we will have to send data from DynamoDB to an ERP and for that we have few options-
    - o API option
    - o DMS
    - o Python script from SQL
    - o CSV import and export
- ✓ Here we chose API option

Scope-2: Mechanism for manual processing for flagged Invoices

- ✓ After post-processing of invoice, we can get 2 outcomes-
    - o The successful invoices/ data properly extracted
    - o Flagged invoices/ not properly extracted
- ✓ Flagged invoices will be rectified using Amazon Augmented AI(A2I) which is a service build by AWS.
- ✓ A2I starts as a human loop which works as a correction mechanism for flagged invoices.

Scope-3: Different Templates

- ✓ Creating a solution for different kinds of invoice templates.
- ✓ Will analyse meaningful headers and contents to be extracted from the invoices.
- ✓ Will change/manipulate the headers being used in old code.

1.9 OUT OF SCOPE

- ✓ Any processing of extracted information won't be under the scope as of now.

1.10 RISKS AND MITIGATION

Risk	Mitigation
Invoices with marks and cuts in the images giving wrong output	Ensuring clean and mark less invoices are uploaded for data extraction Setting up a minimum confidence threshold in the lambda function to ensure if the API has low confidence in certain data value then that invoice is flagged and saved in failure
Data from the DynamoDB can either be taken or tampered	Encrypting the DynamoDB taken and using the AWS KMS(key management service) to save the keys. This provides an additional layer of data protection by securing your data from unauthorized access to the underlying storage .
Data of invoices saved in s3 is not protected	IAM roles should be assigned to users and applications that require Amazon s3 access
Lack of support from business, existing partner	Manage project timelines through regular governance agreed mutually by partner and customer at the time of project initiation. Escalate in timely fashion in case of any issues/risks
Lack of testing assets and tools to validate the implementations	customer to provide the input & output for comparison testing from their existing application
Technical issues while executing the textract API	AWS Business support plan will be purchased

1.11 RACI MATRIX

Tasks/Activities	Responsible	Accountable	Consulted	Informed
Project initiation & Kick-off	MIND	MATE	AWS	MATE
Infra setup and configuration - Foundation	MIND	MATE	AWS	MATE
Discovery	MIND	MIND	AWS/ MATE	AWS/ MATE
Design	MIND	MIND	AWS/ MATE	AWS/ MATE
Implementation	MIND	MIND	AWS/ MATE	AWS/ MATE
Code Build	MIND	MIND	AWS/ MATE	AWS/ MATE
Code Review	MATE	MATE	AWS	AWS
Validation	MIND	MATE	MIND	AWS
Sign-off	MATE	MATE	AWS/ MIND	AWS/ MIND

2 SOLUTION ARCHITECTURE DIAGRAM

2.1 ARCHITECTURE ON AWS
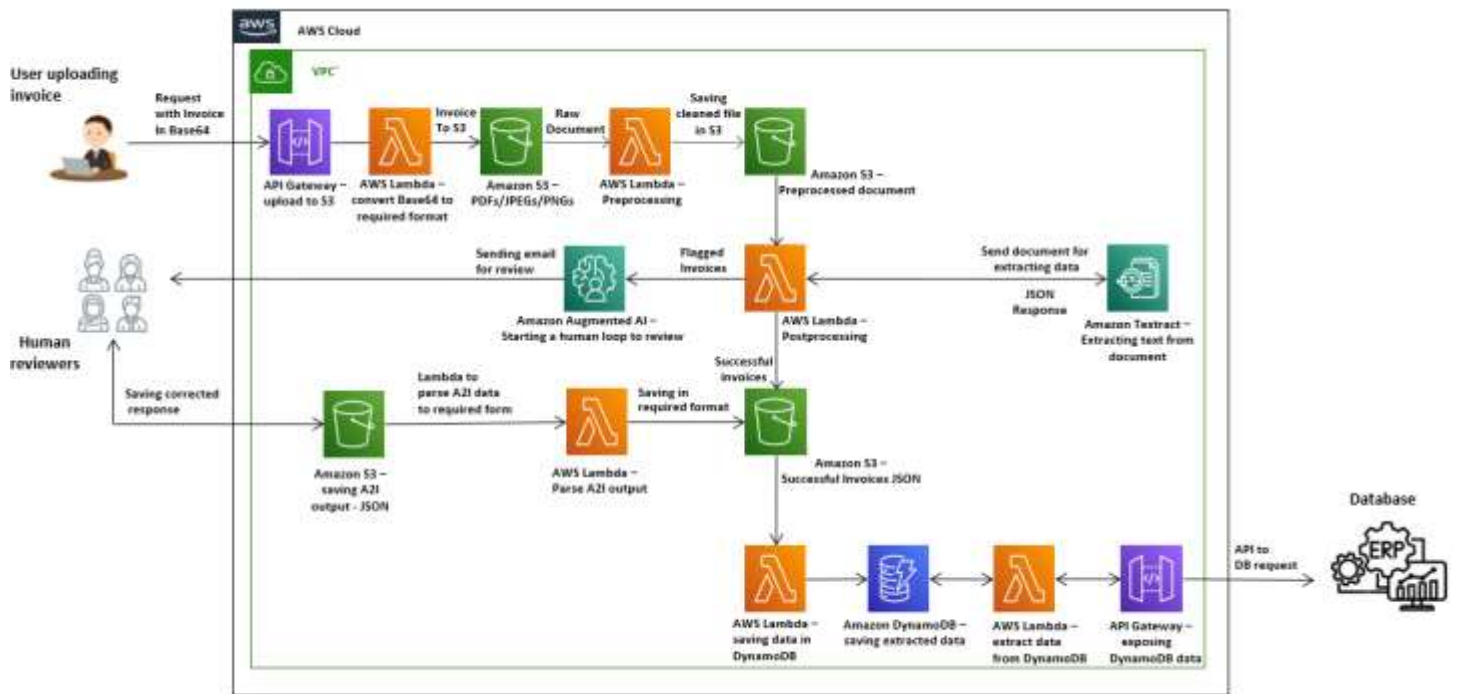
- ✓ The invoice images are uploaded using the AWS API gateway.
- ✓ Lambda function converts the images from Base64 to required format to be saved in S3 bucket.
- ✓ S3 bucket is used to store the images of the invoices for later processing.
- ✓ Lambda function removes the metadata from the images and cleans the image to improve efficiency.
- ✓ The preprocessed files are stored in another S3 bucket.
- ✓ After preprocessing a postprocessing lambda comes into the picture to send the invoice image to the AWS Textract API and save the returned JSON data into S3 bucket.
- ✓ Another lambda function takes the data returned by textract API and save the relevant information into DynamoDB.
- ✓ The data from the DynamoDB is picked up by a lambda which then processes the data and connects the data to an API gateway.
- ✓ The API gateway receives requests from ERP solution and displays the results

3 PROJECT EXECUTION / SUMMARY OF MILESTONES & DELIVERABLES

Scope-1 Schedule						
Activity	**Wk1**	**Wk2**	**Wk3**	**Wk4**	**Wk5**	**Wk6**
Working on textract console						
Building Pre-Processing Lambda						
Building of Post-Processing Lambda						
Building of lambda function which saved data to DynamoDB						
Building of the Front-end						

Scope-2 Schedule		
Activity	**Wk8**	**Wk9**
Build A2I solution for the invoices that whose data were not properly extracted		
Build Lambda to parse A2I output		

Scope-3 Schedule	
Activity	**Wk10**
Creating a solution for different kinds of invoice templates.	

*Wk = Week

3.1 EXPECTED AWS COST BREAKDOWN BY SERVICES

The monthly estimate for this project can be reviewed by following the below link:

https://calculator.aws/#/estimate?id=b63710a4420cb6c19246754608e5b2176a8f26e6 = $554

Above link doesn't have A2I costing (Not available in AWS Calculator)

Amazon A2I workflow pricing with custom models

For each object where human review is completed, you pay the following Amazon A2I review charges.

Number of reviewed objects	Price per object
First 50K objects reviewed per month	$0.08 per object

Considering 5% of Invoice would probably need human review(5% of 30,000 is 1500)

Cost for A2I = 1500* 0.08 = $120

Total cost per month = $554 + $120 = $674

3.2 ACCEPTANCE

[To conclude a project, define acceptance process here. For example:

Upon completion of a Phase, PROVIDER will submit the associated tangible Deliverables, to CUSTOMER accompanied by an Acceptance Form in the form set forth in Appendix B to this SOW. Upon such submission, CUSTOMER will review, evaluate and/or test, as the case may be, the applicable Deliverable(s) within eight (8) business days (the "Acceptance Period") to determine whether or not each Deliverable(s) satisfies the acceptance criteria for the particular Deliverable in all material respects. If the Deliverable satisfies its acceptance criteria in all material respects, CUSTOMER will furnish a written acceptance confirmation to PROVIDER via the Acceptance Form prior to the end of the Acceptance Period. For a Deliverable that is not accepted due to a non-conformity or defect, CUSTOMER will indicate the detailed reasons for such rejection on the Acceptance Form and return the Acceptance Form together with the associated tangible rejected Deliverables, if any, to PROVIDER (a "Rejection Notice") within the Acceptance Period. Upon receipt of a Rejection Notice, PROVIDER will promptly correct any defects or non-conformities to the extent required so that each Deliverable satisfies the requirements of this SOW and its acceptance criteria in all material respects. Thereafter, PROVIDER will resubmit a modified Deliverable to CUSTOMER , accompanied by the Acceptance Form and the process set forth above will be repeated. However, CUSTOMER will limit its review, evaluation and/or test of each resubmitted Deliverable to determining whether or not PROVIDER has corrected the defects or non-conformities identified in the Rejection Notice and to the effects or impact which PROVIDER's corrections or modifications have on other Deliverables or other portions of the same Deliverable. If CUSTOMER fails to provide PROVIDER with the above described Rejection Notice prior to the end of the applicable Acceptance Period, then the corresponding Deliverable(s) are deemed accepted.]

Typical deliverables at the end of the engagement are Standard Operating Procedures, Build document. However, what the customer desires for acceptance needs to be discussed and agreed upon before beginning of the engagement

4 RESOURCES & COST ESTIMATES

[List all billable and non-billable resources involved in the project]

APN partner are required to ensure Project Plan and the Work Break Down list is comprehensively charted out. Each task should be broken down in to as much details as possible and efforts listed down should be justifiable

Partner Technical Team

1. Title - Name
2. Title - Name

Resource	Rate (USD) / Hour
Solution Architects	
Engineers	
Other (Please specify)	

Project Plan and Work Break Down List		
Infrastructure Creation and Implementation		
Common Infrastructure & Activities		
Roles	**Sub task**	**Effort required (person days)**
Technical Architect	Discuss the Application and Infrastructure Architecture. Understand Dependencies and Integration points	
	Create Document, Reviews from Customer, Corrections and Document sign off	
Sr. Cloud Engineer	AWS Account Creation / Setup or Gain access if existing A/c and IAM (Roles, Policies, Groups and Users) Access Setup	
	Setup of Cloud Trail & Billing with their S3 Buckets	
	Setup Network components like VPC, OpenVPN, Subnets, Routing Tables, NAT, Bastion/RDP GW etc. as per the architecture	
	Setup of NACL's & Security Groups and configuration of security rules as per the document.	
	Setup of S3 Buckets	
	Setup of Base AMI's (App / Layer wise) with latest OS patches & software's required by the applications.	
Total		
Kubernetes Architecture		
Roles	**Sub task**	**Effort required (person days)**

Sr. Cloud Engineer	Setup and configuration of the Kubernetes cluster	
Sr. Cloud Engineer	Setup and configuration of the Worker Nodes	
Sr. Cloud Engineer	Configuration of AutoScaler on Kubernetes cluster	
Sr. Cloud Engineer	Setup and configuration of Load Balancer Ingress Controller	
Sr. Cloud Engineer	Setup of Cluster Level monitoring using Open Source tools	
Sr. Cloud Engineer	Setup of ElasticCache service	
Sr. Cloud Engineer	Setup Client Build Environment with Fileshare	
Sr. Cloud Engineer	Setup HashiCorp Vault and configure KMS	
Sr. Cloud Engineer	Setup ALB and WAF then configure it to route requests to servers	
Sr. Cloud Engineer	Setup RDS with MySQL	

Sr. Cloud Engineer	**Support to customer on application setup.** **(Deployment server in case of Web/App/Api)**	
	Total	
	Data Migration (for all 7 customers)	
Roles	**Sub task**	**Effort required (person days)**
Sr. Cloud Engineer	Migrate Data from Cloud SQL to RDS	
Sr. Cloud Engineer	Migrate Data from Cloud storage to S3	
	Total	
	CI/ CD	
Roles	**Sub task**	**Effort required (person days)**
Sr. Cloud Engineer	Setup and configure Jenkins server for the application deployment	
Sr. Cloud Engineer	Setup Jobs for various services	
Sr. Cloud Engineer	Take care of roll back in case of failures	
Sr. Cloud Engineer	Test the entire solution end to end	
Sr. Cloud Engineer	Walk through of the entire branching and workflow of DevOps setup	
Sr. Cloud Engineer	Corrections on feedback	
	Total	
	For v5/6 Architecture (For all 7 customers)	
Roles	**Sub task**	**Effort required (person days)**
Sr. Cloud Engineer	Setup of EC2 instances according to architecture	
Sr. Cloud Engineer	Setup ALB and configure it to route requests to servers	
Sr. Cloud Engineer	Setup RDS with MySQL	

Sr. Cloud Engineer	Support to customer on application setup. (Deployment server in case of Web/App/Api)	
Sr. Cloud Engineer	Cloud Watch Alerts and Setup of Standard / Custom Metrics - ASG Metrics	
	Cloud Watch Dashboards Setup	
Sr. Cloud Engineer	Configure GuardDuty and AWS Config	
Sr. Cloud Engineer	Handover & Documentation.	
	Total	

	Data Migration (For all 7 customers)	
Roles	**Sub task**	**Effort required (person days)**
Sr. Cloud Engineer	Migrate Data from Onpremise/Cloud to RDS	
Sr. Cloud Engineer	Migrate Data from Onpremise/Cloud storage to S3	
	Total	
Project Management		
Roles	**Sub task**	**Effort required (person days)**
Project Management	Project will conduct governance with Technical Team and Customer Stakeholders	
	Total	

Cost Contribution distribution between Partner, *CUSTOMER*, AWS:

Party	Contribution (USD)	% Contribution of Total
CUSTOMER		
Partner		
AWS		

4.1 PROJECT SPONSOR(S) / STAKEHOLDER(S) / PROJECT TEAM

[Identify and list the CUSTOMER 's Executive Sponsor and Project Stakeholders, including Title and Description (describe their role and responsibilities in the organization). The Executive Sponsor is the individual with overall accountability for the project. The Sponsor is primarily concerned with ensuring that the project delivers the agreed business benefits. Project stakeholders are entities that have an interest in a given project, and usually represent a business group or organization]

Partner Executive Sponsor

Name	Title	Description	Email / Contact Info
John Doe	*SVP Finance*	*Head of Financial Services*	

Project Stakeholders

Name	Title	Stakeholder for	Email / Contact Info
Ivan Doctorow	*Sr. Manager, QA*	*IT – Testing / QA*	
Jane Smith	*Director, PMO*	*Program Management Office*	
Dan Jacobs	*VP, IT Operations*	*IT Operations – Networking*	

Partner Project Team

Name	Title	Role	Email / Contact Info
Steve Jones	*Delivery Manager*	*Project Manager*	
Philip McDaniels	*Sr. Solutions Architect*	*Architect; Technical Lead*	

Project Escalation Contacts

Name	Title	Role	Email / Contact Info
Steve Jones	*Delivery Manager*	*Project Manager*	

APPENDIX A – TECHNICAL PROJECT PLAN FOR MIGRATION PROJECT

Migration Project Plan must demonstrate a consistent methodology and process applied through multiple migration phases as exemplified below. Though specific details may vary from project to project, a solid migration framework with major phases and work areas must be clearly identified and exercised consistently across all the projects.

The migration work scope and deliverables below are for guidance and demonstration purposes. Refer to AWS Migration Consulting Competency Checklist for details. Actual project details may include other work items not limited to the following areas.

Phase	Work Area and Deliverables
Assess	Migration Readiness Assessment (MRA) - MRA determines *CUSTOMER*'s readiness based on AWS Cloud Adoption Framework comprised of Business, People, Governance, Platform, Security, and Operations perspectives. Deliverables should include an assessment report with suggested actions and Statement of Work for executing the Mobilize phase next. Total Cost of Ownership (TCO)– The purpose of TCO analysis at assess phase is to perform rapid discovery and create TCO report. Deliverables should include a detailed business case with focus on TCO modelling, business value assessment and detailed migration cost.
Mobilize	The purpose of Mobilize phase is to validate foundational migration capability and business case and plan migration project next. Mobilize may consist of the following work streams: ▪ Mobilize phase execution and migration planning ▪ Portfolio discovery and analysis ▪ Operations model assessment and design ▪ Landing Zone design ▪ Initial implementation Security specification ▪ Migration pilot implementation as per Appendix B ▪ Migration team/organization establishment, Team RACI, training plan, and training activities ▪ Detailed Business Case justification supported by Total Cost of Ownership (TCO) calculations Deliverables should reflect the results of each of the work streams.
Migrate & Modernize	Migrate - The migration project may consist of the following work areas on a per application basis: ▪ Design: migration pattern, application architecture, operations, cutover plan and process, reusable templates, migration tooling, and validation test plan ▪ Migration: servers, databases, data, infrastructure services, followed by basic validation test ▪ Integration: connectivity, application interfaces, operations (backup/restore, …) ▪ Validation: functional, performance, reliability, security, compliance ▪ Cutover: meeting RTO and RPO with rollback plan Modernize – Modernization may be performed as part of migration work or post migration. The modernization project may consist of following areas on a per application basis:

	▪ Assessment: Figure out motivation driver to modernize an application. Assess the amount of effort, time and cost to modernize. Assess the cost savings with modernization options (replatform, refactor, repurchase etc.) ▪ Design: Migration pattern, target application architecture and AWS Services, operations, cutover plan and process, migration tooling and validation test plan. ▪ Development: Develop or modify application to use AWS managed platform. ▪ Validation: functional, performance, reliability, security, compliance ▪ Cutover: meeting RTO and RPO with rollback plan Optimize - It may involve one or more of the following work areas. ▪ Cost optimization (e.g., right-sizing services, resource reservation, leveraging spot instance, monitoring and analyzing service usage and cost) ▪ Application optimization (e.g., performance, functional, design) ▪ Process optimization (e.g., development process automation) ▪ Operational optimization (e.g., operations support systems, infrastructure as code)) Deliverables should reflect the results of each of the work areas.
Completion	Reach the project closure with the *CUSTOMER*. Deliverables should include *CUSTOMER* 's acceptance letter and training materials.

APPENDIX B – PILOT MIGRATIONS IN MOBILIZE PHASE

The Application Migrations work stream defines an agile approach to migrate applications to AWS during the Mobilize Phase. This work stream helps *CUSTOMER* s get hands-on experience in migrating different types of applications to AWS using standard migration tools and process, working together with AWS and/or Partner migration experts. It also helps bring some of the outputs from other work streams, such as Security, Risk & Compliance, Operational Integration, and Landing Zone together through live-migrations. Although the number of applications migrated in this work stream is normally no more than 10, it is largely indicative of how the majority of applications can be migrated as detailed discovery and analysis is completed for the rest of the portfolio.

General Guidelines for selecting applications for Pilot
Applications that are web-based (accessed via web browsers), 2 or 3 tiered (web-app-database); running a supported operating system on virtual or physical hardware; have no dependency (or are loosely coupled) on other applications in data center/on-prem; have little (less than 1 Mbps) connectivity needs back to data center or *CUSTOMER* has Direct Connect; no shared data storage (SAN/NAS) with other applications; runs on AWS RDS supported databases ; Database size less than 20GB; not to exceed 20 server instances; preferably, stateless-architecture (can be deployed in a clustered mode using load balancer); preferably, at least 50% test automation for expedited testing/certification; preferably, well understood and documented architecture; acceptable (less than 2 hours) downtime.

In addition to above guidelines, there are other factors to be considered based on *CUSTOMER* 's process, application criticality, commitment, SME availability.

General Examples of applications preferred for Pilot Migrations:
Online properties/Marketing sites
Intranet applications built on n-tiered architecture
Content Management Systems
Web Applications
Marketing, Sales and Service applications

General Examples of applications not recommended for Pilot Migrations:
ERPs and CRMs– SAP, PeopleSoft, Oracle ERP, Microsoft Dynamics, Seibel
Financial Reporting Systems
Data Warehouse
Information Lifecycle Management, ETL, B2B data exchanges,
EAI and middleware
Citrix-based workloads

Outcome
CUSTOMER resources trained in migration tools, AWS services, monitoring, and best-practices
CUSTOMER ramped-up on scalable migration factory framework