ACE CRM Integration User Guide

March 2021
Version 1

aws partner network

Contents

1. Introduction

This user guide provides information for a Partner to integrate their CRM to APN Customer Engagement (ACE) module within Partner Central.

2. Pre-requisites

If you are new to ACE and ACE opportunity and lead processes, we recommend you to go through the below processes available in Partner Central. (Partner Alliance Lead can provide these documents if you do not have access).
ACE – How to submit an opportunity
ACE – Overview of Validation process

3. ACE-Partner CRM Integration (file transfer approach via Amazon S3)

In general, each Partner uses different CRM systems, configurations and create leads, and opportunity workflows to cater to the needs of their unique service offerings. In addition, each Partner follows different sales processes. The architecture is a file transfer approach via Amazon S3. As part of this, **Partners have to integrate their own CRMs with AWS S3** *which in turn integrates with ACE tool hosted on Partner Central. This integration works with any CRM platform and allows you to integrate your CRM system with the ACE Pipeline Manager in APN Partner Central. This will help streamline your AWS pipeline process and eliminate manual efforts in maintaining information in two different systems.*

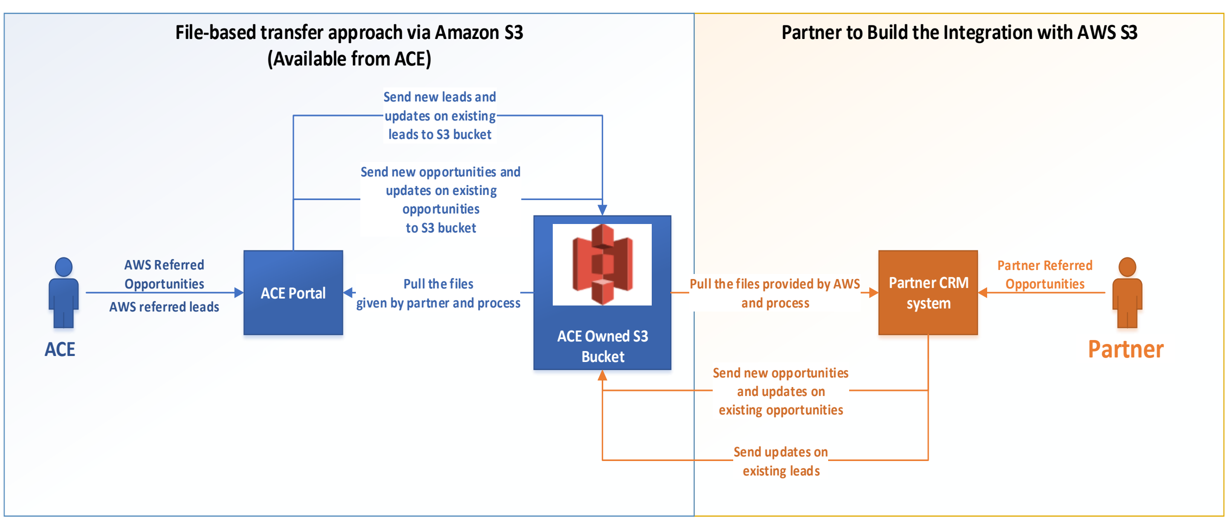
Features: *Using this integration, Partners will get following features. Partner can implement all of the features or subset of these features. Refer to* *How to implement the integration?* *Section for this.*

For Leads:

1. *From ACE: Partner can receive new leads and subsequent updates on leads*
2. *From Partner: Partner can send updates on the leads to ACE*

For Opportunities:

3. *From ACE: Partner can receive new* **AWS Referred** *opportunities*
4. *From Partner: Partner can send new* **Partner Referred** *opportunities*
5. *Bi-directional: Send and receive updates on both* **AWS Referred** *and* **Partner Referred** *opportunities*



4. Integration Environments, S3 Buckets and Folders

Environments: *ACE team has two environments – beta and production. ACE team will create S3 bucket in ACE owned AWS account for each of these environments such that beta S3 will talk to ACE's Sandbox and production S3 will talk to ACE's production environment. Initially, ACE team will provide programmatic access to the integration in beta environment's S3 bucket. We recommend Partner to use their Sandbox environment during the build phase to talk to beta S3 bucket. Once the development and testing is successful, Partner can deploy the code into their Production environment and talk to Production S3 bucket.*

S3 Bucket: *ACE team will setup separate S3 bucket for each Partner in Amazon owned AWS Account and provide programmatic access to the bucket. There will be separate S3 bucket for Sandbox and Production environments. Refer to* [*Onboarding*] *section to get bucket access for each environment. ACE will authenticate the partners before uploading or downloading the files from S3. The naming convention for the S3 bucket is as follows - ace-apn-[spms-id]-[environment]-us-west-2 in which spms-id is the ACE provided unique id for the Partner and Environment is either beta or prod.*

Folders in S3 Bucket: *ACE uses S3 bucket with different folders for the integration as explained in below table.*

Notes*:*

- *AWS S3 considers these folders as objects and won't show up if there are no files in the folders. However, Partners' can read/add files to these folders even though the folders do not appear.*
- *Partner has to send and receive the data from different folders.*

#	Task	Folder Name	Description
1	*Get leads from ACE*	*lead-outbound*	*The folder in which AWS places the file that contains new leads or updates on existing leads. Partners will have read/delete access to this folder. Once Partner process the file, ACE will expect Partner to delete the file.*
2	*Get opportunities from ACE*	*opportunity-outbound*	*The folder in which AWS places the file that contains new opportunities or updates on existing opportunities. Partners will have read/delete access to this folder.*
3	*Send new opportunities or updates on existing opportunities to ACE*	*opportunity-inbound*	*The folder in which Partner sends the file with new opportunities or updates on existing opportunities.*
4	*Send updates on leads to ACE*	*lead-inbound*	*The folder in which Partner sends the file with updates on leads data.*
5	*Get the results for opportunities sent to ACE*	*opportunity-inbound-processed-results*	*The folder in which ACE team places the results after processing the opportunity files provided in the opportunity-inbound folder by Partner. AWS will provide read/delete access to partners.*
6	*Get the results for leads from ACE*	*lead-inbound-processed-results*	*The folder in which AWS places the results after processing the lead files provided in the lead-inbound folder by Partner. AWS will provide read/delete access to partners.*

5. How to implement the integration?

As part of the integration, the Partner CRM system has to talk to AWS S3 bucket to send and receive the data and there is no direct connection with ACE portal. To use the features mentioned in [*ACE-Partner*]

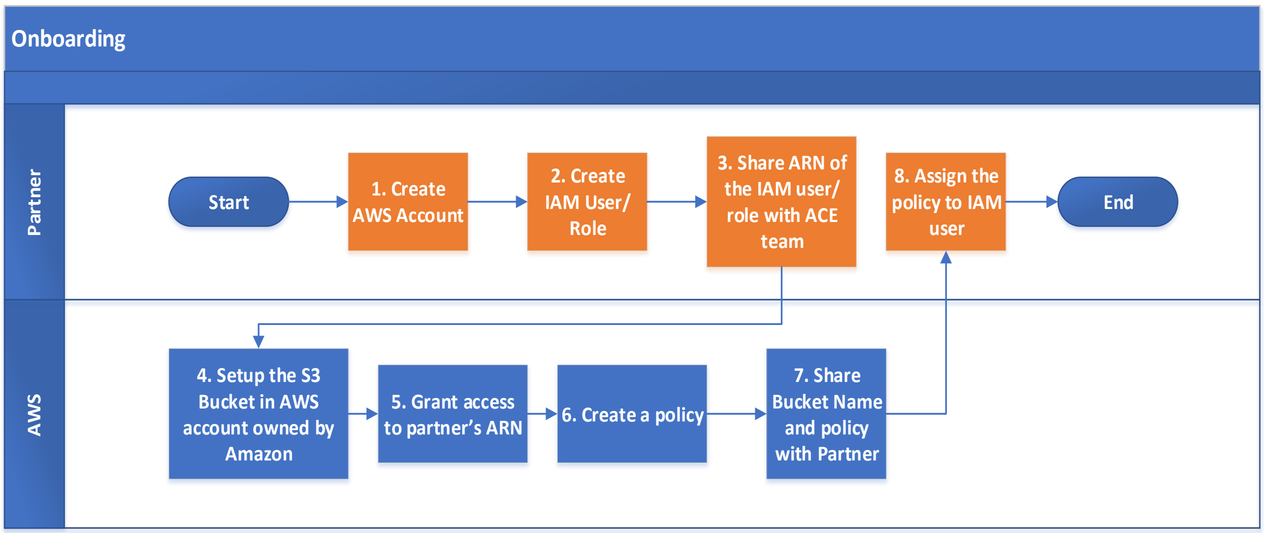
[CRM Integration](#) section, there is a onetime implementation effort from Partner and afterwards the data flow is seamless.
The implementation includes the following steps -

a. *Onboarding*
b. *How to get opportunities data from ACE?*
c. *How to get leads data from ACE?*
d. *How to send opportunities data from ACE?*
e. *How to send leads data to ACE?*

5.1. Onboarding

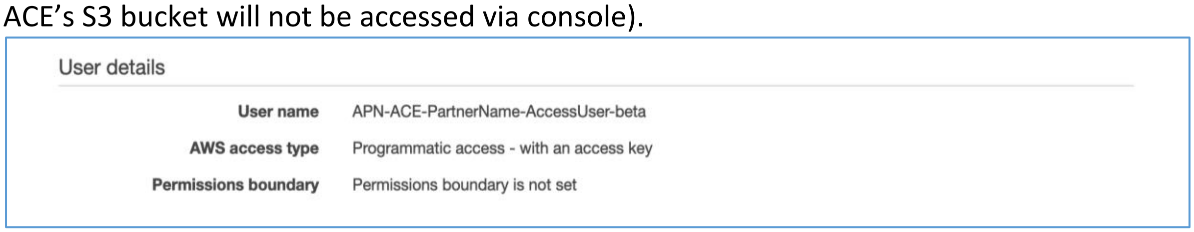
This section provides the detailed steps on onboarding a partner onto the ACE Partner CRM integration as explained in the below process flow diagram. Partner has to follow these steps for both beta and production onboarding.

Figure 1: Onboarding Process Flow



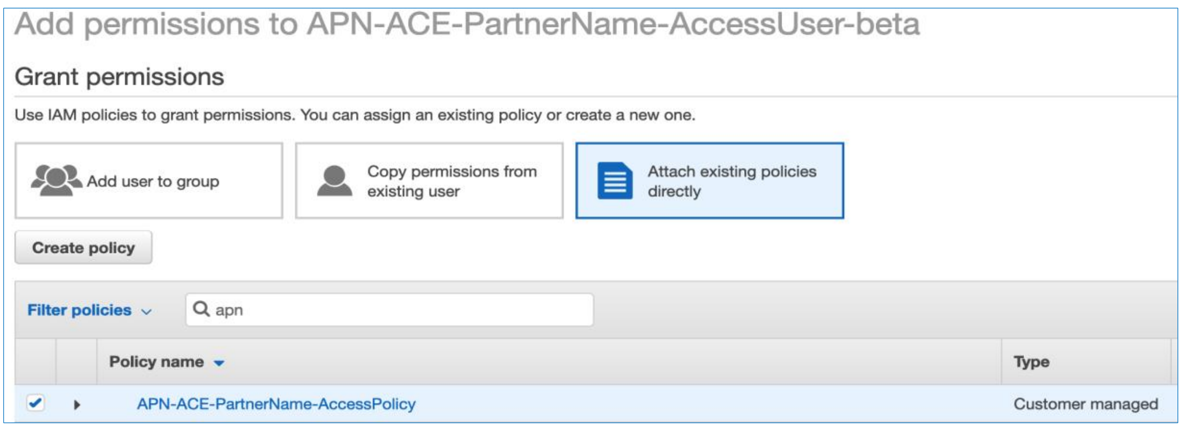
1. **Create AWS Account:** Each Partner need to create two AWS Accounts, one for beta and another one for production usage. Partner can set up new AWS account using the steps mentioned [here](#). [Owned by Partner].
2. **Create IAM User/Role:** Once the account is setup, Partner need to create an IAM user/role. The IAM user can be setup using the steps mentioned [here](#)and refer to [video](#) available in Partner Central. ACE team will recommend the following naming convention for IAM user/role to distinguish between beta and production. [Owned by Partner].
   - For beta: APN-ACE-<PartnerName>-AccessUser-**beta**
   - For production: APN-ACE-<PartnerName>-AccessUser-**prod**

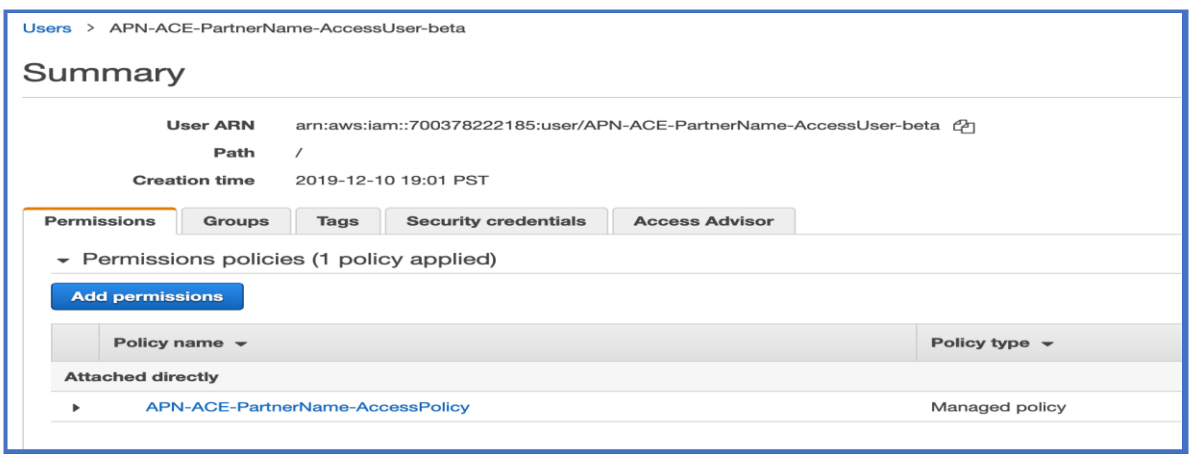
   While setting up the IAM user/role, set the AWS Access type as "Programmatic Access" which enables Partner to access the ACE's S3 bucket programmatically using code. (i.e. ACE's S3 bucket will not be accessed via console).



3. **Share ARN of the IAM user/Role:** After the IAM user is setup, Partner has to share IAM user's Amazon Resource Name (ARN) of the IAM user/role to ACE team via email. This is needed to provide access to the partner specific S3 bucket. The ARN will be a string in a format similar to mentioned below. [Owned by ACE].

4. **Setup S3 bucket:** After receiving the ARN, ACE team will setup S3 bucket. [Owned by ACE]
5. **Grant Access to Partner's ARN:** ACE team will grant access to S3 bucket by using the ARN provided by Partner. [Owned by ACE]
6. **Create Policy:** The APN team will create a policy that enables the IAM user to access the S3 bucket to read and upload the files. [Owned by ACE]
7. **Share SPMS ID, bucket name and Policy:** ACE team will share the SPMS ID, bucket name and policy via email. [Owned by ACE].
8. **Assign Policy to IAM user/role:** Partner need to attach a policy to the IAM user. Refer to video available in Partner Central. This policy includes the bucket details and key name information to be used by the Partner. Partner should not add any additional policies to the IAM user/role other than what ACE team provides. [Owned by Partner]





5.2. How to get Opportunities data from ACE?

This section provides the detailed steps to get new opportunities or updates on existing opportunities from ACE as explained in the below process flow diagram.

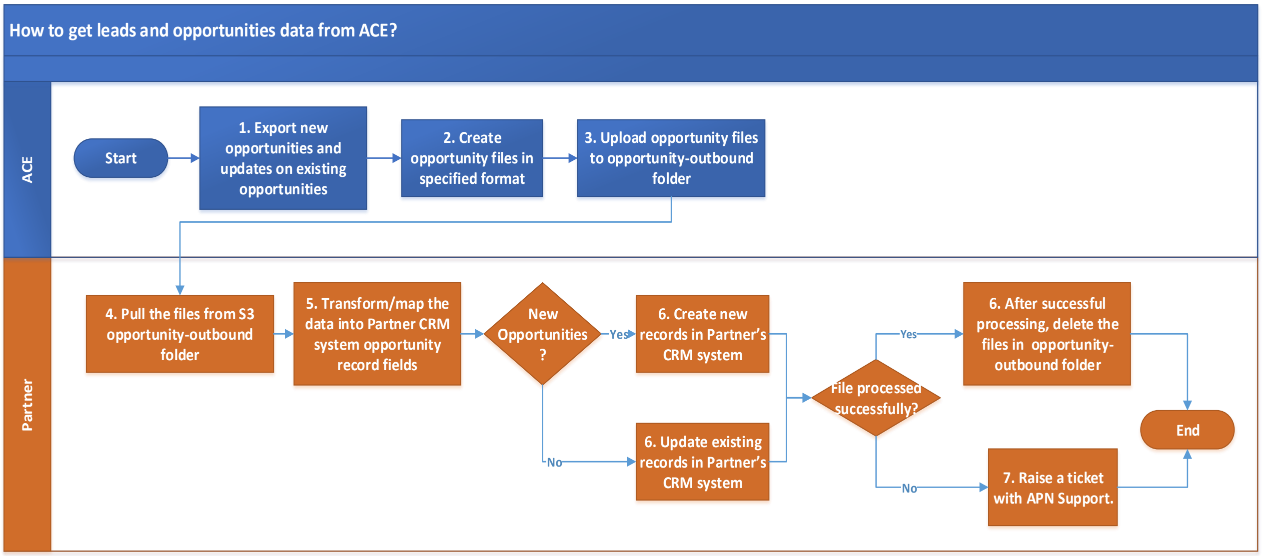


Figure 2 : How to get opportunities data from ACE?

Steps Owned by ACE:

1. *ACE will export incremental new AWS referred opportunities and updates on existing opportunities for every one hour.*
2. *ACE will create opportunity files in specific format. Refer to data format section for file specifications.*
3. *ACE will upload the files into opportunity-outbound folder.*

Steps Owned by Partner:

4. *Partner will scan the opportunity-outbound folder for specific interval chosen by Partner using a scheduled a job and pull the files.*
5. *Partner will read each file content and transform/map the data into opportunity record present in Partner's CRM system. Refer to field mapping section for guidance on field mapping.*
6. *Each opportunity is uniquely identified by using either partnerCrmUniqueIdentifier or apnCrmUniqueIdentifier. If opportunity is a new opportunity from ACE, partnerCrmUniqueIdentifier field will be blank and apnCrmUniqueIdentifier will be present. If the opportunity has both of these, the record can be considered as an update from ACE.*
7. *Partner can ingest new opportunity or update an existing opportunity in their CRM system.*
8. *After successfully process each opportunity and complete file data, Partner can either can delete the files from outbound folder or tag the files.*

Notes:

9. *For reading the files uploaded in the bucket, Partners can use AWS Lambda service or directly read from respective CRM system. Partners can reference below mentioned AWS Lambda sample code that first validates the files and then calls Salesforce REST API to update the records in their CRM system. If Partner uses a CRM system other than Sales Force, Partner has to write the code for their specific system to update the data.*
   Lambda for Validating Files: *File named "ace_read_s3" (Present in developer kit)*
   Samples SFDC REST API: *File named "Apex_Sample_REST_API_Code.cls" (Present in developer kit)*
10. *Refer to ACE Integration Task Checklist during development (*Present in ACE CRM Development Kit)

5.3. How to get leads data from ACE?

This section provides the detailed steps to get new leads or updates on existing leads from ACE as explained in the below process flow diagram.

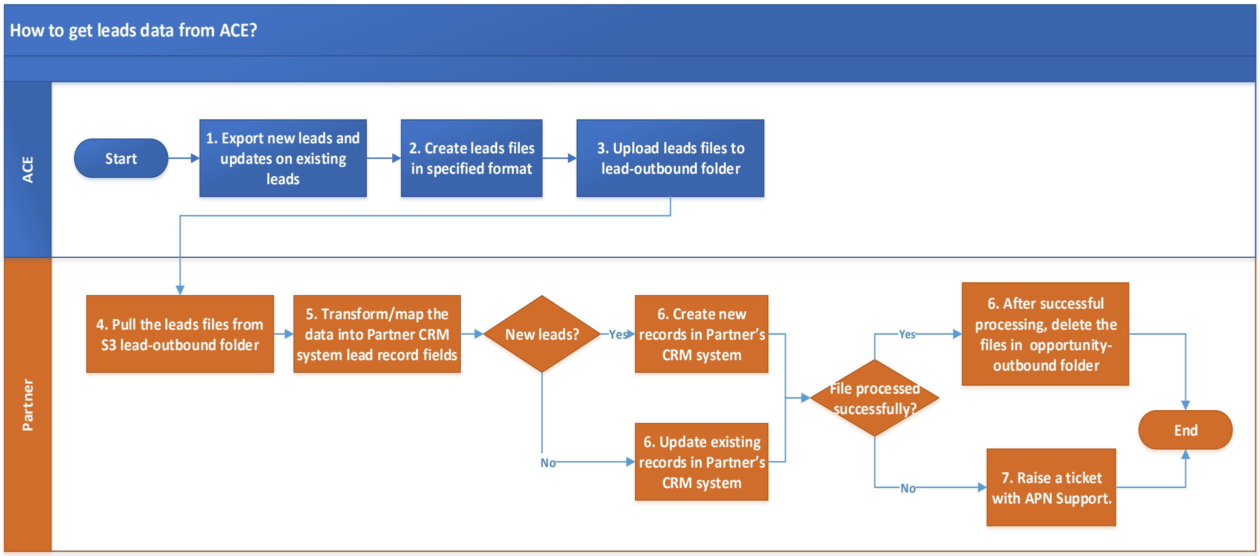


Figure 3: How to get leads data from ACE?

Steps Owned by ACE:

1. *ACE will export incremental new AWS referred leads and updates on existing leads for every one hour.*
2. *ACE will create leads files in specific format. Refer to data format section for file specifications.*
3. *ACE will upload the files into lead-outbound folder.*

Steps Owned by Partner:

4. *Partner will scan the lead-outbound folder for specific interval chosen by Partner using a scheduled a job and pull the files.*
5. *Partner will read each file content and transform/map the data into lead record present in Partner's CRM system. Refer to field mapping section for guidance on field mapping.*
6. *Each lead is uniquely identified by using either partnerCrmLeadId or apnCrmUniqueIdentifier. If lead is a new lead from ACE, partnerCrmLeadId field will be blank and apnCrmUniqueIdentifier will be present. If the lead has both of these, the record can be considered as an update from ACE.*
7. *Partner can ingest new lead or update an existing lead in their CRM system.*
8. *After successfully process each lead and complete file data, Partner can either can delete the files from outbound folder or tag the files.*

Notes:

9. *For reading the files uploaded in the bucket, Partners can use AWS Lambda service or directly read from respective CRM system. Partners can reference below mentioned AWS Lambda sample code that first validates the files and then calls Salesforce REST API to update the records in their CRM system. If Partner uses a CRM system other than Sales Force, Partner has to write the code for their specific system to update the data.*
   Lambda for Validating Files: *File named "ace_read_s3" (Present in developer kit)*
   Samples SFDC REST API: *File named "Apex_Sample_REST_API_Code.cls" (Present in developer kit)*
10. *Refer to ACE Integration Task Checklist during development* (Present in ACE CRM Development Kit)

5.4. How to send opportunities data to ACE?

This section provides the detailed steps for to send new opportunities or updates on existing opportunities to ACE as explained in the below process flow diagram.

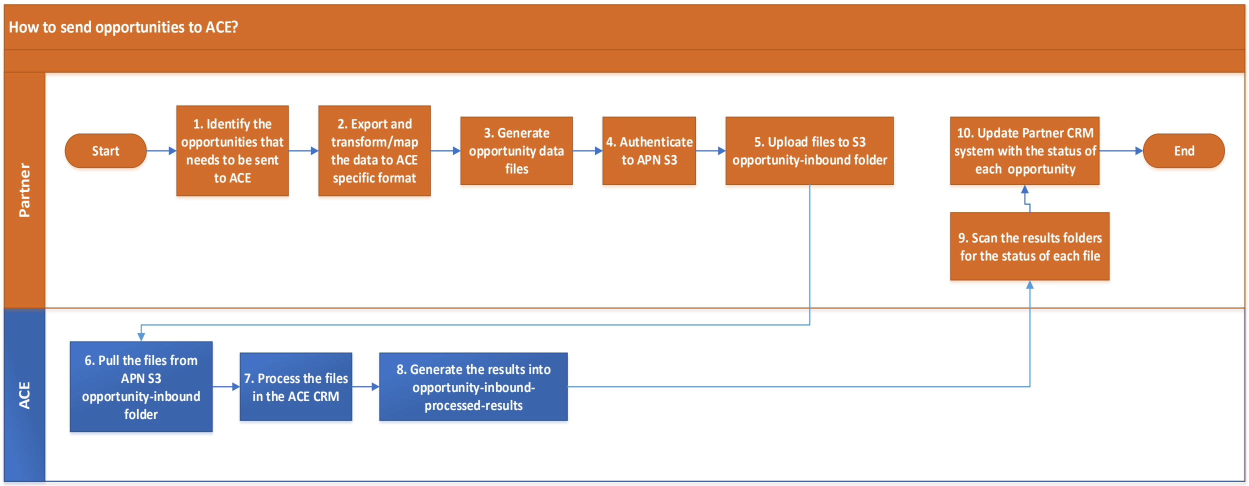


Figure 3: How to send opportunities data to ACE?

Steps:

1. *Identify the opportunities that needs to be shared with ACE. This includes new Partner originated opportunities or updates on any of the existing opportunities.*
2. *Export the data and transform the data into ACE specific format. Refer to data format section for details.*
3. *Generate the opportunity files.*
4. *Authenticate to ACE S3 bucket and uploads the file to the opportunity-inbound folders. Each file name need to be unique. The recommended file name is 'Partner provided file name_MMDDYYYY24HHMMSS.json'. While uploading the files to S3, provide full access to bucket owner as per example "aws s3 cp example.jpg s3://awsexamplebucket --acl bucket-owner-full-control".*
5. *ACE will pull these files immediately and process the file. Post-processing, ACE generates one result file for each incoming file from Partner and uploads opportunity-inbound-processed-results folder in S3 bucket. The results file includes success/error status and error message (if error) details of each opportunity record in the incoming file from Partner.*
6. *Partner has to scan this result folder for a specific interval of time, read the results files and make necessary action to correct the error records and resend the data to ACE again.*

Notes:

7. *For uploading the file to S3 from CRM system, the partner can reference the AWS Signature version 4 authentication and then will use Https requests to upload the file in to S3. The below attached files can be used as reference by the partner to upload the file in to S3.*
   For Authenticating to S3. *File name "S3_Authentication.cls" (Present in developer kit)*
   For Uploading File to S3. *File named "Sample_AceOutboundBatch.cls" (Present in developer kit)*
8. *Partner has to upload a file which is less than 1 MB size. If Partner uploads any duplicate file, APN will not process such files.*
9. *While uploading the files to S3, provide full access to bucket owner as per example "aws s3 cp example.jpg s3://awsexamplebucket --acl bucket-owner-full-control".*
10. *Refer to ACE Integration Task Checklist during development* (Present in ACE CRM Development Kit)

5.5. How to send lead data to ACE?

This section provides the detailed steps for to send updates on existing leads to ACE as explained in the below process flow diagram.

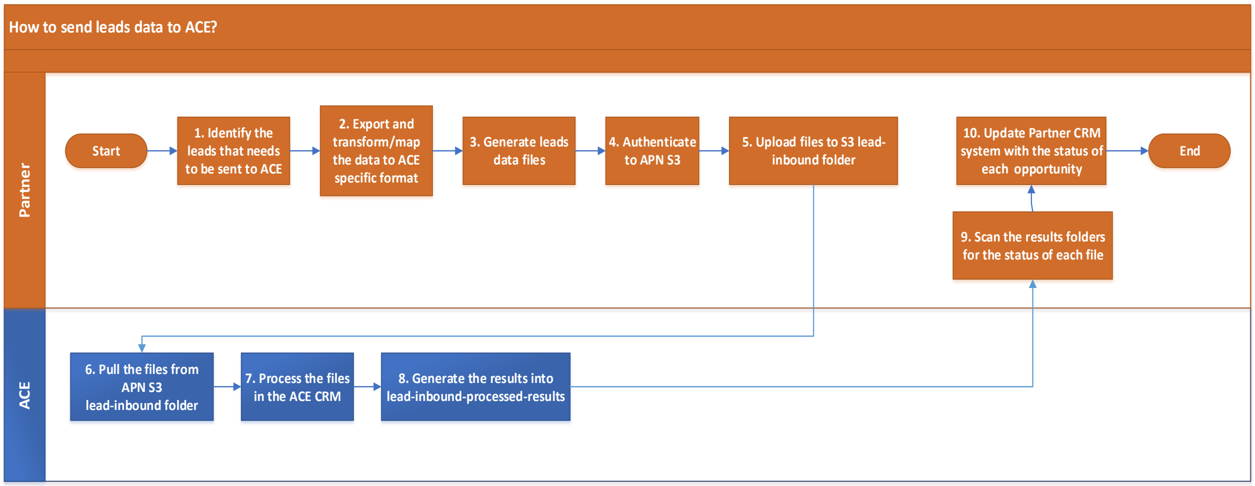


Figure 4: How to send leads data to ACE?

Steps:

1. *Identify the leads that needs to be shared with ACE. This includes updates on any of the existing leads.*
2. *Export the data and transform the data into ACE specific format. Refer to [data format]() section for details.*
3. *Generate the opportunity files.*
4. *Authenticate to ACE S3 bucket and uploads the file to the lead-inbound folders. Each file name need to be unique. The recommended file name is 'Partner provided file name_MMDDYYYY24HHMMSS.json'. While uploading the files to S3, provide full access to bucket owner as per example “aws s3 cp example.jpg s3://awsexamplebucket --acl bucket-owner-full-control”.*
5. *ACE will pull these files immediately and process the file. Post-processing, ACE generates one result file for each incoming file from Partner and uploads lead-inbound-processed-results folder in S3 bucket. The results file includes success/error status and error message (if error) details of each opportunity record in the incoming file from Partner.*
6. *Partner has to scan this result folder for a specific interval of time, read the results files and make necessary action to correct the error records and resend the data to ACE again.*

Notes:

7. *For uploading the file to S3 from CRM system, the partner can reference the AWS Signature version 4 authentication and then will use Https requests to upload the file in to S3. The below attached files can be used as reference by the partner to upload the file in to S3.*
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8. *Partner has to upload a file which is less than 1 MB size. If Partner uploads any duplicate file, APN will not process such files.*
9. *While uploading the files to S3, provide full access to bucket owner as per example “aws s3 cp example.jpg s3://awsexamplebucket --acl bucket-owner-full-control”.*

10. *Refer to ACE Integration Task Checklist during development (Present in ACE CRM Development Kit).*

6. File Formats and Field Definitions

File Formats: *The file format to send and receive leads is same. Also, the file format to send and receive opportunities is same. The sample file formats for leads, opportunities and result files are as below which are provided as part of developer kit.*

- **For Leads:** *File named "Lead-Outbound-Sample.json" (Present in ACE CRM Development Kit)*
- **For Opportunities:** *File named "Opportunity-Outbound-Sample.json (Present in ACE CRM Development Kit)*
- **For Results:** *File named "Results Sample file" (Present in ACE CRM Development Kit)*

Field definitions: *For each field present in the file format for opportunities and leads, the "Field Definitions_V5.xlsx" (Present in ACE CRM Development Kit) will provide the details.*

When Partner sends the data, they can include the fields that needs to be updated. If Partner sends all the fields for update operation, we will ignore the fields which are read only fields as described in the Fields Definitions file Shared by ACE team and make updates in our system for the fields which are marked as updatable.

7. Field Mappings

Partners has to map the fields present in the field definition files into their CRM system. Currently, Partners export their data into bulk upload template after mapping. Partners can leverage same mappings. If needed, Partners can

- *Create new fields into Partner CRM system if any field is not present in their system*
- *Map the each mandatory field in the field definition file to respective fields in Partner CRM system*
- *Map the field picklist values as per the standard values shared by ACE. If there is any downstream process dependencies, we recommend to create new fields.*

8. Integration Testing (User Acceptance Testing)

Once Partners complete the development of integration, they can perform the testing of various scenarios provided in the "Test Scripts CRM integration.xlsx" (Present in ACE CRM Development Kit). All the test cases need to be passed before we enable production access. Partners can get in touch with ACE team to get necessary support for UAT testing.

9. Production go-live: deployment steps

After successful UAT, the following steps need to be followed to enable the integration in production.

1. Provide ACE the ARN of the IAM user for Production AWS Account – Partner
2. ACE will whitelist this and provide you the policy document – ACE team
3. Attach the policy to IAM user – Partner
4a. Provide the extract of opportunities from APN with ACE CRM Unique Identifier – ACE team
4b. Provide the partnerCrmUniqueIdentifier values for the opportunities present in ACE – ACE team
4c. Update partnerCrmUniqueIdentifier values in ACE – Ace team
5. Deploy the code into production – Partner
6. Confirm code deployment to Aws – Partner
7a. Enable the integration in ACE – ACE team
7b. Create a sample opportunity from Partner and send it to AWS – Partner
7c. Create a sample opportunity from AWS and send it to Partner – ACE team

10. Post Production Support

After go-live, Partner can reach out to the ACE team in first 30 days for any issues. Afterwards, Partner can create support tickets via ACE portal.

11. FAQs:

For any questions, please refer to the ACE CRM Integration – FAQs document.