ACE CRM Integration

User Guide

October 2022

Version 5

aws partner network

Contents

1. Introduction

This guide explains how to integrate customer relationship management (CRM) with an AWS Partner Network (APN) Customer Engagement (ACE) module.

2. Prerequisites

If you are new to ACE, ACE opportunities, or lead processes, refer to the following partner resources. If you can't access these documents, a partner alliance lead can provide them.

- How to submit an opportunity
- Overview of validation process
- FAQ
- Pipeline manager user guide

3. ACE–CRM integration: a file-transfer approach using Amazon S3

In general, partners use different CRM systems, configurations, leads, and opportunity workflows to cater to the needs of their service offerings. In addition, each partner follows a different sales process.

As part of this, partners must integrate their own CRMs with Amazon S3, which in turn integrates with ACE tools that are hosted on partner central. This integration works with any CRM platform, so you can integrate your CRM system with the ACE pipeline manager in partner central. This helps to streamline your AWS pipeline and reduces the manual effort of maintaining information in different systems.

Features: A partner can either implement all of the features or a subset of features. For more information, refer to the How to implement the integration section. This integration provides the following features:

For leads:

- From ACE: partners can receive new leads and subsequent lead updates
- From partners: partners can send updates about ACE leads

For opportunities:

- From ACE: partners can receive new AWS-referred opportunities
- From partners: partners can send new partner-referred opportunities
- Bidirectional: AWS and partners can send and receive updates about both AWS-referred and partner-referred opportunities

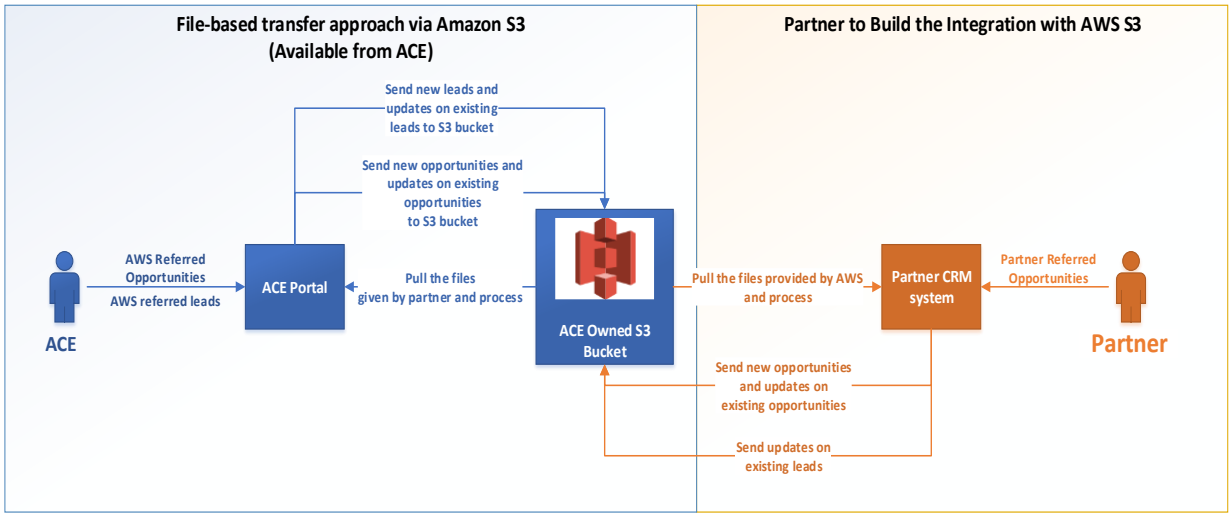

Figure 1: TK

4. Integration environments, Amazon S3 buckets, and folders

Environments: ACE has two environments, beta and production. ACE creates an AWS-owned S3 bucket in ACE for each environment. Beta S3 connects to ACE's sandbox, and Amazon S3 connects to ACE's production environment. Initially, ACE provides programmatic access to the integration in the beta environment's S3 bucket.

Partners should use their sandbox environment during the build phase to connect with the partner's S3 bucket. After the development and testing phases succeed, partners can deploy their code to their production environments and connect to production S3 buckets.

Amazon S3 buckets: ACE sets up separate S3 buckets in each partner's AWS account and provides programmatic access to buckets. There are separate S3 buckets for sandbox and production environments.

To access a bucket for each environment, refer to the Onboarding section. ACE authenticates partners before uploading or downloading Amazon S3 files. Use the following naming convention for S3-bucket items:

```
ace-apn-[spms-id]-[environment]-us-west-2
```

(Note that `spms-id` is the ACE-provided ID for partners, and environment is either `beta` or `production`.)

Folders: ACE uses S3 buckets with different folders for this integration, as shown in table 1.

Notes:

- Amazon S3 treats folders as objects that are only visible if they contain files. Partners can, however, read and add files to folders even if a folder doesn't appear.
- Partners must send and receive data from different folders.

#	Task	Folder	Description
1	Retrieve ACE leads	lead-outbound	Contains new leads or updates existing leads. Partners have read and delete access to this folder. After a file is processed, delete it.
2	Retrieve ACE opportunities	opportunity-outbound	Contains a file of either new opportunities or updated opportunities. Partners have read and delete access to this folder.
3	Send new ACE opportunities or update existing ACE opportunities	opportunity-inbound	Contains files with new or updated opportunities.
4	Send ACE updates about leads	lead-inbound	Contains files with updated leads data.
5	Retrieve results for opportunities sent to ACE	opportunity-inbound-processed-results	Contains files with the results of processed opportunities. Partners have read and delete access to this folder.
6	Retrieve results for leads from ACE	lead-inbound-processed-results	Contains files with the results of processed leads. Partners have read and delete access to this folder.

Table 1: TK

5. How to implement the integration

As part of this integration, the partner's CRM system communicates with the Amazon S3 bucket to send and receive data, and there is no direct connection with the ACE portal. To use the features mentioned in the ACE–CRM integration section, partners must complete the onetime implementation process, but data should flow seamlessly thereafter.

This integration includes the following steps:

1. Onboarding
2. How to retrieve opportunities data from ACE
3. How to retrieve leads data from ACE
4. How to send opportunities data to ACE
5. How to send leads data to ACE

5.1. Onboarding

This section describes the steps for onboarding a partner to the ACE partner CRM integration, as shown in figure 2. Partners must follow these steps for both beta and production onboarding.

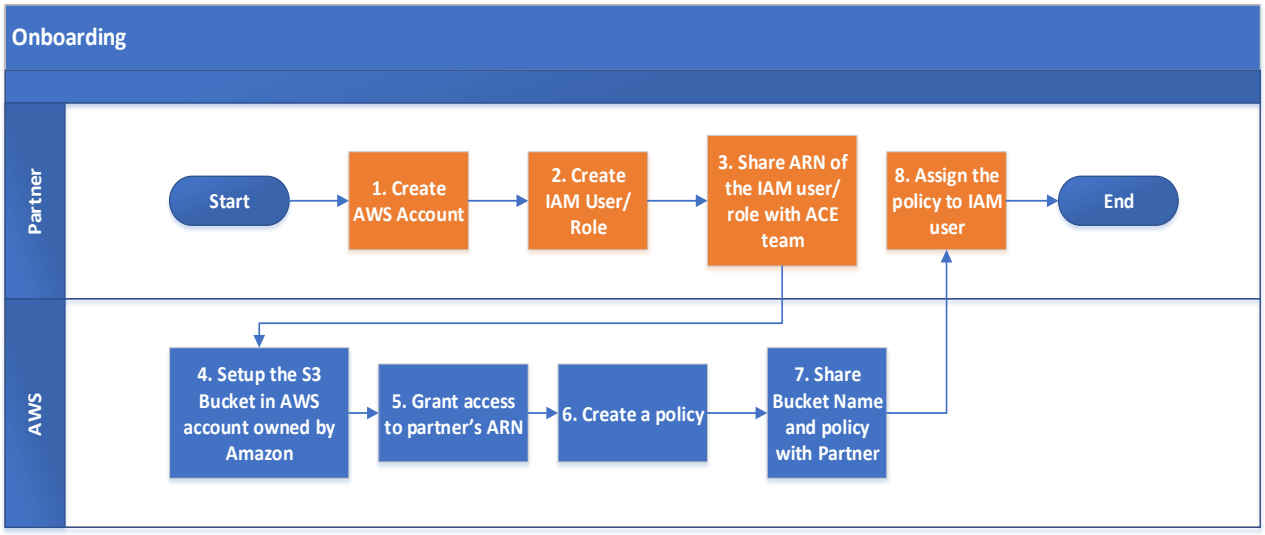

Figure 2: Onboarding process flow

1. **Create AWS account:** Partners must create two AWS accounts, one for beta and one for production. For more information, refer to How do I create and activate a new AWS account?

2. **Create IAM role:** Once the account is setup, partners must create an IAM role. For more information, refer to Creating an IAM user in your AWS account (video instructions are available on partner central). ACE recommends the following naming convention for IAM roles to distinguish them between beta and production. (partner)

   - For beta: `APN-ACE-<PartnerName>-AccessUser-beta`
   - For production: `APN-ACE-<PartnerName>-AccessUser-prod`

3. While setting up the IAM role, set the AWS access type to `Programmatic Access`, which enables access to ACE's S3 bucket programmatically (note that ACE's S3 bucket is inaccessible from the console), as shown in figure 3.

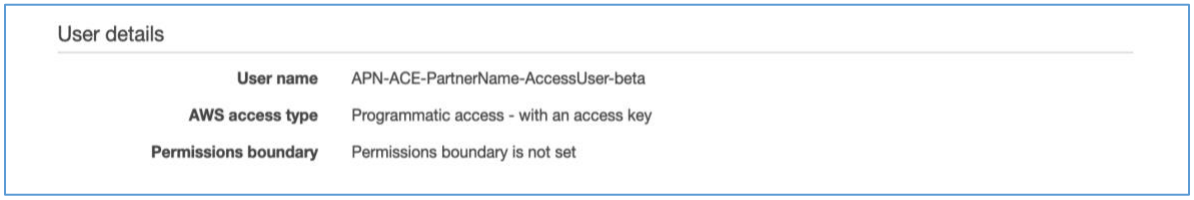

Figure 3: TK

4. **Share ARN of the IAM role:** After the IAM user is setup, partners must share IAM user's Amazon Resource Name (ARN) of the IAM role to their PDM through email. The PDM submits this to ACE. This is required to provide access to the partner-specific S3 bucket. The ARN is a formatted string, as shown in figure 4. (ACE)

Figure 4: TK

5. **Setup S3 bucket:** After receiving the ARN, ACE sets up an S3 bucket. (ACE)

6. **Grant access to partner's ARN:** ACE grants access to S3 bucket by using the ARN provided by partners. (ACE)

7. **Create a policy:** The APN team creates a policy that enables the IAM user to access the S3 bucket to read and upload files. (ACE)

8. **Share SPMS ID, bucket name and policy:** ACE shares the SPMS ID, bucket name and policy through email. (ACE)

9. **Assign a policy to IAM role:** Partners must attach a policy to the IAM user. For more information, video instructions are available on partner central. This policy includes the bucket details and key name information to be used by the partner. Partners should not add any additional policies to the IAM role other than what ACE provides, as shown in figures 5 and 6. (partner)

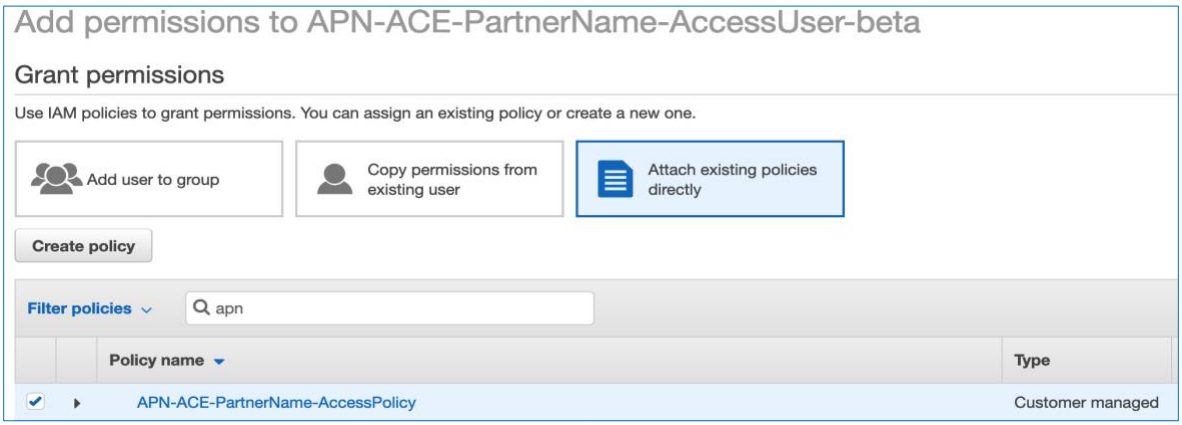

Figure 5: TK

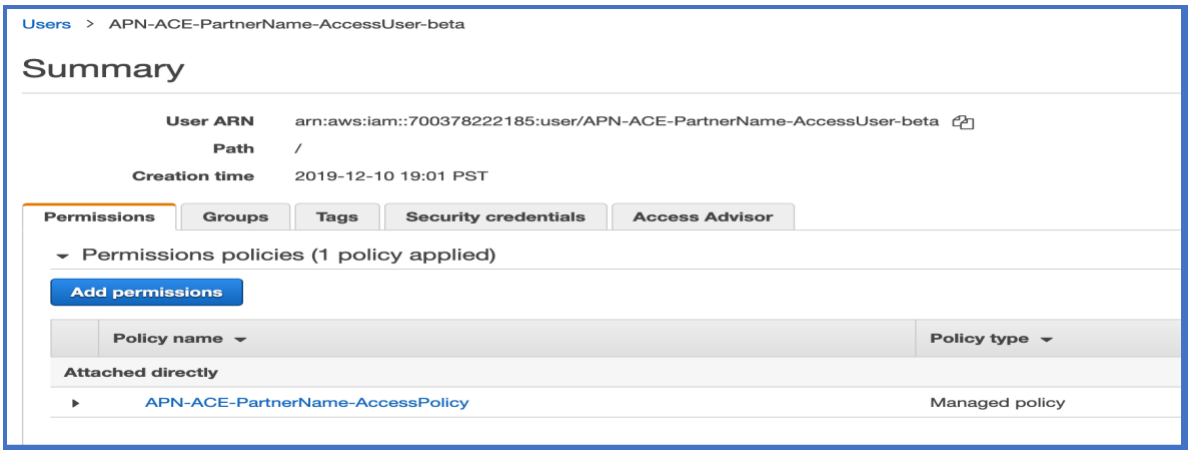

Figure 6: TK

5.2. How to retrieve opportunities data from ACE

This section provides the detailed steps to retrieve new opportunities or updates on existing opportunities from ACE, as shown in figure 7.

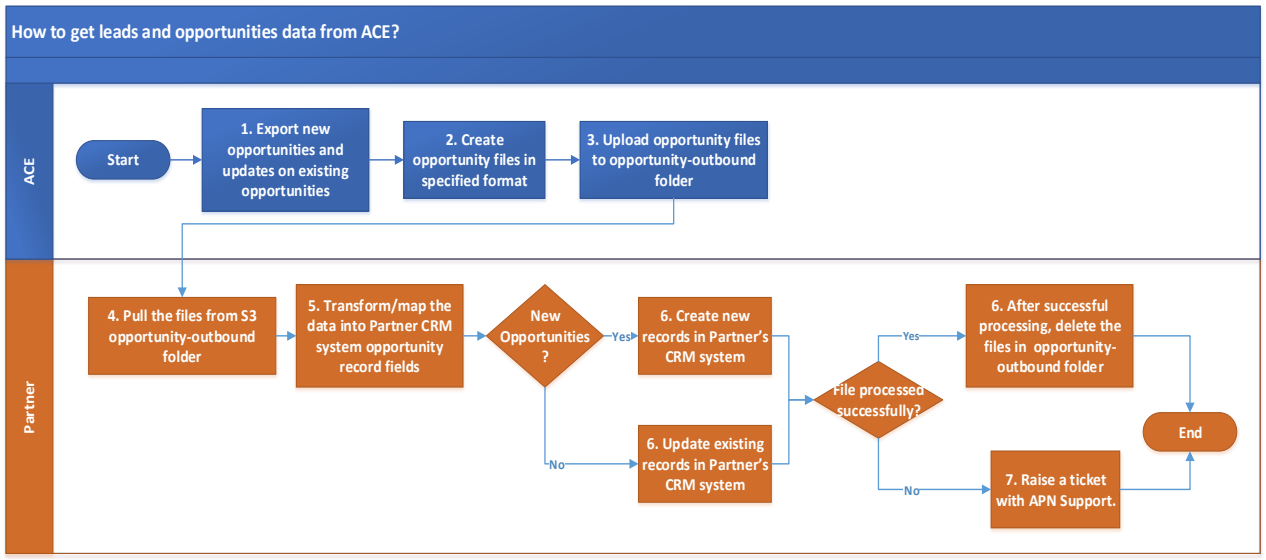

Figure 7: How to retrieve opportunities data from ACE

Steps owned by ACE:

1. ACE exports incremental new AWS referred opportunities and updates on existing opportunities for every one hour.

2. ACE creates opportunity files in specific format. For file specifications, refer to the File formats and field definitions section.

3. ACE uploads the files into opportunity-outbound folder.

Steps owned by partner:

4. Partners scan the opportunity-outbound folder for specific interval chosen by partner using a scheduled a job and pull the files.

5. Partners read the content of each file and transform/map the data to opportunity record present in Partner's CRM system. For guidance about field mapping, refer to the Field mappings section.

6. Each opportunity is uniquely identified by using either partnerCrmUniqueIdentifier or apnCrmUniqueIdentifier. If an ACE opportunity is new, the partnerCrmUniqueIdentifier field is blank and apnCrmUniqueIdentifier is 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:

- For reading the files uploaded in the bucket, partners can use AWS Lambda service or directly read from respective CRM system. Partners can reference the following AWS Lambda sample code that validates the files and then calls the Salesforce REST API to update the CRM records.

  If partners use a CRM system other than Salesforce, they must provide code for their specific system to update their data (the files are located in the Sample Code folder of the ACE CRM development kit).

  Lambda for validating files: `ace_read_s3`

  Sample SFDC REST API: `Apex_Sample_REST_API_Code.cls`

- Refer to the ACE integration task checklist.

5.3. How to retrieve leads data from ACE

This section provides the detailed steps to retrieve new leads or updates on existing leads from ACE, as shown in figure 8.

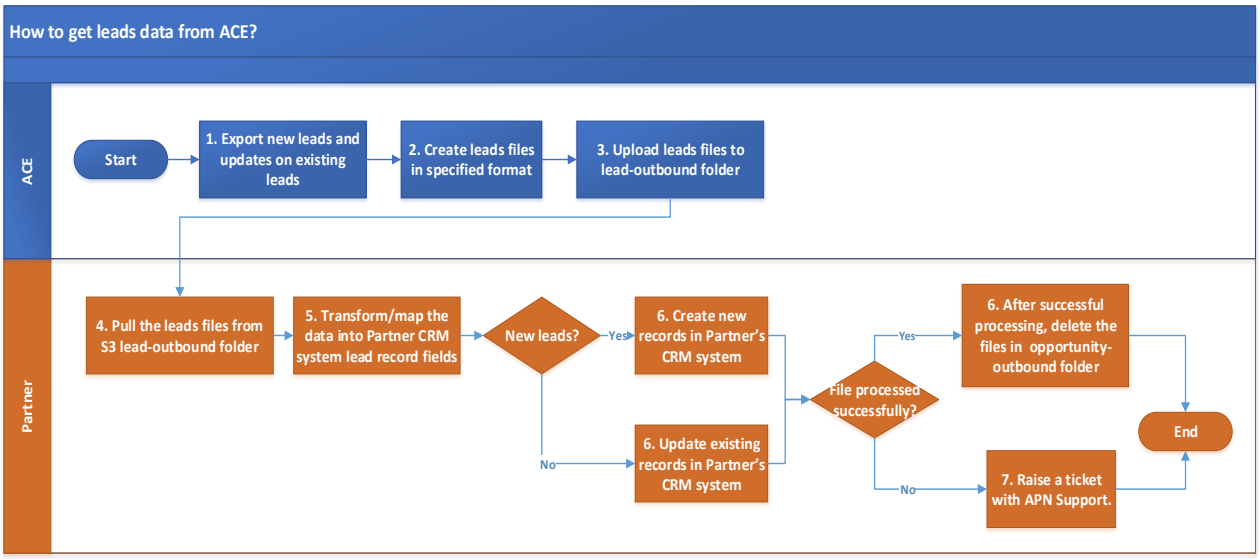

Figure 8: How to retrieve leads data from ACE

Steps owned by ACE:

1. ACE incrementally exports new AWS referred leads and updates for existing leads every hour.
2. ACE creates lead files using a specific format. For file specifications, refer to the File formats and field definitions section.
3. ACE uploads the files into lead-outbound folder.

Steps owned by partner:

4. Partners scan the lead-outbound folder for specific interval chosen by partner using a scheduled a job and pull the files.
5. Partners read each file content and transform/map the data into lead record present in Partner's CRM system. For guidance about field mapping, refer to the Field mappings section.
6. Each lead is uniquely identified by using either `partnerCrmLeadId` or `apnCrmUniqueIdentifier`. If lead is a new lead from ACE, `partnerCrmLeadId` field is blank and `apnCrmUniqueIdentifier` is present. If the lead has both of these, the record can be considered as an update from ACE.
7. Partners 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 the following AWS Lambda sample code that validates the

files and then calls the Salesforce REST API to update the CRM records. If partners use a CRM system other than Salesforce, they must provide code for their specific system to update their data (the files are located in the `Sample Code` folder of the ACE CRM development kit).

Lambda for validating files: `ace_read_s3`

SFDC REST API: `Apex_Sample_REST_API_Code.cls`

10. Refer to the ACE integration task checklist.

5.4. How to send opportunities data to ACE

This section describes the steps for sending new opportunities and updates on existing opportunities to ACE, as shown in figure 9.

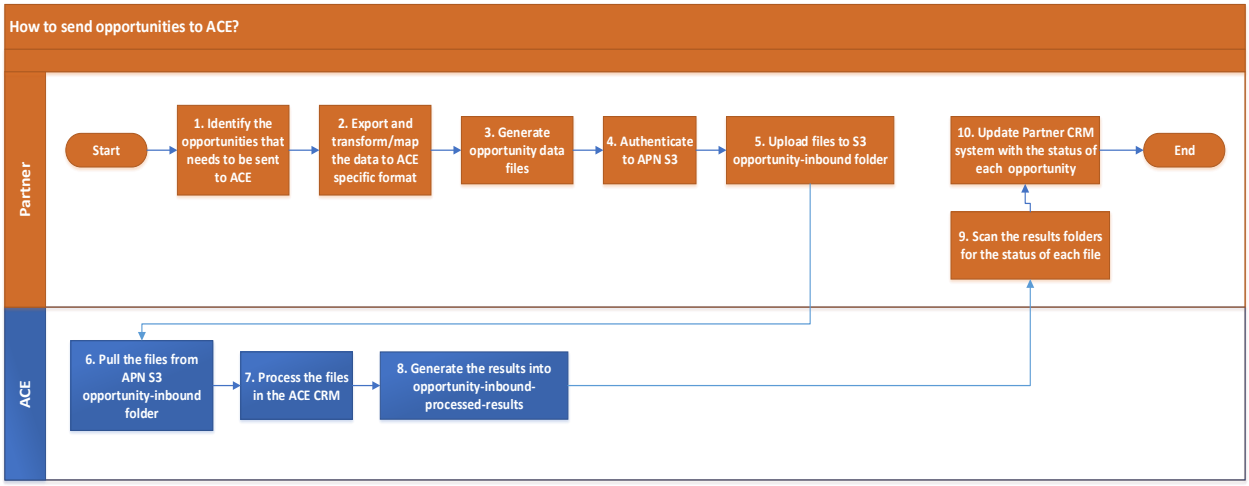

Figure 9: How to send opportunities data to ACE

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. For more information, refer to the File formats and field definitions section.

3. Develop the logic to create the opportunity files in valid json format.

4. Authenticate to ACE S3 bucket and upload the file to the opportunity-inbound folders. Each file name needs to be unique. Set the file name to `Partner provided file name_MMDDYYYY24HHMMSS.json`. While uploading the files to Amazon S3, provide full access to the bucket owner:

```
aws s3 cp example.jpg s3://awsexamplebucket --acl bucket-owner-full-control
```

5. ACE pulls 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 partners.

6. Partners must 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 Amazon S3 from CRM system, the partner can reference the AWS Signature version 4 authentication and then uses HTTPS requests to upload the file in to S3. For reference, the following files can be used by the partner to upload files to Amazon S3 (the files are located in the `Sample Code` folder of the ACE CRM development kit):

   For Authenticating to S3. File name `S3_Authentication.cls`

   For Uploading File to S3. File named `Sample_AceOutboundBatch.cls`

   The file must be less than 1 MB. Duplicate files are not processed.

8. We highly recommend one opportunity record per inbound JSON file.

9. While uploading files to Amazon S3, provide full access to the bucket owner:

   ```
   aws s3 cp example.jpg s3://awsexamplebucket --acl bucket-owner-full-control
   ```

10. Refer to ACE integration task checklist during development (present in development task checklist folder of the ACE CRM development kit).

5.5. How to send lead data to ACE

This section describes how to send updates about existing leads to ACE, as shown in figure 10.

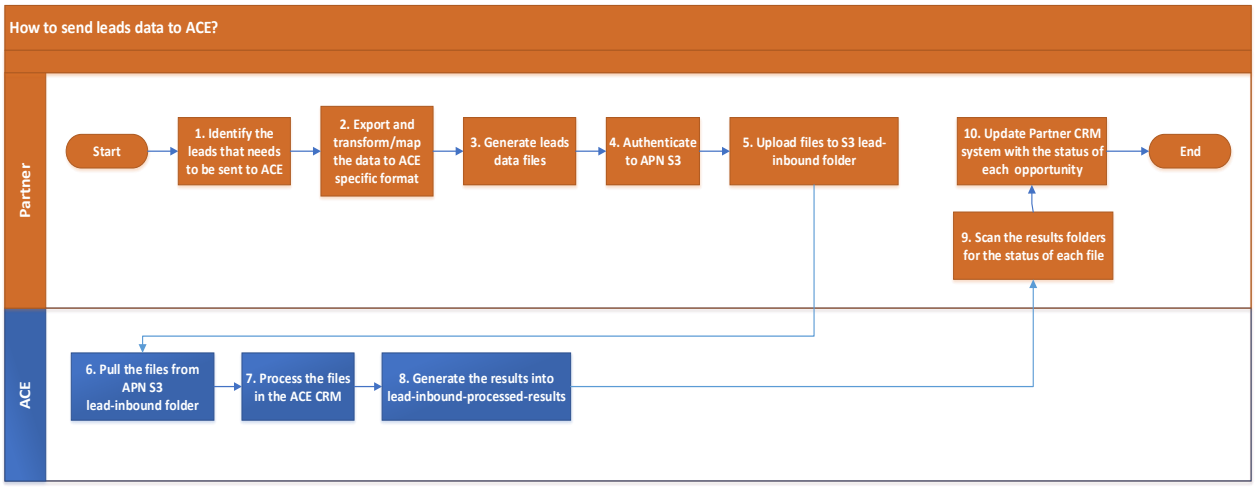

Figure 10: How to send leads data to ACE

Steps:

1. Identify the leads that must be shared with ACE, and include updates to existing leads.

2. Export the data, and transform it into the ACE-specific format. For more information, refer to the File formats and field definitions section.

3. Create the lead files in JSON format.

4. Authenticate the ACE S3 bucket, and upload the file to the `lead-inbound` folder. Each file name must be unique and conform to the following format:

   ```
   Partner provided file name_MMDDYYYY24HHMMSS.json
   ```

   While uploading files to Amazon S3, provide full access to the bucket owner:

   ```
   aws s3 cp example.jpg s3://awsexamplebucket --acl bucket-owner-full-control
   ```

5. ACE immediately pulls these files and processes them. ACE generates one results file for each uploaded partner file and uploads the `lead-inbound-processed-results` folder to its S3 bucket. The results file includes the status of successes and errors, and an error message (if generated) is attached to each opportunity.

6. Initially, partners must review erroneous records, correct any errors, and then resend their data to ACE.

Notes:

7. To upload a file to Amazon S3 from CRM, the partner can reference the version of the AWS signature and then use an HTTPS request to upload the file. For reference, the following attached files can be used to upload a file to the S3 bucket (the files are located in the `Sample Code` folder of the ACE CRM development kit):

For authenticating an S3 bucket: `S3_Authentication.cls`

For uploading files to an S3 bucket. `Sample_AceOutboundBatch.cls`

Note that files must not exceed 1 MB in size, and duplicate files will not be processed.

8. Use one lead record per inbound JSON file.

9. Refer to the ACE integration task checklist during development (the checklist is located in the `Sample Code` folder of the ACE CRM development kit.)

6. File formats and field definitions

File Formats: The file format is the same for both sending and receiving leads. The following are sample file formats for leads, opportunities, and results files (the files are located in the `Sample Code` folder of the ACE CRM development kit):

- **For leads:** Lead-Outbound-Sample.json
- **For opportunities:** Opportunity-Outbound-Sample.json
- **For results:** Results Sample file

Field definitions: Details are provided for each field in the file for opportunities and leads (`Field Definitions_V11.xlsx`).

When partners send data, they can include updated fields. If partners send all the fields for an updated operation, ACE ignores fields that are read-only, as described in ACE's `Fields Definitions` file. ACE updates any fields that are editable.

7. Field mappings

Partners must map the fields and field values from `Field Definitions_V10.xlsx` to the fields in their CRM system. Partners that are currently using ACE's bulk processes have already completed this field-mapping step. If field mapping is necessary, partners should consider the following:

- Map each mandatory field in the `Field Definitions_V11.xlsx` to its respective field in the partner's CRM system.
- Map each field value in the partner's CRM to the required ACE list value, as defined in the file.
- If the partner doesn't want specific CRM fields to be overwritten by AWS, partners should create a custom CRM field for their data and have it reviewed by a sales representative before adding it to the opportunity record and pipeline (for example, MMR or Stage means it has launched).
- If you have downstream dependencies, consider creating new fields and/or realigning your business processes.

8. User-acceptance testing (UAT)

When partners complete their integration, they must test them against required scenarios that are provided in `ACE CRM integration_UAT Test Scripts_V4.xlsx` (located in the `Test Script` folder of the ACE CRM development kit).

All of the test cases must pass before ACE enables production access. Partners can consult with ACE if they require support for UAT. The test results from all scenarios must be attached to the document and provided to ACE. ACE reviews them and issues either a `pass` or `fail` status that includes comments.

9. Production deployment steps

After passing the UAT step, the following steps must be followed to enable a production integration.

1.
    1.1. ACE extracts opportunities from APN with an ACE CRM unique identifier.
    1.2. Partners provide the `partnerCrmUniqueIdentifier` values for existing ACE opportunities.
2. For production accounts, partners provide their PDM with the ARN of the IAM user.
3. ACE completes the production setup steps and provides the policy document.
4. ACE enables the integration.
5. ACE updates opportunities with the values from `partnerCrmUniqueIdentifier`.
6. Partners attach the IAM user policy.
7. Partners deploy their production code.
8.
    8.1. Partners confirm with ACE that the code is deployed.
    8.2. Partners create a partner opportunity and send `apnCrmUniqueIdentifier` to their PDM.

Note:

1. If partners wan to sync only some opportunities listed in the AWS file, they are responsible for building the logic that disregards AWS updates for opportunities they don't want to process. After onboarding is complete, this applies to future opportunities.

The partner should provide the associated `partnerCrmUniqueIdentifier` to align opportunities in both CRMs and then provide a field denotation for non-updated opportunities (for example, exclude updates to closed-lost and closed-won opportunities).

2. All open and active opportunities must have a `partnerCrmUniqueIdentifier`.

10. Postproduction support

After partners complete this integration, they can contact ACE within the first 30 days to resolve any issues. After 30 days, partners must create support tickets through the APN portal.

11. FAQs:

For troubleshooting and frequently asked questions, refer to the ACE CRM integration—FAQs document.