

# PP+ Lead API V2 Developer Guide

## Modification History

Date	Author	Description of Change
10/11/2020	Vikas Rometra	New document
10/27/2020	Vikas Rometra	<ol style="list-style-type: none"><li>1. Renamed dealerCode to catDealerCode in the GET call Response.</li><li>2. Added following fields to the POST call<ul style="list-style-type: none"><li>- dealerLeadId</li><li>- dealerSalesRepNumber</li><li>- primaryClosedReason</li></ul></li><li>3. Delete fields<ul style="list-style-type: none"><li>- primaryClosedLostReason (replaced by primaryClosedReason)</li><li>- primaryClosedWonReason (replaced by primaryClosedReason)</li><li>- PrimaryClosedWonReasonComments (duplicate for closedReasonComments)</li></ul></li></ol>
11/17/2020	Vikas Paul	Added list of Standard primaryClosedReason
11/30/2020	Vikas Rometra	To make it simple, removed leadUpdates request. Updated leads will be included in the primary GET end point <a href="https://services.cat.com/marketing/ecrm/leadManagement/v2/leads">https://services.cat.com/marketing/ecrm/leadManagement/v2/leads</a> . A new field leadState was added to indicate if the lead is NEW or UPDATED. This removes the need to call two different end points to get new leads and lead updates. As of now, only one field catPrequalificationStatus will get updated.
12/6/2020	Vikas Rometra	Changed the values of the following <ol style="list-style-type: none"><li>1. customerAlreadyKnown</li><li>2. customerContacted</li><li>3. opportunityAlreadyKnown from existing values Y and N to Boolean values (it's a checkbox field in Salesforce) true and false</li></ol>
12/16/2020	Vikas Rometra	Remove ClosedDisqualified Opportunity Stage Removed closedDisqualified indicator in the POST call
01/19/2021	Vikas Rometra	Added "dealerCustomerNumber " : "123433" to the POST call examples
01/26/2021	Vikas Rometra	Add new leadState SENT for historical end point.

Date	Author	Description of Change
01/27/2021	Vikas Rometra	<ol style="list-style-type: none"> <li>1. leadStatus - changed the values (ACCEPTED, REJECTED, DISQUALIFIED) from all CAPS to regular case (Accepted, Rejected, Disqualified). Same was reflected wherever leadStatus field value was being used for other fields which included disqualifiedReasonWhy.</li> <li>2. rejectedReasonWhy - Removed "Other" from valid values for rejectedReasonWhy.</li> <li>3. rejectedReasonComments (a) Removed "Other" from the required condition since "Other" was removed from rejectedReasonWhy. (b) Added three new conditions when this field will be required for the following values of rejectedReasonWhy <ul style="list-style-type: none"> <li>- End-user, end-use or end-destination may be restricted</li> <li>- Product/Service Not offered</li> <li>- For Another Dealer</li> </ul> </li> <li>4. primaryClosedReason - updated the condition when this field is required. <ul style="list-style-type: none"> <li>- If probabilityOfClosurePercentage = (0 and closedNoDeal =0) or 100 then this field is required.</li> <li>- Changed example to one of the reasons given in the description.</li> </ul> </li> <li>5. closedReasonComments - Updated field from conditionally required to not required and removed the condition.</li> <li>6. customerContacted - Updated to NOT required and removed the condition since it was incorrectly added for this field instead of dealerContactDateTime field.</li> <li>7. dealerContactDateTime - Updated to conditionally (C) required field and added the condition.</li> <li>8. comments - cleaned up description and added a valid example</li> <li>9. Changed isoCurrencyCode to currencyIsoCode in two POST examples for Accepted and Disqualified</li> <li>10. Updated the POST example to reflect above changes.</li> </ol>
01/29/2021	Vikas Rometra	<p>Updated following fields in the POST Request</p> <ol style="list-style-type: none"> <li>1. customerAlreadyKnown (Boolean - true, false) to customerPreviouslyKnown (String - Yes, No).</li> <li>2. customerContacted type from (Boolean - true, false) to (String - Yes, No).</li> <li>3. dealerContactDateTime (DateTime) to dateContacted (Date). Also update the condition value from Boolean true to String "Yes."</li> <li>4. opportunityAlreadyKnown (Boolean - true, false) to leadAlreadyKnown (String - Yes, No).</li> <li>5. quoteDateTime (DateTime) to quoteSentDate(Date).</li> <li>6. Length of dealerSalesRep to from 200 to 50.</li> </ol>
02/2/2021	Vikas Rometra	<p>Following POST Request BODY API fields updated to conditional from required</p> <ol style="list-style-type: none"> <li>1. opportunityAmount</li> <li>2. probabilityOfClosurePercentage</li> <li>3. targetDate dealerOpportunityId updated to conditionally required.</li> </ol>
02/16/2021	Vikas Rometra	<p>GET Request: Updated leadId to required (Y)  POST Request: Corrected the type for comments from Integer to String and updated the length to 1000</p>

<b>Date</b>	<b>Author</b>	<b>Description of Change</b>
3/2/2021	Vikas Rometra	quoteId and quoteSentDate are required when probabilityOfClosurePercentage is 100 or 0. Updated POST examples to reflect the same for Closed Won, Closed Lost and Closed No Deal opportunity stages Added test procedures required other than normal integration testing.
03/18/2021	Vikas Rometra	Updated the value of rejectedReason from Product / Service not offered at dealership to Product/Service Not Offered at Dealership quoteSentDate and quoteId updated to not required fields
03/22/2021	Vikas Rometra	DCN is only required when an Opportunity is Closed Lost or Closed Won or Closed No Deal
04/05/2021	Vikas Rometra	Changed the length of callCenterComments from 255 to 5000
04/08/2021	Vikas Rometra	primaryClosedReason is not required for Closed Won Opportunities (probabilityOfClosurePercentage = 100)
04/19/2021	Vikas Rometra	Updated ASR to ISR for Sales Lead Community definition on page 6. - leadAlreadyKnown - This field is DEPRECATED. Dealers will not be required to send this field anymore. This value was also removed from POST samples. - Added option "Lead Already Known" to the list of disqualifiedReasonWhy options. - disqualifiedReasonComments is also required when disqualifiedReasonWhy = "Lead Already Known"
04/26/2021	Vikas Rometra	Updated catPrequalificationStatus example value from "True" to "Cat Finance Pre-Qualification Completed" to correctly reflect that catPrequalificationStatus field is a text field and not a Boolean field.
5/11/2021	Vikas Rometra	Rolled back catPrequalificationStatus to Boolean instead of text field.
6/21/2021	Vikas Rometra	Removed default Currency Code "USD" for currencyIsoCode field. Currency code doesn't get defaulted to USD
7/21/2021	Vikas Rometra	Added new Rejection Reason - Duplicate Lead Received
10/01/2021	Vikas Rometra	Added new Rejection Reason - Spam/Inappropriate Lead Submission
03/17/2022	Prafulla Nandhip	Updated dealerOpportunityId description in Dealer to CAT section Removed stateCode from CAT to dealer section Increased the length of stateOrProvince field from 80 to 255. This field is used to send state/province codes/names or UNKNOWN. Example data values are: "OH", "NSW", "UNKNOWN"

Date	Author	Description of Change
04/30/2022	Prafulla Nandhip	Added process flow diagrams 1. Prioritized Lead/Opportunity Process Flow Review 2. PP+SL Process Flow Added verbiage for Dealer Mapping
06/05/2023	Prafulla Nandhip	Changed QA URLs to below URL <a href="https://services-stg.cat.com/marketing/ecrm/leadManagement/v2/leads">https://services-stg.cat.com/marketing/ecrm/leadManagement/v2/leads</a>

All interface modifications (except corrections for typographical errors) should be accompanied by a change communication notice in accordance with the Dealer Facing Interface Documentation Enterprise Architecture (EA) Standard. The date on which the modifications are implemented, as well as the retirement of any previous format, is noted within that communication. Each Caterpillar application owner reserves the right to determine the date(s) on which an interface change is implemented as well as when previous versions of the interfaces are retired, as long as the advance notification of the change is provided in accordance with this standard.

This is a link to the location where all interface change communications are posted for review: [Digital Integration Services Portal - DICE Communications](#)

## Glossary

### CRM

Customer relationship management (**CRM**) is a technology for managing all your company's relationships and interactions with customers and potential customers. A CRM system helps companies stay connected to customers, streamline processes, and improve profitability.

### Leads

Leads generated by Caterpillar marketing ecosystem.

### Dealer Management System

Dealer Management System is a bundled management information system containing software that supports all aspects of running a Dealership

### JSON (JavaScript Object Notification)

JSON, or JavaScript Object Notation, is a minimal, readable format for structuring data. It is used primarily to transmit data between a server and web application, as an alternative to XML.

### Salesforce

Salesforce is a CRM system that allows salespeople to track their sales, support people to track their cases, and the entire company's employees to collaborate with each other.

## **Sales Lead Community**

Community for dealers to Collaborate with Caterpillar ISRs on Sales Opportunities.

## **API**

Application programming interface to download Marketing Opportunities on Sales Community and send updates for Marketing Opportunities that are acted upon by dealer in their CRM.

## **Ping Federate**

OAuth 2.0 client credentials identity management service provider

## **Process Overview**

Leads are generated via different resources. Deploying new technology-enabled Lead Distribution and Management processes can greatly improve speed-to-market. These can be pulled by dealers through an API.

This will pave the way to our blue dot vision of **NextGen Lead Distribution and Management to help:**

- Drive Growth & Efficiency
- Achieve Scalability & Flexibility
- Provide Enhanced Customer Experience
- Enable Faster Decision and Management Support

Dealers follow up on these opportunities and process them via their sales funnel process. Dealers are required to send updates back to Caterpillar through an API. This feedback is made available in the Caterpillar lead sales community built on Salesforce CRM.

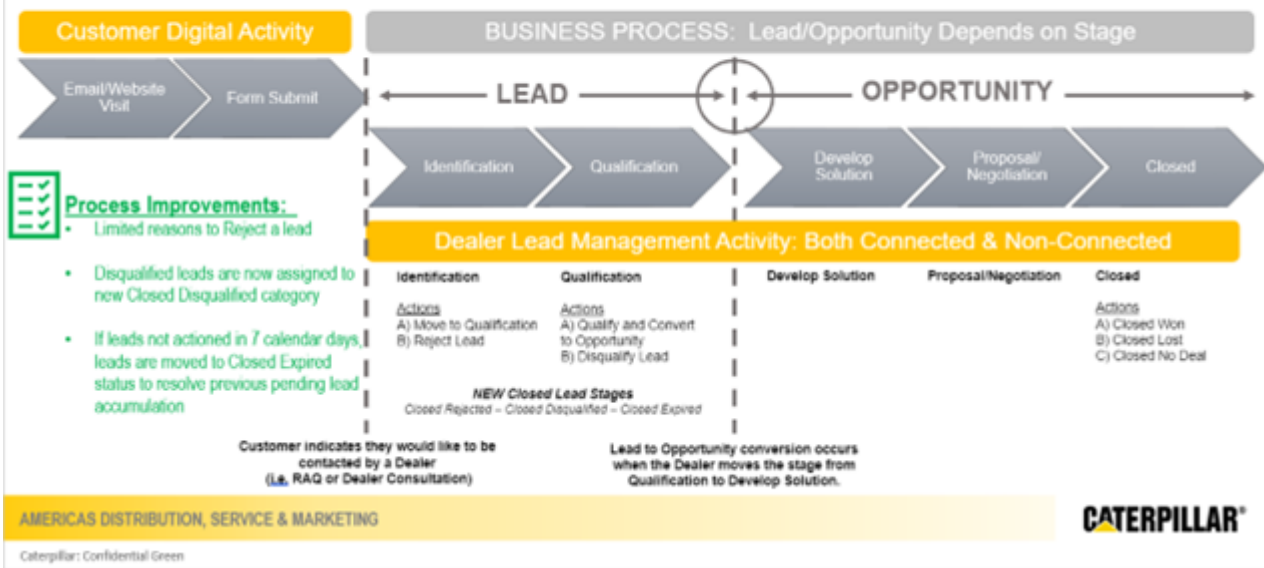
This document will describe the API interface that will enable **NextGen Lead Distribution and Management**

<https://cat.com> is one of the sources of leads.

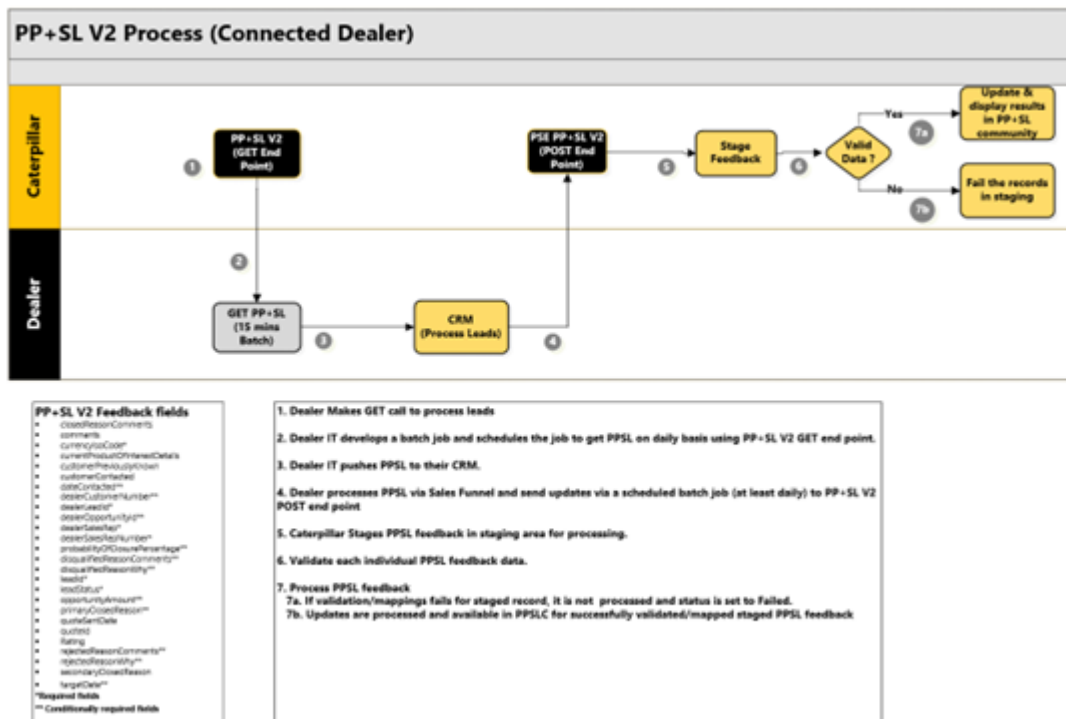
## **Process Flows**

Prioritized Lead/Opportunity Process Flow

# Prioritized Lead/Opportunity Process Flow Review



## PP + SL V2 Process(Connected Dealer)



## Dealer Mapping

This mapping will be entered in Dealer CRM Mapping Area. Following mapping are required

1. Rejection Reason
2. Disqualification Reason
3. Closed Lost Reason
4. Sales Stage

## Interface Type and Transmission Method

This interface requires using REST API to GET Leads and POST opportunity sales funnel updates from dealer's CRM.

## Caterpillar Preferred Option

N/A

## Related Interfaces

N/A

<b>Owner</b>	<b>Click on link below to find the interface owner</b> Go to <a href="https://dealer.cat.com/DealerITServices">https://dealer.cat.com/DealerITServices</a> then click on the link <b>Application Interface Contact List</b> under the <b>Contacts</b> in the right column.
<b>Author</b>	See modification log for Authors

Email [DICE\\_Sales@cat.com](mailto:DICE_Sales@cat.com) to contact the appropriate DICE Team Member for this interface.

## Field Types and Definitions

The following list provides the references to element types that will be used in this document.

Reference	Description	Example
JSON array	An ordered sequence of values formatted using JavaScript Object Notation (JSON).	[0,"value"]
JSON object	An unordered collection of name/value pairs formatted using JavaScript Object Notation (JSON).	{"name":"value"}
boolean	Algebraic expression used for creating true false statement	true or false
string	Composed of letters, punctuation, and the numbers 0-9 represented as characters	This repair is for the 1S2255 that was put into....
int	Numeric integer values of 0-9	25
date	Composed of date	YYYY-MM-DD
dateTime	Composed of date + time + Time Zone For time zone specify offset from the UTC time by adding a positive or negative value in the format of hh:mm.	2015-05-30T09:30:10-06:00 OR 2015-05-30T09:30:10+10:00 * where +06:00 or -06:00 represents the offset from the UTC time
Null	Field with one possible value, null, to represent missing data.	null

Reference	Description	Example
number	Composed of numeric values 0-9 with a decimal For this application, a decimal place has been assigned	16,2 (16 positions total, with 2 decimal places) 12345.77

## Caterpillar Opportunity Stages

Caterpillar Opportunity Stage	Probability of Closure Percentage
Qualification	1%-20%
Develop Solution	21%-40%
Proposal/Negotiation	41%-99%
Closed Won	100%
Closed Lost	0%
Closed No Deal	0%

## General Comments & Definitions

### Comments

This solution provides a simple REST Web service that enables pulling lead that have not been pulled earlier. The client will invoke the service at regular intervals of time and frequently to retrieve new leads, act on those and send feedback to Caterpillar

### Process Summary:

1. CAT will engage Dealer to onboard Lead **NextGen Lead Distribution and Management program.**
2. Cat ECRM team receives request from CAT Marketing to setup dealer to access Lead API
3. Cat ECRM requests Client ID from CAT Identity Access Management (IAM) group
4. Corporate Identity Access Management creates Client ID for dealer in PingFederate environment (usually within 1 working day for QA and every Thursday for production)
5. Dealer connects to API's frequently (recommended to make GET call every 15 minutes) to pull new Leads
6. Dealer connects to API's and send updates to Leads in real time by POSTing the updates.

<https://services-stg.cat.com/marketing/ecrm/leadManagement/v2/leads>

<https://services.cat.com/marketing/ecrm/leadManagement/v2/leads>



## Invoking the Service (GET)

The REST web service is designed for program-to-program integration technology. Access to the service can be broken into three steps.

Step 1 - Open a connection

Open a connection the OAuth service using the QA or Production URL.

**QA URL** - <https://fedloginqa.cat.com/as/token.oauth2>

### Production URL

- <https://fedlogin.cat.com/as/token.oauth2>

Step 2 - Provide authentication

Set the Header and Body key and value information of the request. The basic credentials are the Client ID and secret provided to the dealer as a Base64 encoded ASCII string.

```
Header (key: value)
Content-Type: application/x-www-form-urlencoded
Authorization: Basic \<credentials\>
Body (key: value)
grant_type: client_credentials
scope: manage:all
```

The Body content type may need to be set to x-www-form-urlencoded manually depending on your application.

Step 3 - Execute the Fed Login POST request

Executing the POST request successfully will return a JSON object containing the access token.

```
{"access_token": "eyJhbGtpZCI...", "token_type": "Bearer", "expires_in": 3599}
```

All access tokens expire in 60 minutes. HTTPS 200 (OK) is sent to the client when the operation is successful. The connection is released at the end of the operation. The REST service provides only JSON responses.

Step 4 - Execute the GET request

## Invoking the Service (POST)

Step 4 - Execute the POST request

\*\* Available only with the use of test credentials which are available upon request see "Testing Procedure"

# Error Architecture, Error Codes, and Error Messages

Possible responses:

<b>Response 200</b>	<b>Ok</b>
Response 400	Bad Request - Invalid parameters
Response 401	Unauthorized
Response 403	Forbidden
Response 404	Endpoint Not Found
Response 500	Internal Server Error - Try again if you like

Error messages are returned as JSON objects indicating the issue to be resolved. The list of possible error messages is below.

```
{"message": "Invalid access token."}
```

```
{"message": "Invalid request header."}
```

```
{"message": "You are not authorized to perform that action."}
```

## Elements, Characteristics, Operator Symbols

All character sets (Double byte, Eastern European, etc.) are supported in this interface.

### Array Sizes

N/A

### Currency Considerations

N/A

### Regional Considerations

None

### Layouts

### Layout Comments

N/A

## Layout Types / General API Information

<b>Request</b>	<b>GET body parameters - Leads</b>				
<b>AUTHORIZATION:</b>	Bearer <AccessToken>				
<b>CONTENT-TYPE:</b>	application/json				
<b>ACCEPT:</b>	application/json				
<b>GET</b>	leads				
<b>Example</b>	<a href="https://services.cat.com/marketing/ecrm/leadManagement/v2/leads">https://services.cat.com/marketing/ecrm/leadManagement/v2/leads</a>				
Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
Authorization	String		Time limited Bearer token returned from OAuth server to access Partner API.	Y	Bearer eyJhbGc...
limit	integer		Query param to limit the number of leads in the GET call to prevent Max limit will be set to 100 limiting number of records to 100 from a single GET call If there are 150 Leads, since the max number of Leads in one GET call is 100, a second GET call will be required to get remaining 50 Leads. In the third GET call you will not receive any Leads, no further GET calls should be made after an empty response is received. <a href="https://services.cat.com/marketing/ecrm/leadManagement/v2/leads?limit=50">https://services.cat.com/marketing/ecrm/leadManagement/v2/leads?limit=50</a>		

### Response JSON - Leads object

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
additionalInformationMaster	String	32768	Additional Information for the request	N	"additionalInformationMaster": "Financing Options:Extended Protection or Insurance Options:Parts Information:Service Options:Training Opportunities"
address1	String	255	Street Address line 1 of the contact person	N	"address1": "100 N. Main St."
address2	String	255	Street address line 2 of the contact person	N	"address2": "Suite 100"
address3	String	255	Street Address line 3 of the contact person	N	"address3": "Main St."
agreeToContact	Boolean		Willingness to be contacted (Add to Lead API and filter the leads by this indicator when it's value if "Y") Note: Only for China Leads	N	"agreeToContact": true

<b>Parameter</b>	<b>Type</b>	<b>MaxLength</b>	<b>Description</b>	<b>Required (Y/N/C)</b>	<b>Sample</b>
bcpNewUsedRental	Enum	New, Used, Rental		N	"bcpNewUsedRental": "Rental"
businessPhone	String	255	Business phone of contact person Country code + Local Number	N	"businessPhone": "+1 +1 (309)-654-5555"
businessUnit	String	255	CAT business unit BCP Cat Financial Cat Rental CD&T Electric Power Enterprise/Brand eCommerce Equipment Training Solutions Forestry GCI GASD Governmental Industrial Power Industrial and Waste Marine Mining Oil and Gas On Highway Truck Paving Portable Generators Product Support Safety Technology Used Work Tools	N	"businessUnit": "BCP"
callCenterComments	String	5000	Field for call center comments only	N	"callCenterComments": "No plans to purchase at this time"

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
callCenterFollowUpStatus	String	255	Enterprise field for call center follow up status, standard values exist Contact - No Purchase Contact - Nurture Contact - Purchased Caterpillar Contact - Purchased Competitor Contact - Redistribute No Contact - No Action No Contact - No Purchase No Contact - Nurture No Contact - Purchased Caterpillar No Contact - Purchased Competitor No Contact - Redistribute	N	"callCenterFollowUpStatus": "No Purchase"
callCenterProcessDate1	Date		Date when this lead was processed by the call center	N	"callCenterProcessDate1": "2019-08-24"
catCampaignMostRecent	String	255	Most recent CAT campaign	N	"catCampaignMostRecent": "Cat.com Request a Quote"
catDealerCode	String	255	The dealer code associated with the legal dealer's name	N	"catDealerCode": "B330"
catPrequalificationStatus	Boolean		CAT Financial qualification either based on payment history and/or credit score true false	N	"catPrequalificationStatus": true
clFleetSize	String	255	Size of the fleet	N	"clFleetSize": "1"
city	String	40	Address city of contact person	N	"city": "Peoria"
commentsMaster	String	32768	Comments	N	"commentsMaster": "I'm looking for a rental price by the day on a 90hp high flow track machine with a forestry mulching attachment."
company	String	255	Name of customer's company	N	"company": "Future Innovations Inc."

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
companySize	String	255	Number of employees in the company	N	"companySize": "1000"
contactForQuestions	String	255	Customer contact for questions	N	"contactForQuestion": "John Doe"
contactSourceOriginal	String	255	Indicates which type of campaign the contact was part of - Form Submission - Dealer Upload -Event List -Database List -Purchased List -Call Center Integration	N	"contactSourceOriginal": "Tradeshaw List"
country	String	100	Contact person address country	N	"country": "United States of America"
countryCode	String	10	2 Alpha ISO country code of contact person	N	countryCode": "US"
county	String	100	Address County Note: Only for China Leads	N	"county": "Peoria"
currentProductMaster	String	32768	Current Product Master	N	"currentProductMaster": "Serial #: TAW05166Box #:549-3131Harness #:532-5452"
dateCreated	Date		Lead creation date time	N	"dateCreate": "2020-04-19T20:31:04+00:00"
dateRegistered	Date		Registration Date Note: Only for China Leads	N	"dateRegistered": "2020-01-23 T20:31:04+00:00"
digitalActivity	String	255	Aggregate measurement of Google Analytics activity	N	"digitalActivity": "45"
emailAddress	String	80	Email Address of the Contact	N	"emailAddress": " <a href="mailto:John.doe@gmail.com">John.doe@gmail.com</a> "
enginePerformanceNumber	String	255	Performance number of the engine	N	"enginePerformanceNumber": "60"
equipmentNumber	String	255	Equipment Number	N	"equipmentNumber": "966K"

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
featureCode	String	255	An external code that is provided by a Dealer or Campaign to use in a promotional type event	N	"featureCode": "CI5DECE"
financingMethod	String	255	Method of financing the purchase	N	"financingMethod": "Buy"
firstName	String	40	First name of the contact person	N	"firstName": "John"
gender	String	50	Contact person gender MALE FEMALE Note: Only for China Leads	N	"gender": "F"
industry	String	255	Company industry - Agriculture - Caterpillar - Defense - Governmental - Local/State - Construction - Demolition & Scrap/Recycling - Electric Power - Forestry - Industrial Power - Landscaping - Marine - Material Handling with Forklifts - Mining - Oil and Gas - On-Highway Trucks - Paving - Pipeline - Powerplants - Quarry, Aggregates and Cement - Snow Removal - Waste Industry	N	"industry": "Agriculture"
jobRole	String	255	Employment	N	"jobRole": "Owner/Operator"
jobsiteAddress1	String	255	Street address of job site	N	"jobsiteAddress1": "6614 N. Wild Dr."
jobsiteAddress2	String	255	Extended address of job site	N	"jobsiteAddress2": "Floor 2"
jobsiteCity	String	255	Job site city name	N	"jobsiteCity": "Peoria"

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
jobsiteCountry	String	255	2 Alpha ISO country code of job site country	N	"jobsiteCountry": "US"
jobsiteStateProv	String	255	Alpha ISO State code of job site	N	"jobsiteStateProv": "IL"
jobsiteZipPostal	String	255	Job site zip of postal code	N	"jobsiteZipPostal": "61533"
lastName	String	80	Last name of the contact person	N	"lastName": "Doe"
leadId	String	255	Caterpillar lead ID	Y	"leadId": "ab0b1G00000EuLYGQU"
leadScore	String	255	Aggregate score prioritizing leads within the DCC	N	"leadScore": "86"
leadSourceMostRecent	String	255	The last Lead activity	N	"leadSourceMostRecent": "NA"
leadState	String	10	State of the Lead NEW UPDATED SENT (Only for historic end point)	Y	"leadState" : "NEW"
levelOfInterest	String	255	Level of Interest to buy or lease the product	N	"levelOfInterest": "Requesting dealer consultation"
liftingCapacity	String	255	Lifting Capacity	N	"liftingCapacity": "10,000-14,000 lbs"
mobilePhone	String	255	Mobile phone of contact person	N	"mobilePhone": "309-111-2222"
name	String	120	Full Name	N	"name": "John Doe"
partQuoteNumber	String	255	Part quote number	N	"partQuoteNumber": "3572518"
partShoppingCart	String	32768	Part shopping cart	N	"partShoppingCart": "" <tr > <td style="font:12px Arial; bgcolor="#dfdfd" 376-1410 </td> <td style="font:12px Arial; bgcolor="#dfdfd" > 376-1410 </td> <td style="font:12px Arial; align="right" bgcolor="#dfdfd" > 1 </td> </tr>"
powerRating1	String	255	Power Rating 1 of the equipment	N	"powerRating1": ""
powerRating2	String	255	Power Rating 2 of the equipment	N	"powerRating2": ""



Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
powerRating3	String	255	Power Rating 3 of the equipment	N	"powerRating3": ""
productOfInterest	String	1000	Captures individual product identification via PIM on Product pages	N	"productOfInterest": "Selected Gensets: Number of Gensets: 1, Model: DE18E3, Duty: Standby"
productOfInterestList	String	32768	Unstructured data capture for a customer	N	"productOfInterestList": "Skid Steer Loaders"
productOfInterestQuantity	Int	6	This field was created for use in BuyerZone contacts to collect amount of order	N	"productOfInterestQuantity": "100"
purchaseTimeframe	String	255	Timeframe within which this deal can be closed - Less Than A Week - One Month or Less - 1-3 Months - 4-6 Months - 7-9 Months - 10-12 Months - 12-24 Month - More than 24 Month	N	"purchaseTimeframe ": "1-3 months"
rentalEndDate	Date		End date of rental	N	"rentalEndDate": "2019-11-04"
rentalStartDate	Date		Start Date of a Customer needed to Rent a machine	N	"rentalStartDate": "2019-10-24"
serialNumber	String	255	Serial number of machines for service leads	N	"serialNumber": "MLW00643"
sfmcActivity	String	255	Aggregate measurement of Google Analytics activity	N	"sfmcActivity": "56"
shippingInformation	String	32768	Shipping information of customer	NN	"shippingInformation": "100 N W Columbus Rd, Washington"

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
stateOrProvince	String	255	For all countries, provided contact person's state name. Field is used to send state/province codes/names or UNKNOWN. Example data values are: "OH", "NSW", "UNKNOWN"	N	"stateOrProvince": "OH"
systemFamily	String	255	System Field name used to capture family name from cat.com	N	"systemFamily": "Electric Power Generation"
systemLanguage	String	255	Language associated to lead - en_ZA - es_ES - es_MX - es_US - fr_DZ - fr_FR - fr_US - id_ID - it_IT - ja_JP - ko_KR - nl_NL - pl_PL - pt_BR - ru_RU - sv_SE - zh_CN - zh_TW - zh_ZA	N	"systemLanguage": "en_US"
systemModel	String	255	Product Model	N	"systemModel": "416F2"
systemModelId	String	255	Product Model ID	N	"systemModelId": "10084"
systemScore	String	255	Combined score using a letter (A-E) and Number (1-5)	N	"systemScore": "A3"
systemSubFamily	String	255	System Field name used to capture Sub Family name from cat.com	N	"systemSubFamily": "Diesel Generator Sets"
utmCampaign	String	255	Campaign associated to Lead	N	"utmCampaign": "ep_pd_email1"
zipOrPostal	String	20	Address Zip or Postal code of contact person	N	"zipOrPostal": "61615"

When we send Marketing Opportunity record	What do we send?	Comments
Lead records that have not been distributed to dealer	List of Marketing Opportunities (all elements)	Marketing Opportunity records not distributed to dealers will be sent when an API call is made to GET Leads

<b>Request</b>	<b>GET By Date Range (only returns already Pulled Leads) body parameters - Leads</b>
<b>AUTHORIZATION</b>	Bearer <AccessToken>
<b>CONTENT-TYPE</b>	application/json
<b>ACCEPT</b>	application/json
<b>GET</b>	leads
<b>Example</b>	<a href="https://services.cat.com/marketing/ecrm/leadManagement/v2/leads/historic?startdate=2020-04-01&amp;enddate=2020-04-03&amp;offset=0&amp;limit=100">https://services.cat.com/marketing/ecrm/leadManagement/v2/leads/historic?startdate=2020-04-01&amp;enddate=2020-04-03&amp;offset=0&amp;limit=100</a>

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
Authorization	string		Time limited Bearer token returned from OAuth server to access Partner API.	Y	Bearer eyJhbGc...
limit	Int		Query parameter to limit the number of Leads in the GET call response JSON. Max limit = 100	N	50
offset	Int		Query parameter to for pagination used in combination with limit parameter Default:0	N	2 offset=0&limit=100 gives first 100 leads offset=100 &limit=100 gives next 100 leads as long as there are more than 100 leads. If there are only 55 leads, then JSON response will only contain data for 55 leads
startdate	date		Leads created as the start date of the date range (yyyy-mm-dd)	Y	2020-04-02

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
enddate	date		Leads created date as the end date of the date range (yyyy-mm-dd)	Y	2020-04-03

This end point provides latest snapshot of the lead with all current values.

<b>Request</b>	<b>POST body parameters - Leads</b>				
<b>AUTHORIZATION</b>	Bearer <AccessToken>				
<b>CONTENT-TYPE</b>	application/json				
<b>ACCEPT</b>	application/json				
<b>GET</b>	leads				
<b>Example</b>	<a href="https://services.cat.com/marketing/ecrm/leadManagement/v2/leads">https://services.cat.com/marketing/ecrm/leadManagement/v2/leads</a>				
Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
Authorization	String		Time limited Bearer token returned from OAuth server to access Partner API.	Y	Bearer eyJhbGc...

### Request JSON - Leads object

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
closedNoDeal	Integer	0	Field to indicate if opportunity was closed due to no deal 1- Lost due to no deal 0- Lost for other reason <b>Conditional:</b> If probabilityOfClosurePercentage = 0 and opportunity was not lost to competitor or disqualified	C	"closedNoDeal": 1
closedReasonComments	String	255	Additional comments for Closed Leads	N	"closedReasonComments": "Customer negotiated for additional discount"
comments	String	1000	It is a free text field to inform Caterpillar on how dealer is interacting with the customer and other related information, examples: Phone Consultation In-Person-Visit Scheduled Demo	N	"comments": "Working with customer on detailed configuration"
currencyIsoCode	String	3	3 Alpha currency iso code of the amount	Y	"currencyIsoCode": "USD"

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
currentProductOfInterestDetails	String	255	Current Product & Quantity details	N	"currentProductOfInterestDetails: "Excavator:2; Dozer:3"
customerPreviouslyKnown	String	1	Do you already know this customer? - Yes - No	N	"customerPreviouslyKnown": "Yes"
customerContacted	String	1	Did you make contact with the customer? -Yes -No	N	"customerContacted": "No"
dateContacted	Date		Date when dealer contacted the customer If customerCont acted = "Yes" then this field is required	C	"dateContacted": "2020-04-19"
dealerCustomerNumber	String	40	Dealer Customer Account Id DCN is only required when an Opportunity is Closed Lost/Closed Won or Closed No Deal	C	"dealerCustomerNumber": "123453"
dealerLeadId	String	80	The Dealer's lead unique identifier. This will be used to reference dealer's lead id	Y	"dealerLeadId": "LEAD-1234454"
dealerOpportunityId	String	80	Dealer opportunity unique identifier. This will be used to reference dealer's opportunity id Only required when lead is converted to an opportunity or when Dealer lead stages are mapped to CAT opportunity stages	C	"dealerOpportunityId": "OPP-1234454"
dealerSalesRep	String	50	Dealer Sales Rep assigned to marketing opportunity	Y	"dealerSalesRep": "John Doe"
dealerSalesRepNumber	String	100	Dealer Sales Rep Number of the dealer sales rep assigned to marketing opportunity	Y	"dealerSalesRepNumber": "AB12496"
disqualifiedReasonComments	String	255	Conditional: < br>- If disqualifiedReasonWhy = "End-user, end-use or end-destination may be restricted" or "Other" or "Lead Already Known" - Conditional prompt if selected option is "End-user, end-use or end-destination may be restricted": Provide a contact name at the dealer for Caterpillar to determine if further actions are required (i.e., add entity to Caterpillar restricted party list).	C	"disqualifiedReasonComments": "After discussing with customer requirements couldn't be met"
disqualifiedReasonWhy	String	255	If leadStatus = 'Disqualified' then provide one of the following reasons - Cannot reach/no response from customer - Purchase time frame changed - No budget - No longer a product need/want - Customer already purchased - End-user, end-use or end-destination may be restricted - Dealer not interested in pursuing - Lead Already Known - Other	C	"disqualifiedReasonWhy" : "No budget"

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
leadId	String	80	Unique identifier of the marketing opportunity from Caterpillar CRM system This is the key element required on the updates returned by dealers.	Y	"opportunityId": "ab0b1G00000EuLYGQ2"
leadStatus	String	20	LeadStatus Accepted Rejected Disqualified	Y	"leadStatus": "Accepted"
opportunityAmount	Decimal	16,2	Potential opportunity amount. When lead is converted to an Opportunity this field is required.	C	"opportunityAmount": "142410.00"
primaryClosedReason	String	255	Reason why opportunity was Closed Lost If probabilityOfClosurePercentage = 0 and closedNoDeal = 0 then this field is required Standard Closed Reason: - Products/Parts Not in Cat Network -Products/Parts Not in Dealer's Network - Inconvenient Service Location -Dealer Operating hours - Dealer Service Capability -Sales Capability (Expertise/ Coverage / Participation / SFM) -Quote Processing Time -Competitive Financial (Term/Rates/Scope) - Warranty Term (Term/Rate/Scope) -Product Durability - Product Family Quality -Application Fit -Product Serviceability (access, ease of maintenance) - Product Specification -Mixed/Full Fleet Solution Not Available -Used Parts/Equipment not Available - Cat Price too High -Cat Value story not Convincing -Cat Value story - Not available - Competition lifetime value superior	C	"primaryClosedReason": "Products/Parts Not in Dealer's Network"
probabilityOfClosurePercentage	Number	3,0	Probability of Closure in percentage This field is required when lead is converted to an Opportunity. Note: Please see Caterpillar Opportunity stage percentage ranges Dealer Opportunity stage mapping to Caterpillar Opportunity stage percentage will be required.	C	"probabilityOfClosurePercentage": "50"
quoteSentDate	Date		Date of quote	N	"quoteSentDate": "2020-04-19"
quoteId	String	255	Quote Id for the opportunity	N	"quoteId": "12322"
rating	String	20	Rating of opportunity, possible values -High - Low -Medium	N	"Rating": "High"

Parameter	Type	MaxLength	Description	Required (Y/N/C)	Sample
rejectedReasonComments	String	1000	Comments entered for Rejection Conditional: If rejectedReasonWhy = "End-user, end-use or end-destination may be restricted" or "For Another Dealer" or "Product / Service not offered at dealership" Conditional prompt if selected option is "End-user, end-use or end-destination may be restricted": Provide a contact name at the dealer for Caterpillar to determine if further actions are required (i.e., add entity to Caterpillar restricted party list).	C	"rejectedReasonComments": "Sales Rep called customer and found this was not a valid requirement"
rejectedReasonWhy	String	1000	If leadStatus = "Rejected" then this value must be provided Reason for rejection - Bad Contact Information - For Another Dealer - Product/Service Not Offered at Dealership - End-user, end-use or end-destination may be restricted - Duplicate Lead Received - Spam/Inappropriate Lead Submission	C	"rejectedReasonWhy": Bad Contact Information"
secondaryClosedReason	String	2500	Secondary reason for closing (Lost or Won or No Deal) the opportunity	N	"secondaryClosedReason": "Change of Ownership"
targetDate	Date		target date of closure. When lead is converted to an Opportunity this field is required.	C	"targetDate": "2019-10-24"

Sample POST body for Scenario: Lead Status = **Rejected** and rejectedReasonComments is not required

```
[
  {
    "leadId": "00Q1W00001SmV5oUAF",
    "dealerLeadId": "A123VSDFDFF",
    "customerPreviouslyKnown": "Yes",
    "customerContacted": "No",
    "dealerCustomerNumber": "A012CD",
    "leadStatus": "Rejected",
    "rejectedReasonWhy": "Bad Contact Information",
    "currencyIsoCode": "USD"
  }
]
```

Sample POST body for Scenario: Lead Status = **Rejected** and rejectedReasonComments is required due to value of rejectedReasonWhy

```
[
```

```
{
  "leadId": "00Q1W00001SmV5oUAF",
  "dealerLeadId": "A123VSDFDFF",
  "customerPreviouslyKnown": "Yes",
  "customerContacted": "No",
  "dealerCustomerNumber ": "A012CD",
  "leadStatus": "Rejected",
  "rejectedReasonWhy": " For Another Dealer ",
  "rejectedReasonComments": " Incorrectly routed to our dealership",
  "currencyIsoCode": "USD"
}
]
```

**OR**

```
[
  {
    "leadId": "00Q1W00001SmV5oUAF",
    "dealerLeadId": "A123VSDFDFF",
    "customerPreviouslyKnown": "Yes",
    "customerContacted": "No",
    "dealerCustomerNumber ": "123433",
    "dealerOpportunityId": null,
    "targetDate": null,
    "probabilityOfClosurePercentage": null,
    "rating": null,
    "dealerSalesRep": "JOHN DOE",
    "opportunityAmount": 0,
    "leadStatus": "Rejected",
    "rejectedReasonWhy": " For Another Dealer ",
    "rejectedReasonComments": " Incorrectly routed to our dealership",
    "currencyIsoCode": "USD",
    "comments": null
  }
]
```

Sample POST body for Scenario: Lead Status = **Accepted**

```
[
  {
    "leadId": "00Q1W00001SmV5oUAF",
```



```
"dealerLeadId": "A123VSDFDFF",
"customerPreviouslyKnown": "Yes",
"customerContacted": "Yes",
"dateContacted": "2020-04-19"
"dealerCustomerNumber ": "123433",
"dealerSalesRep":"JOHN DOE",
"leadStatus": "Accepted",
"currencyIsoCode ":"CNY"
}
]
```

Sample POST body for Scenario: Lead Status = **Disqualified** and Customer was contacted

```
[
{
"leadId": "00Q1W00001SmV5oUAF",
"dealerLeadId": "A123VSDFDFF",
"customerPreviouslyKnown": "Yes",
"customerContacted": true,
"dateContacted": "2020-04-19"
"dealerCustomerNumber ": "123433",
"dealerSalesRep":"JOHN DOE",
"leadStatus": "Disqualified",
"disqualifiedReasonWhy" : "No budget",
"currencyIsoCode ":"CNY"
}
]
```

**OR**

```
[
{
"leadId": "00Q1W00001SmV5oUAF",
"dealerLeadId": "A123VSDFDFF",
"customerPreviouslyKnown": "Yes",
"customerContacted": "No",
"dealerCustomerNumber ": "123433",
"dealerOpportunityId": null,
"targetDate":null,
"probabilityOfClosurePercentage":null,
"rating":null,
}
```

```
    "dealerSalesRep": "JOHN DOE",
    "opportunityAmount": 0,
    "leadStatus": "Disqualified",
    "currencyIsoCode": "USD",
    "disqualifiedReasonWhy": "No budget",
    "comments": null
  }
]
```

Sample POST body for Scenario: Lead Status = **Disqualified** and disqualifiedReasonWhy is Other or End-user, end-use or end-destination may be restricted or Lead Already Known"

```
[
  {
    "leadId": "00Q1W00001SmV5oUAF",
    "dealerLeadId": "A123VSDFDFF",
    "customerPreviouslyKnown": "Yes",
    "customerContacted": true,
    "dateContacted": "2020-04-19"
    "dealerCustomerNumber ": "123433",
    "dealerSalesRep": "JOHN DOE",
    "leadStatus": "Disqualified",
    "disqualifiedReasonWhy" : "Other",
    "disqualifiedReasonComments" : "After discussing with customer requirements
couldn't be met",
    "currencyIsoCode ":"CNY"
  }
]
```

Sample POST body for Scenario: Opportunity Stages = **Qualification**

```
[
  {
    "leadId": "00Q1W00001SmV5oUAF",
    "dealerLeadId": "A123VSDFDFF",
    "dealerOpportunityId": "B23445232ASSDDV",
    "customerPreviouslyKnown": "Yes",
    "customerContacted": "No",
    "dealerCustomerNumber ": "123433",
    "targetDate": "2021-09-23",
    "probabilityOfClosurePercentage": 10,
  }
]
```

```
"rating":"Low",
"dealerSalesRep":"JOHN DOE",
"opportunityAmount":1999.45,
"leadStatus":" Accepted ",
"currencyIsoCode":"USD"
}
```

```
]
```

Sample POST body for Scenario: Opportunity Stages = **Develop Solution**

```
[
{
"leadId": "00Q1W00001SmV5oUAF",
"dealerLeadId": "A123VSDFDFF",
"dealerOpportunityId": "B23445232ASSDDV",
"customerPreviouslyKnown": "Yes",
"customerContacted": "No",
"dealerCustomerNumber ": "123433",
"targetDate": "2021-09-23",
"probabilityOfClosurePercentage":35,
"rating":"Medium",
"dealerSalesRep":"JOHN DOE",
"opportunityAmount":1999.45,
"leadStatus":" Accepted ",
"currencyIsoCode":"USD"
}
```

```
]
```

Sample POST body for Scenario: Opportunity Stages = **Proposal/Negotiation**

```
[
{
"leadId": "00Q1W00001SmV5oUAF",
"dealerLeadId": "A123VSDFDFF",
"dealerOpportunityId": "B23445232ASSDDV",
"customerPreviouslyKnown": "Yes",
"customerContacted": "No",
"dealerCustomerNumber ": "123433",
"targetDate": "2021-09-23",
"probabilityOfClosurePercentage":70,
"rating":"High",
```

```
"dealerSalesRep": "JOHN DOE",
"opportunityAmount": 1999.45,
"leadStatus": " Accepted",
"quoteSentDate": "2020-08-18",
"quoteId": "12AS223",
"currencyIsoCode": "USD"
}
```

```
]
```

Sample POST body for Scenario: Opportunity Stage = **Closed Won**

```
[
{
"leadId": "00Q1W00001SmV5oUAF",
"dealerLeadId": "A123VSDFDFF",
"dealerOpportunityId": "B23445232ASSDDV",
"customerPreviouslyKnown": "Yes",
"customerContacted": "No",
"dealerCustomerNumber": "123433",
"targetDate": "2021-09-23",
"probabilityOfClosurePercentage": 100,
"rating": "High",
"dealerSalesRep": "JOHN DOE",
"opportunityAmount": 1999.45,
"leadStatus": " Accepted",
"quoteSentDate": "2020-08-18",
"quoteId": "12AS223",
"currencyIsoCode": "USD"
"primaryClosedReason": "Warranty Term (Term/Rate/Scope)",
"secondayClosedReason": "Deal was closed with additional discount",
"closedReasonComments": "Customer negotiated for additional discount"
}
]
```

Sample POST body for Scenario: Opportunity Stage = Closed No Deal

```
[
{
"leadId": "00Q1W00001SmV5oUAF",
"dealerLeadId": "A123VSDFDFF",
"dealerOpportunityId": "B23445232ASSDDV",
```

```

    "customerPreviouslyKnown": "Yes",
    "customerContacted": "No",
    "dealerCustomerNumber ": "123433",
    "targetDate": "2021-09-23",
    "probabilityOfClosurePercentage":0,
    "rating":"low",
    "dealerSalesRep":"JOHN DOE",
    "opportunityAmount":1999.45,
    "leadStatus":" Accepted",
    "currencyIsoCode":"USD"
    "closedNoDeal": 1,
    "quoteSentDate": "2020-08-18",
    "quoteId": "12AS223",
    "primaryClosedReason": "Products/Parts Not in Cat Network",
    "secondayClosedReason": "Products were not available within CAT Network
since they were discontinued"
  }
]

```

Sample POST body for Scenario: Opportunity Stage = Closed Lost

```

[
  {
    "leadId": "00Q1W00001SmV5oUAF",
    "dealerLeadId": "A123VSDFDFF",
    "dealerOpportunityId": "B23445232ASSDDV",
    "customerPreviouslyKnown": "Yes",
    "customerContacted": "No",
    "dealerCustomerNumber ": "123433",
    "targetDate": "2019-09-23",
    "probabilityOfClosurePercentage":0,
    "rating":"low",
    "dealerSalesRep":"JOHN DOE",
    "opportunityAmount":1999.45,
    "leadStatus": " Accepted",
    "currencyIsoCode": "USD"
    "closedNoDeal": 0,
    "quoteSentDate": "2020-08-18",
    "quoteId": "12AS223",
    "primaryClosedReason": "Competitive Financial (Term/Rates/Scope)",
    "secondayClosedReason": "None",
  }
]

```

```
}  
]
```

**The primary key for a Leads is:**

LeadId

## Transmission/Media Type

- Mailbox
- Web service
- LU6.2
- XML
- API
- PC to Client
- Web Download/SIFT
- CD

## Testing Procedures

For testing with Caterpillar QA environment:

Description	URL
Obtain Bearer token for QA	<a href="https://fedloginqa.cat.com/as/token.oauth2">https://fedloginqa.cat.com/as/token.oauth2</a>
Invoke service in QA	<a href="https://services-qa.cat.com/marketing/ecrm/leadManagement/v2/leads">https://services-qa.cat.com/marketing/ecrm/leadManagement/v2/leads</a>

You must have valid Client ID credentials for QA environment. Contact ECRM team for help.

In addition to System Integration testing, following tests should be completed by the consumer of the API

- *Load testing*
  - *Ability to make consecutive GET calls until all PSEs are ingested and GET call returns 0 leads (Note: Since Lead API GET call will only deliver 100 leads, this capability is required to make sure that dealers can pull all leads if the number of leads exceed 100).*
- *Dealer error handling*
  - *Any response code received other than 200 OK or 204 No Content,*
    - *Retry mechanism should make API call at least 5 times before failing.*
    - *After Retry failure, it is recommended to trigger an email alert to dealer CRM team to review the error including error details and take necessary actions to fix the error.*

## Testing Coordination

- Testing can be performed without Caterpillar DICE Team assistance

- Testing requires coordination with the Caterpillar ECRM team

### Testing Comments

- Use Postman to test the interface process before deploying more advanced applications using the Partner API.

### Who To Contact

For scheduling your testing needs, please contact you assigned Program Manager

Testing will be coordinated by ECRM deployment team

### Test Configuration

N/A

### Production Information

#### Production Comment

Production Endpoints:

Description	URL
Obtain Bearer token for PROD	<a href="https://fedlogin.cat.com/as/token.oauth2">https://fedlogin.cat.com/as/token.oauth2</a>
Invoke service in PROD	<a href="https://services.cat.com/marketing/ecrm/leadManagement/v2/leads">https://services.cat.com/marketing/ecrm/leadManagement/v2/leads</a>

You must have valid Client ID credentials for PROD environment. Contact ECRM team for help.

### Production Configuration

N/A