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**Data Exchange Platform**

**API Setup Reference Guide**

**SRT**

**Version 1.0**

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Contents

[**1.** **Document Control** 4](#_Toc121402883)

[**2.** **Overview** 5](#_Toc121402884)

[**3.** **Pre-requisites to access the API** 5](#_Toc121402885)

[**4.** **API setup** 5](#_Toc121402886)

[**5.** **API and Connection Details** 6](#_Toc121402887)

[**5.1.** **PARTS APIs** 6](#_Toc121402888)

[5.1.1. API Request Parameters 6](#_Toc121402889)

[5.1.2. API Response Description 7](#_Toc121402890)

[5.1.3. Examples 7](#_Toc121402891)

[**5.2.** **VIN APIs** 8](#_Toc121402892)

[5.2.1. Group API 8](#_Toc121402893)

[5.2.1.1. Group API Request Parameters 8](#_Toc121402894)

[5.2.1.2. Group API Response Description 8](#_Toc121402895)

[5.2.1.3. Examples 9](#_Toc121402896)

[5.2.2. Subgroup API 10](#_Toc121402897)

[5.2.2.1. Group API Request Parameters 10](#_Toc121402898)

[5.2.2.2. Subgroup API Response Structure 10](#_Toc121402899)

[5.2.2.3. Examples 10](#_Toc121402900)

[5.2.3. Sub subgroup API 11](#_Toc121402901)

[5.2.3.1. Sub Subgroup API Request Parameters 11](#_Toc121402902)

[5.2.3.2. Sub subgroup API Response Structure 11](#_Toc121402903)

[5.2.3.3. Examples 12](#_Toc121402904)

[5.2.4. Operations API 12](#_Toc121402905)

[5.2.4.1. Operations API Request Parameters 12](#_Toc121402906)

[5.2.4.2. Operations API Response Structure 13](#_Toc121402907)

[5.2.4.3. Examples 13](#_Toc121402908)

[**5.3.** **VIN & PARTS API** 14](#_Toc121402909)

[5.3.1. VIN & PARTS API Request Parameters 14](#_Toc121402910)

[5.3.2. VIN & PARTS API Response Structure 14](#_Toc121402911)

[5.3.3. Examples 16](#_Toc121402912)

[**5.4.** **Response Codes** 17](#_Toc121402913)

[**5.5.** **Sample Postman Collection** 17](#_Toc121402914)

[**6.** **Database & Stored Procedure** 17](#_Toc121402915)

[6.1. **Parts API** 17](#_Toc121402916)

[**6.2.** **VIN API** 19](#_Toc121402917)

[**6.3.** **Vin & Parts API** 20](#_Toc121402918)

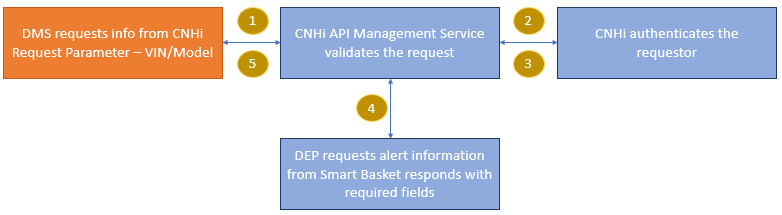
# **Document Control**

|  |  |  |  |
| --- | --- | --- | --- |
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# **Overview**

SRT API is intended to expose details related to a SRT code, its description, timesheet, model, product line, region etc., which enables the DMS providers to have information on the rates, work units at the time of creating a flat rate work order repair/quote. A DMS provider can query the SRT data on a real time basis by providing the Vehicle Identification Number (VIN) or the Model Number. The API provides information that are available in Smart basket application today for the given equipment or model after filtering information that might not be useful for the dealers. All the SRT and its relevant data are extracted from the Smart Basket system of CNHi.

Pictorial representation of the data flows below.



# **Pre-requisites to access the API**

* To request for the SRT details, the dealer should be registered and possess a user ID from CNHi dealer portal.
* All the API setups require a basic http authorization header, which will require an API Subscription key
* CNHi may need to setup the access to retrieve data from Smart Basket application. <<This authentication mechanism will be determined and updated as needed>>

# **API setup**

CNHi’ s has built a data exchange platform, which provides the flexibility to the end users to request information from CNHi system in the following format.

1. REST API

CNHi’ s data exchange platform will take care of the format transformations (as needed) to process the request and response to the DMS system.

DMS providers can access the CNHi’ s SRT system/data using a REST API format. The end point URL for the connection is listed in connection details section.

# **API and Connection Details**

*In SRT we have 3 APIs*

* **Parts API**
* **VIN API**
* **VIN & Parts API**

While developing this interface, we want to avoid changes and perform testing in a live environment to that end, CNHi provides three environment contexts for its APIs:

* Cert/UAT
* Production

The environments are identical, requiring only that you change out your connection string and authorization endpoint to connect to any of the environments.

# **PARTS APIs**

Parts API returns the parts details including group, subgroup, sub subgroup and operation details.

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/srtpartsservice/part/{**partnumber**} |
| Production | Being constructed |

Request and Response Structure

# API Request Parameters

**Request Params –** PartNumber, lang and responseFormat

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Params Type | Type | Is Required | Default Value | Comments |
| Parts Number | Template | Char | true | Yes | Part identification number |
| Lang | Query | Char | False | false | Language – default value will be en |
| responseFormat | Query | Char | false | false | Response Format [xml or json] – default will be json |

# API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| pnCode | String | Part number code |
| pnDesc | String | Part number description |
| group.dGr | String | Group id |
| group.Desc | String | Group description |
| group.grCode | String | Group Code |
| subGroup.sGr | String | Sub group Id |
| subGroup.Desc | String | Sub group description |
| subGroup.sgrCode | String | Sub group code |
| defect.sSGr | String | Sub sub group code |
| defect.Desc | String | Sub sub group description |
| defect.sSGrCode | String | Sub sub group code |
| operation.opID | String | Operation Id |
| operation.Desc | String | Operation description |
| operation.Code | String | Operation code |
| operation.Rank | String | Rank |

# 

# Examples

**Sample Parts API Response**



# **VIN APIs**

In SRT, VIN APIs, we have breakdown the APIs into 4 due to huge execution time. So, we have created different APIs for Group, Subgroup, Sub subgroup and Operations

* Group API
* Subgroup API
* Sub Subgroup API
* Operation API

# Group API

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | https://apim-uat.dep.cnhind.com/external/srtvinservice/vin/{**vinnumber**} |
| Production | Being constructed |

Request and Response Structure

# Group API Request Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Params Type | Type | Is Required | Default Value | Comments |
| vinNumber | Template | Char | True | Yes | Serial/Vehicle Identification number of the equipment |
| Lang | Query | Char | False | False | Language – default value will be en |
| responseFormat | Query | Char | False | False | Response Format [xml or Json] – default will be Json |

# Group API Response Description

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| product.Brand | String | Brand name |
| product.brandId | String | Brand Id |
| product.Type | String | Type |
| product.Typeid | String | Typeid |
| product.Productname | String | Productname |
| product.Productid | String | Productid |
| product.Series | String | Series |
| product.seriesID | String | seriesID |
| product.Model | String | Model |
| product.Desc | String | Desc |
| product.technicalTypeCode | String | TechnicalTypeCode |
| product.serialnumbercode | String | Serial Number or Vehicle Number |
| group.dGr | String | Group id |
| group.Desc | String | Group description |
| group.grCode | String | Group Code |

# Examples

**Sample VIN Group API Response**



# Subgroup API

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | [https://apim-uat.dep.cnhind.com/external/srtvinservice/vin/{**vinnumber**}/{**groupId**](https://apim-uat.dep.cnhind.com/external/srtvinservice/vin/vinnumber%7D/%7BgroupId)} |
| Production | Being constructed |

Request and Response Structure

# Group API Request Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Params Type | Type | Is Required | Default Value | Comments |
| vinNumber | Template | Char | True | True | Serial/Vehicle Identification number of the equipment |
| groupId | Template | Integer | True | True | Group Id |
| Lang | Query | Char | False | False | Language – default value will be en |
| responseFormat | Query | Char | False | False | Response Format [xml or Json] – default will be Json |

# Subgroup API Response Structure

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| sGr | String | Group id |
| Desc | String | Group description |
| sgrCode | String | Roup Code |

# Examples

**Subgroup API Sample Response**



# Sub subgroup API

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | [https://apim-uat.dep.cnhind.com/external/srtvinservice/vin/{**vinnumber**}/{**groupId**}/{**subGroupId**}](https://apim-uat.dep.cnhind.com/external/srtvinservice/vin/%7Bvinnumber%7D/%7BgroupId%7D/%7BsubGroupId%7D) |
| Production | Being constructed |

Request and Response Structure

# Sub Subgroup API Request Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Params Type | Type | Is Required | Default Value | Comments |
| vinNumber | Template | Char | True | True | Serial/Vehicle Identification number of the equipment |
| groupId | Template | Integer | True | True | Group Id |
| subgroupId | Template | Char | True | True | Sub Group Id |
| Lang | Query | Char | False | False | Language – default value will be en |
| responseFormat | Query | Char | False | False | Response Format [xml or Json] – default will be Json |

# Sub subgroup API Response Structure

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| defect.SSGr | String | Sub Subgroup Id |
| defect.Desc | String | Sub Subgroup Description |
| defect.SSGrCode | String | Sub Subgroup Code |

# Examples

**Sample Sub Subgroup API Response**



# Operations API

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | [https://apim-uat.dep.cnhind.com/external/srtvinservice/vin/{**vinnumber**}/{**GroupId**}/{**subGroupId**}/{**SubSubGroupId**}](https://apim-uat.dep.cnhind.com/external/srtvinservice/vin/%7Bvinnumber%7D/%7BGroupId%7D/%7BsubGroupId%7D/%7BSubSubGroupId%7D) |
| Production | Being constructed |

Request and Response Structure

# Operations API Request Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Params Type | Type | Is Required | Default Value | Comments |
| vinNumber | Template | Char | True | True | Serial/Vehicle Identification number of the equipment |
| groupId | Template | Integer | True | True | Group Id |
| subgroupId | Template | Integer | True | True | Sub Group Id |
| subsubgroupId | Template | Integer | True | True | Subsub Group Id |
| Lang | Query | Char | False | False | Language – default value will be en |
| responseFormat | Query | Char | False | False | Response Format [xml or Json] – default will be Json |

# Operations API Response Structure

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| operation.opID | String | Operation ID |
| operation.desc | String | Operation description |
| operation.code | String | Operation Code |
| operation.Type | String | Type |
| operation.addDesc | String | Add Desc |
| operation.time | String | Time taken for the operation |
| additionalInfo.rollupList.rolUp\_id | String | Roll Up Id |
| additionalInfo.rollupList.rollup\_order | String | Roll Up Order |
| additionalInfo.rollupList.rolUp\_desc | String | Roll Up Description |
| additionalInfo.Included.opID | String | Included Operation ID |
| additionalInfo.Excluded.opID | String | Excluded Operation ID |

# Examples

**Sample Operations API Response**



# **VIN & PARTS API**

|  |  |
| --- | --- |
| Environment | URL |
| CERT/UAT | [https://apim-uat.dep.cnhind.com/external/srtvinandpartsservice/vin/{**vinNumber**}/part/{**partNumber**}](https://apim-uat.dep.cnhind.com/external/srtvinandpartsservice/vin/%7BvinNumber%7D/part/%7BpartNumber%7D) |
| Production | Being constructed |

Request and Response Structure

# VIN & PARTS API Request Parameters

Request Params – VinNumber PartNumber, lang and responseFormat

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Params Type | Type | Is Required | Default Value | Comments |
| Vin Number | Template | Char | True | True | Serial/Vehicle Identification number of the equipment |
| Parts Number | Template | Char | True | True | Parts Identification number |
| Lang | Query | Char | False | False | Language – default value will be en |
| responseFormat | Query | Char | False | False | Response Format [xml or json] – default will be json |

# VIN & PARTS API Response Structure

Vin And Parts API is return the parts details and Vin details including group, subgroup, sub subgroup, operations and additional info details.

The API response is structured at a high level as detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| product.Brand | String | Brand name |
| product.brandId | String | Brand Id |
| product.Type | String | Product Type |
| product.Typeid | String | Product Type Id |
| product.Productname | String | Product Name |
| product.productid | String | Product Id |
| product.Series | String | Product Series |
| product.seriesID | String | Product Series |
| product.Model | String | Product Model |
| product.Desc | String | Product Description |
| product.technicalTypeCode | String | Its TT Code for Vin Number |
| product.Serialnumbercode | String | Serial Number or Vehicle Number |
| product.pnCode | String | Part number code |
| Timesheet.timesheetcode | String | Timesheet Code |
| Timesheet.columncode | String | Timesheet Column Code |
| Timesheet.columndescription | String | Timesheet Column Description |
| timesheet.group.dGr | string | Group id |
| timesheet.group.Desc | String | Group description |
| timesheet.group.grCode | String | Group Code |
| timesheet.group.subGroup.sGr | String | Sub group Id |
| timesheet.group.subGroup.Desc | String | Sub group description |
| timesheet.group.subGroup.sgrCode | String | Sub group code |
| timesheet.group.subGroup.defect.sSGr | String | Sub sub group code |
| timesheet.group.subGroup.defect.Desc | String | Sub sub group description |
| timesheet.group.subGroup.defect.sSGrCode | String | Sub sub group code |
| timesheet.group.subGroup.defect.operation.opID | string | Operation ID |
| timesheet.group.subGroup.defect.operation.Desc | string | Operation description |
| timesheet.group.subGroup.defect.operation.Code | string | Operation Code |
| timesheet.group.subGroup.defect.operation.Time | string | Time taken for the operation |
| timesheet.group.subGroup.defect.operation.Rank | string | This is the rank for Part Number and Operation Id combination |
| timesheet.group.subGroup.defect.operation.addDesc | string | Operation Additional Description |
| timesheet.group.subGroup.defect.operation.Type | String | Operation Type |
| timesheet.group.subGroup.defect.operation.additionalInfo.rolUp\_id | string | Operation Additional Rollup ID |
| timesheet.group.subGroup.defect.operation.additionalInfo.rollup\_order | string | Operation Additional Rollup Order |
| Timesheet.group.subgroup.defect.operation.additionalInfo.rollupList.rolUp\_desc | String | Roll Up Description |
| Timesheet.group.subgroup.defect.operation.additionalInfo.Included.opID | String | Included Operation ID |
| Timesheet.group.subgroup.defect.operation.additionalInfo.Excluded.opID | String | Excluded Operation ID |

# Examples

**Sample VIN & Parts API Response**



# **Response Codes**

|  |  |  |
| --- | --- | --- |
| Title | Reason | Code |
| REST SRT success response | Success | 200 |
| REST SRT failure response | Bad Request: Request query params are invalid | 400 |
| REST SRT failure response | Part Number Invalid | 200 |
| REST SRT failure response | No records found / Resource Not Found | 404 |
| REST SRT failure response | Internal Server Error | 500 |

# **Sample Postman Collection**

Attach the sample postman collection by masking the sensitive data



# **Database & Stored Procedure**

CERT/UAT Connection Details

Server=tcp:EUDEXPLSQLSRVCOYEDFM.database.windows.net,1433

Catalog= EUDEXPLSQLSRVCOYEDFM

User ID=sql-admin-dbsj7f

Password=\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

We have created stored procedure for converting the data to XML and JSON for all APIs.

# **Parts API**

The request with Part Number, Language and Response format as request parameters

* It will look in the DEP EDS Storage table with the **Part number** in the request
* It will retrieve all the **Operation** code related to the top 10 operation related to that part number
* With **Operations** can go to the Dictionary[Language code]table to retrieve the corresponding description

Then it will prepare the response as per the response format

**Stored Procedure Name** – Sp\_FetchDataForPart

Input Params -

* + 1. partNumber
    2. Language
    3. ResponseFormat

# **VIN API**

We have created separate stored procedures for group, subgroup, sub sub group and operations due to huge amount of data.

**Groups Stored Procedure**

The request parameter will be Vin Number and it will return the product details, group details in xml/json format as per the responseformat

Stored Procedure Name – Sp\_FetchDataForGroupsUsingVin

Input Params -

VinNumber

Language

ResponseFormat

**Sub Groups Stored Procedure**

The request parameter will be Vin Number and Group ID it will return the sub group details in xml/json format as per the responseformat

Stored Procedure Name – Sp\_FetchDataForSubGroupsUsingVinAndGroupId

Input Params -

VinNumber

GroupId

Language

ResponseFormat

**Sub Subgroups Stored Procedure**

The request parameter will be Vin Number, Group ID and Sub group ID it will return the sub sub group details in xml/json format as per the responseformat

Stored Procedure Name – Sp\_FetchDataForVinSubSubGroupsDetails

Input Params -

VinNumber

GroupId

SubGroupId

Language

ResponseFormat

**Operations Stored Procedure**

The request parameter will be Vin Number, Group ID, Sub group ID and sub sub group id it will return the operation and additional info details in xml/json format as per the responseformat

Stored Procedure Name – Sp\_FetchDataForVinOperationDetails

Input Params -

VinNumber

GroupId

SubGroupId

SubSubGroupId

Language

ResponseFormat

# **Vin & Parts API**

The request with VIN Number, Part Number, Language code and response format as request parameter

* VIN will be searched in SerialNumbers table to retrieve the technical type [**TTCode**]
* Using the technical type will access the Product table with the **TTCode** will retrive the information required [Ex Serie, ...] and will retrieve the **Timesheet** and **Column** information
* With **Timesheet** code and **Column** will access to the Timesheet table and it will retrive all the **Operations** realted to that Timesheet code and Column
* Using the requested **VIN Number** and **Part Number** awe are finding common operation Ids from Dictionary[Language code] table to retrieve the corresponding description
* With the **TechType** and **Operation** code will access the AdditionalInfo table to retrive the description in the Languages required

Then it will prepare the response as per the response format

Stored Procedure Name – Sp\_FetchDataForVinPartsAPI

Input Params -

VinNumber

PartNumber

Language

ResponseFormat