



CAN REST API FOR PREDICTION DELIVERY

Cognitive Assistant for Networks (CAN) Release 6.0



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AVANSEUS TECHNOLOGIES PVT. LTD.

REVISION HISTORY

Version	Date	Change description	Created By	Updated by	Reviewed by
V5.5	July, 2021	Initial Release	Sunil	Sandeep Singh	Chiranjib
V6.0	February, 2023	Updates	Shlaghana	Raksha	Chiranjib

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1. Background

This document addresses the technical details for consuming the predicted faults using REST API. The REST API provides the predictions that can be used by the registered third-party applications.

2. API Specification

1) getCANPredictions

This API call will provide all the predictions generated for the specified date. The output structure of the JSON matches the columns in the prediction report as per the agreement with customer. Whenever the customer requests for a change, the same will be intimated 7 days in advance to all REST API consumers about the change in structure of the JSON output.

Swagger API specification:

```
{
  swagger: "2.0",
  info: {
    description: "Avanseus CAN REST API provides the CAN predictions output in the JSON format",
    version: "0.0.1-SNAPSHOT",
    title: "PredictedFaults REST API",
    contact: {
      name: "Avanseus Technologies Pvt. Ltd.",
      url: "https://www.avanseus.com",
      email: "support@avanseus.com"
    },
    license: {
      name: "Avanseus Software License Agreement",
      url: "https://www.avanseus.com/legal/"
    }
  },
  host: "avanseuscanapp.com",
  basePath: "/CAN",
  securityDefinitions: {
    basicAuth: {
      type: "basic"
    }
  },
  tags: [
    {
      name: "PredictedFaultsController",
      description: "REST API to fetch CAN predictions"
    }
  ],
}
```

```

paths: {
  "/CanPredictedFaultsProvider/getCanPredictions": {
    post: {
      tags: [
        "PredictedFaultsController"
      ],
      summary: "API to get CAN predictions",
      operationId: "getCanPredictionsUsingPOST",
      consumes: [
        "Authorization",
        "application/json"
      ],
      produces: [
        "application/json"
      ],
      parameters: [
        {
          in: "body",
          name: "requestParameters",
          description: "requestParameters",
          required: true,
          schema: {
            "$ref": "#/definitions/RequestParameters"
          }
        }
      ],
      responses: {
        200: {
          description: "Successful request",
          schema: {
            type: "object"
          }
        },
        400: {
          description: "Parameter value missing"
        },
        401: {
          description: "Authentication Failed! Please contact support@avanseus.com with the error code and time of API call."
        },
        403: {
          description: "Maximum number of service requests exceeded for the day!"
        }
      }
    }
  }
}

```

```

    30: {
      description: "Incorrect Date Format! Please provide the date in the following format:
ddMMyyyy. Example: 14112022 for 14th November 2022
    },
    31: {
      description: "Predictions not available for the given date ddMMyyyy"
    },
    32: {
      description: "Please contact support@avanseus.com with the error code and time of API
call."
    }
  }
}
}
}
},
definitions: {
  RequestParameters: {
    type: "object",
    properties: {
      applicationName: {
        type: "string"
      },
      predictionDate: {
        type: "string"
      }
    }
  }
}
}
}
}
}

```

Request

URL: <https://<domain>/CAN/CanPredictedFaultsProvider/getCanPredictions>

Method: POST

Parameter	Type	Requirement	Example
Authorization	Basic Auth HTTP header	Mandatory	Basic dGVzdHVzZXI6YWlxMzlxNVYw
applicationName	String	Mandatory	CAN
predictionDate	String(Date in ddMMyyyy format)	Mandatory	14112022

2) getCANSamplePredictions

This API call will provide random sample predictions for the specified date. The output structure of the JSON matches the columns in the prediction report as per the agreement with customer. Whenever the customer requests for a change, the same will be intimated 7 days in advance to all REST API consumers about the change in structure of the JSON output.

Swagger API specification

```
{
  swagger: "2.0",
  info: {
    description: "Avanseus CAN REST API provides the CAN predictions output in the JSON format",
    version: "0.0.1-SNAPSHOT",
    title: "PredictedFaults REST API",
    contact: {
      name: "Avanseus Technologies Pvt. Ltd.",
      url: "https://www.avanseus.com",
      email: "support@avanseus.com"
    },
    license: {
      name: "Avanseus Software License Agreement",
      url: "https://www.avanseus.com/legal/"
    }
  },
  host: "avanseuscanapp.com",
  basePath: "/CAN",
  securityDefinitions: {
    basicAuth: {
      type: "basic"
    }
  },
  tags: [
    {
      name: "PredictedFaultsController",
      description: "REST API to fetch CAN predictions"
    }
  ],
  paths: {
    "/CanPredictedFaultsProvider/getCanSamplePredictions": {
      post: {
        tags: [
          "PredictedFaultsController"
        ],

```

```

summary: "API to get CAN predictions",
operationId: "getCanPredictionsUsingPOST",
consumes: [
  "Authorization",
  "application/json"
],
produces: [
  "application/json"
],
parameters: [
  {
    in: "body",
    name: "requestParameters",
    description: "requestParameters",
    required: true,
    schema: {
      "$ref": "#/definitions/RequestParameters"
    }
  }
],
responses: {
  200: {
    description: "Successful request",
    schema: {
      type: "object"
    }
  },
  400: {
    description: "Parameter value missing"
  },
  401: {
    description: "Authentication Failed! Please contact support@avanseus.com with the error code and time of API call."
  },
  403: {
    description: "Maximum number of service requests exceeded for the day!"
  },
  30: {
    description: "Incorrect Date Format!. Please provide the date in the following format: ddMMyyyy. Example: 14112022 for 14th November 2022"
  },
  31: {
    description: "Predictions not available for the given date ddMMyyyy"
  }
}

```

```

    },
    32: {
      description: "Please contact support@avanseus.com with the error code and time of API
call."
    }
  }
}
}
},
definitions: {
  RequestParameters: {
    type: "object",
    properties: {
      applicationName: {
        type: "string"
      },
      predictionDate: {
        type: "string"
      }
    }
  }
}
}
}
}

```

Request

URL: <https://<domain>/CAN/CanPredictedFaultsProvider/getCanSamplePredictions>

Method: POST

Parameter	Type	Requirement	Example
Authorization	Basic Auth HTTP header	Mandatory	Basic dGVzdHVzZXI6YWVxMzIxNVYw
applicationName	String	Mandatory	CAN
predictionDate	String(Date in ddMMyyyy format)	Mandatory	14112022

3. Output JSON Format

```

{
  "statusCode": "200",
  "statusMessage": "SUCCESS",
  "predictedFaults": [
    {
      "PAT NUMBER": "138687",
      "PARENT NODE": "",
      "CLUSTER ID": "UnClustered",
      "EQUIPMENT IDENTIFIER": "490676076Z",

```

"EQUIPMENT COMPONENT": "490676076Z____Xzyrmvg MI.=9,Hfyizxp MI.=9,Holg MI.=80,Klig MI.=2,Ylziw Gbkv=FKVF,Nzmztvi Xzyrmvg MI.=MFOO,Nzmztvi Hfyizxp MI.=MFOO,Fhvi Ozyvo=MFOO",

"CAUSE": "34886 - Hgilnevihlitfmt mrxsgwirmt Zozin",

"ALARM OCCURRENCE COUNT": "11.0",

"ALARM DEDUPLICATED COUNT": "8.0",

"AVG ALARM DURATION": 131.4,

"PREDICTED FAULT DURATION (mins)": 37888.43,

"WEIGHT INDEX": "36.36666666666667",

"FAULT HISTORY": "Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 11-11-2022 19:43:06, Cleared time: 11-11-2022 19:44:49
Cause: 34886 - Hgilnevihlitfmt mrxsgwirmt Zozin, Event time: 11-11-2022 18:11:26, Cleared time: 11-11-2022 18:38:5
Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 10-11-2022 22:27:25, Cleared time: 10-11-2022 22:29:40
Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 09-11-2022 20:47:46, Cleared time: 09-11-2022 21:02:28
Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 08-11-2022 10:26:07, Cleared time: 08-11-2022 18:23:43
Cause: 34886 - Hgilnevihlitfmt mrxsgwirmt Zozin, Event time: 07-11-2022 22:40:16, Cleared time: 07-11-2022 22:41:18
Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 07-11-2022 20:27:17, Cleared time: 07-11-2022 20:29:17
Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 05-11-2022 17:21:54, Cleared time: 05-11-2022 17:23:36
Cause: 34886 - Hgilnevihlitfmt mrxsgwirmt Zozin, Event time: 03-11-2022 19:39:48, Cleared time: 03-11-2022 19:42:03

"PREDICTIVE TICKET HISTORY": "",

"TICKET HISTORY": "",

"LATEST TICKET": "",

"FAULT TRACE 1": "26819 - Data Configuration Exceeding Licensed Limit, 26817 - License on Trial, 301 - NE Is Disconnected, 29204 - X2 Interface Fault",

"FAULT TRACE 2": "301 - NE Is Disconnected",

"TOPOLOGY PATHS": [
"490676076Z-->470745971Z-->470745970Z-->490209964Y",
"490676076Z-->470745973Z-->470745971Z-->470745970Z-->490209964Y"
],

"TOPOLOGY FAULT HISTORY": "OfficeCode: 421009848, Equipment: 490676076Z, Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 11-11-2022 19:43:06, Closure time: 11-11-2022 19:44:49

OfficeCode: 421009848, Equipment: 490676076Z, Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 11-11-2022 19:43:06, Closure time: 11-11-2022 19:44:49

OfficeCode: 421009848, Equipment: 490676076Z, Cause: 34886 - Hgilnevihlitfmt mrxsgwirmt Zozin, Event time: 11-11-2022 18:11:26, Closure time: 11-11-2022 18:38:52

OfficeCode: 421009848, Equipment: 490676076Z, Cause: 34886 - Hgilnevihlitfmt mrxsgwirmt Zozin, Event time: 11-11-2022 18:11:26, Closure time: 11-11-2022 18:38:52

OfficeCode: 421009848, Equipment: 490676076Z, Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 10-11-2022 22:27:25, Closure time: 10-11-2022 22:29:40

OfficeCode: 421009848, Equipment: 490676076Z, Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 10-11-2022 22:27:25, Closure time: 10-11-2022 22:29:40",

"PC FAULT HISTORY": "",

"AFFECTED NODES": "",

"PARENT CAUSES": "",

"ROOT CAUSE": "Power failure",

"NOC ACTION": "",

"FIELD ACTION": "1. Check Input Power supply status for any fluctuations, No issue found perform next step

2. Check rectifier modules are working properly, if found issue replace faulty rectifier.

3. Check DC output voltage and current if found ok close ticket."

},

{

"PAT NUMBER": "140331",

"PARENT NODE": "",

"CLUSTER ID": "UnClustered",

"EQUIPMENT IDENTIFIER": "489675112Z",

"EQUIPMENT COMPONENT": "489675112Z___vMlwvY Ufmxgrlm

Mznv\u003d489675112Z,Mvrtsyilrmt Yzhv Hgzgrlm Gbkv\u003dvMlwvY,Hkvxrurx

"CAUSE": "70795 - C7 Rmgviuzxv Uzfog",

"ALARM OCCURRENCE COUNT": "7.0",

"ALARM DEDUPLICATED COUNT": "5.0",

"AVG ALARM DURATION": 2051.07,

"PREDICTED FAULT DURATION (mins)": 23.63,

"WEIGHT INDEX": "27.939999999999998",

"FAULT HISTORY": "Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 09-11-2022 14:02:45, Cleared time: 12-11-2022 04:05:02

Cause: 698 - MV Rh Wrhxlmmvxgww, Event time: 09-11-2022 13:50:35, Cleared time: 09-11-2022 13:53:43

Cause: 78658 - RK KN Zxgrezgrlm Uzrofv, Event time: 09-11-2022 13:46:19, Cleared time: 09-11-2022 13:56:49

Cause: 78194 - VHO Ormp Uzfog, Event time: 09-11-2022 13:45:51, Cleared time: 09-11-2022 13:56:46

Cause: 78192 - LNO Uzfog, Event time: 09-11-2022 13:45:46, Cleared time: 09-11-2022 13:56:49

Cause: 78198 - THN Xvoo lfg lu Hvierxv, Event time: 09-11-2022 13:45:46, Cleared time: 09-11-2022 13:57:26

Cause: 698 - MV Rh Wrhxlmmvxgww, Event time: 08-11-2022 06:17:50, Cleared time: 08-11-2022 06:21:47

Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 07-11-2022 22:59:16, Cleared time: 08-11-2022 12:47:15

Cause: 698 - MV Rh Wrhxlmmvxgww, Event time: 04-11-2022 13:38:28, Cleared time: 04-11-2022 13:40:30

Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 02-11-2022 10:23:10, Cleared time: 05-11-2022 03:39:05

Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 01-11-2022 19:34:44, Cleared time: 01-11-2022 20:05:37

Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 24-10-2022 16:13:21, Cleared time: 28-10-2022 17:47:24

Cause: 70795 - C7 Rmgviuzxv Uzfog, Event time: 17-10-2022 04:25:13, Cleared time: 17-10-2022 04:28:51",

"PREDICTIVE TICKET HISTORY": "",

"TICKET HISTORY": "",

"LATEST TICKET": "",

"FAULT TRACE 1": "26819 - Data Configuration Exceeding Licensed Limit, 26817 - License on Trial",

"FAULT TRACE 2": "301 - NE Is Disconnected, 29201 - S1 Interface Fault",

"TOPOLOGY PATHS": [],

"TOPOLOGY FAULT HISTORY": "",

"PC FAULT HISTORY": "",

"AFFECTED NODES": "",

"PARENT CAUSES": "",

"ROOT CAUSE": "SCTP Link Issue",

"NOC ACTION": "check whether the configuration of the SCTP link corresponding to the X2 interface is correct.

check whether the X2 interface is configured for the peer base station.",

"FIELD ACTION": "check the status of the SCTP link is abnormal"

}

]

}