[SAP Table][SAP Open Hub][SAP ODP (SAP CDC)] identify whether investigation from SAP server side is needed

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Background

For errors from SAP connectors (SAP table/ SAP Open Hub/SAP ODP (SAP CDC)/ ...), **the root cause sometimes turns out to be an issue on SAP source system instead of on our SAP connectors**. This TSG will provide you some hint on when it's needed to check from SAP server side (with some basic SAP TCode) and even to let customer contact their SAP support.

Issue Symptom

There could be different scenarios for this issue.

Connector	Error Message
SAP Table	Failed when parsing data, parsing value: 'xxxxx', expected data type 'Microsoft.DataTransfer.Common.Shared.ClrTypeCode'.Please check your origin data in SAP side
SAP Open Hub	Type=Microsoft.DataTransfer.Common.Shared.HybridDeliveryException,Message=Failed to invoke function /SAPDS/RFC_READ_TABLE2 with error: SAP.Middleware.Connector.RfcAbapRuntimeException, message: An error has occurred while parsing a dynamic entry.
SAP ODP (SAP CDC)	(To be added) This TSG could be applied to SAP ODP connector as well.

But they share some common pattern that we could see some exception thrown from SAP related components.

Troubleshoot

Usually you need to collect SHIR log and find the detailed error thrown from SAP connector in SHIR log. That one usually contains a callstack from SAP connector related libraries.

If you see an explicit message **RfcAbapRuntimeException** (like the first example in [Reference for Error details](#)), then this indicate it should be some issue within SAP system and please follow below suggestions.

There could other scenarios when need to involve SAP support, you could refer to [Reference for Error details](#) for some hints.

Suggestions

This is an exception throw by SAP system. Customer should able to go to their SAP system, use **T-Code ST22** to check dump details and involve their SAP support/expert to see how to fix it.

Reference for Error details

Below examples indicate it's likely to be an issue on SAP server side, so suggest to do some initial checking from SAP side first.

- **[SAP Open Hub]** TraceComponentId: QueryTask TraceMessageId: QueryRuntimeExecuteQueryV2Exception @logId: Error FunctionName: ExecuteQuery jobId: 00000000-0000-0000-0000-000000000000 activityId: xxxxxxxx eventId: QueryRuntimeExecuteQueryV2Exception message: ExecuteQuery failed, error message: 'Type=Microsoft.DataTransfer.Common.Shared.HybridDeliveryException,Message=Failed to invoke function /SAPDS/RFC_READ_TABLE2 with error: SAP.Middleware.Connector.**RfcAbapRuntimeException**, message: An error has occurred while parsing a dynamic entry., stacktrack: at SAP.Middleware.Connector.RfcConnection.ThrowRfcErrorMsg() at SAP.Middleware.Connector.RfcConnection.ReadBytes(Byte* buffer, Int32 count) at SAP.Middleware.Connector.RfcConnection.ReadRfcIDBegin(Int32& length) at SAP.Middleware.Connector.RfcConnection.ReadUpTo(RFCGET readState, RfcFunction function, RFCID toRid) at SAP.Middleware.Connector.RfcConnection.RfcReceive(RfcFunction function) at SAP.Middleware.Connector.RfcFunction.RfcDeserialize(RfcConnection conn, IRfcIOStream stream) at SAP.Middleware.Connector.RfcFunction.RfcCallReceive(RfcConnection conn, IRfcIOStream stream, RFCID rid) at SAP.Middleware.Connector.RfcFunction.Invoke(RfcDestination destination) at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcClient.InvokeFunctionInternal(IRfcFunction function, Boolean initStatefulSession, Boolean checkForErrors) at Microsoft.Practices.TransientFaultHandling.RetryPolicy.<>c__DisplayClass1.<ExecuteAction>b__0() at Microsoft.Practices.TransientFaultHandling.RetryPolicy.ExecuteAction[TResult](Func 1 func) at
  ```
  Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcClient.InvokeFunction(IRfcFunction function, Boolean
  initStatefulSession, Boolean
  checkForErrors).,Source=Microsoft.DataTransfer.Runtime.SapRfcHelper,StackTrace= at
  Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcClient.InvokeFunction(IRfcFunction function, Boolean
  initStatefulSession, Boolean checkForErrors) at
  Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcTableQuery.ReadDataFromSap() at
  Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcClient.ReadTable(String table, Int32 rowCount, Int32
  rowSkips, String fields, String options, Int32 batchSize, String customRfcReadTableFunctionModule,
  IErrorRowOutput errorRowOutput, Boolean convertDateToDatetime, Boolean convertTimeToTimespan, String
  sapDataColumnDelimiter, Boolean convertAdditionalType) at
  Microsoft.DataTransfer.Runtime.SapOpenHub.SapOpenHubPartitioner.GetPartitions() at
  Microsoft.DataTransfer.Runtime.SapOpenHub.SapOpenHubConnection.EnumeratePartitions(IDictionary 2
  ```
  properties) at
  Microsoft.DataTransfer.Runtime.ProcessGetPartitionsStageProcessor.EnumeratePartitions[TData](https://supportability.visualstudio.com/TData) at

Microsoft.DataTransfer.Runtime.ProcessGetPartitionsStageProcessor.ProcessInternal(NoData data) at Microsoft.DataTransfer.Runtime.PipelineProcessStageProcessor`2.Process(TInput data) at Microsoft.DataTransfer.Runtime.Provider.HybridRuntimeDataReader..ctor(HybridRuntimeCommand command, String commandBehavior, IMemoryLimit memoryLimit, Int32 previewCount) at Microsoft.DataTransfer.Runtime.Provider.HybridRuntimeCommand.ExecuteReaderInternal(String commandBehavior, Int32 rowCount) at Microsoft.DataTransfer.TransferTask.InteractiveTaskFactoryV2.ExecuteReader(ExecuteQueryV2Request request, ExecuteQueryV2Response response, CancellationToken token) at Microsoft.DataTransfer.TransferTask.InteractiveTask`2.Execute(),''Type=SAP.Middleware.Connector.RfcAbap RuntimeException,Message=An error has occurred while parsing a dynamic entry.,Source=sapnco,StackTrace= at SAP.Middleware.Connector.RfcConnection.ThrowRfcErrorMsg() at SAP.Middleware.Connector.RfcConnection.ReadBytes(Byte* buffer, Int32 count) at SAP.Middleware.Connector.RfcConnection.ReadRfcIDBegin(Int32& length) at SAP.Middleware.Connector.RfcConnection.ReadUpTo(RFCGET readState, RfcFunction function, RFCID toRid) at SAP.Middleware.Connector.RfcConnection.RfcReceive(RfcFunction function) at SAP.Middleware.Connector.RfcFunction.RfcDeserialize(RfcConnection conn, IRfcIOStream stream) at SAP.Middleware.Connector.RfcFunction.RfcCallReceive(RfcConnection conn, IRfcIOStream stream, RFCID rid) at SAP.Middleware.Connector.RfcFunction.Invoke(RfcDestination destination) at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcClient.InvokeFunctionInternal(IRfcFunction function, Boolean initStatefulSession, Boolean checkForErrors) at Microsoft.Practices.TransientFaultHandling.RetryPolicy.<>c__DisplayClass1.<ExecuteAction>b__0() at Microsoft.Practices.TransientFaultHandling.RetryPolicy.ExecuteAction[TResult](Func`1 func) at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcClient.InvokeFunction(IRfcFunction function, Boolean initStatefulSession, Boolean checkForErrors),'.

- **[SAP Table]** SapRfcClient operation '/SAPDS/RFC_READ_TABLE2' failed. Error message: 'Error with ASSIGN … CASTING in program /SAPDS/SAPLRS_BASIS .' Error with ASSIGN … CASTING in program /SAPDS/SAPLRS_BASIS . Activity ID: xxxxxxxxxx".

ExecuteQuery failed, error message: 'Type=Microsoft.DataTransfer.Common.Shared.HybridDeliveryException,Message=Failed when parsing data, parsing value: 'xxx', expected data type 'Microsoft.DataTransfer.Common.Shared.ClrTypeCode'.Please check your origin data in SAP side,Source=Microsoft.DataTransfer.Runtime.SapRfcHelper,StackTrace= at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcUtils.ConvertFromStringCommon(String value, ClrTypeCode dataType) at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcUtils.ToArrayBasedOnOffset(String source, Int32 columnCount, Int32[] offsets, Int32[] lengths, ClrTypeCode[] types) at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcParsingDataReader.ParseSingleRow(IRfcStructure row, Int32 columnCount, Int32[] offsets, Int32[] lengths, ClrTypeCode[] types, IErrorRowOutput errorRowOutput, DataTable schema) at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcParsingDataReader.<EnumerateTable>d__49.MoveNext() at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcParsingDataReader.TryGetRow(Object[]& newRow) at Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcParsingDataReader.Read() at Microsoft.DataTransfer.TransferTask.InteractiveTaskFactoryV2.ReadAsDictionaries(HybridRuntimeDataReader reader, CancellationToken token) at Microsoft.DataTransfer.TransferTask.InteractiveTaskFactoryV2.FillInSchemaAndData(ExecuteQueryV2Request request, ExecuteQueryV2Response response, HybridRuntimeDataReader reader, IMemoryLimit writeLimit, Guid transferId, CancellationToken token) at Microsoft.DataTransfer.TransferTask.InteractiveTaskFactoryV2.ExecuteReader(ExecuteQueryV2Request request, ExecuteQueryV2Response response, CancellationToken token) at Microsoft.DataTransfer.TransferTask.InteractiveTask`2.Execute(),''Type=System.FormatException,Message=In

put string was not in a correct format.,Source=mscorlib,StackTrace= at
System.Number.StringToNumber(String str, NumberStyles options, NumberBuffer& number,
NumberFormatInfo info, Boolean parseDecimal) at System.Number.ParseDecimal(String value,
NumberStyles options, NumberFormatInfo numfmt) at
Microsoft.DataTransfer.Runtime.SapRfcHelper.SapRfcUtils.ConvertFromStringCommon(String value,
ClrTypeCode dataType),'. Log ID: Error

(Note: Above specific error could be resolved by this [TSG]().)