PLC和终检ADS通信使用说明

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AUTOMOTIVE ELECTRICAL SYSTEMS

① 优点
② 使用范围
③ 框架
④ **Source Code**
⑤ 如何使用

一.优点

1. 统一的接口.
2. 统一的交互时序.
3. 减少调试时间.
4. 方便维护.

二. 适用范围

TestMan

三. 框架

Ads Hal:负责生成通道.
Kostal.Hal.Devices.Ads

Ads Plugin:负责数据交互.
Kostal.Testman.Plugin.LAS_PLCStructureVariables

Ads Function:负责与TestMan交互.
Kostal.AdsFunction

PLC: 负责发送请求.
PC_stuCurrentVariantInfo
PLC_stuEndTestRequest1
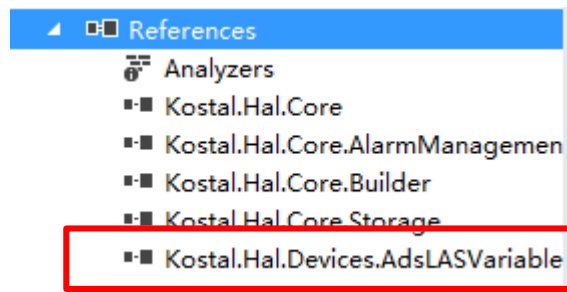ADS_stuEndTestResponse1

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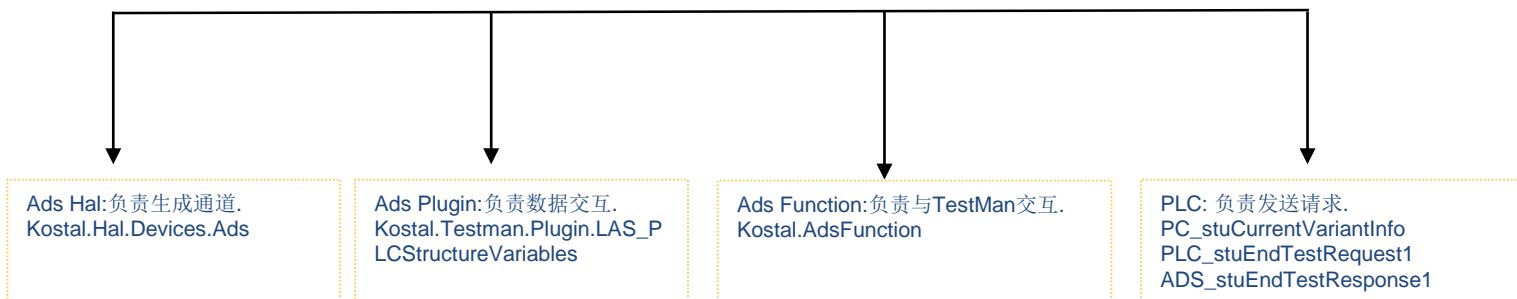
四. Source Code

1. Kostal.Hal.Devices.Ads：
   svn://10.180.2.71/eol/Standard HW&SW/TestStand/Testman/Hal/Kostal.Hal.Devices.Ads

2. Kostal.Testman.Plugin.LAS_PLCStructureVariables：
   svn://10.180.2.71/eol/StandardHW&SW/TestStand/Testman/Plugin/Kostal.Testman.Plugin.LAS_PLCStructureVariables

3. Kostal.AdsFunction：
   svn://10.180.2.71/eol/Standard HW&SW/TestStand/Testman/others/AdsFunction/Testman4

4. TestMan4 Example:
   svn://10.180.2.71/eol/Standard HW&SW/TestStand/Testman/others/AdsFunction/Example

5. PLC Example:
   svn://10.180.2.71/eol/Standard HW&SW/TestStand/Testman/others/AdsFunction/PLC Example

五. 如何使用

5.1 Hardware 里引用Kostal.Hal.Devices.Ads

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五. 如何使用

5.2 Hardware 里新增ADS通道,详细见Demo程序
svn://10.180.2.71/eol/Standard HW&SW/TestStand/Testman/others/AdsFunction/Example

```vb
Dim channel As Channel
Dim ads_id As String = hwp.GetDeviceParameter(e, "ADS_ID")
Dim ads_port As Integer = Integer.Parse(hwp.GetDeviceParameter(e, "ADS_PORT")

Dim m As New ChannelsContainer(Of Channel) With {.Name = e} 'VirtualModule =

Dim mods As New Kostal.Hal.Devices.AdsModule(ads_id, ads_port)
Dim ads As New Kostal.Hal.Devices.Ads(e, mods)

'add AdsRequestAction
lDeviceParameterS.Clear()
lDeviceParameterS = hwp.GetDeviceParameterS(e, "AdsRequestAction")
For Each ele In lDeviceParameterS
    channel = New AdsRequestAction(mods, "." + ele)
    channel.Name = ele
    m.Add(channel)
Next
```

5.3 Hardware 根据和PLC约定 填入变量名称

```xml
<parameter id="ads_id">169.254.157.201.1.1</parameter>

<parameter id="ads_port">801</parameter>

<parameter id="AdsVariantInfo">PC_stuCurrentVariantInfo</parameter>

<parameter id="AdsRequestAction">PLC_stuEndTestRequest3</parameter>

<parameter id="AdsResponseAction">ADS_stuEndTestResponse3</parameter>
```

5.4 Edit 内新增ADS Plugin

```
TOOLS=Kostal.Testman.Plugin.Tools (Lib\plugins\Plugin.Tools\Kostal.Testman.Plugin.Tools.dll)
LAS_PLCSTRUCTUREVARIABLES=Kostal.Testman.Plugin.LAS_PLCStructureVariant.LAS_PLCStructureVariables (Li
ANALOG=Kostal.Testman.Plugin.TOAnalog (Lib\plugins\Plugin.TOAnalog\Kostal.Testman.Plugin.TOAnalog.d
```

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5.5 TestMan工程里面引用Kostal.AdsFunction

```
VB Kostal.Testman.AdsDemo
   🔧 My Project
   ▲ ∎∎ References
       🔒 Analyzers
       □∎ Kostal.AdsFunction
       ∎∎ Kostal.Common
```

5.6 TestApplication 定义clsLasControl 并实例化

```vbnet
Inherits Kostal.Testman.Framework.Head.Components.TestSystem
Friend PreResult As Boolean = False
Friend InitResult As Boolean = False
Friend InitOnce As Boolean = False
Private executeInit As Boolean = True
Private DemoApplication As TestApplication
Private _CurrentRefName As String
Dim alarm As New Dictionary(Of String, String)
Dim code As String = ""
Dim mes As String = ""
Private _ProcessHandler As ProcessHandler
Private iFisrtCall As Boolean = True
Private iInitResult As Boolean = True
Private cLasControl As clsLasControl
Private Shared _Object As New Object
```

```vbnet
cLasControl = New clsLasControl()
```

5.7 TestApplication 新增Process

* 在AddProccess函数里面

```vbnet
For Each item As clsScheduleCfg In cLasControl.LasScheduleList.Values

    Select Case item.ScheduleMode
        Case ScheduleMode.ProductionMode

            Caq_Enabled = True

            Caq_TestStatus = TestStatus.Normal

        Case ScheduleMode.RetestMode

            Caq_Enabled = True

            Caq_TestStatus = TestStatus.NormalRetest

        Case ScheduleMode.AnalysisMode

            Caq_Enabled = False

            Caq_TestStatus = TestStatus.Analyse
```

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5.8 TestSystem定义clsLasControl 并实例化
* 第一个参数是第几站的意思

edit里Station ID需为数字,数字等于站别

```
0 references
Protected Overrides Function TurningFromOffToOn(args As Kostal.Testman.Framework.Core.TurningFromOffToOnArgs) A
    cLasControl = New clsLasControl(MyStation.Id, Me.Runtime)
```

```
[CELL150] Systems
    [CELL150] TEST (Test)=Kostal.Testman.AdsDemo.TestSystem (Kostal.Testman.AdsDemo.exe)
        [CELL150] MyStation: 1 (AdsDemo) = Internal Station of the system
            Parameters
            Plugins
```

5.9 TurningFromOffToOn 里面初始化Article Job选择
Me.TestApplication.Article.Select(cLasControl.GetFirstArticle)
MyStation.AttachJob(cLasControl.GetFirstJob)

```
    cLasControl = New clsLasControl(MyStation.Id, Me.Runtime)
    Me.TestApplication.ShowApplicationView(ApplicationViewType.Overview)

    SyncLock _Object
        Me.TestApplication.Article.Select(cLasControl.GetFirstArticle)
        If MyStation.Job.Current IsNot Nothing Then
            MyStation.DetachJob()
        End If
        MyStation.AttachJob(cLasControl.GetFirstJob)
        MyStation.Job.SetAttribute(ITestJobResult.PredefinedAttributeKeys.SerialNumber, "")
    End SyncLock
```

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五. 如何使用

5.10 ActionRequestForRun 获取启动信号和变种新增,序列号,Process
cLasControl.CanStartTest(SerialNumber, ArticleSet, iJob,bArticleChange)

```
System.Threading.Thread.Sleep(200)
'Very Important, do NOT delete!!!
'=======================================================
Dim SerialNumber As String = ""
Dim ArticleSet As ArticleConfigurationSet = Nothing
Dim iJob As Core.TestJob = Nothing
Dim bArticleChange As Boolean = False
Me.MyStation.Prompts.Set("等待中......")
If cLasControl.CanStartTest(SerialNumber, ArticleSet, iJob, bArticleChange) Then

    SyncLock _Object
        Me.TestApplication.Article.Select(ArticleSet)
        If MyStation.Job.Current IsNot Nothing Then
            MyStation.DetachJob()
        End If
        MyStation.AttachJob(iJob)
        MyStation.Job.SetAttribute(ITestJobResult.PredefinedAttributeKeys.SerialNumber, SerialNumber)
        If bArticleChange Then
            Me.ExecuteSection(SECTION_ARTICLE_CHANGED + "ST" + MyStation.Id)
        End If
    End SyncLock
    Me.State.TurnToTest()
End If
```

Process和Section对应关系见下图.

```
Case ScheduleMode.ProductionMode
    strSection = "EOL"
Case ScheduleMode.RetestMode
    strSection = "RETEST"
Case ScheduleMode.SelfResistanceTest
    strSection = "SRT"
Case ScheduleMode.DummyTest
    strSection = "DUMMY"
Case ScheduleMode.RezCheckerTest
    strSection = "REZCHECKER"
Case ScheduleMode.MasterPartTest
    strSection = "MASTER"
Case ScheduleMode.AssemblyOnly
    strSection = "ASSM"
Case ScheduleMode.ClearMode
    strSection = "CLEAR"
Case ScheduleMode.UserDefined
    strSection = "USER"
Case ScheduleMode.StandAlone
    strSection = "STANDALONE"
Case ScheduleMode.AnalysisMode
    strSection = "ANALY"
```

5.11 TestOperation 获取Section名称
Me.ExecuteSection(cLasControl.GetSectionName + "_" + StationShortID)

```
0 references
Protected Overrides Function TestOperation(args As Kostal.Testman.Framework.Core.TestOperationArgs) As Kostal.Te
    Dim StationShortID As String = MyStation.Id
    Dim ret As TestingResult = TestingResult.Fail()
    ret = TestingResult.Completed(Me.ExecuteSection(cLasControl.GetSectionName + "_" + StationShortID))
    Return ret

End Function
```

五. 如何使用

5.12 TestOperationCompleted 传递结束信息至PLC
cLasControl.SetResult(args.StationResult)

```vb
1 reference
Protected Overrides Sub TestOperationCompleted(args As Kostal.Testman.Framework.Core.TestOperationCompletedArgs
    'If args.Job.JobResult.
    Dim StationShortID As String = MyStation.Id
    cLasControl.SetResult(args.StationResult)

    Me.ExecuteSection(SECTION_POST + cLasControl.GetSectionName + "_" + StationShortID)
    Me.ExecuteSection(IIf(args.Job.JobResult.Ok, SECTION_POST_PASS, SECTION_POST_FAIL).ToString + cLasControl.G

    MyBase.TestOperationCompleted(args)
End Sub
```

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