

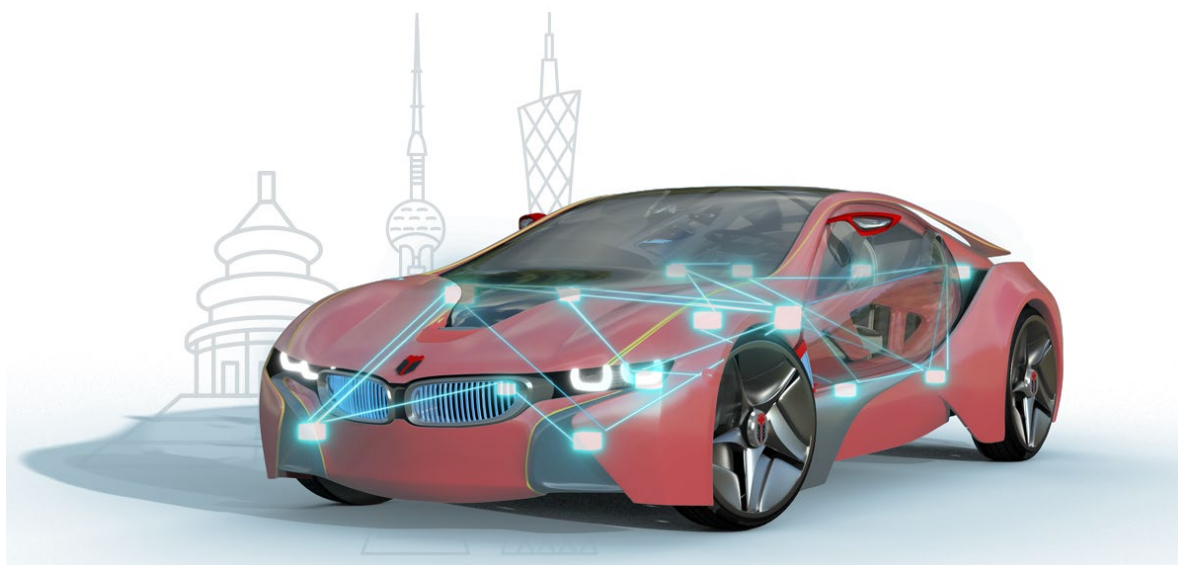


知从木牛 DEXT STUDIO 产品手册

ZC.MUNIU DEXT STUDIO PRODUCT MANUAL

知从木牛基础软件平台

ZC.MuNiu Basic Software Platform



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1 功能概述 FUNCTIONAL OVERVIEW

汽车行业诊断数据库常用的有 DEXT, ODX, CDD 等, DEXT 数据库主要用于配置工具导入, 方便用户快速生成 DEM, DCM 模块。在构建 DEXT 数据库时, 我们面临着录入海量数据和处理多样化数据格式的挑战。这一过程既耗时又耗力, 需要高昂的人力资源投入, 同时错误率居高不下, 严重影响了开发效率和进度。

In the automotive industry, diagnostic databases such as DEXT, ODBX, and CDD are commonly used. The DEXT database is primarily used for importing into configuration tools, facilitating users to quickly generate DEM and DCM modules. When building a DEXT database, we face the challenge of entering massive amounts of data and dealing with diverse data formats. This process is time-consuming and labor-intensive, requiring significant human resource investment, while the error rate remains high, severely affecting development efficiency and progress.

为了应对这一问题, 知从科技自主研发了知从木牛 DEXT STUDIO 软件。该软件采用标准的 Excel 诊断调查表来描述 ECU 的诊断通信规范, 并能将 Excel 文件自动化转换为 DEXT/ODX/CDD 等多种数据格式的文件。DEXT 软件的操作界面简洁直观, 且具备一键式转换的便捷功能, 显著降低了人力成本, 提升了工作效率, 从而大幅推进了项目的开发速度。

To address this issue, ZC has independently developed the ZC.MuNiu DEXT STUDIO software. This software uses standard Excel diagnostic survey forms to describe the diagnostic communication specifications of ECUs and can automatically convert Excel files into various data formats such as DEXT/ODX/CDD. The DEXT software has a simple and intuitive user interface and features one-click conversion, significantly reducing labor costs and improving work efficiency, thereby greatly advancing the development speed of projects.

2 应用领域 APPLICATION FIELD

DEXT STUDIO 可以在诊断模块开发、测试等应用场景下使用。例如：

DEXT STUDIO can be used in application scenarios such as diagnostic module development and testing. For example:

- 生成 DEXT 文件，导入知从木牛配置工具、生成诊断 DEM，DCM 配置，也支持导入第三方工具如：Davinci Configurator，EB tresos，ISOLAR 等。

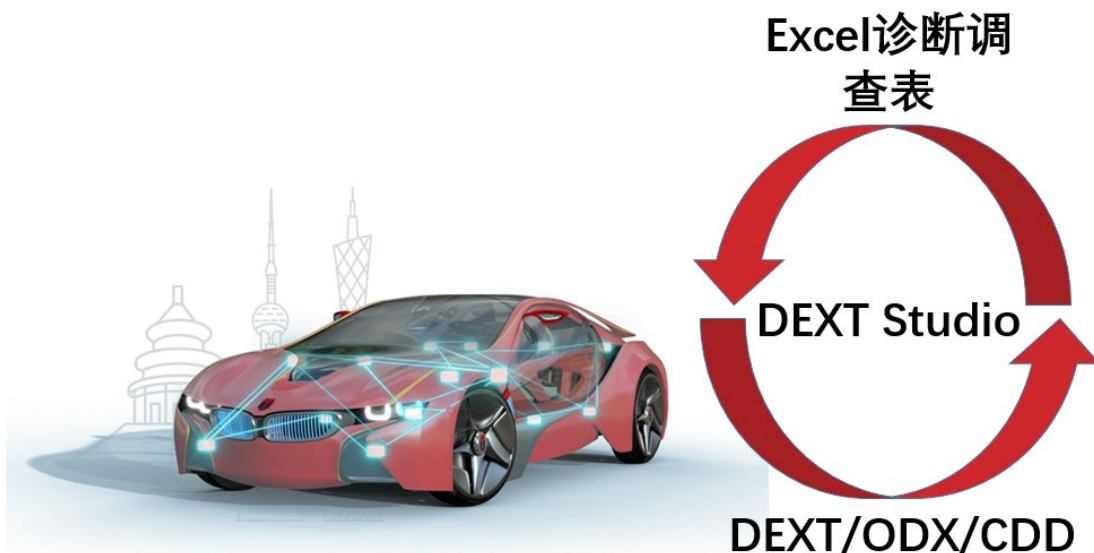
Generate DEXT files for import into configuration tools like Zhicong Wood Cow Configurator to generate diagnostic DEM and DCM configurations, and it also supports import into third-party tools such as Davinci Configurator, EB tresos, ISOLAR, etc.

- 生成 ODX 文件，导入知从玄武诊断工具，进行诊断及数据解析，也支持导入第三方工具如：Canoe，Can Diva 等。

Generate ODBX files for import into diagnostic tools like Zhicong Xuanwu for diagnostics and data parsing, and it also supports import into third-party tools such as Canoe, Can Diva, etc.

- 生成 CDD 文件，导入 CANOE、DIVA 进行自动化测试。

Generate CDD files for import into CANOE, DIVA for automated testing.

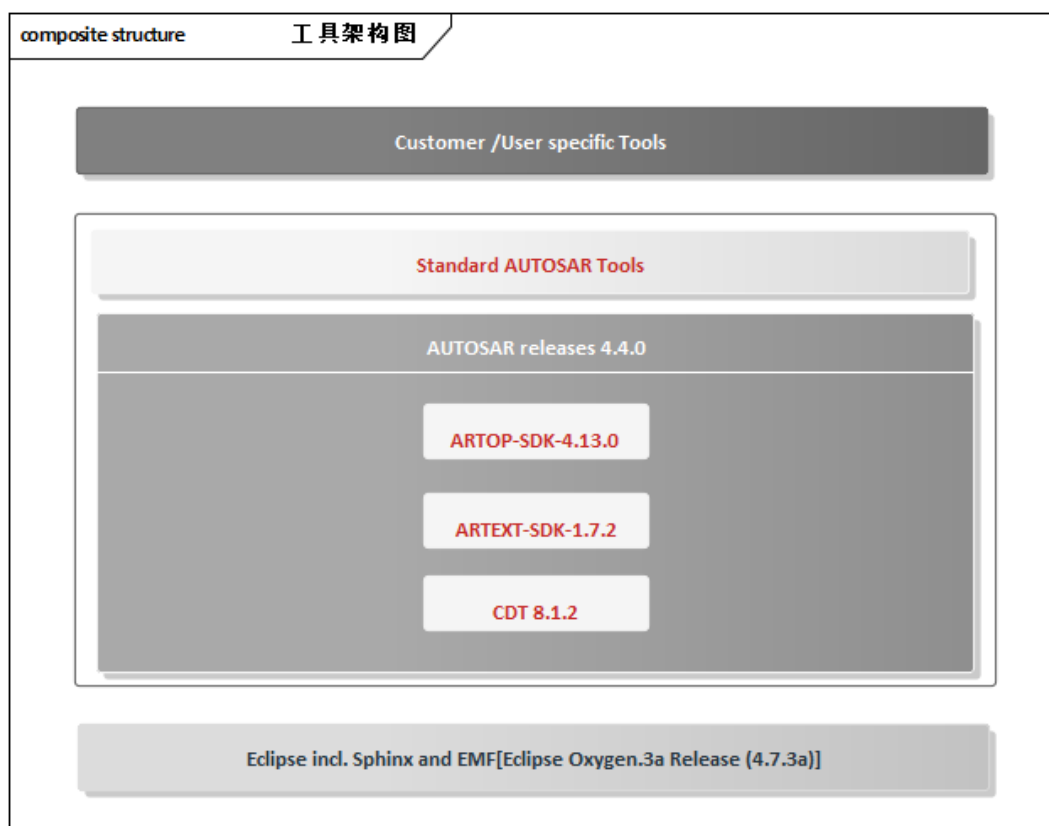


3 配置环境 CONFIGURATION ENVIRONMENT

知从木牛配置工具基于 AUTOSAR 配置工具最新架构开发。

ZC.MuNiu configuration tool is developed based on the latest architecture of the AUTOSAR configuration tool.

- Eclipse Oxygen.3a Release (4.7.3a)
- ARTOP-SDK-4.13.0 (supports the latest AUTOSAR releases 4.4.0)
- ARTEXT-SDK-1.7.2 1.6.0.
- CDT 8.1.2



DEXT STUDIO 架构图
 DEXT STUDIO ARCHITECTURE DIAGRAM

配置环境 Configuration Environment	
Run Environment	Win7/10 64bit

4 产品特点 PRODUCT FEATURE

- 基于 Eclipse 平台和 Artop 架构，插件化开发，可扩展性强

Based on the Eclipse platform and Artop architecture, with plug-in development and strong extensibility.

- 支持导入 Excel 诊断调查表，导入 DEXT 文件

Supports importing Excel diagnostic survey forms and importing DEXT files.

- 支持配置数据的一致性校验

Supports consistency checks for configuration data.

- 支持导出 DEXT, ODX, CDD 文件

Supports exporting DEXT, ODBX, and CDD files.

- 支持 ARXML 格式数据交换

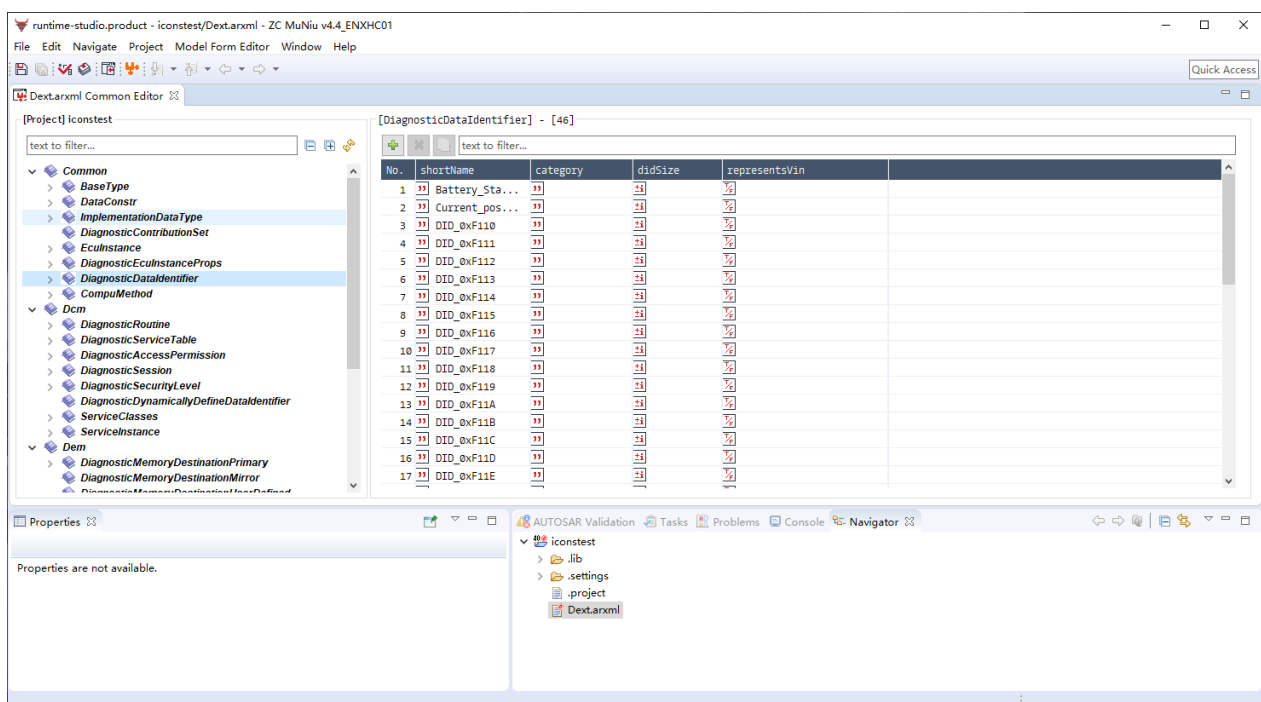
Supports data exchange in ARXML format.

- 可以根据客户需要灵活配置和裁减功能组件

Can be flexibly configured and tailored to customer requirements.

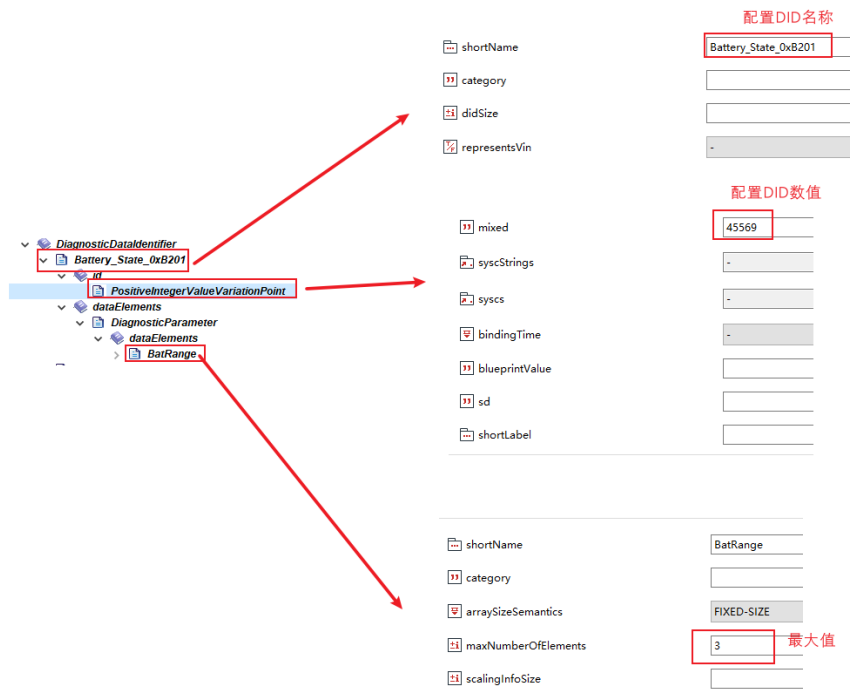
- 强大的错误检查和提示纠正机制

A powerful error-checking and prompt-correction mechanism.



5 功能描述 FUNCTIONAL DESCRIPTION

5.1 DID 配置 DID Configuration



The screenshot shows the DID Configuration interface. On the left is a tree view with the following structure:

- DiagnosticDataIdentifier
 - Battery_State_0xB201
 - PositiveIntegerValueVariationPoint
 - dataElements
 - DiagnosticParameter
 - dataElements
 - BatRange

Two configuration panels are shown on the right:

配置DID名称 (Configure DID Name)

shortName	Battery_State_0xB201
category	
didSize	
representsVin	-

配置DID数值 (Configure DID Value)

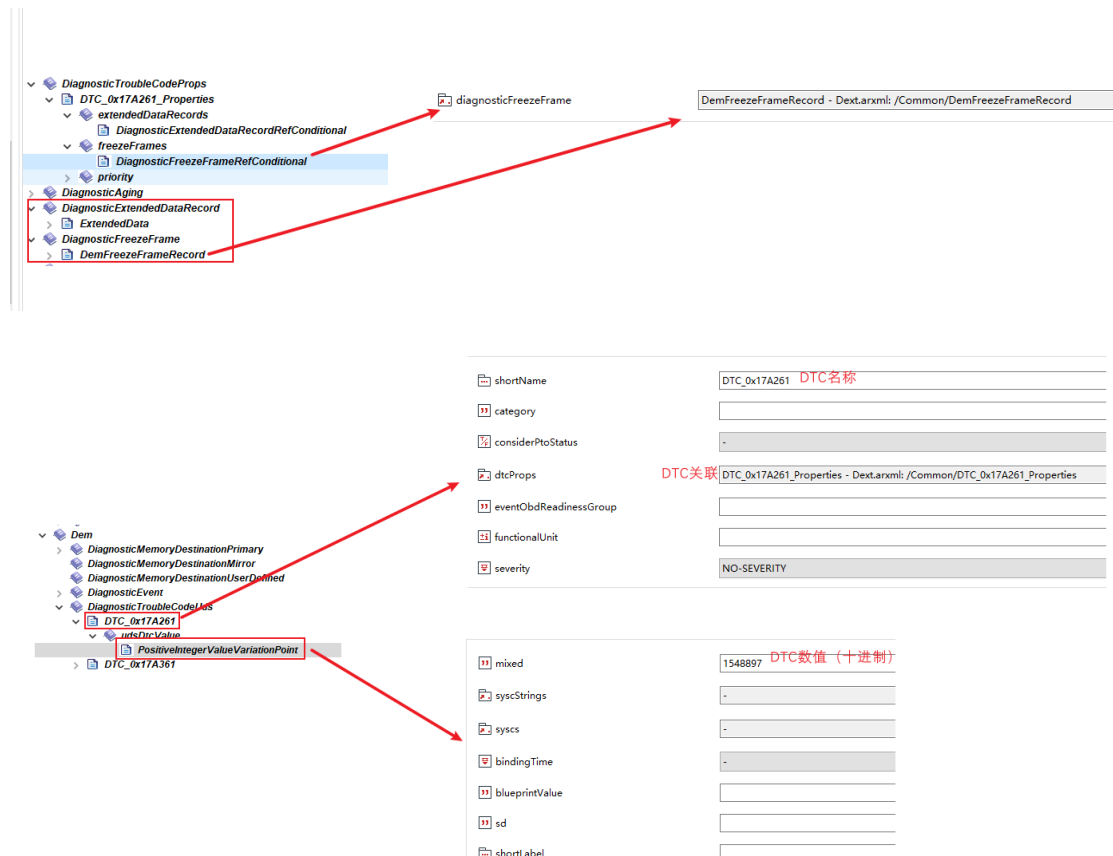
mixed	45569
syscStrings	-
syscs	-
bindingTime	-
blueprintValue	
sd	
shortLabel	

配置BatRange

shortName	BatRange
category	
arraySizeSemantics	FIXED-SIZE
maxNumberOfElements	3
scalingInfoSize	

Red arrows indicate the mapping from the tree view to the configuration panels: from Battery_State_0xB201 to the top panel, from PositiveIntegerValueVariationPoint to the middle panel, and from BatRange to the bottom panel.

5.2 DTC 及快照配置 DTC and Snapshot Configuration



The screenshot shows the DTC and Snapshot Configuration interface. On the left is a tree view with the following structure:

- DiagnosticTroubleCodeProps
 - DTC_0x17A261_Properties
 - extendedDataRecords
 - DiagnosticExtendedDataRecordRefConditional
 - freezeFrames
 - DiagnosticFreezeFrameRefConditional
 - priority
 - DiagnosticAging
 - DiagnosticExtendedDataRecord
 - ExtendedData
 - DiagnosticFreezeFrame
 - DemFreezeFrameRecord

Two configuration panels are shown on the right:

DTC_0x17A261 Properties

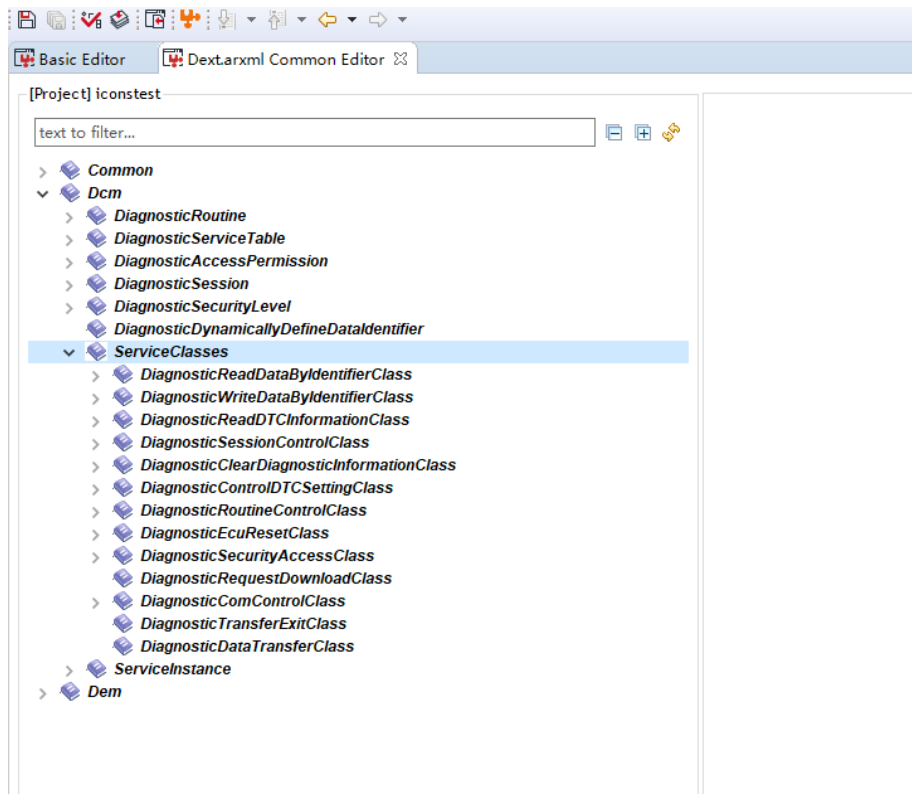
shortName	DTC_0x17A261
category	
considerPtoStatus	-
dtcProps	DTC_0x17A261_Properties - Dext.arxml: /Common/DTC_0x17A261_Properties
eventObdReadinessGroup	
functionalUnit	
severity	NO-SEVERITY

DTC_0x17A261 Value

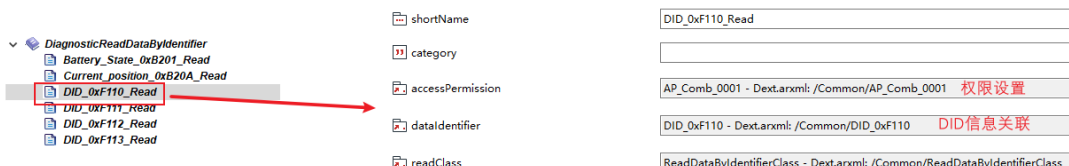
mixed	1548897
syscStrings	-
syscs	-
bindingTime	-
blueprintValue	
sd	
shortLabel	

Red arrows indicate the mapping from the tree view to the configuration panels: from DTC_0x17A261_Properties to the top panel, from DiagnosticFreezeFrameRefConditional to the middle panel, and from DTC_0x17A261 Value to the bottom panel.

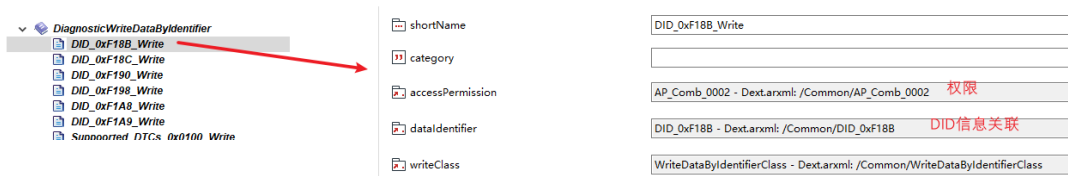
5.3 诊断服务配置 Diagnostic Service Configuration



22 服务配置 Service Configuration



2E 服务配置 Service Configuration



19 服务配置 Service Configuration

DiagnosticReadDTCInformation RDTCBSM RDTCEDRBDN RDTCSSBDTC RNOTDCBSM RSUPDTC	shortName	RDTCBSM
	category	REPORT_DTC_BY_STATUS_MASK
	accessPermission	AP_Comb_0001 - Dext.arxml: /Common/AP_Comb_0001 权限
	readDTCInformationClass	ReadDtcInformationClass - Dext.arxml: /Common/ReadDtcInformationClass
	读取DTC关联	

DiagnosticControlDTCSetting Disable Enable	shortName	Disable
	category	
	accessPermission	AP_Extended - Dext.arxml: /Common/AP_Extended
	dtcSettingClass	ControlDtcSettingClass - Dext.arxml: /Common/ControlDtcSettingClass
	dtcSettingParameter	2 1-ON 2-OFF

10 服务配置 Service Configuration

DiagnosticSessionControl Default_SessionControl Extended_SessionControl Programming_SessionControl	shortName	Default_SessionControl
	category	
	accessPermission	AP_All - Dext.arxml: /Common/AP_All 会话权限
	diagnosticSession	Default - Dext.arxml: /Common/Default 会话信息关联
	sessionControlClass	SessionControlClass - Dext.arxml: /Common/SessionControlClass 会话控制类关联

14 服务配置 Service Configuration

DiagnosticClearDiagnosticInformation ClearDiagInfo	shortName	ClearDiagInfo
	category	
	accessPermission	AP_Comb_0001 - Dext.arxml: /Common/AP_Comb_0001 权限
	clearDiagnosticInformationClass	ClearDiagnosticInformationClass - Dext.arxml: /Common/ClearDiagnosticInformationClass 服务类

31 服务配置 Service Configuration

DiagnosticRoutineControl New_Routine_Control New_Routine_Control_1 New_Routine_Control_2 New_Routine_Control_3 New_Routine_Control_4	shortName	New_Routine_Control
	category	
	accessPermission	AP_Comb_0002 - Dext.arxml: /Common/AP_Comb_0002
	routineControlClass	RoutineControlClass - Dext.arxml: /Common/RoutineControlClass
	routine	New_Routine_Control - Dext.arxml: /Common/New_Routine_Control

11 服务配置 Service Configuration

DiagnosticEcuReset

Hard

shortName

Hard

category

HARD_RESET

accessPermission

AP_All - Dext.arxml: /Common/AP_All

customSubFunctionNumber

ecuResetClass

EcuResetClass - Dext.arxml: /Common/EcuResetClass

respondToReset

-

RESPOND-BEFORE-RESET

RESPOND-AFTER-RESET

27 服务配置 Service Configuration

DiagnosticSecurityAccess

UnlockedL1_SecurityAccess

shortName

UnlockedL1_SecurityAccess

category

accessPermission

AP_Extended - Dext.arxml: /Common/AP_Extended

requestSeedId

1

securityAccessClass

SecurityAccessClass - Dext.arxml: /Common/SecurityAccessClass

securityLevel

UnlockedL1 - Dext.arxml: /Common/UnlockedL1 安全等级

28 服务配置 Service Configuration

DiagnosticComControl

DisableRxAndEnableTx

DisableRxAndTx

EnableRxAndDisableTx

EnableRxAndTx

shortName

DisableRxAndEnableTx

category

DISABLE_RX_AND_ENABLE_TX

accessPermission

AP_Extended - Dext.arxml: /Common/AP_Extended

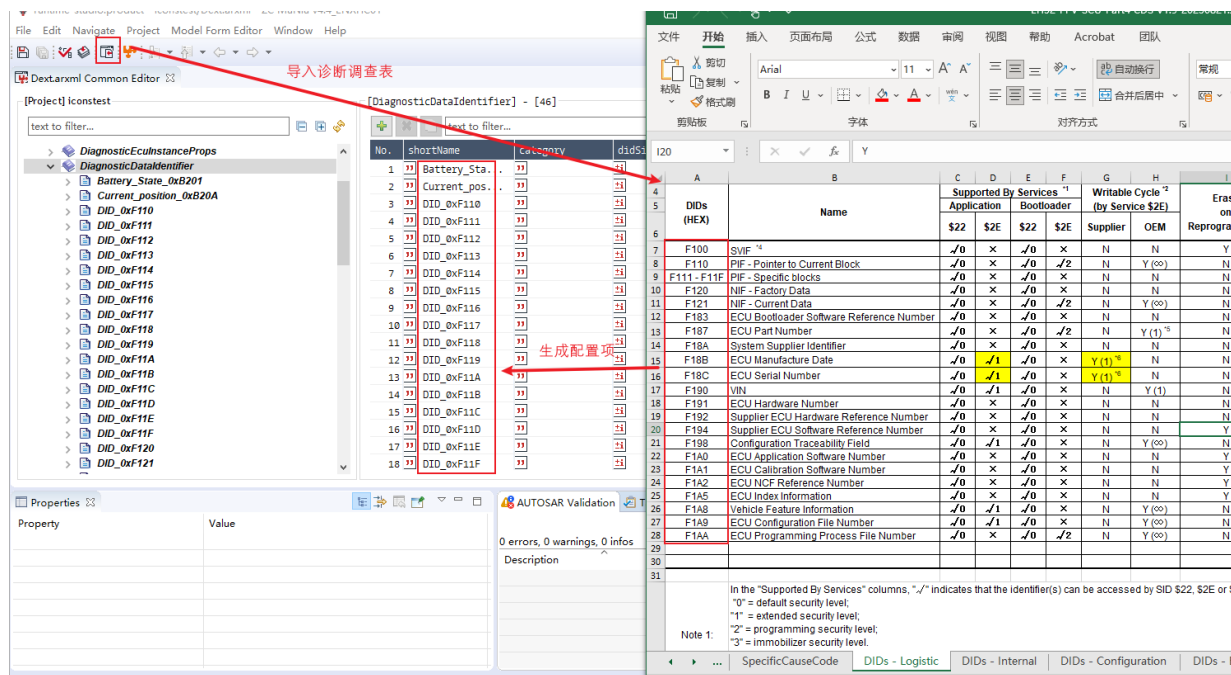
comControlClass

ComControlClass - Dext.arxml: /Common/ComControlClass

customSubFunctionNumber

5.4 导入诊断调查表自动生成配置

Import Diagnostic Survey Forms to Automatically Generate Configuration



导入诊断调查表

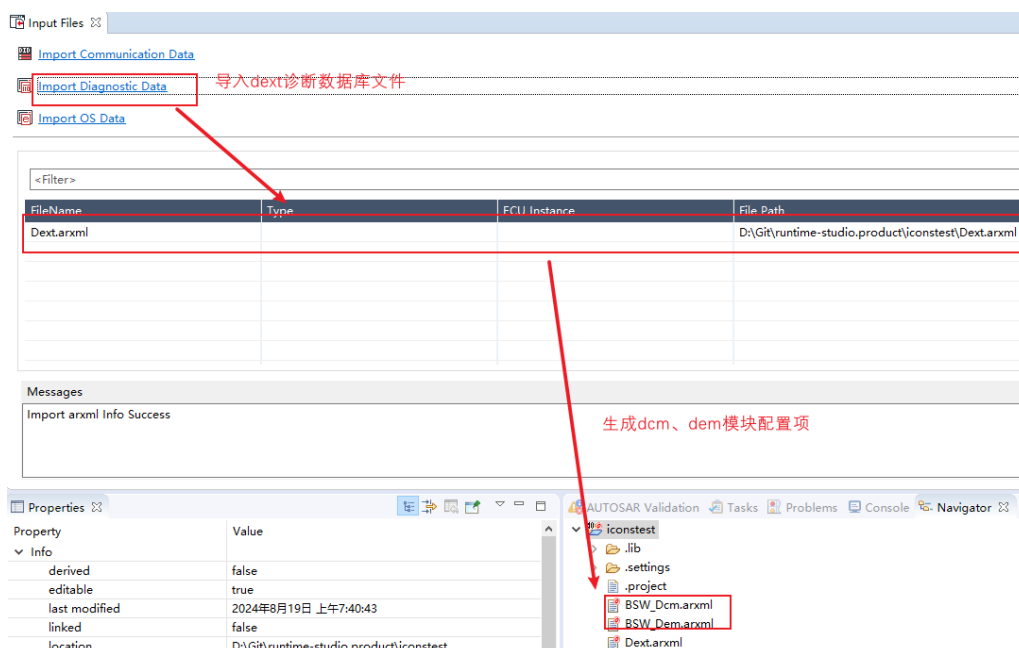
生成配置项

No.	shortName	category	dids
1	Battery_Sta...		
2	Current_pos...		
3	DID_0xF110		
4	DID_0xF111		
5	DID_0xF112		
6	DID_0xF113		
7	DID_0xF114		
8	DID_0xF115		
9	DID_0xF116		
10	DID_0xF117		
11	DID_0xF118		
12	DID_0xF119		
13	DID_0xF11A		
14	DID_0xF11B		
15	DID_0xF11C		
16	DID_0xF11D		
17	DID_0xF11E		
18	DID_0xF11F		

5.5 导出 DEXT 文件，导入知从木牛.配置工具自动生成 DCM、DEM 模块

Export DEXT Files, Import into ZC.MuNiu Configuration Tool to

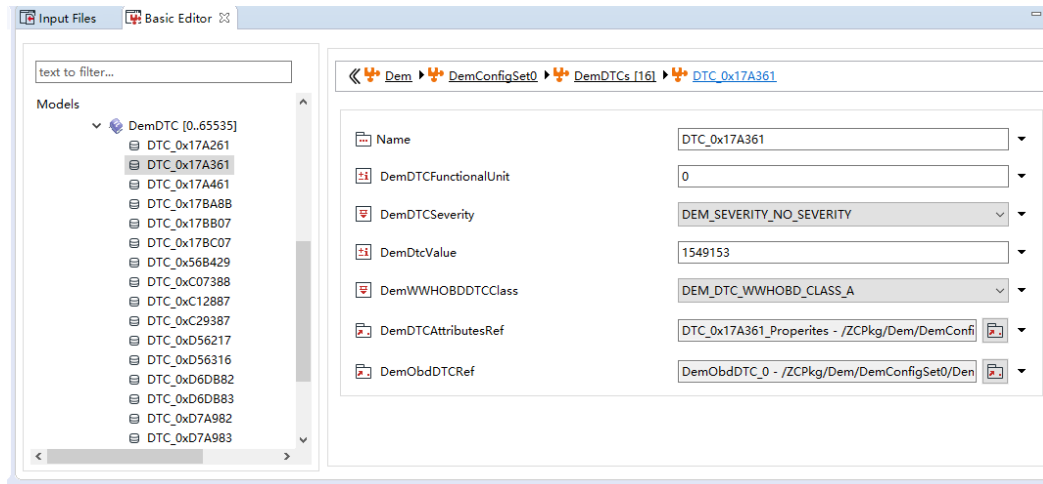
Automatically Generate DCM and DEM Modules



导入dext诊断数据库文件

生成dcm、dem模块配置项

FileName	Type	ECU Instance	File Path
Dext.axml			D:\Git\runtime-studio.product\iconstest\Dext.axml



公众号



业务联系

成为全球领先的汽车基础软件公司

To Be the Global Leading Automotive Basic Software Company

