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|  |  |
| --- | --- |
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1. **Overview**

This document describes the requirements for the implementation of the Eco.ELF2 component.

* 1. **Introduction**

Description.

* 1. **Note**
* Keywords
  1. **Links**

This paragraph contains links to information to help you understand this document:

[] – name of the link

Available by: http://address

1. **Eco.ELF2 Component**

The Eco.ELF2 component is

The component has the following description:

1. **IEcoELF2 Interface**
   1. **IEcoELF2 IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl"  import "IEcoELF2ObjectFile.idl"  import "IEcoELF2StringTable.idl"  import "IEcoELF2SymbolTable.idl"  import "IEcoELF2Relocation.idl"  import "IEcoRawData1.idl"  import "DefEcoELF2RISCV.idl" | | | |
| [  object,  uguid(4C4E5E13-8797-44D2-B8E2-260063100304),  ] | | | |
| interface IEcoELF2 : IEcoUnknown { | | | |
|  | | | |
| IEcoELF2ObjectFile\* | | ***readObjectFile*** | ([in] char\_t\* fileName); |
|  | |  |  |
| int16\_t | | ***writeObjectFile*** | ([in] IEcoELF2ObjectFile\* pIObjectFile,  [in] char\_t\* fileName); |
|  | |  |  |
| IEcoELF2ObjectFile\* | | ***readObjectFileFromMemory*** | ([in] byte\_t\* ptr,  [in] uint32\_t size); |
|  | |  |  |
| int16\_t | | ***writeObjectFileToMemory*** | ([in] IEcoELF2ObjectFile\* pIObjectFile,  [out] byte\_t\*\* ptr,  [out] uint32\_t\* size); |
|  | |  |  |
| IEcoELF2ObjectFile\* | | ***createObjectFile*** | (); |
|  | |  |  |
| IEcoELF2Header\* | | ***createELFHeader*** | (); |
|  | |  |  |
| IEcoELF2ProgramHeader\* | | ***createProgramHeader*** | (); |
|  | |  |  |
| IEcoELF2SectionHeader\* | | ***createSectionHeader*** | (); |
|  | |  |  |
| IEcoELF2StringTable\* | | ***createStringTable*** | (); |
|  | |  |  |
| IEcoELF2SymbolTable\* | | ***createSymbolTable*** | (); |
|  | |  |  |
| IEcoELF2Relocation\* | | ***createRelocation*** | (); |
|  | |  |  |
| IEcoRawData1\* | | ***createRawData*** | (); |
|  | |  |  |
| } | |  |  |

* + 1. **readObjectFile function**

The function

* + 1. **writeObjectFile function**

The function

* + 1. **readObjectFileFromMemory function**

The function

* + 1. **writeObjectFileToMemory function**

The function

* + 1. **createObjectFile function**

The function

* + 1. **createELFHeader function**

The function

* + 1. **createProgramHeader function**

The function

* + 1. **createSectionHeader function**

The function

* + 1. **createStringTable function**

The function

* + 1. **createSymbolTable function**

The function

* + 1. **createRelocation function**

The function

* + 1. **createRawData function**

The function

1. **IEcoELF2Header** **Interface**
   1. **IEcoELF2Header IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl" | | | |
| [  object,  uguid(3B5B626E-F605-4F2A-BED8-3A72C165CB67),  ] | | | |
| interface IEcoELF2Header : IEcoUnknown{ | | | |
|  | | | |
| ECO\_ELF\_2\_HEADER\_DESCRIPTOR\* | | ***get\_Descriptor*** | (); |
|  | | | |
| void | | ***set\_Descriptor*** | ([in] ECO\_ELF\_2\_HEADER\_DESCRIPTOR\* descriptor); |
|  | |  |  |
| IEcoUnknown\* | | ***get\_SymbolTable*** | (); |
|  | |  |  |
| void | | ***set\_SymbolTable*** | ([in] IEcoUnknown\* pISymbolTable); |
|  | | | |
| } | |  |  |

* + 1. **get\_Descriptor function**

The function

* + 1. **set\_Descriptor function**

The function

* + 1. **get\_SymbolTable function**

The function

* + 1. **set\_SymbolTable function**

The function

1. **IEcoELF2ObjectFile** **Interface**
   1. **IEcoELF2ObjectFile IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl"  import "IEcoList1.idl"  import "IEcoELF2Header.idl"  import "IEcoELF2ProgramHeader.idl"  import "IEcoELF2SectionHeader.idl" | | | |
| [  object,  uguid(912EE1EB-B4BD-459D-B115-102CCEFB8414),  ] | | | |
| interface IEcoELF2ObjectFile : IEcoUnknown { | | | |
|  | | | |
| IEcoELF2Header\* | | ***get\_Header*** | (); |
|  | | | |
| void | | ***set\_Header*** | ([in] IEcoELF2Header\* pIHeader); |
|  | |  |  |
| IEcoList1\* | | ***get\_ProgramHeaders*** | (); |
|  | |  |  |
| void | | ***set\_ProgramHeaders*** | ([in] IEcoList1\* pIHeaders); |
|  | |  |  |
| IEcoList1\* | | ***get\_SectionHeaders*** | (); |
|  | |  |  |
| void | | ***set\_SectionHeaders*** | ([in] IEcoList1\* pIHeaders); |
|  | | | |
| } | |  |  |

* + 1. **get\_Header function**

The function

* + 1. **set\_Header function**

The function

* + 1. **get\_ProgramHeaders function**

The function

* + 1. **set\_ProgramHeaders function**

The function

* + 1. **get\_SectionHeaders function**

The function

* + 1. **set\_SectionHeaders function**

The function

1. **IEcoELF2ProgramHeader** **Interface**
   1. **IEcoELF2ProgramHeader IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl" | | | |
| [  object,  uguid(B4E46496-F746-4228-B833-388E31214BDC),  ] | | | |
| interface IEcoELF2ProgramHeader : IEcoUnknown { | | | |
|  | | | |
| ECO\_ELF\_2\_PROGRAM\_HEADER\_DESCRIPTOR\* | | ***get\_Descriptor*** | (); |
|  | | | |
| void | | ***set\_Descriptor*** | ([in] ECO\_ELF\_2\_PROGRAM\_HEADER\_DESCRIPTOR\* descriptor); |
|  | |  |  |
| IEcoUnknown\* | | ***get\_RawData*** | (); |
|  | |  |  |
| void | | ***set\_RawData*** | ([in] IEcoUnknown\* pIRawData); |
|  | |  |  |
| IEcoUnknown\* | | ***get\_Section*** | (); |
|  | |  |  |
| void | | ***set\_Section*** | ([in] IEcoUnknown\* pISection); |
|  | | | |
| } | |  |  |

* + 1. **get\_Descriptor function**

The function

* + 1. **set\_Descriptor function**

The function

* + 1. **get\_RawData function**

The function

* + 1. **set\_RawData function**

The function

* + 1. **get\_Section function**

The function

* + 1. **set\_Section function**

The function

1. **IEcoELF2Relocation** **Interface**
   1. **IEcoELF2Relocation IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl"  import "IEcoList1.idl" | | | |
| [  object,  uguid(7940DA64-56D7-4CFE-B98F-CD462AC19494),  ] | | | |
| interface IEcoELF2Relocation : IEcoELF2SectionHeader { | | | |
|  | | | |
| IEcoList1\* | | ***get\_Entries*** | (); |
|  | | | |
| void | | ***set\_Entries*** | ([in] IEcoList1\* pIEntries); |
|  | | | |
| } | |  |  |

* + 1. **get\_Entries function**

The function

* + 1. **set\_Entries function**

The function

1. **IEcoELF2SectionHeader** **Interface**
   1. **IEcoELF2SectionHeader IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl" | | | |
| [  object,  uguid(1FACBBEC-0B29-4961-A037-F4EDB46526CD),  ] | | | |
| interface IEcoELF2SectionHeader : IEcoUnknown { | | | |
|  | | | |
| ECO\_ELF\_2\_SECTION\_HEADER\_DESCRIPTOR\* | | ***get\_Descriptor*** | (); |
|  | | | |
| void | | ***set\_Descriptor*** | ([in] ECO\_ELF\_2\_SECTION\_HEADER\_DESCRIPTOR\* descriptor); |
|  | |  |  |
| **IEcoUnknown\*** | | ***get\_*** ***set\_RawData*** | (); |
|  | |  |  |
| void | |  | ([in] IEcoUnknown\* pIRawData); |
|  | | | |
| } | |  |  |

* + 1. **get\_Descriptor function**

The function

* + 1. **set\_Descriptor function**

The function

* + 1. **get\_RawData function**

The function

* + 1. **set\_RawData function**

The function

1. **IEcoELF2StringTable** **Interface**
   1. **IEcoELF2StringTable IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl"  import "IEcoList1.idl" | | | |
| [  object,  uguid(24968C2B-D6C1-45CD-A1A6-A57D5FF8E200),  ] | | | |
| interface IEcoELF2StringTable : IEcoELF2SectionHeader { | | | |
|  | | | |
| IEcoList1\* | | ***get\_Entries*** | (); |
|  | | | |
| void | | ***set\_Entries*** | ([in] IEcoList1\* pIEntries); |
|  | |  |  |
| char\_t\* | | ***get\_String*** | ([in] uint32\_t index); |
|  | |  |  |
| uint32\_t | | ***AddString*** | ([in] char\_t\* name); |
|  | | | |
| } | |  |  |

* + 1. **get\_Entries function**

The function

* + 1. **set\_Entries function**

The function

* + 1. **get\_String function**

The function

* + 1. **AddString function**

The function

1. **IEcoELF2SymbolTable** **Interface**
   1. **IEcoELF2SymbolTable IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl"  import "IEcoList1.idl" | | | |
| [  object,  uguid(3944504C-DE9D-4B07-8630-96FF16009ECD),  ] | | | |
| interface IEcoELF2SymbolTable : IEcoELF2SectionHeader { | | | |
|  | | | |
| IEcoList1\* | | ***get\_Entries*** | (); |
|  | | | |
| void | | ***set\_Entries*** | ([in] IEcoList1\* pIEntries); |
|  | |  |  |
| ECO\_ELF\_2\_SYMBOL\_TABLE\_ENTRY\_DESCRIPTOR\* | | ***get\_Symbol*** | ([in] uint32\_t index); |
|  | |  |  |
| uint32\_t | | ***AddSymbol*** | ([in] ECO\_ELF\_2\_SYMBOL\_TABLE\_ENTRY\_DESCRIPTOR\* descriptor); |
|  | | | |
| } | |  |  |

* + 1. **get\_Entries function**

The function

* + 1. **set\_Entries function**

The function

* + 1. **get\_Symbol function**

The function

* + 1. **AddSymbol function**

The function

1. **IEcoEM1RISCV** **Interface**
   1. **IEcoEM1RISCV IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl" | | | |
| [  object,  uguid(8F2E6CA7-4D9D-4E5A-B952-8CB1F36A9438),  ] | | | |
| interface IEcoEM1RISCV : IEcoUnknown { | | | |
|  | | | |
| int16\_t | | ***MyFunction*** | ([in] char\_t\* Name,  [out] char\_t\*\* CopyName); |
|  | | | |
| } | |  |  |

* + 1. **MyFunction function**

The function

1. **IEcoRawData1** **Interface**
   1. **IEcoRawData1 IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.idl" | | | |
| [  object,  uguid(E532E7FC-3578-4E61-A528-D5397B0F8D98),  ] | | | |
| interface IEcoRawData1 : IEcoUnknown { | | | |
|  | | | |
| byte\_t\* | | ***Alloc*** | ([in] uint32\_t size); |
|  | | | |
| void | | ***Fill*** | ([in] byte\_t value); |
|  | |  |  |
| void | | ***Free*** | (); |
|  | |  |  |
| uint32\_t | | ***get\_Size*** | (); |
|  | |  |  |
| byte\_t\* | | ***get\_Pointer*** | ([in] uint32\_t offset); |
|  | | | |
| } | |  |  |

* + 1. **Alloc function**

The function

* + 1. **Fill function**

The function

* + 1. **Free function**

The function

* + 1. **get\_Size function**

The function

* + 1. **get\_Pointer function**

The function

1. **Error codes**

The following table contains the error codes.

|  |  |  |
| --- | --- | --- |
| **Error code** | **Value** | **Description** |
| ERR\_ECO\_SUCCESES | 0x0000 | Operation successful. |
| ERR\_ECO\_UNEXPECTED | 0xFFFF | Unexpected condition. |
| ERR\_ECO\_POINTER | 0xFFEE | NULL was passed incorrectly for a pointer value. |
| ERR\_ECO\_NOINTERFACE | 0xFFED | No such interface supported. |
| ERR\_ECO\_COMPONENT\_NOTFOUND | 0xFFE9 | The component was not found. |
|  |  |  |
|  |  |  |

# **Appendix A: Training programs**