**Specification**

USPD: US.ECO.00008-01 90

Component: IEcoTree1

UGUID:

Status: Draft

Date: November 8, 2021

Version: 1.0

|  |  |
| --- | --- |
| **Authors** | **Company** |
| Vladimir Bashev | PEERF |
|  |  |
|  |  |

Content

[**1.** **Overview** 4](#_Toc179914262)

[**1.1.** **Introduction** 4](#_Toc179914263)

[**1.2.** **Note** 4](#_Toc179914264)

[**1.3.** **Links** 4](#_Toc179914265)

[**2.** **Eco.Tree1 Component** 5](#_Toc179914266)

[**3.** **IEcoTree1Node Interface** 6](#_Toc179914267)

[**3.1.** **IEcoTree1Node IDL** 6](#_Toc179914268)

[**3.1.1.** **get\_Data function** 7](#_Toc179914269)

[**3.1.2.** **set\_Data function** 7](#_Toc179914270)

[**3.1.3.** **get\_Name function** 7](#_Toc179914271)

[**3.1.4.** **set\_Name function** 7](#_Toc179914272)

[**3.1.5.** **get\_Parent function** 7](#_Toc179914273)

[**3.1.6.** **set\_Parent function** 7](#_Toc179914274)

[**3.1.7.** **get\_PrevSibling function** 7](#_Toc179914275)

[**3.1.8.** **set\_PrevSibling function** 7](#_Toc179914276)

[**3.1.9.** **get\_NextSibling function** 7](#_Toc179914277)

[**3.1.10.** **set\_NextSibling function** 7](#_Toc179914278)

[**3.1.11.** **get\_Childrens function** 8](#_Toc179914279)

[**3.1.12.** **get\_Degree function** 8](#_Toc179914280)

[**3.1.13.** **get\_Depth function** 8](#_Toc179914281)

[**3.1.14.** **IsRoot function** 8](#_Toc179914282)

[**3.1.15.** **IsLeaf function** 8](#_Toc179914283)

[**3.1.16.** **IsInternalNode function** 8](#_Toc179914284)

[**3.1.17.** **AddChild function** 8](#_Toc179914285)

[**3.1.18.** **AddChildByData function** 8](#_Toc179914286)

[**4.** **IEcoTree1 Interface** 9](#_Toc179914287)

[**4.1.** **IEcoTree1 IDL** 9](#_Toc179914288)

[**4.1.1.** **CreateNode function** 10](#_Toc179914289)

[**4.1.2.** **InsertNode function** 10](#_Toc179914290)

[**4.1.3.** **InsertNodeByData function** 10](#_Toc179914291)

[**4.1.4.** **DeleteNode function** 10](#_Toc179914292)

[**4.1.5.** **get\_Forest function** 10](#_Toc179914293)

[**4.1.6.** **get\_LeastCommonAncestor function** 10](#_Toc179914294)

[**4.1.7.** **get\_LeastCommonAncestorByList function** 10](#_Toc179914295)

[**4.1.8.** **Clear function** 10](#_Toc179914296)

[**5.** **Error codes** 11](#_Toc179914297)

[**Appendix A: Training programs** 12](#_Toc179914298)

1. **Overview**

This document describes the requirements for the implementation of the Eco.Tree1 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.Tree1 Component**

The Eco.Tree1 component is a

The component has the following description:

1. **IEcoTree1Node Interface**
   1. **IEcoTree1Node IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.h"  import "IEcoList1.hpp" | | | |
| [  object,  uguid(0D328339-654B-4C0B-B4D2-61C07732757A),  ] | | | |
| interface IEcoTree1Node : IEcoUnknown { | | | |
|  | | | |
| voidptr\_t | | ***get\_Data*** | ([in] void); |
|  | |  |  |
| void | | ***set\_Data*** | ([in] void value); |
|  | |  |  |
| char\_t\* | | ***get\_Name*** | ([in] void); |
|  | |  |  |
| void | | ***set\_Name*** | ([in] char\_t\* value); |
|  | |  |  |
| IEcoTree1Node\* | | ***get\_Parent*** | ([in] void); |
|  | |  |  |
| void | | ***set\_Parent*** | ([in] IEcoTree1Node\* parent); |
|  | |  |  |
| IEcoTree1Node\* | | ***get\_PrevSibling*** | ([in] void); |
|  | |  |  |
| void | | ***set\_PrevSibling*** | ([in] IEcoTree1Node\* sibling); |
|  | |  |  |
| IEcoTree1Node\* | | ***get\_NextSibling*** | ([in] void); |
|  | |  |  |
| void | | ***set\_NextSibling*** | ([in] IEcoTree1Node\* sibling); |
|  | |  |  |
| IEcoList1\* | | ***get\_Childrens*** | ([in] void); |
|  | |  |  |
| uint32\_t | | ***get\_Degree*** | ([in] void); |
|  | |  |  |
| uint32\_t | | ***get\_Depth*** | ([in] void); |
|  | |  |  |
| bool\_t | | ***IsRoot*** | ([in] void); |
|  | |  |  |
| bool\_t | | ***IsLeaf*** | ([in] void); |
|  | |  |  |
| bool\_t | | ***IsInternalNode*** | ([in] void); |
|  | |  |  |
| IEcoTree1Node\* | | ***AddChild*** | ([in] IEcoTree1Node\* child); |
|  | |  |  |
| IEcoTree1Node\* | | ***AddChildByData*** | ([in] voidptr\_t data); |
| } | |  |  |

* + 1. **get\_Data function**

The function

* + 1. **set\_Data function**

The function

* + 1. **get\_Name function**

The function

* + 1. **set\_Name function**

The function

* + 1. **get\_Parent function**

The function

* + 1. **set\_Parent function**

The function

* + 1. **get\_PrevSibling function**

The function

* + 1. **set\_PrevSibling function**

The function

* + 1. **get\_NextSibling function**

The function

* + 1. **set\_NextSibling function**

The function

* + 1. **get\_Childrens function**

The function

* + 1. **get\_Degree function**

The function

* + 1. **get\_Depth function**

The function

* + 1. **IsRoot function**

The function

* + 1. **IsLeaf function**

The function

* + 1. **IsInternalNode function**

The function

* + 1. **AddChild function**

The function

* + 1. **AddChildByData function**

The function

1. **IEcoTree1 Interface**
   1. **IEcoTree1 IDL**

|  |
| --- |
| **ECO IDL** |
| import "IEcoBase1.h"  import "IEcoList1.hpp" | | | |
| [  object,  uguid(1D5C328E-BC90-4364-8DB7-F40A664A9D3E),  ] | | | |
| interface IEcoTree1: IEcoUnknown { | | | |
|  | | | |
| IEcoTree1Node\* | | ***CreateNode*** | ([in] IEcoUnknown\* pIUnkOuter,  [in] voidptr\_t data,  [in] char\_t\* name); |
|  | |  |  |
| IEcoTree1Node\* | | ***InsertNode*** | ([in] IEcoTree1Node\* parent,  [in] IEcoTree1Node\* child); |
|  | |  |  |
| IEcoTree1Node\* | | ***InsertNodeByData*** | ([in] IEcoTree1Node\* parent,  [in] voidptr\_t data,  [in] char\_t\* name); |
|  | |  |  |
| int16\_t | | ***DeleteNode*** | ([in] IEcoTree1Node\* node); |
|  | |  |  |
| IEcoList1\* | | ***get\_Forest*** | ([in] void); |
|  | |  |  |
| IEcoTree1Node\* | | ***get\_LeastCommonAncestor*** | ([in] IEcoTree1Node\* node1,  [in] IEcoTree1Node\* node2); |
|  | |  |  |
| IEcoTree1Node\* | | ***get\_LeastCommonAncestorByList*** | ([in] IEcoList1\* node\_list); |
|  | |  |  |
| int16\_t | | ***Clear*** | ([in] void); |
| } | |  |  |

* + 1. **CreateNode function**

The function

* + 1. **InsertNode function**

The function

* + 1. **InsertNodeByData function**

The function

* + 1. **DeleteNode function**

The function

* + 1. **get\_Forest function**

The function

* + 1. **get\_LeastCommonAncestor function**

The function

* + 1. **get\_LeastCommonAncestorByList function**

The function

* + 1. **Clear 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**