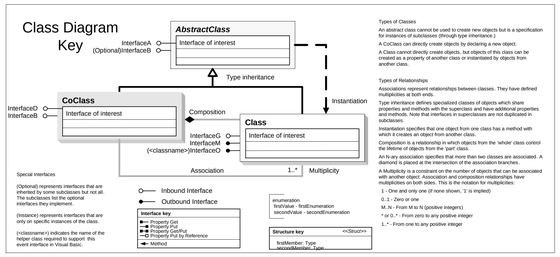


Types of Classes

An abstract class cannot be used to create new objects but is a specification for instances of subclasses (through type inheritance.)

A CoClass can directly create objects by declaring a new object.

A Class cannot directly create objects, but objects of this class can be created as a property of another class or instantiated by objects from another class.

Types of Relationships

Associations represent relationships between classes. They have defined multiplicities at both ends.

Type inheritance defines specialized classes of objects which share properties and methods with the superclass and have additional properties and methods. Note that interfaces in superclasses are not duplicated in subclasses.

Instantiation specifies that one object from one class has a method with which it creates an object from another class.

Composition is a relationship in which objects from the 'whole' class control the lifetime of objects from the 'part' class.

An N-ary association specifies that more than two classes are associated. A diamond is placed at the intersection of the association branches.

A Multiplicity is a constraint on the number of objects that can be associated with another object. Association and composition relationships have multiplicities on both sides. This is the notation for multiplicities:

1..1 - One and only one (if none shown, '1' is implied)

0..1 - Zero or one

M..N - From M to N (positive integers)

' or 0.. - From zero to any positive integer

1..* - From one to any positive integer

Special Interfaces

(Optional) represents interfaces that are inherited by some subclasses but not all. The subclasses list the optional interfaces they implement.

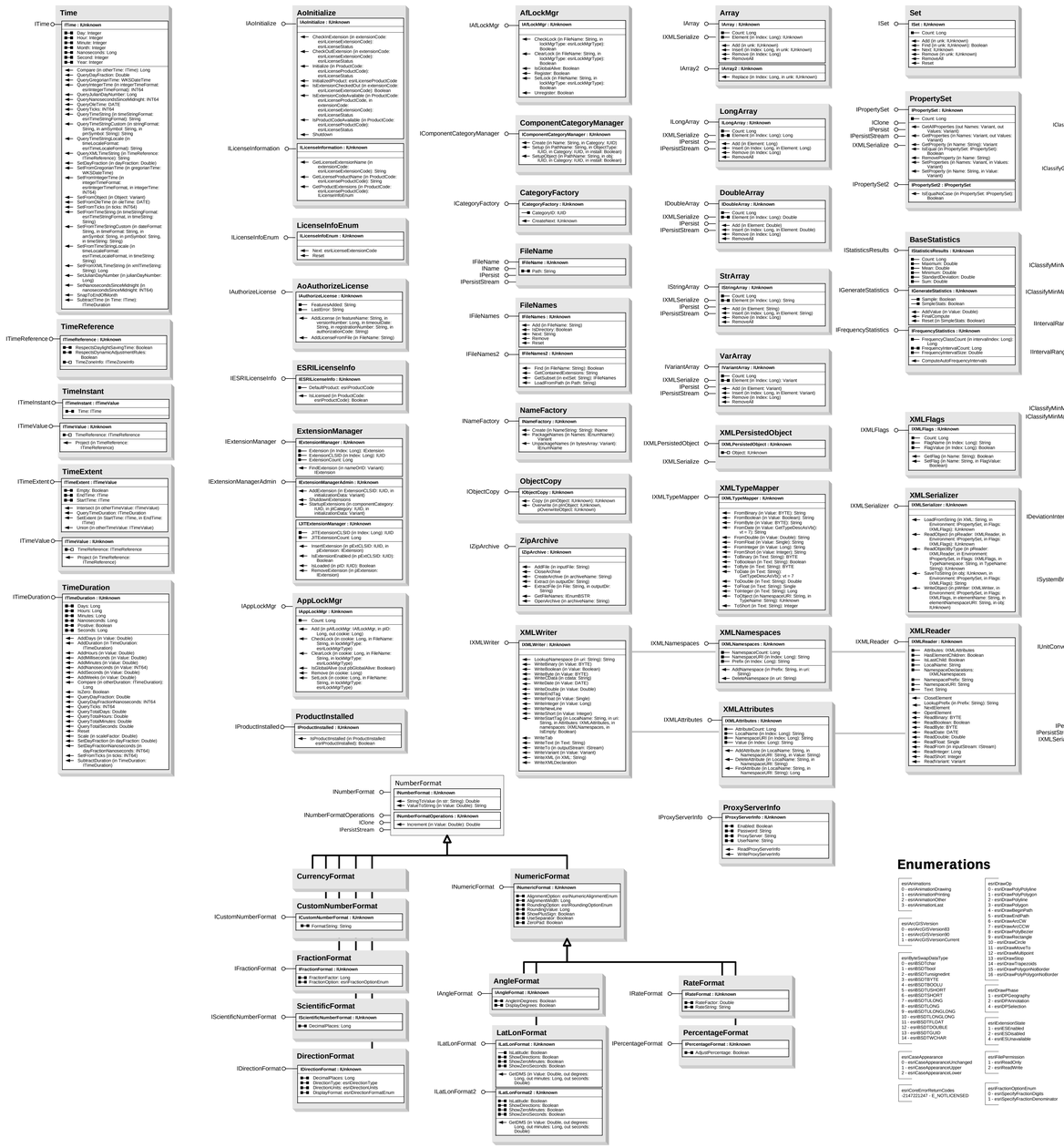
(Instance) represents interfaces that are only on specific instances of the class.

(<classname>) indicates the name of the helper class required to support this event interface in Visual Basic.

System Object Model

Esri® ArcGIS® 10.3.1

Copyright © 1999-2015 Esri. All rights reserved. Esri, ArcGIS, ArcObjects, and ArcMap are trademarks, registered trademarks, or service marks of Esri in the United States, the European Community, or certain other jurisdictions.


Time
ITime
ITime : IUnknown
Day: Integer
Hour: Integer
Minute: Integer
Month: Integer
Nanoseconds: Long
Second: Integer
Year: Integer
Compare (in otherTime: ITime): Long
QueryDayFraction: Double
QueryGregorianTime: WKSTatusTime
QueryIntegerTime (in integerTimeFormat: esriIntegerTimeFormat): INT64
QueryJulianDay: Double
QueryNanosecondsSinceMidnight: INT64
QueryOleTime: DATE
QueryTime: ITime
QueryTimeString (in timeStringFormat: esriTimeStringFormat): String
QueryTimeStringCustom (in stringFormat: String, in amSymbol: String, in pmSymbol: String): String
QueryTimeStringLocale (in timeLocaleFormat: esriTimeLocaleFormat): String
QueryXMLTimeString (in TimeReference: ITimeReference): String
SetDayFraction (in dayFraction: Double)
SetFromGregorianTime (in gregorianTime: WKSTatusTime)
SetFromIntegerTime (in integerTimeFormat: esriIntegerTimeFormat, in integerTime: INT64)
SetFromJD (in object: IDate)
SetFromJDeTime (in deTime: DATE)
SetFromTicks (in ticks: INT64)
SetFromTimeString (in timeStringFormat: esriTimeStringFormat, in timeString: String)
SetFromTimeStringCustom (in dateFormat: String, in timeFormat: String, in amSymbol: String, in pmSymbol: String, in timeString: String)
SetFromTimeStringLocale (in timeLocaleFormat: esriTimeLocaleFormat, in timeString: String)
SetFromXMLTimeString (in esriTimeString: String): Long
SetJulianDayNumber (in julianDayNumber: Long)
SetNanosecondsSinceMidnight (in nanosecondsSinceMidnight: INT64)
SnapToEndOfMonth
SubtractTime (in Time: ITime): ITimeDuration
ITimeReference
ITimeReference : IUnknown
RespectsDaylightSavingTime: Boolean
RespectsDstYearsAdjustmentRules: Boolean
TimeZoneInfo: ITimeZoneInfo
ITimeInstant
ITimeInstant : ITimeValue
Time: ITime
ITimeValue
ITimeValue : IUnknown
TimeReference: ITimeReference
Project (in TimeReference: ITimeReference)
ITimeExtent
ITimeExtent : ITimeValue
Empty: Boolean
EndTime: ITime
StartTime: ITime
Intersect (in otherTimeValue: ITimeValue)
QueryTimeDuration: ITimeDuration
SetExtent (in StartTime: ITime, in EndTime: ITime)
Union (in otherTimeValue: ITimeValue)
ITimeValue
ITimeValue : IUnknown
TimeReference: ITimeReference
Project (in TimeReference: ITimeReference)
ITimeDuration
ITimeDuration : IUnknown
Days: Long
Hours: Long
Minutes: Long
Nanoseconds: Long
Positive: Boolean
Seconds: Long
AddDays (in Value: Double)
AddHours (in Value: Double)
AddMilliseconds (in Value: Double)
AddMinutes (in Value: Double)
AddNanosecondsSinceMidnight (in Value: INT64)
AddSeconds (in Value: Double)
AddWeeks (in Value: Double)
Compare (in otherDuration: ITimeDuration): Long
IsZero: Boolean
QueryDayFraction: Double
QueryDayFractionNanoseconds: INT64
QueryTotalDays: Double
QueryTotalDays: Double
QueryTotalHours: Double
QueryTotalMinutes: Double
QueryTotalSeconds: Double
Scale: Boolean
Scale (in scaleFactor: Double)
SetDayFraction (in dayFraction: Double)
SetDayFractionNanoseconds (in dayFractionNanoseconds: INT64)
SetFromTicks (in ticks: INT64)
SubtractDuration (in TimeDuration: ITimeDuration)
IAoInitialize
AoInitialize
IAoInitialize : IUnknown
CheckInExtension (in extensionCode: esriLicenseExtensionCode)
CheckOutExtension (in extensionCode: esriLicenseExtensionCode): esriLicenseStatus
Initialize (in ProductCode: esriLicenseProductCode): esriLicenseStatus
InitializeProduct: esriLicenseProductCode
IsExtensionCheckedOut (in extensionCode: esriLicenseExtensionCode): Boolean
IsProductCodeAvailable (in ProductCode: esriLicenseProductCode): esriLicenseStatus
IsProductCodeAvailable (in ProductCode: esriLicenseProductCode): esriLicenseStatus
Shutdown
ILicenseInformation
ILicenseInformation : IUnknown
GetLicenseExtensionName (in extensionCode: esriLicenseExtensionCode): String
GetLicenseProductName (in ProductCode: esriLicenseProductCode): String
GetProductExtensions (in ProductCode: esriLicenseProductCode): LicenseInfoEnum
ILicenseInfoEnum
ILicenseInfoEnum : IUnknown
Next: esriLicenseExtensionCode
Reset
IAuthorizeLicense
AoAuthorizeLicense
IAuthorizeLicense : IUnknown
FeaturesAdded: String
LastError: String
AddLicense (in featureName: String, in versionNumber: Long, in timeoutDate: String, in registrationNumber: String, in licenseFilePath: String)
AddLicenseFromFile (in FileName: String)
IESRILicenseInfo
ESRILicenseInfo
ESRILicenseInfo : IUnknown
DefaultProduct: esriProductCode
IsLicensed (in ProductCode: esriProductCode): Boolean
IsLoaded (in pID: IUID): Boolean
RemoveExtension (in pExtension: IExtension)
IExtensionManager
IExtensionManager
IExtensionManager : IUnknown
Extension (in Index: Long): IExtension
ExtensionCLSID (in Index: Long): IUID
ExtensionCount: Long
FindExtension (in nameOrID: Variant): IExtension
IExtensionManagerAdmin
IExtensionManagerAdmin : IUnknown
AddExtension (in ExtensionCLSID: IUID, in initializationData: Variant)
ShutdownExtensions
UnregisterExtensionCategory: IUID, in pCategory: IUID, in initializationData: Variant)
IJTXExtensionManager
IJTXExtensionManager : IUnknown
InsertExtension (in pExtCLSID: IUID, in pExtension: IExtension)
IsExtensionEnabled (in pExtCLSID: IUID): Boolean
IsLoaded (in pID: IUID): Boolean
RemoveExtension (in pExtension: IExtension)
IApPlatformLockMgr
AppLockMgr
IApPlatformLockMgr : IUnknown
Count: Long
Add (in pMLockMgr: IMLockMgr, in pID: Long, out cookie: Long)
CheckLock (in cookie: Long, in FileName: String, in lockRgType: esriLockRgType)
ClearLock (in cookie: Long, in FileName: String, in lockRgType: esriLockRgType)
SetLock (in cookie: Long, in FileName: String, in lockRgType: esriLockRgType)
IProductInstalled
ProductInstalled
IProductInstalled : IUnknown
IsProductInstalled (in ProductInstalled: esriProductInstalled): Boolean
IAfLockMgr
AfLockMgr
IAfLockMgr : IUnknown
CheckLock (in FileName: String, in lockRgType: esriLockRgType): Boolean
ClearLock (in FileName: String, in lockRgType: esriLockRgType): Boolean
IsGlobalAlive: Boolean
Register: Boolean
SetLock (in FileName: String, in lockRgType: esriLockRgType): Boolean
Unregister: Boolean
IComponentCategoryManager
IComponentCategoryManager
IComponentCategoryManager : IUnknown
Create (in Name: String, in Category: IUID)
Delete (in Name: String, in Category: IUID, in Category: IUID, in Install: Boolean)
SetupObject (in PathName: String, in obj: IUID, in Category: IUID, in Install: Boolean)
ICategoryFactory
CategoryFactory
ICategoryFactory : IUnknown
CategoryID: IUID
CreateNext: IUnknown
IFileName
IName
IPersist
IPersistStream
FileName
IFileName : IUnknown
Path: String
IFileNames
FileNames
IFileNames : IUnknown
Add (in FileName: String)
IsDirectory: Boolean
Next: String
Reset: Long
Reset
IFileNames2
IFileNames2 : IUnknown
Find (in FileName: String): Boolean
GetContainedExtensions: String
GetSubtypeFromExt(in ext: String): IFileNames
LoadFromPath (in Path: String)
INameFactory
NameFactory
INameFactory : IUnknown
Create (in NameString: String): IName
PackageNames (in Names: IEnumName): IEnumName
UnpackageNames (in bytesArray: Variant): IEnumName
IEnumerate
ObjectCopy
IObjectCopy : IUnknown
Copy (in pInObject: IUnknown): IUnknown
Overwrite (in pInObject: IUnknown, pOverwriteObject: IUnknown)
IZipArchive
ZipArchive
IZipArchive : IUnknown
AddFile (in inputFile: String)
CloseArchive
CreateArchive (in archiveName: String)
Extract (in outputDir: String)
ExtractFile (in File: String, in outputDir: String)
GetFileNames: IEnumBSTR
OpenArchive (in archiveName: String)
IXMLWriter
XMLWriter
IXMLWriter : IUnknown
LookupNamespace (in uri: String): String
WriteBinary (in Value: BYTE)
WriteBinaryHex (in Value: Boolean)
WriteChars (in Value: BYTE)
WriteCharsToBase64 (in cbStart: String)
WriteDate (in Value: DATE)
WriteDouble (in Value: Double)
WriteEndAll
WriteFloat (in Value: Single)
WriteInteger (in Value: Long)
WriteNewLine
WriteShort (in Value: Integer)
WriteStartElement (in pLocalName: String, in uri: String, in Attributes: IXMLAttributes, in namespaces: IXMLNamespaces, in pEmpty: Boolean)
WriteTab
WriteText (in Text: String)
WriteTo (in outputStream: IStream)
WriteVariant (in Value: Variant)
WriteXML (in pNode: String)
WriteXMLDeclaration
IXMLNamespaces
XMLNamespaces
IXMLNamespaces : IUnknown
NamespaceCount: Long
NamespaceAt (in Index: Long): String
NamespaceURI (in Index: Long): String
Prefix (in Index: Long): String
AddNamespace (in Prefix: String, in uri: String)
DeleteNamespace (in uri: String)
IXMLAttributes
XMLAttributes
IXMLAttributes : IUnknown
AttributesCount: Long
AttributeAt (in Index: Long): String
AttributeURI (in Index: Long): String
Value (in Index: Long): String
AddAttribute (in LocalName: String, in NamespaceURI: String, in Value: String)
DeleteAttribute (in LocalName: String, in Namespace: String)
FindAttribute (in LocalName: String, in NamespaceURI: String): Long
IXMLReader
XMLReader
IXMLReader : IUnknown
Attributes: IXMLAttributes
CanHaveMoreChildren: Boolean
IsLastChild: Boolean
LocalName: String
NamespaceDeclarations: IXMLNamespaces
NamespacePrefix: String
NamespaceURI: String
Text: String
CloseElement
LookupPrefix (in Prefix: String): String
NextNode
OpenElement
ReadBinary: BYTE
ReadBoolean: Boolean
ReadByte: BYTE
ReadChars: BYTE
ReadDouble: Double
ReadFloat: Single
ReadFromFile (in inputStream: IStream)
ReadInteger: Long
ReadNext: Long
ReadVariant: Variant
IXMLSerializer
XMLSerializer
IXMLSerializer : IUnknown
LoadFromString (in XML: String, in Environment: IPropertySet, in Flags: IXMLFlags): Boolean
ReadObject (in pReader: IXMLReader, in Environment: IPropertySet, in Flags: IXMLFlags): Boolean
ReadObjectByType (in pReader: IXMLReader, in Environment: IPropertySet, in Flags: IXMLFlags, in TypeNamespace: String, in TypeName: String): Boolean
SaveToString (in obj: IUnknown, in Environment: IPropertySet, in Flags: IXMLFlags): Boolean
WriteObject (in pWriter: IXMLWriter, in Environment: IPropertySet, in Flags: IXMLFlags, in elementNamespaceURI: String, in elementNamespaceURI: String, in obj: IUnknown)
IXMLNamespaces
XMLNamespaces
IXMLNamespaces : IUnknown
NamespaceCount: Long
NamespaceAt (in Index: Long): String
NamespaceURI (in Index: Long): String
Prefix (in Index: Long): String
AddNamespace (in Prefix: String, in uri: String)
DeleteNamespace (in uri: String)
IXMLAttributes
XMLAttributes
IXMLAttributes : IUnknown
AttributesCount: Long
AttributeAt (in Index: Long): String
AttributeURI (in Index: Long): String
Value (in Index: Long): String
AddAttribute (in LocalName: String, in NamespaceURI: String, in Value: String)
DeleteAttribute (in LocalName: String, in Namespace: String)
FindAttribute (in LocalName: String, in NamespaceURI: String): Long
IProxyServerInfo
ProxyServerInfo
IProxyServerInfo : IUnknown
Enabled: Boolean
Password: String
ProxyServer: String
UserName: String
ReadProxyServerInfo
WriteProxyServerInfo
IArray
Array
IArray : IUnknown
Count: Long
Element (in Index: Long): IUnknown
Add (in unk: IUnknown)
Insert (in Index: Long, in unk: IUnknown)
Remove (in Index: Long)
RemoveAll
Reset
IArray2
IArray2 : IUnknown
Replace (in Index: Long, in unk: IUnknown)
ILongArray
LongArray
ILongArray : IUnknown
Count: Long
Element (in Index: Long): Long
Add (in Element: Long)
Insert (in Index: Long, in Element: Long)
Remove (in Index: Long)
RemoveAll
IDoubleArray
DoubleArray
IDoubleArray : IUnknown
Count: Long
Element (in Index: Long): Double
Add (in Element: Double)
Insert (in Index: Long, in Element: Double)
Remove (in Index: Long)
RemoveAll
IStringArray
StrArray
IStringArray : IUnknown
Count: Long
Element (in Index: Long): String
Add (in Element: String)
Insert (in Index: Long, in Element: String)
Remove (in Index: Long)
RemoveAll
IVariantArray
VarArray
IVariantArray : IUnknown
Count: Long
Element (in Index: Long): Variant
Add (in Element: Variant)
Insert (in Index: Long, in Element: Variant)
Remove (in Index: Long)
RemoveAll
IXMLPersistedObject
XMLPersistedObject
IXMLPersistedObject : IUnknown
Object: IUnknown
IXMLTypeMapper
XMLTypeMapper
IXMLTypeMapper : IUnknown
FromBinary (in Value: BYTE): String
FromBoolean (in Value: Boolean): String
FromByte (in Value: BYTE): String
FromDateTime (in Value: DATE): String
FromDouble (in Value: Double): String
FromFloat (in Value: Single): String
FromInteger (in Value: Long): String
FromShort (in Value: Integer): String
Tolibrary (in Text: String): BYTE
ToBoolean (in Text: String): Boolean
ToByte (in Text: String): BYTE
ToDate (in Text: String): DATE
ToDouble (in Text: String): Double
ToFloat (in Text: String): Single
ToInteger (in Text: String): Long
ToObject (in Namespace URI: String, in TypeName: String): IUnknown
ToShort (in Text: String): Integer
IXMLReader
XMLReader
IXMLReader : IUnknown
Attributes: IXMLAttributes
CanHaveMoreChildren: Boolean
IsLastChild: Boolean
LocalName: String
NamespaceDeclarations: IXMLNamespaces
NamespacePrefix: String
NamespaceURI: String
Text: String
CloseElement
LookupPrefix (in Prefix: String): String
NextNode
OpenElement
ReadBinary: BYTE
ReadBoolean: Boolean
ReadByte: BYTE
ReadChars: BYTE
ReadDouble: Double
ReadFloat: Single
ReadFromFile (in inputStream: IStream)
ReadInteger: Long
ReadNext: Long
ReadVariant: Variant
ISet
Set
ISet : IUnknown
Count: Long
Add (in unk: IUnknown)
Contains (in unk: IUnknown): Boolean
Next: IUnknown
Remove (in unk: IUnknown)
RemoveAll
Reset
IPropertySet
PropertySet
IPropertySet : IUnknown
Count: Long
GetAllProperties (out Names: Variant, out Values: Variant)
GetProperties (in Names: Variant, out Values: Variant)
GetProperty (in Name: String): Variant
IsEqual (in PropertySet: IPropertySet): Boolean
RemoveProperty (in Name: String)
SetProperties (in Names: Variant, in Values: Variant)
SetProperty (in Name: String, in Value: Variant)
IPropertySet2
PropertySet2
IPropertySet2 : IPropertySet
IsEqualNoCase (in PropertySet: IPropertySet): Boolean
IClone
IPersist
IPersistStream
IXMLSerialize
IClassify
Classify
IClassify : IUnknown
ClassBreaks: Variant
ClassCount: Long
Methodstr: String
Classify (NumClasses: Long)
GetBreaksUsingData (in doubleArrayValues: Variant, in longArrayFrequencies: Variant)
IClassifyGEN
ClassifyGEN
IClassifyGEN : IUnknown
ClassBreaks: Variant
ClassID: IUID
MethodName: String
Classify (in doubleArrayValues: Variant, in longArrayFrequencies: Variant, NumClasses: Long)
IClassifyMinMax
DefinedInterval
IClassifyMinMax : IUnknown
Maximum: Double
Minimum: Double
IClassifyMinMax2
IClassifyMinMax2 : IUnknown
ClassifyMinMax (in Min: Double, in Max: Double, NumClasses: Long)
IIntervalRange
IntervalRange
IIntervalRange : IUnknown
Default: Double
IntervalRange: Double
IIntervalRange2
IntervalRange2
IIntervalRange2 : IUnknown
Default (Values: Variant, frequencies: Variant): Double
IntervalRange: Double
IClassifyMinMax
IClassifyMinMax2
EqualInterval
NaturalBreaks
Quantile
IGenerateStatistics
BaseStatistics
IGenerateStatistics : IUnknown
Sample: Boolean
SimpleStats: Boolean
AddValue (in Value: Double)
FinalCompute
Reset (in SimpleStats: Boolean)
IFrequencyStatistics
IFrequencyStatistics : IUnknown
FrequencyClassCount (in intervalIndex: Long)
FrequencyCount: Long
FrequencyIntervalSize: Double
ComputeAutoFrequencyIntervals
IStatisticsResults
IStatisticsResults : IUnknown
Count: Long
Maximum: Double
Mean: Double
Minimum: Double
StandardDeviation: Double
Sum: Double
IXMLFlags
XMLFlags
IXMLFlags : IUnknown
Count: Long
Flag(name (in Index: Long): String
Flag(value (in Index: Long): Boolean
GetFlag (in Name: String): Boolean
SetFlag (in Name: String, in FlagValue: Boolean)
IXMLPersistedObject
XMLPersistedObject
IXMLPersistedObject : IUnknown
Object: IUnknown
IXMLSerializer
XMLSerializer
IXMLSerializer : IUnknown
LoadFromString (in XML: String, in Environment: IPropertySet, in Flags: IXMLFlags): Boolean
ReadObject (in pReader: IXMLReader, in Environment: IPropertySet, in Flags: IXMLFlags): Boolean
ReadObjectByType (in pReader: IXMLReader, in Environment: IPropertySet, in Flags: IXMLFlags, in TypeNamespace: String, in TypeName: String): Boolean
SaveToString (in obj: IUnknown, in Environment: IPropertySet, in Flags: IXMLFlags): Boolean
WriteObject (in pWriter: IXMLWriter, in Environment: IPropertySet, in Flags: IXMLFlags, in elementNamespaceURI: String, in elementNamespaceURI: String, in obj: IUnknown)
IXMLReader
XMLReader
IXMLReader : IUnknown
Attributes: IXMLAttributes
CanHaveMoreChildren: Boolean
IsLastChild: Boolean
LocalName: String
NamespaceDeclarations: IXMLNamespaces
NamespacePrefix: String
NamespaceURI: String
Text: String
CloseElement
LookupPrefix (in Prefix: String): String
NextNode
OpenElement
ReadBinary: BYTE
ReadBoolean: Boolean
ReadByte: BYTE
ReadChars: BYTE
ReadDouble: Double
ReadFloat: Single
ReadFromFile (in inputStream: IStream)
ReadInteger: Long
ReadNext: Long
ReadVariant: Variant
IEnumerateExtensionCode
IEnumerateExtensionCode : IUnknown
Next: esriLicenseExtensionCode
Reset
IEnumerateProductCode
IEnumerateProductCode : IUnknown
Next: esriLicenseProductCode
Reset
IEnumerateNum
IEnumerateNum : IUnknown
Next: Long
Reset
IEnumerateNumAlignmentEnum
IEnumerateNumAlignmentEnum : IUnknown
Next: esriAlignLeft
Reset
IEnumerateProductCodeReader
IEnumerateProductCodeReader : IUnknown
Next: esriProductCodeReader
Reset
IEnumerateRoundingOptionEnum
IEnumerateRoundingOptionEnum : IUnknown
Next: esriRoundNumberOfDecimals
Reset
IEnumerateTextureCompressionType
IEnumerateTextureCompressionType : IUnknown
Next: esriTextureCompressionNone
Reset
IEnumerateUnits
IEnumerateUnits : IUnknown
Next: esriUnknownUnits
Reset
IEnumerateUnits2
IEnumerateUnits2 : IUnknown
Next: esriDecimalDegrees
Reset
IEnumerateUnits3
IEnumerateUnits3 : IUnknown
Next: esriDecimalDegrees
Reset
IEnumerateUnits4
IEnumerateUnits4 : IUnknown
Next: esriDecimalDegrees
Reset
IEnumerateUnits5
IEnumerateUnits5 : IUnknown
Next: esriDecimalDegrees
Reset
IEnumerateUnits6
IEnumerateUnits6 : IUnknown
Next: esriDecimalDegrees
Reset