

Version	Date	Release Note
V3.90.0	23.07.2025	<p>Integrates the new version of OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.5.376.235) which includes:</p> <ul style="list-style-type: none"> <li>·Important bug fixes (regarding the last ECC-enabled release).</li> <li>·Enhancements regarding role permission validation on server.</li> <li>·Added support for Windows Server 2025.</li> <li>·New features: <ul style="list-style-type: none"> <li>Allow to define a custom StringComparison for Equals Operator.</li> <li>Implement Support for client requested "mul" locale.</li> </ul> </li> <li>·Fixes: <ul style="list-style-type: none"> <li>Fix XML Encoding and decoding of Matrix element to conform to specification.</li> <li>Fix closing of shared Transport Channel in Recreate Scenario on client.</li> <li>Fix Regression - Sampling Group disposing m_shutdownEvent in Shutdown Method on server.</li> </ul> </li> <li>·Sample code is available on github.</li> </ul> <p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• Added support for DurableSubscription on server side. With this change the server library allows user to provide own durable Notification &amp; Event Queues to make the server support durable subscriptions. The Server supports custom queues and allows durable subscriptions with a limited lifetime by utilizing in-memory queues.</li> <li>• Bug fixes</li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• Durable Subscriptions samples were added along with new entries in the Durable Subscriptions menu.</li> <li>• New interfaces were introduced for persisting and loading custom data (IPersist, ILoader) in the durable subscriptions context.</li> <li>• PersistSubscriptions and LoadSubscriptions methods are deprecated.</li> <li>• SessionReconnectHandler reconnect mode is not recommended at this time.</li> <li>• DeleteOnDisconnect flag was added in order to avoid deleting instances on disconnect (the same IDs are used: session IDs, subscription IDs and monitored item IDs).</li> <li>• Bug fixes</li> </ul> <p>Note: SDK libraries are compiled using <b>NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.5.376.235</b>. When using OPC UA .NET Standard SDK version 3.90 it is mandatory to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</p>

V3.80.0	17.03.2025	<p>Integrates the new version of OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.5.375.457) which includes:</p> <ul style="list-style-type: none"> <li>·Fixes for the following cybersecurity vulnerabilities: CVE-2024-42512, CVE-2024-42513.</li> <li>·Added support for ECC security profiles that include the following curves: <ul style="list-style-type: none"> <li>NIST P256 curve</li> <li>NIST P384 curve</li> <li>Brainpool P256r1 curve</li> <li>Brainpool P384r1 curve</li> </ul> </li> <li>·Added support for .NET9.0.</li> <li>·Added support for TransferSubscriptions on reconnect on client side.</li> <li>·Sample code is available on github.</li> </ul> <p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• ECC samples have been added.</li> <li>• Added sample for event monitored item with multiple filters. (enable new event monitor item notifications).</li> <li>• Added support for TransferSubscriptions on reconnect on server side.</li> <li>• Added support for HttpsMutualTls authentication support.</li> <li>• Bug fixes.</li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• ECC samples have been added. along with new entries in the ECC menu.</li> <li>• Added sample for transfer subscription on other connections.</li> <li>• Added sample for connection using a new specialized SessionReconnectHandler.</li> <li>• Added sample for event monitored item with multiple filters.</li> <li>• Bug fixes.</li> </ul> <p>Note: SDK libraries are compiled using <b>NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.5.375.457</b>. When using OPC UA .NET Standard SDK version 3.80 <b>it is mandatory to use the same version of OPC UA .NET Standard Stack from OPC Foundation</b>.</p>
V3.70.0	27.11.2024	<p>Integrates the new version of OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.5.374.126) which includes:</p> <ul style="list-style-type: none"> <li>·Fixes for the following cybersecurity vulnerabilities: CVE-2024-33862, CVE-2024-45526.</li> <li>·Added support for .NET8.0.</li> <li>·Added connection to endpoint without discovery.</li> <li>·Added implementation support for adding subscriptions/monitor items before connect.</li> <li>·Added support for TransferSubscriptions service both on client and server side.</li> <li>·Sample code is available on github.</li> </ul> <p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• Added connection to endpoint without discovery.</li> </ul>

		<ul style="list-style-type: none"> <li>• Added samples with subscriptions/monitor items before connect (enable new event monitor item notifications).</li> <li>• Added server samples for TransferSubscription service.</li> <li>• Bug fixes.</li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• Added connection to endpoint without discovery.</li> <li>• Added samples with subscriptions/monitor items before connect.</li> <li>• Added client API for TransferSubscriptions service.</li> <li>• Added client samples for TransferSubscription service.</li> <li>• Bug fixes.</li> </ul> <p>Note: SDK libraries are compiled using <b>NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.5.374.126</b>. When using OPC UA .NET Standard SDK version 3.70 it is <b>mandatory to use the same version of OPC UA .NET Standard Stack from OPC Foundation</b>.</p>
V3.60.0	21.05.2024	<p>Integrates the new version of OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.5.374.36) which includes:</p> <ul style="list-style-type: none"> <li>·Added sample code for handling application and user certificates with password.</li> <li>·Added support for UADP Discovery messages.</li> <li>·Added Serilog logger services.</li> <li>·Support for 1.05 nodeset version.</li> <li>·Sample code is available on github.</li> </ul> <p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• Added sample code for achieving application certificate with password.</li> <li>• Added sample code for UADP Discovery messages.</li> <li>• Added Serilog configuration samples for client and server.</li> <li>• Bug fixes.</li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• Added sample code for achieving application certificate with password and connect using an user certificate with password.</li> <li>• The support for the .NET Framework 4.6.2 and NET Standard 2.0 was discontinued.</li> <li>• Bug fixes.</li> </ul> <p>Note: SDK libraries are compiled using <b>NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.5.374.36</b>. When using OPC UA .NET Standard SDK version 3.60 it is <b>mandatory to use the same version of OPC UA .NET Standard Stack from OPC Foundation</b>.</p>
V3.50.0	02.08.2023	<p>Integrates the new version of OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.371.96) which includes:</p> <ul style="list-style-type: none"> <li>·Fixes for the following cybersecurity vulnerabilities: CVE-2023-27321, CVE-2023-31048.</li> <li>·Improve reverse connect functionality.</li> <li>·Add partial support for asynchronous service calls.</li> <li>·Sample code is available on github.</li> </ul>

		<p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• Bug fixes.</li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• Improve reverse connect functionality into a network environment and introduce a callback for a longer period detection.</li> <li>• Bug fixes.</li> </ul> <p>Note: SDK libraries are compiled using <b>NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.371.96</b>. When using OPC UA .NET Standard SDK version 3.50 it is mandatory to use the same version of <b>OPC UA .NET Standard Stack from OPC Foundation</b>.</p>
V3.40.0	17.03.2023	<p>Integrates the new version of OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.371.60) which includes:</p> <ul style="list-style-type: none"> <li>· Implement a prevention mechanism against brute forcing passwords.</li> <li>· Improve the connect timeout of the first session created.</li> <li>· Sample code is available on github.</li> </ul> <p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• The server library offers the possibility to configure a mechanism for stopping brute force client attempts to log in with invalid credentials.</li> <li>• Bug fixes.</li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• Bug fixes.</li> </ul> <p>Note: SDK libraries are compiled using <b>NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.371.60</b>. When using OPC UA .NET Standard SDK version 3.40 it is mandatory to use the same version of <b>OPC UA .NET Standard Stack from OPC Foundation</b>.</p>
V3.30.0	14.12.2022	<ul style="list-style-type: none"> <li>· Integrates the new version of OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.370.12) which includes:</li> </ul> <ul style="list-style-type: none"> <li>- The fix for the following cybersecurity vulnerability: CVE-2022-33916.</li> <li>- As a consequence of this fix the SampleServer DiagnosticsSummary information was changed.</li> <li>- In order to be able to see the entire information from the ServerDiagnosticsSummary node (the SubscriptionDiagnosticsArray and all the SessionDiagnosticsObject instances) the current session must have SysAdmin rights and use an encrypted channel.</li> <li>- The client must connect with user: admin, password: admin which has sysadmin privileges and use a secure encrypted channel to be able to see all diagnostics information.</li> <li>- All other connections are considered "Unauthorized" and can examine only their session related information as written in the specification.</li> </ul>

		<ul style="list-style-type: none"> <li>· OPC UA Server Compliance Certification. (CTT Version: 1.04.9.398)</li> <li>- <b>OPC UA .NET Standard SDK Server Library:</b> <ul style="list-style-type: none"> <li>• Implementation of Audit Events for all available services.</li> <li>• <i>SampleClient</i> and <i>SampleServer</i> alarms changes.</li> <li>• Bug fixes.</li> </ul> </li> <li>- <b>OPC UA .NET Standard SDK Client Library:</b> <ul style="list-style-type: none"> <li>• Bug fixes.</li> </ul> </li> </ul> <p>Note: SDK libraries are compiled using <b>NuGet package</b> <b>OPCFoundation.NetStandard.Opc.Ua - version 1.4.370.12</b>. When using OPC UA .NET Standard SDK version 3.30 <b>it is mandatory to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</b></p>
V3.20.0	04.08.2022	<p>Integrates the new version of <b>OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.369.30)</b> which includes:</p> <ul style="list-style-type: none"> <li>○ The fixes for the following cybersecurity vulnerabilities: CVE-2022-29862, CVE-2022-29863, CVE-2022-29864, CVE-2022-29865, CVE-2022-29866.</li> <li>○ Improvements for Tracing and Logging described in <a href="#">The logging solution in Version 1.4.368</a>.</li> </ul> <ul style="list-style-type: none"> <li>· Added support for Windows 11 and Windows Server 2022.</li> <li>· Removed support for .NET Core 2.1 SDK.</li> <li>· Add support for Visual Studio 2022.</li> <li>· HTTPS support of OPC UA .NET Standard Stack from OPC Foundation was tested and added as supported by the OPC UA .NET Standard SDK.</li> <li>· Sample code is available on <a href="#">github</a>.</li> </ul> <li>- <b>OPC UA .NET Standard SDK Server Library:</b> <ul style="list-style-type: none"> <li>• The <i>PubSub</i> node manager from <i>SampleServer</i> was disabled by default. It can be easily enabled by uncommenting a line of code (see PubSub Node Manager).</li> <li>• More alarm types were added to the <i>SampleServer</i>.</li> <li>• Added sample implementation of a custom role (see Define And Use Custom Role)</li> <li>• Bug fixes.</li> </ul> </li> <li>- <b>OPC UA .NET Standard SDK Client Library:</b> <ul style="list-style-type: none"> <li>• Added method <i>UaApplication.CreateSessionCopy</i> that will create a new session based on an existing connected session and it will also copy the custom data type information from the original object.</li> <li>• New feature added for reusing the custom data type information loaded into a <i>ClientSession</i> across the entire life of that <i>ClientSession</i>. See <i>ReuseCustomDataTypeInfoAtReconnect</i> section for more details.</li> <li>• The connect logic from <i>ClientSession</i> was reworked. <i>ConnectAsync</i> and <i>Connect</i> methods will return only after the custom data types are loaded as configured by <b><i>DecodeCustomDataTypes</i></b> and <b><i>DecodeDataTypeDictionaries</i></b> flags from <i>ClientToolkitConfiguration</i>. There is no need to wait until the flags that indicate if custom data types are loaded become true.</li> </ul> </li>

		<ul style="list-style-type: none"> <li>The methods <b>FetchDataDictionaries()</b> and <b>FetchDataTypeDefinitions()</b> and all their variations were marked as obsolete since it is not recommended to be called from an already connected session while the session is receiving data change notifications.</li> <li>Bug fixes.</li> </ul>
V3.10.0	08.03.2022	<p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>Handling of Variable node default values changed. When a new variable node is created using the Create methods from NodeManager, its value is not automatically initialized, it remains <i>null</i>, and the status code of the node is <i>BadWaitingForInitialData</i>. The first value assignment will reset the variable status code to <i>Good</i>.</li> <li>Bug fixes: <ul style="list-style-type: none"> <li>The <i>CreateObjectFromType</i> method from <i>NodeManager</i> will preserve the <i>DataType</i> and all other properties of the child nodes that created based on object type definition.</li> <li>The Help file is updated with information regarding the <i>OperationLimits</i>. The <i>OperationLimits</i> settings were added to SampleServer config file.</li> </ul> </li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>Bug fixes: <ul style="list-style-type: none"> <li>The loading of custom data types that did not end was fixed.</li> </ul> </li> </ul>
V3.00.0	26.11.2021	<ul style="list-style-type: none"> <li>The changes in PubSub Library from OPC UA .NET Standard Stack from OPC Foundation include Discovery Messages for JSON and UADP encodings and the implementation of KeyFrameCount that allows sending delta frames not only key frames for both: JSON and UADP encodings.</li> <li>The OPC UA .NET Standard SDK is also deployed as nuget packages on <a href="https://nuget.org">https://nuget.org</a>. See section Nuget Packages for more details.</li> </ul> <p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <p>Breaking change:</p> <ul style="list-style-type: none"> <li>The IEncodeableFactory extension methods from OPC UA .NET Standard SDK Server Library have a new parameter of type <i>Softing.Opc.Ua.Server.Types.Domain</i>. This parameter allows the usage of both Server and Client libraries in the same application without custom data type implementation interfering from one domain to the other. The methods that have this new parameter are: <i>GetComplexTypeInfo()</i>, <i>GetTypeTable()</i>.</li> <li>The <i>ServerCertificateLifeTime</i> property was added to <i>ServerToolkitConfiguration</i> to allow creating the server certificate with a custom lifetime.</li> <li><i>NodeManager</i> class has two new protected methods that can be useful in creating unique NodeIds that have an uint Identifier: <ul style="list-style-type: none"> <li><i>GetLastUsedNodeIdIdentifier(ushort namespaceIndex)</i></li> <li><i>SetLastUsedNodeIdIdentifier(ushort namespaceIndex, uint lastUsedIdentifier)</i></li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>• Bug fixes: <ul style="list-style-type: none"> <li>- The CreateObjectFromType method from NodeManager will preserve the NamespaceIndex of the BrowseNames for the child nodes that created based on object type definition. However, the node returned by this method will have the NamespaceIndex of current node manager.</li> <li>- CreateObjectFromType was modified to allocate only the needed node ids and this may lead to different values for NodeId.Identifier if the node ids were generated using the default New() method from NodeManager class.</li> </ul> </li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <p>Breaking changes:</p> <ul style="list-style-type: none"> <li>• The API changes from OPC UA .NET Standard Stack from OPC Foundation requested some API changes in OPC UA .NET Standard SDK: <ul style="list-style-type: none"> <li>- The ClientSession.Factory property type changed from Opc.Ua.EncodeableFactory to Opc.Ua.IEncodeableFactory.</li> <li>- The signature of Initialize method from BaseComplexTypeValue and all derived types changed to Initialize(IEncodeableFactory factory).</li> </ul> </li> <li>• The IEncodeableFactory extension methods from OPC UA .NET Standard SDK Client Library have a new parameter of type Softing.Opc.Ua.Client.Types.Domain. This parameter allows the usage of both Server and Client libraries in the same application without custom data type implementation interfering from one domain to the other. The methods that have this new parameter are: GetComplexTypeInfo(), GetTypeTable(). Two helper methods were added to the ClientSession: GetComplexTypeInfo() one with type id parameter and one with and type name.</li> <li>• The ClientCertificateLifeTime property was added to ClientToolkitConfiguration to allow creating the client certificate with a custom lifetime.</li> <li>• Bug fixes: <ul style="list-style-type: none"> <li>- The loading of custom data types was improved to avoid problems if a monitored item receives data events with instances of custom data types while the data type information is loading. While the data type information is loading the data notifications contain only the bytes not the decoded instance of StructuredValue.</li> </ul> </li> </ul>
V2.90.0	28.05.2021	<p>The <b>PubSub Library</b> was removed from the OPC UA .NET Standard SDK. The <i>PubSub</i> implementation is now part of OPC UA .NET Standard Stack from OPC Foundation and the <i>Publisher</i> and <i>Subscriber</i> sample applications were modified accordingly.</p> <ul style="list-style-type: none"> <li>• Note: PubSub Library from OPC UA .NET Standard Stack from OPC Foundation is currently in beta version because there will be breaking changes in future release. For applications developed with OPC UA .NET Standard SDK version 2.90 it is mandatory to add reference to OPCFoundation.NetStandard.Opc.Ua.PubSub - version 1.4.366.38-beta NuGet package.</li> </ul>

		<p>The <i>Publisher</i> and <i>Subscriber</i> sample applications were modified to include handling for the implementation of MQTT with JSON and UADP encoding that was recently added to OPC UA .NET Standard Stack from OPC Foundation.</p> <p><b>- OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• The custom structure data type was extended to support fields that have the <i>ValueRank</i> greater than <i>OneDimension</i>. SampleServer project provides sample code for creating a structured value with <i>TwoDimension</i> fields and also it creates a <i>Variable</i> node that uses this data type for its value.</li> <li>• In <i>NodeManager</i> class: <ul style="list-style-type: none"> <li>○ The <i>NodeManager.CreateDataType()</i> method was modified to add also the <i>Default XML</i> encoding node for the newly created data type node.</li> </ul> </li> </ul> <p>Note: This change is possible to shift node ids if they are created using the default <i>New()</i> method.</p> <ul style="list-style-type: none"> <li>○ The <i>NodeManager.GetDefaultValueForDatatype()</i> method can create values with <i>ValueRank</i> greater than <i>OneDimension</i>.</li> </ul> <ul style="list-style-type: none"> <li>• Bug fixes.</li> </ul> <p><b>- OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• The <i>ClientSession.GetDefaultValueForDatatype()</i> method can create values with <i>ValueRank</i> greater than <i>OneDimension</i>.</li> <li>• Bug fixes.</li> </ul> <p>SDK libraries are compiled using NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.366.38. When using OPC UA .NET Standard SDK version 2.90 <b>it is mandatory to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</b></p>
V2.80.0	30.03.2021	<p>•Integrates the new version of OPC UA .NET Standard Stack from OPC Foundation (NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.365.48) which includes:</p> <ul style="list-style-type: none"> <li>• The fixes for the following cybersecurity vulnerabilities: CVE: 2021-27432, CVE: 2020-29457.</li> <li>• TranslateBrowsePathsToNodeIds fix: In RelativePathElement objects the IncludeSubtypes should be ignored when the ReferenceTypeId is not specified.</li> </ul> <p><b>- dataFEED OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• In <i>NodeManager</i> class: The existing <i>ReportEvent</i> method became obsolete and a new version of <i>ReportEvent</i> method was created with a different set of parameters.</li> <li>• <i>SampleServer</i> project was modified to reference the fine grained OPCFoundation.NetStandard.Opc.Ua.* nuget packages as described in <i>Reduce Server's Output Folder Size</i> section.</li> <li>• Bug fixes.</li> </ul> <p><b>- dataFEED OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• <i>SampleClient</i> project was modified to reference the fine grained OPCFoundation.NetStandard.Opc.Ua.* nuget packages as described in <i>Reduce Client's Output Folder Size</i> section.</li> </ul>

		<ul style="list-style-type: none"> <li>Bug fixes</li> </ul> <p>SDK libraries are compiled using NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.365.48. When using dataFEED OPC UA .NET Standard SDK version 2.80 it is mandatory to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</p>
V2.70.0	05.02.2021	<p><b>- dataFEED OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>Include the Amendment OPC 10001-13: Ordered List.</li> <li>Import NodeSet2 XML sets the Parent node for nodes that have ParentNodeId property.</li> <li>The XamarinSampleServer target android version was upgraded to version 9.0 (Pie).</li> <li>Bug fixes.</li> </ul> <p><b>- dataFEED OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>Support for Register and Unregister Nodes.</li> <li>The XamarinSampleClient target android version was upgraded to version 9.0 (Pie).</li> <li>Bug fixes.</li> </ul> <p><b>- dataFEED OPC UA .NET Standard SDK PubSub Library:</b></p> <ul style="list-style-type: none"> <li>Bug fixes.</li> </ul> <p><b>- Support for VisualStudio 2019.</b>  SDK libraries are compiled using NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.364.40. When using dataFEED OPC UA .NET Standard SDK version 2.70 it is important to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</p>
V2.60.0	16.10.2020	<p><b>- dataFEED OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>Support for reverse connectivity.</li> <li>In <i>NodeManager</i> class: <ul style="list-style-type: none"> <li>The <i>CreateObjectFromType()</i> and <i>CreateVariableFromType()</i> methods were enhanced with an additional parameter (<i>createOptionalProperties</i>) that specifies if the properties that have optional modelling rule are instantiated when creating an object/variable. Note that the types from OPC UA .NET Standard Stack from OPC Foundation will not create optional properties.</li> <li>The <i>ReportEvent</i> method was enhanced to accept also the node id of the event type that will be reported.</li> </ul> </li> <li>Bug fixes.</li> </ul> <p><b>- dataFEED OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>Support for reverse connectivity.</li> <li>Asynchronously methods added for Connect (<i>ConnectAsync</i>), Disconnect (<i>DisconnectAsync</i>), GetEndpoints (<i>GetEndpointsAsync</i>), DiscoverServers (<i>DiscoverServersAsync</i>) and DiscoverServersOnNetwork (<i>DiscoverServersOnNetworkAsync</i>).</li> <li>Bug fixes.</li> </ul>

		<p>- <b>dataFEED OPC UA .NET Standard SDK PubSub Library:</b></p> <ul style="list-style-type: none"> <li>• Bug fixes.</li> </ul> <p>SDK libraries are compiled using the NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.363.49. When using dataFEED OPC UA .NET Standard SDK version 2.60 it is important to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</p>
V2.50.0	09.07.2020	<p>- <b>dataFEED OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• Internal support for AccessRestrictions, RolePermissions and UserRolePermissions attributes.</li> <li>• Support for GDS and Push Management of application certificates and trust lists.</li> <li>• Bug fixes.</li> </ul> <p>- <b>dataFEED OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• Support for GDS and Pull Management of application certificates and trust lists.</li> <li>• ReadNode method from <i>ClientSession</i> will not throw a ServiceResultException when the node is not found, but will return an instance of <i>VariableNodeEx</i>. Status codes for each attribute are available via <i>GetStatusCode()</i> method.</li> <li>• Bug fixes.</li> </ul> <p>- <b>dataFEED OPC UA .NET Standard SDK PubSub Library:</b></p> <ul style="list-style-type: none"> <li>• Bug fixes.</li> </ul> <p>- .NET Framework support updated to version 4.6.2 in accordance with <i>OPC UA .NET Standard Stack from OPC Foundation</i> .</p> <p>- Support for Visual Studio 2015 was removed.</p> <p>SDK libraries are compiled using NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.362.42. When using dataFEED OPC UA .NET Standard SDK version 2.50 it is important to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</p>
V2.40.0	26.02.2020	<p>- <b>dataFEED OPC UA .NET Standard SDK Server Library:</b></p> <p>Support for creating custom DataType, VariableType and ObjectType nodes and instances</p> <p>Extended support for complex data types:</p> <ul style="list-style-type: none"> <li>• Support for custom <i>Structure</i>, <i>StructureWithOptionalFields</i>, <i>Union</i>, <i>Enumeration</i> and <i>OptionSet</i> types.</li> <li>• Expose <i>DataTypeDefinition</i> attribute of DataType nodes to allow clients to read custom data types.</li> <li>• Enhanced ImportNodeSet functionality for reading the <i>DataTypeDefinition</i> attribute of DataType nodes.</li> <li>• Sample code for creating and handling custom types.</li> </ul> <p>Support for creating custom variable and object types.</p> <p>Bug fixes.</p>

		<p>.NET Standard 1.4 support removed.</p> <p>- <b>dataFEED OPC UA .NET Standard SDK Client Library:</b></p> <p>Extended support for complex data types:</p> <ul style="list-style-type: none"> <li>• Support for custom <i>Structure</i>, <i>StructureWithOptionalFields</i>, <i>Union</i>, <i>Enumeration</i> and <i>OptionSet</i> types.</li> <li>• Load server custom data types by reading the <i>DataTypeDefinition</i> attribute of <i>DataType</i> nodes for V1.04 servers.</li> <li>• Sample code for handling custom data types.</li> <li>• Bug fixes</li> </ul> <p>.NET Standard 1.4 support removed.</p> <p>- <b>dataFEED OPC UA .NET Standard SDK PubSub Library:</b></p> <ul style="list-style-type: none"> <li>• Bug fixes</li> </ul> <p>SDK libraries are compiled using the NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.359.31. When using dataFEED OPC UA .NET Standard SDK version 2.40 it is important to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</p>
V2.30.0	06.08.2019	<p>- <b>dataFEED OPC UA .NET Standard SDK PubSub Library:</b></p> <ul style="list-style-type: none"> <li>• Provides simplified API for configuring a PubSub application. SampleServer provides a new dedicated node manager that uses dataFEED OPC UA .NET Standard SDK PubSub Library and behaves like a Publisher and Subscriber.</li> <li>• Implemented PubSubState State Machine. Implemented <b>Unicast</b> and <b>Multicast</b> communication for <i>OPC UA UDP Transport Protocol</i>.</li> <li>• Changes in licensing namespaces: In version 2.20 the <i>PubSub</i> licensing classes were part of <i>Softing.Opc.Ua.Private</i> namespace. Starting with version 2.30 the <i>PubSub</i> licensing classes are part of <i>Softing.Opc.Ua.PubSub</i> namespace. Please change your code to point to the new namespace.</li> </ul> <p>- <b>dataFEED OPC UA .NET Standard SDK Server Library:</b></p> <ul style="list-style-type: none"> <li>• Bug fixes.</li> <li>• Changes in licensing namespaces: In version 2.20 the <i>Server</i> licensing classes were part of <i>Softing.Opc.Ua.Private</i> namespace. Starting with version 2.30 the <i>Server</i> licensing classes are part of <i>Softing.Opc.Ua.Server</i> namespace. Please change your code to point to the new namespace.</li> </ul> <p>- <b>dataFEED OPC UA .NET Standard SDK Client Library:</b></p> <ul style="list-style-type: none"> <li>• Bug fixes.</li> <li>• Changes in licensing namespaces: In version 2.20 the <i>Client</i> licensing classes were part of <i>Softing.Opc.Ua.Private</i> namespace. Starting with version 2.30 the <i>Client</i> licensing classes are part of <i>Softing.Opc.Ua.Client</i> namespace. Please change your code to point to the new namespace.</li> </ul>

		<p>SDK libraries are compiled using NuGet package OPCFoundation.NetStandard.Opc.Ua - version 1.4.356.27. When using dataFEED OPC UA .NET Standard SDK version 2.30 it is important to use the same version of OPC UA .NET Standard Stack from OPC Foundation.</p>
V2.20.0	15.05.2019	<ul style="list-style-type: none"> <li>• The initial version of <b>dataFEED OPC UA .NET Standard SDK PubSub Library</b>: <ul style="list-style-type: none"> <li>○ Provides an API for simplified OPC UA Publisher and Subscriber development using UDP transport and binary encoded messages.</li> <li>○ Provides SamplePublisher and SampleSubscriber projects that use the simplified API from dataFEED OPC UA .NET Standard SDK PubSub Library.</li> </ul> </li> <li>• <b>dataFEED OPC UA .NET Standard SDK Server Library</b>: <ul style="list-style-type: none"> <li>○ Enhanced ImportNodeSet functionality that allows instantiating data types loaded from dictionaries.</li> <li>○ New method GetDefaultValueForDatatype was added to NodeManager. It creates and returns the default value for the specified data type , including data types imported from NodeSet2 XML files.</li> <li>○ Added support for Aes256_Sha256_RsaPss security policy.</li> </ul> </li> <li>• <b>dataFEED OPC UA .NET Standard SDK Client Library</b>: <ul style="list-style-type: none"> <li>○ ClientSession.KeepAlive handling was moved on a separate thread to avoid possible deadlocks.</li> </ul> </li> </ul>
V2.10.0	06.02.2019	<ul style="list-style-type: none"> <li>• "Softing OPC UA .NET Standard Toolkit" was renamed to "dataFEED OPC UA .NET Standard SDK".</li> <li>• OPC UA Server Compliance Certification.</li> <li>• dataFEED OPC UA .NET Standard Server SDK Library: <ul style="list-style-type: none"> <li>○ Enhanced ImportNodeSet functionality that handles duplicate nodes.</li> <li>○ Added Export NodeSet functionality.</li> <li>○ Added create instance from OPC UA type specified by NodeId functionality.</li> <li>○ Added sample code for file transfer.</li> <li>○ Added sample code for temporary file transfer.</li> </ul> </li> <li>• Added support for Aes128_Sha256_RsaOaep security policy.</li> <li>• Removed Windows 8.1 support due to known security limitations incompatible with dataFEED OPC UA .NET Standard SDK implementation.</li> <li>• Properties marked as deprecated in ServerToolkitConfiguration.</li> </ul>

V2.00.0	31.07.2018	<p><b>Softing Client Toolkit Library:</b></p> <p>Dll name was changed from Softing.Opc.Ua.dll to Softing.Opc.Ua.Client.dll.</p> <p>Namespace changes:</p> <ul style="list-style-type: none"> <li>• All entities from namespace Softing.Opc.Ua were moved to namespace Softing.Opc.Ua.Client (SecurityPolicy enum, ToolkitUtils and UaApplication classes)</li> <li>• All entities from namespace Softing.Opc.Ua.Private were moved to Softing.Opc.Ua.Client.Private (License class and LicenseFeature enum)</li> <li>• All entities from namespace Softing.Opc.Ua.Types were moved to Softing.Opc.Ua.Client.Types.</li> <li>• ApplicationConfigurationEx class available in version 1.00 and 1.10 in namespace Softing.Opc.Ua was removed. We are using the ApplicationConfiguration class available in OPC UA .NET Standard Stack from OPC Foundation . A new configuration class ClientToolkitConfiguration was added to the Softing Client Toolkit Library, it is used as a configuration extension as described in Client configuration section.</li> </ul> <p>New method added to ClientSubscription class. ConditionRefresh method tells the server to refresh all conditions (alarms) being monitored by the subscription.</p> <p><b>Softing Server Toolkit Library - initial version:</b></p> <ul style="list-style-type: none"> <li>• Provides an API for simplified server development. The Softing Server</li> <li>• Toolkit Library offers a simplified approach for Data Access, Methods and Standard Event Subscriptions</li> </ul> <p>SampleServer and XamarinSampleServer are refactored to use the new Softing Server Toolkit Library (Softing.Opc.Ua.Server.dll).</p>
V2.00.0	31.07.2018	<p><b>Softing Client Toolkit Library:</b></p> <p>Dll name was changed from Softing.Opc.Ua.dll to Softing.Opc.Ua.Client.dll.</p> <p>Namespace changes:</p> <ul style="list-style-type: none"> <li>• All entities from namespace Softing.Opc.Ua were moved to namespace Softing.Opc.Ua.Client (SecurityPolicy enum, ToolkitUtils and UaApplication classes)</li> <li>• All entities from namespace Softing.Opc.Ua.Private were moved to Softing.Opc.Ua.Client.Private (License class and LicenseFeature enum)</li> <li>• All entities from namespace Softing.Opc.Ua.Types were moved to Softing.Opc.Ua.Client.Types.</li> <li>• ApplicationConfigurationEx class available in version 1.00 and 1.10 in namespace Softing.Opc.Ua was removed. We are using the ApplicationConfiguration class available in OPC UA .NET Standard Stack from OPC Foundation . A new configuration class ClientToolkitConfiguration was added to the Softing Client Toolkit Library, it is used as a configuration extension as described in Client configuration section.</li> </ul> <p>New method added to ClientSubscription class. ConditionRefresh method tells the server to refresh all conditions (alarms) being monitored by the subscription.</p> <p><b>Softing Server Toolkit Library - initial version:</b></p> <ul style="list-style-type: none"> <li>• Provides an API for simplified server development. The Softing Server</li> </ul>

		<ul style="list-style-type: none"> <li>• Toolkit Library offers a simplified approach for Data Access, Methods and Standard Event Subscriptions</li> <li>• SampleServer and XamarinSampleServer are refactored to use the new Softing Server Toolkit Library (Softing.Opc.Ua.Server.dll).</li> </ul>
V1.10.0	13.04.2017	<ul style="list-style-type: none"> <li>• Added support for Linux distributions. Ubuntu 16.04 and Debian 9.30.</li> <li>• Added support for Android. Sample Client and Sample Server for Android implemented with Xamarin Forms were added in the samples folder.</li> </ul>
V1.00.0	31.12.2017	<ul style="list-style-type: none"> <li>• Initial Version</li> </ul>