# Data Management System (DMS) functionality primer

By Christopher Walters

9/26/2014

LcmsNet provides access to DMS functionality via the .Net 4.0 Managed Extensibility Framework (MEF). This functionality allows users to retrieve data from a desired data source(s) and use it in LcmsNet. To take advantage of the DMS functionality, a class must be created that will connect to the desired database/data storage system(s) using the IDmsTools interface located in the LcmsNetSDK. This class should directly interact with classSQLiteTools upon method calls to store retrieved information in the local cache unless another caching scheme is in use. Once this class has been created it must be decorated with the [Export(typeof(IDmsTools))] MEF attribute, as well as the [ExportMetaData(“Name”, “*NameofyourDMSToolHere”*)] MEF attribute, and if desired the [ExportMetaData(“Version”, “*versionOfYourToolHere”*)] MEF attribute. As of this writing, those are the only two pieces of metadata tracked. The metadata available to the DMS functionality may be extended via the IDmsMetaData interface.

Further, you must create a validator that exports the IDmsValidator interface, with metadata as defined by the IDmsValidatorMetadata interface. Additionally, a DMSValidation control that inherits from the classDMSBaseControl class, the type of which will be returned by the validators DMSValidatorControl property must be provided. The control allows a user to correct invalid data when found. The dms validator can be part of the DMSTool project, or you can create a new project, as long as the validator library files are located in the %appdata%\dmsExtensions directory for LcmsNet to use.

After compiling your DMS library place the resulting library files in the %appdata%\LCMSNet\dmsExtensions directory during or after install of LcmsNet. Once placed, start or restart LcmsNet and select your tool in the Configuration window under the DMS tab if it is not selected by default, LcmsNet will then be able to retrieve information from the desired data source.

Example:

[Export(typeof(IDmsTools))]

[ExportMetadata("Name", "MyDmsTools")]

[ExportMetadata("Version", "1.0")]

public class MyDmsTools : LcmsNetDataClasses.IDmsTools

{

//implementation

}

[Export(typeof(IDmsValidator))]

[ExportMetadata("RelatedToolName", "MyDmsTools")]

[ExportMetadata("Version", "1.0")]

[ExportMetadata("RequiredDMSToolVersion", "1.0")]

public class MyDmsToolsValidator : LcmsNetDataClasses.IDmsValidator

{

public bool IsSampleValid(classSampleData sample)

{

return true;

}

Public Type DMSValidatorControl

{

return typeof(MyDmsValidatorControl);

}

}