**DPWS Tests:**

All DPWS tests are found under $(SPOCLIENT)\ Test\Platform\Tests\CLR\DPWS. The folders MFDpwsApiTests, MFDpwsClientTests, MFDpwsDeviceTests, and MFWsStackTests contain DPWS tests that can be debugged and run directly . The WSDL folder contains wsdl files(Alarm.wsdl, ArrayTypes, …) and a DPWSPROJ file(DpwsTestFixtures. dpwsproj) that enable to auto-generate DPWS test suites from a given .wsdl file. When building the DpwsTestFixtures. Dpwsproj , here is what happens ,

* Creates a directory for the output : "$(BUILD\_TEST\_TREE\_SERVER)\Dpws\%(Wsdl.FileName)TestFixture"
* Copies .wsdl files to the output directory
* Generates the test suite .cs files, a .csproj file and a .slnproj file for each .wsdl files using the MFDpwsTCGen.exe tool

(MFDpwsTCGen source code $(SPOCLIENT)\ Test\Platform\Tools\MFDpwsTestCaseGenerator )

* Builds the .slnproj file to get sln file and a wix component that can be added to an installer
* And finally copies the .sln file just created from the .slnproj build to a location where the original project was created
* By now we have all auto-generated test suites in

$(SPOCLIENT)\ BuildOutput\public\Debug\Test\Server\Dpws

Hence, in order to run the auto-generated test suites from Visual Studio,

msbuild **DpwsTestFixtures.dpwsproj**

After successful build, all test suites are found in

$(SPOCLIENT)\ BuildOutput\public\Debug\Test\Server\Dpws\

Example ArrayTypesTestFixture –

1. sends a Byte array to Host and verifies exact Byte arrays are received at Server side
2. Server returns Byte Array to Client and compares returning Byte Array with Sent Byte Array

**How about debugging while auto-generating?**

Here is a sample example that debugs through the auto-generation of test suites from a given wsdl.

* copy ArrayTypes.wsdl file to

$(SPOCLIENT)\ BuildOutput\public\Debug\Test\Server\Dpws\ArrayTypesTestFixture

* In Visual Studio , open the **MFDpwsTestCaseGenerator** project and pass the wsdl file as a command line argument to the project

E:\spo\current\client\_v4\_0\_dev\BuildOutput\public\Debug\Test\Server\Dpws\ArrayTypesTestFixture\ArrayTypes.wsdl

Now Hit F10, continue to debug through the code and follow auto-generations of the test suite .cs files, a .csproj file and a .slnproj in the directory

$(SPOCLIENT)\ BuildOutput\public\Debug\Test\Server\Dpws\ArrayTypesTestFixture

Notice the MFDpwsTestCaseGenerator project uses

* the **mfsvcutil.exe** tool to generate

1. **ArrayTypesClientProxy.cs** - the ClientProxy,
2. **ArrayTypesHostedService.cs** - the Hosted Service
3. **ArrayTypes.cs** - the Contract Class

* Generates the **ArrayTypesTestFixture.csproj** using Resources.SDKProjectTemplate and builds it.
* generates **ArrayTypesTestFixture.cs** file – The Actual test cases
* Includes the **ArrayTypesTestFixture.cs** file in **ArrayTypesTestFixture.csproj** and builds the **ArrayTypesTestFixture.csproj** again

And finally generates a slnproj file using Resources.SlnProjTemplate (Note : When debugging through the **MFDpwsTestCaseGenerator** in Visual Studio if generating a slnproj file fails try replacing line 194

//new SlnProj(assemblyName + ".csproj", new Guid(ComponentGuid)).Save();

new SlnProj(assemblyName + ".csproj", Guid.NewGuid()).Save();

By this time we have an **ArrayTypesTestFixture** test suite which you can run and debug it like any other .Net Micro Framework test suite.