

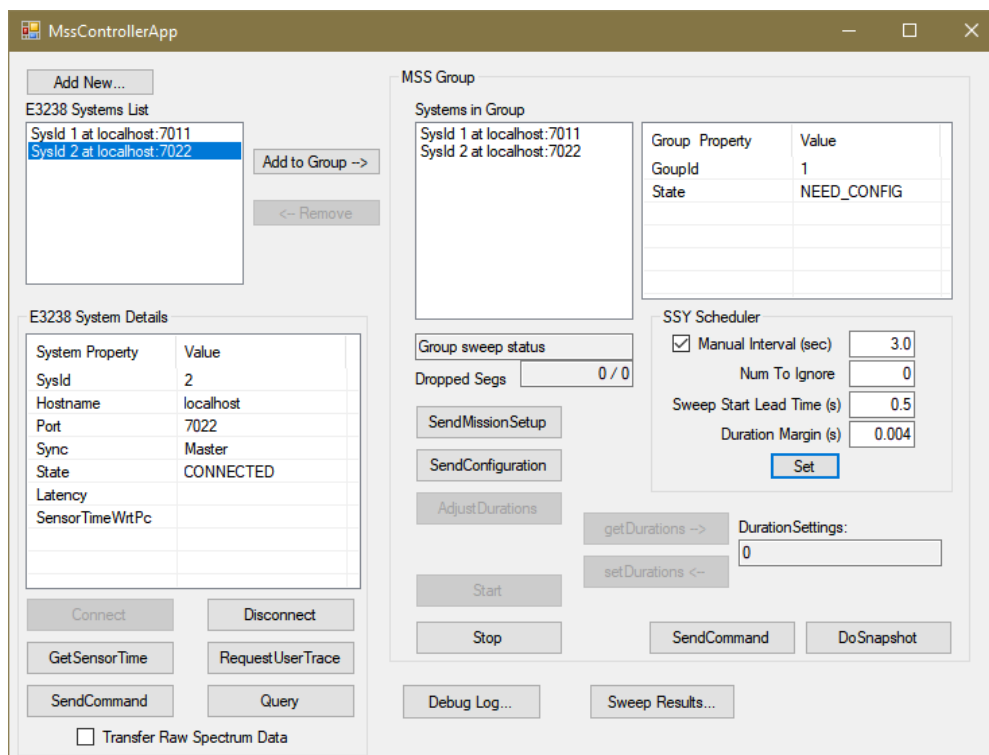
N6820NSSYE Multi-System Sync (SSY) Feature

N6820ES Surveyor 4D software

Introduction

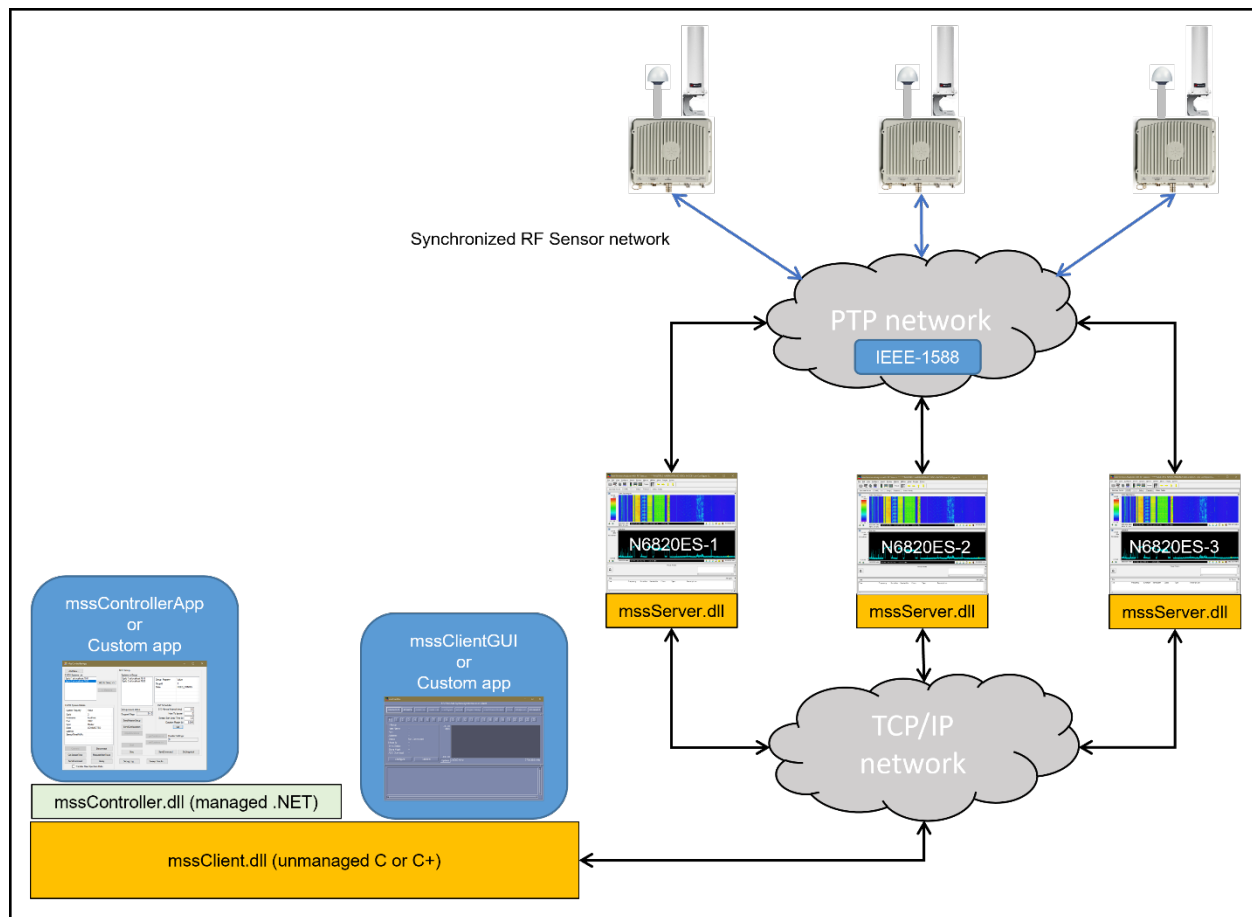
Keysight's N6820SSYE is a licensed software feature that enhances Surveyor 4D software by synchronizing the spectrum sweeps of multiple systems. Surveyor 4D systems search the RF spectrum by quickly stepping the receiver frequency and measuring the spectrum in multiple segments. This process, called “sweep”, actually consists of discrete frequency steps. Some applications require multiple Surveyor 4D systems with synchronized sweeping. In the application, “system” refers to the combination of one instance of Surveyor 4D and one N6841A RF sensor. “MSS” refers to multi-system synchronization.

SSY operation requires one of the synchronization applications, mssController (shown below) or MssClientGui, which are both installed in the C:\E3238s\multiSystemSync folder.



The `mssControllerApp.exe` is the central application for controlling and synchronizing multiple Surveyor 4D sub-systems, for use in Microsoft.NET (managed code) environments and has the same functionality as `MssClientGui.exe`. Keysight provides the `mssControllerApp.exe` application as a compiled program and as C# source code. This example program can be used as a starting point for the development of a custom application and applies call functions in the `mssController.dll`, a .NET-managed code wrapper, around the `mssClient.dll`. A custom controller application, written in C#, can easily use the `mssClient.dll`. The `mssClient.dll` is a C library provided by Keysight. A single copy of the library communicates with each Surveyor 4D application via a TCP/IP network connection. The library contains algorithms that optimize the scheduling of synchronized sweep to produce a high probability of success despite network latency and throughput limitations.

The following figure shows the network topology for a synchronized multi-system consisting of three Surveyor 4D sub-systems, each using one N6841A RF sensor to search the spectrum. The RF sensors must use either GPS or IEEE 1588 for a precise time reference. Each instance of the N6820ES application software is configured to load the `mssServer.dll` that is provided by the SSY feature.



Key features

- Synchronous sweeps of geographically distributed RF sensors
- Example application for direct or customized use
- Use either network-based precision time protocol, IEEE-1588, or GPS for RF sensor synchronization

N6820SSYE Installation

The base N6820ES Surveyor 4D software download includes the N6820SSYE feature which can be found at www.keysight.com/find/N6820ES and is enabled with a license file.

The example applications and drivers needed to enable the SSY feature are found in <C:\E3238x\multiSystemSync>. Keysight recommends that an application engineer assists in the development and setup of the Surveyor 4D SSY feature to get the most from the capability. Instructions for configuration, setup and use of the SSY feature can be found in the N6820ES Operator Reference manual.

Application Software licensing options

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License type	Descriptions
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1. Americas (North, Central, and South America, Canada); Europe (European Continent, Middle Eastern Europe, Africa, India); Asia (North and South Asia Pacific Countries, China, Taiwan, Japan)

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