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Novaspread Server Use Cases – Client Role

Date: June 10th 2015



- Get SAT>IP Server Device List
- Select SAT>IP Server Device
- Get Selected Device
- SatIpTuner Connection
- Preparing SatIpTuner Data Reception
- SatIpTuner Data Reception
- Changing PIDs
- SatIpTuner Usage



■ Description:

- Humax application gets a list of SAT>IP server devices from NovaspreadServer.
- Humax application displays this list in the UI.

■ Functions:

- NovaspreadServerGetDeviceList()
- NovaspreadDeviceListGetLength()
- NovaspreadDeviceListGetDevice()
- NovaspreadDeviceListRelease()



■ Description:

- Humax application gets properties from SAT>IP Server Device.
- Humax application displays device properties in the UI.

■ Functions:

- NovaspreadDeviceGetIpAddress()
- NovaspreadDeviceGetFriendlyName()
- NovaspreadDeviceGetManufacturer()
- NovaspreadDeviceGetManufacturerUrl()
- NovaspreadDeviceGetModelDescription()
- NovaspreadDeviceGetModelNumber()
- NovaspreadDeviceGetModelUrl()
- NovaspreadDeviceGetSerialNumber()
- NovaspreadDeviceGetIconList
- NovaspreadDeviceRelease()



■ Example:

```
NovaspreadTDeviceList  deviceList;

deviceList = NovaspreadServerGetDeviceList();
if ( deviceList )
{
    NovaspreadTInt32  i;
    NovaspreadTInt32  length;

    length = NovaspreadDeviceListGetLength( deviceList );
    for ( i = 0; i < length; i++ )
    {
        NovaspreadTDevice device =
            NovaspreadDeviceListGetDevice( deviceList, i );

        printf( "Device: %s\n", NovaspreadDeviceGetFriendlyName( device ) );
        NovaspreadDeviceRelease( device );
    }

    NovaspreadDeviceListRelease( deviceList );
}
```



■ Description:

- User selects a SAT>IP server device from the list.
- Humax application informs NovaspreadServer about this selection.
- All SatIpTuners will be connected to this selected device.

■ Function:

- NovaspreadServerSelectDevice()

■ Example:

```
NovaspreadTDevice satIpServerDevice;  
  
satIpServerDevice = // get selected satIpServerDevice from UI.  
  
NovaspreadServerSelectDevice( satIpServerDevice );
```



■ Description:

- Humax application gets the selected SAT>IP server device from NovaspreadServer.
- Humax displays the device information in the UI.

■ Functions:

- NovaspreadServerGetSelectedDevice()

■ Example:

```
NovaspreadTDevice device;

// If no device is selected, null is returned.
device = NovaspreadServerGetSelectedDevice();
if ( device )
{
    printf( "Selected SAT>IP server device: %s\n",
            NovaspreadDeviceGetFriendlyName( device ) );

    NovaspreadDeviceRelease( device );
}
```



■ Description:

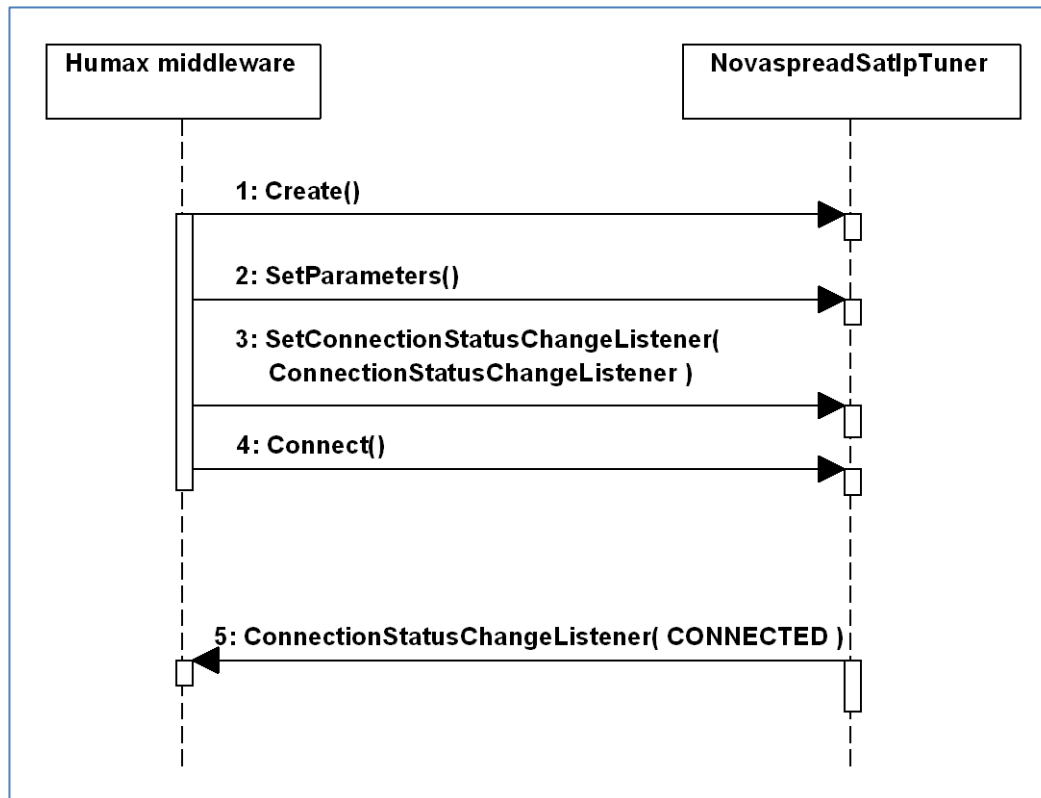
- Humax creates a NovaspreadSatIpTuner.
- This SatIpTuner is connected to the selected SAT>IP server.

■ Functions:

- NovaspreadServerCreateSatIpTuner()
- NovaspreadSatIpTunerSetParameters()
- NovaspreadSatIpTunerSetConnectionStatusChangeListener()
- NovaspreadSatIpTunerConnect()



- Humax middleware creates and connects SatIpTuner



Preparing SatIpTuner Data Reception



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■ Description:

- Humax sets a DataAvailableListener at the SatIpTuner.
- Humax starts the data reception of the SatIpTuner.

■ Function:

- NovaspreadSatIpTunerSetDataAvailableListener()
- NovaspreadSatIpTunerStart()

■ Example:

```
NovaspreadSatIpTunerSetDataAvailableListener( satIpTuner, DataAvailableListener, context );  
NovaspreadSatIpTunerStart( satIpTuner );
```



■ Description:

- Humax calls NovaspreadSatIpTunerReadData() to read transport stream data from the SatIpTuner.
- If ReadData() returns 0 bytes, Humax waits until the DataAvailableListener is called, before calling ReadData() again.

■ Functions:

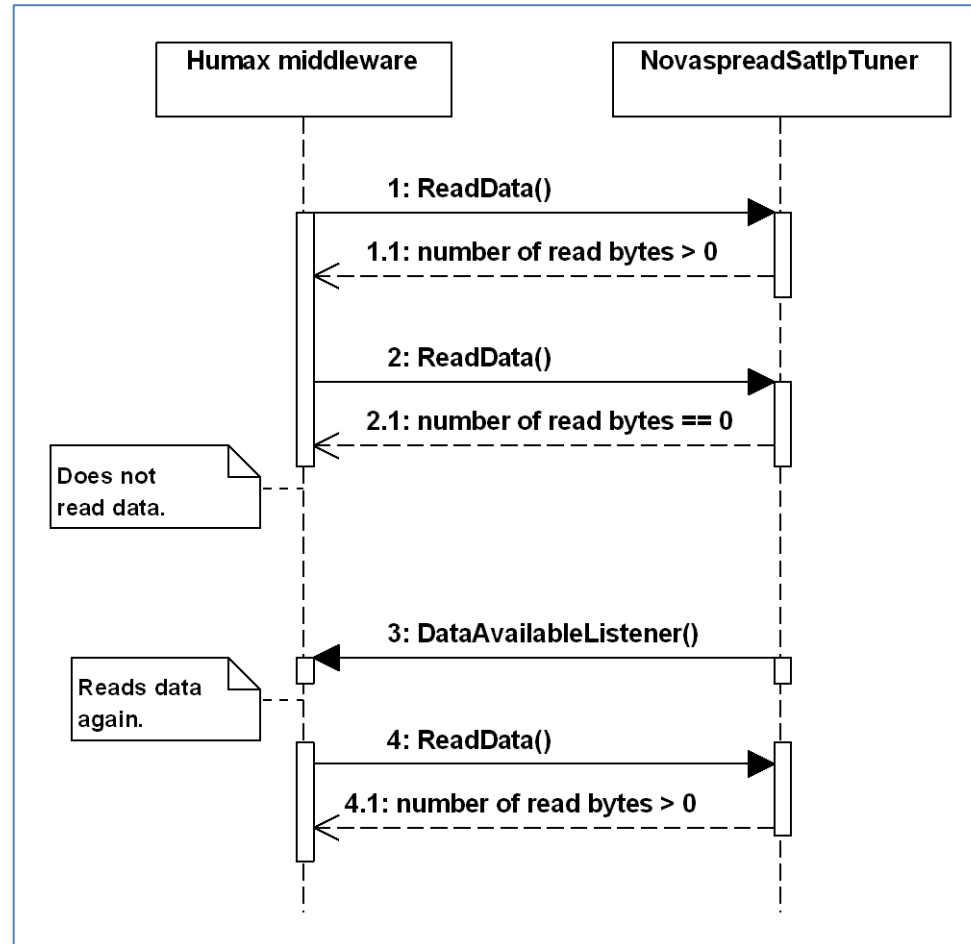
- NovaspreadSatIpTunerReadData()
- React on DataAvailableListener

SatIpTuner Data Reception – Sequence



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■ Data reader thread (Humax)





■ Description:

- Humax can set PIDs to be streamed at a SatIpTuner.
- The SatIpTuner sends these PIDs to the SAT>IP server.

■ Functions:

- NovaspreadSatIpTunerSetPids()

■ Example:

```
NovaspreadTUInt16 pids[ 2 ];  
  
pids[ 0 ] = 0x00;  
pids[ 1 ] = 0x12;  
  
NovaspreadSatIpTunerSetPids( satIpTuner, pids, 2 );
```



- Humax can use NovaspreadSatIpTuners when too less local tuners are available.
- SatIpTuners can be used for recordings and live playback.
- The data of a SatIpTuner can be routed through Humax middleware and be provided to NovaspreadServer for streaming to a NovaspreadClient.
- NovaspreadServer always calls Humax middleware to get a Tuner and never accesses a SatIpTuner directly, because transcoding and re-encryption will be done by Humax.



THANK YOU!

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