SEGGER RTT and SystemView Configuration

These are the components that are provided by SEGGER the are helpful in analysis and instrumenting the application for trace functionality. Out of the two components “***RTT***” and “***SystemView***”. RTT (Real Time Transfer) is a bidirectional host to target communication protocol that is available with the SEGGER Jlink debug prob. ***System View*** is a system analysis tool that presents the system runtime information in way that can be analysed. System View internally uses RTT to communicate (by default) with the host. However, there are other means by which SystemView can be operated (ex: Using a debug uart) RTT is the more straight forward and is less resource constraint which make the analysis as real-time as possible.

# Configuration Details:

These two components are available for the user using two static libraries with the names ***SEGGER\_RTT*** and ***SEGGER\_SYS\_VIEW***. These two are standalone static libraries that can be linked however, there is another companion library that diverts the trace calls from freeRTOS kernel to SYSTEM VIEW and it is available under the name ***SYSVIEW\_FreeRTOS\_Specifics***. These components offer different configuration items.

## RTT Configuration:

RTT configuration is individual to itself and is passed using a set of global values. However, if these values are not provided by the application (that parent cmake directory that is including the RTOS) a set of default values are assigned to these variables and passed to the library. As these variables are cached, they can be changed from anywhere in the cmake. Cmake will make sure there is only one of these variables are maintained.

|  |  |  |
| --- | --- | --- |
| Name | Default value | Details |
| RTT\_ENABLED | 0 | Flag that specifies RTT is enabled. |
| RTT\_UP\_BUFF\_CNT | 3 | Number of up buffers in RTT. |
| RTT\_UP\_BUFF\_SIZE | 1024 | Size of each up buffer. |
| RTT\_DOWN\_BUFF\_CNT | 3 | Number of down buffers in RTT. |
| RTT\_DOWN\_BUFF\_SIZE | 16 | Size of each down buffer. |

These default values are generally sufficient. This leaves one RTT Up/Down channel for printing and other I/O operations. Another channel is used for the SYSTEM View communication. So, by default RTT is configured for SYSTEM VIEW and one configured channel for I/O services.

## System View Configuration:

As of now not a lot of internal configuration details of the system view are open for the application layers. However, this will be changed in the future when system view is provided with it CPP wrapper that makes it homogenous and easy to access the instrumentation services offered by SYSTEM VIEW. The following configuration details are opened for now.

|  |  |  |
| --- | --- | --- |
| Name | Default value | Details |
| SYSTEM\_VIEW\_ANALYSIS | 0 | Flag that specifies RTT is enabled. |
| SYSTEM\_VIEW\_APP\_NAME | “NEST Platform” | Number of up buffers in RTT. |
| SYSTEM\_VIEW\_DEVICE\_NAME | “Generic Device” | Size of each up buffer. |
| SYSTEM\_VIEW\_POSTMORTEM | 0\* | Number of down buffers in RTT. |

SYSTEM\_VIEW\_POSTMORTEM is the interesting setting of all in the case of simulation this by default this is the mode of recording the trace if not the more will be continuous recording,

NOTE: Please read the user manual for latest version of the Jlink and System View to get further details on the above components and their configurations.