



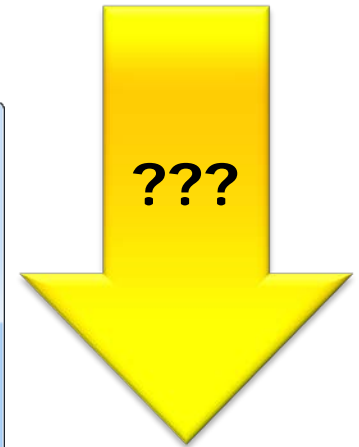
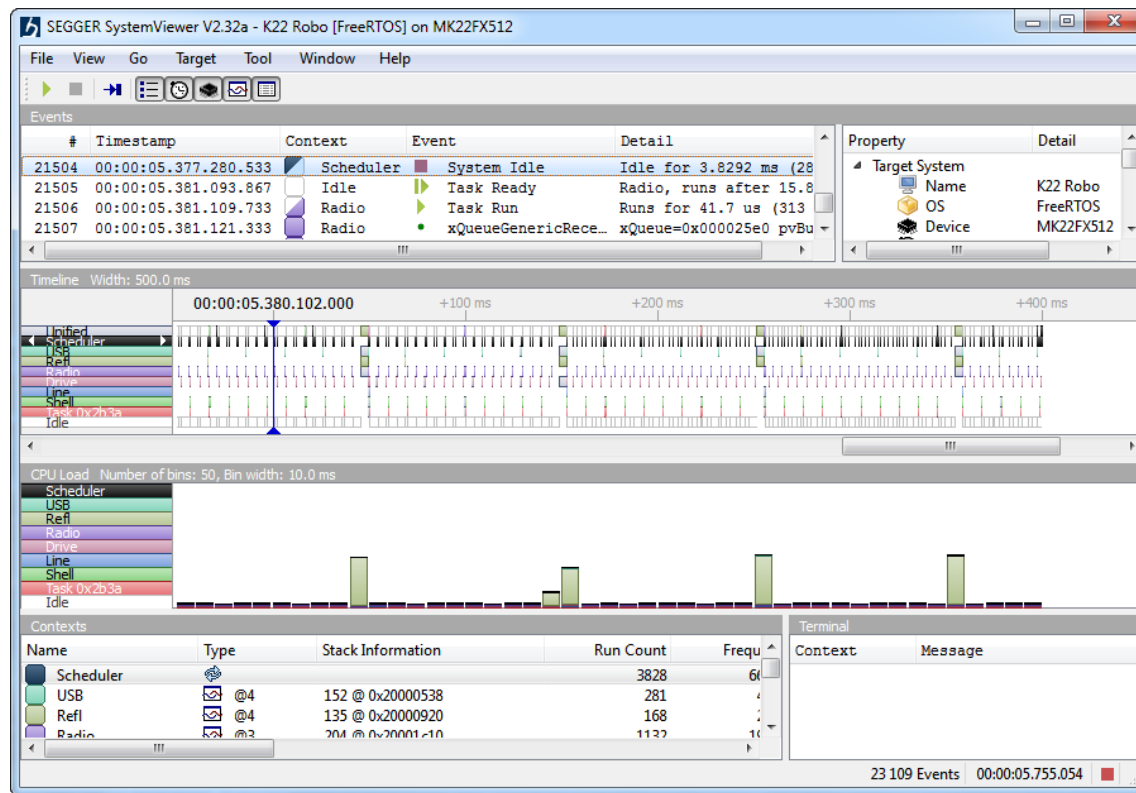
Segger FreeRTOS SystemView

"Be aware what is going on..."

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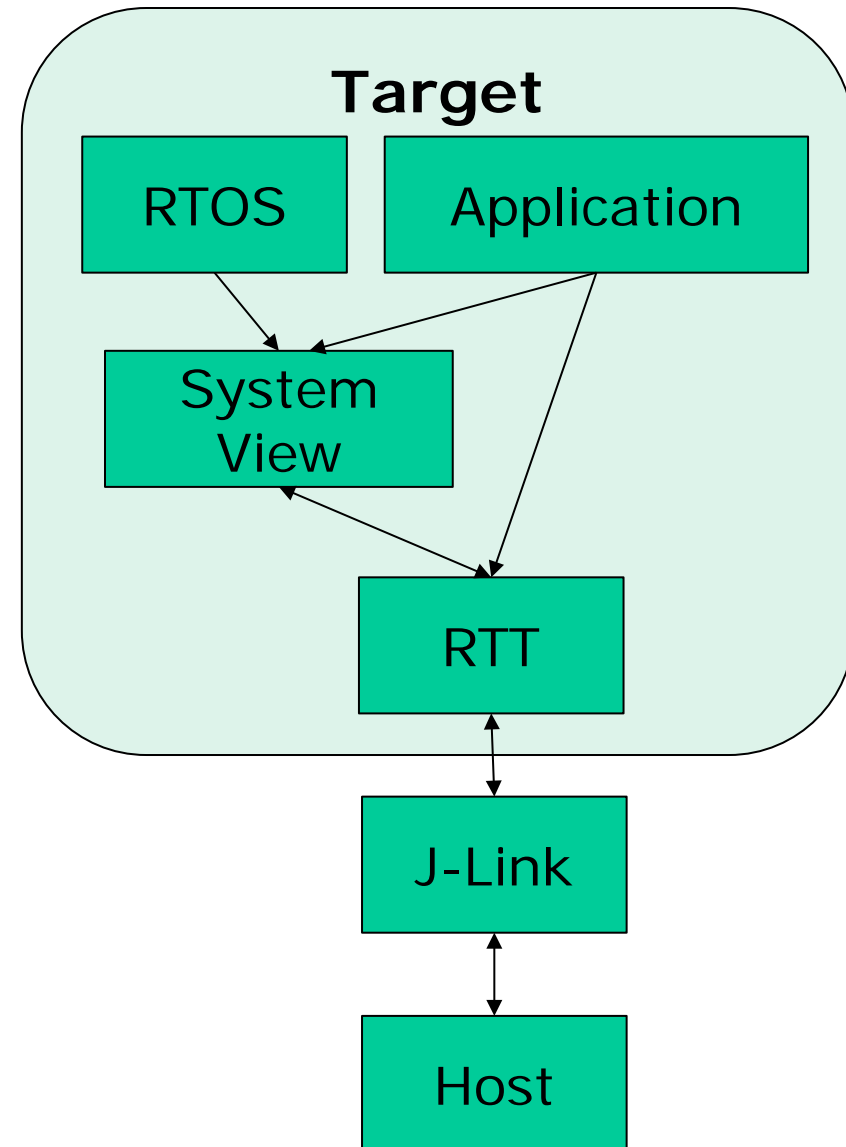
Learning Goals

- Problem: How are the tasks running?
Performance of system?
- Goal
 - Segger SystemView to inspect system



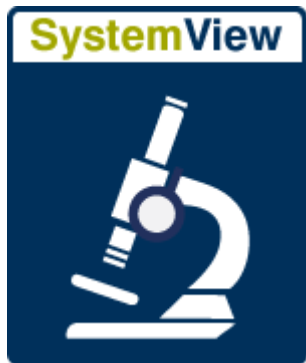
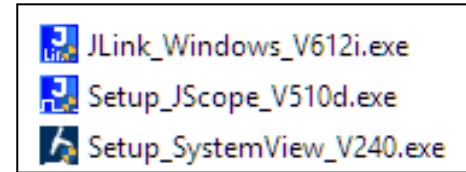
Overview

- Segger **RTT** (RealTime Transfer)
 - Debug Probe used as interface between host and target
 - 'printf()' to Host
- Segger **SystemView**
 - Instrumented RTOS to sends messages over RTT
 - Application events
- Viewer for data on host
- Can get data while not 'debugging'



Installation

- Download and Install Segger J-Link:
Setup_JLink_V6xx
- Have **Segger SystemView** installed (Win, Mac, Linux available)
 - <https://www.segger.com/systemview.html>

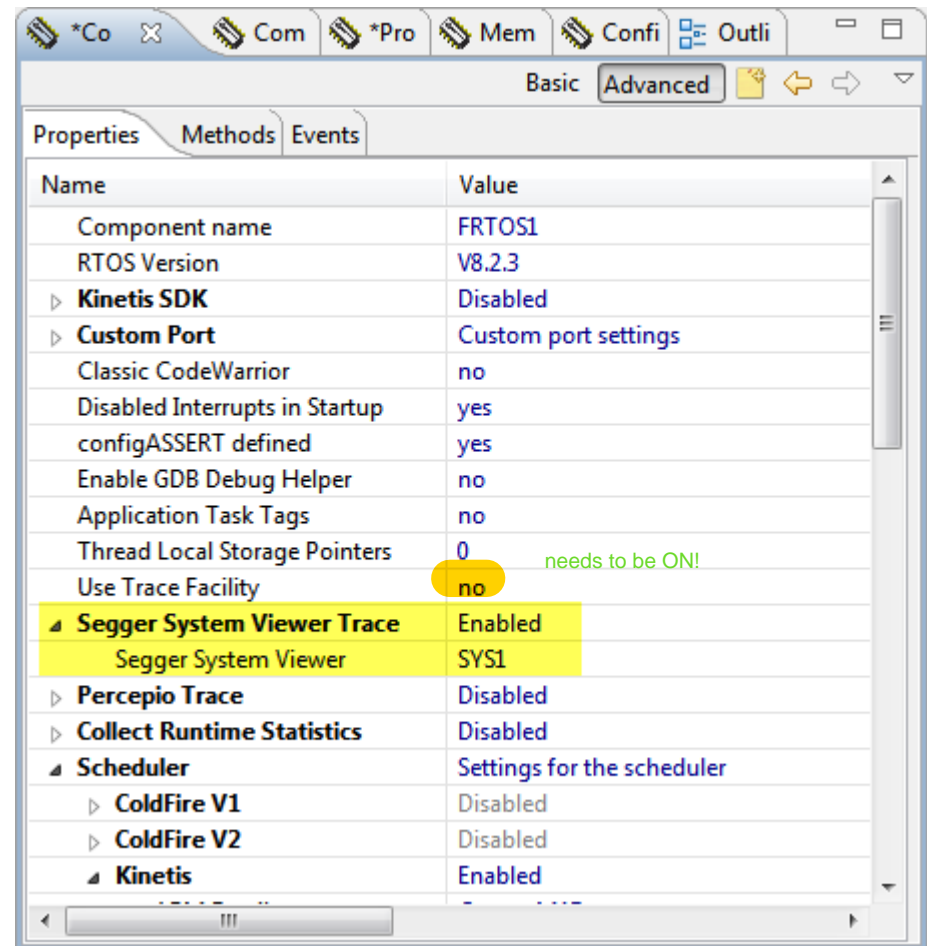


[Download SEGGER SystemView package for Windows, Mac OS X and Linux](#)

[SEGGER SystemView documentation](#)

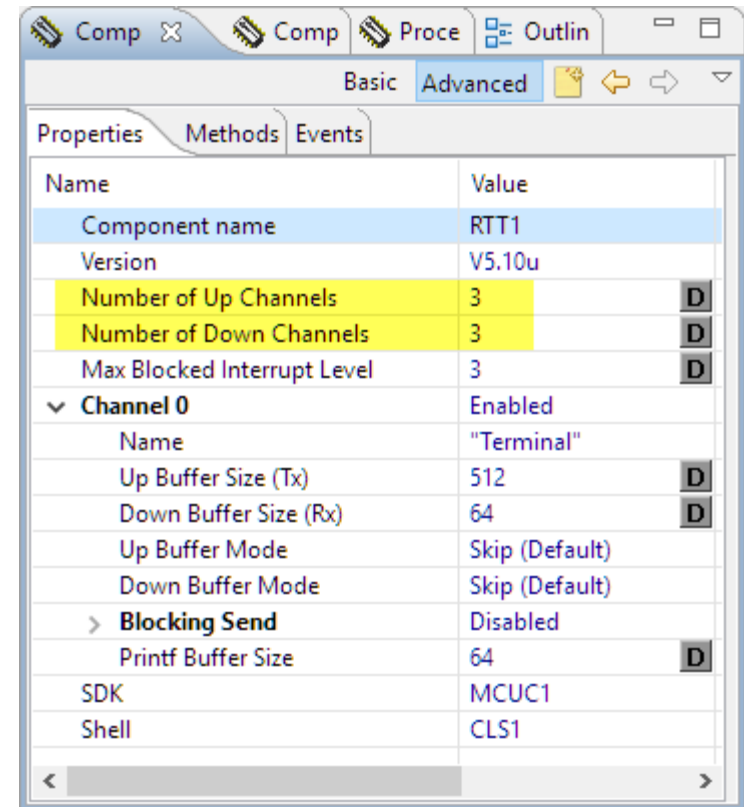
FreeRTOS with SystemView

- Enable Segger System Viewer Trace in FreeRTOS
- Instruments RTOS



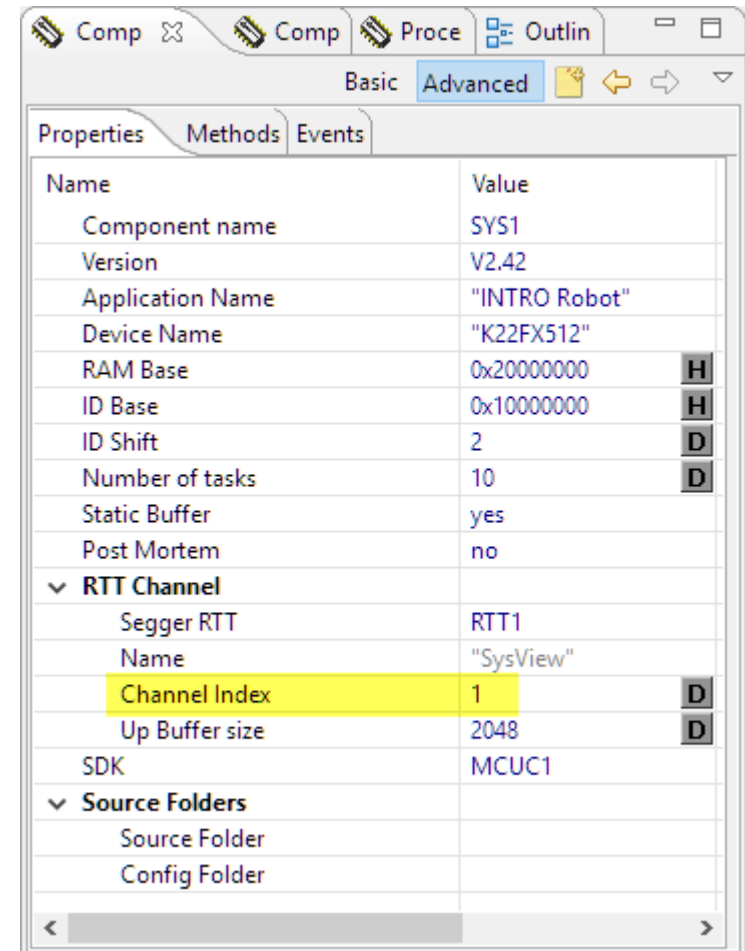
Segger RTT

- Add **SeggerRTT** Component
- Configure up/down channels
 - Index 0: normal terminal
 - Index 1: SystemViewer
 - (Index 2: Percepio Trace)



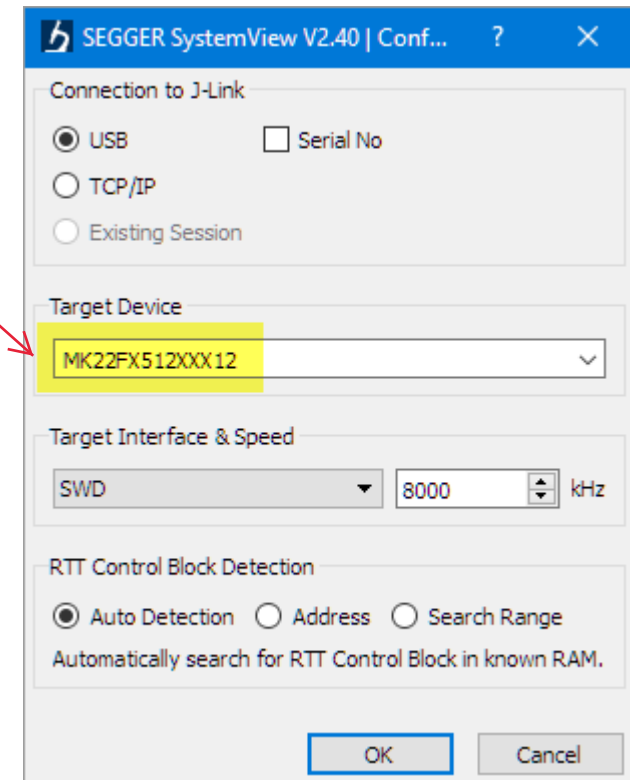
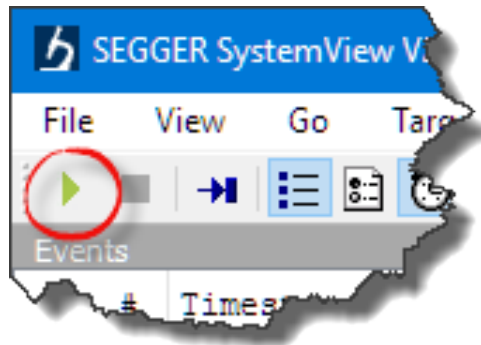
SystemViewer

- SeggerSystemView component
- Application/Device name are optional
- Verify that channel index 1 is used

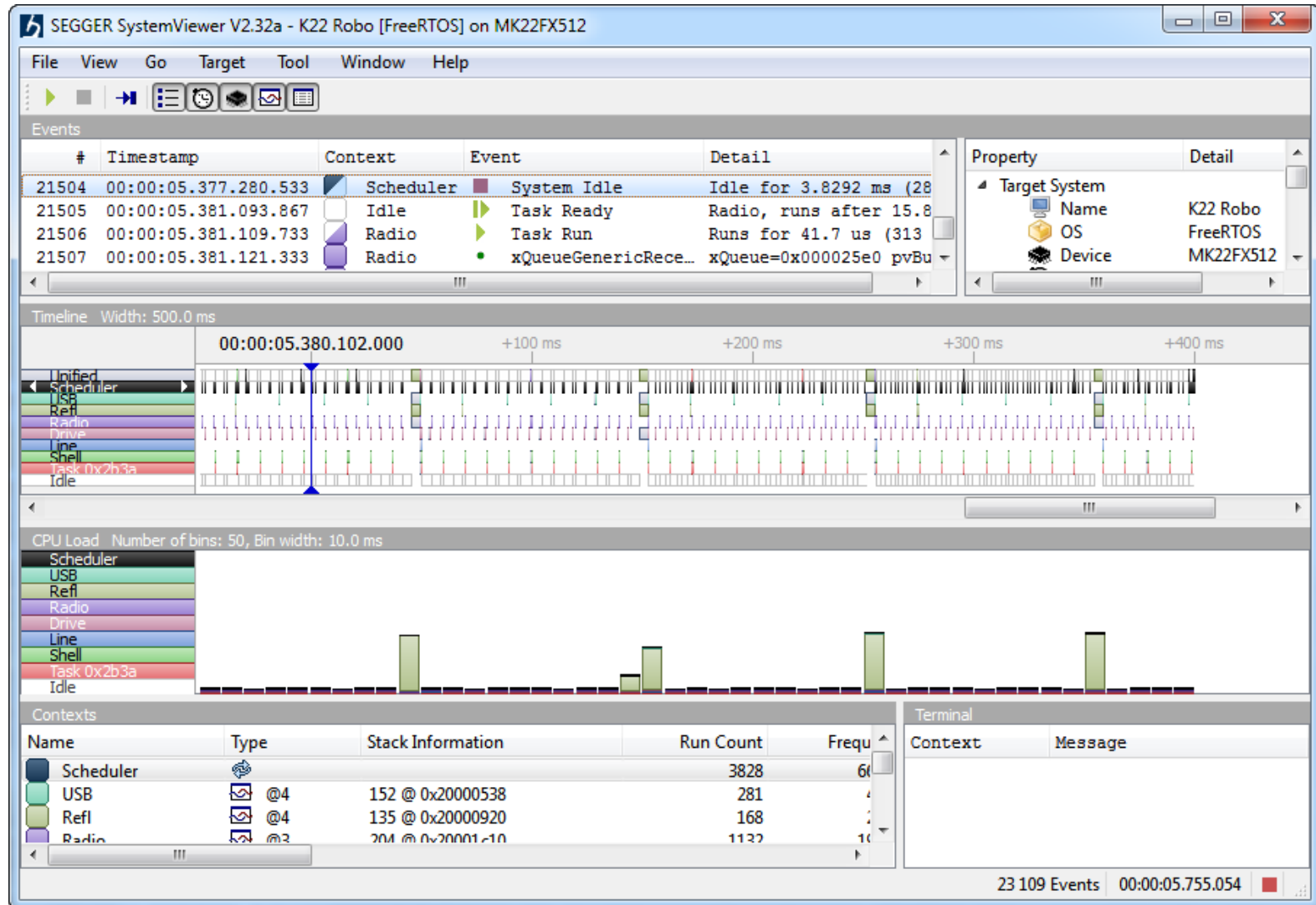


SystemViewer

- Launch SystemViewer
- Start recording
- Robo: **MK22FX512XXX12**
- Remote: **MK20DX128XXX5**

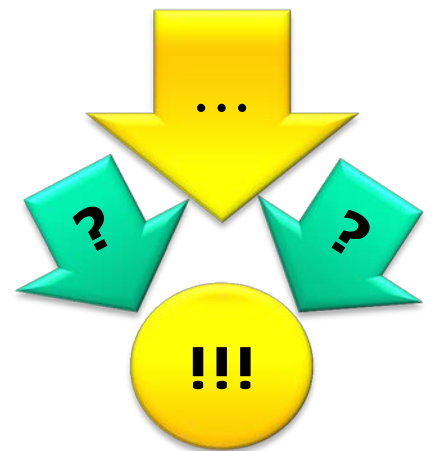


SystemViewer GUI



Summary

- *Problem: Inspection of running system*
- SystemViewer
 - Event lists
 - Timeline with context/task switches
 - CPU load graph
 - Contexts/Stack/Performance information



Lab: SystemView

- Installed
 - J-Link Software
 - SystemView
- Enable SystemView support in FreeRTOS
- Inspect streamed trace on host

