

Off-Line Analysis of OS Scenarios

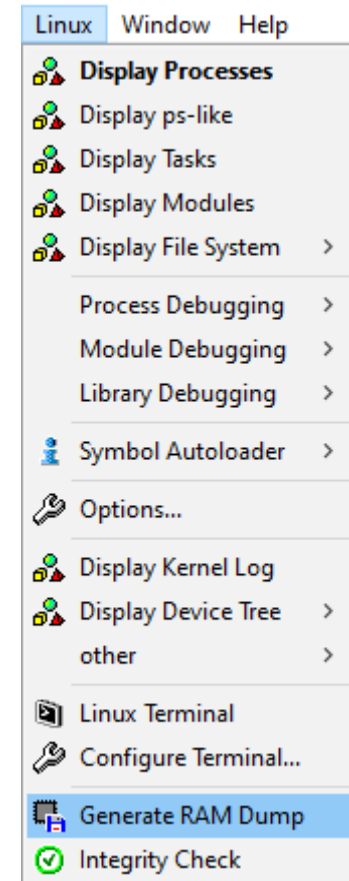
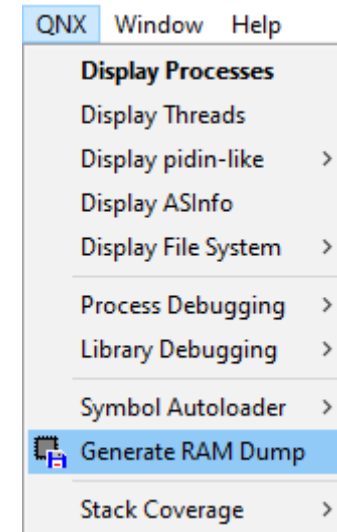
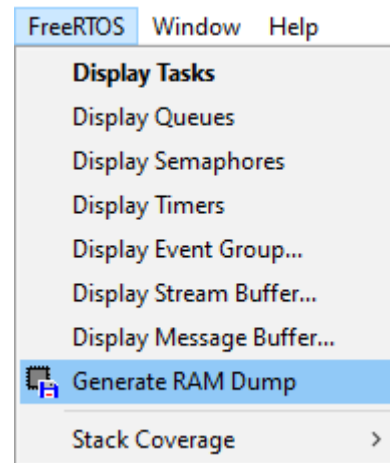
15-Jul-2022



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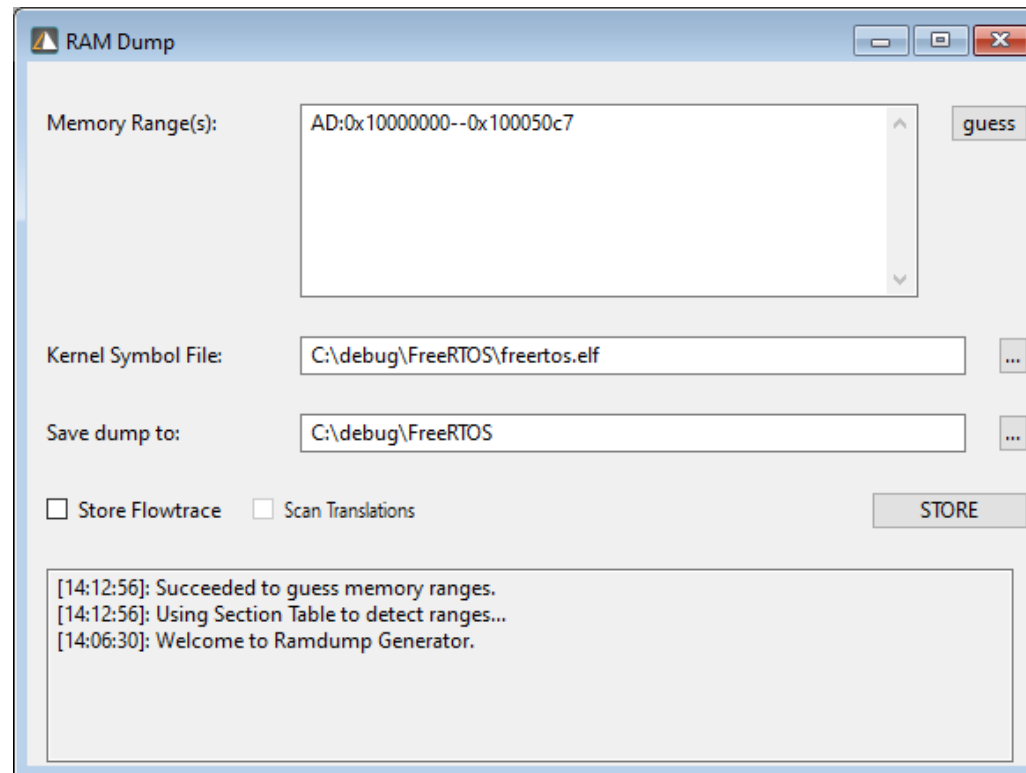
Several OS awareness menus, e.g. for FreeRTOS, Linux and QNX, offer a dedicated “Generate RAM Dump” item

- Feature will be supported for more operating systems in the future



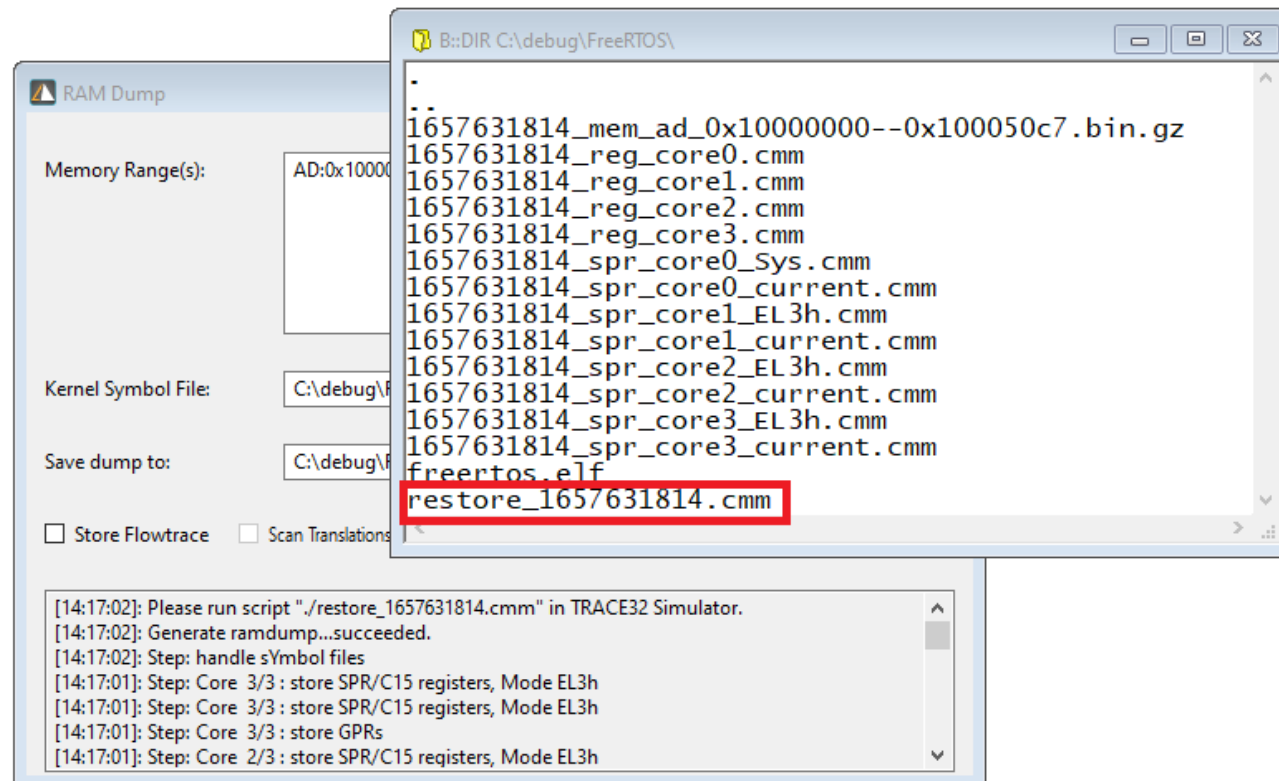
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- The menu item opens the “RAM Dump” configuration dialog
- The user has to edit the settings press the “STORE” button
- Based on the script ramdump.cmm available in the awareness directory. Expert users can also call this script directly



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- The script collects the needed information from the target for an off-line analysis
- The generated script `restore_<datecode>.cmm` needs then to be called from the TRACE32 Instruction set Simulator





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The screenshot displays the TRACE32 Instruction Set Simulator for Arm interface. The main window shows the source code of a function named `sieve()` with the following code:

```
230     Anzahl = 0;
232     for ( i = 0 ; i <= SIZE ; flags[ i++ ] = TRUE ) ;
234     for ( i = 0 ; i <= SIZE ; i++ )
236     {
238         primz = i + i + 3;
239         k = i + primz;
240         while ( k <= SIZE )
242         {
243             flags[ k ] = FALSE;
244             k += primz;
245         }
246     }
247 }
```

The `B::Frame` window shows the current function call stack:

```
-000 sieve()
-001 SieveDemo(pvParameters = 0x0)
-002 prvTaskExitError()
end of frame
```

The `B::Var.Local` window shows the local variables for the current function:

```
sieve()
▪ i = 14
▪ primz = 29
▪ k = 42
▪ Anzahl = 9
```

The `B::TASK.TaskList` window shows the task list:

magic	name	prio	state
10004568	SieveDemo	1.	running
10004A08	IDLE	0.	ready
100047B8	StackEater	2.	suspended
10004318	QueueCons	1.	suspended

The `B::TASK.Queue` window shows the queue information:

magic	name	length	itemsize	msgs	waiting
100040C0	SimpleQueue	1.	4.	0.	Rcv: QueueCons

The bottom status bar shows the current instruction address: `NSR:1000178C \rtosdemo_pic_armv7a\mid\sieve+0x58` and the current task: `SieveDemo` with priority `0` and state `system ready`.



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- > Minimum software version: Release 09/2022
- > Supported core architectures: Arm Cortex, PowerArchitecture, RISC-V