

Application Note: AN10117

How to generate XTA command scripts

This application note is a short how-to on programming/using the xTIMEcomposer tools. It shows how to generate XTA command scripts.

Required tools and libraries

This application note is based on the following components:

• xTIMEcomposer Tools - Version 14.0.0

Required hardware

Programming how-tos are generally not specific to any particular hardware and can usually run on all XMOS devices. See the contents of the note for full details.



1 How to generate XTA command scripts

Typically, the XTA is used interactively to investigate and measure the timing properties of a program. Once satisfied, it is often a requirement to capture the current state of the tool in order to automate this process in the future. To help with this, the XTA can generate a script which will reproduce any global defines and the current set of routes, including their requirements and any local defines.

For example, compile the following code:

```
#include <stdlib.h>
#include <xs1.h>
port p1 = XS1_PORT_1A;
port p2 = XS1_PORT_1B;
int main() {
 int x;
 #pragma xta endpoint "input"
 p1 :> x;
 // Checks for errors..
 if (x == 1) {
    #pragma xta label "error_case"
    exit(1);
 // do some computation here..
 #pragma xta endpoint "output"
 p2 <: 0;
 return 0;
```

In the GUI, load the resulting executable into the tool and time between the input and output endpoints. Set the exclusion on the error case and set a timing requirement of 100.0 ns. Next, click the *Generate script* button on the toolbar. In the dialog, input a script file name, e.g. *script.xta*. Clicking *OK* will cause a script to be generated, which by default will be located at the top level of your project. In future, recompiling your project will now cause this script to be run.



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