**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.

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# 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:

```c
#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.