

# Application Note: AN10029 How to use interfaces to connect to multiple tasks

This application note is a short how-to on programming/using the xTIMEcomposer tools. It shows how to use interfaces to connect to multiple tasks.

#### **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 use interfaces to connect to multiple tasks

The following example shows three tasks running in parallel and communicating. The task3 function performs transactions with either task1 or task2.

```
void task1(interface my_interface client c) {
 c.fA(5, 10);
}
void task2(interface my_interface client c) {
 c.fA(20, 25);
}
void task3(interface my_interface server c,
           interface my_interface server d) {
 for (int i=0; i < 2; i++) {
    // wait for either fA or fB over connection c.
    select {
    case c.fA(int x, int y):
      printf("Received fA from interface end c: %d, %d\n", x, y);
      break;
    case d.fA(int x, int y):
      printf("Received fA from interface end d: %d, %d n", x, y);
      break;
    }
 }
}
int main(void) {
 interface my_interface c;
 interface my_interface d;
 par {
    task1(c);
    task2(d);
    task3(c, d);
 }
  return 0;
}
```

You can also connect to multiple tasks over the same interfaces using interface arrays.

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