



TDC

(Test Description Code)

CSH version 1.2 - duration 30 min.

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TDC (Test Description Code) Overview

- What is TDC?
- Why TDC?
- User documentation
- Test tool chain
- Features
- Test Case definition
- Example (UMTS entity CC)
- Coming soon

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TDC (Test Description Code)

What is TDC?

- A language for test case specification
- It provides a subset of TTCN features
- The syntax is written in C and compilable with a standard C++ compiler (VS 6)



TDC (Test Description Code)

Why TDC?

Some reasons for developing TDC:

- ETS turn around time very high
- Some errors first discovered run time
- ETS documents gets to complex
- Only one person per ETS document
- Test depth to small with ETS documents
- High support load for ETS documents
- ++

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TDC (Test Description Code)

User documentation

- How to write TDC test cases?
 - ⇒ TDC user guide
(8434_510_02_tdc_user_guide.doc)

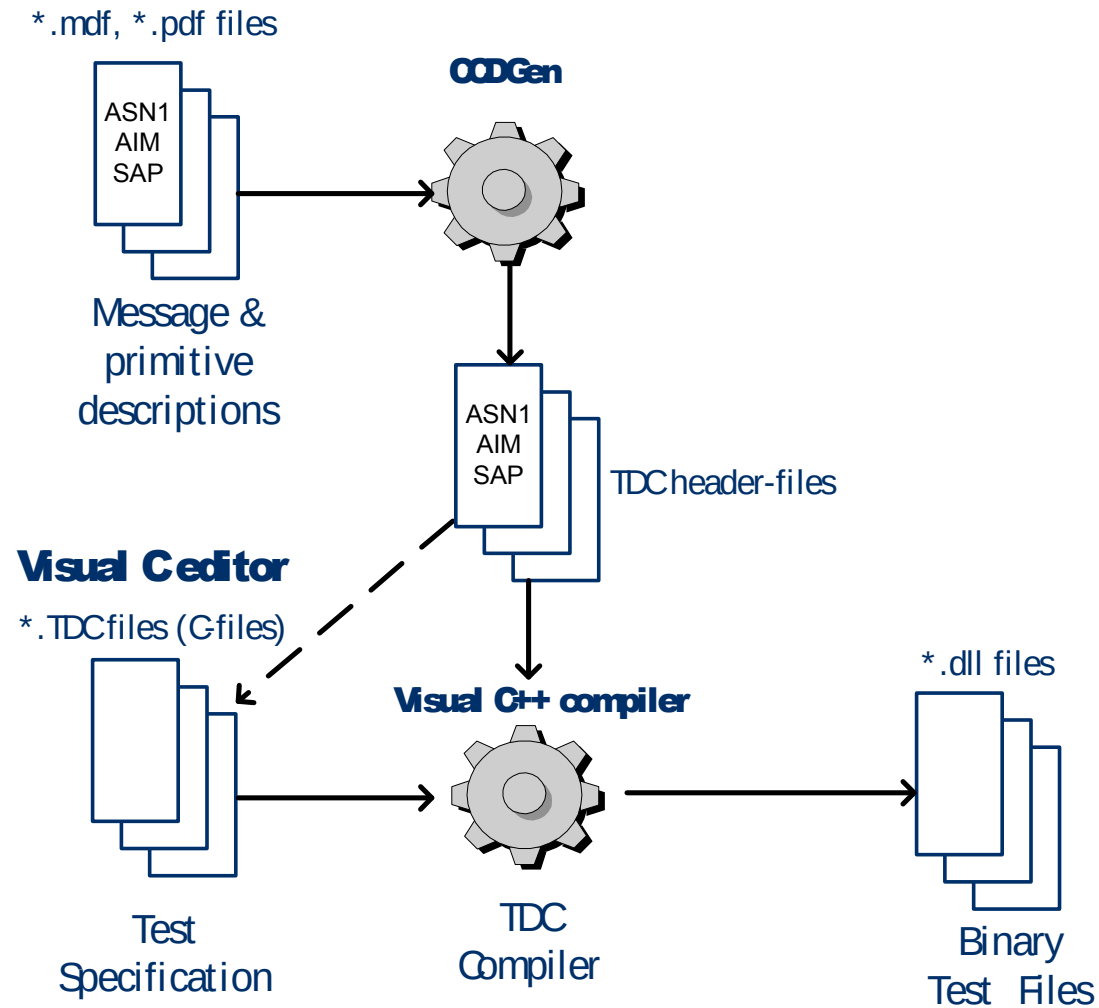
- How to convert TDS test cases into TDC?
 - ⇒ TDS to TDC user guide
(8434_513_02_tds_to_tdc_user_guide.doc)

- Testcase execution and tracing
 - ⇒ See tap, tapcaller and PCO documentation



TDC (Test Description Code)

Test tool chain



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TDC (Test Description Code)

TDC features

- C-code (well known language by most developers)
- Modularization
- Dot completion (context type awareness)
- Member order is not significant
- REQUIRE, FORBID, SHOW and SKIP as actions
- Member actions are default SKIP
- Struct expansion
- TRAP and ONFAIL statements (“try” and “catch” in C)
- Parking of primitives on/off run time (PARKING(TRUE))

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TDC (Test Description Code) Test Case

TDC definition of a test case:

- A test case consists of:
 - ⇒ A case
 - ⇒ Steps (optional)
 - ⇒ Constraints

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TDC (Test Description Code)

Test Case

➤ Case:

⇒ A case is series of events and/or steps

⇒ Example:

```
T_CASE UMTS200()
{
    BEGIN_CASE ("MO_CS_Emergency_Call")
    {
        setup_routing();
        SEND (any_primitive());
        .....
    }
}
```

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TDC (Test Description Code) Test Case

➤ Step:

⇒ A step is series of events and/or other steps

⇒ Example:

```
T_STEP setup_routing()
{
    BEGIN_STEP("Setup_routing");
    {
        COMMAND("RRC RESET");

        .....

    }
}
```

SEND(any_other_primitive());

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TDC (Test Description Code)

Test Case

➤ Constraint:

⇒ Primitive specification (assignment of values)

⇒ Example:

```
T_PRIMITIVE_UNION any_primitive()
{
    T_ANY_PRIMITIVE any_prim;
    any_prim->my_integer = 10;
    any_prim->my_struct._skip;

    .....
    return any_prim;
}
```

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TDC (Test Description Code)

TDC example

Entity CC (UMTS) as example

- CC has TDC testcases (UCC)

TDC testcase example

- CC has TDS testcases from GSM (CC)

TDS to TDC conversion example



TDC (Test Description Code)

Coming soon

- Test GROUPs
- Reuse of received constraint values.
- MUT() -> specify the "Module Under Test".
- PCO(src, dst) -> specify and check receiver and sender of primitives.
- ALT -> alternative sequences (like "if/else" on primitive level)

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➤ **Thank you for listening..**

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