Test Environment Toolkit

Release Notes for TETware Release 3.1
TET3-RN-3.1

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X/Open Company Limited

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1. Introduction

1.1 Preface

These release notes accompany TETware Release 3.1.

TETware includes all of the functionality of the Distributed Test Environment Toolkit Version 2 Release 2.3 (dTET2) and the Extended Test Environment Toolkit Release 1.10.3 (ETET), together with a number of new features.

TETware is implemented on UNIX operating systems and also on the Windows NT operating system.

1.2 Audience

This document is intended to be read by software engineers and/or systems administrators who will install TETware on their computer systems. A knowledge of system administration is assumed when TETware installation and configuration instructions are presented. In addition, a knowledge of network administration is assumed when TETware is to be built to use network transports.

1.3 Conventions used in this document

The following typographic conventions are used throughout this document:

- `Courier font` is used for function and program names, literals and file names. Examples and computer-generated output are also presented in this font.
- The names of variables are presented in *italic font*. You should substitute the variable's value when typing a command that contains a word in this font.
- **Bold font** is used for headings and for emphasis.

1.4 Related documents

Refer to the following documents for additional information about TETware and its predecessors:

- *Test Environment Toolkit: TETware Installation Guide*
  There is one version of this document for each operating system family on which TETware is implemented.
- *Test Environment Toolkit: TETware User Guide*
- *Test Environment Toolkit: TETware Programmers Guide*

Source and postscript versions of these documents are included in the distribution.

1.5 Problem reporting

If you have subscribed to TETware support and you encounter problems when building or executing TETware you should take a copy of the error reporting template contained in the file *tet-root*`/doc/tet3/err.template` in the distribution, fill in the details of the problem, and send it by electronic mail to:

```
tet_support@xopen.co.uk
```

Alternately you may use a web browser to complete and submit the HTML form included in the file *tet-root*`/doc/tet3/errtemp.html` in the distribution.

You should include sufficient information in your report to enable someone who is unfamiliar with your system to be of assistance in solving the problem.

Users are reminded that the user-contributed software which is included in the TETware distribution is not covered by TETware support services.

2. New features in this release

TETware contains some features which have not appeared in previous TET implementations. These features are as follows:

- There are two principle versions of TETware. One version is known as Distributed TETware. This version uses a client-server architecture and provides support for processing local, remote and distributed test cases.

  The other version is known as TETware-Lite. This version does not use a client-server architecture or require a network transport. It is more simple to set up than is Distributed TETware but does not provide support for the processing of remote or distributed test cases.

- In addition to the UNIX types of operating system supported by previous TET implementations, versions of TETware and TETware-Lite may be built to run on the Windows NT operating system. Some information on this implementation is presented in the appendix entitled ‘‘Implementation notes for TETware on Windows NT systems’’ in the TETware User Guide.

- Thread-safe versions of the C and C++ APIs may be built on UNIX systems. These APIs provide support for either UI threads or POSIX threads (but not both at the same time).

- New API functions have been added for use in distributed test cases.

- New API functions have been added to enable child processes to be created in a way which is portable between UNIX and Windows NT systems.

- The unsupported contributed software provided with previous ETET releases has been included in the TETware distribution.

- On UNIX systems, almost all of the source code is now compiled with the feature test macro `_POSIX_SOURCE` defined. The only code which must be compiled without defining this macro is the network-specific code, the thread-safe API code and a small number of library functions (such as those which deal with `errno` values) where it is desirable to have an unrestricted name space available.

- All of the externally visible symbols in the C API library now start with the prefix `tet_`. Thus the risk of conflict with external symbols in user-supplied test case code is removed.

- The FIFO inter-process communication support that was present in dTET2 is not provided in Distributed TETware. The motivation for providing FIFO support in dTET2 is now fulfilled by TETware-Lite.

3. Status of this release

This release of TETware is a general release for production use.

4. Problems fixed during the beta review period

The following problems reported during the beta review period have been fixed in this release:

- The way in which the @ file name prefix in the scenario language is interpreted has been revised. The current behaviour is described in the chapter entitled ‘‘The scenario file’’ in the TETware Programmers Guide.
- Some enhancements have been made to enable TETware to operate on 64-bit systems.

5. Known problems in this release

There are no known problems in this release.

6. Building and installing TETware

6.1 Building and installation instructions

For instructions on how to build and install TETware, please following the instructions in the version of the TETware Installation Guide which is appropriate for your system.

6.2 Installed platforms

6.2.1 UNIX systems

Both TETware-Lite and Distributed TETware versions have been installed and tested on the following platforms:

- AIX Release 4.1.1
- HP-UX Release 10.01
- Solaris Release 2.5
- Linux version 1.2.13 using `gcc` version 2.7.2
- UnixWare Release 2.03
- OSF/1 using `c89`

6.2.2 Windows NT systems

This release of TETware has been installed and tested on Intel PCs running Windows NT release 4.0.

6.3 API status

The Thread-safe APIs have been exercised using POSIX threads and UI threads on Solaris, and using UI threads on UnixWare.

The following behaviour has been observed when using the Thread-safe API on UnixWare:

i. A call to `tet_printf()` in a non-main thread causes the process to receive a `SIGSEGV` signal.

ii. Cleanup of left-over threads sometimes causes a fatal error.

It is believed that this behaviour may be due to a problem with the threads implementation on this platform.

The C++ APIs have been exercised on Linux, UnixWare and Windows NT.

On Windows NT systems the C and C++ APIs must be used with the single-threaded C runtime support library. It is anticipated that threads support on Windows NT systems will be added in a future TETware release.

6.4 Transport-specific status

6.4.1 Socket network interface

Versions of Distributed TETware using the socket network interface have been tested on all the platforms listed previously.

6.4.2 XTI network interface

Versions of Distributed TETware using the XTI network interface have been tested on System V Release 4 using TCP as the underlying transport provider.

There is a known problem with some SVR4 XTI implementations in which the `t_sync()` function does not work correctly. An XTI implementation may hold transport endpoint data either in kernel or in user address space. The `t_sync()` function is included in the XTI specification for the benefit of implementations which do not automatically detect when the transport endpoint data held in user space is lost. Examples of when such loss might occur are when the file descriptor underlying a transport endpoint is duplicated using `fcntl()` or when the process address space is overlaid by one of the `exec()` system calls.

Since the XTI version of TETware may perform both of these operations, it will not function when used with an XTI implementation which does not automatically detect the loss of data held in user address space and in which `t_sync()` does not perform the advertised function. A common symptom of this problem is when one of the servers `tetsyncd` and `tetxresd` fails with a `TBADQLEN` error associated with a `t_listen()` call soon after being started by `tcc`.

The XTI version of Distributed TETware has not been tested using an OSI connection orientated transport provider.

7. TETware for TET and ETET users

Some hints and tips for users experienced with previous TET implementations are presented in an appendix to the TETware User Guide.