

## **XRunner Add-in for TestDirector 8.0 Readme**

This file provides the following information about the XRunner add-in for TestDirector 8.0 Enterprise Edition:

- What's New
- Supported UNIX Servers
- Installation on the TestDirector Client Machine
- Installation on the UNIX Machine
- Planning XRunner Tests
- Executing XRunner Tests
- Problems and Limitations
- Troubleshooting
- Error Messages

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### **What's New**

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Configurable batch mode: In the Exec Config tab, you can now specify if you want to run your XRunner tests in batch mode or not by setting the batch mode to **ON** or **OFF**. By default, the Batch Mode is set to **ON**.

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### **Supported UNIX Servers**

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The XRunner add-in supports the following UNIX servers:

- HP-UX
- IBM AIX
- Sun Solaris

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### **Installation on the TestDirector Client Machine**

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Before you can set up your UNIX machine to work with TestDirector, you must download and install the XRunner add-in on your TestDirector client. For more information, refer to the *More TestDirector Add-ins* page.

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### **Installation on the UNIX Machine**

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After you install the XRunner add-in on your TestDirector client machine, you can set up your UNIX machine to work with TestDirector. TestDirector launches XRunner using predefined UNIX logins. For each login, an XRunner UNIX environment variable must be defined, as specified in the *XRunner Installation Guide*.

For each UNIX login, do the following steps:

- 1) Copy the file **xrtd\_solaris.tar.gz** ( or **xrtd\_ibm.tar.gz** for IBM-AIX or **xrtd\_hp.tar.gz** for HP-UX ) from **<INTEGRATION\_INSTALLATION\_DIRECTORY>\UnixFiles\** to the UNIX machine. Then extract it by executing the command **gtar -xvzf xrtd\_solaris.tar.gz**.

Copy the executable files: **xrtd\_check**, **xrtd\_check\_display**, **xrtd\_getpid**, **xrtd\_open**, **xrtd\_send\_msg** (only on Solaris), **xrtd\_tmp** and **xrtd\_xrun** under **\$M\_ROOT/bin**. Make sure that the initialization file for the XRunner user (.cshrc) contains the following statement: **setenv PATH \$M\_ROOT/bin:\$PATH**.

- 2) On Solaris platforms, the integration can use ToolTalk to launch XRunner. This enables TestDirector to invoke XRunner once, for several tests. If ToolTalk is installed, make sure the environment variable **LD\_LIBRARY\_PATH** contains the path of the ToolTalk libraries. If ToolTalk is not installed on the UNIX machine, the **\$M\_ROOT/bin/xrtd\_send\_msg** file must be removed or renamed.
- 3) In the home directory of the UNIX login, the **.xrunner** file must be defined as follows:

```
XR_TEST_DIRECTOR=TRUE  
XR_TD_LOG_DIRNAME=<Unix full path to the log directory>  
XR_TOOLTALK=TRUE (Only if ToolTalk is installed on the UNIX machine).
```

If the **.xrunner** file does not exist or is write protected, the integration between TestDirector and XRunner will fail when executing the tests.

- 4) When using ToolTalk (on Solaris only), you must install the **XR60P25\_tooltalk\_crash.tar.gz** patch. The file is located in **<INSTALLATION\_DIRECTORY>\UnixFiles\**. Unpack the file and copy it to **\$M\_ROOT/bin**. Also copy the **patch25.xr** file to **\$M\_ROOT/dat**.

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## Planning XRunner Tests

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You must first select the XR-TEST test type when you create XRunner tests in the Test Plan module.

The XRunner test script is not created automatically. To create the test, specify the UNIX full path name in the XRunner script path field and click the **Edit Script** button. Alternatively, open XRunner on the UNIX machine and create the test script. After you save the test script, you can return to TestDirector and edit the UNIX path of the test script in your test case to point to the newly created script. Do this via the **Test Script** tab; specify the path in the **XRunner script path** box.

You can always edit the XRunner script from the TestDirector client machine by using any installed editor.

To verify your path, specify the UNIX machine, UNIX display, and UNIX login and password. Click the **XR Launch** button. The test script opens in XRunner. Note that the UNIX display must be completely specified. The display must include the screen and display number (for example, asterisk: 0.0).

### **Test Script tab:**

**UNIX Machine:** The name of the UNIX machine that launches XRunner. The value can be the IP address of the UNIX machine or the name of the UNIX machine. The specified UNIX machine must be accessible from your PC.

**UNIX Display:** The name of the UNIX display. The display must be a valid X-Windows display. The name must be specified completely, including the display and terminal number (for example, asterisk: 0.0).

**User Name:** The name of the UNIX login. Note that you must specify the UNIX environment variables in order to run XRunner. You also need to have the **.xrunner** file in the login directory of the user. For more information, see *Installation on the UNIX Machine*.

**Password:** The user password of the specified UNIX login.

**Shell prompt:** You can specify the sub-string of the prompt that opens when you run the csh shell. This sub-string must always be the static part of the prompt.

**Login prompt:** A sub-string of the login prompt of the UNIX machine. You can view this login prompt by opening a telnet session to the UNIX machine. The sub-string must be uniquely identified in the login prompt that opens when you start a telnet session to the UNIX machine.

**Password prompt:** A sub-string of the password prompt of the UNIX machine. You can view this password prompt by opening a telnet session to the UNIX machine. The sub-string must be uniquely identified in the password prompt that displays after you specify the UNIX login name in a telnet session.

**Edit Script button:** This downloads the XRunner script from the UNIX machine and opens it in an editor. After saving the script and closing the editor, TestDirector uploads the modified script back to the UNIX machine.

The screenshot shows the 'Test Script' tab in a software interface. At the top, there are five tabs: 'Details', 'Design Steps', 'Test Script' (selected), 'Attachments', and 'Reqs Coverage'. Below the tabs, a message states: 'You have to enter the path to the XRunner script as if you would enter it on the Unix machine. The path needs to be specified as an absolute path.' Below this message is a text input field for 'XRunner script path' containing the value '/u/avra/TD\_XR\_tests/test2est2'. A section titled 'Launch XRunner' contains several input fields: 'Unix machine' (zebra), 'User name' (avraanta), 'Unix display' (deer:0.0), 'Password' (masked with asterisks), 'Shell prompt' (#), 'Login prompt' (ogin:), and 'Password prompt' (assword:). To the right of these fields are two buttons: 'Edit Script' and 'Set Editor...'. Below these buttons is a 'Launch XRunner' button and a checkbox labeled 'Show Telnet session' which is currently unchecked.

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## Executing XRunner Tests

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This section includes:

- Specifying the Execution Configuration
- Starting the Execution
- Viewing the Results

### Specifying the Execution Configuration

Before you execute a test, you must specify the execution configuration. To do so, double-click the XRunner test in the test set. The Test Run Properties dialog box opens. Click the **Exec Config** tab.

For each test case, you can specify execution values in the **Execution Testcase** grid. You can also specify default values for all test cases. The upper-right grid contains all the default values. A default value is applied only if the field is not in the Execution Testcase grid. The Planning Values grid shows the values that were used in the planning phase for viewing the test case.

The following fields can be configured:

#### **Exec Config tab:**

**XRunner mode:** You can choose to run XRunner in foreground (set to **ForeGround**) or background (set to **BackGround**) mode. For more information, refer to the *XRunner User's Guide*.

**Show Telnet session:** Indicates if the integration must show the automatic telnet session when launching XRunner on the remote UNIX machine (True/False). The telnet session will be visible on the TestDirector client.

After you complete the above fields, you can validate them by using the following test buttons:

**Test Telnet Connection:** Opens a telnet session to the specified UNIX machine, by using the specified UNIX user and synchronizing it on the specified prompt.

**Test FTP Connection:** Opens an FTP connection to the specified UNIX machine using the specified UNIX login. During the FTP session, the tool tries to create a directory and a file in the home directory of the specified user. The directory and the file are automatically removed during the test. The integration requires access rights to create files and directories in the home directory of the user.

## Starting the Execution

After the execution configuration is specified, you can start executing the XRunner scripts from TestDirector.

To start the execution:

- 1) Select your XRunner tests from the test set.
- 2) Click the **Run Tests** button. The Execution dialog box opens.
- 3) Specify the PC host that you want to run the telnet session. The telnet session launches XRunner on the remote machine.

**Note:** You cannot simultaneously launch two telnet sessions on one machine. To run two XRunner tests simultaneously, you must specify a different machine host in the **Run on host** field.

- 4) The TestDirector client and the integration must be installed on the machine that is specified in **Run on host**.

## Viewing the Results

The XRunner execution report is automatically sent back to the TestDirector repository, and the results of the steps are displayed in the step frame. There is no direct connection with the XRunner result viewer on the UNIX machine.

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## Problems and Limitations

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- This integration only supports ToolTalk on Sun Solaris. All other platforms work without ToolTalk, that is, XRunner is reopened for each and every test separately. Note that the integration did not undergo QA for these other platforms.
- The integration requires telnet and FTP access from the TD Client to the UNIX target.
- The integration currently only supports the C shell.
- Test execution cannot be stopped while an XRunner script is running.
- After clicking the **XR Launch** button on the Test Script tab, TestDirector does not display an error message in case of wrong data in the following fields: **Unix display**, **Shell prompt**, **Login prompt** and **Password prompt**.
- Test Sets names cannot contain spaces.
- Background running mode is not supported.

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## Troubleshooting

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### **Problem:**

When working with a project that was upgraded from TestDirector 6, all fields from the RUN table that are marked as 'Required' in TestDirector 6 remain 'Required'.

In such cases, TestDirector displays the following error message after running an XRunner test and cannot add the new run to the TestDirector project: **"Required field <...> can not be empty or SPACE filled."**

### **Solution:**

Reset the RN\_USER fields so that they are no longer required.

Open the Project Administration Utility and run the following SQL for each RN\_USER\_# field:

```
update system_field set sf_is_required='N' where sf_column_name='rn_user_01'
```

### **Problem:**

In the Scheduler window, the test run stays in status: 'Poling machine ...' and does not continue.

### **Solution:**

This is probably due to the fact that the 'Execution Test Case' in the Test Run Properties window is incorrect.

Verify that the command prompt in the telnet window matches the command prompt in the Execution Test Case.

Also verify that the ToolTalk library (libtt.so on Solaris) exists, and that the directory it resides in is included in the LD\_LIBRARY\_PATH of the UNIX login to be used.

### **Problem:**

There is no XR-TEST in the "Generate Script" list in the Design Steps tab and/or no UNIX configuration page displayed in the Test Script tab.

### **Solution:**

Re-install the XRunner Add-in on the client machine.

### **Problem:**

The XR Launch button on the Test Script tab fails to launch XRunner.

### **Solution:**

Verify the UNIX machine IP/Name. If you are using Name, verify that a valid entry for the UNIX machine is entered in the client 'hosts' file.

Verify all PATH and environment variables are correctly set in the '.cshrc' file of the UNIX login to be used, and verify that the 'C' shell is enabled.

Verify that the .xrunner file has been correctly modified and is in the home directory of the UNIX login to be used.

Verify the path of the XRunner script to be loaded.

### **Problem:**

'Test Telnet Connection' fails to login.

### **Solution:**

Verify telnet connectivity manually. Ensure that the correct **shell prompt**, **login prompt**, and **password prompt** attributes are set in the 'Planning Test' entries.

### **Problem:**

'Test FTP Connection' fails.

### **Solution:**

Verify FTP connectivity manually. Check the UNIX host name and IP address.

**Problem:**

The Telnet window hangs after the login prompt appear.

**Solution:**

Two possibilities:

- 1 - The value of the 'login prompt' attribute in the Exec Config tab is not correct.
- 2 - There is a synchronization problem when getting information from the UNIX machine,  
In the "mercuri.ini" file add the following line in the [XR\_TD] section:  
    SOCKET\_SYNC\_DELAY=300  
    where 300 is the delay time needed in milliseconds .

**Problem:**

On some occasions when working with ToolTalk on Solaris, the integration does not work well after XRunner runs a number of tests. A message: 'Remote machine is in use' displays in TD.

**Solution:**

On the UNIX side, edit the xrtld\_check file residing in the 'bin' directory, by modifying all instances of: **XRunnerIdle="no"** to: **XRunnerIdle="yes"**.

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**Error Messages**  
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The integration includes the following error messages:

***msg 001 - Cannot create local temporary file for polling***

Check the access rights to create a file in the temporary directory of the machine used to launch the telnet session. The temporary directory is denoted by the DOS TEMP environment variable. Also, check the available disk space.

***msg 002 - Cannot create local temporary file for launching test***

Check the machine that launched the telnet session to verify that you have access rights to create a file in the temporary directory. This directory is denoted by the DOS TEMP environment variable. Also, check the available disk space.

***msg 003 - Cannot connect to the database***

The integration cannot connect to the TestDirector repository. Check that the network connection, TestDirector server process, and RDBMS server processes are running.

***msg 004 - Cannot open FTP handle***

Check that the network is active, and that the remote machine allows FTP access. Check this by manually launching an FTP session to the remote machine.

***msg 005 - Cannot open FTP session***

Check that the network is active, and that the remote machine allows FTP access. Check this by manually launching an FTP session to the remote machine. Also check if the specified UNIX user login is correct. Use this login in a manual FTP session to the UNIX machine.

### ***msg 006 - Failed to transfer the file***

The integration could not transfer the XRunner execution result file to Windows. You must run the XRunner tests in the **Exec Config** tab. For more information, see the "Specifying the Execution Configuration" section.

You can also check that the **.xrunner** file is defined properly in the home directory of the UNIX user. For more information, see the "Installation on the UNIX Machine" section.

### ***msg 007 - Failed to delete remote file %s***

The integration can not delete the XRunner result file on the UNIX machine. Check that the file was created, and check the access rights. Run the tests in the exec configuration windows of the XRunner test. Also, check that the **.xrunner** file is correct in the home directory of the UNIX user. For more information, see the "Installation on the UNIX Machine" section.

### ***msg 008 - Failed to delete remote directory***

The integration did not delete the remote result directory. Run the XRunner tests in the **Exec Config** tab. Check that the **.xrunner** file is correct in the home directory of the UNIX user. For more information, see the "Installation on the UNIX Machine" section.

### ***msg 009 - Failed to retrieve the testSetFactory***

The integration could not access specific objects in the TestDirector repository. Check that the network and the TestDirector server processes are running. Also, check that the TestDirector login has rights to update information in the test lab module of TestDirector.

### ***msg 010 - Failed to retrieve the testSet***

The integration could not access specific objects in the TestDirector repository. Check that the network and the TestDirector server processes are running. Also, check that the TestDirector login has rights to update information in the test lab module of TestDirector.

### ***msg 011 - Failed to retrieve the TStestSet***

The integration could not access specific objects in the TestDirector repository. Check that the network and the TestDirector server processes are running. Also, check that the TestDirector login has rights to update information in the Test Lab module of TestDirector.

### ***msg 012 - Failed to retrieve the TStest***

The integration could not access specific objects in the TestDirector repository. Check that the network and the TestDirector server processes are running. Also, check that the TestDirector login has rights to update information in the Test Lab module of TestDirector.

### ***msg 013 - Failed to retrieve the RunFactory***

The integration could not access specific objects in the TestDirector repository. Check that the network and the TestDirector server processes are running. Also, check that the TestDirector login has rights to update information in the Test Lab module of TestDirector.

### ***msg 014 - Failed to create the Run***

The integration could not access specific objects in the TestDirector repository. Check that the network and the TestDirector server processes are running. Also, check that the TestDirector login has rights to update information in the Test Lab module of TestDirector.

### ***msg 015 - Failed to create the stepFactory***

The integration could not access specific objects in the TestDirector repository. Check that the network and the TestDirector server processes are running. Also, check that the TestDirector login has rights to update information in the Test Lab module of TestDirector.

### ***msg 016 - Cannot open result file***

The integration could not open the transferred result file. Check that the TEMP DOS environment variable is defined and that you have access rights to create a file in the temporary directory. Also, check the disk space of the temporary directory.

### ***msg 020 - UNIX host name is not specified***

The UNIX host name is not specified in the execution configuration of the test case.

### ***msg 021 - UNIX display name is not specified***

The UNIX display name is not specified in the execution configuration of the test case. For more information, see the "Specifying the Execution Configuration" section.

### ***msg 022 - UNIX user name is not specified***

The UNIX user name is not specified in the execution configuration of the test case. For more information, see the "Specifying the Execution Configuration" section.

### ***msg 023 - XRunner execution mode is not specified***

The XRunner execution mode is not specified in the execution configuration of the test case. For more information, see the "Specifying the Execution Configuration" section.

### ***msg 024 - cannot retrieve programId of JawTelnet***

### ***msg 025 - cannot retrieve programId of JawTelnet***

***msg 026 - cannot retrieve programId of JawTelnet***  
***msg 027 - cannot retrieve programId of JawTelnet***

The connection with the telnet session is lost. Check that the machine is not running low on memory.

***msg 028 - Cannot create remote directory***

You do not have access rights to create a directory in your home directory. Check your access rights and the unmask settings.

***msg 029 - Cannot put a file on the UNIX machine***

You do not have access rights to create a file in your home directory. Check your unmask settings.

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