

# Intelligent Test Framework Administration System User Guide


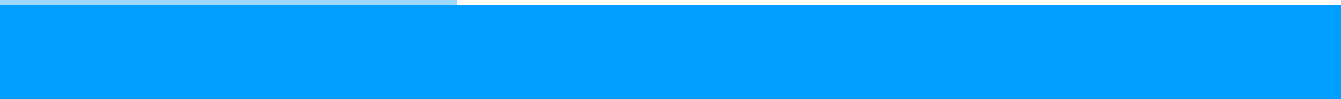
Version 3.1

ITFSS 03.10 p 1204

January 2005



**Agilent Technologies**



© Agilent Technologies, Inc. 2001-2005. All rights reserved.

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Agilent Technologies, Inc. as governed by United States and international copyright laws.

**Additional Notices**


The material contained in this document is subject to change without notice.

Agilent Technologies makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Agilent Technologies shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Adobe®, Acrobat® are U.S. registered trademarks of Adobe Systems Incorporated.

Notepad®, WordPad®, Excel®, Windows®, and Microsoft® are U.S. registered trademarks of Microsoft Corporation.

Other trademarks and copyrights are owned by the respective companies mentioned in this document.



---

# ITF Administration System

## 1 Introduction

Overview.....	1-2
Agilent ITF Overview.....	1-3

## 2 ITF Administration System Menu

Overview.....	2-2
Help.....	2-3
Printable Help.....	2-3
Logging In and Logging Out.....	2-5
Logout.....	2-5

## 3 Users

Overview.....	3-2
User Roles.....	3-3
Available User Roles.....	3-3
Permissions.....	3-3
System Administrator Role.....	3-6
Administrator Role.....	3-7
Repair Administrator Role.....	3-8
Repair User Role.....	3-8
Quality Administrator Role.....	3-9
Quality User Role.....	3-10
Setting Up User Accounts.....	3-11
Add a User.....	3-11
Edit a User.....	3-13
Remove a User.....	3-14
Change Password.....	3-15

Force Logout..... 3-16

## 4 Applications

Overview..... 4-2

Agilent Repair Tool ..... 4-3

    Status Buttons ..... 4-3

    Show Defect Details ..... 4-6

    Disable Status Button When Repair Is Required..... 4-7

    Close Board..... 4-8

    Repair Actions ..... 4-9

    Function Keys ..... 4-17

Agilent Quality Tool..... 4-19

    Views ..... 4-19

General..... 4-26

    Defect List..... 4-26

    Test Stations Display List..... 4-35

## 5 Framework

Overview..... 5-2

Data Management ..... 5-3

    Lifetime Rules..... 5-3

    Data Viewer ..... 5-6

    Delete Data ..... 5-14

    XML Export..... 5-15

Licenses ..... 5-19

    Setting Up Licenses ..... 5-19

    Listing Licenses ..... 5-24

    Additional Licenses ..... 5-24

    Troubleshooting..... 5-24

Log Files ..... 5-27

Agent Controller .....	5-28
Using the Agent Controller .....	5-28
Scheduled Jobs .....	5-29
Viewing Scheduled Jobs .....	5-29

## **6 Help**

Working in Comfort .....	6-2
Technical Support .....	6-3
Phone Support .....	6-4
Sales and Product Information .....	6-5

## **7 Resource**

Overview .....	7-2
Migration .....	7-3
Add A Migration Job .....	7-3
Remove A Migration Job .....	7-6
Restore A Migration Job .....	7-7
Migrate All Data .....	7-8

## **A XML File Definitions**

Pre-Repair XML File Definitions .....	A-2
BoardTestXMLExport .....	A-3
BoardXML .....	A-4
StationXML .....	A-6
TestXML .....	A-6
IndictmentXML .....	A-7
ComponentXML .....	A-7
Post-Repair XML File Definitions .....	A-9
BoardTestXMLExport .....	A-10

## Table of Contents

BoardXML.....	A-12
StationXML.....	A-12
RepairEventXML.....	A-13
TestXML.....	A-15
IndictmentXML.....	A-15
RepairActionXML.....	A-16
ComponentXML.....	A-16

## Glossary

## Index

# 1

## Introduction

In this chapter...

- [Overview](#), 1-2
- [Agilent ITF Overview](#), 1-3

## Overview

Welcome to the Intelligent Test Framework (ITF) Administration System!

The ITF Administration System is a browser-based application used to configure system properties, such as user access, repair configurations and framework services, within the Agilent Repair Tool, the Agilent Quality Tool, and other ITF applications. For more information on the ITF, see [Agilent ITF Overview](#).

The purpose of the ITF Administration System is to provide security and control functionality for the following items:

- Users
- Agilent Repair Tool
- Agilent Quality Tool
- Agilent Intelligent Test Framework

The ITF Administration System Help files allow you to quickly and easily find information about the ITF Administration System. Click any topic in the Help Table of Contents for information on that topic.

### NOTE

The ITF Administration System can only be run from the ITF Server or a Client PC.

---



## Agilent ITF Overview

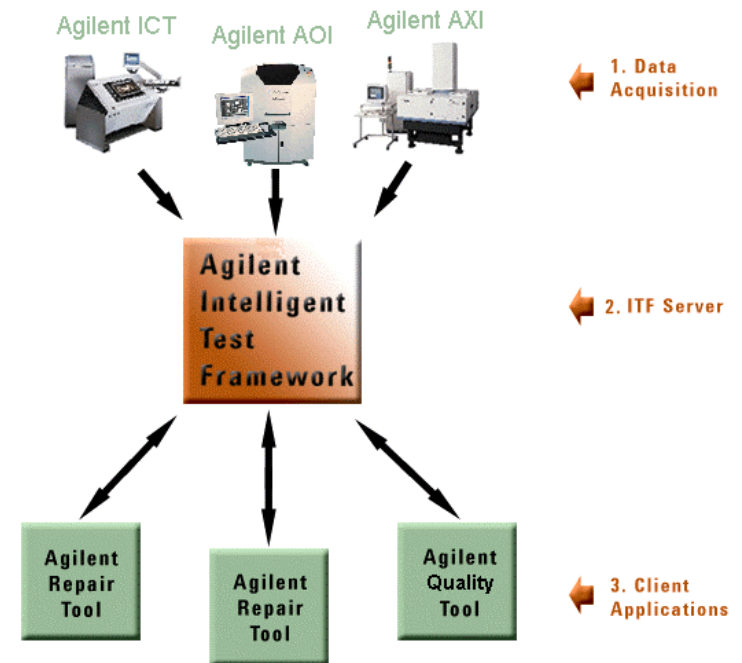
The ITF Administration System is part of the Agilent Intelligent Test Framework and is located on the ITF Server.

The Agilent Intelligent Test Framework provides a standards-based, scalable platform for use with manufacturing test equipment and applications. The ITF uses a three-tier, web-server architecture that enables scalability and extensibility.

The architecture is made up of the following tiers:

- 1 Data acquisition** – A back-end population service that gathers raw data, such as log files, .res files, etc. from Agilent 5DX, Agilent 3070, Agilent SJ Series and Agilent SP Series test systems.
- 2 Intelligent Test Framework (ITF) Server** – A server that collects and maintains test and repair data for use by the Client PC applications. It stores test results, images and CAD information. It also serves as a conduit for applications to retrieve information from the data store.
- 3 Client applications** – Software that allows for data sharing and communication between Agilent 3070, 5DX, SJ, and SP test systems. Examples include the Agilent Repair Tool and the Agilent Quality Tool. The number of client applications connected to the Intelligent Test Framework is dependent upon the number of licenses purchased.

Figure 1-1 Agilent Intelligent Test Framework Overview



# 2

## ITF Administration System Menu

In this chapter...

- [Overview](#), 2-2
- [Help](#), 2-3
- [Logging In and Logging Out](#), 2-5

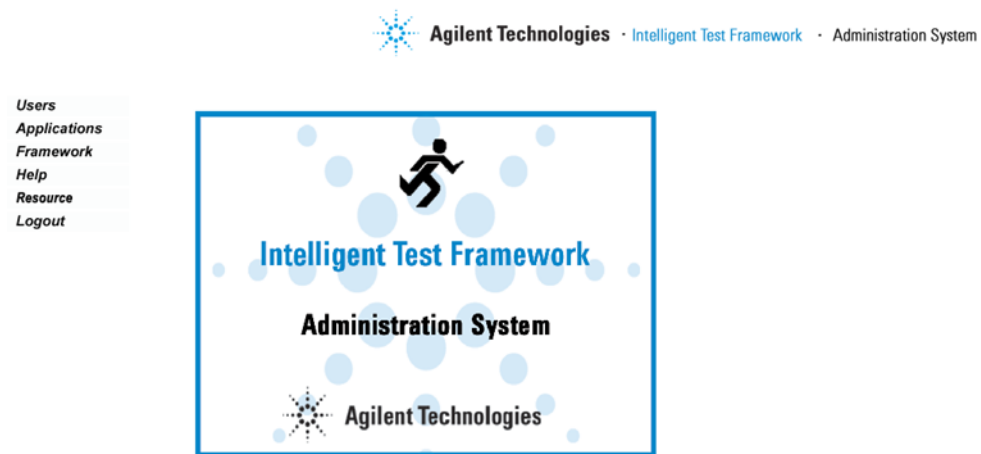
## Overview

The ITF Administration System Menu provides access to the following categories of information:

- [Users](#)
- [Applications](#)
- [Framework](#)
- [Help](#)
- [Resource](#)
- [Logout](#)

Figure 2-1 Agilent ITF Administration System

---



## Help

The **Help** menu option in the ITF Administration System allows you to search the browser-based online help system or view software version information.

To access the Help information:

- 1 Click **Help** on the main menu.
- 2 Select one of the following choices:
  - **Contents** - View online help topics.
  - **About** - View software version information. The ITFSS 3.1 CD serial number is displayed in the About screen of the Administration System for your easy reference. See [Figure 2-2](#).

**Figure 2-2** About - ITFSS 3.1 CD Serial



Serial Number: ABCD-1234-EFGH-5678-IJKL-9012

## Printable Help

The complete ITF Administration System help file is available in a printable format on the ITF Server.

To view a printable version of the ITF Administration System User Guide:

- Click **Start > Programs > ITF Software Solutions 3.1 > ITF Test Framework > Printable Help** on the ITF Server.
- Or browse to  
C:\Agilent\ITFSS3.1\ITF>manuals\AdminHelp.pdf, where  
C:\Agilent\ITFSS3.1\ITF is the default ITF install directory.

### NOTE

You will need Adobe Reader<sup>®</sup> software to view and print the file.

To install Adobe<sup>®</sup> Reader:

- 1 Insert the ITFSS3.1 CD into the CD-ROM drive.
- 2 Browse to <cd-rom drive>:\Acrobat directory on the ITFSS3.1 CD.
- 3 Double-click AdbeRdr602\_distrib\_enu.exe.
- 4 Follow the installation instructions and accept all default settings.

You can also go to Adobe®'s web site at <http://www.adobe.com> and click the Acrobat Reader icon on the home page to download and install the latest version of Adobe® Reader.

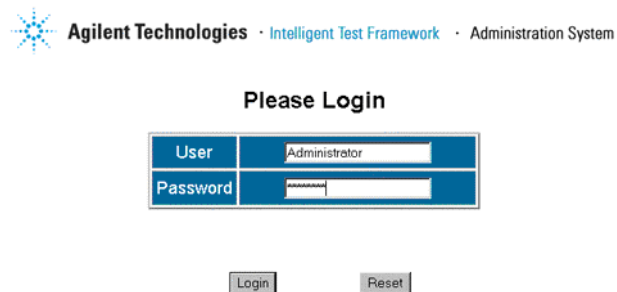
## Logging In and Logging Out

When the ITF Administration System starts up, the first screen you see is the **Login** page. The **Login** page prevents unwanted access and allows you to log in to the ITF Administration System.

To log in to the ITF Administration System:

- 1 Double-click the **ITF Administration System** desktop icon on the ITF Server.  
  
This opens the browser-based ITF Administration System application login page.
- 2 Enter your user name and password in the comment boxes.
- 3 Click **Login** to gain access to the system.

**Figure 2-3** Administration System - Login screen



### Logout

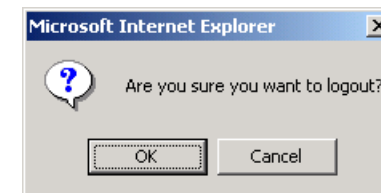
The **Logout** button allows you to log out of the ITF Administration System.

To log out:

- 1 Click **Logout** on the main menu.


This opens a dialog box asking you to confirm the logout.

**Figure 2-4** Microsoft Internet Explorer dialog box



- 2 Click **OK** to log out of the application.

### NOTE

If the ITF Administration System is closed by clicking the  in the top right corner of the screen, this closes the browser but does not log out the user. The “hanging login” terminates after a preset time (approximately 20 minutes).

To log out users from the ITF Administration System and other applications, see **Force Logout**.

# 3

## Users

In this chapter...

- [Overview](#), 3-2
- [User Roles](#), 3-3
- [Setting Up User Accounts](#), 3-11
- [Force Logout](#), 3-16

## Overview

The **Users** menu option in the ITF Administration System allows you to add and edit user data, as well as force user logouts.

To manage users:

- 1 Click **Users** on the main menu.
- 2 Select one of the following choices:
  - **Setting Up User Accounts** - Add new users, edit user data and roles.
  - **Force Logout** - Allows the Administrator to log out all users who are currently logged in to the ITF, in case of a maintenance, service, or emergency shutdown.



## User Roles

The following subsections describe the user roles available in the Administration System and the permissions granted to each role.

### Available User Roles

Each user must have at least one assigned role. Each role allows for a different level of access to the ITF Administration System and other ITF applications.

The following roles can be assigned to individuals:

- **Administrator Role**
- **Repair Administrator Role**
- **Repair User Role**
- **Quality Administrator Role**
- **Quality User Role**

Table 3-1 User Role Chart

User Role	Viewable information in ITF Administration System	Editable Information in ITF Administration System	Privileges Associated with ITF Applications
System Administrator	All	All	None

#### NOTE

The System Administrator role cannot be assigned. It is a permanent account that has the unique ability to assign other users the Administrator role. However, the password can be changed.

#### NOTE

To assign user roles, see [Add a User](#).

### Permissions

The following table shows page viewing and editing privileges in the ITF Administration System and privileges associated with ITF applications for the various user roles:

See [Table 3-1](#)

**Table 3-1** User Role Chart

User Role	Viewable information in ITF Administration System	Editable Information in ITF Administration System	Privileges Associated with ITF Applications
<b>Administrator</b>	All	<ul style="list-style-type: none"> <li>• Users                             <ul style="list-style-type: none"> <li>■ Password</li> <li>■ Name</li> <li>■ Create/assign/remove Repair Administrator, Quality Administrator, Repair User, Quality User</li> </ul> </li> <li>• Applications - all</li> <li>• Framework</li> <li>• Resource</li> <li>• Help</li> </ul>	Same as Repair Administrator and Quality Administrator.
<b>Repair Administrator</b>	<ul style="list-style-type: none"> <li>• User accounts for Repair Administrator and Repair User</li> <li>• Applications - Repair and General</li> <li>• Help</li> </ul>	<ul style="list-style-type: none"> <li>• Users                             <ul style="list-style-type: none"> <li>■ Password</li> <li>■ Name</li> <li>■ Create/assign/remove Repair User</li> </ul> </li> <li>• Applications - Repair Only</li> </ul>	Log in and use Agilent Repair Tool: <ul style="list-style-type: none"> <li>• Access Administration menu tabs</li> <li>• Repair boards</li> <li>• Change password</li> </ul>

**Table 3-1** User Role Chart

User Role	Viewable information in ITF Administration System	Editable Information in ITF Administration System	Privileges Associated with ITF Applications
<b>Quality Administrator</b>	<ul style="list-style-type: none"> <li>• User accounts for Quality Administrator and Quality User</li> <li>• Applications - Quality and General</li> <li>• Help</li> </ul>	<ul style="list-style-type: none"> <li>• Users                             <ul style="list-style-type: none"> <li>■ Password</li> <li>■ Name</li> <li>■ Create/assign/remove Quality User</li> </ul> </li> <li>• Applications - Quality only</li> </ul>	<ul style="list-style-type: none"> <li>• Log on and use Agilent Quality Tool:</li> <li>• Create Views</li> <li>• Edit Views</li> <li>• See charts based on operator (False:Real by Operator and False:Total Failed by Operator)</li> <li>• Modify Chart Options, including:                             <ul style="list-style-type: none"> <li>■ Set Alarms</li> <li>■ Set placement machine filter</li> <li>■ Set “opportunities” for DPMO as pins and/or components</li> </ul> </li> <li>• Change password</li> </ul>
<b>Repair User</b>	None	None	Log on and user Agilent Repair Tool: <ul style="list-style-type: none"> <li>• Repair boards</li> <li>• Change password</li> </ul>

Table 3-1 User Role Chart

User Role	Viewable information in ITF Administration System	Editable Information in ITF Administration System	Privileges Associated with ITF Applications
Quality User	None	None	Log on and user Agilent Quality Tool: <ul style="list-style-type: none"> <li>• Open Views</li> <li>• Drill-down to more charts</li> <li>• Save chart images</li> <li>• Respond to alarms</li> <li>• View the alarms</li> <li>• Look at chart history or View history</li> <li>• Change password</li> </ul>

### System Administrator Role

The System Administrator role has the highest-level permissions of any account and is the only role that can assign or remove Administrator privileges. This role is automatically set up during installation with administrator privileges. This is a single, permanent account with login name “Administrator.”

The System Administrator has permission to view all pages in the ITF Administration System.

The System Administrator has permission to edit the following information in the ITF Administration System:

- Users
  - Password
  - Name
  - Create/assign/remove any role
- Applications - all
- Framework
- Resource
- Help

The System Administrator cannot log on and use the Agilent Repair Tool or Agilent Quality Tool.

**NOTE**

The ability to add or remove roles applies to both the account you are currently logged in under and other accounts with lower permission levels.

**Administrator Role**

The Administrator role has the second-highest level of permission in the ITF Administration System. Permissions for this role are set by the System Administrator. There is no limit on the number of concurrent users logged in as Administrator.

Administrators can log on and use the Agilent Repair Tool or Agilent Quality Tool to do the following:

**Agilent Repair Tool**

- Access Administration menu tabs
- Repair boards
- Change passwords

**Agilent Quality Tool**

- Create Views
- Edit Views
- See charts based on operator (False:Real by Operator and False:Total Failed by Operator)
- Change passwords

- Modify Chart Options, including:
  - Set Alarms
  - Set placement machine filter
  - Set “opportunities” for DPMO as pins and/or components

Administrators have permission to view all pages in the ITF Administration System.

Administrators have permission to edit the following information in the ITF Administration System:

- Users
  - Password
  - Name
  - Create/assign/remove the following roles – Repair Administrator, Repair User, Quality Administrator, Quality User
- Applications - all
- Framework
- Resource
- Help

The ability to add or remove roles applies to both the account you are currently logged in under and other accounts with lower permission levels.

## Repair Administrator Role

Users assigned to the Repair Administrator role can access only the Agilent Repair Tool configuration or administration features of the ITF Administration System. Permissions for this role are set by the System Administrator or Administrator role.

There are no restrictions on the number of users with Repair Administrator permissions. A System Administrator or an Administrator can assign an unlimited number of users or none to this role. There is no limit on the number of concurrent users logged in as Repair Administrator. A Repair Administrator can add Repair Users and other Repair Administrators.

Repair Administrators can log on and use the Agilent Repair Tool to do the following:

- Access Administration menu tabs
- Repair boards
- Change password

Repair Administrators have permission to view the following pages in the ITF Administration System.

- Users (accounts for):
  - Repair Administrator
  - Repair User
- Applications - Repair and General
- Help

Repair Administrators have permission to edit the following information in the ITF Administration System.

- Users
  - Password
  - Name
  - Create/assign/remove the following roles – Repair User
- Applications - Repair only

The ability to add or remove roles applies to the account you are currently logged in under and other accounts with lower permission levels.

## Repair User Role

Users assigned to the Repair User role have access only to the Agilent Repair Tool.

Permissions for this role are set by the System Administrator, Administrator or Repair Administrator. The maximum number of concurrent users is limited by your software license.

Repair Users can log on and use the Agilent Repair Tool to do the following:

- Open and repair boards
- Enter repair action and other related information
- View available x-ray or optical images of potential defects
- View ICT report tickets

- Change password

Repair Users do not have permission to view or edit information in the ITF Administration System.

### Quality Administrator Role

Users assigned to the Quality Administrator role can access only the Agilent Quality Tool configuration or administration features of the ITF Administration System. Permissions for this role are set by the System Administrator or Administrator role.

There are no restrictions on the number of users with Quality Administrator permissions. A System Administrator or an Administrator can assign an unlimited number of users or none to this role. There is no limit on the number of concurrent users logged in as Quality Administrator. A Quality Administrator can add Quality Users and other Quality Administrators.

Quality Administrators can log on and use the Agilent Quality Tool to do the following:

- Create Views
- Edit Views
- See charts based on operator (False:Real by Operator and False:Total Failed by Operator)
- Modify Chart Options, including:
  - Set Alarms
  - Set placement machine filter
  - Set “opportunities” for DPMO as pins and/or components

- Change password.

Quality Administrators have permission to view the following pages in the ITF Administration System.

- Users (accounts for):
  - Quality Administrator
  - Quality User
- Applications - Quality and General
- Help
- Quality Administrators have permission to edit the following information in the ITF Administration System.
- Users
  - Password
  - Name
  - Create/assign/remove the following roles – Quality User
- Applications - Quality only

#### NOTE

The ability to add or remove roles applies to the account you are currently logged in under and other accounts with lower permission levels.

## Quality User Role

Users assigned to the Quality User role have access only to the Agilent Quality Tool.

Permissions for this role are set by the System Administrator, Administrator or Quality Administrator. The maximum number of concurrent users is limited by your software license.

Quality Users can log on and use the Agilent Quality Tool to do the following:

- Open Views
- Drill-down to more charts
- Save chart images
- Respond to alarms
- View the alarm log
- Look at chart history or View history
- Change password

### NOTE

Quality Users cannot edit or create Views in the Agilent Quality Tool.

Quality Users do not have permission to view or edit information in the ITF Administration System.



## Setting Up User Accounts

The following subsections provide instructions on adding, editing and removing users. Instructions on changing user passwords are also provided.

### Add a User

Each user must be assigned a login ID, password, and role in order to use any ITF application, such as the Agilent Repair Tool or ITF Administration System.

#### NOTE

Each login ID must be unique.

---

Once this information has been assigned to a user, their information is automatically added to the system's data store and they can immediately access their assigned resources.

#### NOTE

This System Administrator account is set up automatically during installation. It is a permanent account that has the unique ability to assign other users an administrative role.

---

To add a user:

- 1 Click **Users > Set Up** on the main menu.

This opens a data table with the **Add User** button located above it.

- 2 Click **Add User**.

The **Add User** dialog box appears.

Figure 3-1 Add User dialog box

- 3 Complete the user profile information, including the ID, first name, last name, and password.

**NOTE**

The login ID and password fields are case-sensitive and must contain a character string between 3 and 15 characters to be valid. Both numbers and letters are acceptable in the password. Be sure to follow your company's guidelines for assigning passwords.

- 4 Choose one or more roles to assign the user by clicking on them in the **Roles Available** box.

**NOTE**

At least one role must be assigned to each new user or the user cannot be added to the data store.

- 5 Click **Add >** to assign the role(s) to the selected user.

The role is automatically moved to the **Assigned Roles** column.

**NOTE**

To assign all available roles to a user, click **Add All >>**.

- 6 Click **Apply** to save the user information.

Changes are applied immediately.

### Edit a User

You can edit a user’s login ID, name, password or role(s).

To edit user information:

- 1 Click **Users > Set Up** on the main menu.  
This opens a data table.
- 2 Locate the user’s name in the data table.
- 3 Click the **Edit** button on the same row as the user’s name.

The **Edit User** dialog box appears with the user’s information.

- 4 Edit the user information.

**NOTE**

Editable fields vary by role. See **Permissions** for an overview of user roles and their assigned permissions.

- 5 Click **Apply**.  
Changes are applied immediately.

**Figure 3-2** Edit users in the data table

**Users**

Action		Login ID	First Name	Last Name	Assigned Roles
<input type="button" value="Edit"/>	<input type="button" value="Remove"/>	Administrator	System	Admin	Administrator
<input type="button" value="Edit"/>	<input type="button" value="Remove"/>	I_Fixit	I.	Fixit	Repair User
<input type="button" value="Edit"/>	<input type="button" value="Remove"/>	I_View	I.	View	Quality User

### Remove a User

When you remove a user from the ITF Administration System, they are removed from the data store and no longer have access to ITF applications.

The System Administrator and Administrators have permission to remove any user. The Repair

Administrator and Quality Administrator can only remove Repair Users or Quality Users, respectively.

To remove a user:

- 1 Click **Users > Set Up** on the main menu.

This opens a data table similar to the one shown in [Figure 3-3](#).

- 2 Locate the user's name in the data table.

**Figure 3-3** Remove User from the data table

**Users**

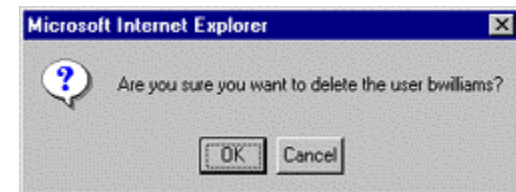
Action		Login ID	First Name	Last Name	Assigned Roles
<input type="button" value="Edit"/>	<input type="button" value="Remove"/>	Administrator	System	Admin	Administrator
<input type="button" value="Edit"/>	<input type="button" value="Remove"/>	I_Fixit	I.	Fixit	Repair User
<input type="button" value="Edit"/>	<input type="button" value="Remove"/>	I_View	I.	View	Quality User

- 3 Click the **Remove** button on the same row as the user's name.

A dialog box appears, asking you to confirm the deletion of the user. See [Figure 3-4](#).

- 4 Click **OK** to delete the user from the data store.
- 5 Click **Cancel** to go back to the previous screen.

**Figure 3-4** Delete User Confirmation dialog box



## Change Password

To change a user's password:

- 1 Click **Users > Set Up** on the main menu.  
This opens a data table similar to the one shown in [Figure 3-5](#).
- 2 Locate the user's name, for example `bwilliams`, in the data table.
- 3 Click the **Edit** button on the same row as the user's name.

The **Edit User** dialog box appears with the user's information.

- 4 Click the **Change** button located next to the **Password** field.

The **Change Password** dialog box appears.

- 5 Enter the new password in the **New Password** text box.
- 6 Re-enter the password in the **Confirm New Password** text box.
- 7 Click **Apply**.

Changes are applied immediately.

**Figure 3-5** Change Password dialog box

---

**Change Password for bwilliams**

New Password	<input type="password"/>
Confirm New Password	<input type="password"/>

---

## Force Logout

The Force Logout feature allows System Administrators, Administrators, Repair Administrators, and Quality Administrators to quickly log out users with lower-level permissions that are connected to the ITF Server.

For instance, a Repair Administrator can log out a Repair User.

This is useful during maintenance, service, or emergency shutdowns.

To force user logouts:

- 1 Click **Users > Force Logout** from the main menu.  
A User Management data table similar to the one shown in [Figure 3-6](#) appears.
- 2 Click the **Logout** button next to the user you want to log out of the system.  
A dialog box appears, asking you to confirm the disconnection of the user.
- 3 Click **OK**.

### NOTE

If a user has logged in under multiple sessions, clicking **Logout** on one session will log the user out of all sessions, not just the one selected.

**Figure 3-6** User Management data table

### User Management

	Login ID	First Name	Last Name	Application	Machine
Logout	I_Fixit	I.	Fixit	AGILENT REPAIR TOOL	ITFServer
Logout	I_View	I.	View	AGILENT QUALITY TOOL	ITFServer

# 4

## Applications

In this chapter...

- [Overview](#), 4-2
- [Agilent Repair Tool](#), 4-3
- [Agilent Quality Tool](#), 4-19
- [General](#), 4-26

## Overview

The **Applications** menu option in the ITF Administration System allows users to configure basic services for applications associated with the Intelligent Test Framework, such as the Agilent Repair Tool.

Click **Applications** from the main menu. Select one of the following choices:

- **Repair** - Configure status buttons, repair actions, close board prompts, and function keys for use with the Agilent Repair Tool.
- **Quality** - Configure chart options for use with the Agilent Quality Tool.
- **General** - Configure defect lists and map test systems for use across several ITF applications.



## Agilent Repair Tool

The **Applications > Repair** menu option in the ITF Administration System allows users to view, customize or edit the Agilent Repair Tool configuration data for AXI, AOI\_SJ, AOI\_SP, and ICT test system modes.

Administrators can configure the following items:

- **Status Buttons**
- **Show Defect Details**
- **Disable Status Button When Repair Is Required**
- **Close Board**
- **Repair Actions**
- **Function Keys**

## Status Buttons

The Agilent Repair Tool has the ability to display the following status buttons:

- **Repaired**
- **Repair Later**
- **False Call**
- **Variation OK**

Agilent Technologies requires the **Repaired** and **False Call** buttons to appear in the Agilent Repair Tool (ART) interface. However, the **Repair Later** and **Variation OK** buttons are optional.

### NOTE

To add or remove the **Repair Later** button in the ART application, see **Show Repair Later Button**.

To add or remove the **Variation OK** button in the ART application, see **Show Variation OK Button**.

---

**Show Repair Later Button**

To display the **Repair Later** button in the Agilent Repair Tool:

- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.

- 3 Click **Status Buttons**.

The **Status Buttons** dialog box appears.

- 4 Select the **Repair Later** check box in the **Show Button** column to display the button in the selected test system mode (AOI\_SJ, AOI\_SP, AXI, or ICT) of the Agilent Repair Tool.

**Figure 4-1** To display the Repair Later button in the Agilent Repair Tool

Status	Show Button	Show Defect Details Dialog	Disable Button for Repair Required Defects
Repaired	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Repair Later	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
False Call	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Variation OK	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- 5 Click **Apply**.

Changes are applied immediately.

- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI, and ICT).

To remove the **Repair Later** button from the Agilent Repair Tool interface, click the check box again, and then click **Apply**.

### Show Variation OK Button

To display the **Variation OK** button in the Agilent Repair Tool:

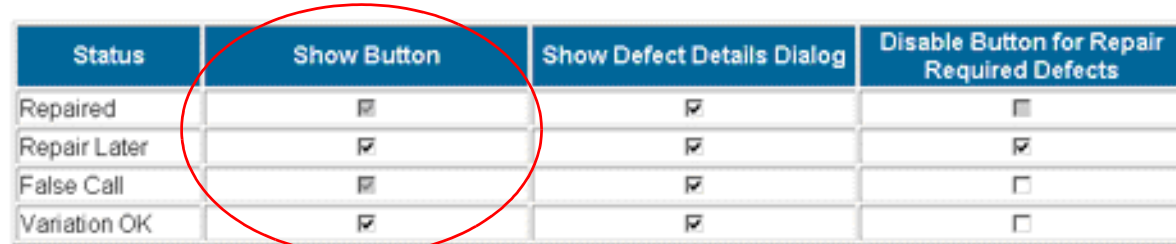
- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Status Buttons**.

The **Status Buttons** dialog box appears.

- 4 Select the **Variation OK** check box in the **Show Button** column to display the button in the selected test system mode of the Agilent Repair Tool.
- 5 Click **Apply**.  
Changes are applied immediately.
- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

To remove the **Variation OK** button from the Agilent Repair Tool interface, click the checkbox again, and then click **Apply**.

**Figure 4-2** To display the Variation OK button



Status	Show Button	Show Defect Details Dialog	Disable Button for Repair Required Defects
Repaired	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Repair Later	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
False Call	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Variation OK	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Show Defect Details

The Agilent Repair Tool can be configured to display the **Defect Details** dialog box when various status buttons are selected. The **Defect Details** dialog box allows the user to enter more specific details about repair actions and defects.

To display the **Defect Details** dialog box when specific status buttons are selected:

- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Status Buttons**.

The **Status Buttons** dialog box appears.

- 4 Select one or more of the check boxes in the **Show Defect Details** dialog box column to display the **Defect Details** dialog box when the corresponding status button (i.e., **Repaired**, **False Call**, etc.) is selected.
- 5 Click **Apply**.  
Changes are applied immediately.
- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

**Figure 4-3** Show Defect Details Dialog check boxes

Status	Show Button	Show Defect Details Dialog	Disable Button for Repair Required Defects
Repaired	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Repair Later	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
False Call	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Variation OK	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Disable Status Button When Repair Is Required

The ITF Administration System allows you to disable the **Repair Later**, **False Call** and/or **Variation OK** status buttons in the Agilent Repair Tool when certain defect types are being reviewed by repair operators. This helps ensure that the specified defects are always repaired by repair operators.

For more information on Repair Required defect settings, see [Edit a Defect](#).

To disable status buttons when repair is required:

- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.

- 3 Click **Status Buttons**.

The **Status Buttons** dialog box appears.

- 4 Select one or more of the appropriate check boxes in the **Disable Button for Repair Required Defects** column.

- 5 Click **Apply**.

Changes are applied immediately.

- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

**Figure 4-4** Disable Button for Repair Required Defects

Status	Show Button	Show Defect Details Dialog	Disable Button for Repair Required Defects
Repaired	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Repair Later	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
False Call	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Variation OK	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Close Board

The ITF Administration System allows you to set the **Close Board** option for the Agilent Repair Tool. When a user attempts to close a board with active defects, one of the following options may be set:

- **Close board without warning**
- **Close board with warning**
- **Do not close board**

To set the **Close Board** option:

- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.

- 3 Click **Close Board**.

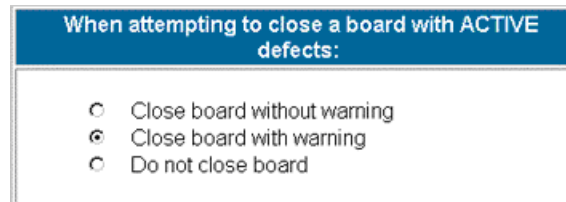
The **Close Board Options** dialog box appears.

- 4 Select the desired close board option.
- 5 Click **Apply**.
- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

### NOTE

This feature applies only to boards with active defects. An active defect is a defect that needs to be reviewed by a repair operator and be marked either Repaired, Repair Later, False Call or Variation OK in the Agilent Repair Tool.

**Figure 4-5** Close Board Options dialog box



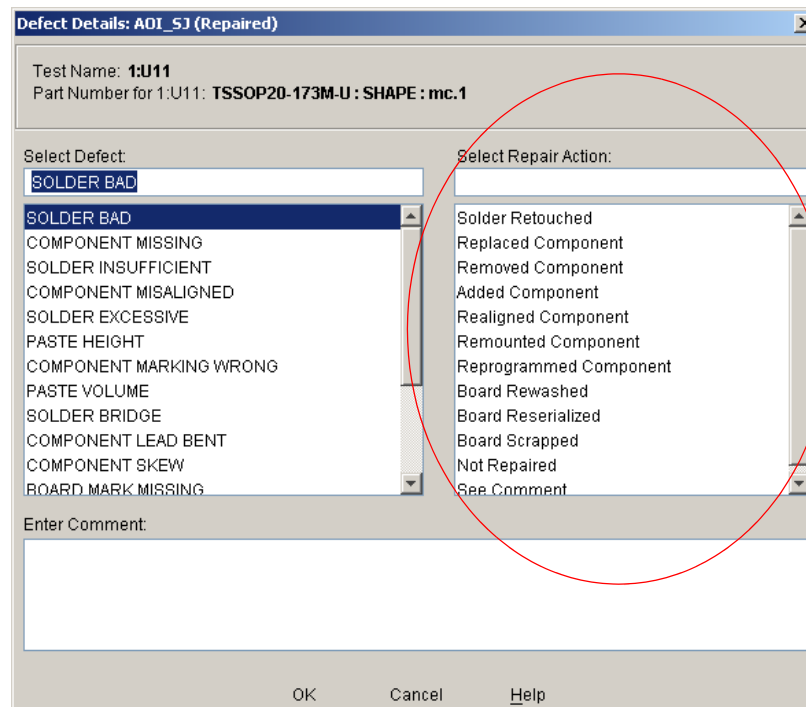
## Repair Actions

The **Defect Details** dialog box in the Agilent Repair Tool is used by repair operators when assigning repair actions to defects. The list of repair actions in the **Defects Details** dialog box can be modified to meet your organization's needs.

The following changes can be made to the repair actions list in the **Defect Details** dialog box:

- **Add a Repair Action**
- **Edit a Repair Action**
- **Remove a Repair Action**
- **Restore a Repair Action**
- **Reorder the Repair Action List**

**Figure 4-6** Defect Details dialog box in ART showing the repair action list



### Add a Repair Action

To add a repair action to the Agilent Repair Tool **Defect Details** dialog box:

- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.

- 3 Click **Repair Actions**.

This opens the **Repair Actions** data table.

- 4 Click **Add Repair Action** at the top of the data table.

A new row appears as shown in [Figure 4-7](#) at the top of the data table.

- 5 Enter the new repair action in the comment box.

- 6 Click **Apply**.

Changes are applied immediately.

- 7 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).



Figure 4-7 Adding a Repair Action

**AOI\_SJ Repair Actions**

Action	Repair Action	Display As
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SOLDER RETOUCHE	Solder Retouched
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REPLACED	Replaced Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REMOVED	Removed Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT ADDED	Added Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REALIGNED	Realigned Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REMOUNTED	Remounted Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REPROGRAMMED	Reprogrammed Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD REWASHED	Board Rewashed
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD RESERIALIZED	Board Reserialized
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD SCRAPPED	Board Scrapped
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	NOT REPAIRED	Not Repaired
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SEE COMMENT	See Comment

### Edit a Repair Action

To edit a repair action from the Agilent Repair Tool

**Defect Details** dialog box:

- 1 Click the **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Repair Actions**.

This opens the **Repair Actions** data table.

- 4 Click the **Edit** button next to the repair action you want to edit.

A dialog box similar to [Figure 4-8](#) appears allowing the editing of the display name for the repair action.

- 5 Click **Apply**.

The updated repair action will be listed in the **Defect Details** dialog box of the Agilent Repair Tool user interface.

- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

Figure 4-8 Editing a Repair Action

**AOI\_SJ Repair Actions**

Action	Repair Action	Display As
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	SOLDER RETOUCED	<input type="text" value="Solder Retouched"/>
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REPLACED	Replaced Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REMOVED	Removed Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT ADDED	Added Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REALIGNED	Realigned Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REMOUNTED	Remounted Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REPROGRAMMED	Reprogrammed Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD REWASHED	Board Rewashed
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD RESERIALIZED	Board Reserialized
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD SCRAPPED	Board Scrapped
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	NOT REPAIRED	Not Repaired
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SEE COMMENT	See Comment

### Remove a Repair Action

To remove a repair action from the Agilent Repair Tool **Defect Details** dialog box:

- 1 Click the **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Repair Actions**.

This opens the Repair Actions data table.

- 4 Click the **Remove** button next to the repair action you want to remove.

A dialog box appears as shown in **Figure 4-9** asking you to confirm the deletion of the repair action.

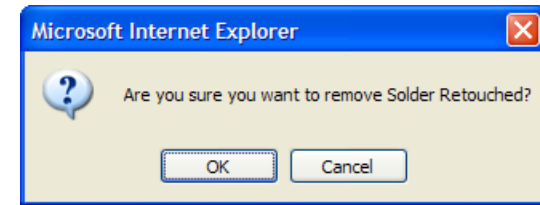
- 5 Click **OK**.
- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

#### NOTE

You can hide the removed repair action from view by clicking **Hide Removed Items** at the top of the table. The removed item remains in the list, but it is hidden from view.

To restore the repair action, see **Restore a Repair Action**.

**Figure 4-9** Confirming the removal of a repair action



### Restore a Repair Action

To restore a repair action in the Agilent Repair Tool **Defect Details** dialog box:

- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.

### 3 Click **Repair Actions**.

The Repair Actions data table appears as shown in **Figure 4-10**. If removed repair actions are not currently listed in the table, click the **Show Removed Items** button at the top of the table. Removed repair actions are displayed in grayed-out rows and appear at the top of the table.

**Figure 4-10** Removed repair actions displayed in grayed out rows on top

**AOI\_SJ Repair Actions**

Action	Repair Action	Display As
<input type="button" value="Restore"/>	SOLDER RETOUCED	Solder Retouched
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REPLACED	Replaced Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REMOVED	Removed Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT ADDED	Added Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REALIGNED	Realigned Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REMOUNTED	Remounted Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	COMPONENT REPROGRAMMED	Reprogrammed Component
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD REWASHED	Board Rewashed
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD RESERIALIZED	Board Reserialized
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	BOARD SCRAPPED	Board Scrapped
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	NOT REPAIRED	Not Repaired
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SEE COMMENT	See Comment

- 4 Click the **Restore** button for any repair actions you want to restore to the **Defect Details** dialog box. Changes are applied immediately.

- 5 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

### Reorder the Repair Action List

To edit the order of the repair actions listed in the Agilent Repair Tool **Defect Details** dialog box:



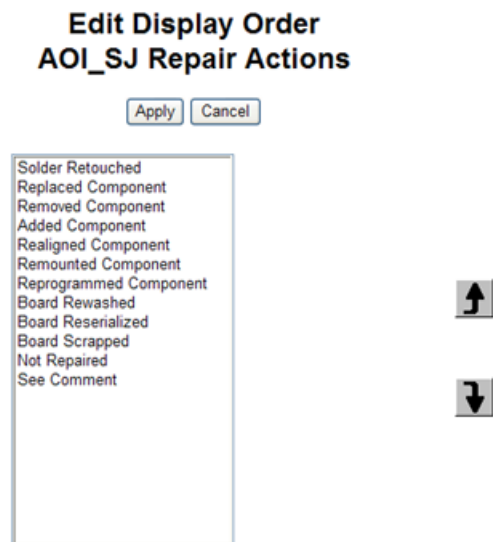
- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Repair Actions**.  
This opens the **Repair Actions** data table.
- 4 Click the **Edit Order** button located above the table.  
This displays the **Edit Display Order** sort box.
- 5 Select the repair action that you wish to move by clicking it with your cursor.
- 6 Click the arrow next to the table to move the highlighted selection to a different location.  
To move the selection up, click the  arrow.  
To move the selection down, click the  arrow.
- 7 Continue clicking the arrows until the repair action is in the desired location.
- 8 Repeat the above steps for any other repair actions you wish to reorder.
- 9 Click **Apply**.  
Changes are applied immediately
- 10 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

Figure 4-11 Agilent Repair Tool Defect Details dialog box



## Function Keys

The Agilent Repair Tool is pre-programmed with the following function key shortcuts for frequent repair tasks. You can change the mapping of many of these function keys to meet your organization's needs. To re-map a function key, see [Map Function Keys](#).

- **F1** - Help > On Screen
- **F2** – File > Print Repair Report
- **F3** - Board > Clear Highlights
- **F4** – Defect > Next
- **F5** – Defect > Undo Repair Action
- **F6** – Defect > Repaired
- **F7** – Defect > Repair Later
- **F8** – Defect > False Call
- **F9** – Board > Rotate
- **F10** - File menu
- **F11** – User > Login/Logout
- **F12** – File > Exit

### NOTE

Function keys F1 and F10 may not be reprogrammed.

## Map Function Keys

To map the function keys (F2, F4, etc.) to a particular repair task:

- 1 Click **Applications > Repair** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Function Keys**.

This opens the **Function Keys** data table. See [Figure 4-12](#).

- 4 Click the **Edit** button next to the function key you want to edit.

This opens a dropdown menu in the **Mapped To** column.

- 5 Select the desired function from the list.
- 6 Click **Apply**.

Changes are applied immediately.

- 7 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

Figure 4-12 Function Keys data table

Action	Key Name	Mapped To
	F1	Help->On Screen
<input type="button" value="Edit"/>	F2	File->Print Repair Report
<input type="button" value="Edit"/>	F3	Board->Clear Highlights
<input type="button" value="Edit"/>	F4	Defect->Next

Figure 4-13 Editing the Function keys data table

Action	Key Name	Mapped To
	F1	Help->On Screen
<input type="button" value="Edit"/>	F2	File->Print Repair Report
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	F3	<div style="border: 1px solid gray; padding: 2px;"> <ul style="list-style-type: none"> <li>Board-&gt;Clear Highlights</li> <li style="background-color: #e0e0e0;">Board-&gt;Clear Highlights</li> <li>Board-&gt;Follow Trace</li> <li>Board-&gt;Find Component</li> <li>Board-&gt;Find Net</li> <li>Board-&gt;Find Short</li> <li>Board-&gt;Find Next</li> <li>Board-&gt;Find Previous</li> <li>Board-&gt;Scrap</li> <li>Image-&gt;Zoom In</li> <li>Image-&gt;Zoom Out</li> <li>Image-&gt;Save</li> </ul> </div>
<input type="button" value="Edit"/>	F4	
<input type="button" value="Edit"/>	F5	
<input type="button" value="Edit"/>	F6	
<input type="button" value="Edit"/>	F7	
<input type="button" value="Edit"/>	F8	Defect->Raise Call



## Agilent Quality Tool

The **Applications > Quality** menu option in the ITF Administration System allows users to view, customize or edit Agilent Quality Tool configuration data for AXI and AOI\_SJ, AOI\_SP test system modes.

### Views

In particular, the Agilent Quality Tool requires users to create specific “Views” from which to look at or access their board data. The ITF Administration System helps you configure these “Views” for the following items:

- **Single Board Types**
- **Multiple Board Types**

### Chart Descriptions

As part of a user's defined “Views,” the Agilent Quality Tool displays test and repair data in the form of trend or bar (Pareto) charts. The charts are selected using the ITF Administration System. The following table describes the various charts available for display in the Agilent Quality Tool.

**Table 4-1** Charts Available for Display in AQT

Agilent Quality Tool Tab Name	Charts Available for Display	Description
Pre-Repair Quality	First Pass Yield	Percentage of board that passed test or inspecton
	DPMO (Defects per Million Opportunities)	Total number of failed pins, failed components, or both per million pins, components, or both tested.
	Test Calls (single board type only)	Number of failures listed by test call.
	Failed Components (single board type only)	Number of failed components, listed by reference designator.

**Table 4-1** Charts Available for Display in AQT

Agilent Quality Tool Tab Name	Charts Available for Display	Description
	Failed Components by Feeder  (single board type only)	Number of failed components placed by a particular placement machine and feeder.
	Boards tested	Number of boards tested on the specified test stations(s).
	First Pass Yield	Percentage of boards that contain no real defects.  Calculations includes boards that passed test of inspection and boards that have been completely reviewed with the Agilent Repair Tool.
	DPMO  (Defects per Million Opportunities)	Total number of defective pins, defective components, or both per million pins, components, or both tested.
	Defects  (single board type only)	Number of defects, listed by defect name. Calculations includes board that have been completely reviewed with the Agilent Repair Tool.
	Defective Components  (single board type only)	Number of defective components, listed by reference designator..

**Table 4-1** Charts Available for Display in AQT

Agilent Quality Tool Tab Name	Charts Available for Display	Description
	Defective Components by Feeder  (single board type only)	Number of defective components placed by a particular placement machine and feeder.
	Board Repaired	Number of boards repaired using the Agilent Repair Tool.
Throughput	Boards Tested	Number of boards tested on the specified test station(s).
	Boards Repaired	Number of boards repaired with the Agilent Repair Tool.
	First Pass Yield (Pre-Repair)	Percentage of boards that passed test or inspection.
	Boards Tested but Not Reviewed	Number of boards that failed test and have not been completely reviewed with the Agilent Repair Tool.
False Call	False PPM  (Parts Per Million)	Number of false-called pins, false-called components, or both per million pins, components, or both tested.
	False:Real	Ratio of false-called components (or false-called pins) to defective components.
	False:Total Failed	Ratio of false-called components (or false-called pins) to failed components (or pins).

**Table 4-1** Charts Available for Display in AQT

Agilent Quality Tool Tab Name	Charts Available for Display	Description
	Average False Calls	Average number of false-called components (or false-called pins) per board tested.
	False Called Components (single board type only)	Number of false-called components, grouped by reference designator.
	False Called Components by Alogrithm (single board type only)	Number of false-called components, grouped by alogrithm.
	False Called Components by Package Type (single board type only)	Number of false-called components, grouped by package type.

### Single Board Types

The Agilent Quality Tool can display test and repair information in the form of trend and bar (Pareto) charts for single board types.

Charts are displayed under the following tabs in the Agilent Quality Tool interface:

- Pre-Repair Quality
- Post-Repair Quality
- Throughput
- False Call

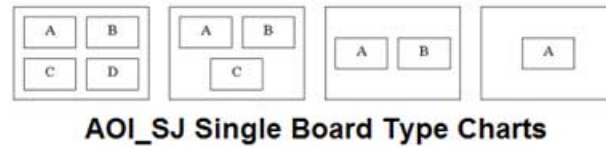
You can select up to four different charts for each tab.

To configure charts for a single board type:

- 1 Click **Applications > Quality** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **View Types**, and then **Single Board Type**.

The **Single Board Type Charts** dialog box appears.

Figure 4-14 AOI\_SJ Single Board Type Charts



Action	Tab Name	Displayed Charts
	Pre-Repair Quality	A: DPMO B: Test Calls C: Failed Components
	Post-Repair Quality	A: First Pass Yield (Post-Repair) B: DPMO C: Defects D: Defective Components
	Throughput	A: Boards Tested B: Boards Repaired C: Boards Completed D: Boards Tested but Not Reviewed
	False Call	A: False : Total Failed B: False : Real C: False Called Components D: False Called Components by Algorithm

At the top of the dialog box are four different chart layouts. The layouts show how the charts will be displayed in the Agilent Quality Tool interface depending on whether 1, 2, 3 or 4 charts are selected. For instance, if only one chart is selected (i.e., A), it will be displayed by itself in the center of the user interface.

- To select the charts for the **Pre-Repair Quality** tab, click the **Edit** button in the **Pre-Repair Quality** row.

- Under the **Displayed Charts** column, click the drop-down menu for “A.”

This displays a list of available charts. See [Chart Descriptions](#) for more information on the types of charts available.

- Select the chart you want displayed in the “A” layout position by clicking it.
- If you would like additional charts displayed under the **Pre-Repair Quality** tab, click the B, C and D drop-down menus, respectively, and select the various charts.
- Click **Apply** when finished.

- Repeat the above steps for the **Post-Repair Quality**, **Throughput**, and **False Call** tabs.

**NOTE**  
When changing chart options, the new layout only applies to new Views and not saved Views.

### Multiple Board Types

The Agilent Quality Tool can display test and repair information in the form of trend charts for multiple board types.

Charts are displayed under the following tabs in the Agilent Quality Tool interface:

- Pre-Repair Quality
- Post-Repair Quality
- Throughput
- False Call

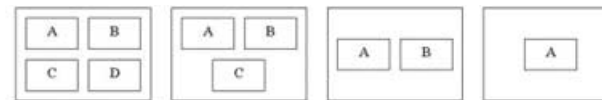
You can select up to four different charts for each tab.

To configure charts for multiple board types:

- Click **Applications > Quality** on the main menu.
- Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- Click **View Types**, then **Multiple Board Type**.

The **Multiple Board Type Charts** dialog box appears.

**Figure 4-15** AOI\_SJ Multiple Board Type Charts



**AOI\_SJ Multiple Board Type Charts**

Action	Tab Name	Displayed Charts
	Pre-Repair Quality	A: First Pass Yield (Pre-Repair) B: DPMO C: Boards Tested
	Post-Repair Quality	A: First Pass Yield (Post-Repair) B: DPMO C: Boards Repaired
	Throughput	A: Boards Tested B: Boards Repaired C: Boards Completed D: Boards Tested but Not Reviewed
	False Call	A: False PPM B: False : Total Failed

At the top of the dialog box are four different chart layouts. The layouts show how the charts will be displayed in the Agilent Quality Tool interface depending upon whether 1, 2, 3 or 4 charts are selected. For instance, if only one chart is selected (i.e., A), it will be displayed by itself in the center of the user interface.

- 4 To select the charts for the **Pre-Repair Quality** tab, click the **Edit** button in the **Pre-Repair Quality** row.
- 5 Under the **Displayed Charts** column, click the drop-down menu for “A.” This displays a list of available charts. See [Chart Descriptions](#) for information on the types of charts available.
- 6 Select the chart you want displayed in the “A” layout position by clicking it.
- 7 If you would like additional charts displayed under the **Pre-Repair Quality** tab, click the B, C and D drop-down menus, respectively, and select the various charts.
- 8 Click **Apply** when finished.
- 9 Repeat the above steps for the **Post-Repair Quality**, **Throughput**, and **False Call** tabs.

### NOTE

When changing chart options, the new layout only applies to new Views and not saved Views.

## General

The **Applications > General** menu option allows you to configure features or services that apply to all ITF applications, such as the Agilent Repair Tool and Agilent Quality Tool.

You can configure the following features:

- **Defect List**
- **Test Stations Display List**

### Defect List

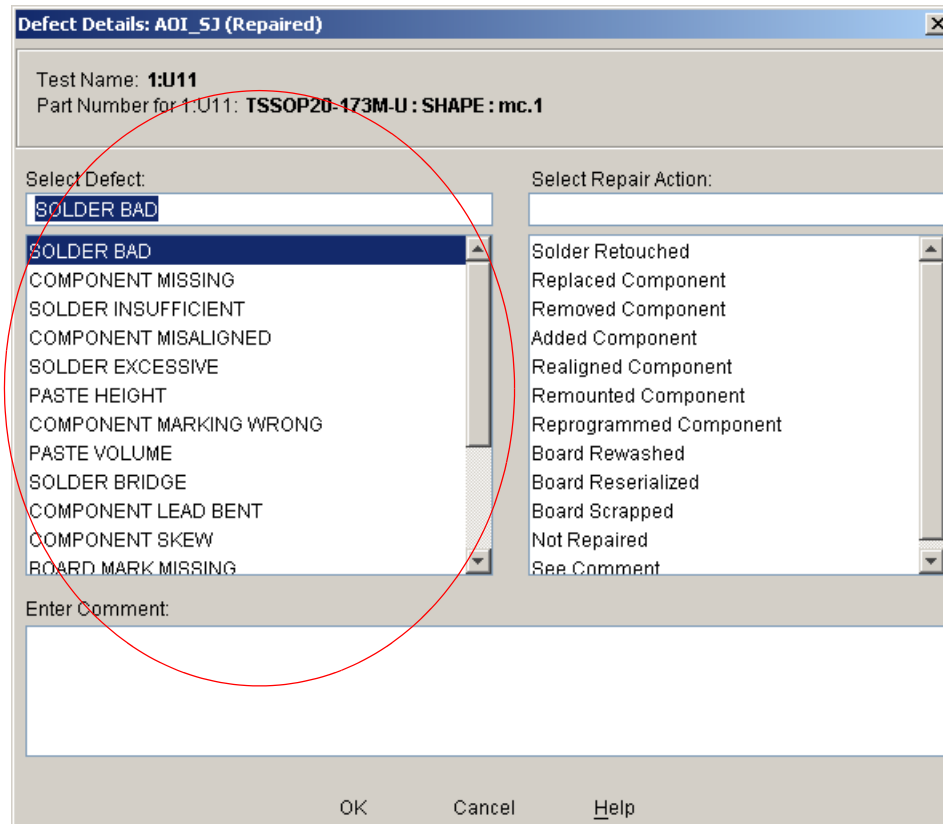
The ITF Administration System helps you create and modify a standard list of defect types for use with both the Agilent Repair Tool and Agilent Quality Tool. This list can be modified to meet your organization's needs.

The following changes can be made to the defect list:

- **Add a Defect**
- **Edit a Defect**
- **Remove a Defect**
- **Restore a Defect**
- **Reorder the Defect List**
- **Assign Specific Repair Actions to a Defect**



Figure 4-16 Defect Details dialog box in ART showing defect list



### Add a Defect

To add a new defect type to the defect list:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.

### 3 Click **Defects**.

This brings up the **Defect List** data table.

**Figure 4-17** Defect List data table

Action	Defect Name	Displayed As	AOI Classification	Repair Required
<input type="button" value="Edit"/> <input type="button" value="Remove"/> <input type="button" value="Repair Actions"/>	OPEN	OPEN	PIN	No

- 4 Click the **Add Defect** button at the top of the data table.

This opens an editable dialog box at the top of the data table.

**Figure 4-18** Adding a defect

Action	Defect Name	Displayed As	AOI Classification	Repair Required
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	<input type="text"/>	<input type="text"/>	OTHER	No
<input type="button" value="Edit"/> <input type="button" value="Remove"/> <input type="button" value="Repair Actions"/>	OPEN	OPEN	PIN	No

- 5 Enter the new defect name in the **Defect Name** text box.
- 6 Enter the defect name as you would like it displayed in ITF applications in the **Displayed As** text box.
- 7 Select the Classification from the drop-down menu. Options include: Component, Pin, and Other. “Component” represents component-level defects, “Pin” represents pin-level defects, and “Other” is for all other classification levels.
- 8 Select whether a repair action is always required for this defect type. For instance, you may always want a SHORT repaired.

**NOTE**

If you select “Yes” for the **Repair Required** column, please see [Disable Status Button When Repair Is Required](#) for more information on configuring the Agilent Repair Tool for required repairs.

- 9 Click **Apply**.  
Changes are applied immediately.
- 10 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

**Edit a Defect**

To edit a defect type in the defect list:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Defects**.

This brings up the **Defect List** data table.

- 4 Click the **Edit** button next to the defect you want to edit. You can edit the **Displayed As**, **Classification**, and **Repair Required** comment boxes.

**Figure 4-19** Defect List data table

Action	Defect Name	Displayed As	AOI Classification	Repair Required
<input type="button" value="Edit"/> <input type="button" value="Remove"/> <input type="button" value="Repair Actions"/>	OPEN	OPEN	PIN	No

**Displayed As:** Enter the defect name as you would like it displayed in ITF applications in the **Displayed As** comment box.

**Classification:** Options include: **Component**, **Pin**, and **Other**. “Component” represents component-level defects, “Pin” represents pin-level defects, and “Other” is for all other classification levels.

**Repair Required:** Select whether a repair action is always required for this defect type. For instance, you may always want a SHORT repaired.

**NOTE**

If you select “Yes” for the **Repair Required** column, please see the section, **Disable Status Button When Repair Is Required**, for more information on configuring the Agilent Repair Tool for required repairs.

**Figure 4-20** Defect List data table editable dialog box



5 After you have made the desired changes, click **Apply**.

Changes are applied immediately.

6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

### Remove a Defect

To remove a defect type from the defect list:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.

### 3 Click **Defects**.

This brings up the **Defect List** data table.

**Figure 4-21** Defect List data table

Action	Defect Name	Displayed As	AOI Classification	Repair Required
<input type="button" value="Edit"/> <input type="button" value="Remove"/> <input type="button" value="Repair Actions"/>	SHORT	SHORT	PIN	No

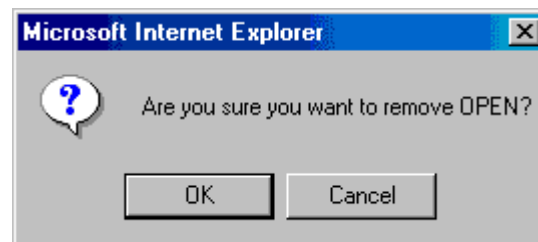
- 4 Click the **Remove** button next to the defect you want to remove.

This opens a dialog box, asking you to confirm the deletion of the defect.

- 5 Click **OK** to remove the defect from the table.

- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

**Figure 4-22** Confirm the removal of the defect



### NOTE

You can hide the removed repair action from view by clicking **Hide Removed Items** at the top of the table. The removed item remains in the list, but it is hidden from view.

To restore a defect to the **Defects** data table, see [Restore a Defect](#).

### Restore a Defect

To restore a defect type to the defect list:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Defects**.

This brings up the **Defect List** data table. If removed defects are not currently listed in the table, click the **Show Removed Items** button at the top of the table. Removed defects are displayed in grayed-out rows and appear at the top of the table.

- 4 Click the **Restore** button for any items you want to restore to the **Defect List** data table. Changes are applied immediately.
- 5 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

**Figure 4-23** Defect List data table

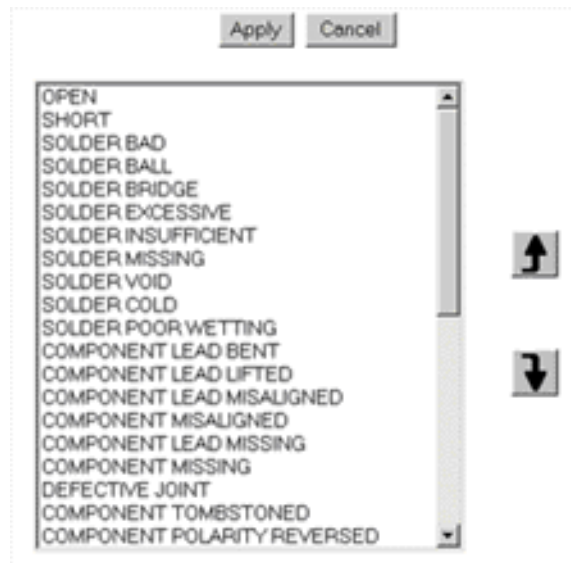
Action	Defect Name	Displayed As	AOI Classification	Repair Required
Restore	OPEN	OPEN	PIN	No



### Reorder the Defect List

To edit the order of defects listed in the Agilent Repair Tool's **Defect Details** dialog box:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Defects**.  
This opens the **Defect List** data table.
- 4 Click the **Edit Order** button located above the table.  
This displays the **Edit Display Order** sort box.

**Figure 4-24** Defect List data table



- 5 Select the defect that you wish to move by clicking it with your cursor.
- 6 Click the arrow next to the table to move the highlighted selection to a different location.  
To move the selection up, click the  arrow.  
To move the selection down, click the  arrow.
- 7 Continue clicking the arrows until the defect is in the desired location.
- 8 Repeat the above steps for any other defects you wish to reorder.
- 9 Click **Apply**.  
Changes are applied immediately.
- 10 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

### Assign Specific Repair Actions to a Defect

To assign specific repair actions to defects in the Agilent Repair Tool's **Defect Details** dialog box:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Defects**.  
This opens the **Defect List** data table.
- 4 Locate the defect in the table.
- 5 Click the **Repair Actions** button located on the same row as the defect.  
This opens the **Edit Repair Actions** table.

**Figure 4-25** Assign Specify Repair Actions to a Defect

Action	Defect Name	Displayed As	AOI Classification	Repair Required
Edit Remove Repair Actions	OPEN	OPEN	PIN	No

**Figure 4-26** Assigned Repair Actions table

Repair Actions Available		Assigned Repair Actions
	Add All >> Add > < Remove << Remove All	SOLDER RETOUCHE COMPONENT REPLACED COMPONENT REMOVED COMPONENT ADDED COMPONENT REALIGNED COMPONENT REMOUNTED COMPONENT REPROGRAMMED BOARD REWASHED BOARD RESERIALIZED BOARD SCRAPPED
Apply Cancel		



- 6 To assign a repair action, select it from the **Repair Actions Available** column, then click **Add >**. To unassign a repair action, select it from the **Assigned Repair Actions** column, then click **< Remove**.
- 7 Click **Apply**.

Edits will be applied immediately.

### Test Stations Display List

The Test Station Display List allows the Administrator to specify mappings between internally generated tester names and user-readable names. For instance, the Agilent SJ Series typically identifies itself by a serial number. This feature allows you to assign it a more meaningful name, such as “Line 6 SJ,” that will be displayed within ITF applications.

In ITF 3.1, it is now possible to add, edit and remove test stations. The following sections provide detailed instructions for doing so.

- [Add a Test Station](#)
- [Edit a Test Station](#)
- [Remove a Test Station](#)

### Add a Test Station

To add a test station to the Display List:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Test Stations**.  
  
This displays the **Test Station Display List**. Each tester currently connected to the Agilent Intelligent Test Framework is included in the list.
- 4 Click **Add Test Station** button on top of the data table.  
  
This opens an editable dialog box at the top of the data table. See **Figure 4-27**.

- 5 Enter the new hostname in the **Station's Host Name** comment box, and enter a descriptive name in the **Station's Display Name** comment box, and then click **Apply**.

Changes are applied immediately.

#### NOTE

The Station's Host Name must be unique across all the test stages whereas the Station's Display Name must be unique for the current test stage

- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

**Figure 4-27** Add a Test Station

### AOI\_SJ Test Station Display List

Action	Station's Host Name	Station's Display Name
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	<input type="text" value="SJ100"/>	<input type="text" value="SJ100"/>
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ1	SJ1
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ3	SJ3
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ5	SJ5
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ4	SJ4
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ9	SJ9

### Edit a Test Station

To edit a test station to the Display List:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Test Stations**.

This displays the **Test Station Display List**. Each tester currently connected to the Agilent Intelligent Test Framework is included in the list.

- 4 Click **Edit** for the selected test station.  
This opens an editable dialog box on the data table.
- 5 Edit the new name in the **Station's Display Name** comment box, and edit the descriptive name in the **Station's Display Name** comment box. Click **Apply**.  
Changes are applied immediately.
- 6 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

**Figure 4-28** Edit a Test Station

**AOI\_SJ Test Station Display List**

Action	Station's Host Name	Station's Display Name
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ1	SJ1
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ3	SJ3
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ5	SJ5
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ4	SJ4
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ9	SJ9
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	<input type="text" value="SJ100"/>	<input type="text" value="SJ100"/>

### Remove a Test Station

To remove a test station from the Display List:

- 1 Click **Applications > General** on the main menu.
- 2 Click the appropriate test system mode: **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.
- 3 Click **Test Stations**.

This displays the **Test Station Display List**. Each tester currently connected to the Agilent Intelligent Test Framework is included in the list.

- 4 Click **Remove** for the selected test station.

This removes the selected test station from the data table.

Only test stations without test results can be removed from the Display List. If there is data results associated with the test station, the **Remove** button would be disabled.

- 5 Repeat the above steps for each test system mode (AOI\_SJ, AOI\_SP, AXI and ICT).

**Figure 4-29** Remove a Test Station

**AOI\_SJ Test Station Display List**

Action	Station's Host Name	Station's Display Name
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ1	SJ1
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ3	SJ3
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ5	SJ5
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ4	SJ4
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ9	SJ9
<input type="button" value="Edit"/> <input type="button" value="Remove"/>	SJ100	SJ100

You can only remove station without test results

# 5

## Framework

In this chapter...

- [Overview](#), 5-2
- [Data Management](#), 5-3
- [Licenses](#), 5-19
- [Log Files](#), 5-27
- [Agent Controller](#), 5-28
- [Scheduled Jobs](#), 5-29

## Overview

The **Framework** menu option in the ITF Administration System allows users to configure basic services for the Agilent Intelligent Test Framework.

Click **Framework** from the main menu. Select one of the following choices:

- **Data Management**
- **Licenses**
- **Log Files**
- **Agent Controller**
- **Scheduled Jobs**

## Data Management

System Administrators can configure the Data Management utility to ensure there is adequate space on the disk drive to perform Agilent Repair Tool and Agilent Quality Tool functions. The Data Viewer and XML Export allow you to view test and repair data.

To access the Data Management utility:

- 1 Click **Framework > Data Management**.
- 2 Select one of the following choices:
  - **Lifetime Rules** - Defines when data can be deleted from the data store.
  - **Data Viewer** - Displays test and repair data for selected boards. Allows you to delete data for individual board tests.
  - **Delete Data** - Specifies a specific date for deleting data from the data store.
  - **XML Export** - Saves data configuration files in XML format.

## Lifetime Rules

Lifetime Rules define when and what type of data are deleted on the ITF Server.

The following rules apply:

- 1 All images that are older than the specified number of days will be deleted. (.jpg only)
- 2 All board test results and associated images that are older than the specified number of days will be deleted. (.jpg and test data)

To run Lifetime Rules:

- 1 Click **Framework > Data Management** on the main menu.
- 2 Click **Lifetime Rules**. You can modify the following rules and settings:
  - Minimum time to retain images.
  - Minimum time to retain board test results.
  - Frequency to run Lifetime Rules.
- 3 Enter values for each rule in the **Value** column. The default settings are:
  - Minimum time to retain images = 30 days
  - Minimum time to retain board test results = 30 days

Figure 5-1 Lifetime Rules data table

**Lifetime Rules**

Rule		Value				
Minimum time to retain images		44 Days				
Minimum time to retain board test results		55 Days				
Frequency to run Lifetime Rules						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:00 ▾	Never ▾	Never ▾	Never ▾	Never ▾	Never ▾	Never ▾

Click [here](#) to view information of scheduled jobs.

- 4 Select when you would like to run the Lifetime Rules. For each day of the week, click the drop-down arrow for time options. The default setting is for midnight (00:00) each night. If you do not want to run Lifetime Rules on a particular day, select **Never**.



Figure 5-2 Frequency to run Lifetime Rules dialog box

Frequency to run Lifetime Rules						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
00:00	Never	00:00	00:00	00:00	00:00	00:00

Never  
00:00  
01:00  
02:00  
03:00  
04:00  
05:00  
06:00  
07:00  
08:00  
09:00

Apply and Run   Apply   Cancel

**NOTE**

Be sure to set the Lifetime Rules to run at least one time during the week. You may want to set the Lifetime Rules to run at off-peak hours. This will limit its impact on the ITF Server's performance.

- 5 Click **Apply and Run** to save the changes and run the Lifetime Rules.

The Lifetime Rules are queued as jobs which will run at a preset time. See [Scheduled Jobs](#) for more information.

## Data Viewer

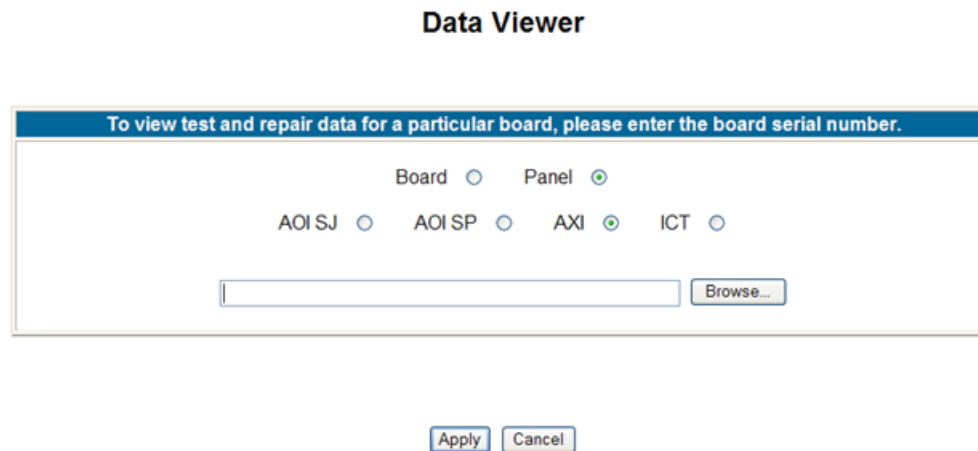
The Data Viewer displays test and repair information for selected boards or panels.

To view test and repair data for a board or panel:

- 1 Click **Framework > Data Management** on the main menu.
- 2 Click **Data Viewer**.

A screen similar to [Figure 5-3](#) appears.

**Figure 5-3** Data Viewer



- 3 Select **Board** or **Panel**.

### NOTE

Select **Board** if you want to view only the individual board information. Select **Panel** if you want to view panel with multiple information .

- 4 Select **AOI\_SJ**, **AOI\_SP**, **AXI** or **ICT**.

- 5 Enter the serial number of your board or panel, and then click **Apply**. The board details appears as shown in [Figure 5-7](#)

If there are at least two boards with same serial number or the same board is tested under different test programs, a list would appear as shown in [Figure 5-4](#). Select the desired board.

**Figure 5-4** Data Viewer Same Serial Browse dialog box

**Data Viewer**

---

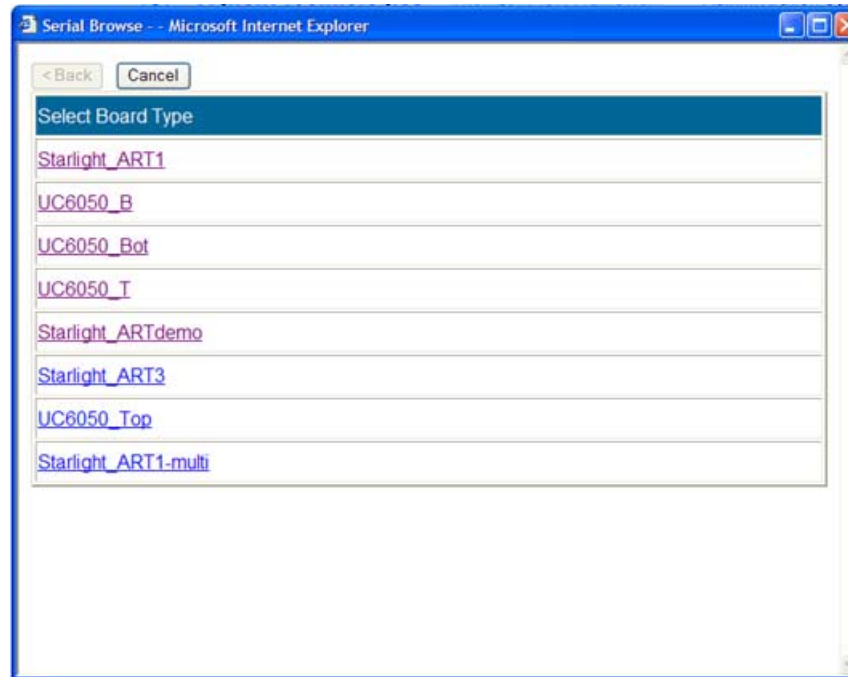
Select Panel to open [ Board Type, Assembly Revision, Board Revision ]
<u>123463_06_TETRA_T_1067821798000</u>
<u>123463_03_TETRA_T_1098096171230</u>
<u>123463_03_TETRA_T_1067821798000</u>
<u>123463_05_TETRA_T_1067821798000</u>

---

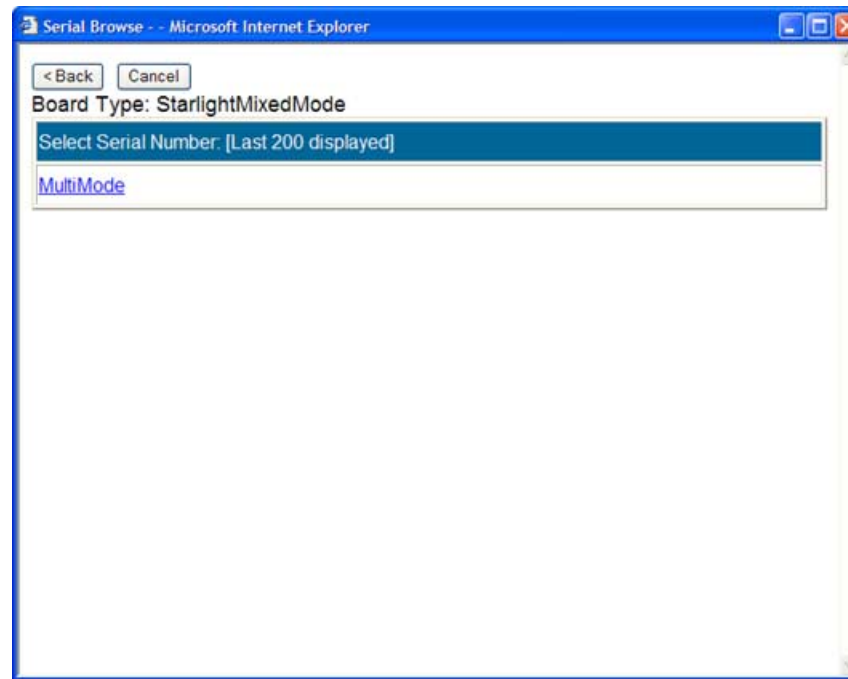
Alternatively, you can click **Browse** for a list of available board or panel types and their associated serial numbers. Select the board type required as shown in [Figure 5-5](#).

- 6 The last 200 board or panel serial numbers that matches the selected board type will appear as shown in [Figure 5-6](#).

Figure 5-5 Selecting Board Type



**Figure 5-6** Data Viewer -Browsing with the Browse button



7 Select the desired board or panel and it would be displayed.

A screen similar to **Figure 5-7** appears.

Figure 5-7 Test Data for AOI\_SJ

Board Serial Number: 8XV000C  
Board Type: Starlight\_ART1

Test Stage: AOI\_SJ  
Test Station: 116073\_25

Test Date/Time:  
2/21/02 2:46:31 PM


Action	Repair Status	Tester Defect	Indicted Components	Operator Defect	Repair Action : Comment	Repaired Components	Repair Operator
<a href="#">View</a>	🔧	SOLDER BAD	1:U11	COMPONENT MISALIGNED	COMPONENT REALIGNED		Ken
<a href="#">View</a>	🕒	SOLDER BRIDGE	1:RP2	SOLDER BALL	SOLDER RETOUCHE		Ken
<a href="#">View</a>	✓	COMPONENT POLARITY REVERSED	1:C43	COMPONENT POLARITY REVERSED	No Repair Action		Ken
<a href="#">View</a>	⚠️	SOLDER BAD	1:U9				
<a href="#">View</a>	⚠️	COMPONENT MISSING	1:C36				
<a href="#">View</a>	⚠️	COMPONENT MISSING	1:RP1				
<a href="#">View</a>	⚠️	SOLDER BRIDGE SOLDER BAD	1:U17				
<a href="#">View</a>	⚠️	SOLDER BRIDGE	1:U17				
<a href="#">View</a>	⚠️	SOLDER BRIDGE	1:U15				
<a href="#">View</a>	⚠️	SOLDER BAD	1:U8				
<a href="#">View</a>	⚠️	COMPONENT SKEW	1:C37				
<a href="#">View</a>	⚠️	COMPONENT POLARITY REVERSED	2:C43				
<a href="#">View</a>	⚠️	COMPONENT MISALIGNED SOLDER BAD	2:U9				
<a href="#">View</a>	⚠️	COMPONENT POLARITY REVERSED	2:C44				
<a href="#">View</a>	⚠️	SOLDER BRIDGE	2:RP4				
<a href="#">View</a>	⚠️	SOLDER BRIDGE	2:RP1				
<a href="#">View</a>	⚠️	SOLDER BRIDGE	2:U17				


**Figure 5-8** Individual Component Test Data for AOI\_SJ

Board Serial Number: 8XV000C  
Board Type: Starlight\_ART1

Test Stage: AOI\_SJ  
Test Station: 116073\_25

Test Date/Time:  
2/21/02 2:46:31 PM

Repair Status	Tester Defect	Indicted Components	Operator Defect	Repair Action	Repaired Components	Repair Operator
	SOLDER BAD	1:U11	COMPONENT MISALIGNED	COMPONENT REALIGNED		4



Name: E\_1-u11  
Status: Repaired  
Orientation: 270.0 Units: 270.0

[Back](#)

8 Click **View** displays the details of each individual defect.

To view a close-up image of the component, click the thumbnail image.

Figure 5-9 Sample Data for ICT

Test Run : Tester ID = hpfac3 Test Date/Time = July 25, 2001 10:08:07 AM SGT Image Id = 1

Board Serial Number: GOLD  
Board Type: 520-0093-002

Test Stage: ICT  
Test Station: hpfac3

Test Date/Time:  
7/25/01 10:08:07 AM

Repair Status	TestStep	Tester Defect	Indicted Components	Operator Defect	Repair Action : Comment	Repaired Components	Repair Operator
▼	y1	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	u35	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	u37	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	u57	DIGITAL TEST FAILED	DIGITAL TEST FAILED : u57 Pins : 21 Nets : COMM1_RXD				
▼	u14	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	u58	DIGITAL TEST FAILED	DIGITAL TEST FAILED : u58 Pins : 21 Nets : PD11				
▼	u24	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	u58	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	u38	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	y2	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	y3	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	u36	MEASUREMENT FAILED	MEASUREMENT FAILED				
▼	u12	MEASUREMENT FAILED	MEASUREMENT FAILED				



Figure 5-10 Sample Test Data for AXI

Test Run : Tester ID = AGILENT-0AH84B9 Test Date/Time = March 7, 2002 11:11:50 AM SGT

Board Serial Number: same  
Board Type: SLEDGEHAMER\_RM







Test Stage: AXI  
Test Station: AGILENT-0AH84B9

Test Date/Time: 3/7/02 11:11:50 AM

Action	Repair Status	Tester Defect	Indicted Components	Operator Defect	Repair Action : Comment	Repaired Components	Repair Operator
<a href="#">View</a>	▼	SOLDER INSUFFICIENT	C64.2				
<a href="#">View</a>	▼	COMPONENT MISSING SOLDER INSUFFICIENT	C128.1				
<a href="#">View</a>	▼	COMPONENT MISSING	C128.2				
<a href="#">View</a>	▼	SOLDER INSUFFICIENT	C95.2				
<a href="#">View</a>	▼	SOLDER INSUFFICIENT	C284.2				
<a href="#">View</a>	▼	COMPONENT MISSING SOLDER INSUFFICIENT	C258.1				
<a href="#">View</a>	▼	COMPONENT MISSING	C258.2				
<a href="#">View</a>	▼	SOLDER INSUFFICIENT	C274.1				
<a href="#">View</a>	▼	SOLDER INSUFFICIENT	C274.2				
<a href="#">View</a>	▼	COMPONENT MISSING SOLDER INSUFFICIENT	C257.1				
<a href="#">View</a>	▼	COMPONENT MISSING	C257.2				
<a href="#">View</a>	▼	OPEN	FL13_SPLITB.1				
<a href="#">View</a>	▼	OPEN	FL15_SPLITA.2				
<a href="#">View</a>	▼	OPEN	FL17_SPLITA.2				
<a href="#">View</a>	▼	OPEN	FL19_SPLITA.2				
<a href="#">View</a>	▼	OPEN	FL21_SPLITB.1				

The **Repair Status** column includes information from the Agilent Repair Tool about the status of the board.

Figure 5-11 Icon Reference list

Icon	Description
	Repaired
	Scrapped
	Contains active defects
	Repair later
	False Call
	Variation OK

- In AXI, AOI\_SJ or AOI\_SP mode, you can click **View** to view images associated with the defect.

## Delete Data

The Delete option allows you to delete data from the data store based upon a specified date. All board test results and associated images *older* than the specified date will be deleted.

- Click **Framework > Data Management** on the main menu.
- Click **Delete**.  
A calendar appears.

Figure 5-12 Calendar dialog box



- Click the desired date for data deletion and click **Apply**.  
All data older than the selected date is deleted.

#### NOTE

The date entered must be older than the current date.

The deletion would be queued as a job which would run at a preset time.

## XML Export

The XML Export function allows you to save test and repair data in the form of XML files. These files are saved in the ITF folder on a designated network PC or server.

### Run XML Export

Before running XML Export, verify that the following steps have been completed:

- Permissions and ItfService properties on the ITF Server have been set for the ITFUser account.
- A network PC or server has been designated and configured to receive the XML files from the ITF Server.

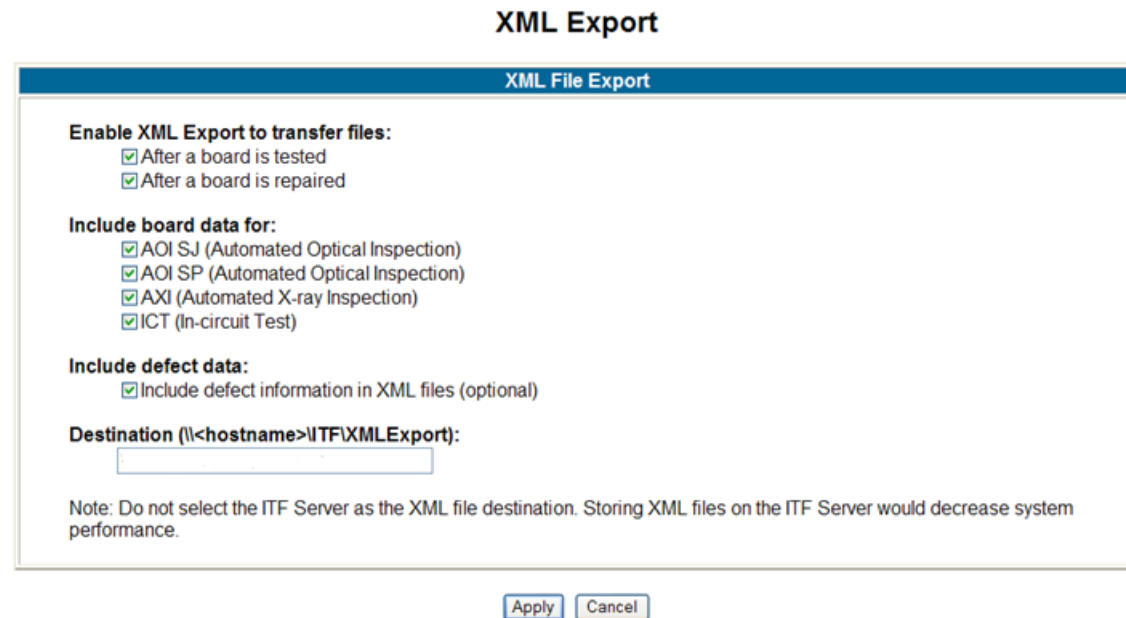
These steps are typically completed during the initial setup of the ITF Server and Intelligent Test Framework. For more information on how to complete these tasks, please see the *ITF Software Solutions Setup Guide* (Setup\_Guide.pdf) located in the C:\Program Files\Agilent Technologies\Intelligent Test Framework\Install\Documentation directory on the ITF Server.

To run XML Export:

- 1 Click **Framework > Data Management** on the main menu.
- 2 Click **XML Export**.

The **XML Export** dialog box appears.

Figure 5-13 XML Export dialog box



3 Choose:

- When you want to transfer XML files: after boards are tested and/or after boards are repaired
- Whether to export AOI\_SJ, AOI\_SP, AXI and/or ICT board data
- Whether you want to include defect information (optional)

**NOTE**

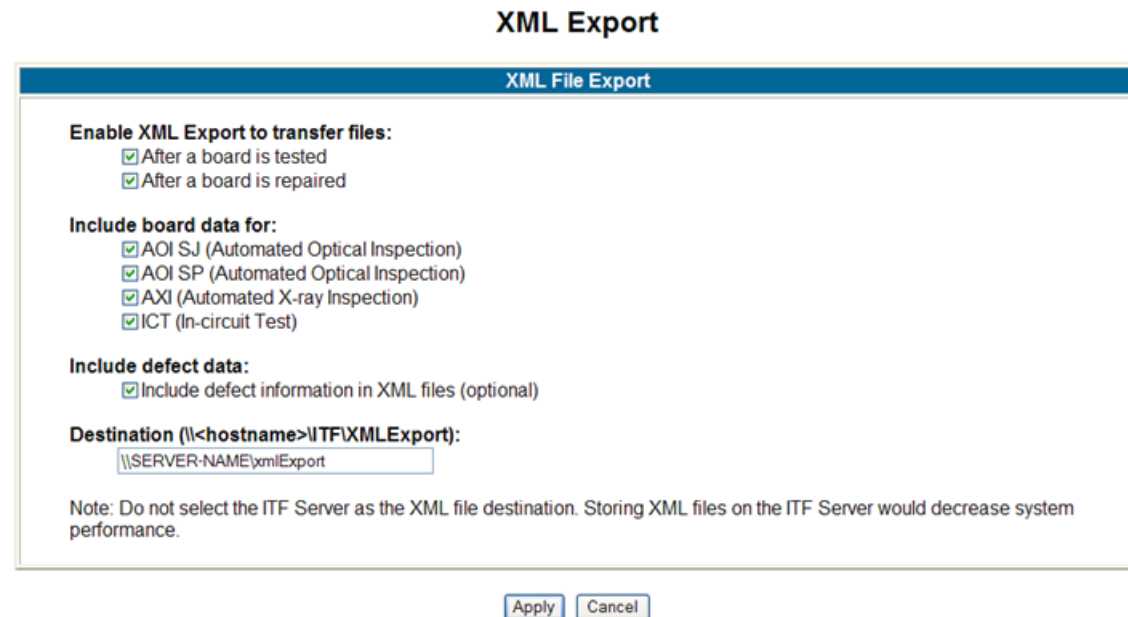
You must select at least one option from the **Enable XML Export to transfer files** section and one option from the **Include board data for** section in order to enable XML Export. Defect information is optional.

- 4 Verify that the **Destination** box lists the hostname and shared folder of the network PC or server designated to receive the XML files. If necessary, enter the hostname and shared folder of the network PC or server.

For example, if your network PC or server's hostname is `SERVER_NAME` and the shared folder is `ITF`, you would enter the following in the **Destination** box:


```
\\SERVER_NAME\ITF\XMLExport.
```

Figure 5-14 XML Export.



- 5 Click **Apply**.

**CAUTION**

 Running XML Export may decrease system performance depending upon the amount of data transferred to XML files.

### XML File Names

The XML file names are based on the following information:

```
SerialNumber#boardType#stage#TestStation#imageId#testTime#pre/postRepair#exportTime.xml
```

For example:

```
uc6050_botDemo#UC6050_Bot_ART#AOI_SJ#SJ100#0#1017007606000#PostRepair#1049137191866.xml
```

Board Serial Number = uc6050\_botDemo

Board Type = UC6050\_Bot\_ART

Stage = AOI\_SJ

Test Station = SJ100

Image ID (or Board Number on panel) = 0

Test Time = 1017007606000

Date Generation (PreRepair or PostRepair) = PostRepair

Time XML file was created = 1049137191866

#### NOTE

Times are represented as the number of milliseconds that have passed since January 1, 1970 00:00:00.000 GMT.

### View XML Files

You can open and view XML files in Microsoft® Internet Explorer.

When viewing and parsing XML files, refer to the BoardTestXMLExport.xsd file located on the ITF Server under C:\Program Files\Agilent Technologies\Intelligent Test Framework\ITFInfo. The XSD file describes the format and content of the XML files.

XSD stands for XML Schema Description. Since the XSD file describes the content of the XML files generated by XML Export, it is a useful reference when writing your XML parsers.

You can open and view the BoardTestXMLExport.xsd file in Microsoft Internet Explorer.

## Licenses

The Licenses utility allows you to view your current software licenses, as well as set up new licenses. You can also retrieve basic information about your ITF Server, such as its MAC address and serial number.

To manage your software license information:

- 1 Click **Framework > Licenses** on the main menu.
- 2 Select one of the following choices:
  - **Set up** - Activate a new license.
  - **List** - View existing licenses and expiration dates.

### Setting Up Licenses

You may need to set up the licenses for the ART and AQT clients.

Setting up your software licenses involves three major steps:

- Getting your ITF Server MAC address and serial number
- Downloading the software license file from the Agilent Software Licensing web site
- Activating the license file in the ITF Administration System

To set up your ART/AQT Client software licenses:

- 1 Click **Framework > Licenses** on the main menu.
- 2 Click **Set Up**.
- 3 Click **ART/AQT**.

The ITF Administration System provides you with the following information about your ITF Server:


- Hostname
  - MAC Address
- 4 Print or write down the MAC address. You will need it when accessing the Agilent Software Licensing web site.
  - 5 From any computer with Internet access, browse to the Agilent Software Licensing web site at <http://www.agilent.com/find/softwarelicense>.

#### NOTE

It is assumed that the ITF Server does not have Internet access. If it does, simply browse to the Agilent Software Licensing web site from the ITF Server and follow the instructions below.

If you do not have Internet access or cannot contact Agilent through this web site, contact the Agilent Customer Support Center at 1-800-447-TEST (U.S. only) for assistance. If you are located outside the U.S., please contact your local Agilent representative.

Figure 5-15 Example Entitlement Certificate



## Agilent Technologies

Order Number: PREVIEW  
Certificate Number: GSDC-GSDC-GSDC-GSDC

### SOFTWARE ENTITLEMENT CERTIFICATE

---

This Software Entitlement Certificate evidences Agilent Technologies' grant of the right to use the software products listed below. Unless otherwise specified, rights and restrictions on the use, transfer, and copying of this software are set forth in the applicable documents listed below.

Product	Description	Quantity
PROD1	Dummy Product	1
PROD2	Dummy Product	2
PROD3	Dummy Product	3
PROD4	Dummy Product	4
PROD5	Dummy Product	5

---

**NOTICE:**  
This is an important document. Please keep it in a safe place. You will need it to activate your license(s).

To activate your license(s):

1. You will need access to the Internet and an email account. For redeeming AGT View Key license(s), you need to provide the MAC address of the target test equipment(s). Redemption of all other license type requires the ITF system MAC address.
2. Log on to the Agilent Software Licensing System, <http://www.agilent.com/find/softwarelicense>. Follow the instructions provided to create a license file. Please remember to enter the installation CD S/N into the <Enter Agilent instrument serial number> field. This information will be used by Agilent to activate your technical and warranty support.
3. When this process is complete, transfer your license file to the ITF system.
4. Follow the software installation instructions.

For assistance, go to <http://www.agilent.com/see/ITFLicense> or see the ITF online help system.

Agilent Technologies documents governing license use: Exhibit ATE 16, Terms and Conditions for Automated Test Systems; Exhibit E 300, Supplemental Terms and Conditions - Automated Test Systems; Exhibit ATEPPU. To obtain copies contact your local Agilent representative. Entitlement Certificate Revision A (2002-07-26) N1106-90700  
Printed in PREVIEW





- 6 Once at the Agilent Software Licensing web site, click **Click here to start software license redemption**.
- 7 Enter the **Order Number** and **Certificate Number** from your Entitlement Certificate, and then click **Search**.
- 8 The next window provides you with three options. Click Option I: **Request license(s) for one or more software products on one instrument or host computer**.

**NOTE**

You may redeem licenses for only one ITF Server at a time.

- 9 Select the product for which you want to redeem a license (i.e., Agilent Repair Tool or Agilent Quality Tool).  
  
The products are listed in the drop-down menu. The “available” and “desired” quantities are filled in automatically. If necessary, change the desired quantity for licensing. This is the number of products that you wish to license at this time.
- 10 Click **Add**.  
  
The product is listed in the **Selected Product List** box. If you have more than one product for which you would like to redeem a software license, repeat steps 8 and 9.
- 11 At the bottom of the page, enter the MAC Address of the ITF Server and the Product Serial Number.
- 12 Review the transaction and click **Next**.

- 13 Enter an email address where you can retrieve the license file. Click **Submit**.

An email will be sent to you with your license file.

- 14 Review and print the confirmation page.
- 15 Click **Close** to exit the Agilent Software Licensing web site.
- 16 Open your email and look for a new message from `license_support@agilent.com`. If you have network access to the ITF Server, copy the attached license file over the network to the ITF Server. Otherwise, copy the file to a diskette, then go over to the ITF Server.

**CAUTION**



Check that the license file ends with a `.lic` file name extension. If the file does not have a `.lic` extension, change the file extension to `.lic` manually.

- 17 Return to the ITF Administration System on the ITF Server.
- 18 Click **Framework > Licenses > Set Up** to continue with the licensing process.
- 19 If you have copied the license file to a diskette, insert the diskette into the appropriate drive on the ITF Server.
- 20 Click **ART/AQT**.

**21** Enter the location of the license file in the **Enter the license file path** text box. You can also browse to the path using the **Browse** button.

**Figure 5-16** Set Up ART/AQT Client Licenses

### Set Up Licenses

For more detailed information, see the *Set Up Licenses* section of the online help.

1. [Print](#) or write down the ITF Server Information

<b>Hostname</b>	mtss-svr5
<b>MAC Address</b>	0008025547f9

2. Complete the steps below to retrieve the software license file.

- a. From a machine with Internet access, Go to the Agilent Licensing website at <http://www.agilent.com/find/softwarelicense>
- b. Enter the MAC address and product serial number of the ITF Software\*, when prompted.
- c. Retrieve the email with the license file.
- d. Save the file to a temporary location.
- e. Note the file name and directory.

3. Enter the license file path:

\* The product serial number of the ITF Software is found at the back of the installation CD envelope.

**22** Click **Next >**.

The system activates the file and the ITF License Information table is automatically populated to reflect your new license.

**23** Compare the new licenses listed in the ITF License Information table with those listed on your Entitlement Certificate. They should match. If they are not identical, an error may have occurred during the licensing process. Please contact your local Agilent representative or the Agilent Customer Support Center at 1-800-447-TEST (U.S. only).

**NOTE**

In order to activate additional licenses in the future, you will need to download a new software license file. See [Additional Licenses](#) for more information.

---

## Listing Licenses

The ITF License Information table lists your current licenses and expiration dates.

To view your current software licenses:

- 1 Click **Framework > Licenses** on the main menu.
- 2 Click **List**.

The **ITF License Information** table appears.

**Figure 5-17** ITF License Information table

<b>Application Clients</b>		
<b>Application</b>	<b>Number of Client Licenses Available</b>	<b>Expiration Date</b>
AGILENT REPAIR TOOL	3	None
	3	Expired
AGILENT QUALITY TOOL	4	None
	2	Expired

The ITF License Information table is updated automatically whenever a new software license file is activated. See [Setting Up Licenses](#) for more information.

### Additional Licenses

If you have an Entry or Standard ITF Server, you can purchase additional software licenses for the various ITF software applications at any time. Single-Tester ITF Servers are limited to only one license per application.

If you would like to purchase additional licenses, contact your local Agilent field representative for assistance. They will process your order and issue you a new Entitlement Certificate.

Once you receive your Entitlement Certificate, follow the steps listed under [Setting Up Licenses](#).

### Troubleshooting

If for some reason, you can no longer use the software license file after activation, use the following recovery process.

The following procedure will only work for the same MAC address for which the original license was processed. If no license history is found or you cannot locate your Entitlement Certificate, contact your local Agilent representative or call the Agilent Customer Support Center at 1-800-447-8378 (U.S. only) for assistance.

To recover your license file:

- 1 Locate your original Entitlement Certificate.

#### NOTE

If you do not have the Entitlement Certificate, you will *not* be able to retrieve your software license file through the Agilent Software Licensing web site. You will need to contact your local Agilent representative or call the Agilent Customer Support Center at 1-800-447-8378 (U.S. only) for assistance.

- 2 From any computer with Internet access, browse to the Agilent Software Licensing web site at <http://www.agilent.com/find/softwarelicense>.
- 3 Once at the Agilent Software Licensing web site, click **Click here to start software license redemption**.
- 4 Enter the **Order Number** and **Certificate Number** from your Entitlement Certificate, and click **Search**.  
The next window provides you with three options. Click Option III: **Get previously issued licenses for this order number**.
- 5 Right-click the file listed and choose **Save Target As** to retrieve the software license file.
- 6 Save the software license file to a directory from which you can retrieve it later.

- 7 If you have network access to the ITF Server, copy the license file over the network to the ITF Server. Otherwise, copy the file to a diskette, then go over to the ITF Server.

#### CAUTION



Check that the license file ends with a .lic file name extension. If the file does not have a .lic extension, change the file extension to .lic manually.

- 8 Return to the ITF Administration System on the ITF Server.
- 9 Login to the ITF Administration System on the ITF Server as **Administrator**.
- 10 Click **Framework > Licenses > Set Up**. Skip steps 1 and 2 in the **Set Up Licenses** dialog box.
- 11 If you have copied the file to a diskette, insert the diskette into the appropriate drive on the ITF Server.
- 12 Enter the location of the license file on the ITF Server in the **Enter the license file path** text box. You can also browse to the path using the **Browse** button.
- 13 Click **Next >**.

The system activates the file and the ITF License Information table is automatically populated to reflect your new license.

- 14 Compare the licenses listed in the ITF License Information table with those listed on your Entitlement Certificate. They should match. If they are not the same, an error may have occurred during the licensing process. Please contact your local Agilent representative or the Agilent Customer Support Center at 1-800-447-8378 (U.S. only).

**NOTE**

This process will only work for the same MAC address to which the original license was submitted. If no license history is found or you cannot locate your Entitlement Certificate, contact your local Agilent representative or call the Agilent Customer Support Center at 1-800-447-8378 (U.S. only) for assistance.

---

- 15 Store your license file together with your Entitlement Certificate.
- 16 Remove the diskette from the ITF Server drive.

## Log Files

The **Log Files** option displays a list of log files generated by the ITF Server. These files contain information about errors encountered during operation.

To view a log file:

- 1 Click **Framework > Log Files** on the main menu.

This opens the **ITF Log Files** table.

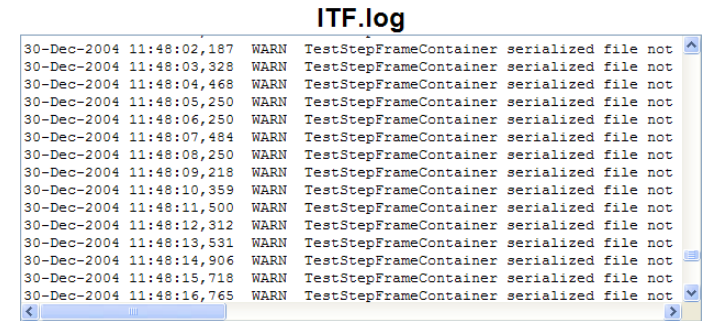
**Figure 5-18** ITF Log Files table

	File Name	Date
<input type="button" value="View"/>	ITF Log.txt	12/30/04 1:51:26 PM
<input type="button" value="View"/>	ITF.log	12/30/04 1:51:38 PM
<input type="button" value="View"/>	migration.log	12/30/04 1:51:38 PM

- 2 Click the **View** button next to the file you wish to view.

The data is displayed in a new dialog box.

**Figure 5-19** Log Files Display -ITF.log



- 3 Click the **Back** button on the browser to return to the original **ITF Log Files** table.

## Agent Controller

The Agent Controller utility enables you to monitor the status of the individual agents within the four stages. It enables you to start or stop the Agent locally.

### Using the Agent Controller

Using the 5DX Agent Controller as a example,

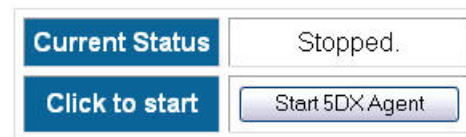
To start the agent when it is stopped:

- 1 Click **Framework > Agent Controller > AXI** on the main menu.

This opens the 5DX Agent Controller utility.

**Figure 5-20** Agent Controller - Stopped

### 5DX Agent Controller



- 2 Click the **Start 5DX Agent** button.

This starts the 5DX agent.

To stop the agent when it is started:

- 1 Click **Framework > Agent Controller > AXI** on the main menu.

This opens the 5DX Agent Controller utility.

**Figure 5-21** Agent Controller - Stopped

### 5DX Agent Controller



- 2 Click the **Stop 5DX Agent** button.

This stops the 5DX agent.



## Scheduled Jobs

When the Data Lifetime Management Rules are set, the jobs would not run immediately. Instead, they are placed in a queue. The ITF Server would only run these jobs at the appointed time. The Scheduled Jobs on the main menu provides a mean of managing the jobs. The jobs can only be removed after it is done processing.

## Viewing Scheduled Jobs

To view the scheduled jobs:

- 1 Click **Framework > Scheduled Jobs** on the main menu.

This opens a **Scheduled Jobs Information** table similar to the one shown in [Figure 5-22](#).

**Figure 5-22** Scheduled Jobs Information - Data Lifetime Management Rules

### Scheduled Jobs Information

Action	ID	Description	Date Started	Date Completed	Status
<a href="#">Remove</a>	7	Data Lifetime Management	Oct 7, 2004 9:44:56 AM	Oct 7, 2004 9:45:04 AM	<a href="#">Done</a>
<a href="#">Remove</a>	10	Data Lifetime Management	Oct 7, 2004 9:46:36 AM	Oct 7, 2004 9:46:36 AM	<a href="#">Done</a>
<a href="#">Remove</a>	27	Data Lifetime Management	Oct 7, 2004 1:59:25 PM	Oct 7, 2004 1:59:26 PM	<a href="#">Done</a>
<a href="#">Remove</a>	28	Data Lifetime Management	Oct 7, 2004 2:11:31 PM	Oct 7, 2004 2:11:43 PM	<a href="#">Done</a>
<a href="#">Remove</a>	30	Data Lifetime Management	Oct 7, 2004 2:12:11 PM	Oct 7, 2004 2:12:11 PM	<a href="#">Done</a>
<a href="#">Remove</a>	31	Data Lifetime Management	Oct 14, 2004 9:27:55 PM	Oct 14, 2004 9:28:30 PM	<a href="#">Done</a>
<a href="#">Remove</a>	32	Data Lifetime Management	Oct 20, 2004 3:06:35 PM	Not Available	<a href="#">Started</a>

- 2 Click **Remove** to clear completed jobs.
- 3 Repeat accordingly for each job to remove.

**NOTE**

Jobs which are being processed appear in cyan and cannot be removed.

Queued jobs which are not currently in process can be removed.

---

In this chapter...

- [Working in Comfort](#), 6-2
- [Technical Support](#), 6-3
- [Phone Support](#), 6-4
- [Sales and Product Information](#), 6-5

## Working in Comfort

To optimize your comfort and productivity, it is important that you set up your work area correctly and use your equipment properly. With that in mind, Agilent Technologies has developed some setup and use recommendations for your work station. Please click the link below to learn important information based on established ergonomic principles.

[http://www.agilent.com/quality/Working\\_In\\_Comfort.pdf](http://www.agilent.com/quality/Working_In_Comfort.pdf)

## Technical Support

The Agilent Technologies Printed Circuit Board Test and Inspection web site is for the benefit of owners and users of the Agilent Quality Tool, the Agilent Repair Tool, and Agilent Technologies' board test and inspection systems.

Visit the web site at: <http://www.agilent.com/see/pcb>

### NOTE

A login is required for access to service documentation and downloads.

---

Topics available from the web site include the following:

- Application Notes and Technical Papers
- Data Sheets, Brochures, Demonstrations and Catalogs
- Frequently-Asked Questions (FAQs)
- Manuals, Guides and Notifications
- Newsletters, Presentations, and Articles
- Software, Firmware and Drivers

## Phone Support

Phone-based support is included for the first year of purchase and is highly recommended for subsequent years.

Customers can call a 24-hour toll free support phone number.

- In the United States, the phone number is 1-800-447-8378.
- Customers in the rest of the world can call their local support.

For more information about support services, go to the Agilent Technologies web site at <http://www.agilent.com/sec/pcb> or contact your local Agilent Technologies field representative.

## Sales and Product Information

- For more information about Agilent Technologies products and services in electronics manufacturing, visit our web site: <http://www.agilent.com/see/pcb>
- To learn about other Agilent Technologies test and measurement products, applications and services, or for a current sales office listing, visit our web site: <http://www.agilent.com/find/tmdir>

In this chapter...

- [Overview](#), 7-2
- [Migration](#), 7-3



## Overview

The **Resource** section of the Administration System migrates the old data of the ITFSS 3.0 to ITFSS 3.1.

## Migration

The following tasks can be performed in **Resource** for **Migration**:

- **Add A Migration Job**
- **Remove A Migration Job**
- **Restore A Migration Job**
- **Migrate All Data**

### Add A Migration Job

To migrate a specific range of data:

- 1 Click **Resource > Migration**.  
A calendar appears (see **Figure 7-1**).
- 2 To migrate a specific range of board test data, click << or >> to select year, click < or > to select month, then click the date.

**Figure 7-1** Migration of Data dialog box

#### Migration Of v3.0 Data to v3.1

**Select a date to start migrate from.**  
 Date must be within Jul 27, '04 12:07 and Aug 5, '04 10:08.  
 Or check here  to migrate all board test data.

<<	<	October 2004				>	>>
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
					1	2	
3	4	5	6	7	8	9	
10	11	12	13	14	15	16	
17	18	19	20	21	22	23	
24	25	26	27	28	29	30	
31							

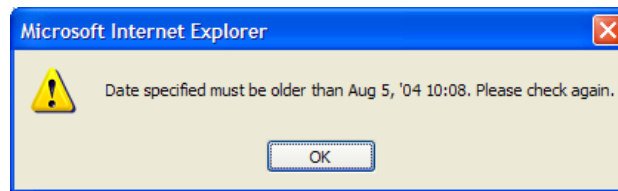
#### Job Summary

Index	Delete	Status	Date From	Date To	% Done
No Migration Job scheduled.					

In this example the range of test board data available is from Jul 27, '04 12:07 to Aug 5, '04 10:08

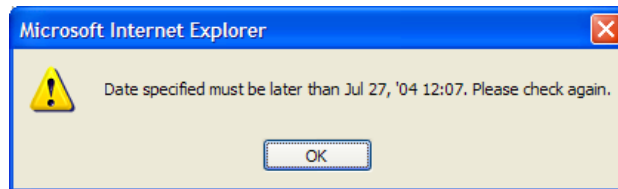
- a If a date earlier than Jul 27, '04 12:07 is selected, a message box appears (see [Figure 7-2](#)), click **OK** and re-select a later date.

**Figure 7-2** Error message indicating a later date is required



- b If a date later than Aug 5, '04 10:08 is selected, a message box appears (See [Figure 7-3](#)), click **OK** and re-select an earlier date.

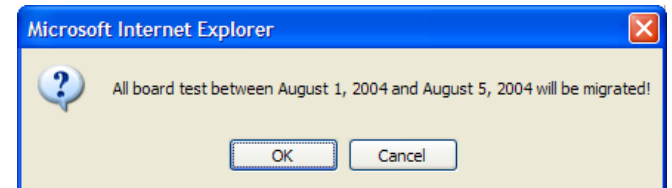
**Figure 7-3** Error message indicating a later date is required



- 3 For example, to migrate the data from Aug 1, '04 to Aug 5, '04, click **1** in the month **August 2004** and click the **Apply** button.

A dialog box opens to confirm if the range is correct. Click **OK** to start.

**Figure 7-4** Dialog box to confirm range of data



The queued job is shown in [Figure 7-5](#).

**Figure 7-5** Data Migration Job Summary - 1 job queued

**Job Summary**

\*Page will refresh in 300

Index	Delete	Status	Date From	Date To	% Done
1	<input type="button" value="delete"/>	queuing	Aug 1, '04 00:08	Aug 5, '04 10:08	0.00%

**NOTE**

The job changes status to “processing” as shown in [Figure 7-6](#) once it starts.

**Figure 7-6** Data Migration Job Summary - 1 job being processed

**Job Summary**

\*Page will refresh in 291

Index	Delete	Status	Date From	Date To	% Done
1	<input type="button" value="delete"/>	processing	Aug 1, '04 00:08	Aug 5, '04 10:08	4.95%

- To migrate another range, for example Jul 31, '04 to Aug 1, '04, the same procedure as in [step 3](#) is repeated. The new job is queued for processing later.

**Figure 7-7** Job summary - 1 job pending and 1 job processing

\*Page will refresh in 299

Index	Action	Status	Date From	Date To	% Done
1	<input type="button" value="remove"/>	processing	Aug 1, '04 00:08	Aug 5, '04 10:08	37.62%
2	<input type="button" value="remove"/>	pending	Jul 31, '04 00:07	Aug 1, '04 00:08	0.00%

### Remove A Migration Job

To remove a migration job scheduled earlier:

- 1 Click **Resource > Migration**.

The **Job Summary** screen similar to the one shown in [Figure 7-7](#) appears.

In this example, we would like to remove the job numbered 2 in the **Index**.

- 2 Click the **remove** button.

The **Action** status button changes to **restore** as shown in [Figure 7-8](#).

#### NOTE

The job which has been removed can be restored. However, when the job is restored, it would only start after the currently scheduled jobs have been completed.

**Figure 7-8** Job summary - Scheduled job 2 removed

\*Page will refresh in 294

Index	Action	Status	Date From	Date To	% Done
1	<input type="button" value="remove"/>	processing	Aug 1, '04 00:08	Aug 5, '04 10:08	32.67%
2	<input type="button" value="restore"/>	pending	Jul 31, '04 00:07	Aug 1, '04 00:08	0.00%

## Restore A Migration Job

To restore a migration job scheduled earlier:

- 1 Click **Resource > Migration**.

The **Job Summary** screen similar to the one shown in [Figure 7-8](#).

In this example, we would like to restore the job numbered 2 in the **Index**.

- 2 Click the **restore** button.

The **Action** status button changes to **remove** as shown in [Figure 7-9](#).

### NOTE

The jobs which has been restored would only start after the currently scheduled jobs have been completed.

**Figure 7-9** Job summary - Scheduled Job restored

### Job Summary

\*Page will refresh in 299

Index	Action	Status	Date From	Date To	% Done
1	<input type="button" value="remove"/>	processing	Aug 1, '04 00:08	Aug 5, '04 10:08	37.62%
2	<input type="button" value="remove"/>	pending	Jul 31, '04 00:07	Aug 1, '04 00:08	0.00%

### Migrate All Data

To migrate all data:

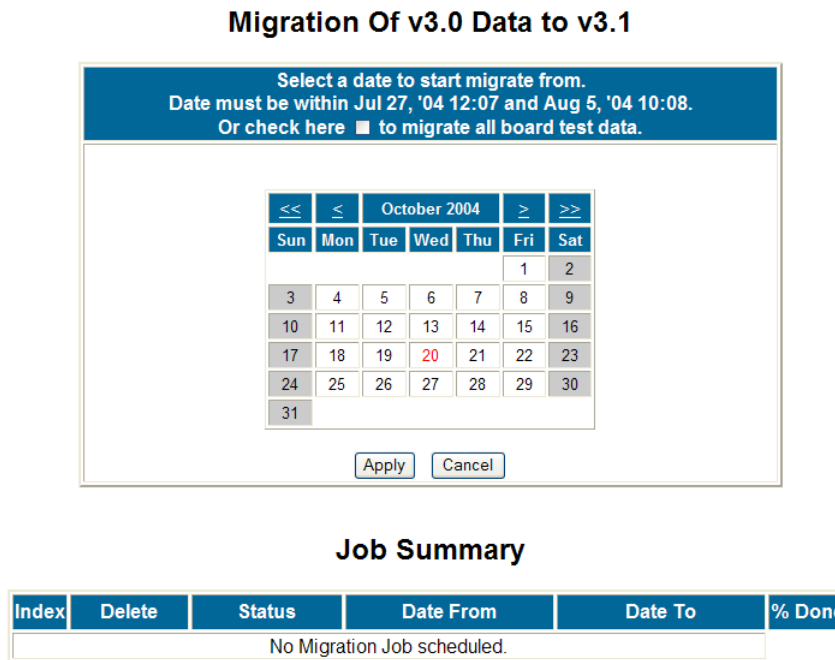
- 1 Click **Resource > Migration**.

A calendar appears. See [Figure 7-10](#).

- 2 To migrate all board test data, select the **To migrate all board test data** check box and then click **Apply**.

The job to migrate all data is then scheduled and it appears under **Job Summary**.

**Figure 7-10** Migration of Data dialog box



#### NOTE

Once all the jobs have been scheduled, the calendar is replaced with a notice that there is “No more data to migrate.”

**Figure 7-11** Completion of job scheduling - “No More Data to Migrate.”

---

### Migration Of v3.0 Data to v3.1

No more data to migrate.

---

#### Job Summary Status

The following is a list of possible statuses for the job summary:

- **Completed** - This means all board test data selected between the timeframe in the job has been migrated.
- **Pending** - This means the job is waiting to start.
- **Processing** - This indicates that the job is currently being processed.
- **Queuing** - This means the job is still waiting to be started. (This only occurs when the first job is scheduled.)



# XML File Definitions

## Overview

This appendix provides information on Pre-Repair and Post-Repair XML file definitions found in the `BoardTestXMLExport.xsd` file for the following elements.

- [Pre-Repair XML File Definitions, A-2](#)
- [Post-Repair XML File Definitions, A-9](#)

## Pre-Repair XML File Definitions

This provides information on Pre-Repair XML file definitions for the following elements.

- [BoardTestXMLExport](#), A-3
- [BoardXML](#), A-4
- [StationXML](#), A-6
- [TestXML](#), A-6
- [IndictmentXML](#), A-7
- [ComponentXML](#), A-7

## BoardTestXMLExport

The following tables list the attributes and elements in BoardTestXMLExport and their definitions.

**Table A-1** BoardTestXMLExport attributes

Attribute	Definition
testTime	Time recorded when Agilent tester starts to inspect this board
testerTestStartTime	Time recorded when Agilent tester starts to inspect this board
testerTestEndTime	Time recorded when Agilent tester finishes the inspection of this board
numberOfComponentsTested	Number of components tested by Agilent tester for this board
numberOfJointsTested	Number of pins tested by Agilent tester for this board
numberOfIndicatedComponents	Number of failed components called by Agilent tester for this board
numberOfIndicatedPins	Number of failed pins called by Agilent tester for this board
numberOfDefects	Total number of defects found for this board
testStatus	Test status of this board after the inspection by Agilent tester
repairStatus	Repair status of this board after inspection at Agilent Rule: <pre>           if testStatus equals to "Failed"             repairStatus set to "Active"            if testStatus equals to "Passed"             repairStatus set to "Repair None"           </pre>

**Table A-2** BoardTestXMLExport elements

Element Name	Definition
BoardXML	refer to definition for BoardXML
StationXML	refer to definition for StationXML
TestXML	refer to definition for TestXML

## BoardXML

The following tables list the attributes in BoardXML and their definitions.

**Table A-3** BoardXML attributes

Attribute	Definition
serialNumber	Serial number (Bar-code) on this board
imageld	Board number defined for this board
boardType	Board Type
boardRevision	Board Revision Rule: <ul style="list-style-type: none"> <li><b>a</b> AOI_SP / AOI_SJ: The last modified date of the .pls file which is associated with the .rep file</li> <li><b>b</b> AXI: The concatenation of board numbers in the panel plus checksum of .cx file</li> <li><b>c</b> ICT: The last modified date of the GenCAM file which has the same name as the Board Type</li> </ul>

**Table A-3** BoardXML attributes (continued)

Attribute	Definition
assemblyRevision	Assembly Revision Rule: <b>a</b> AOI_SP / AOI_SJ: Board Name obtains from the first line of the .rep file <b>b</b> AXI: Panel Name obtains from .res file <b>c</b> ICT: Board Type obtains from the BATCH record of the log file

## StationXML

The following tables list the attributes in StationXML and their definitions.

**Table A-4** StationXML attributes

Attribute	Definition
testerName	Name of Agilent Tester machine where this board is tested
stage	Type of Agilent Tester (AOI_SJ, AOI_SP, AXI or ICT)

## TestXML

The following tables list the attribute and element in TestXML and their definitions.

**Table A-5** TestXML attribute

Attribute	Definition
name	Name of the test step
	Rule:
	<b>a</b> AOI_SP / AOI_SJ: Reference designator
	<b>b</b> AXI: The sorted joint number
	<b>c</b> ICT: Test designator obtains from test records found in log file

**Table A-6** TestXML element

Element Name	Definition
IndictmentXML	refer to definition for IndictmentXML

### IndictmentXML

The following tables list the attributes and elements in IndictmentXML and their definitions.

**Table A-7** IndictmentXML attributes

Attribute	Definition
indictmentType	Type of defect found on this component in this board
algorithm	Algorithm used to test this component in this board
algorithmSubType	Sub-algorithm used to test this component in this board (AXI only)

**Table A-8** IndictmentXML elements

Element Name	Definition
ComponentXML	refer to definition for ComponentXML

### ComponentXML

The following tables list the attributes ComponentXML and their definitions.

**Table A-9** ComponentXML attributes

Attribute	Definition
designator	Reference Designator of this component in this board
pin	Pin Number of this component in this board (AXI only)
partId	Part Number of this component in this board (AOI_SJ only)
packageld	Package type of this component in this board



## Post-Repair XML File Definitions

This appendix provides information on Post-Repair XML file definitions for the following elements.

- [BoardTestXMLExport, A-10](#)
- [BoardXML, A-12](#)
- [StationXML, A-13](#)
- [RepairEventXML, A-13](#)
- [TestXML, A-15](#)
- [IndictmentXML, A-15](#)
- [RepairActionXML, A-16](#)
- [ComponentXML, A-17](#)

## BoardTestXMLExport

The following tables list the attributes and elements in BoardTestXMLExport and their definitions.

**Table A-10** BoardTestXMLExport attributes

Attribute	Definition
testTime	similar to Pre-Repair case
testerTestStartTime	similar to Pre-Repair case
testerTestEndTime	similar to Pre-Repair case
numberOfComponentsTested	similar to Pre-Repair case
numberOfJointsTested	similar to Pre-Repair case
numberOfIndicatedComponents	similar to Pre-Repair case
numberOfIndicatedPins	similar to Pre-Repair case
numberOfDefects	similar to Pre-Repair case
testStatus	similar to Pre-Repair case

**Table A-10** BoardTestXMLExport attributes (continued)

Attribute	Definition
repairStatus	<p>Repair status of this board after board opened at ART client</p> <p>Rule:</p> <pre>if testStatus equals to "Failed"     repairStatus set to "Active"  if testStatus equals to "Passed"     repairStatus set to "Repair None"  if testStatus equals to "Reviewed Passed"     repairStatus set to "Reviewed Passed"  if testStatus equals to "Reviewed Failed"     repairStatus set to "Reviewed Failed"  if testStatus equals to "Repaired"     repairStatus set to "Repaired"  if testStatus equals to "Scrapped"     repairStatus set to "Repair None"</pre> <hr/>

**Table A-11** BoardTestXMLExport elements

Element Name	Definition
BoardXML	refer to definition for BoardXML
StationXML	refer to definition for StationXML
RepairEventXML	refer to definition for RepairEventXML
TestXML	refer to definition for TestXML

## BoardXML

The following tables list the attributes in BoardXML and their definitions.

**Table A-12** BoardXML attributes

Attribute	Definition
serialNumber	similar to Pre-Repair case
imageId	similar to Pre-Repair case
boardType	similar to Pre-Repair case
boardRevision	similar to Pre-Repair case
assemblyRevision	similar to Pre-Repair case

## StationXML

The following tables list the attributes in StationXML and their definitions.

**Table A-13** StationXML attributes

Attribute	Definition
testerName	similar to Pre-Repair case
stage	similar to Pre-Repair case

## RepairEventXML

The following tables list the attributes in RepairEventXML and their definitions.

**Table A-14** RepairEventXML attributes

Attribute	Definition
repairStartTime	Time recorded when the ART client start the repair on the board
repairEndTime	Time recorded when the ART client ends the repair on the board
repairOperator	Name of the ART client repair operator
numberOfActiveDefects	Number of active defects remaining on the board after the board has been repaired by the ART client
numberOfActiveComponents	Number of active components remaining on the board after the board has been repaired using the ART client
numberOfActivePins	Number of active pins remaining on the board after the board has been repaired using the ART client

**Table A-14** RepairEventXML attributes (continued)

Attribute	Definition
numberOfFalseCalledDefects	Number of false called defects remaining on the board after the board has been repaired using the ART client
numberOfFalseCalledComponents	Number of false called components remaining on the board after the board has been repaired using the ART client
numberOfFalseCalledPins	Number of false called pins remaining on the board after the board has been repaired using the ART client
numberOfRepairedDefects	Number of repaired defects remaining on the board after the board has been repaired using the ART client
numberOfRepairedComponents	Number of repaired components remaining on the board after the board has been repaired using the ART client
numberOfRepairedPins	Number of repaired pins remaining on the board after the board has been repaired using the ART client
numberOfRepairLaterDefects	Number of repair later defects remaining on the board after the board has been repaired using the ART client
numberOfRepairLaterComponents	Number of repair later components remaining on the board after the board has been repaired using the ART client
numberOfRepairLaterPins	Number of repair later pins remaining on the board after the board has been repaired using the ART client
numberOfVariationOkDefects	Number of variation ok defects remaining on the board after the board has been repaired using the ART client
numberOfVariationOkComponents	Number of variation ok components remaining on the board after the board has been repaired using the ART client
numberOfVariationOkPins	Number of variation ok pins remaining on the board after the board has been repaired using the ART client

## TestXML

The following tables list the attribute and element in TestXML and their definitions.

**Table A-15** TestXML attribute

Attribute	Definition
name	similar to Pre-Repair case

**Table A-16** TestXML element

Element Name	Definition
IndictmentXML	refer to definition for IndictmentXML

## IndictmentXML

The following tables list the attributes and elements in IndictmentXML and their definitions.

**Table A-17** IndictmentXML attributes

Attribute	Definition
indictmentType	similar to Pre-Repair case
algorithm	similar to Pre-Repair case
algorithmSubType	similar to Pre-Repair case

**Table A-18** IndictmentXML elements

Element Name	Definition
RepairActionXML	refer to definition for RepairActionXML
ComponentXML	refer to definition for ComponentXML

## RepairActionXML

The following tables list the attributes RepairActionXML and their definitions.

**Table A-19** RepairActionXML attributes

Attribute	Definition
repairTime	Time recorded when ART client starts to repair this board
repairOperator	Name of the ART client repair operator
repairStatus	Repair status of this component
indictmentType	Type of defect found on this component in this board
repairActionType	Type of repair action carried out for this component in this board
comment	Additional comments defined for this repair action



## ComponentXML

The following tables list the attributes ComponentXML and their definitions.

**Table A-20** ComponentXML attributes

Attribute	Definition
designator	similar to Pre-Repair case
pin	similar to Pre-Repair case
partId	similar to Pre-Repair case
packageId	similar to Pre-Repair case

# Glossary

## A

**Administration System:** see ITF Administration System.

**Administrator role:** The Administrator role has the second-highest level of permission in the ITF Administration System. Permissions for this role are set by the System Administrator role. There are no restrictions on the number of users with Administrator permissions. A System Administrator can assign an unlimited number of users or none to this role. There is no limit on the amount of concurrent users logged in as Administrators.

**Agilent 3070:** Agilent Technologies' in-circuit board test system family.

**Agilent 5DX:** Agilent Technologies' x-ray inspection system. Automated X-ray Inspection (AXI) uses 3-D x-ray testing to locate manufacturing defects. In addition, it does not require in-circuit test probing or visual access and does not require a fixture. AXI pinpoints the exact location of the defects; thus, repairs are both fast and inexpensive.

**Agilent Intelligent Test Framework:** A collective term that refers to the Agilent Intelligent Test Framework software and server.

**Agilent Intelligent Test Framework software:** The software that allows for data sharing and communication among test systems and applications, such as the Agilent Repair Tool and Agilent Quality Tool.

**Agilent Quality Tool:** An SPC/SQC tool for the Agilent 5DX and Agilent AOI inspection systems. The Agilent Quality Tool

allows users to apply SPC and SQC methods to improve assembly and test process efficiencies while helping them meet targeted quality levels. The Agilent Quality Tool is a software application that runs on Client PCs.

**Agilent Repair Tool:** The common repair tool for the Agilent 3070, Agilent 5DX, and Agilent SJ Series test systems. The Agilent Repair Tool is a software application that runs on Client PCs. Common abbreviation is ART.

**Agilent SJ Series:** Agilent Technologies' optical inspection system. Automated Optical Inspection, Solder Joint (AOI\_SJ) uses cameras to inspect components on printed circuit boards. AOI\_SJ can be used to check for presence-absence, skew, character markings, and polarity.

**AOI\_SJ:** Automated Optical Inspection, Solder Joint. The Agilent SJ10 and SJ50 are automated optical inspection solder joint (AOI\_SJ) systems.

**AOI\_SP:** Automated Optical Inspection, Solder Paste. The Agilent SP50 is an automated optical inspection, solder paste (AOI\_SP) system.

**ART:** Abbreviation for Agilent Repair Tool.

**AXI:** Automated X-ray inspection. The Agilent 5DX X-ray inspection system is an AXI system.

## B

**board:** (1) The physical object containing the devices intended for test. (2) A term used by 3070 users to refer to a printed circuit board assembly (called a panel by Agilent 5DX users).

**broken files:** Files that were not parsed by the ITF Server. The Broken Files option in the ITF Administration System allows you to view and reparse broken files.

## C

**CAD:** Abbreviation for Computer Aided Design. For the Agilent 5DX or Agilent SJ Series inspection systems, CAD data is the source data used to design or describe an unpopulated circuit board. For Agilent in-circuit test machines, CAD data is used to describe the layout of a printed circuit board to the test machine.

**CAD Manager:** A utility in the ITF Administration System that allows the user to manage the CAD data files.

**Client PC:** The computer on which the Agilent Repair Tool or Agilent Quality Tool software runs.

**close board:** An action taken in the Agilent Repair Tool to close an active board.

**component:** An individual part with contacts (pins) that are connected with solder joints to a corresponding set of pads (land pattern) on a board. Also called a Device.

**Computer-aided design:** See CAD.

## D

**dashboard:** The group of live charts on a tab in the Agilent Quality Tool, used to monitor quality, throughput, or false call levels.

**Data Store:** The subsystem within the Intelligent Test Framework where the test and repair information is stored.

**Data Viewer:** A utility in the ITF Administration System that displays a list of files associated with a board. These files

contain a record of the errors and information that the Agilent ITF has encountered while processing the data for the board.

**defect:** An unacceptable deviation from a norm.

**defect call:** An item in the Defect Table or defect list. A possible defect.

**Defect Details:** A dialog box in the Agilent Repair Tool. Allows the user to enter more specific details about repair actions and defects.

**Defect List:** A user-defined list of defect types, such as OPEN or SHORT. The list is configured in the ITF Administration System and used in Agilent ITF applications. The defects listed in the Agilent Repair Tool are based upon the Defect List.

**device:** A component.

## F

**Framework:** See Agilent Intelligent Test Framework.

**function key:** A programmable key on a computer keyboard (conventionally numbered F1, F2, etc.). Function keys often provide special functions, depending on the application currently running on that PC.

## I

**ICT:** An acronym for in-circuit test. The Agilent 3070 is an in-circuit test system.

**image:** An X-ray or optical image of a possible defect. X-ray laminography allows for X-ray images from X-ray inspection (AXI) systems, such as the Agilent 5DX. Automated optical inspection allows for optical images from AOI\_SJ test systems, such as the Agilent SJ10 or SJ50.

**in-circuit test:** An analog or digital test technique that measures the value or performance of a component on the board under test. Abbreviated as ICT.

**indictment:** A possible defect. A defect call.

**input device:** A device used to enter information into a computer. Examples include a keyboard, mouse, barcode reader, or a keypad.

**Intelligent Test Framework:** See Agilent Intelligent Test Framework

**Intelligent Test Framework Server:** The server hardware on which the Agilent Intelligent Test Framework software runs.

**Intelligent Test Framework Software Solutions:** A suite of software applications that run on the Agilent Intelligent Test Framework.

**interface:** Interaction or communication is achieved at an interface. A user interface is a computer screen where you receive and/or enter information.

**ITF Administration System:** A browser-based application used to configure system properties, such as user access, repair configurations and framework services for Agilent ITF applications. It is a software program located on the Agilent Intelligent Test Framework Server.

**ITF Applications:** A term used to describe Agilent Technologies, Inc. software applications developed specifically for use with the Agilent Intelligent Test Framework.

**ITF Server:** See Intelligent Test Framework Server.

**ITF Software Solutions:** See Intelligent Test Framework Software Solutions.

## K

**keypad:** A keypad is an optional input device comprised of buttons for the most commonly used functions in the Agilent Repair Tool.

## L

**LAN:** See Local Area Network.

**Lifetime Rules:** A set of rules defining when test, inspection, and repair data is deleted by the ITF Server. The rules are defined in the ITF Administration System.

**local area network:** A group of computers at a single location (usually an office or home) that are connected by phone lines or coaxial cable.

**log in:** The method to establish communication with a computer program. When an Agilent ITF application starts up, the user must first log in to the program. Login requires a valid user name and password. Your System Administrator sets up the list of valid user names and passwords.

**log out:** The method to end communication with a computer program. A user will log out when he/she wants to end communication with the program. Another user may then log in to the application.

## P

**panel:** A printed circuit board assembly which can contain one or more boards. Note: For the Agilent 5DX, any single board loaded directly into the tester is considered a panel for the purpose of panel programming.

**password:** An individual identification code required to access a board, file, computer or program. The password

helps ensure that unauthorized users do not access the computer.

**PIN:** Personal Identification Number (a numeric password)

## Q

**Quality Administrator role:** Users assigned to the Quality Administrator role can access the quality configuration or the quality administration tool. Permissions for this role are set by the System Administrator or Administrator role.

**Quality Tool:** See Agilent Quality Tool.

**Quality User role:** Users assigned to this role can only access the Agilent Quality Tool. Permissions for this role are set by the Administrator or Quality Administrator. The maximum number of concurrent users is limited by the software license. Users can change their passwords through the Agilent Quality Tool.

## R

**repair action:** An action taken by the Repair Operator to repair or disposition a specific defect. A list of common repair actions, such as SOLDER RETOUCHEDED or COMPONENT REPLACED, can be defined in the ITF Administration System. This list is included in the Agilent Repair Tool user interface.

**Repair Administrator role:** Users assigned to the Repair Administrator role can access the repair configuration or the repair administration tool. Permissions for this role are set by the System Administrator or Administrator role.

**Repair client:** The Client PC on which the Agilent Repair Tool software runs.

**Repair User role:** Users assigned to this role can only access the Agilent Repair Tool. Permissions for this role are set by the

Administrator or Repair Administrator. The maximum number of concurrent users is limited by the software license. Repair users can change their passwords through the Agilent Repair Tool.

**repaired:** An action taken to confirm or change the specific defect for this pin or component. This defect has been addressed.

## S

**serial number:** A unique series of numbers and/or letters used to identify an individual board or panel. Usually encoded on a barcode label. A multi-board panel may have multiple board serial numbers associated with a single panel serial number.

**software license file:** A file containing Agilent Technologies licensing permissions. It is downloaded from the Agilent Technologies web site. The file must be obtained in order to activate software licenses.

**SPC:** Acronym for Statistical Process Control.

**SQC:** Acronym for Statistical Quality Control.

**status:** The status of a component or pin in the Agilent Repair Tool. Status is Active, Repaired, Repair Later, False Call or Variation OK.

**status buttons:** Two to four buttons located in the Agilent Repair Tool user interface that are used when dispositioning defects. They are named Repaired, Repair Later, False Call, and Variation OK. Repaired and False Call are required in the interface, but Repair Later and Variation OK are optional and can be set using the ITF Administration System.

**System Administrator role:** The System Administrator role has the highest-level permissions of any account and is the

only role that can assign or remove Administrator privileges. This role is automatically set up during installation with administrator privileges. This is a single, permanent account with login name Administrator.

### T

**test station:** A specific test or inspection system, identified by a name or identification number.

**test system:** A generic term used to describe a test or inspection machine, such as the Agilent 3070, Agilent 5DX, or Agilent SJ Series.

**three-tier architecture:** A software architecture generally comprised of three layers: data store, business logic, and applications.

### U

**user name:** Name used to log in to an Agilent ITF application from the Login dialog box. The System Administrator sets up all user names.

**user role:** Allows access to a particular software application. Users of Agilent ITF applications must be assigned at least one user role. Different roles allows for different levels of access to the software features.

### V

**View:** A group of selected test stations and board types. A view defines a subset of test, inspection, and repair data that resides on the ITF Server, forming the basis for charts in the Agilent Quality Tool. Views are created and named in the Agilent Quality Tool.

### X

**x-ray:** A dialog box of electromagnetic radiation, similar to light, but of shorter wavelength and capable of penetrating solid materials. Used by X-ray inspection machines to examine printed circuit board joints.

**XML:** Abbreviation for Extensible Markup Language. XML is a specification developed by the World Wide Web Consortium. It allows designers to create their own customized tags, enabling the definition, transmission, validation, and interpretation of data between applications and between organizations.

**XML Export:** A utility in the ITF Administration System that exports XML files. The XML files include test and repair data.

**XSD:** Acronym for XML Schema Description. The BoardTestXMLExport.xsd file describes the format and content of XML files generated by the ITF Administration System's XML Export tool.

# Index

## A

add user, [3-11](#)  
Administrator, [3-7](#)  
Adobe Reader, [2-3](#)  
Agilent Intelligent Test Framework, [1-3](#)  
Agilent Quality Tool, [4-19](#)  
Agilent Repair Tool, [4-3](#)  
Agilent Technologies  
    web sites, [6-5](#)

## C

close board, [4-8](#)

## D

data management, [5-3](#), [5-6](#), [5-14](#)  
data viewer, [5-6](#)  
defect list, [4-26](#)  
delete, [5-14](#)

## E

edit user, [3-13](#)

## F

framework, [5-1](#)  
function keys, [4-17](#)

## H

help file, [2-3](#)  
help files, [1-2](#)

## I

ITF Administration System, [2-2](#)

## L

licenses  
    adding new, [5-24](#)

## M

main menu, [2-3](#)  
migration, [7-3](#)

## P

password, [3-15](#)

permissions, [3-3](#)

privileges, [3-6](#)

## **Q**

Quality Administrator, [3-9](#)

Quality User, [3-10](#)

## **R**

remove user, [3-14](#)

Repair Administrator, [3-8](#)

Repair Users, [3-8](#)

roles, [3-3](#)

## **S**

sales, [6-5](#)

## **U**

User

add user, [3-11](#)

edit user, [3-13](#)

remove user, [3-14](#)