BD FACSLink LIS Interface Solution

Quick Start Guide

History

Revision	Date	Change made
23-11546-00 Rev. A	5/2010	Added information to support V1.2 driver.
23-11040-00 Rev. A	9/2009	Added information to support V1.1 driver.
647062 Rev. A	4/2009	New document

Contents

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Introduction to the BD FACSLink LIS Interface Solution

This section includes these topics:

About the BD FACSLink LIS Interface Solution

About this topic

This topic describes the hardware and software that BD™ FACSLink supports and Data Innovations' Instrument Manager software compatibility and requirements.

Description

The BD™ FACSLink LIS Interface Solution is a software application that uses Data Innovations' Instrument Manager software and the BD FACSLink driver to read BD Multiset™, BD HLA-B27, and BD FACSCanto™ clinical software and BD FACSDiva™ software result files into ASTM and HL7 formats and to transfer the results data to Laboratory Information Systems (LIS).

Worklists in Data Innovations' Instrument Manager are compatible with the following BD products:

- BD FACSCanto Version 2.2 software

- BD FACSCanto Version 2.4 software

- BD FACSDiva™ Version 6.x software

- BD FACSCalibur™ instruments

- BD FACS™ Sample Prep Assistant II (SPA II) instruments and software

- BD FACS™ Sample Prep Assistant III (SPA III) instruments and software

The BD FACSLink LIS Interface Solution allows the lab manager to review and designate which test results are released to the LIS. BD FACSLink provides a readable audit trail file for traceability between the original files and the transferred results files.

Instrument Manager Compatibility

The BD FACSLink LIS Interface Solution has the same system and compatibility requirements as Data Innovations' Instrument Manager software.

See Data Innovations' Instrument Manager *Help* for a specific list of system requirements and compatibilities.

Requirements

Data Innovations' Instrument Manager software must be installed on a dedicated network server and networked to the BD workstations.

- The BD workstation EXP and CSV results directories must be accessible on the network and have read/write permissions.

- The network administrator should indicate the base result location by using UNC paths, not Windows drive letter mapping.

- Store all exported BD FACSLink worklist files in a network shared folder accessible by the BD workstation.

Full operation of the BD FACSLink LIS Interface Solution requires installation of the BD FACSLink driver and the BD Global Configuration File (GCF). If the GCF is not installed, the BD FACSLink LIS Interface Solution customized user interface will not be configured.

About this guide

This guide provides instructions for getting started with BD FACSLink. It does not include information about installing the software package on a network server, configuring the server or instrument, or operating extended features of Data Innovations' Instrument Manager.

See the Reference (page 25) section for overview information about the BD FACSLink driver configuration and connections, as well as information about worklist formats and Specimen Management settings.

Related publications

For detailed user information, see Data Innovations' Instrument Manager documentation included on the software CD, or Data Innovations' Instrument Manager *Help*.

Limitations

BD Biosciences delivers software and workstations that are intended for running the instruments supplied by BD Biosciences. It is the responsibility of the buyer/ user to ensure that all added electronic files including software and transport media are virus free. If the workstation is used for Internet access or purposes other than those specified by BD Biosciences, it is the buyer/user's responsibility to install and maintain up-to-date virus protection software. BD Biosciences does not make any warranty with respect to the workstation remaining virus free after installation. BD Biosciences is not liable for any claims related to or resulting from the buyer/user's failure to install and maintain virus protection.

BD Biosciences is not responsible for the development, validation, or support of features or functions of Data Innovations' Instrument Manager software, other than the BD FACSLink driver option.

Technical support

If additional assistance is required, contact your local BD Biosciences technical support representative or supplier.

When contacting BD Biosciences, have the following information available:

- Product name, part number, and license number
- Any error messages
- Details of recent system performance

For system support from within the US, call 877.232.8995.
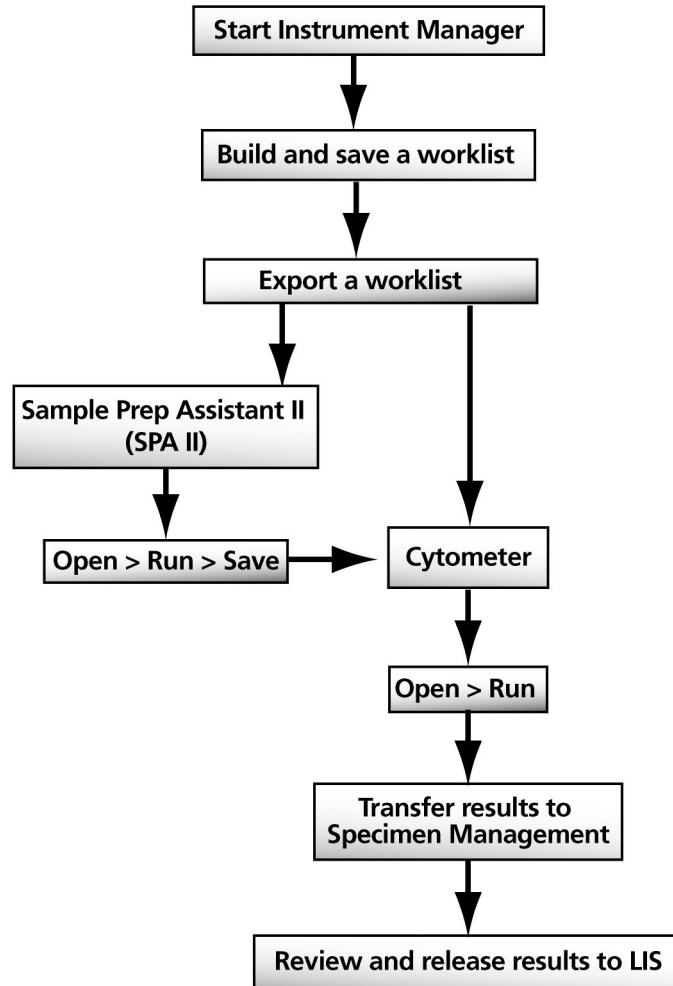
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Building worklists and transferring results

This section includes these topics:

BD FACSLink workflow

About this topic

This topic shows a typical BD FACSLink workflow.

Typical workflow

Your facility's standard operating procedure might require a different workflow. This information is provided as an example.

```
                    ┌──────────────────────────┐
                    │ Start Instrument Manager │
                    └──────────────────────────┘
                                 │
                                 ▼
                    ┌──────────────────────────┐
                    │  Build and save a worklist │
                    └──────────────────────────┘
                                 │
                                 ▼
                    ┌──────────────────────────┐
                    │      Export a worklist    │
                    └──────────────────────────┘
                         │                  │
                         ▼                  │
        ┌──────────────────────────┐        │
        │ Sample Prep Assistant II │        │
        │         (SPA II)         │        │
        └──────────────────────────┘        │
                    │                        │
                    ▼                        ▼
    ┌──────────────────────┐       ┌──────────────┐
    │ Open > Run > Save    │──────▶│  Cytometer   │
    └──────────────────────┘       └──────────────┘
                                          │
                                          ▼
                                  ┌──────────────┐
                                  │  Open > Run  │
                                  └──────────────┘
                                          │
                                          ▼
                              ┌──────────────────────────┐
                              │    Transfer results to   │
                              │   Specimen Management    │
                              └──────────────────────────┘
                                          │
                                          ▼
                          ┌──────────────────────────────┐
                          │ Review and release results to LIS │
                          └──────────────────────────────┘
```

Starting Instrument Manager
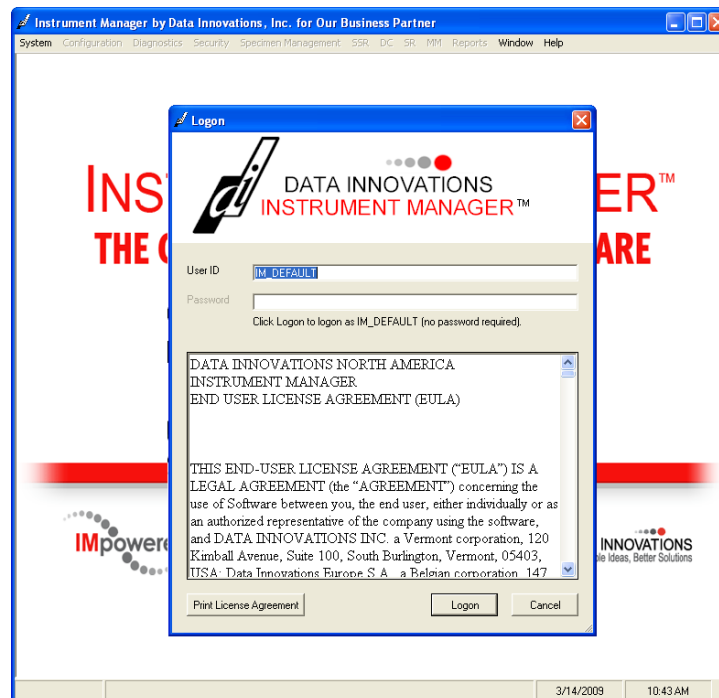
About this topic   This topic describes how to start and log on to Data Innovations' Instrument Manager.

Starting and logging on   **To start Instrument Manager and log on:**

1. Double-click the **Instrument Manager** icon on the desktop.

    The **Instrument Manager** window and the **Logon** dialog appear.

2. In the **User ID** field, type a user ID.

3. In the **Password** field, type a password.

    If this field is disabled (gray), no password is required. The IM_DEFAULT user account does not require a password.

4. Click **Logon**.

    The main **Instrument Manager** window appears.

Logging off   **To log off Instrument Manger:**

1. In the main **Instrument Manager** window, select **System > Logoff**.

    A confirmation dialog appears.

2. Click **Yes** to log off.
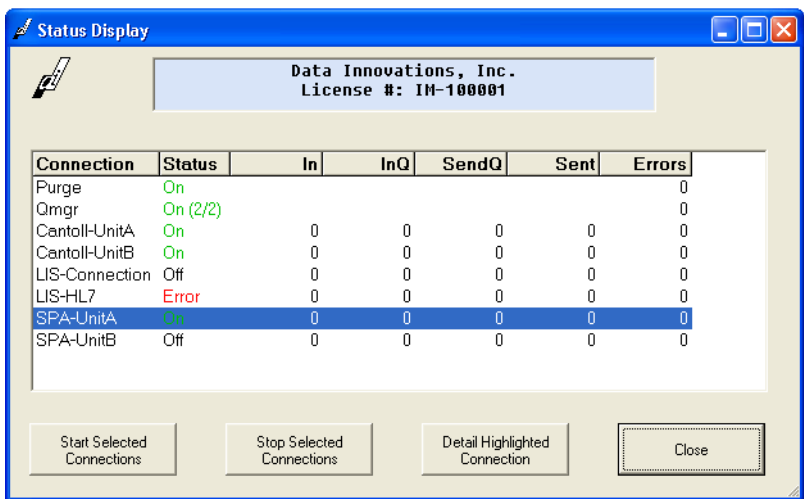
Opening and closing worklists

About this topic

This topic describes how to open worklists using the **BD FACSLink Manager** window.

Opening the FACSLink Manager window

To open the BD FACSLink Manager window:

1. In the main **Instrument Manager** window, select **System > Status.**

   The **Status Display** dialog appears.

   The **Status Display** dialog displays the current status of all instrument connections. See Viewing and managing the connection status (page 44) for more information.

2. Select a connection in the list.
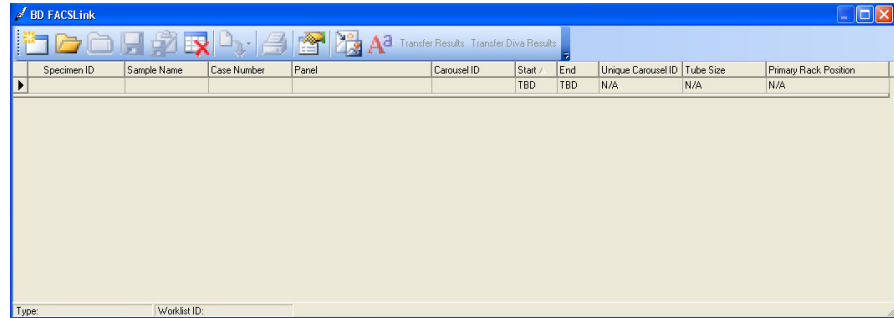
3. Click **Detail Highlighted Connection**.

   The **Status Detail** dialog appears.
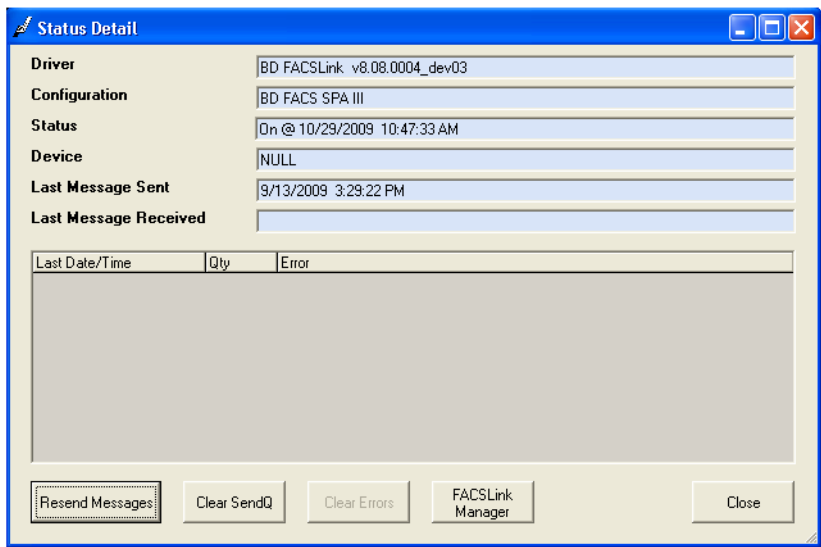
The **Status Detail** dialog provides details for a specific instrument connection. See Viewing and managing connections (page 41) for more information, or see Data Innovations' Instrument Manager *Help*.

4. Click **FACSLink Manager**.

   The **FACSLink Manager** window appears.

You need to open an existing worklist, or create a new one.
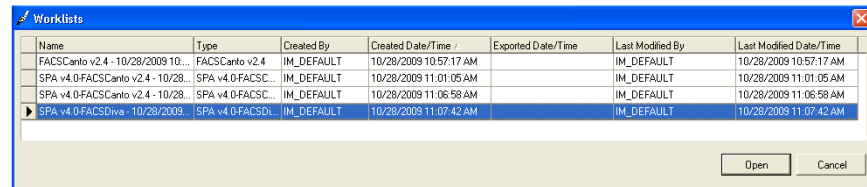
Opening a worklist

To open an existing worklist:

1. In the **FACSLink Manager** window, click **Open** on the toolbar.

   The **Worklists** dialog appears.

2. Select a worklist from the list, then click **Open**.

   The worklist opens.
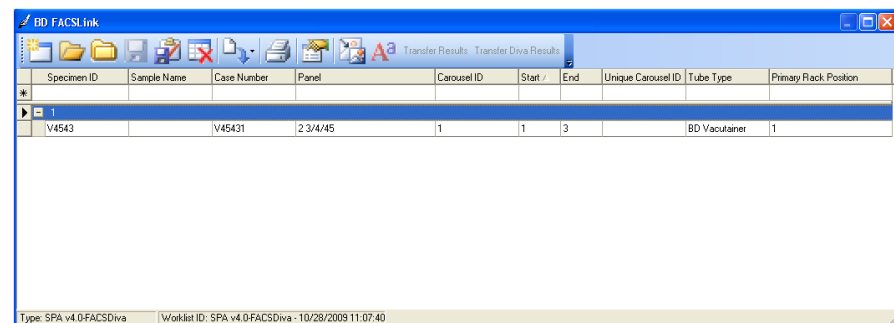
Closing a worklist

To close an open worklist:

In the **FACSLink Manager** window, click **Close** on the toolbar.

The worklist closes.

Related topics

- About worklist data columns (page 15)
- Building a worklist (page 16)
- Exporting a worklist (page 22)
- Deleting an entire worklist (page 23)
- Worklist toolbar options (page 51)

About worklist data columns

About this topic

This topic describes the data column contents and provides guidelines for data columns and specific worklist types.

Data column contents

- **Specimen ID.** Enter an ID or scan an ID with a barcode reader.

- **Sample Name.** Patient Name. This data column is populated by the LIS. You can view or edit a patient name associated with the current Specimen ID.

- **Case Number.** This is a case number based on the Specimen ID plus an incremental number. This data column is populated by the LIS. You can enter a case number or allow Instrument Manager to automatically assign it.

- **Panel.** Select a single Panel. If multiple panels are required, you can select them using the **Panel Selection** dialog.

  SPA connections might only have a single panel ordered for a specific Specimen ID in a single worklist.

- **Carousel ID.** Enter a value after entering the first Specimen ID of a new worklist. If the current carousel is full, enter a new Carousel ID. You can build multiple carousels at the same time using different carousel IDs.

- **Start.** The first tube position for a selected panel.

- **End.** The last tube position for a selected panel.

- **Unique Carousel ID. SPA worklists only.** Enter a unique ID to be used with the worklist. If your unique ID contains special characters, they are not included in the file name of your exported worklist.

- **Tube Size. SPA v3.0 worklists only.** Select a tube size.

- **Tube Type. SPA v4.0 worklists only.** Select a tube type.

- **Primary Rack Pos. SPA worklists only.** Enter the primary rack position.

Data column guidelines

- The same Specimen ID, Sample Name, and Case Number cannot be present in one carousel for SPA III or BD FACSCalibur worklists.

- SPA III worklist uniqueness is defined by the combination of the following columns: Unique Carousel ID, Carousel ID, Sample ID, Sample Name, and Case Number. This allows the same sample ID to be added with different tests in two different carousels in one worklist.

- The same Specimen ID, Sample Name, and Case Number cannot be present in a BD FACSCanto worklist.

- Two rows with the same Specimen ID cannot be present in one carousel for a SPA II worklist.

- If more than one panel is added from the same Specimen ID, the previously selected panel is highlighted (yellow) in the **Panel Selection** dialog.

Related topics

- BD worklist formats (page 50)

Building a worklist

About this topic

This topic describes worklist types and how to select a worklist type and build a worklist by entering data into the data columns. This topic also describes how to save a worklist.

Before you begin

The BD FACSLink driver and Data Innovations' Instrument Manager are designed to allow data input using a barcode scanner. Information that is linked to a barcode should populate data entry columns when you scan a barcode.

Some barcode scanners' default settings require you to scan, then press the >, **Enter,** or **Tab** keys to populate the data columns. See your barcode scanner documentation for information about configuring your scanner to automatically populate the data immediately after a scan.

Instrument worklist types

You can only select an instrument worklist type that supports the specific instrument connection. For example, BD FACSCanto Software v2.2 worklists require an established BD FACSCanto v2.2 connection. See Viewing and managing connections (page 41) for more information.

Worklist types include the following:

- FACSCalibur (WorklistManager Software v5.2.1 and 6.0.2)
- FACSCanto v2.2 clinical software
- FACSCanto v2.4 clinical software
- SPA v3.0.1-FACSCalibur
- SPA v4.0-FACSCalibur
- SPA v3.0.1-FACSCanto v2.2
- SPA v3.0.1-FACSCanto v2.4
- SPA v4.0-FACSCanto v2.2
- SPA v4.0-FACSCanto v2.4
- SPA v3.0.1-FACSDiva v6.x
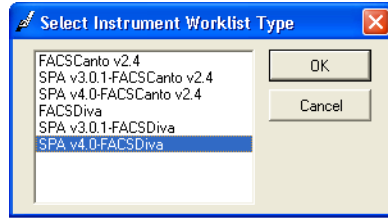- SPA v4.0-FACSDiva v6.x
- FACSDiva only v6.x

Selecting an instrument worklist type

To select an instrument worklist type:

1. In the **FACSLink Manager** window, click **New** on the toolbar.

The **Select Instrument Worklist Type** dialog appears.

The list of worklist types and version that appears is based on the currently established instrument connections. Only instrument worklist type that support the specific instrument connection appear in this list.

2. Select the instrument worklist type and version in the list, then click **OK**.
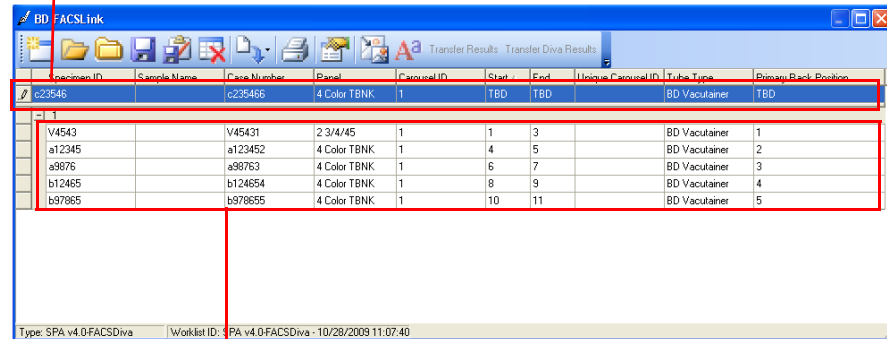
A new worklist appears.
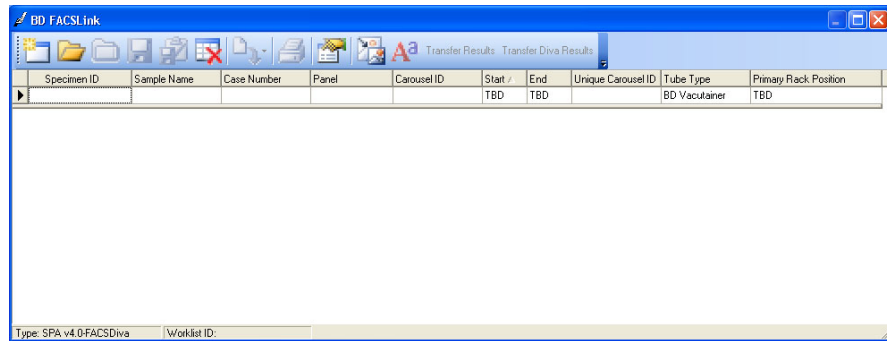
Adding data into data columns

To add data into data columns:

1. Manually enter the specimen ID into the Specimen ID data column in the Data entry row, or scan the specimen ID to populate the data columns with data from the LIS. Always enter your specimen ID in the data column before you enter data in any other data column.
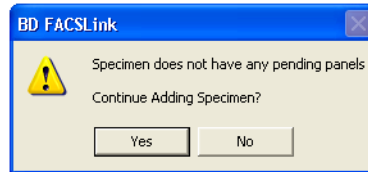
Data entry row

Worklist data (committed data)

See About worklist data columns (page 15) for details about each data column.

After you enter the specimen ID, the following dialog appears if there is no existing information or work request for this specimen ID in the LIS.

2. Click **Yes** to continue adding the specimen.

   – If the specimen has pending panels associated with it, the panel data populates the Panel data column. Continue with step 5.

   – If a specimen does not have any pending panels associated with it, the **Panel Selection for Specimen ID** dialog appears.
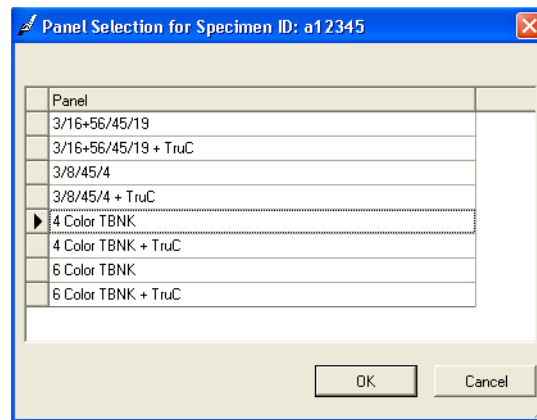
3. Select a panel from the list.

   You cannot include BD pre-defined panels with user-defined panels in a SPA worklist.

4. Click **OK**.

5. Add or modify data in the other data columns as appropriate, or delete single rows of data.

   To delete a row of data from the Data entry row, select the row, then press Delete on the keyboard. The row is deleted.

6. If you require a custom data criterion as the Case Number in this worklist, see Selecting a data criterion for the Case Number data column (page 20) for more information.

7. Press **Enter** in a data column in the Data entry row to commit the data to the worklist.

The data is committed and the worklist row appears.

Saving a worklist

To save a worklist:

1. Click **Save** on the toolbar to save the new worklist.

The **Save Worklist** dialog appears.

2. The worklist name is automatically generated. You can type a new name in the **Enter Worklist Name** field if you prefer.

3. Click **OK** to save the worklist.

Related topics

- About worklist data columns (page 15)

- Exporting a worklist (page 22)

- Transferring results to Specimen Management (page 24)

- BD worklist formats (page 50)

Selecting a data criterion for the Case Number data column

About this topic

This topic provides instructions for selecting a custom data criterion (*data element)* for the **Case Number** data column in the worklist.

This is an optional procedure. The default case number is based on the Specimen ID plus an incremental number. The data in the column is populated by the LIS. If you want to customize this criterion, you should make this selection before you commit data to the worklist. See Building a worklist (page 16), step 5.
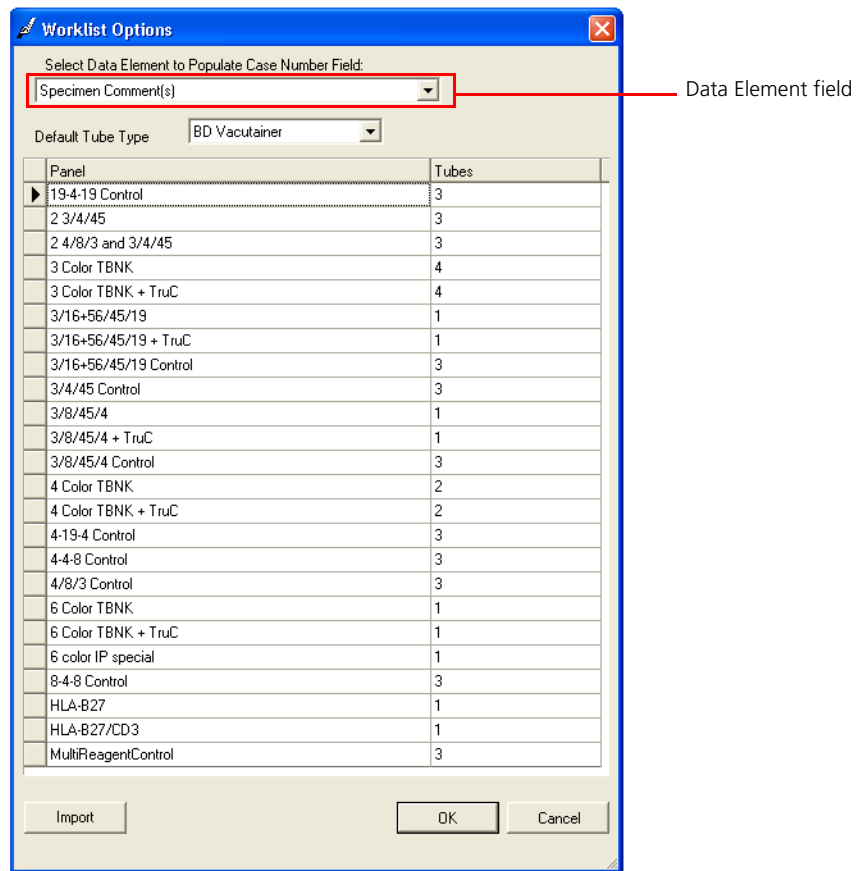
Procedure

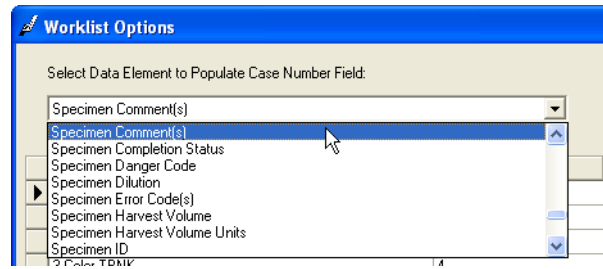**To select a data element:**

1. Click **Worklist Options** on the toolbar.

    The **Worklist Options** dialog appears.

2. In **Data Element** field, select **Specimen Comments** from the list.

3. Click **OK**.

The selected data criterion is applied to the **Case Number** data column.

Related topics

- About worklist data columns (page 15)

Exporting a worklist

About this topic This topic describes how to export a worklist.

Requirement Store all exported BD FACSLink worklist files in a network shared folder accessible by the BD workstation.

Exported worklist size for each connection Worklists for BD FACS Sample Prep Assistant (SPA II and SPA III) and BD FACSCalibur connections can include only one carousel. BD FACSCanto worklists can hold up to 200 samples or five carousels. BD FACSDiva can export only one carousel at a time.

If the BD FACSLink worklist includes more carousels than the BD Workstation worklist can contain, the worklist is split into multiple worklists when exported. For example, a worklist that contains two carousels in BD FACSLink splits into two worklists when exported for a BD FACSCalibur connection.

Procedure **To export a worklist:**

1. In the **FACSLink Manager** window, click **Export** on the toolbar.

2. Select **Export Entire Worklist** from the menu.
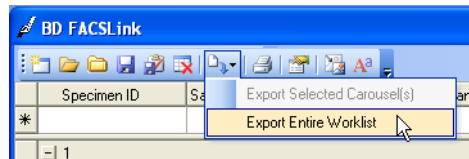
The **Select a Destination Connection** dialog appears.

3. In the **Connection Name** list, select a connection and click **Select**.

The worklist is exported and the following message appears.
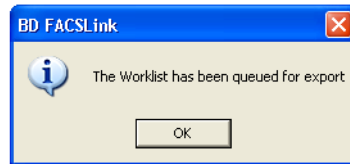
4. Click **OK** to close the dialog.

Related topics
- Opening and closing worklists (page 12)
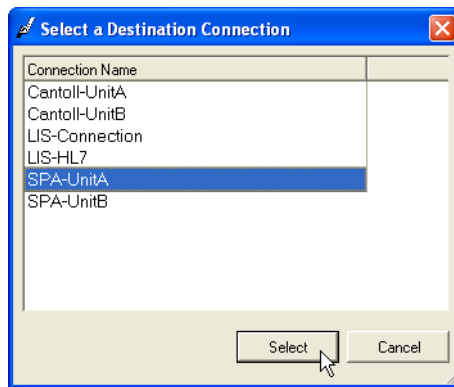- BD worklist formats (page 50)

Deleting an entire worklist

About this topic   This topic describes how to delete an entire worklist.

Procedure   **To delete an entire worklist:**

1. Click the **Delete** tool on the toolbar.

The **Worklists** dialog appears.

2. In the list of worklists, select a saved worklist you want to delete.

3. Click **Delete**.

The worklist is deleted.

Related topics
- Opening and closing worklists (page 12)

Transferring results to Specimen Management

About this topic

This topic describes how to transfer results from the instrument to Specimen Management for release to the LIS.

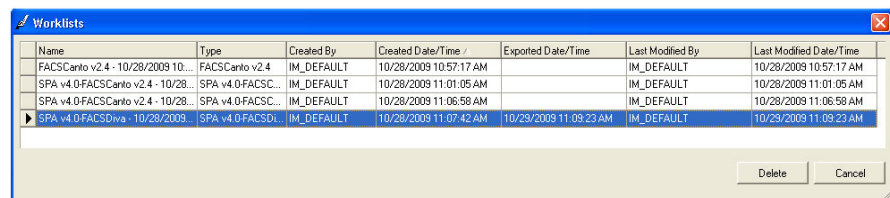See Releasing or rejecting results data (page 61) for more information.

Procedure

To transfer results to Specimen Management:

1. In the **FACSLink Manager** window, open a worklist.

2. Transfer the results.

   – To transfer FACSDiva results, click **Transfer Diva Results** on the toolbar.

   – To transfer all other results, click **Transfer Results** on the toolbar.
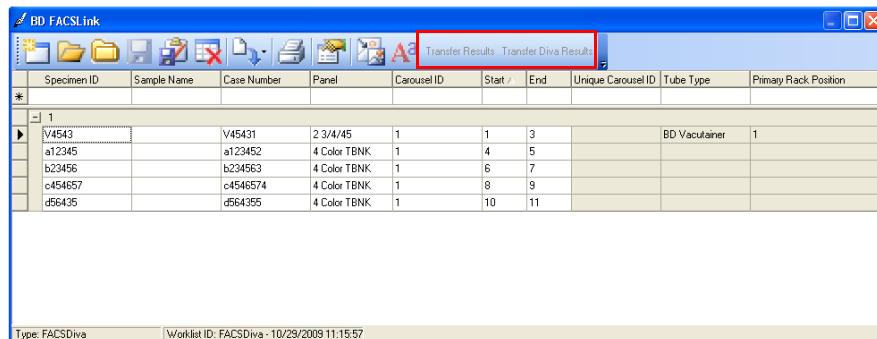
The result file locations are determined by the driver configuration settings in the **Configuration** dialog. See Viewing and modifying configurations (page 29) for more information.

The results transfer and the **Transfer Results** dialog appears.
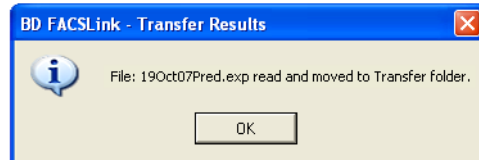
Any results data in the results file are transferred to Specimen Management, even if the specimen is not in the Instrument Manager database.

3. Click **OK** to close the dialog.

3

Reference

This section includes these topics:

Managing user accounts

About this topic

This topic describes how to manage user accounts with the **User Setup** dialog. You can create unique user accounts and passwords.

Adding users

To add a new user:

1. In the main **Instrument Manager** window, select **Security > User Setup**.

    The **User Setup** dialog appears.
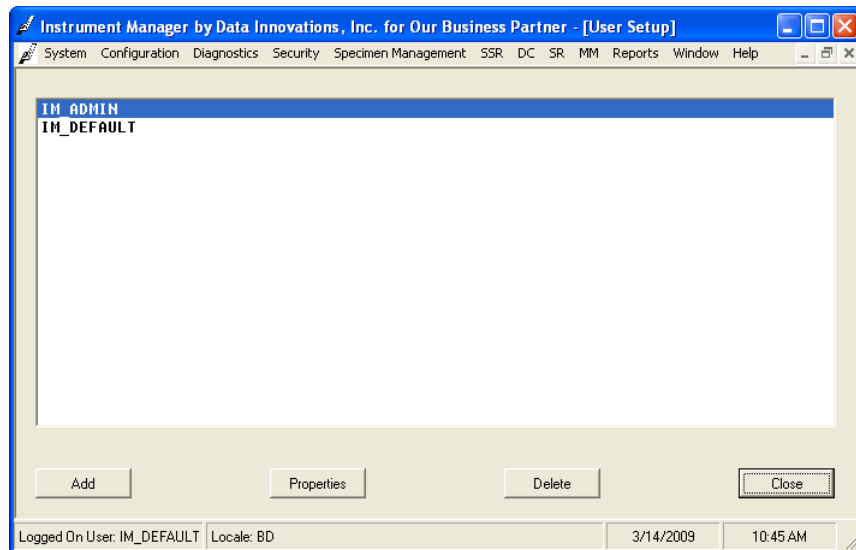
2. Click **Add**.

    The **User Properties** dialog appears.
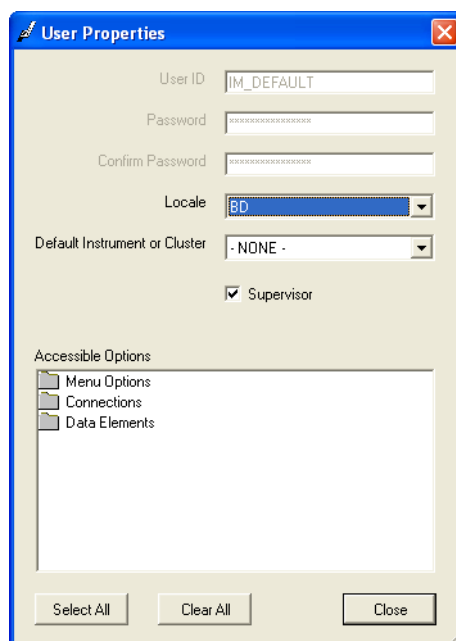
3. In the **User ID** field, type a new user account name.

4. In the **Password** field, type a new password (optional).

5. In the **Confirm Password** field, type the new password (optional).

6. In the **Locale** field, select the **BD** locale.

   This locale determines the text, field names, and button names for the BD FACSLink driver.

7. If applicable, define the default instrument or cluster to which this user has access. In the **Default Instrument or Cluster** field, select an available instrument or cluster for this user ID.

8. If this user ID is for use by a supervisor, select the **Supervisor** checkbox.

   Selecting the **Supervisor** checkbox allows the user to add new dictionary entries throughout Instrument Manager without having to go to the Dictionary Editor. See Data Innovations' Instrument Manager *Help* for more information.

9. Under **Accessible Options**, select the options you want to apply to this user ID:

   – Double-click individual options in the list.

   – Click **Select All** to select all options in the list.

   – Click **Clear All** to clear all options in the list.

   See Data Innovations' Instrument Manager *Help* for details about Accessible Options.

10. When you are finished with your selections, click **Close**.
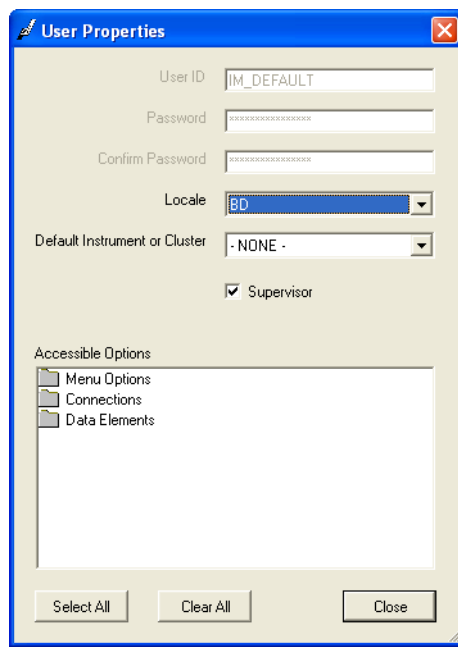
    A confirmation dialog appears.

11. Click **Yes** to save the new user properties.

Editing an existing user

To edit an existing user:

1. In the **User Setup** dialog, double-click a user in the list.

   The **User Properties** dialog appears.

2. Edit the values in the fields as described in Adding users (page 26).

Deleting users

To delete users:

1. In the **User Setup** dialog, select a user in the list.

2. Click **Delete**.

   A confirmation dialog appears.

3. Click **Yes**.

   The user is deleted from the list.

More information

See Data Innovations' Instrument Manager *Help* for more information.

Viewing and modifying configurations

About this topic

This topic describes the configuration of the BD FACSLink driver and describes how to view and modify current configurations and properties.

This topic is provided as a general overview. See Data Innovations' Instrument Manager *Help* for more information.

Description

Configurations determine how sample data is collected and stored by BD instruments and how the data is transferred to the LIS.

The configurations are set up according to the instruments and connections you require at your facility. If you need to edit the configuration or instrument connections, contact your laboratory instrument or network administrator first.

For additional guidance:

● See Data Innovations' Instrument Manager *Help* for more information.

● Contact BD Biosciences service and support. See .

Viewing the current configuration

To view the current configuration:

1. In the main **Instrument Manager** window, select **Configuration > Configuration Editor**.

    The **Configuration Editor** dialog appears.
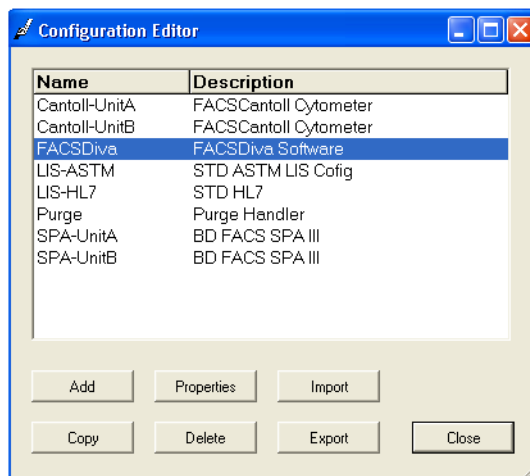
The available instruments appear in the dialog.

Viewing configuration properties

To view the properties of a configuration:

1. Click a configuration in the list, then click **Properties**.

   The **Configuration Properties** dialog for the selected configuration appears.
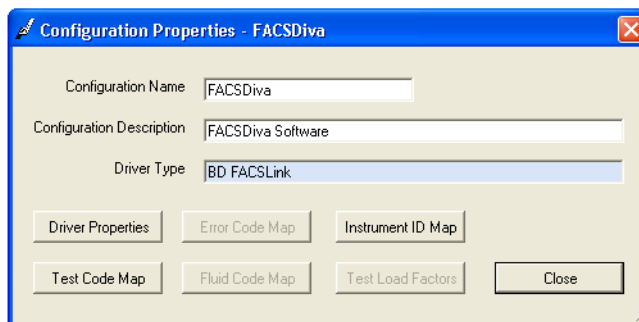
Changing a configuration name and description

To modify configuration properties:

1. In the **Configuration Name** field, type a name.
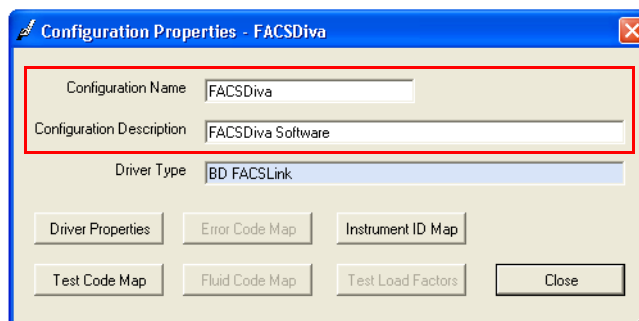
2. In the **Configuration Description** field, type a description.

3. Click **Close** to save the changes and close this dialog.

Restoring an instrument configuration

To restore a single driver for a specific instrument:

1. In the **Configuration Editor** dialog, click **Import**.

    The **Restore Driver Configuration** dialog appears.
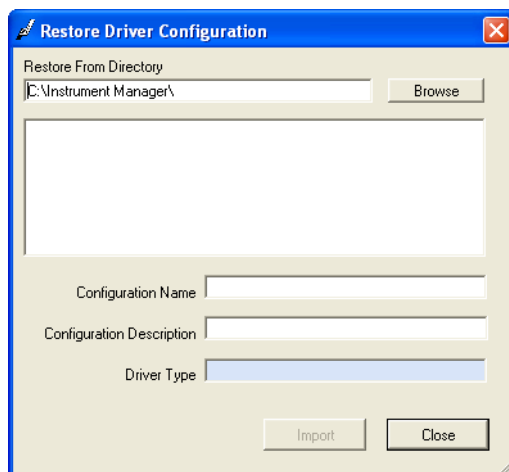
2. In the **Restore From Directory** field, select the location of the directory that contains the instrument driver configuration file you want to restore.

    These instrument drivers are available on the BD FACSLink software CD.

3. In the **Configuration Name** field, type the name of the configuration that is associated with the driver you want to restore, for example, FACSCanto II_SN123.

4. In the **Configuration Description**, type a description.

    The **Driver Type** field displays the current driver.

5. Click **Import** to import the configuration.

    The configuration appears in the **Configuration Editor** list and is available for selection.

Saving instrument driver configurations

To save an instrument driver configuration:

1. In the **Configuration Editor** dialog, click **Export**.

    The **Save Driver Configuration** dialog appears.
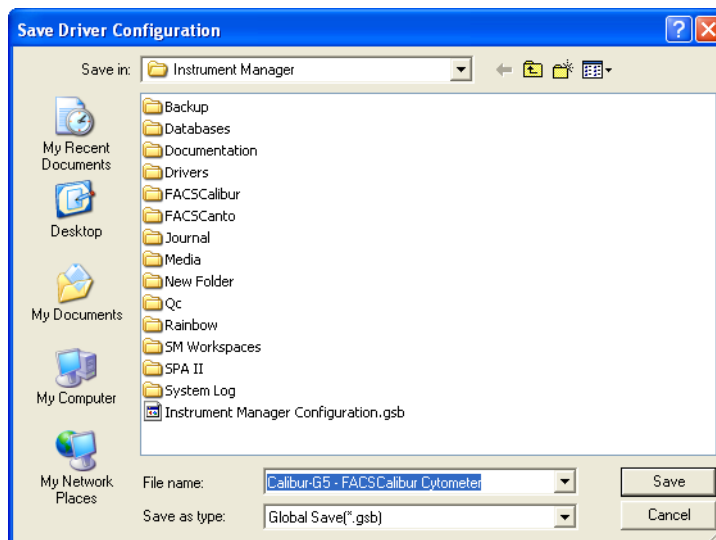
2. Navigate to the target directory where you want to save the configuration file.

3. Click **Save**.

    The configuration file is saved.

Copying an instrument driver

To copy the properties of an existing instrument driver and create a new one:

1. In the **Configuration Editor** dialog, click an instrument configuration in the list.

2. Click **Copy.**

    The **Copy Configuration** dialog appears.
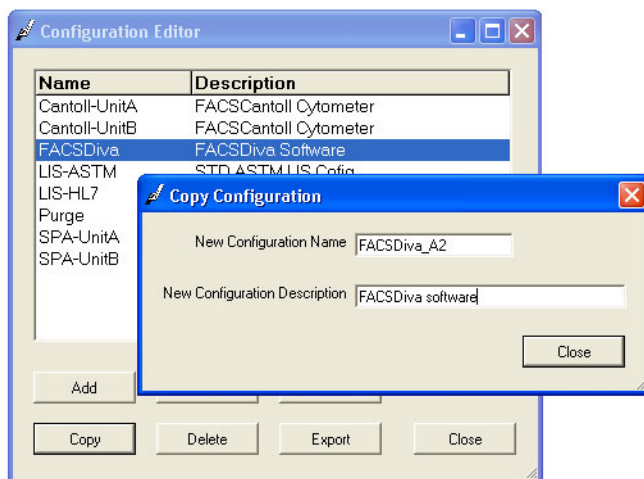
3. In the **New Configuration Name** field, type in a new name.

4. In the **New Configuration Description** field, type a description.

5. Click **Close** to create the new instrument configuration.

More information

See Data Innovations' Instrument Manager *Help* for more information.

Viewing and modifying driver properties

About this topic   This topic describes how to view and modify driver properties. The driver is the software interface between the BD instrument and Data Innovations' Instrument Manager. Drivers require configurations that are specific to each BD instrument.

This topic is provided as a general overview. See Data Innovations' Instrument Manager *Help* for more information.

Viewing driver properties   **To view the driver properties for a specific configuration:**

1. In the main **Instrument Manager** window, select **Configuration > Configuration Editor**.

    The **Configuration Editor** dialog appears.
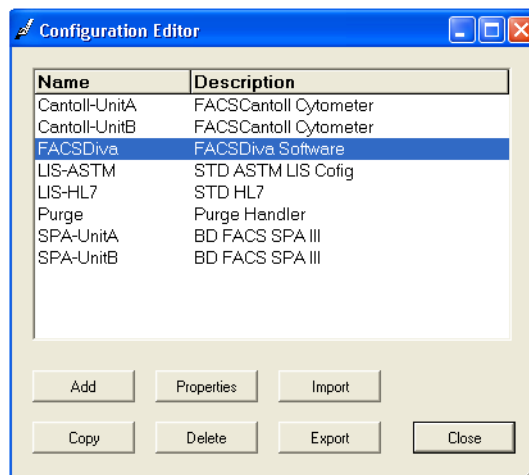
2. Click **Properties.**

    The **Configuration Properties** dialog appears.
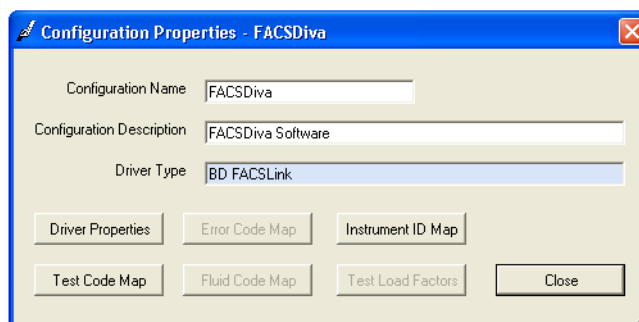
3. In the **Configuration Properties** dialog, click **Driver Properties**.

The **BD FACSLink Configuration** dialog appears.
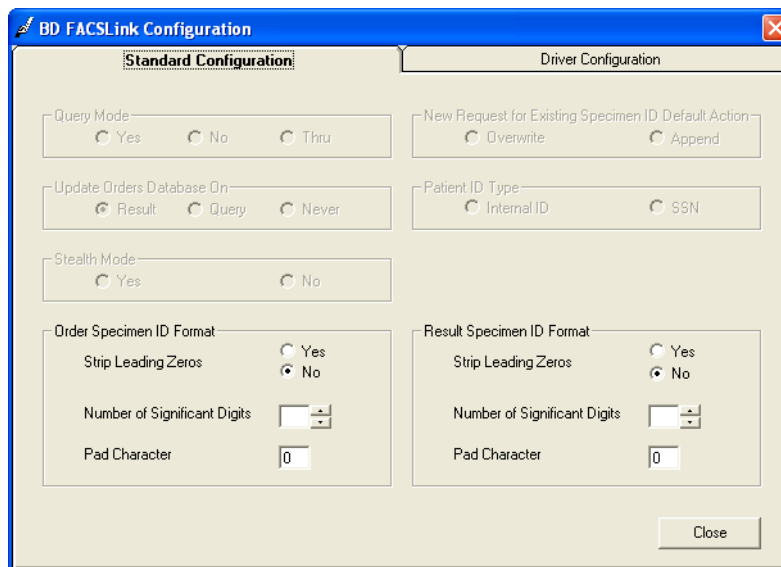
Related topics

- Viewing and modifying configurations (page 29)

- About BD FACSLink driver configuration properties (page 36)

- Specifying driver configuration properties (page 38)

About BD FACSLink driver configuration properties

About this topic
This topic describes driver configuration properties in the **Standard Configuration** and **Driver Configuration** tabs in the **BD FACSLink Configuration** dialog.

About the Standard Configuration tab
Most fields in **Standard Configuration** tab are disabled for BD FACSLink.
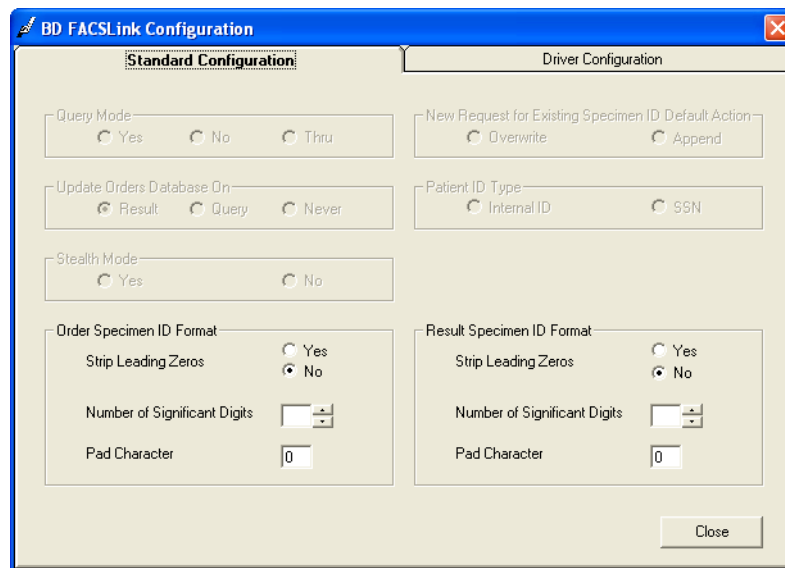
Typically, you do not need to select any options on this tab. However, you can modify the data formats for the order specimen ID and the result specimen ID formats using the following options:

- **Strip Leading Zeros.** Removes leading zeros from the specimen ID.

- **Number of Significant Digits.** Specifies the minimum number of characters for a specimen ID.

- **Pad Character.** Character used to force specimen ID values to be the minimum number of characters in length.

About the Driver Configuration tab
Use this tab to select the instrument type you want to use for this configuration, set the base result and worklist directory paths, and modify the way directory paths are described. The product version for this driver appears in the **Product Version** field.
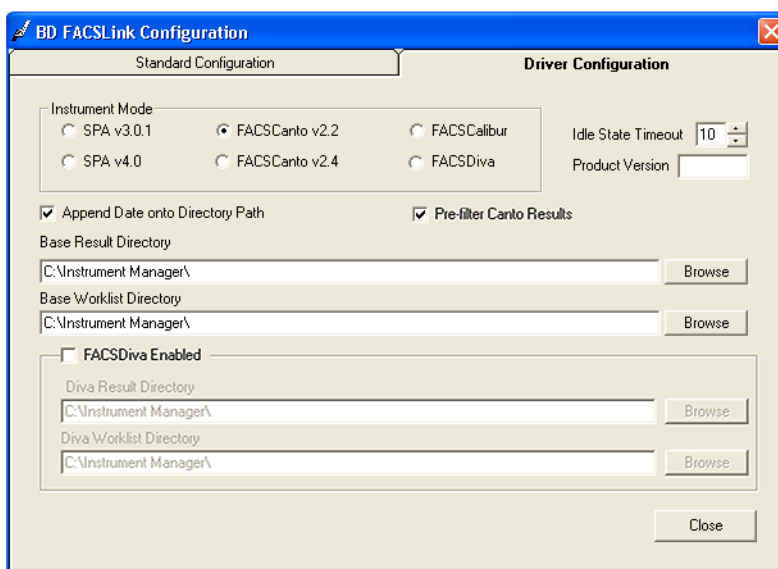
You need to select an instrument type or *mode* that you want to assign to this configuration. Instrument type modes include the following:

- **SPA v3.0.1.** Select this option to build, save, export, delete, print, and open SPA II (SPA software version 3.0.1) format worklists. Exported worklists are saved as XML files in the base worklist directory.

- **SPA v4.0.** Select this option to build, save, export, delete, print, and open SPA III (SPA software version 4.0) format worklists.

- **FACSCanto v2.2.** Reads and processes CSV result files. Select this option to build, save, export, delete, print, and open BD FACSCanto format worklists.

- **FACSCanto v2.4.** Reads and processes CSV result files. Select this option to build, save, export, delete, print, and open BD FACSCanto format worklists.

- **FACSCalibur.** Reads and processes EXP result files. Select this option to build, save, export, delete, print, and open BD FACSCalibur format worklists.

- **FACSDiva.** Select this option to build, save, export, delete, print, and open BD FACSDiva (software version 6.x) format worklists.

  Exported worklists are saved as XML files in the base worklist directory.

Related topics

- Specifying driver configuration properties (page 38)

Specifying driver configuration properties

About this topic

This topic describes how to select an instrument mode and options for your driver. It also describes how to specify worklist and results directories and enable the FACSDiva mode.

Selecting instrument modes

To select an instrument mode:

Under **Instrument Mode,** select one of the available instruments or software versions.

Setting driver options

To set an idle state timeout:

In the **Idle State Timeout** field, specify a timeout value in seconds.

This determines how long the software pauses after checking for result messages to parse and order messages to send. The default is 10 seconds.

To append a date onto the directory path:

– Select the **Append Date onto Directory Path** checkbox to append the current date as subfolders under the Base Result Directory to form the full result directory.

– Clear the checkbox to make the Base Result Directory the full result directory.

Pre-filtering FACSCanto results

If multiple result sets exist in the FACSCanto result file for FACSCanto v2.2 and v2.4, you can pre-filter the results (CSV file) so that only the latest results are transferred.

To pre-filter Canto results:

1. Select **FACSCanto v2.2** or **FACSCanto v2.4.**

2. Select the **Pre-filter Canto Results** checkbox to transfer only the latest results set for a given Sample-Panel pair.

Specifying results and worklist directories

The base directories can be configured to accommodate your instrument configuration and specific workflow. The result directory is stored on the specific workstation directory. The base worklist data is stored on the Instrument Manager server.

If you select **FACSCanto v2.2** or **FACSCanto v2.4** and enable **FACSDiva,** you need to define one **Base Result Directory** for FACSCanto results files and one for FACSDiva results files. See for more information.

To change the result directory location (where instrument results data is stored) for this instrument:

Under **Base Result Directory**, select a directory.

Base Result Directory

C:\Instrument Manager\FACSCanto\   Browse

You can also click **Browse** to open the **Browse For Folder** dialog.

Browse For Folder

Select location for Base Result Directory:

- Instrument Manager
  - Backup
  - Databases
  - Documentation
  - Drivers
  - FACSCalibur
    - Transfer
  - FACSCanto
  - Journal
  - Media
  - New Folder
  - Qc
  - Rainbow

Make New Folder   OK   Cancel
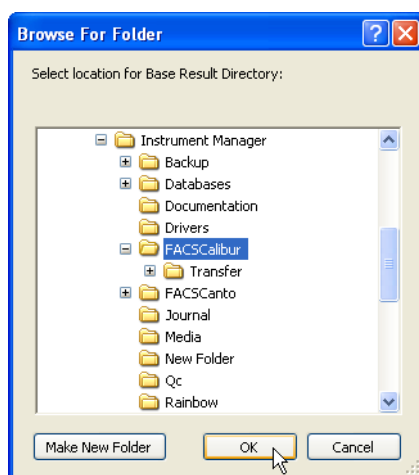
Navigate to the appropriate folder, click the folder name, and then click **OK**.

To change the worklist directory (where new worklists are stored):

1. Under **Base Worklist Directory**, select a directory, or click **Browse** to browse for a folder.

Base Worklist Directory

C:\Instrument Manager\FACSCanto\   Browse

2. Navigate to the appropriate folder, click the folder name, and then click **OK**.

Enabling FACSDiva

To enable FACSDiva with FACSCanto:

1. Under **Instrument Mode**, select **FACSCanto v2.2** or **FACSCanto v2.4**

    The **FACSDiva** pane appears in the **Driver Configuration** tab.
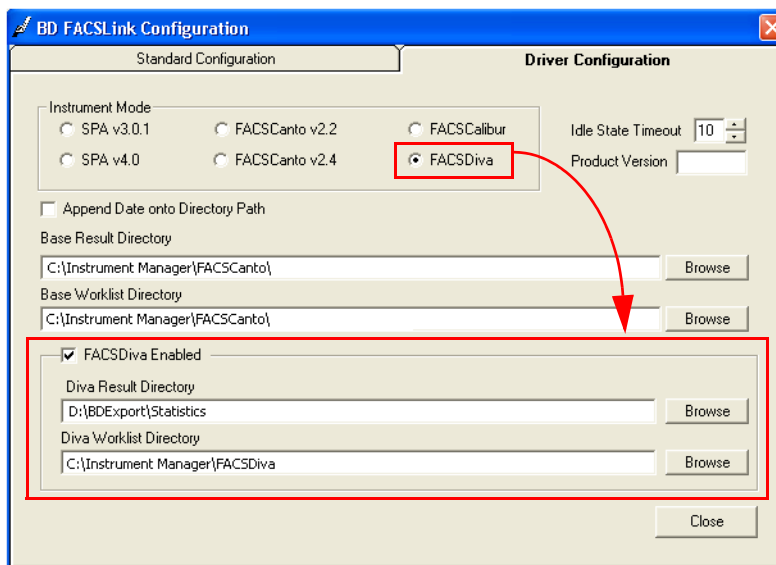
2. In the **FACSDiva** pane, select the **FACSDiva Enabled** checkbox to enable FACSDiva.

Specifying result and worklist directories for FACSDiva

To change the Diva result directory location (where instrument results data is stored) for this instrument:

Under **Diva Result Directory**, select a directory, or click **Browse** to browse for a folder. The default directory path is **D:\BDExport\Statistics**.

To change the Diva worklist directory (where new Diva worklists are stored):

1. Under **Diva Worklist Directory**, select a directory, or click **Browse** to browse for a folder.


2. Navigate to the appropriate folder, click the folder name, and then click **OK**.

Viewing and managing connections

About this topic

This topic describes connections and how to view current connection assignments and properties. Connection assignments determine which configuration is applied to a specific connection or instrument.

This topic is provided as a general overview. See Data Innovations' Instrument Manager *Help* for more information.

Viewing a connection assignment

To view connection assignments:

In the main **Instrument Manager** window, select **Configuration > Connection Assignment**.

The **Connection Assignment** dialog appears.
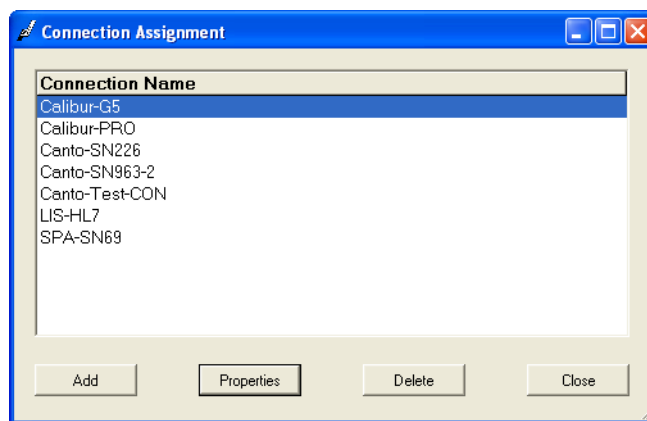
Viewing connection properties

To view the properties of a connection:

1. Select a connection name in the dialog.

2. Click **Properties**.

The **Connection Properties** dialog for the selected connection appears.
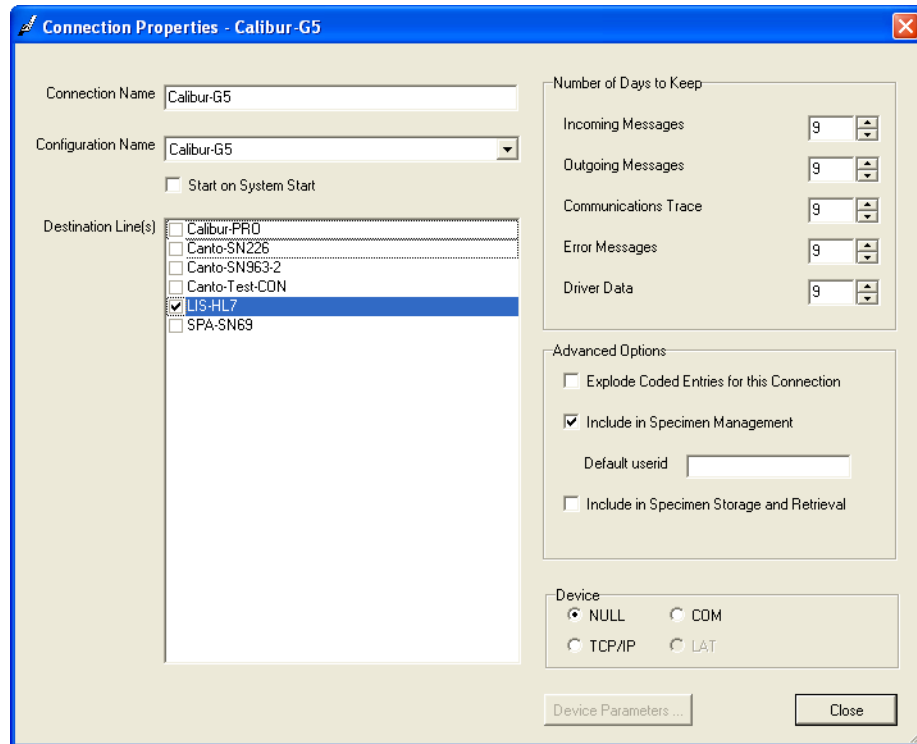
This dialog includes the following fields and options:

– **Connection Name.** Displays the connection name. You can create a new connection name by typing over the existing name.

– **Configuration Name.** Select a configuration from the list.

– **Start on System Start.** Select this checkbox to start this connection whenever the system starts.

– **Destination Line(s).** Select checkboxes for instruments you want to link for this connection. The results data will be transferred to the destinations. You can select multiple destinations for results data transfers.

  If you want results data to be sent to Specimen Management as results are sent to other selected destinations, you must select the **Include in Specimen Management** checkbox under **Advanced Options**.

– **Number of Days to Keep.** Use the up or down arrows to select data retention durations for incoming messages, outgoing messages, communication trace, error messages, and driver data.

– **Advanced Options.** You can select from the following options:

  • Select the **Explode Coded Entries for this Connection** checkbox to send a comment or a full description of the result code to the connection (in addition to sending codes). This is typically used for LIS connections. The LIS must be capable of receiving the full description. You can explode the following codes: Patient Comments, Specimen Comments, Test Comments, and Test Results.

- Select the **Include in Specimen Management** checkbox to include this connection's data in Specimen Management. You can use the **Default userid** field to enter or change the connection's default user ID.

- Select the **Include in Specimen Storage and Retrieval** checkbox to include this connection's data in Specimen Storage and Retrieval. See Data Innovations' Instrument Manager *Help* for more information.

- **Devices.** Use these buttons to select or change your connection's input/output port and to select a communication method for the instrument or LIS. Click the **Device Parameters** button to define information about your selection.

  - Select **NULL** if the driver is communicating by reading and writing text files, or if you are setting up a connection for future use and require a place holder. If you select NULL, you do not need to specify any device parameters.

  - Select **COM** to communicate through a serial port. If you select this option, you might need to specify the Baud Rate, Data Bits, Parity, Stop Bits, and XON/XOFF Flow Control (as applicable).

  - Select **TCP/IP** network protocol to communicate over a TCP/IP network. If you are setting up the connection as a client process, you must enter the TCP/IP address and port number that are assigned to the device to which you are connecting. (The device can be an instrument, LIS, or terminal server). If you are setting up the connection as a server process, you must enter the port number to assign to this connection, but do not enter an IP address.

Adding a new connection   This action should be performed by Administrators only.

To add a new connection:

1. In the **Connection Assignment** dialog, click **Add**.

   A blank **Connection Properties** dialog appears.

2. Make selections and modify values as needed.

3. Click **Close** to save and close this dialog.

   The new connection is added to the connections list.

More information   See Data Innovations' Instrument Manager *Help* for more information.

Related topics
-

Viewing and managing the connection status

About this topic

This topic describes how to view and manage the status of current connections.

Opening the Status Display dialog

To open the Status Display dialog:

In the main **Instrument Manager** window, select **System > Status**.

The **Status Display** dialog appears.

This dialog displays the following columns of information:

– **Connection.** This column shows each configured instrument connection.

– **Status.** This column shows that Instrument Manager has requested a connection to change its status to **On**.

– **In Service.** This column appears only when the Specimen Routing feature is licensed. Connections can be tagged as **In Service** or **Out of Service** for routing purposes.

– **In.** This column shows the total number of incoming messages processed by the connection for the day. The counter is reset daily at midnight.

– **InQ.** This column shows the number of incoming messages for the connection that are currently queued by Instrument Manager.

– **SendQ.** This column shows the number of outgoing messages to the connection that have not yet been sent by Instrument Manager. This includes any messages currently in the queue. This counter is decreased only when the message recipient acknowledges receipt of the message.

– **Sent.** This column shows the total number of outgoing messages sent from Instrument Manager to the selected connection so far today, excluding messages currently in the queue. The counter is reset daily at midnight.

– **Errors.** This column shows the number of errors during processing or transfer.

Starting a connection

To start a connection:

1. Select a connection in the list.

2. Click **Start Selected Connections**.

   The connection starts and the status changes from Off to On in the **Status** column. If you are using a TCP/IP connection, the status might temporarily appear as *Connecting* if the TCP/IP link is not established.

Stopping a connection

To stop a connection:

1. Select a connection in the list.
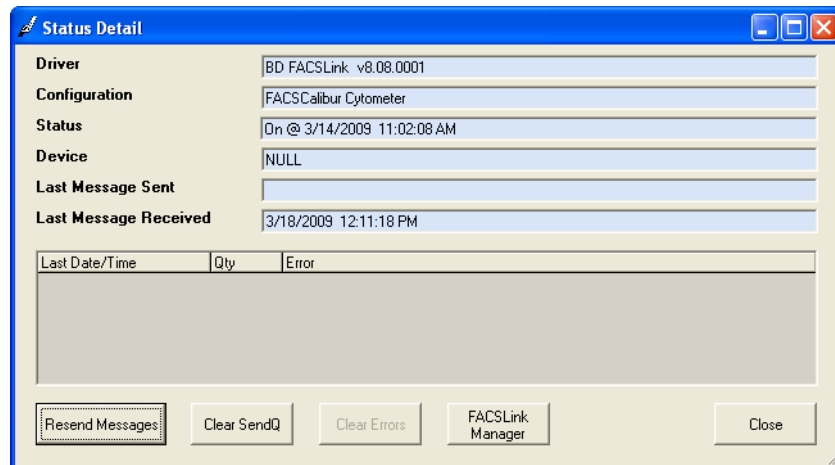
2. Click **Stop Selected Connections**.

   The connection stops and the status changes from On to Off in the **Status** column. This only stops the selected connection. It does not remove the connection from the list.

Viewing connection status details

To view and work with a specific connection:

1. Select a connection in the list.

2. Click **Detail Highlighted Connection.**

   The **Status Detail** dialog appears.

Status detail dialog options

This dialog includes the following fields and buttons:

– **Driver.** This field displays the current driver version.

– **Configuration.** This field displays the current selected configuration for this connection setup in the **Connection Assignment** dialog.

– **Status.** This field displays the current status from the **Status Display** dialog, the date, and the time.

– **Device.** This field describes the network device used for this connection.

– **Last Message Sent.** This field describes the last communication or message sent.

– **Last Message Received.** This field describes the last communication or message received. The field lists only errors generated by the connection.

– **Resend Messages.** Click this button to resend a message.

– **Clear SendQ.** Click this button to clear all messages in the send queue.

– **Clear Errors.** Click this button to clear any error messages in the field.

– **FACSLink Manager.** Click this button to open the **FACSLink Manager** dialog. Use this dialog to create worklists and transfer results.

– **Close.** Click this button to close this dialog.

More information   See Data Innovations' Instrument Manager *Help* for more information.

Related topics

- Viewing and managing connections (page 41)

Configuration workflow for BD FACSDiva setup

About this topic

This topic describes a suggested workflow for initial setup so BD FACSLink can access and transfer files created in BD FACSDiva software.

Initial setup workflow

The initial setup workflow for BD FACSDiva software requires you to set up user preferences and to create the necessary Panel Templates and Statistics views. Perform these tasks once to integrate the BD FACSDiva software and the BD FACSLink interface to the LIS.

1. Change BD FACSDiva user preferences.

2. Do one of the following:

   – If the panel is a BD panel, then add a Statistics view to the BD Panel Template and save it. The Statistics view must contain the following keywords and associated values:

     • Panel Name

     • Sample ID

     Both keywords must be specified for each tube in the BD FACSDiva experiment.

   – If the panel is not a BD panel, go to step 3

3. Create a User Defined BD FACSDiva Panel Template. Include the Global Worksheet and Statistics view. If you also have a SPA, you need to create a SPA panel at the same time and include the following information.

   – The tube name in the BD FACSDiva Panel Template must be the same as the tube name in the SPA Panel Template.

   – The specimen name in the BD FACSDiva Panel Template should be the same as the panel name in the SPA Panel Template.

Related topics

• Using BD FACSDiva panels (page 48)

• BD worklist formats (page 50)

Using BD FACSDiva panels

About this topic

This topic describes how to use BD FACSDiva Panel Templates to set up experiments for use with BD FACSLink.

BD Defined Diva panel templates

BD FACSDiva software includes some BD Defined Panel Templates. BD Defined Panel Templates do not include Statistics views. You need to create a Statistics view that contains Sample ID and PANEL NAME keywords.

The BD FACSDiva Statistics view must include the following keywords:

- SAMPLE ID

- PANEL NAME or Panel_Name

- Record Date

To identify the source BD instrument and software and to track analysis, the BD FACSDiva Statistics view must include the following keywords:

- Cytometer Serial Number or $INST

- $OP

- CYTOMETER CONFIG NAME

Worklist restrictions

- **For SPA-BD FACSDiva and BD FACSDiva.** You can only bring one carousel into a BD FACSDiva Experiment when using SPA-Diva worklist types.

- **For SPA 3.0.1-BD FACSDiva.** You can only specify one panel for each Sample ID.

- **For BD FACSDiva worklist.** You can have multiple instances of the same Sample ID, but the combination of the Sample ID and Panel must be unique.

Before you begin

Make sure to create a panel in BD FACSDiva software and export it as an XML file before you attempt to import it into BD FACSLink as a user-defined panel.
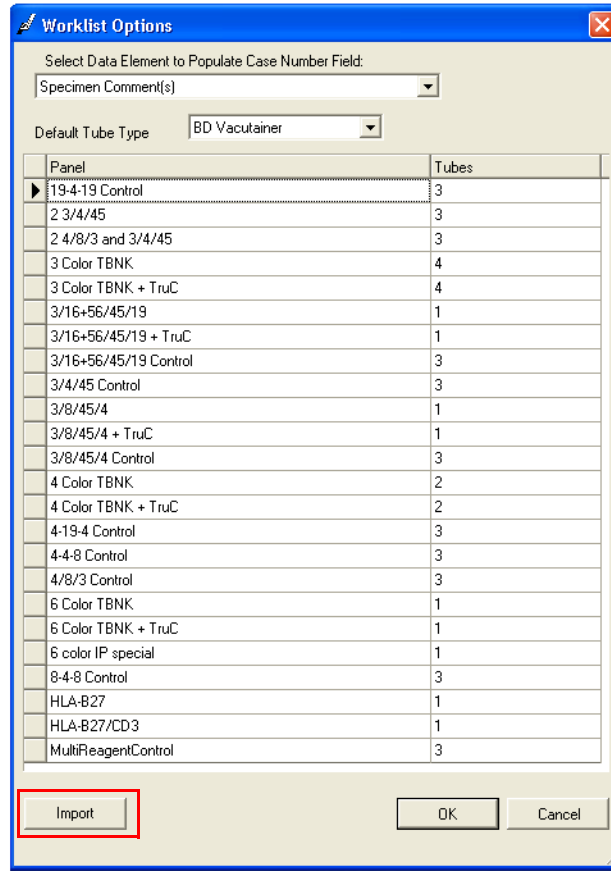
Importing user-defined panels

To import a user-defined panel:

1. Click **Worklist Options** on the toolbar.

The **Worklist Options** dialog appears.

2. Click **Import**.

   The **Import** dialog appears.

3. Navigate to the folder that contains user-defined panels.

4. Select the panel, then click **Import**.

5. The user-defined panel imports into the **Worklist Options** dialog.

6. In the **Panel** list, select the user-defined panel.

7. Click **OK**.

Related topics   • BD worklist formats (page 50)

BD worklist formats

About this topic

This topic describes the different worklist formats for BD instruments.

SPA worklist format

The BD SPA worklist is in XML format. This worklist displays one carousel per file. The following categories are included in this format:

- Patient Name > SampleName
- Specimen ID > SampleID tag (required to have a value)
- Test Code > PanelName tag (required to have a value)

BD FACSCanto worklist format

The BD FACSCanto worklist is in XML format. This worklist displays five carousels per file. All tags listed in the table are mandatory even if they have a null value.

- Specimen ID > SampleID tag (required to have a value)
- Test Code > PanelName tag (required to have a value)

BD FACSCalibur worklist format

The BD FACSCalibur worklist is in a text file, tab delimited format. This worklist displays one carousel per file. Each line in the file is a separate sample. All columns listed in the table are mandatory. If the value is null, a "." is displayed in that column unless otherwise specified ("Required to have a value").

- Patient Name > Sample Name column (required to have a value)
- Specimen ID > Sample ID column (required to have a value)
- Test Code > Panel Name column (required to have a value)

BD FACSDiva worklist format

The BD FACSDiva worklist is in XML format. This worklist displays one carousel per file. If more than one carousel is used in FACSLink to Diva, then a new experiment is created for each carousel.

- Patient Name > Sample Name column (required to have a value)
- Specimen ID > Sample ID column (required to have a value)
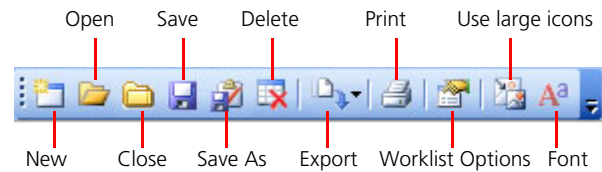- Test Code > Panel Name column (required to have a value)

Worklist toolbar options

About this topic
This topic describes the tools in the **BD FACSLink Manager** toolbar.

Tool descriptions
The following figure describes the tools in the **BD FACSLink Manager** toolbar.

Use the toolbar to perform the following functions:

– **New.** Click this tool to select an instrument type and to create a new, blank worklist file.

– **Open.** Click this tool to open an existing worklist file.

– **Close.** Click this tool to close the open worklist without saving.

– **Save.** Click this tool to save the current worklist with a default name.

– **Save As.** Click this tool to save the current worklist with a different name.

– **Delete.** Click this tool to delete a worklist.

– **Export.** Click this tool to export the current worklist to a connection or an instrument. Exported worklists are saved with the date and time stamp.

– **Print.** Click this tool to print the current worklist.

– **Worklist Options.** Click this tool to select panels for the worklist and data elements to populate the **Case Number** field.

– **Use large icons.** Click this tool to make the toolbar icons larger.

– **Font.** Click this tool to modify the font in the worklist.

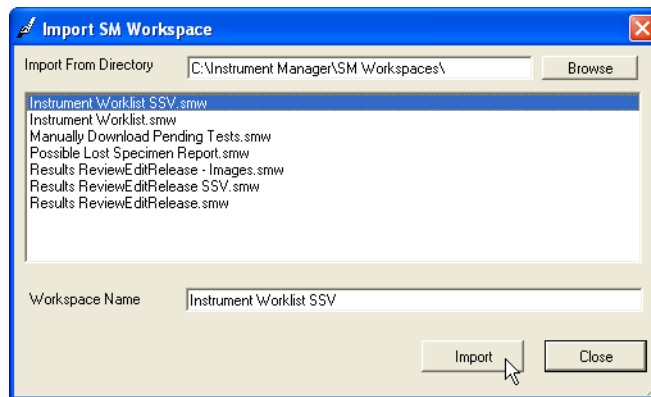# Importing and exporting workspaces

About this topic   This topic describes how to import a workspace into Specimen Management.

Importing   **To import a Specimen Management Workspace:**

1. In the **Specimen Management Workspace** window, select **Workspace > Import Workspace.**

   The **Import SM Workspace** dialog appears.

2. In the **Import From Directory** field, select the directory where the workspace file is located. Workspace files have a .smw file extension.

3. Select a workspace file from the list.

4. Click **Import.**

   The workspace is imported and appears as the current workspace.

Exporting   **To export a Specimen Management Workspace:**

1. Open a workspace in the **Specimen Management Workspace** window.

2. In the **Specimen Management Workspace** window, select **Workspace > Export Workspace.**

The **Export Workspace to File** dialog appears.
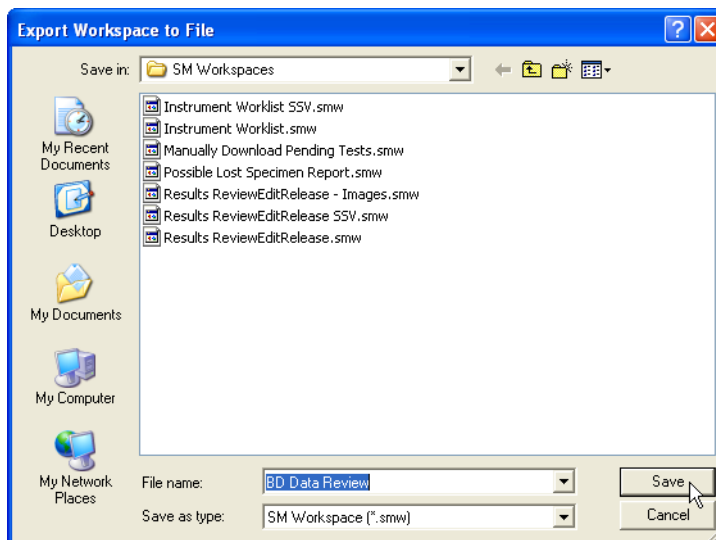
3. Navigate to the location where you want to export the file.

4. Click **Save**.

   The workspace file is exported.

More information   See Data Innovations' Instrument Manager *Help* for more information.

Related topics

- Reviewing results data in Specimen Management (page 58)
- Saving or deleting workspaces (page 54)

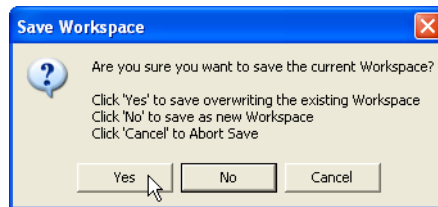# Saving or deleting workspaces

About this topic   This topic describes how to save or delete Specimen Management workspaces.

Saving a workspace   **To save a workspace:**

1. In the **Specimen Management Workspace** window, select **Workspace > Save Workspace.**

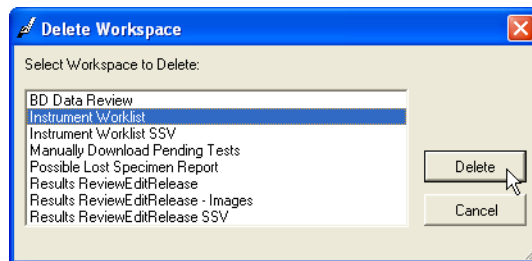   The **Save Workspace** dialog appears.

2. Click one of the following buttons:

    –   Click **Yes** to save and overwrite the existing workspace.

    –   Click **No** to save as a new workspace.

    –   Click **Cancel** to abort the save.

Deleting a workspace   **To delete a workspace:**

1. In the **Specimen Management Workspace** window, select **Workspace > Delete Workspace.**

    The **Delete Workspace** dialog appears.

2. Select the workspace you want to delete from the list.

3. Click **Delete**.

    The workspace is deleted.

More information   See Data Innovations' Instrument Manager *Help* for more information.

Related topics

- Reviewing results data in Specimen Management (page 58)
- Importing and exporting workspaces (page 52)

Need more information fast?

Information about this product is also available in your software's Help system.

You can keep the Help window open while you use the software or print the information directly from the window.

Internet access is not required to use the Help system.

4

Reviewing and releasing results to the LIS

This section includes these topics:

Reviewing results data in Specimen Management

About this topic

This topic describes how to open and use the **Specimen Management Workspace** to review, refresh, and sort data.

Before you begin

The BD FACSLink default result transfer rule "Hold all tests for verification" must be applied to all instrument connections to review and release results data to the LIS. This should be performed during initial configuration. See Data Innovations' Instrument Manager *Rules Manual* or the Data Innovations' Instrument Manager *Help* for more information.

Opening the Specimen Management Workspace window

To open the Specimen Management Workspace window:

In the main **Instrument Manager** window, select **Specimen Management > SM Workspace.**

The **Specimen Management Workspace** window appears.
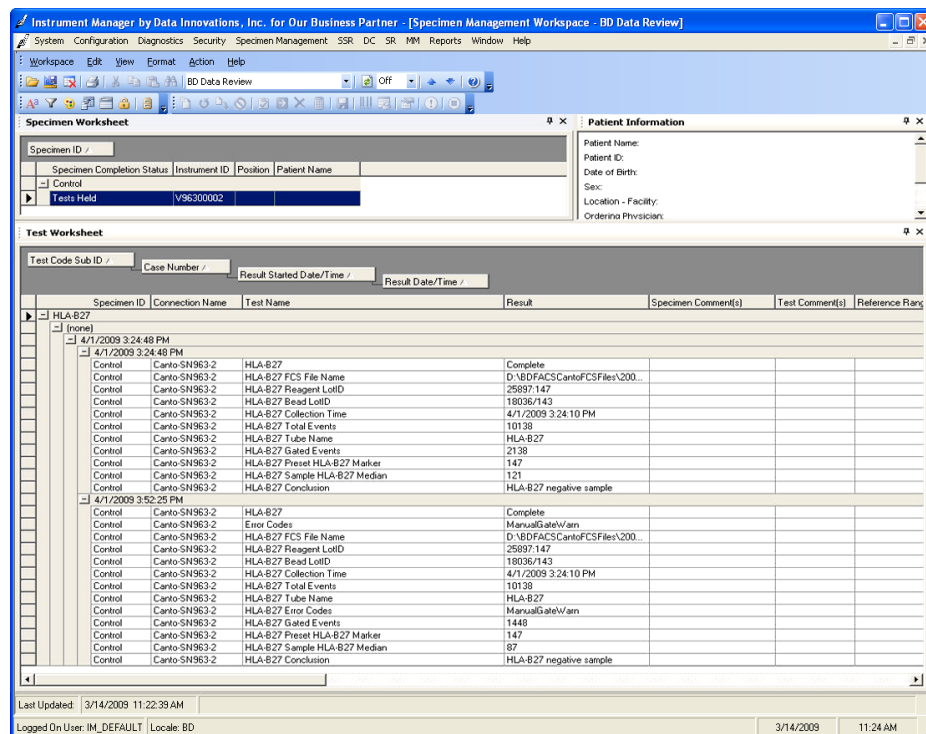
The default view is unique to BD FACSLink. The last used workspace (unique to each user account) appears as the default.

The **BD Data Review** workspace in Specimen Management does not appear as the default view the first time a new user logs in. To make the **BD Data Review** workspace the default for BD instrument users, complete the steps described in .

Opening the BD Data Review workspace

To open the BD Data Review workspace:

1. In the **Specimen Management Workspace** window, select **Workspace > Open Workspace**.

2. The **Open Workspace** dialog appears.
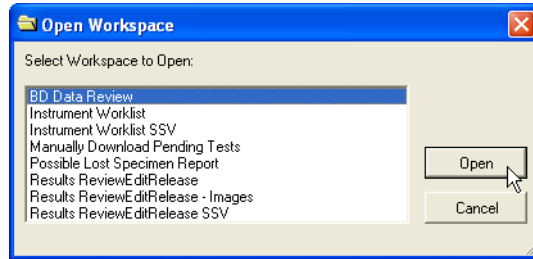
3. Select the **BD Data Review** workspace from the list.

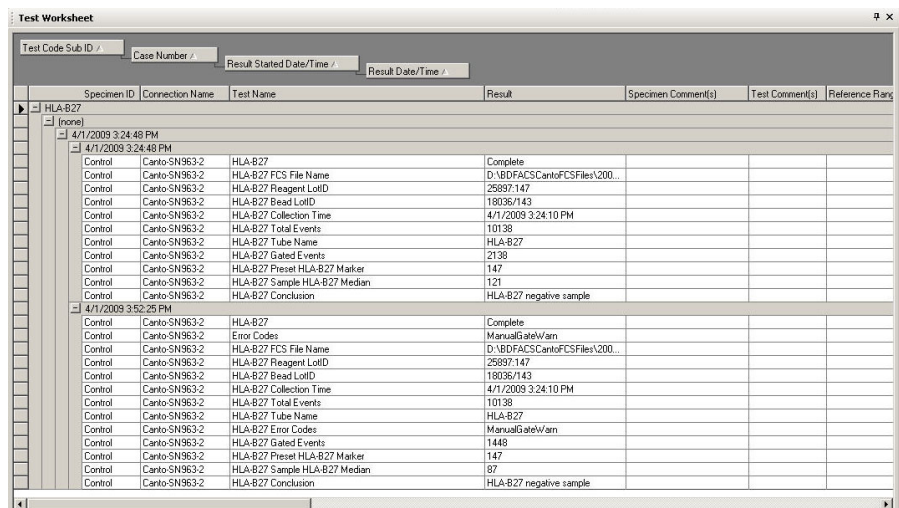4. Click **Open**.

    The **BD Data Review** workspace opens.

Using the specimen worksheet

To use the specimen worksheet:

Select any row of data in the **Specimen Worksheet** pane.

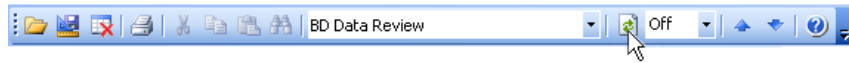The data appears in the **Test Worksheet** pane.

Refreshing the results data

If the **Specimen Management Workspace** window is already open and you recently transferred results from a worklist to Specimen Management, you should refresh the workspace to display all recent results data.

To refresh the results data display:

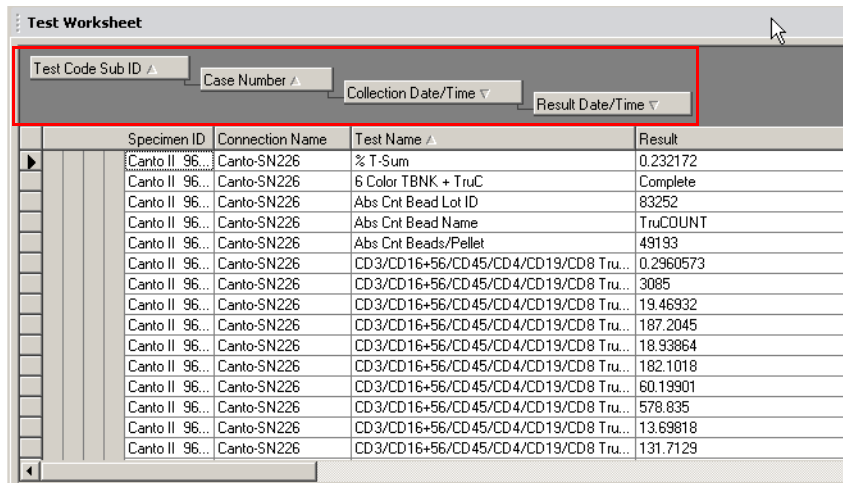Click the **Refresh** tool on the toolbar to refresh the workspace.

The **Specimen Worksheet** pane and the **Test Worksheet** pane refresh.

Sorting data

To sort data:

1. In the **Specimen Management Workspace** window, navigate to the **Test Worksheet** pane.

2. Click and drag the sort blocks to create a sorting hierarchy appropriate for your needs. For example, you can drag the **Test Code Sub ID** into the first position to serve as the primary sort criterion.

3. Select one of the sort blocks to sort the data based on the specific criterion, for example, select **Case Number** to sort by case number.

Differentiating similar data

To ensure that you have the most current data, even when multiple sets of similar data appear, select the **Collection Date/Time** sort block to sort data by date and time to differentiate between the sets of similar data.

Related topics

- Importing and exporting workspaces (page 52)

- Saving or deleting workspaces (page 54)

Releasing or rejecting results data

About this topic

This topic describes how to review data in Specimen Management and how to release data to the LIS or reject data.

Considerations for releasing data to LIS

You decide which data is reviewed, released, or rejected from the **Specimen Management Workspace** window. Your facility's review and release procedures should determine how results are released or rejected.

Verify that the results for the panels match the results in the reports generated from BD FACSCanto clinical software (for the BD FACSCanto system), or BD Multiset software/HLA-B27 software (for the BD FACSCalibur system).

Releasing or rejecting data

To release or reject data:

1. Open the **Specimen Management Workspace** window.
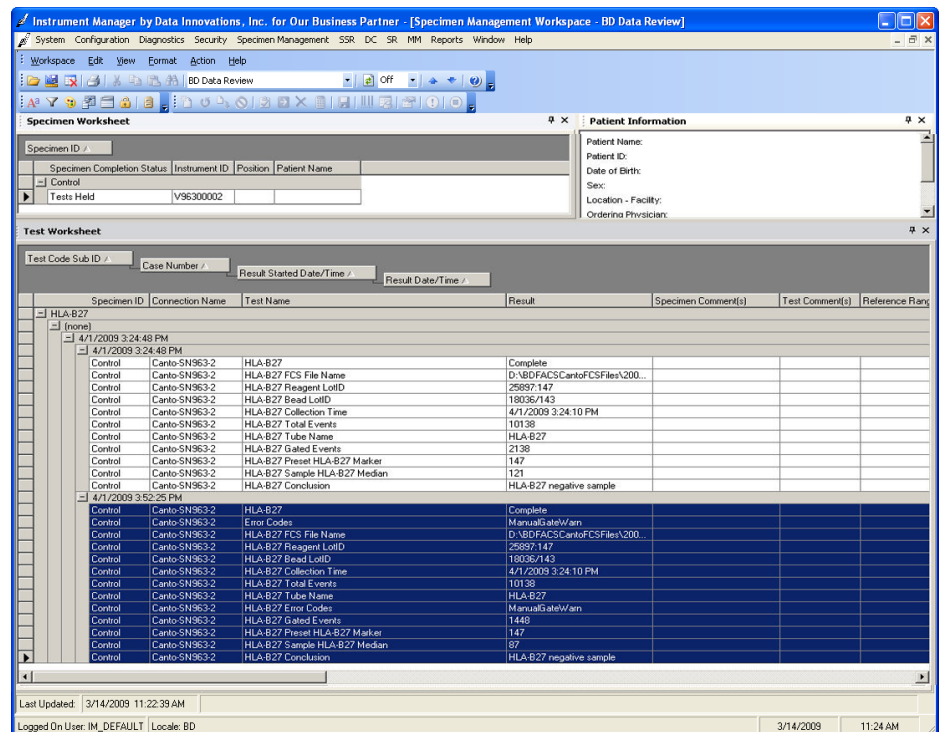
2. Select the data you want to release or reject.

    –   If the data is acceptable, you can release it to the LIS. Select **Action > Release.**

    –   If the data is not acceptable, you can reject it. Select **Action > Reject Result.**

More information   See Data Innovations' Instrument Manager *Help* for more information.

Related topics
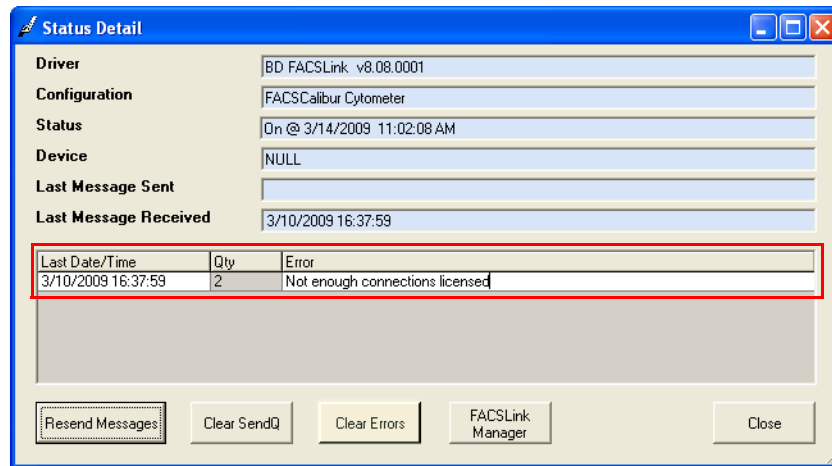- Opening the BD Data Review workspace (page 59)

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Troubleshooting

This section includes these topics:

Error messages

About this topic   This topic describes how to view and clear error messages.

Viewing error messages   Error messages appear in the **Status Detail** dialog. See Viewing and managing connections (page 41) for more information.

Clearing error messages   To clear any error messages in the **Last Message Received** table, click **Clear Errors.**

Software issues

| **About this topic** | This topic describes possible software problems and how to correct them. |

Error message	Problem description	Possible solution
Unable to open file:<value>	A file to be read cannot be opened.	Make sure that the file exists on the server in the instrument folder.
File not selected to be processed.	The **Load Result** button was clicked and a worklist has not been selected to be processed.	Select a worklist, then click **Load Result** again.
File selected does not have <value> file type	The Load Result button was clicked and a file with an incorrect extension was selected to be processed.	Select an appropriate worklist, then click **Load Result** again.
Thin client license exceeded	All available thin client licenses are open.	Close another instance, or wait for another licensed user to close their thin client.
Barcode scanner error	The barcode scanner does not scan the barcode.	Make sure that the **Caps Lock**, **Shift** and **Control** keys are off on the keyboard.

Need more information fast?

Information about this product is also available in your software's Help system.

You can keep the Help window open while you use the software or print the information directly from the window.

Internet access is not required to use the Help system.