Toledo Integrated Systems
Toledo Transducers

PressNet 5.0

Tonnage Networking Software

Technical Manual

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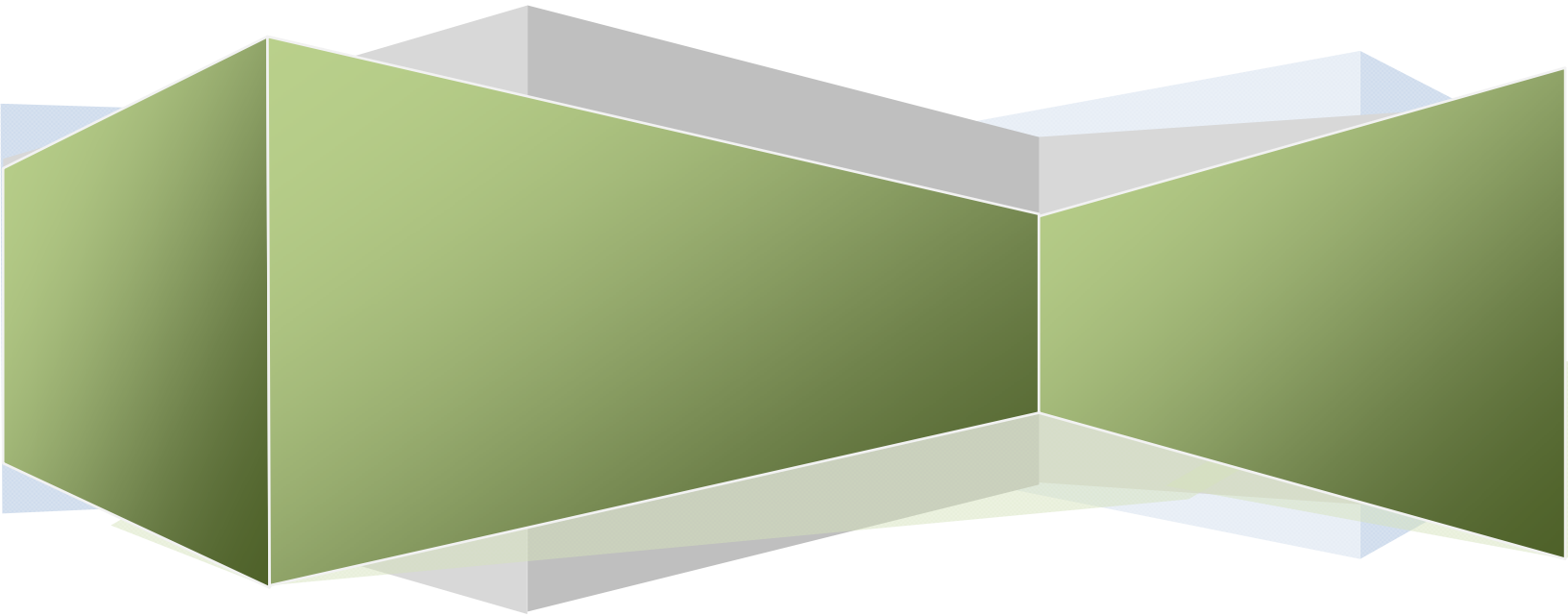

Toledo Integrated Systems
Toledo Transducers

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Article I. Limited Warranty

The software is warranted by the manufacturer, Toledo Integrated Systems, to be free from defects in workmanship for one year from the date of manufacturer's shipment. This warranty is limited to the functions of SlimWare as stated in this manual. If modifications are made to the software, Toledo Integrated Systems will not be responsible for SlimWare.

All products subject to this warranty must be returned for examination, repair or replacement to:

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Any unauthorized changes to the program will void this warranty.

There are no warranties that extend beyond those expressly set forth herein.

TABLE OF CONTENTS

Page

1. Overview 3
   I. Web-Based 3
   II. Installation 3
   III. Extended Monitor Compatibility 4
   IV. Universal Historical & Live Data 4
   V. Standard Reporting 4
2. Web Server Installation 5
   I. Configure IIS 5
   II. Configure PC 5
3. Legacy Data Driver Configuration 6
   I. Installation 6
4. Home Screen 7
5. Operations 8
6. Press Status 10
7. Current Jobs 11
8. Press Select 12
9. Press Detail 13
10. Signatures (Historical) 14
   I. Loading an Existing Signature 14
   II. Viewing Existing Signatures 15
   III. Signature Detail Table 16
11. Live Signatures 17
12. Hard Hit Report (Data) 18

I. Saving Reports 19
II. Printing Reports 19
III. Navigating Reports 19
IV. Zoom 19
13. Global Configuration 20
14. Press Configuration 21
15. Operation Configuration 23
I. Changing the Background Image 23
II. Altering the Press Image Location 23
16. Job Reference 24
17. Serial Log 25

1. Overview

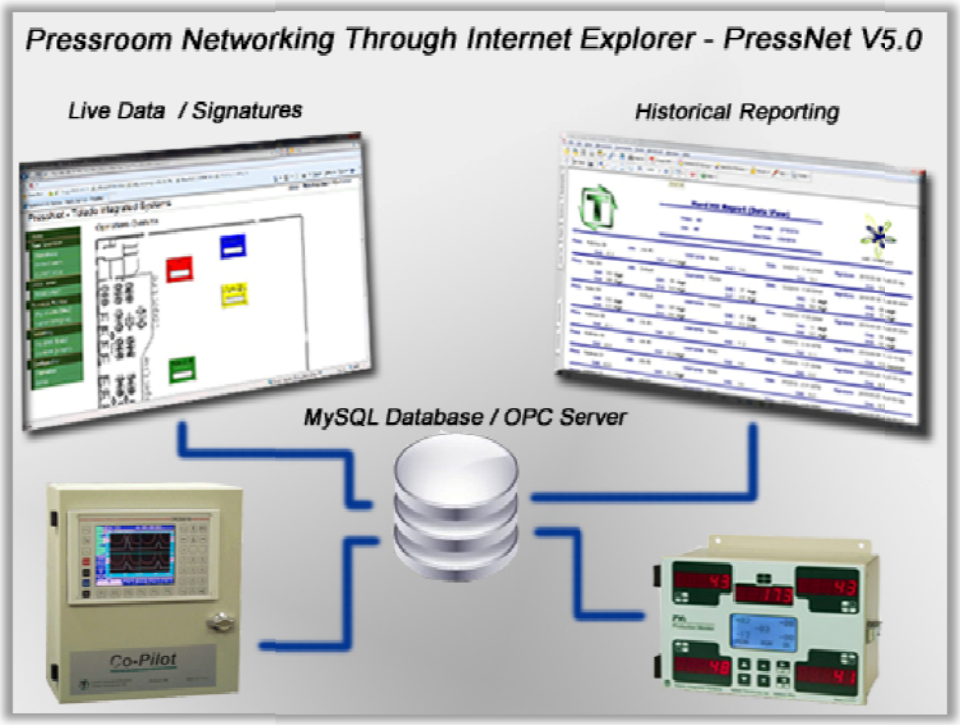


Figure 1.1 – PressNet V5 Layout

PressNet 5.0 is built on the proven platform of the original PressNet from Toledo Integrated Systems. Advancements in the new release of PressNet 5.0 include:

I. Web-Based

PressNet 5.0 is an ASP.NET application, which means it can easily be viewed in Internet Explorer. As a web-based application, users with VPN capabilities can VPN into their work network to view the pressroom status from virtually anywhere or any computer in the world.

II. Installation

With the original Windows based PressNet, PressNet could only be viewed from one PC. With PressNet 5.0, this program is published to a web-server (IIS) and can be viewed by any number of users. There is no additional installation for new users since the program is running through a web-server; new users simply browse to PressNet using Internet Explorer.

III. Extended Monitor Compatibility

The entire product line (tonnage monitors, all-in-one systems and Maximizer's) can be networked through PressNet 5.0. These monitors / systems include:

- Maximizer
- Co-Pilot
- LS Series
- SLIM
- N260 (Rev. 6 & 7)
- PWi
- PW Plus
- Quik-Learn
- TQM

IV. Universal Historical & Live Data

Live data (tonnage values, alarm status, SPM, etc…) and historical data (hard hit reports) are stored in either a MySQL database or OPC tags. This allows not only for users to view data through PressNet, but to also have the ability to use this data in pre-existing systems.

V. Standard Reporting

The hard-hit report comes standard with PressNet 5.0. This report details any tonnage alarm that occurs on a tonnage system tied into the PressNet network. The report details the following information:

- Press Name
- Current Job
- Timestamp
- User (if applicable, monitor depending)
- Specific Channel Tonnage
- Specific Channel Alarm
- Hard-Hit Signature Saved w/Each Alarm

2. Web Server Installation

PressNet 5.0 is installed on one (1) PC. This PC is the web-server and the following are programs / drivers that are required for installation:

- Microsoft Windows XP Professional, Vista Business or 7 Professional
- IIS (Internet Information Services)
- MySQL Database (Version 5.1 or higher - available at http://www.mysql.com)
- MySQL / ODBC Connector (available at http://www.mysql.com)
- OPC Data Control 5.0 (provided by Toledo Integrated Systems)
- Crystal Reports Runtime 2008 (provided by Toledo Integrated Systems)
- MSChart Redistributable Runtime Package (provided by Toledo Integrated Systems)
- Legacy Data Driver (required for legacy products – provided by Toledo Integrated Systems)

I. Configure IIS

PressNet 5.0 is published to the Microsoft Windows web server IIS (internet information services). IIS must be configured for the following:

- ASP.net 2.0
- Anonymous authentication
- Default.aspx included in the default documents

II. Configure PC

Depending on what Toledo products are being used with Pressnet 5.0, DCOM permissions and firewall changes may be necessary. Contact Toledo Integrated Systems for further instructions with regards to these permissions and firewall issues.

3. Legacy Data Driver Configuration

The Toledo Integrated Systems legacy driver is required for the following monitors. In parenthesis are the required ROM versions for each monitor. If the ROM version is less than what is listed, a ROM upgrade will be required to add the monitor to the PressNet network.

- N260 Rev 6 (6599)
- N260 Rev 7 (7772)
- SLIM Rev 1 (5125)
- Co-Pilot Rev 1 (5636)
- LS Series Rev 1 (5436)
- PWi (8036)
- N800 (8036)
- PW Plus (PWP-V08)
- TQM (7111)
- Quik-Learn (QL300-24)

I. Installation

Toledo Integrated Systems will provide the installation disc and instructions for PressNet 5.0 legacy driver during the initial startup.

4. Home Screen

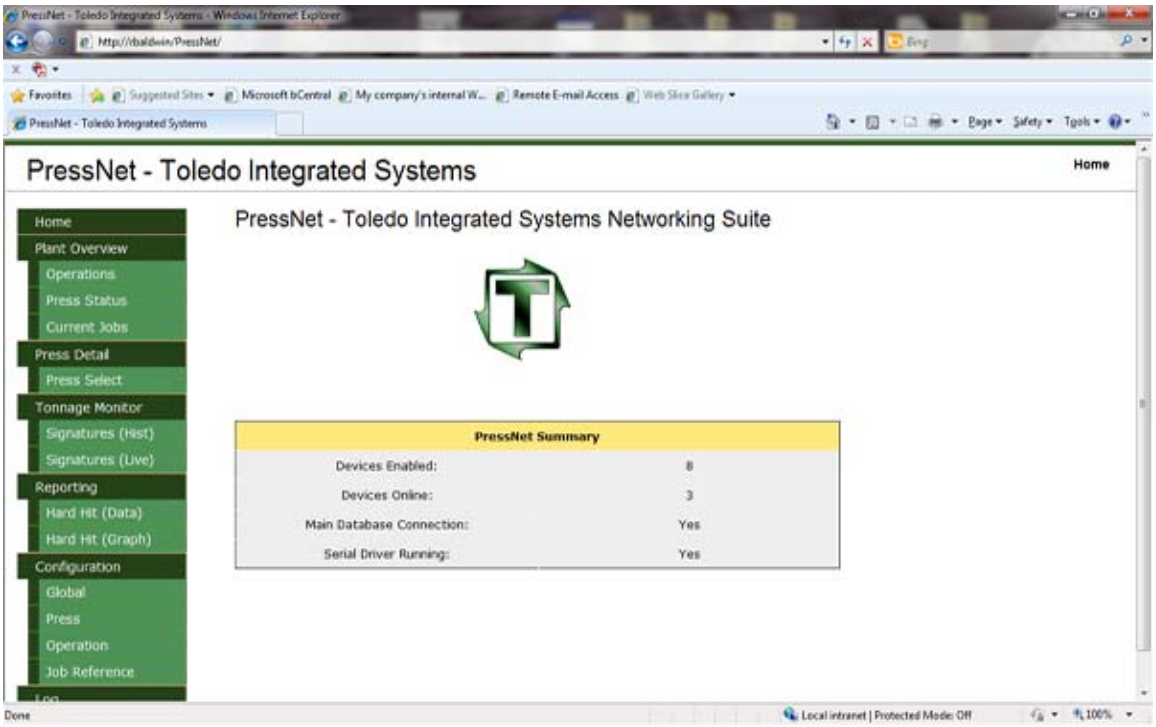


Figure 4-1 –PressNet Home Screen

The home screen gives a quick overview of the PressNet network, displaying how many devices are enabled, devices online, the database connection status and whether the serial driver is running or offline. To browse to this page, click the “Home” button from left hand side navigation.

- **Devices Enabled** – This is total number of devices enabled from the press configuration menu. This includes all monitors and systems set to “enabled” in the configuration menu.
- **Devices Online** – This is the total number of devices online. For legacy devices, this is determined by the serial driver. For listed ROM versions or higher, if the OPC server is available, the device will appear online. If the device cannot be reached, the device will be deemed offline.
- **Main Database Connection** – Displays the connection status of the MySQL database. This database connection is mandatory and PressNet will not function correctly if this database connection is broken or otherwise unreachable.
- **Serial Driver Running** – This is only relevant if legacy devices (listed above) are on the PressNet network. If the serial driver is not running, all legacy devices will display “Offline”. Listed ROM versions or higher products do not require the legacy driver and are not affected by the status.

5. Operations

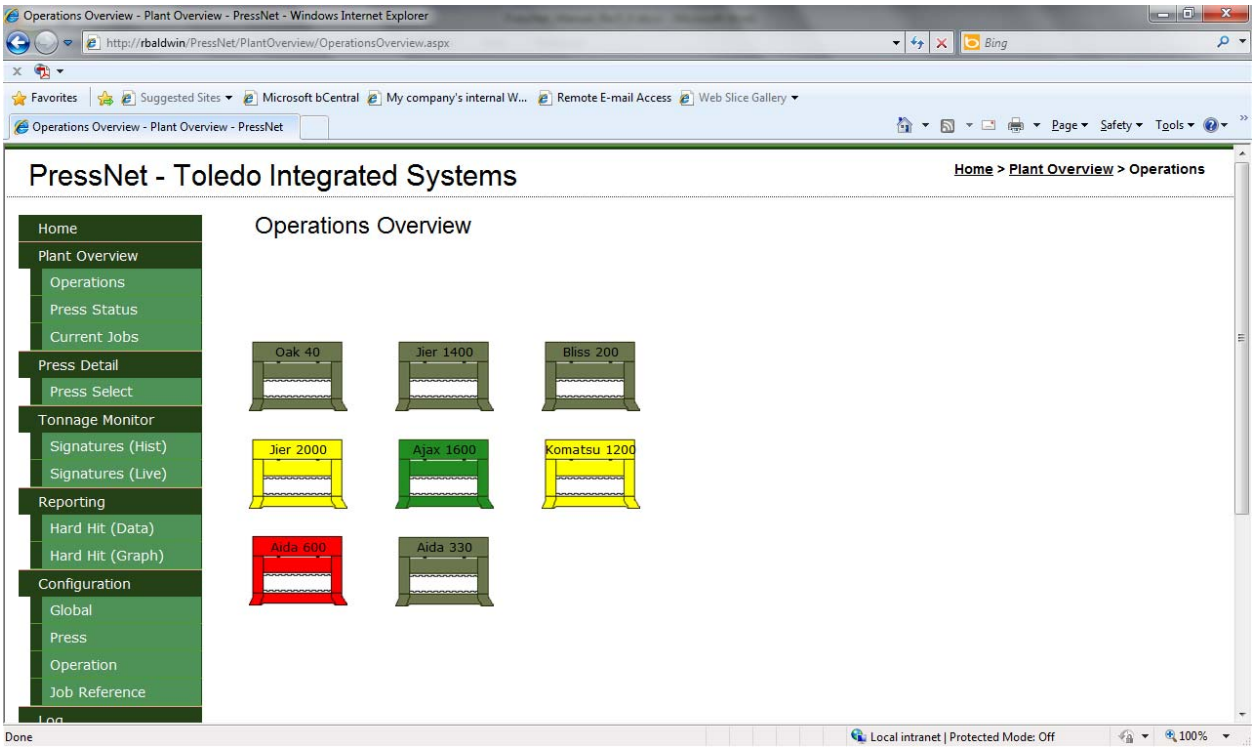


Figure 5-1 – Operations Screen

The operations screen gives a graphical overview of the pressroom floor. The layout of the overview is configurable from the operation configuration page (Section 15). As can be seen in figure 5-1, in this example there are 8 monitors enabled in PressNet. Depending on the status of the monitor / driver, the press color changes accordingly. Below are the color codes and definitions.

- **Gray** – Monitor or serial driver is offline. When the monitor or driver comes back online, the press color will update showing the device online.

- **Green** – Monitor is online, enabled and not alarmed. If the press is running, the press graphic will show a moving press. If the press is idle, the press graphic will also be idle.

- **Yellow** – Monitor is online, enabled, not alarmed and in setup mode. Once the monitor comes out of setup mode, the press will return to green unless alarmed.

- **Red** – Monitor is online, enabled and alarmed. If the press graphic is red, then a tonnage fault has occurred on this specific press. Once the alarm has been reset, the press will return to green or yellow, depending on the monitor mode.

This page has a refresh rate of 5 seconds and will do so automatically. The page does not need to be refreshed manually.

To view the details of any monitor, click on the desired press graphic to load the press detail page for that specific monitor (Section 9).

6. Press Status

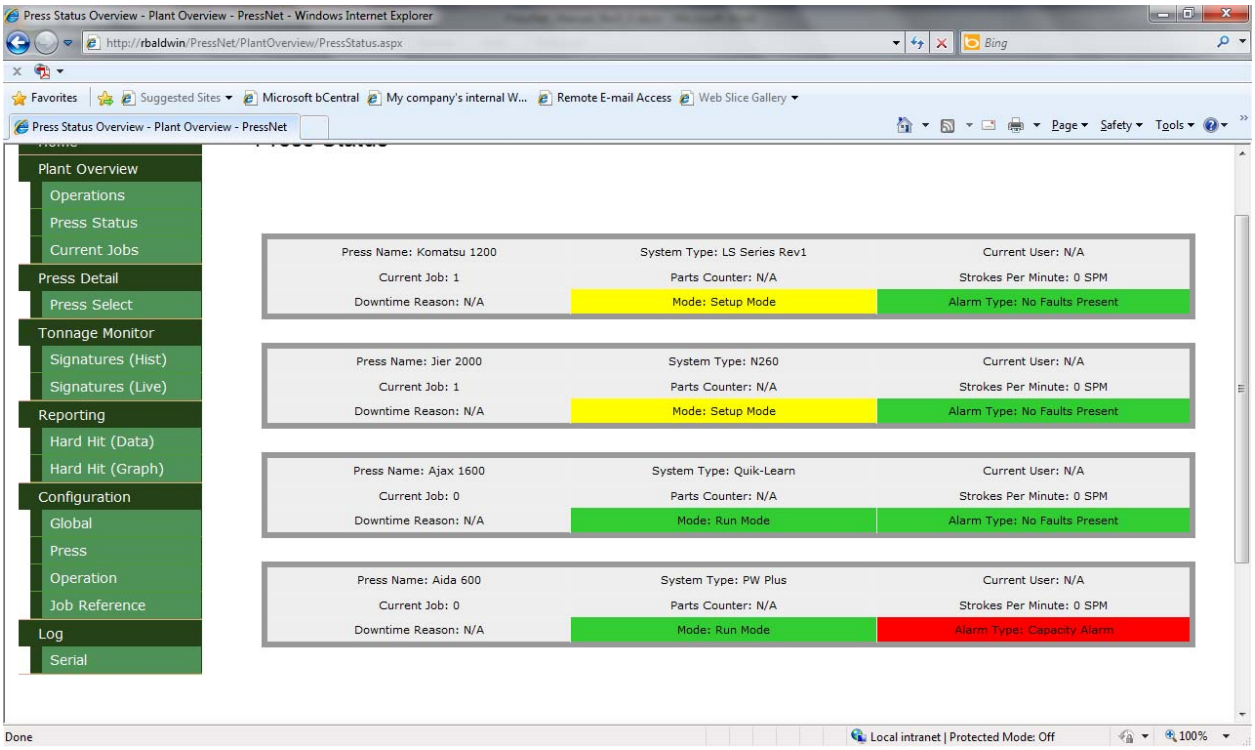


Figure 6-1 – Press Status Screen

The press status screen gives a similar overview to that of the operations page; however this screen is more detailed. Below is a list of the information listed for each press on the press status screen.

- Press Name (settable from the press configuration menu)
- System Type (settable from the press configuration menu)
- Current User (only applicable for certain monitors)
- Current Job Running
- Parts Counters (only applicable for certain monitors)
- Strokes per Minute
- Downtime Reason (only applicable for certain monitors)
- Monitor Mode (Setup, Run, Learn)
- Alarm Status

Only online devices will appear on the press status page. This page is refreshed automatically at a rate of 5 seconds. A manual refresh is not needed.

7. Current Jobs

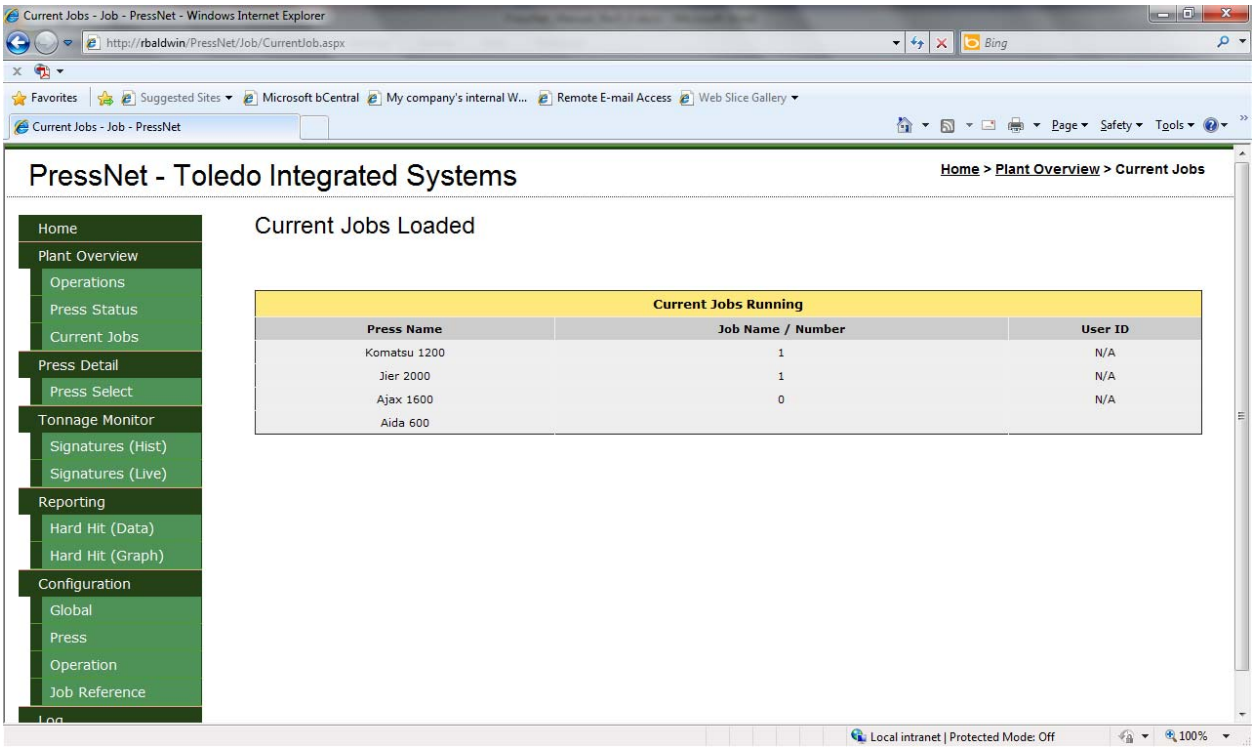


Figure 7-1 –Current Jobs Screen

Figure 7-1 details the current job screen. This is a quick way to view the current jobs running for each device on the PressNet network. This can be configured to display a corresponding job name by using the job reference table under the configuration menu (Section 11).

Only online monitors will be displayed on this screen. This page is refreshed automatically at a rate of 5 seconds. A manual refresh is not needed.

8. Press Select

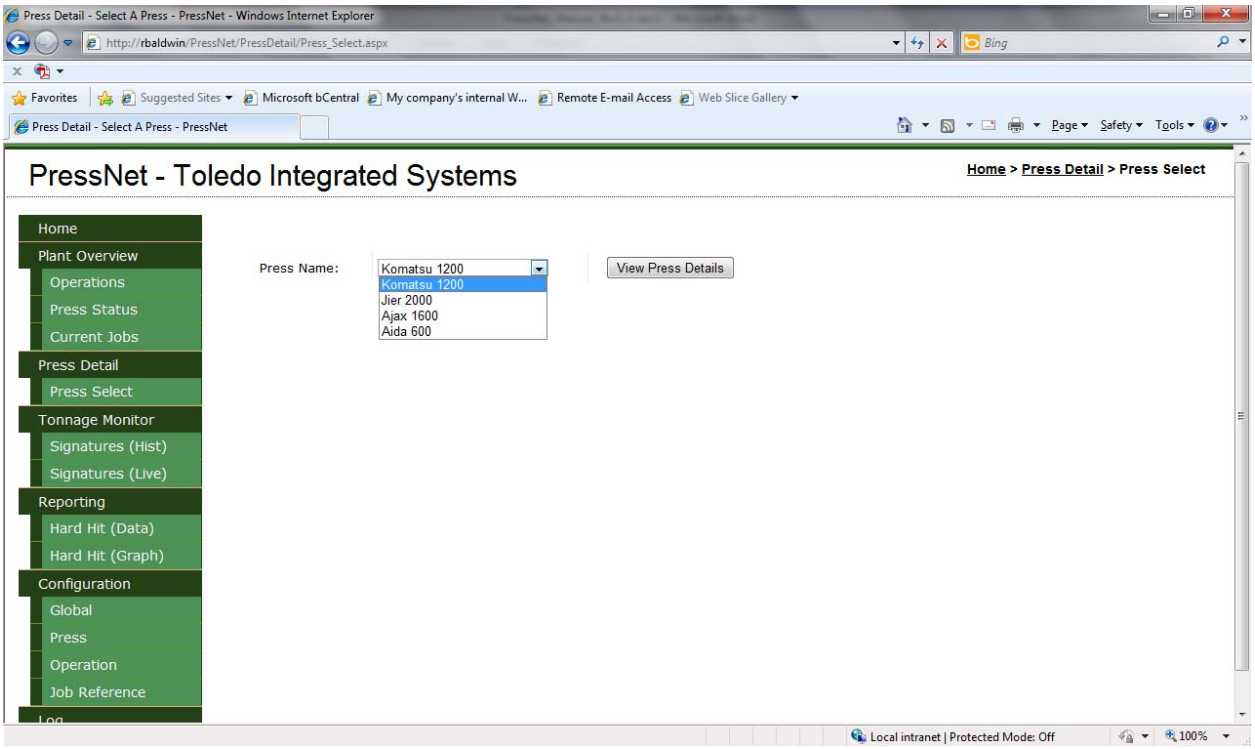


Figure 8-1 – Press Select Screen

To view the details of each monitor, users have two options:

1. From the operations overview screen, click on the desired press; the user will be redirected to the corresponding press details page, displaying the monitor information.

2. From the press select screen (shown above in figure 8-1), select the desired press from the drop down menu and select “View Press Details”. The user will be redirected to the press details page, displaying the monitor information.

From the press select page, only online monitors will appear in the drop down selection. The Press name (set in the press configuration menu, section 14), is displayed in this drop down box.

9. Press Detail

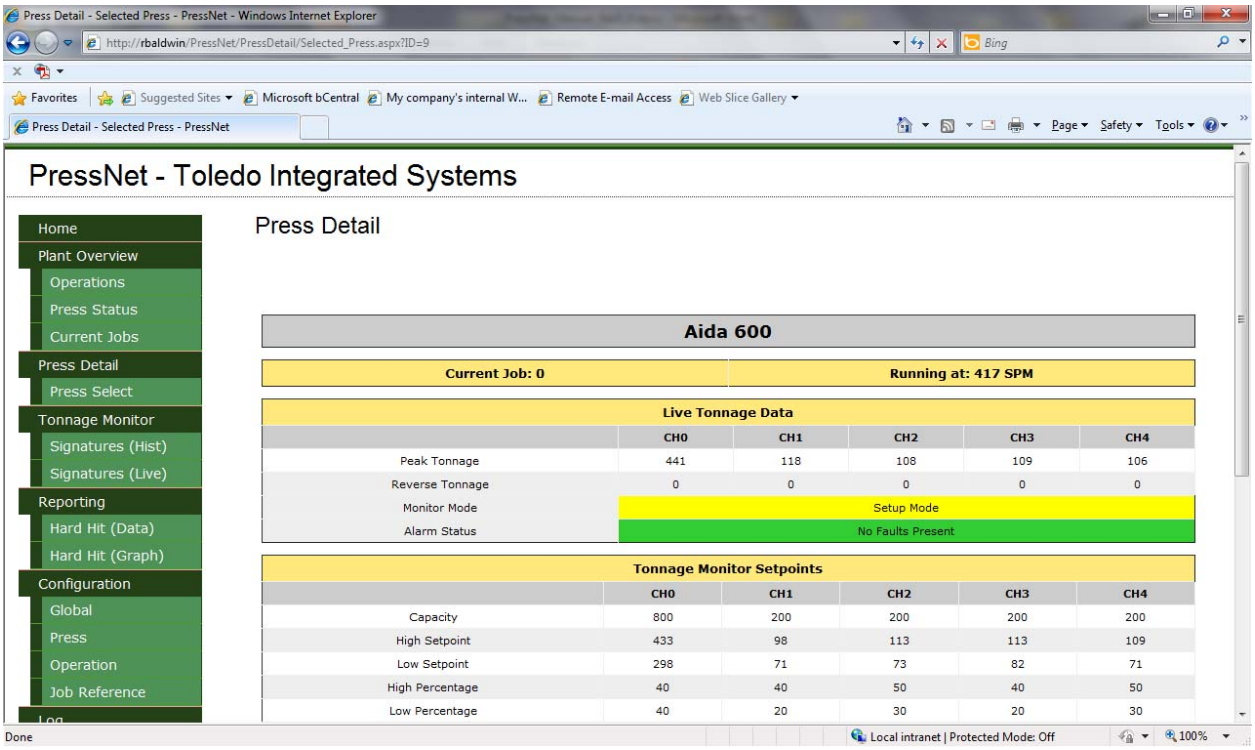


Figure 9-1 –Press Detail Screen

The press detail screen displays all relevant information for each Toledo monitor. Below is a list of information included on the press detail screen.

- Press Name
- Current Job Running
- Strokes per Minute
- Peak Tonnage (Most Recent)
- Reverse Tonnage (Most Recent)
- Monitor Mode (Setup, Run, Learn)
- Alarm Status
- Tonnage Setpoints (Capacity, High, Low, Percentage)
- Tonnage Statistics

The current job running, SPM, peak tonnage, reverse tonnage, monitor mode and alarm status is refreshed automatically every 5 seconds. The tonnage setpoints and statistics are not refreshed automatically.

10. Signatures (Historical)

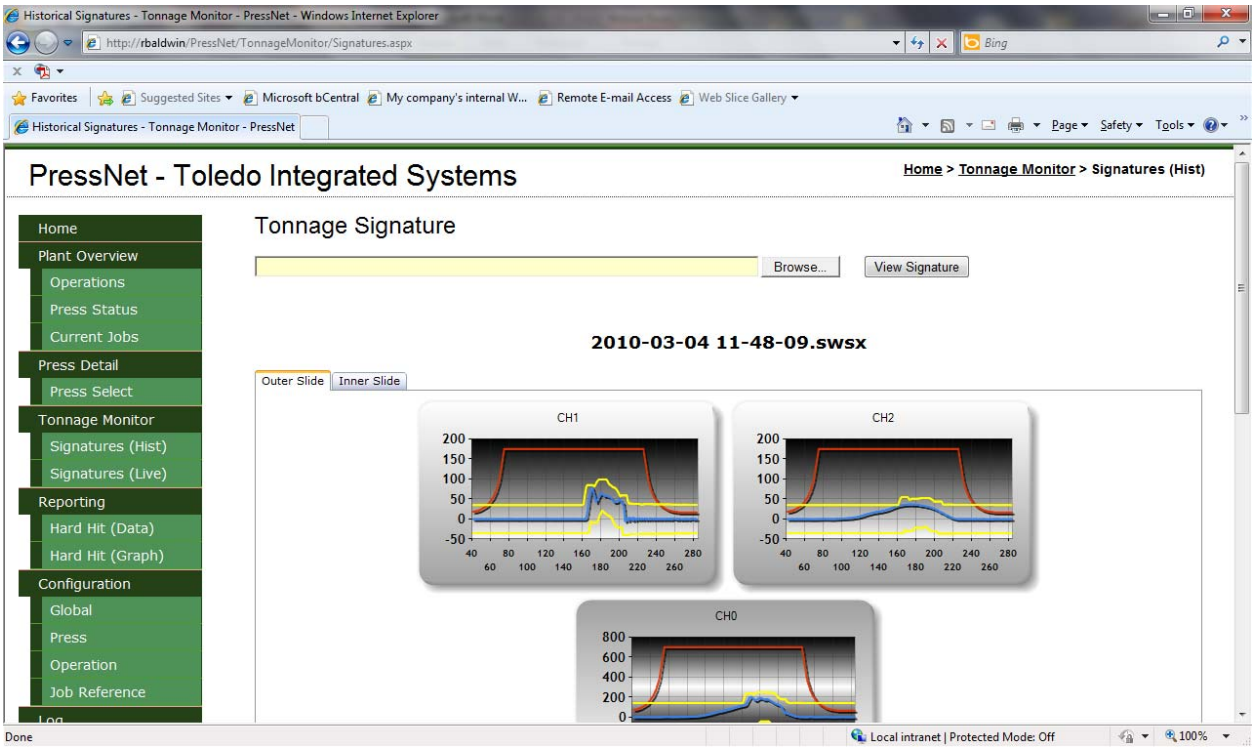


Figure 10-1 Historical Signature Screen (Signature Loaded)

From the historical signature screen, users can view saved signatures. Supported signature types include .SIG, .SWS and .SWSX files.

I. Loading an Existing Signature

To load an existing signature, follow the steps listed below:

1. Click the “browse” button near the top of the page. A windows open file dialogue window will appear.
2. Select the desired signature file (.SIG, .SWS or .SWSX) and select “Open”.
3. The file path will now be loaded into the textbox. Select “View Signature” to view the signature.
4. The page will refresh and the signature will be loaded into the graphs.

Once the signature is loaded, the filename will be displayed near the top center of the page.

Depending on the number of signatures, the inner and outer tabs will be enabled, allowing users to view both slide signatures. If only one slide is used, the inner tab will be disabled.

Below are the signal colors and definitions:

- Red – CCM Curve
- Blue – Tonnage Signal
- Yellow – High and Low Envelopes (Select Monitors)
- Orange – High and Low Setpoints

II. Viewing Existing Signatures

Users can get a more detailed view of any signature by clicking on the graph. By clicking on the graph, an enlarged signature image will appear on the screen as shown below in figure 10-2. From here, users can save the signature as a JPG file for easier viewing.

Figure 10-2 Enlarged Signature

III. Signature Detail Table

When a historical signature is loaded, users can view the details such as the tonnage signal, high and low envelope values, CCM curve values and distance from bottom for each degree throughout the tonnage stroke.

This table is shown just below the signatures. All corners are shown, per degree, in the signature detail table.

By default, on signature load, the degree is set to 180. Users can move from 40 to 284 degrees by using the +/- 10 or +/- 1 buttons below the detail table as shown in figure 10-3.

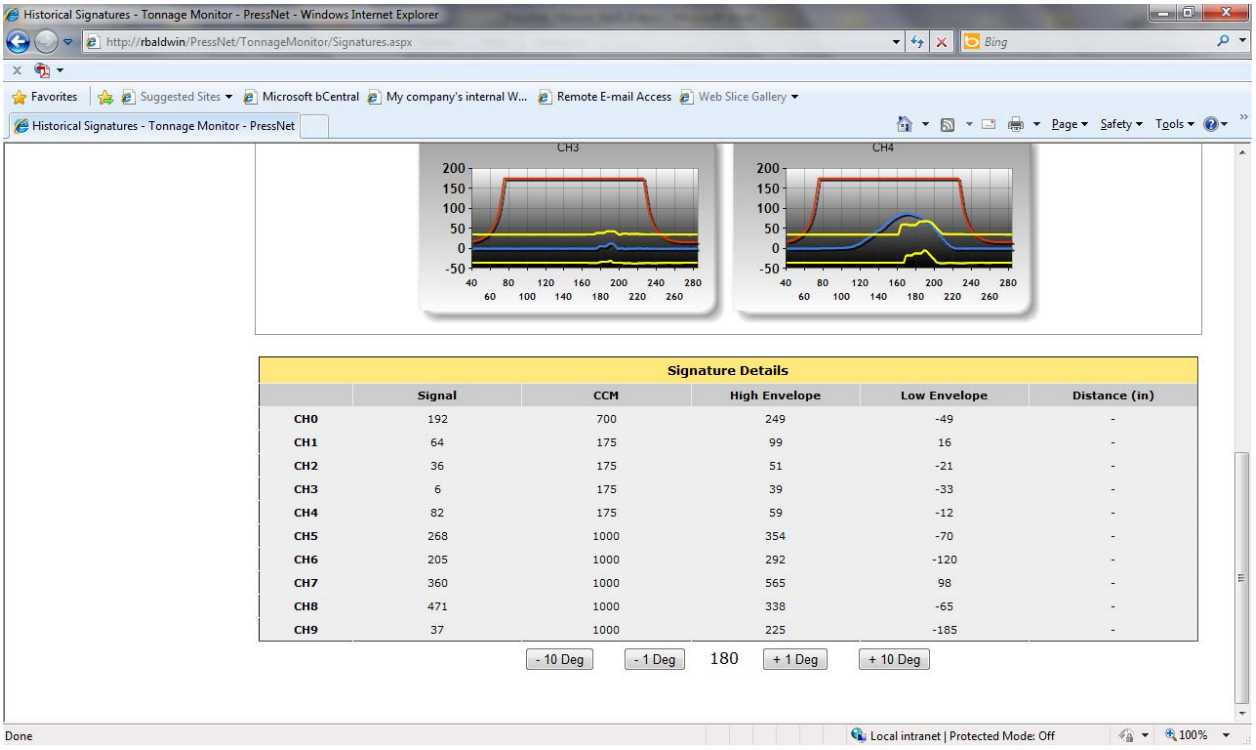


Figure 10-3 Signature Detail Table

11. Live Signatures

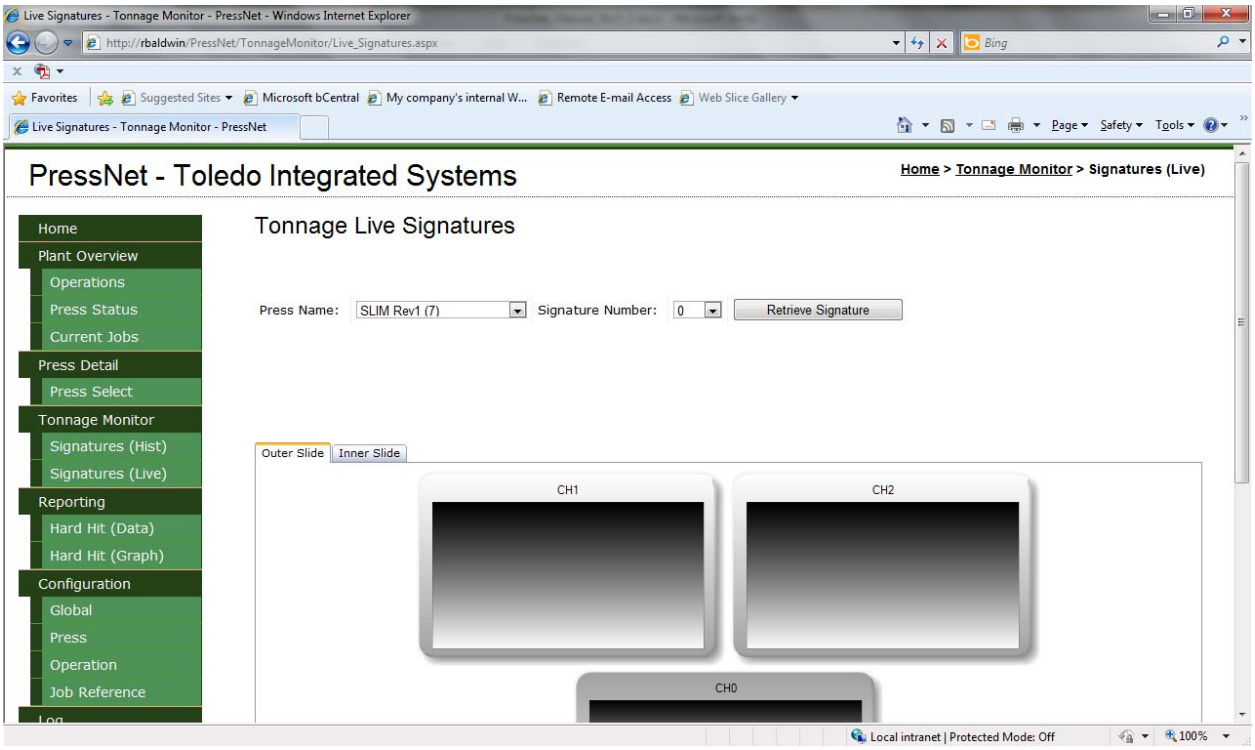


Figure 11-1 Live Signature Screen

With PressNet 5.0, live signatures can be polled and displayed from any monitor online. Figure 11-1 shows the live signature page. From here, users can select the press from which to download a signature and the signature number to retrieve (only applicable for high ROM versions).

Only online monitors will appear in the drop down box. For any legacy devices, users will only have the option to select signature number “0”. With higher ROM versions, users are able to retrieve the last 25 signatures from the monitor.

Once the desired press and signature number have been selected, select “Retrieve Signature” and PressNet will poll the monitor for a signature. Once PressNet receives the signature, the page will refresh and the signature will be loaded into the corresponding graphs.

Once the signature is loaded, users have the ability to save the signature in a signature style format (SWSX). To save the signature, simply click the “Save Signature” just above the graphs and a save file dialogue window will appear. Select the desired location and select “Save”.

Users have all of the same options and features as the historical signature page (Section 10), with the exception of the detail table. However, to view the degree by degree details, users must save the signature and load the saved signature into the historic signature page (Section 10).

12. Hard Hit Report (Data)

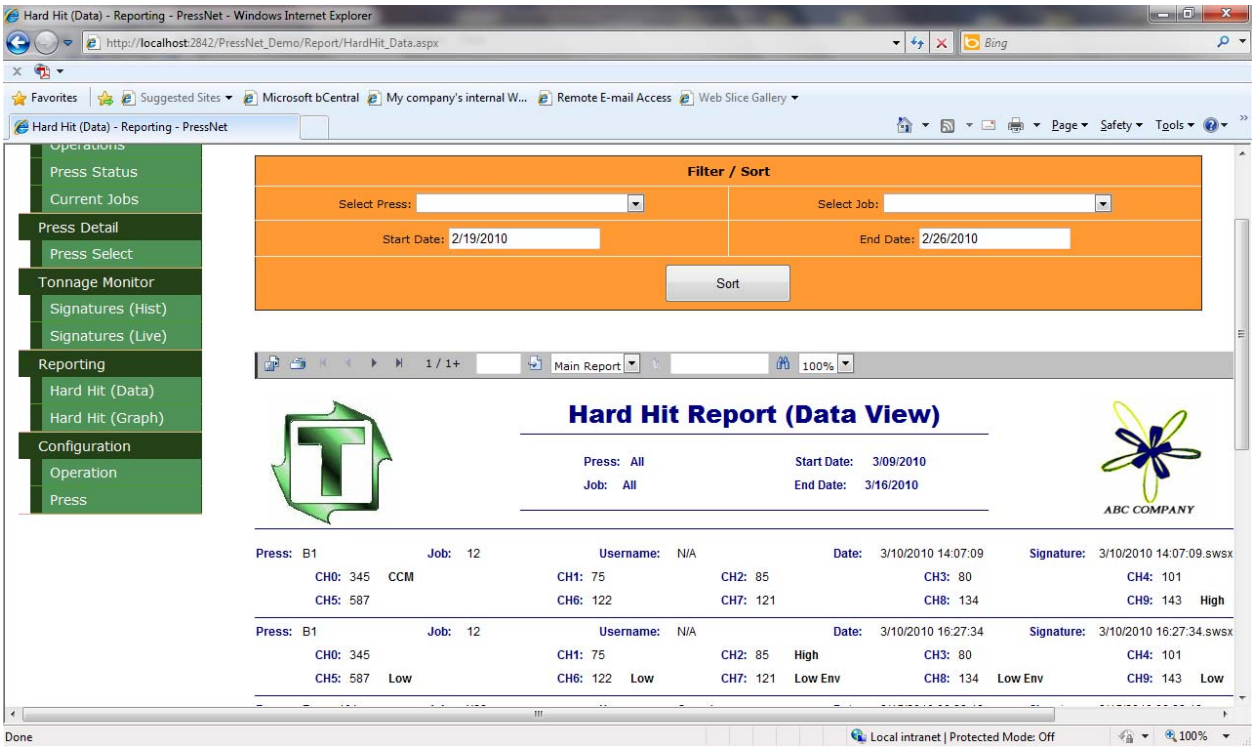


Figure 12-1 Hard Hit Data Report Screen

The hard-hit report details any tonnage alarms that occur with a monitor on the PressNet network. For each record, the following information is included:

- Press Name
- Job Running
- User (Select Monitors)
- Timestamp (of when the event occurred)
- Signature Name (name of the hard-hit signature)
- Specific Channel Tonnage
- Specific Channel Alarm

Figure 12-1 shows the hard hit report window. As can be seen, users have the ability to sort the report by press name or job name for selected start and end dates. To view the report, select the desired sort parameters and select “Sort”. The page will refresh with the sorted hard-hit report.

To view the hard-hit signature, hover over the signature name and click the link. The page will be redirected to the historical signature screen, displaying the hard-hit signature. From here, users can view the degree-by-degree details or print out the alarmed signature.

The report itself is built and displayed using Crystal Reports. From the reporting window, users can save, print, zoom in or out and jump to various pages throughout the report.

Figure 12-2 Report Window Controls

I. Saving Reports

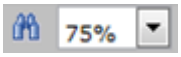
To save the generated report, click the save icon near the top left of the report window. A dialogue will appear prompting the user to save the document as a PDF or Crystal Reports format.

II. Printing Reports

To print the hard-hit report, select the printer icon near the top left of the report window. A print dialogue will appear, allowing users to print to various local or network printers.

III. Navigating Reports

Most reports generated are larger than one (1) page. To move from page to page, users can select the arrow buttons. To jump to a certain page in the report, enter the page number in the page number textbox and select the Go To button.

IV. Zoom 

Depending on the users screen resolution, a different zoom factor may be used for easier viewing / reading. By default, the report is shown at 75% resolution. To increase or decrease the zoom of the report, select the zoom percentage from the drop down menu. The report window will automatically refresh and display the report in the desired zoom percent factor.

13. Global Configuration

To access the global configuration, users must enter a valid PressNet configuration password. Contact Toledo Integrated Systems if the network administrator does not have the password available.

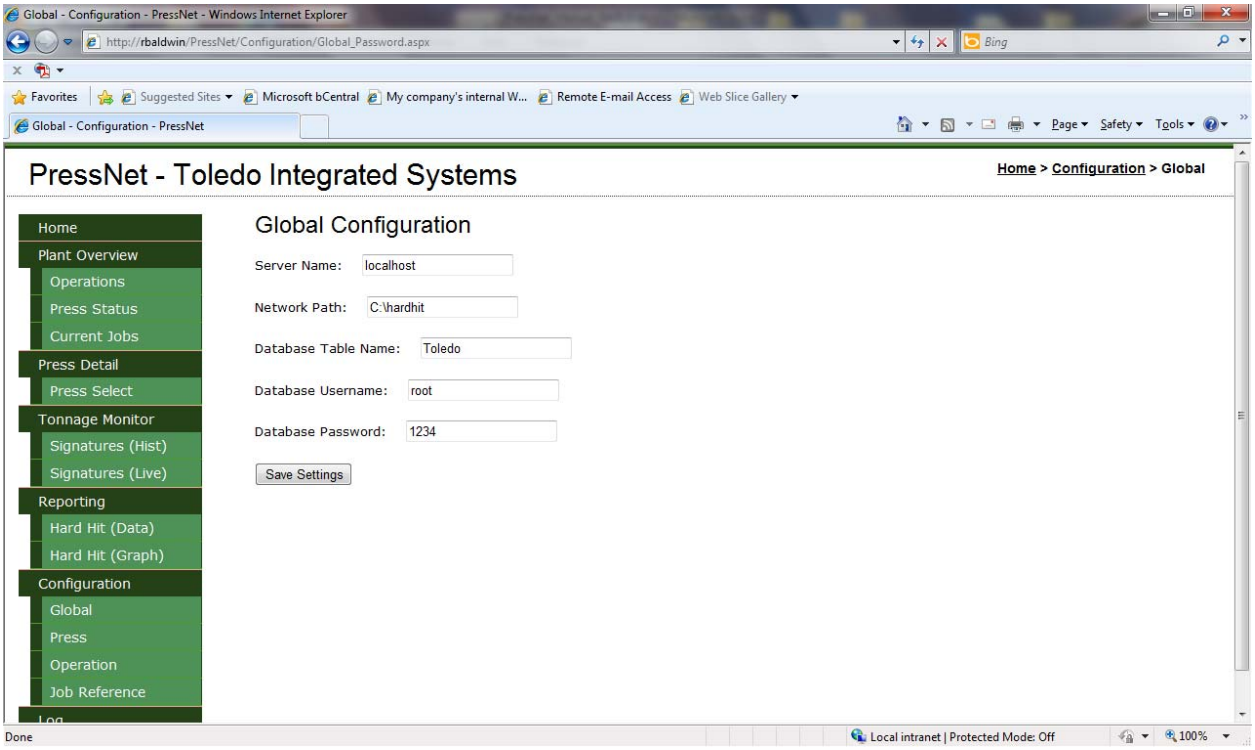


Figure 13-1 Global Configuration Screen

The global configuration allows user to configure the framework of PressNet. From this screen, users can set the:

- **Server Name** – The name or IP address of where the web server is located, almost always 'localhost' or '127.0.0.1'.
- **Network Path** – The path to the folder that will contain the hard hit signatures. This folder should normally be stored on the web server PC as well to prevent network connectivity issues.
- **Database Table Name** – The name of the table in main MySQL database. This will always be set to Toledo except in rare occurrences.
- **Database Username** – the username used to log into the database. By default, this is set to 'root'.
- **Database Password** – the password used to log into the database. By default, this is set to '1234'

Once any changes are made, select the 'Save Settings' button and the configuration value are saved.

14. Press Configuration

To access the press configuration, users must enter a valid PressNet configuration password. Contact Toledo Integrated Systems if the network administrator does not have the password available.

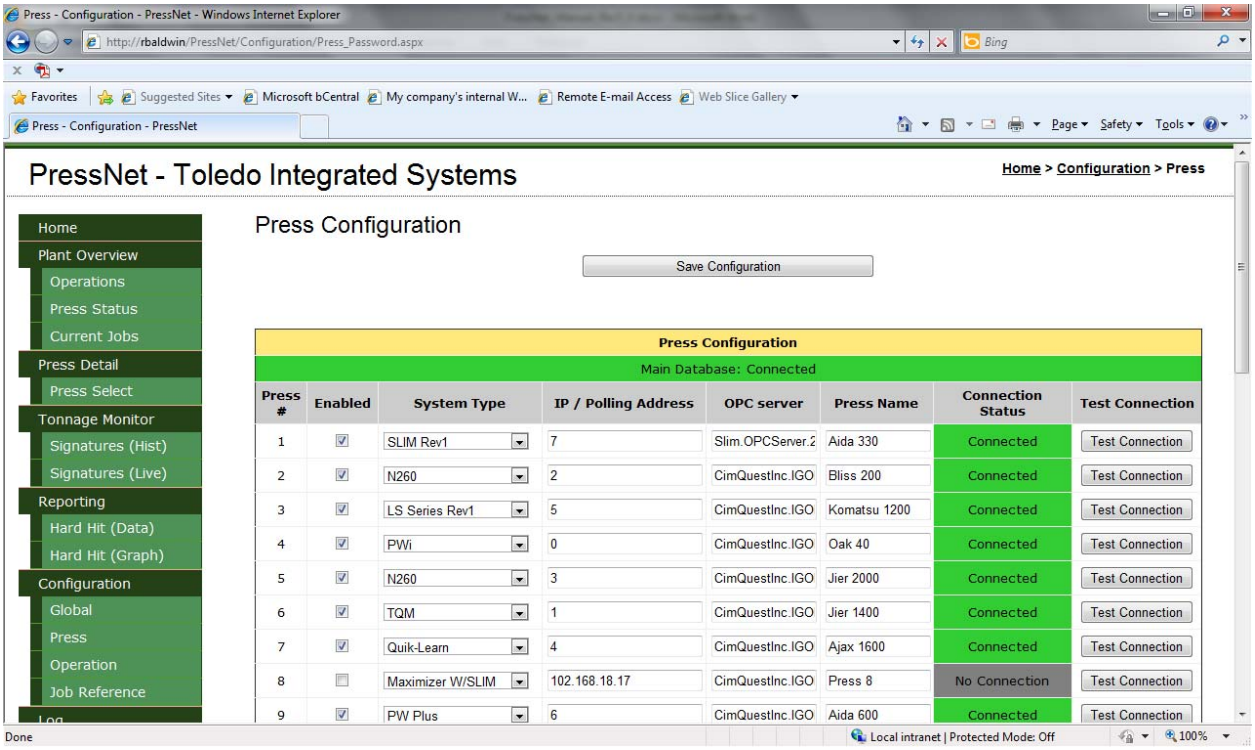


Figure 14-1 Press Configuration Screen

The press configuration menu allows system administrators to add, remove or configure Toledo monitors and systems. As can be seen in figure 14-1, administrators can enter:

- **Press #** - Internal use within PressNet, this gives each press a unique ID.
- **Enabled** – enable / disabled systems
- **System Type** - sets the system type. These types can include:
    - Maximizer w/Out Tonnage
    - Maximizer w/TTLM
    - Maximizer w/SLIM
    - Co-Pilot Rev 2
    - Co-Pilot Rev 1
    - LS Series Rev 2
    - LS Series Rev 1
    - SLIM Rev 2
    - SLIM Rev 1

  - N260
  - PW Plus
  - PWi
  - Quik-Learn
  - TQM
- **IP / Polling Station** - set the IP / Polling stations. IP addresses are used with Maximizer's and higher ROM version monitors; polling stations are used with legacy devices (N260, PWi, etc…)
- **OPC Server** - defines the OPC server. OPC servers are used with Maximizer's and higher ROM version monitors.
- **Press Name** - defines the press name. This is used throughout PressNet in identifying monitors.
- **Connection Status** - monitors the connection status. If there is a valid connection between PressNet and the monitor, this display will be green and read 'Connected'. If the connection is broken, this will be gray and display .No Connection'.
- **Test Connection** – users can press this button to test the connection between the monitor and PressNet network.

When settings up legacy device polling stations, these values must correlate with the polling stations set with the legacy device driver. For example, if an N260 is set to a polling address of '6' in the legacy device driver, then it must also be set to a polling address of '6' within PressNet. More information about the legacy device driver and configuration can be found in section 3.

When using Maximizer's and higher ROM version monitors, contact Toledo Integrated Systems with regards to DCOM security and configuration. These products use OPC client / server side tags for data transfer and by default, Microsoft Windows denies communication over networks for this form of communication.

When any changes are made to the press configuration, simply click 'Save Configuration' and the changes are applied throughout the entire PressNet network.

15. Operation Configuration

To access the operation configuration, users must enter a valid PressNet configuration password. Contact Toledo Integrated Systems if the network administrator does not have the password available.

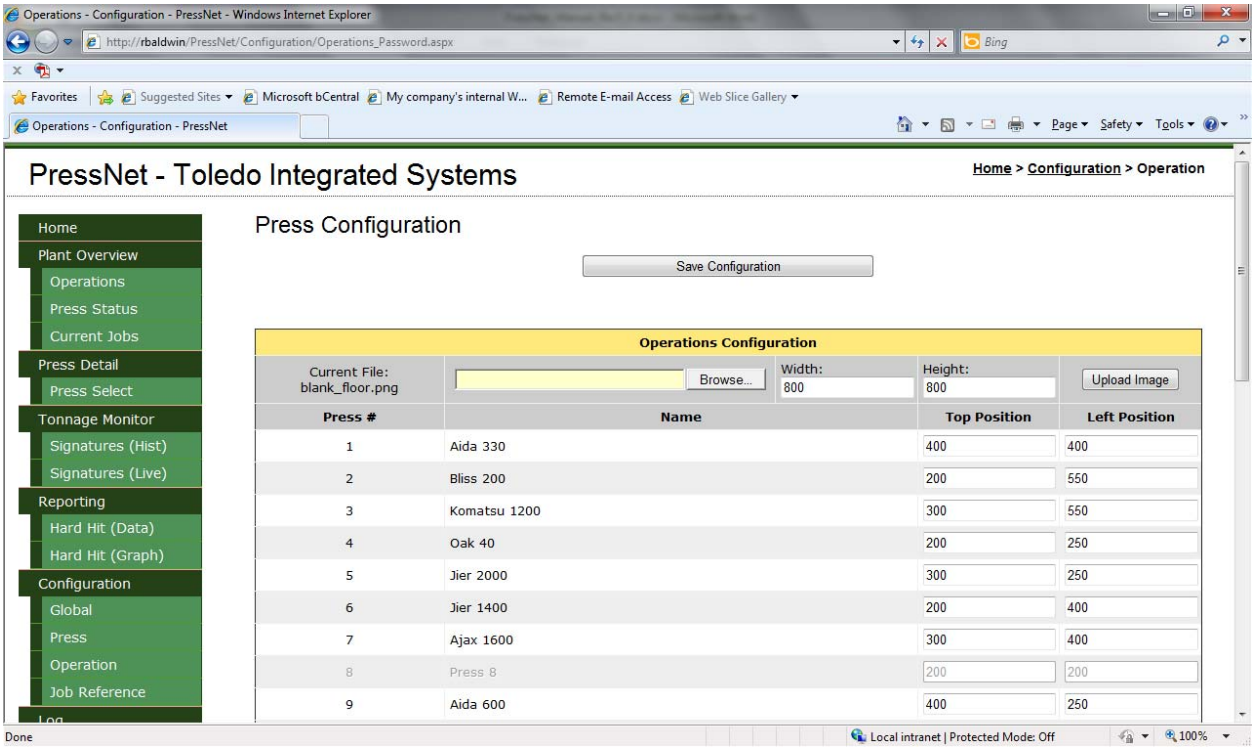


Figure 15-1 Operation Configuration Screen

The operation configuration menu allows system administrators to add, edit or remove the floor room background image that is shown on the operations overview page. Also, the positions for each enabled device can be moved to different parts of the screen. This allows users to model the PressNet overview layout to that of their own plant room floor.

I. Changing the Background Image

To change or add the background image, select the 'browse' button in the center of the screen and browse to a JPG, GIF or TIF file. Once the file has been selected, enter the corresponding width and height of the image and select 'Upload Image'. Once done, the new image is now shown behind the presses on the operations overview screen.

II. Altering the Press Image Location

To change a press image location, enter the desired locations (left and top) in pixels. The minimum left and top values are 250. Once the values have been changed, select 'Save Configuration' and the new values are applied to the press image.

16. Job Reference

The job reference screen can be viewed without entering a PressNet password. However, to make any changes to the job reference table, a password must be entered.

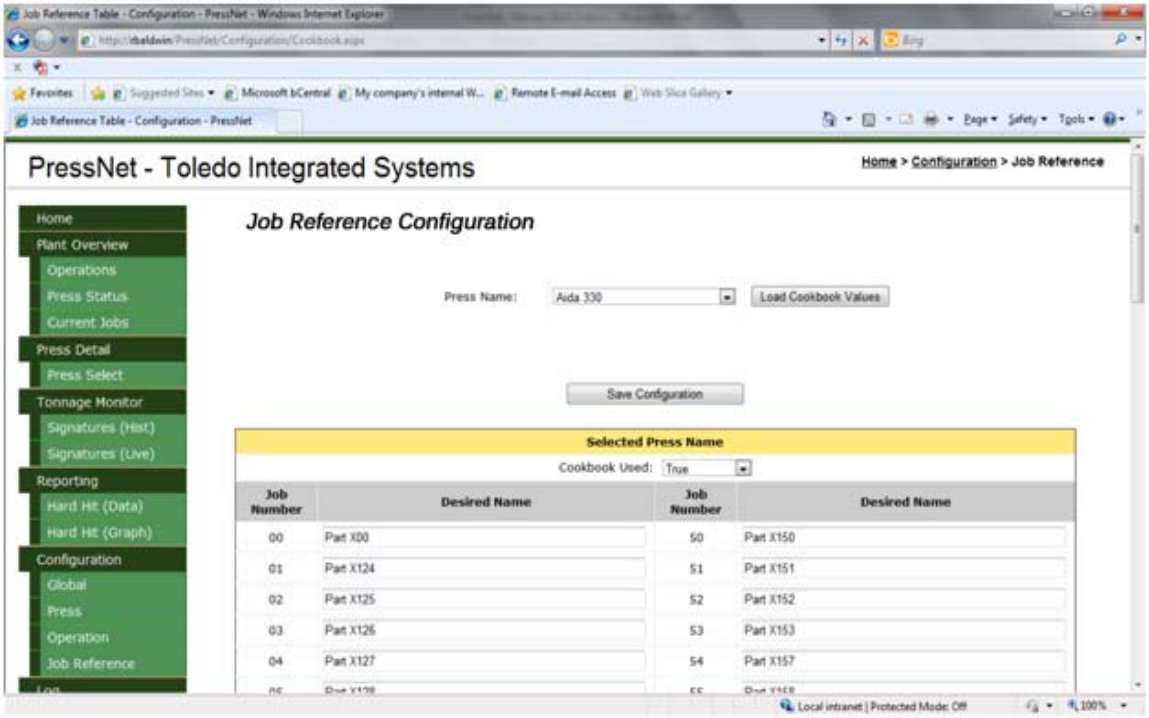


Figure 16-1 Job Reference Screen

The job reference table is used with legacy monitors (SLIM Rev1, N260, PWi, etc…). This table allows users to correlate job numbers with job names for each monitor. For example, in figure 16-1, the values for press 'Aida 330' are shown. Looking at the table, when job #04 is loaded, 'Part X127' will be displayed instead of '04'. This table can be used to reduce the confusion or misinformation about what job is currently running at any device.

To modify the job reference table, users will:

1. Select the desired press from the drop down menu. When the desired press is selected, press the 'Load Job Reference Values'. The page will refresh with the updated values.
2. Near the top of the table, there is a drop down menu with 'True' or 'False' listed. If the job reference is to be used with this job, select 'True'; if not, select 'False'.
3. There are two columns in the table listing all job numbers available (0-99). Enter the desired job name for each corresponding job number.
4. Once complete, to save the changes, select the 'Save Configuration'. The job names are now saved with the corresponding job numbers for that specific monitor.

17. Serial Log

The serial log details the status and history of the legacy device driver. If the legacy device driver is not used, this option will be disabled.

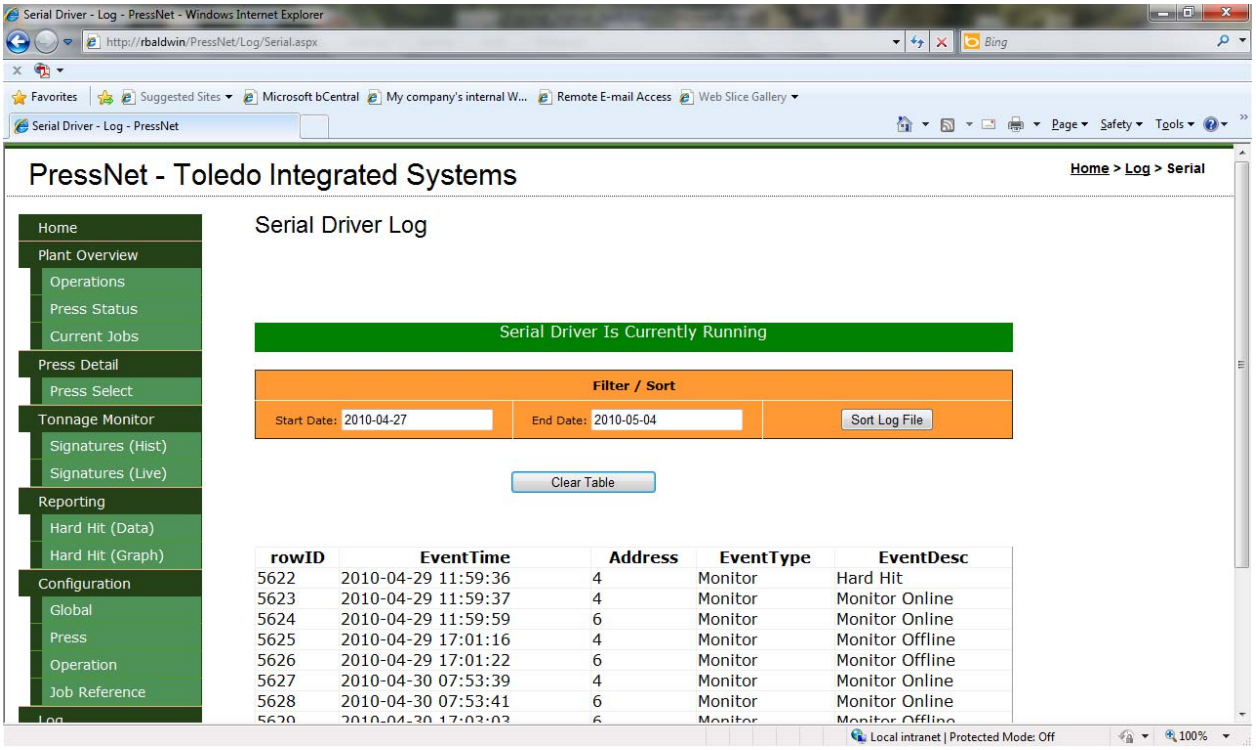


Figure 17-1 Serial Driver Log Screen

Users can view the status and the history of the legacy device driver from this screen. Once the page is loaded, the monitor status will be displayed at the top of the page. To view the history of the driver, select the desired dates and press the 'Sort Log File'. The page will update with information pertaining to the legacy device driver.

This historical information is stored in the main MySQL database. Users can clear this table and all the historical information by pressing the 'Clear Table' button. By default, PressNet will clear records that are older than one (1) month in order to prevent large datasets.