

KNAUER OpenLAB-Software – the next generation of HPLC software

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Product Management

Webinar on October 23rd / 24th, 2012

Overview

- ▶ What is OpenLAB
- ▶ KNAUER and OpenLAB
- ▶ Short Introduction OpenLAB
- ▶ Conclusion

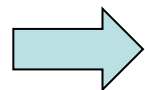
What is OpenLAB (1)

- ▶ OpenLAB is a laboratory software suite from Agilent, including:
 - OpenLAB Chromatography Data System (CDS)
 - OL Electronic Lab Notebook (ELN)
 - OL Scientific Data Management System (SDMS)

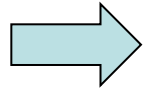
What is OpenLAB (2)

▶ OpenLAB CDS:

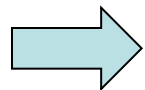
- successor of EZChrom Elite and Chemstation



OpenLAB EZChrom Edition



OpenLAB Chemstation Edition



OpenLAB EZChrom Edition is the successor of KNAUER ChromGate CDS

What is OpenLAB (3)

- ▶ Fully scalable from a single workstation to a multi-site enterprise-wide connected data system
- ▶ New OpenLAB Shared Services Control Panel allows for intuitive system administration
- ▶ New Intelligent Reporter speeds up result review and approval with built-in custom calculations and automated limit checks – now report creation is a snap with new graphical “drag and drop” capability

KNAUER and OpenLAB (1)

- ▶ New KNAUER CDS (planned)
 - OpenLAB EZChrom Edition
- ▶ Release date (planned)
 - 3rd quarter 2013
- ▶ Supported additional KNAUER features
 - FRC Option, Runtime Settings
- ▶ Supported KNAUER devices (planned)
 - see list + all new devices

KNAUER and OpenLAB (2)

Pumps

PLATINblue Pump P-1

AZURA Pump P 2.1L

AZURA Pumps P 2.1S/P 4.1S

Smartline Pump 1050

Smartline Pump 100

KNAUER and OpenLAB (3)

Detectors

PLATINblue Detector MW-1

PLATINblue Detector PDA-1

AZURA Detector UVD 2.1L

AZURA Detector UVD 2.1S

Smartline UV Detector 2520

Smartline UV Detector 2550

Smartline UV Detector 2600

KNAUER and OpenLAB (4)

Detectors (2)

Smartline PDA Detector 2850

Smartline RI Detector 2300/2400

Smartline Conductivity Monitor 2900

Shimadzu fluorescence detector RF-20A

KNAUER A/D-converter: Interface Box IF2,
Smartline Manager S 5000/5050

Virtual Detector

KNAUER and OpenLAB (5)

Autosamplers

PLATINblue Autosampler AS-1

Smartline Autosampler 3950

Autosampler KNAUER Optimas

Electrical Valve Drives

KNAUER valve drives

Valco valve drives

KNAUER and OpenLAB (6)

Fraction collectors

KNAUER MultiValve fraction collector

Valco MultiValve fraction collector

Smartline Fraction Collector 3050

Büchi Fraction Collector C-660

ISCO Fraction Collector Foxy R1

ISCO Fraction Collector Foxy R2

KNAUER and OpenLAB (7)

Fraction collectors (2)

Virtual Fraction Collector

Injection Module

Flowmeters

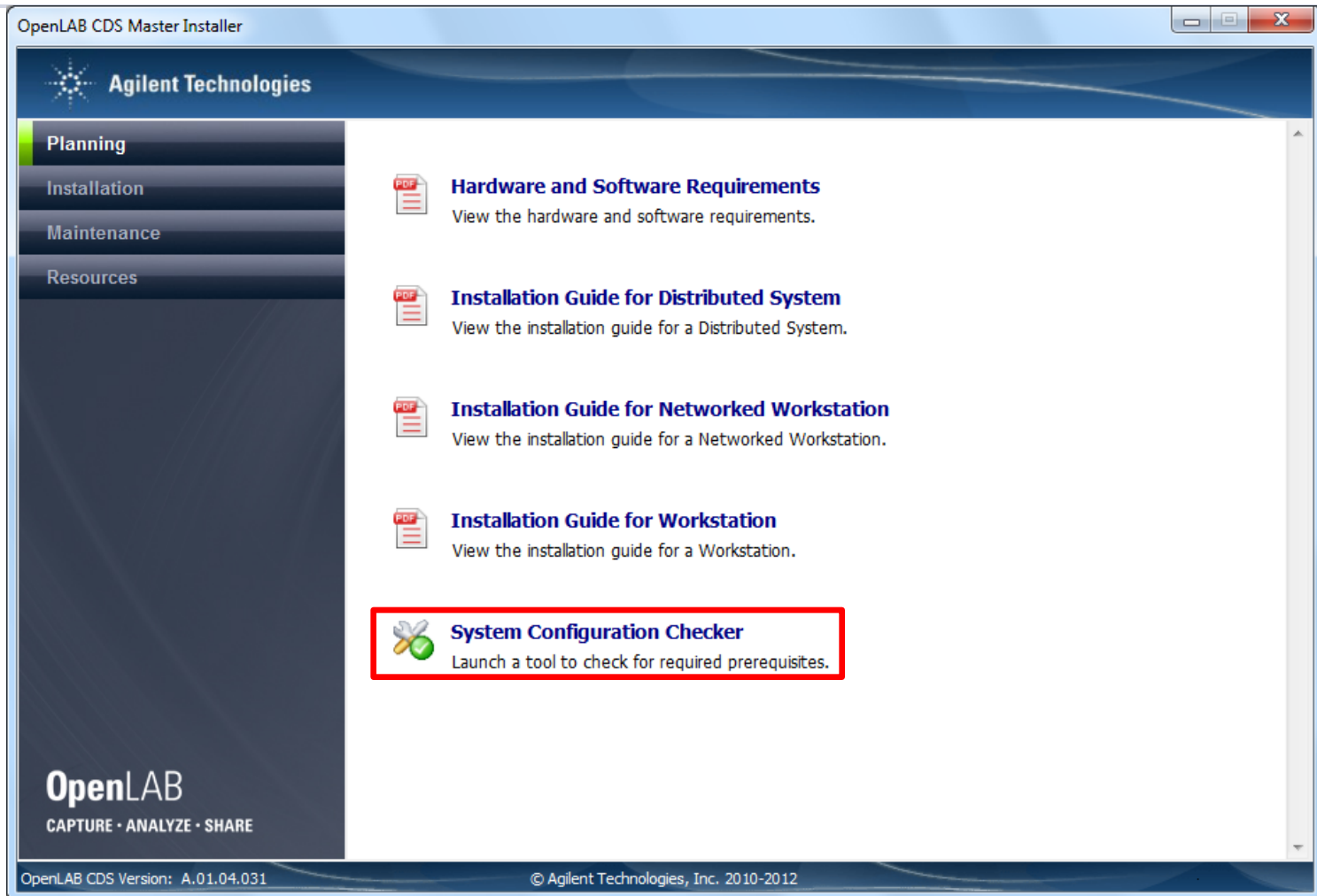
Bronkhorst Flowmeter

GJC Flowmeter

Short Introduction OpenLAB (1)

- ▶ Installation


Short Introduction OpenLAB (2)





OpenLAB CDS Master Installer


Agilent Technologies


Planning
Installation
Maintenance
Resources

 **Hardware and Software Requirements**
View the hardware and software requirements.

 **Installation Guide for Distributed System**
View the installation guide for a Distributed System.

 **Installation Guide for Networked Workstation**
View the installation guide for a Networked Workstation.

 **Installation Guide for Workstation**
View the installation guide for a Workstation.

 **System Configuration Checker**
Launch a tool to check for required prerequisites.

OpenLAB
CAPTURE · ANALYZE · SHARE

OpenLAB CDS Version: A.01.04.031 © Agilent Technologies, Inc. 2010-2012

Short Introduction OpenLAB (3)

Site Preparation Tool

OpenLAB CDS EZChrom Edition A.04.XX

Agilent Technologies Services

Operating System Configuration

Network Power Management: (Select an item)

Expected Result: Variable Information Status: (Select an item)

Power Schemes:	Expected Result	Status
Hochleistung	Variable Information	(Select an item)
Hibernate:	Expected Result	Status
Never	Variable Information	(Select an item)
Monitor/Hard Disks Off:	Expected Result	Status
Never/Never	Variable Information	(Select an item)
System Standby/Sleep:	Expected Result	Status
Never	Never	Pass

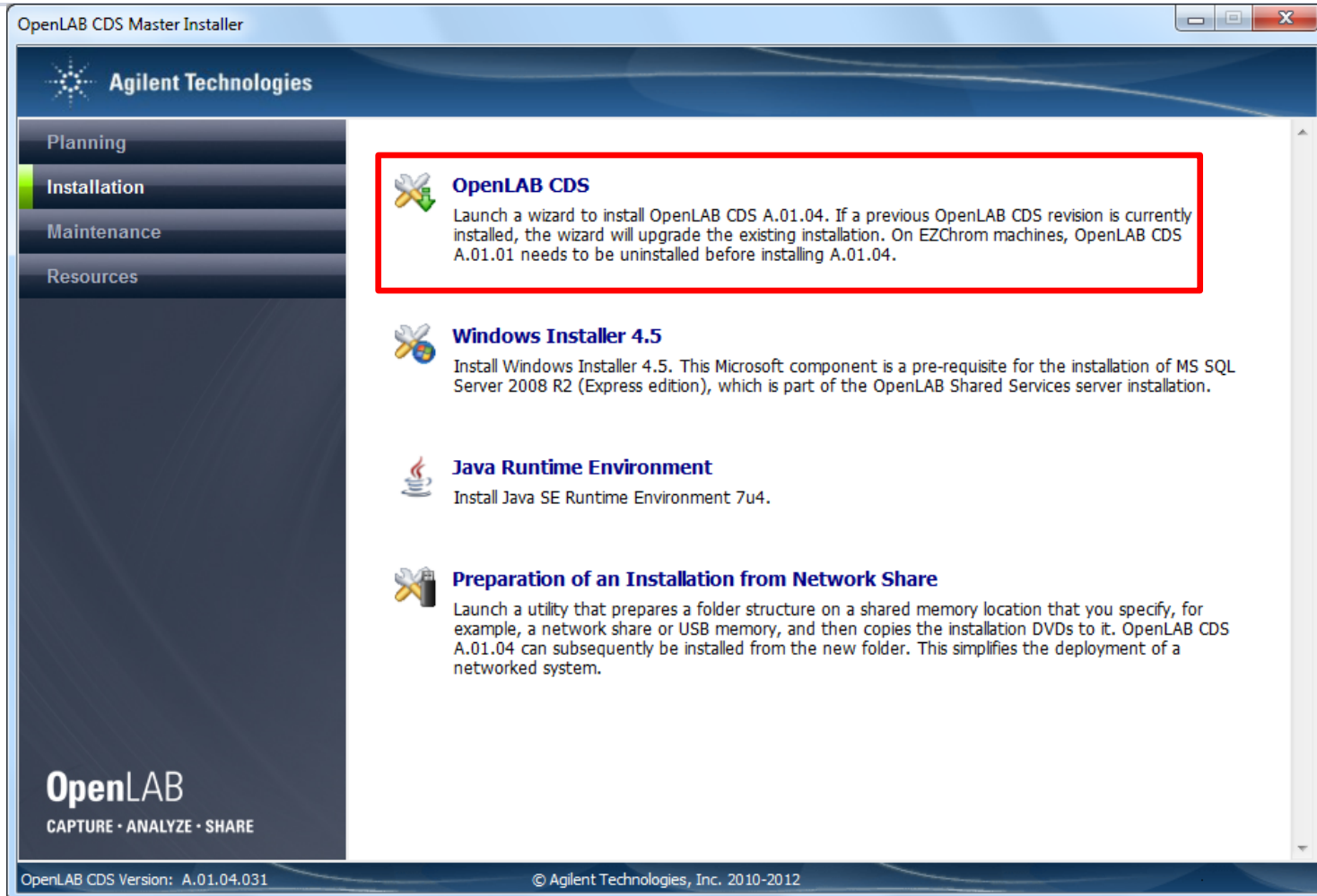
Regional Settings:	Decimal:	Digit Grouping Symbol:	List Separator:
1031	.		:
Expected Result	Expected Result	Expected Result	Expected Result
Variable Information	","	Variable Information	Variable Information
Status	Status	Status	Status
(Select an item)	Fail	(Select an item)	(Select an item)

"Operating System Configuration" Section Test Status: Fail

ContactInformation-Systemdetails/OperatingSystemConfiguration

6 / 8

Short Introduction OpenLAB (4)



OpenLAB CDS Master Installer

Agilent Technologies

Planning
Installation
Maintenance
Resources

OpenLAB CDS
Launch a wizard to install OpenLAB CDS A.01.04. If a previous OpenLAB CDS revision is currently installed, the wizard will upgrade the existing installation. On EZChrom machines, OpenLAB CDS A.01.01 needs to be uninstalled before installing A.01.04.

Windows Installer 4.5
Install Windows Installer 4.5. This Microsoft component is a pre-requisite for the installation of MS SQL Server 2008 R2 (Express edition), which is part of the OpenLAB Shared Services server installation.

Java Runtime Environment
Install Java SE Runtime Environment 7u4.

Preparation of an Installation from Network Share
Launch a utility that prepares a folder structure on a shared memory location that you specify, for example, a network share or USB memory, and then copies the installation DVDs to it. OpenLAB CDS A.01.04 can subsequently be installed from the new folder. This simplifies the deployment of a networked system.

OpenLAB
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OpenLAB CDS Version: A.01.04.031 © Agilent Technologies, Inc. 2010-2012

Short Introduction OpenLAB (5)

OpenLAB CDS Wizard

OpenLAB CDS Installation Wizard

License Agreement

Installation Folder

Installation Type

Summary

Installation of an OpenLAB CDS Workstation EZChrom Edition

Activities	Status	Comments
System Check	System check passed	
Installation Qualification	Successfully installed	
OpenLAB Shared Services	Successfully installed	
OpenLAB CDS EZChrom Edition	Successfully installed	
OpenLAB CDS EZChrom Drivers	Successfully installed	
OpenLAB CDS Print Server	Successfully installed	
PDF XChange	Successfully installed	
OpenLAB CDS EZChrom Registration	Successfully registered	
OpenLAB CDS EZChrom Registration - AIC	Successfully installed	
OpenLAB CDS Documentation	Successfully installed	
Run Installation Qualification	Installation Qualification performed, for details see report	

OpenLAB
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< Back Finish Cancel

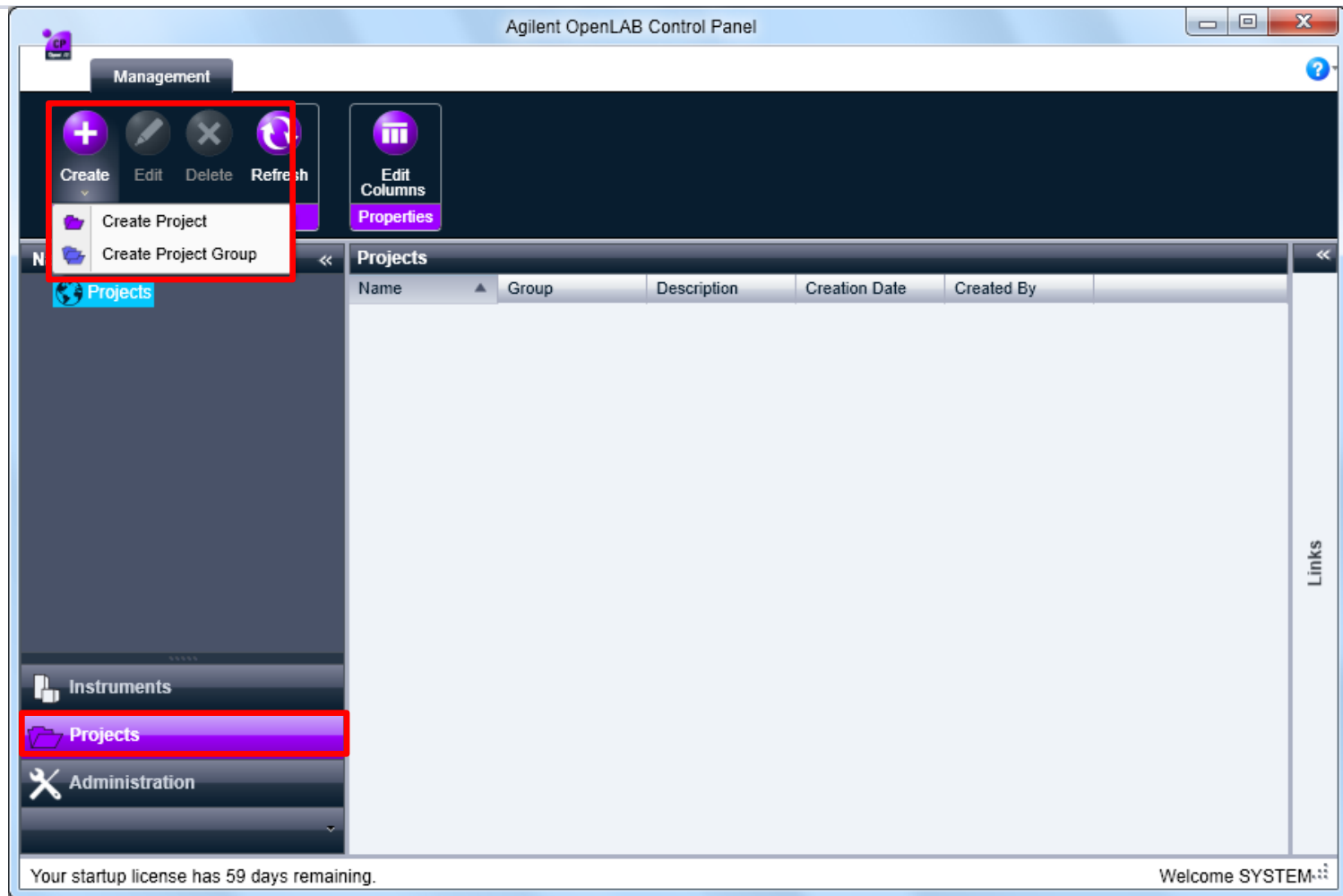
Short Introduction OpenLAB (6)



Short Introduction OpenLAB (7)

- ▶ Control Panel

Short Introduction OpenLAB (8)



Agilent OpenLAB Control Panel

Management

Create Edit Delete Refresh

Create Project
Create Project Group

Edit Columns
Properties

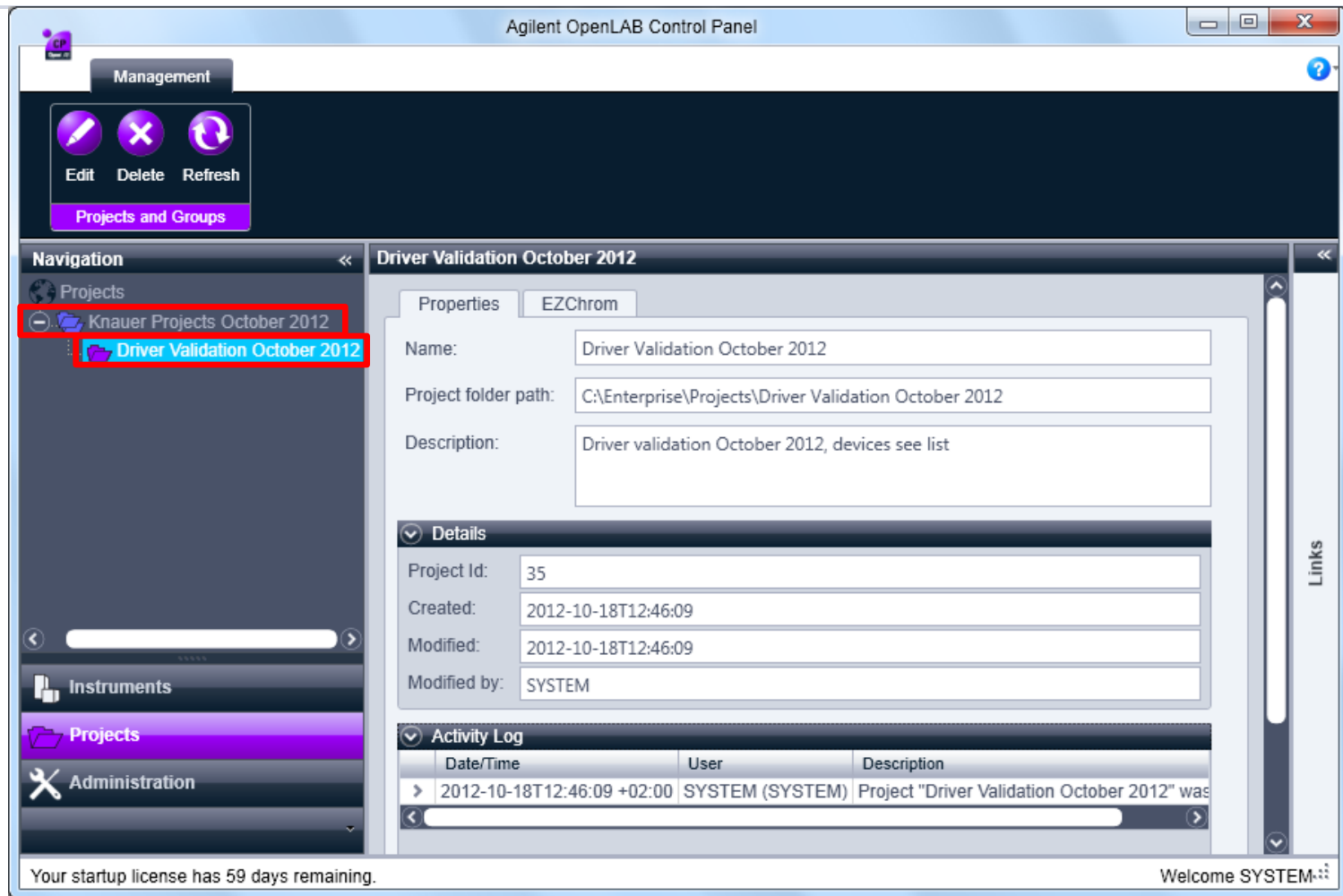
Projects

Name	Group	Description	Creation Date	Created By
------	-------	-------------	---------------	------------

Instruments
Projects
Administration

Your startup license has 59 days remaining. Welcome SYSTEM

Short Introduction OpenLAB (9)



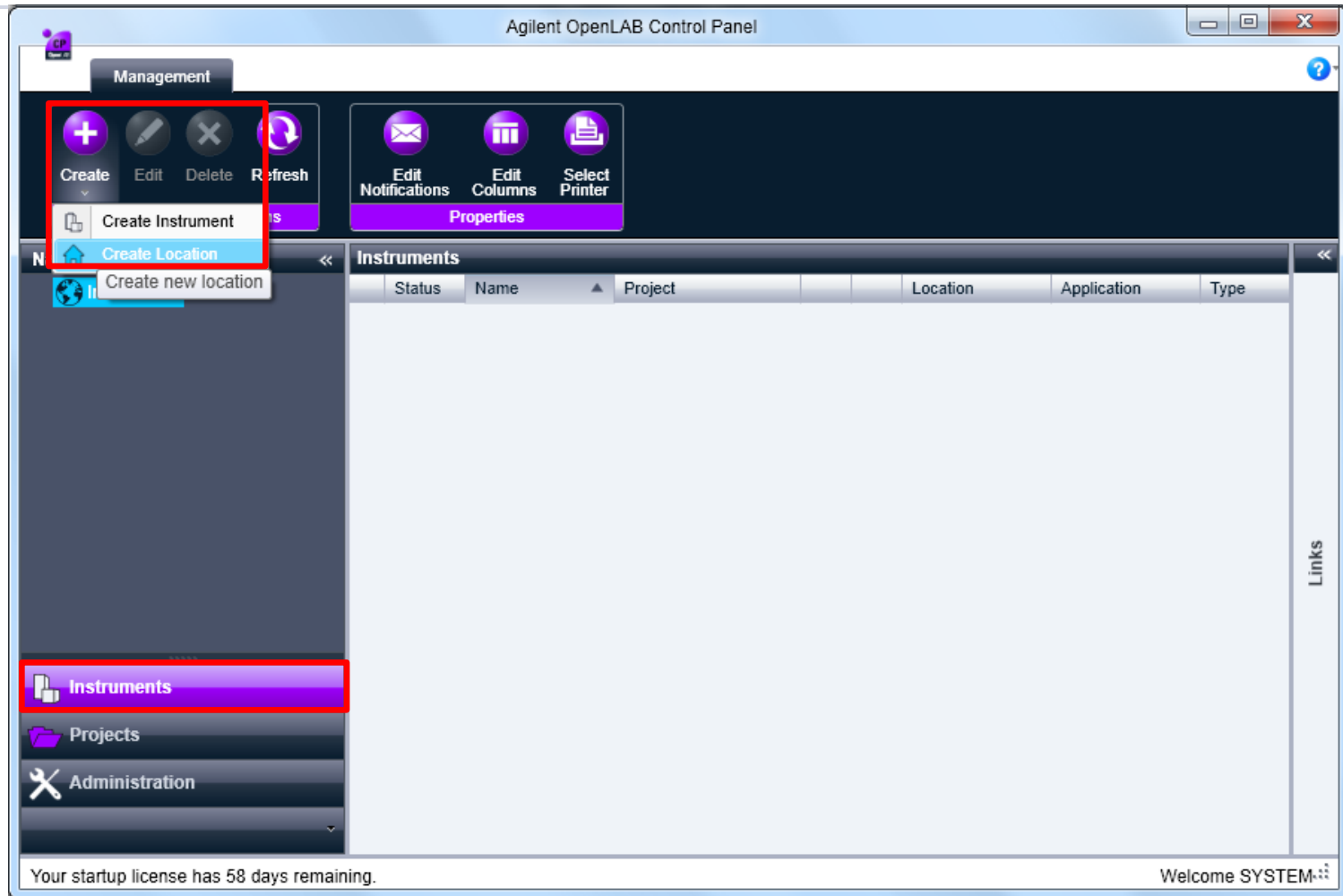
The screenshot displays the Agilent OpenLAB Control Panel interface. The window title is "Agilent OpenLAB Control Panel". The main area is divided into several sections:

- Management:** Contains icons for Edit, Delete, and Refresh, along with a "Projects and Groups" button.
- Navigation:** A sidebar on the left with a "Projects" section. Under "Projects", "Knauer Projects October 2012" and "Driver Validation October 2012" are listed. The "Driver Validation October 2012" item is highlighted with a red box.
- Properties:** The main content area shows the "Properties" tab for the selected project. It includes:
 - Name:** Driver Validation October 2012
 - Project folder path:** C:\Enterprise\Projects\Driver Validation October 2012
 - Description:** Driver validation October 2012, devices see list
- Details:** A section with a dropdown arrow, containing:
 - Project Id:** 35
 - Created:** 2012-10-18T12:46:09
 - Modified:** 2012-10-18T12:46:09
 - Modified by:** SYSTEM
- Activity Log:** A table with columns for Date/Time, User, and Description.

Date/Time	User	Description
2012-10-18T12:46:09 +02:00	SYSTEM (SYSTEM)	Project "Driver Validation October 2012" was

- Footer:** A status bar at the bottom left says "Your startup license has 59 days remaining." and the bottom right says "Welcome SYSTEM:".

Short Introduction OpenLAB (10)



Agilent OpenLAB Control Panel

Management

Create Edit Delete Refresh

Create Instrument
Create Location
Create new location

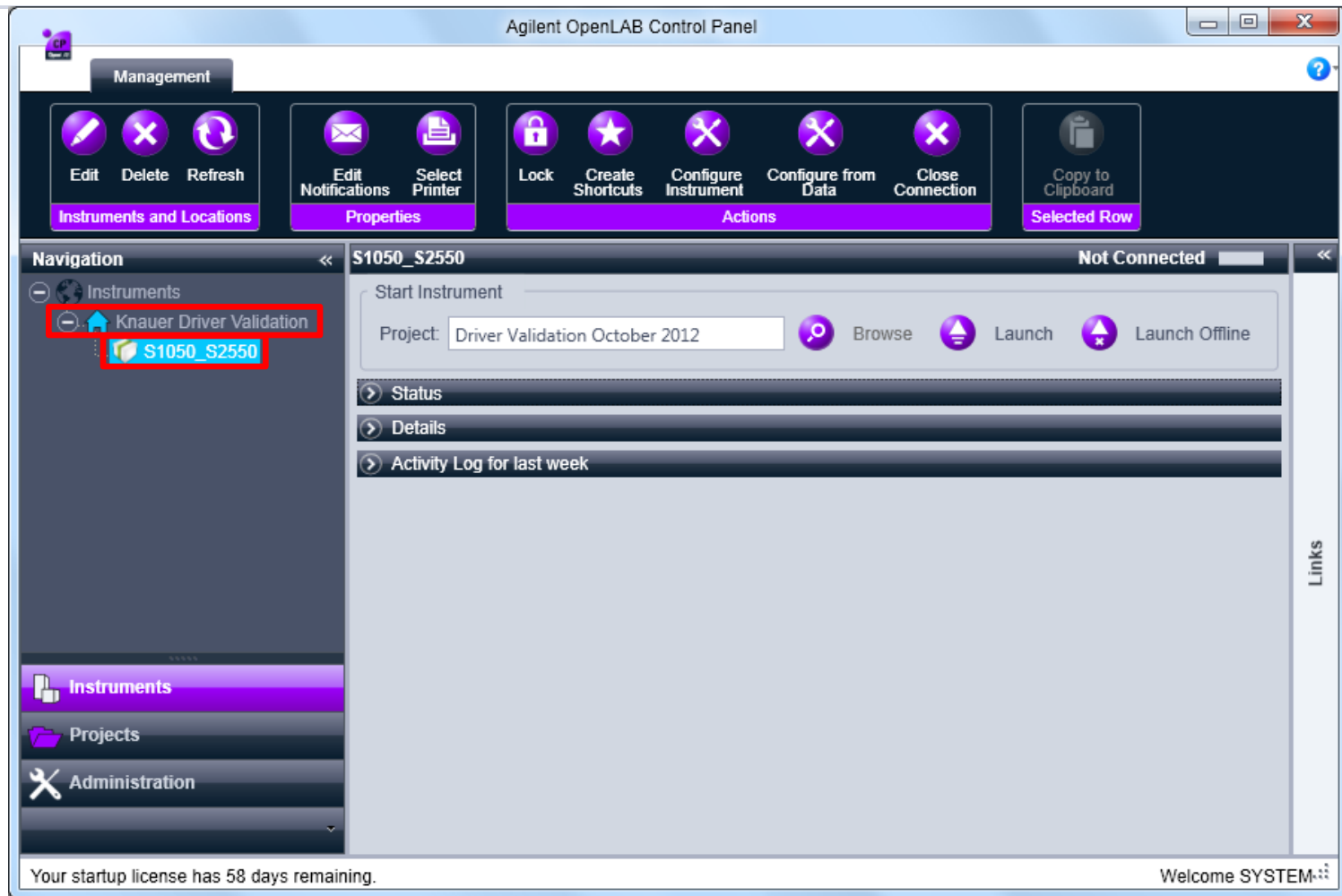
Edit Notifications Edit Columns Select Printer
Properties

Status	Name	Project	Location	Application	Type
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Instruments
Projects
Administration

Your startup license has 58 days remaining. Welcome SYSTEM

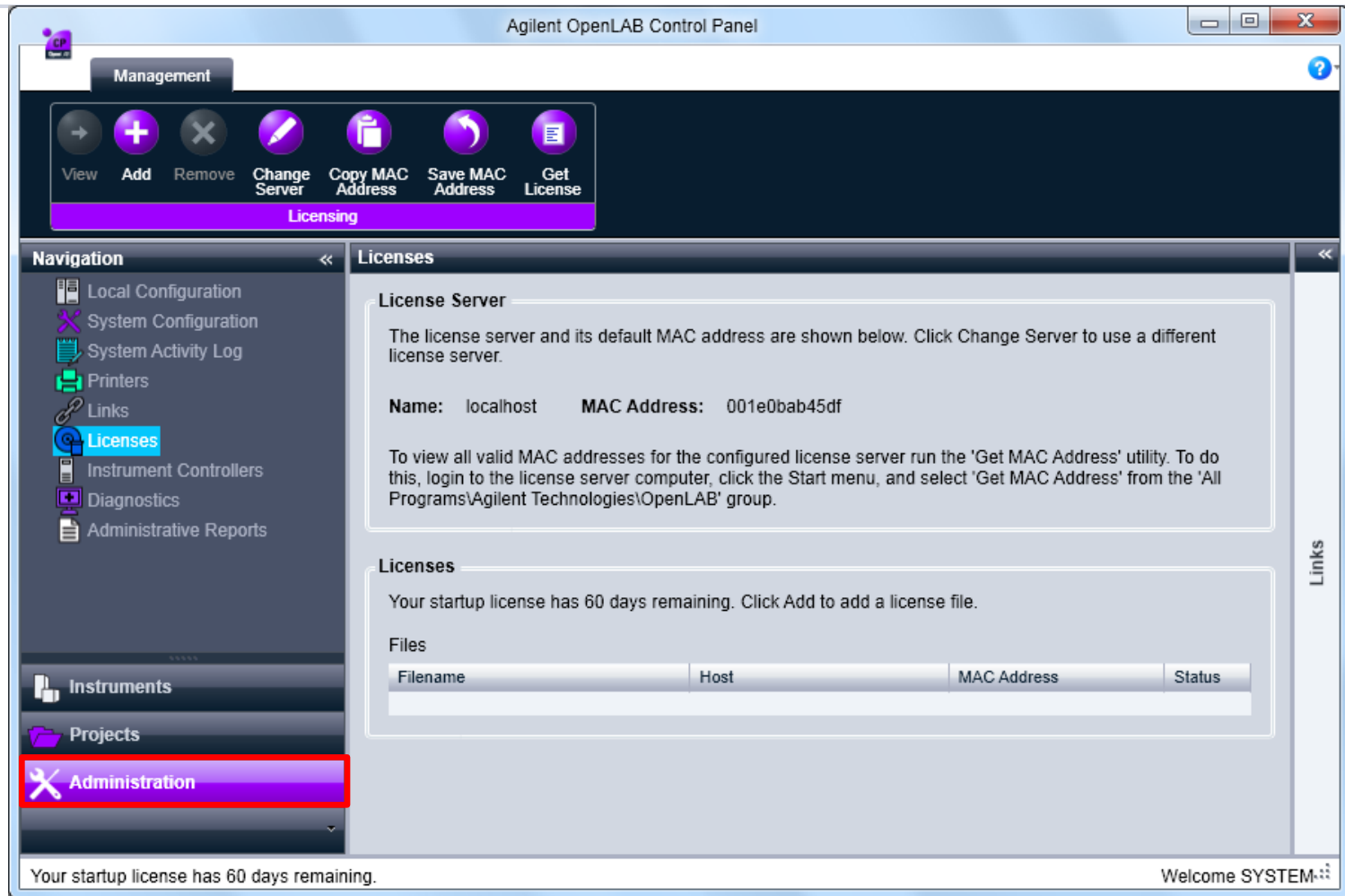
Short Introduction OpenLAB (11)



The screenshot displays the Agilent OpenLAB Control Panel interface. At the top, the window title is "Agilent OpenLAB Control Panel". Below the title bar is a "Management" tab. The main interface is divided into several sections:

- Management:** A horizontal bar containing several action buttons:
 - Instruments and Locations:** Edit, Delete, Refresh
 - Properties:** Edit Notifications, Select Printer
 - Actions:** Lock, Create Shortcuts, Configure Instrument, Configure from Data, Close Connection
 - Selected Row:** Copy to Clipboard
- Navigation:** A sidebar on the left with a tree view under "Instruments". The "Knauer Driver Validation" folder is expanded, and the "S1050_S2550" instrument is selected. Below this are buttons for "Instruments", "Projects", and "Administration".
- Instrument Details:** The main area shows the selected instrument "S1050_S2550" with a status of "Not Connected". It includes a "Start Instrument" section with a "Project" field containing "Driver Validation October 2012" and buttons for "Browse", "Launch", and "Launch Offline". Below this are expandable sections for "Status", "Details", and "Activity Log for last week".
- Footer:** A message on the left states "Your startup license has 58 days remaining." and a "Welcome SYSTEM" message on the right.

Short Introduction OpenLAB (12)



The screenshot displays the Agilent OpenLAB Control Panel interface. At the top, the title bar reads "Agilent OpenLAB Control Panel". Below the title bar is a "Management" tab with a set of icons for "View", "Add", "Remove", "Change Server", "Copy MAC Address", "Save MAC Address", and "Get License". A purple bar labeled "Licensing" is positioned below these icons.

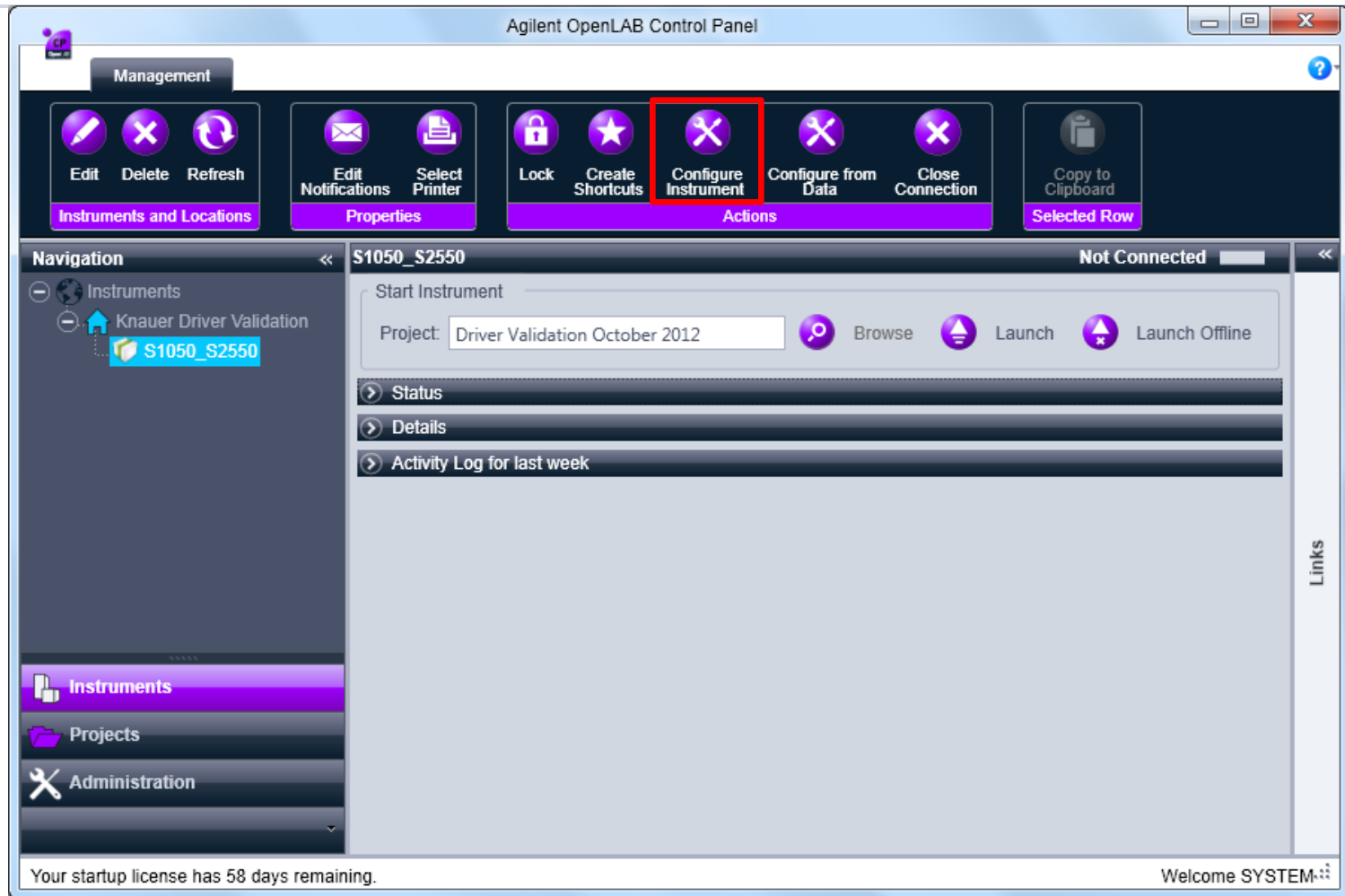
The main interface is divided into a left-hand "Navigation" pane and a right-hand "Licenses" pane. The "Navigation" pane lists various system components, with "Licenses" highlighted in blue. Below the navigation pane, there are sections for "Instruments", "Projects", and "Administration" (the latter is highlighted with a red box).

The "Licenses" pane contains the following information:

- License Server:** A text box explaining that the license server and its default MAC address are shown below, and that the "Change Server" button can be used to switch to a different server.
- Current Configuration:** Name: localhost, MAC Address: 001e0bab45df
- Instructions:** A text box explaining that to view all valid MAC addresses, the user should run the "Get MAC Address" utility, which involves logging into the license server computer and selecting "Get MAC Address" from the "All Programs\Agilent Technologies\OpenLAB" group.
- Licenses:** A text box stating that the startup license has 60 days remaining and that the "Add" button can be used to add a license file.
- Files Table:** A table with columns for "Filename", "Host", "MAC Address", and "Status". The table is currently empty.

At the bottom of the interface, a status bar displays the message "Your startup license has 60 days remaining." on the left and "Welcome SYSTEM" on the right.

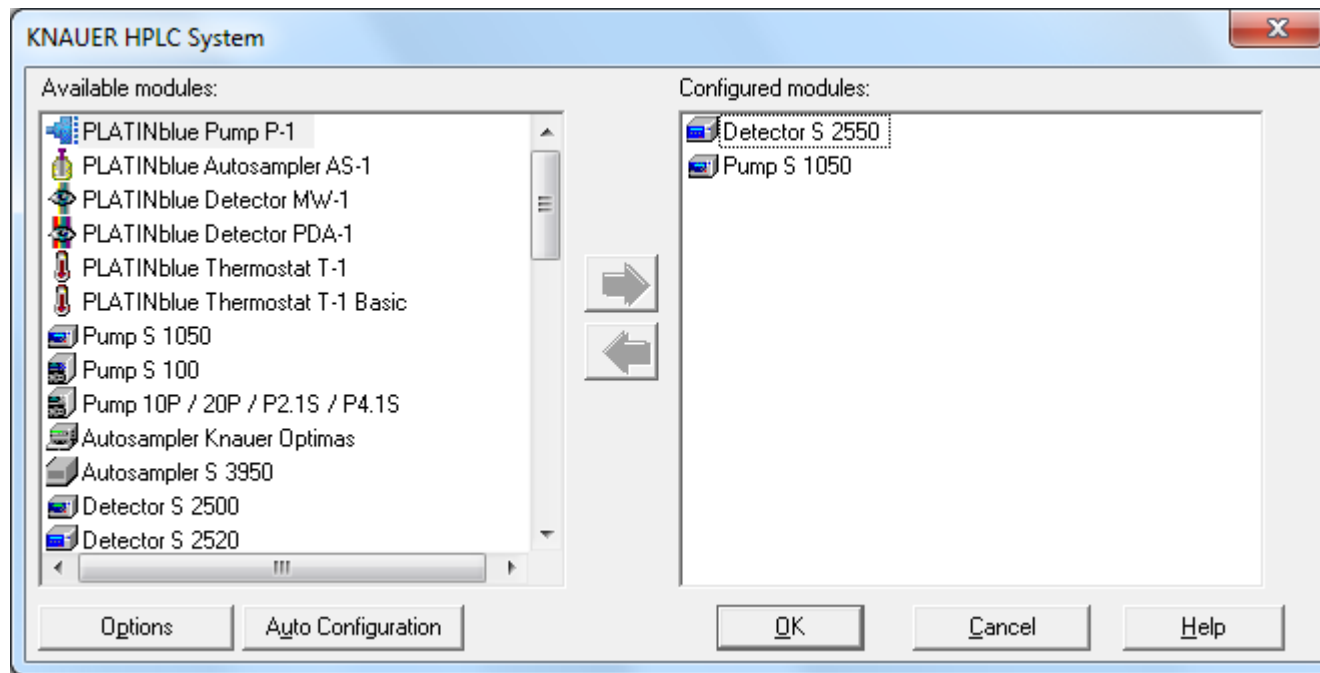
Short Introduction OpenLAB (13)



The screenshot displays the Agilent OpenLAB Control Panel interface. At the top, the title bar reads "Agilent OpenLAB Control Panel". Below the title bar is a "Management" tab. The main interface is divided into several sections:

- Management:** A row of icons for "Edit", "Delete", "Refresh", "Edit Notifications", "Select Printer", "Lock", "Create Shortcuts", "Configure Instrument" (highlighted with a red box), "Configure from Data", "Close Connection", and "Copy to Clipboard".
- Navigation:** A sidebar on the left showing a tree view of "Instruments" with "Knauer Driver Validation" and "S1050_S2550" listed.
- Instrument Details:** The main panel shows the selected instrument "S1050_S2550" with a status of "Not Connected". It includes a "Start Instrument" section with a "Project" field containing "Driver Validation October 2012" and buttons for "Browse", "Launch", and "Launch Offline". Below this are sections for "Status", "Details", and "Activity Log for last week".
- Footer:** A message at the bottom left states "Your startup license has 58 days remaining." and a "Welcome SYSTEM" message at the bottom right.

Short Introduction OpenLAB (14)



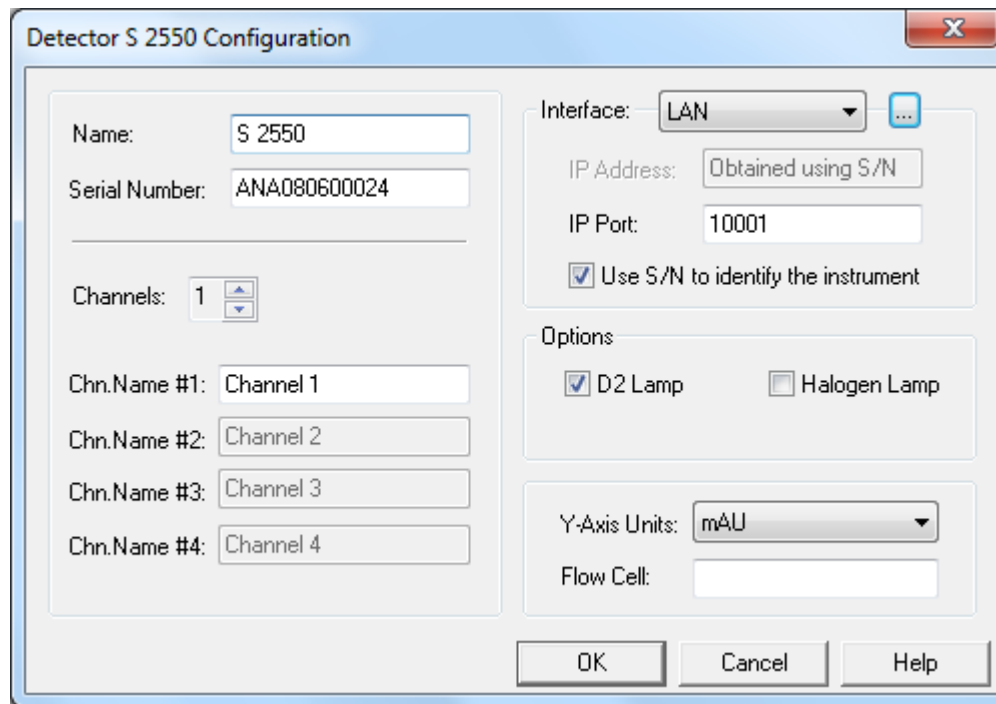
Short Introduction OpenLAB (15)

Pump S 1050 Configuration

Name:	S 1050	Gradient Mode:	Isocratic
Serial Number:	AAA091300003	Head:	10 ml
Interface:	LAN	Pressure Units:	MPa
IP Address:	Obtained using S/N	Max. Head Flow:	10,0 ml/min
IP Port:	10001	Max. Head Pressure:	40,0 MPa
<input checked="" type="checkbox"/> Use S/N to identify the instrument		Config. Service... Add. Info...	

OK Cancel Help

Short Introduction OpenLAB (16)



Detector S 2550 Configuration

Name: S 2550

Serial Number: ANA080600024

Channels: 1

Chn.Name #1: Channel 1

Chn.Name #2: Channel 2

Chn.Name #3: Channel 3

Chn.Name #4: Channel 4

Interface: LAN

IP Address: Obtained using S/N

IP Port: 10001

Use S/N to identify the instrument

Options

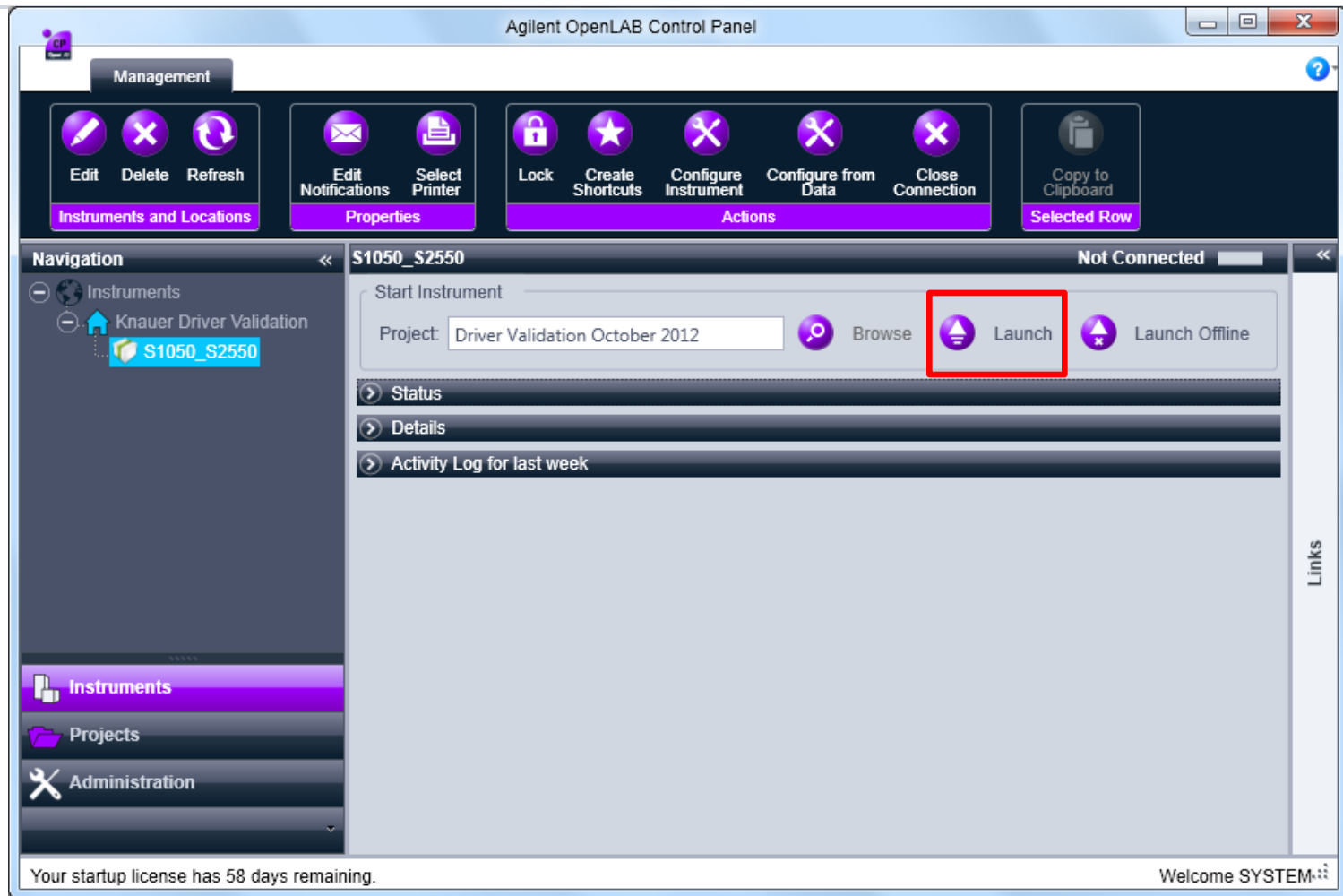
D2 Lamp Halogen Lamp

Y-Axis Units: mAU

Flow Cell:

OK Cancel Help

Short Introduction OpenLAB (17)



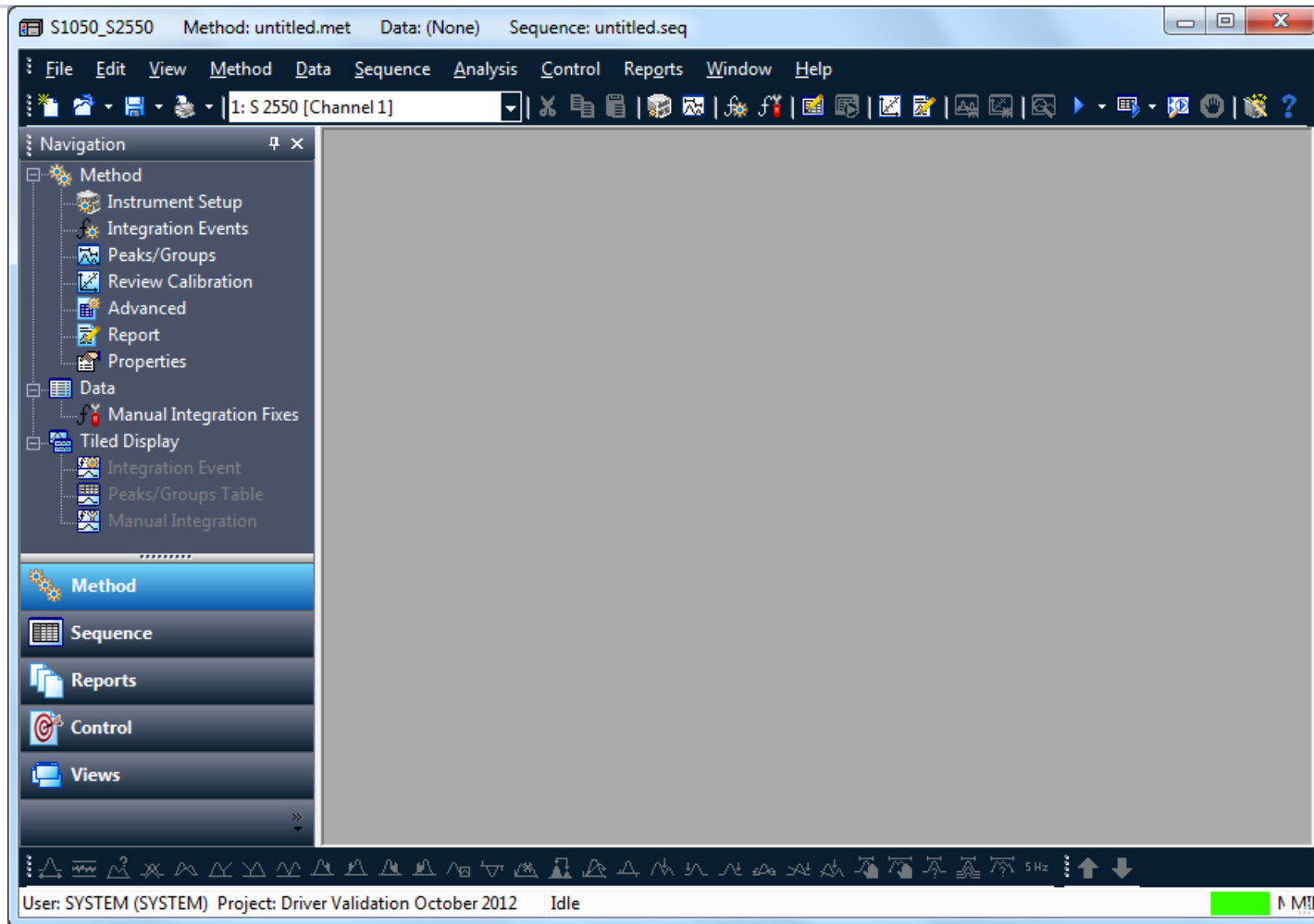
The screenshot displays the Agilent OpenLAB Control Panel interface. At the top, the window title is "Agilent OpenLAB Control Panel". Below the title bar is a "Management" tab with a help icon. The main interface is divided into several sections:

- Management:** A row of icons for "Edit", "Delete", "Refresh", "Edit Notifications", "Select Printer", "Lock", "Create Shortcuts", "Configure Instrument", "Configure from Data", "Close Connection", and "Copy to Clipboard".
- Navigation:** A sidebar on the left with a tree view showing "Instruments" > "Knauer Driver Validation" > "S1050_S2550". Below the tree are buttons for "Instruments", "Projects", and "Administration".
- Instrument Details:** The main area shows "S1050_S2550" with a "Not Connected" status. It includes a "Start Instrument" section with a "Project" field containing "Driver Validation October 2012" and buttons for "Browse", "Launch" (highlighted with a red box), and "Launch Offline". Below this are expandable sections for "Status", "Details", and "Activity Log for last week".
- Footer:** A message on the left states "Your startup license has 58 days remaining." and a "Welcome SYSTEM" message on the right.

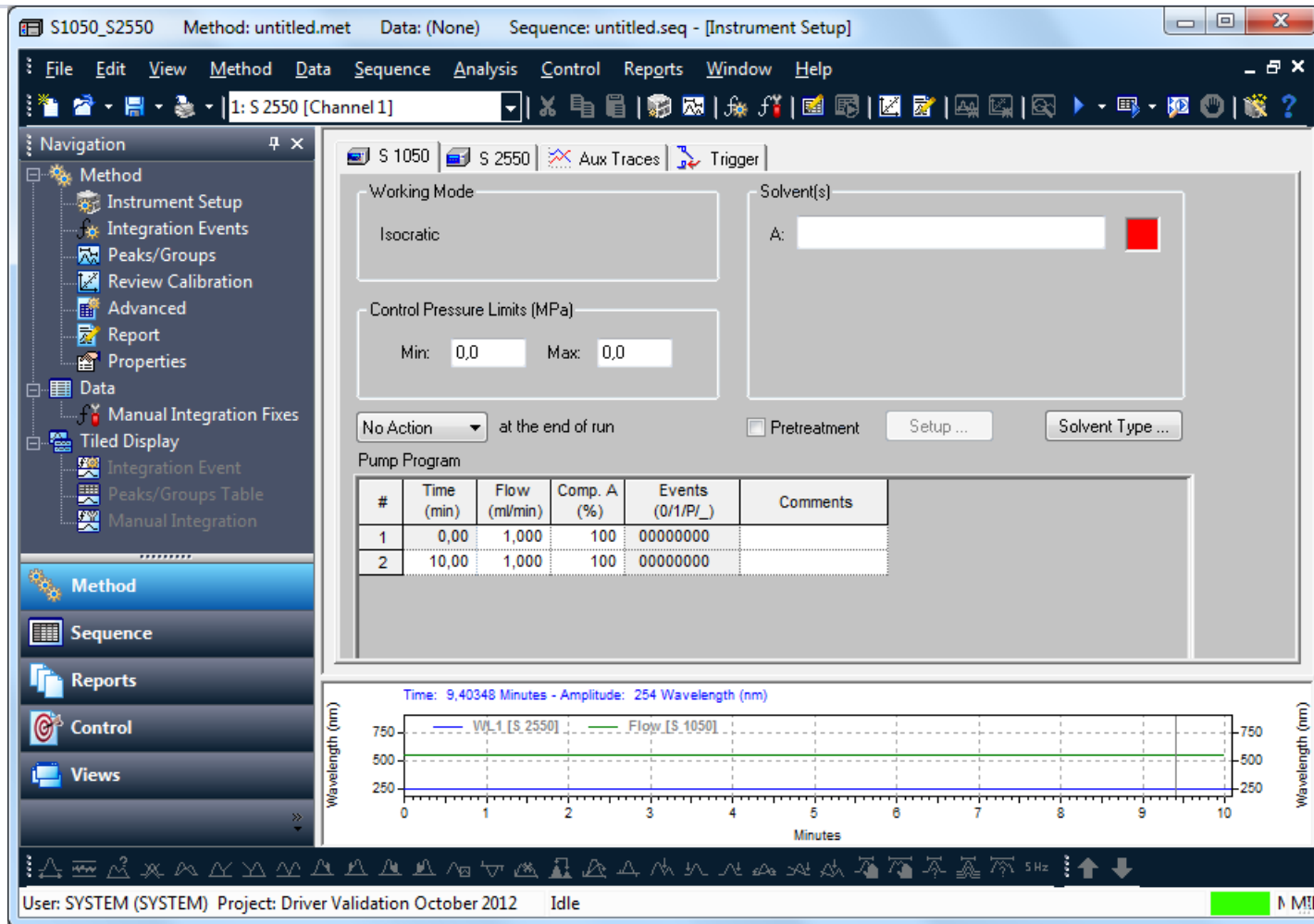
Short Introduction OpenLAB (18)

- ▶ Method Window

Short Introduction OpenLAB (19)



Short Introduction OpenLAB (20)



The screenshot displays the OpenLAB software interface for method setup. The window title is "S1050_S2550 Method: untitled.met Data: (None) Sequence: untitled.seq - [Instrument Setup]". The menu bar includes File, Edit, View, Method, Data, Sequence, Analysis, Control, Reports, Window, and Help. The toolbar shows various icons for file operations and analysis.

The left sidebar contains a "Navigation" tree with the following items:

- Method
 - Instrument Setup
 - Integration Events
 - Peaks/Groups
 - Review Calibration
 - Advanced
 - Report
 - Properties
- Data
 - Manual Integration Fixes
- Tiled Display
 - Integration Event
 - Peaks/Groups Table
 - Manual Integration

Below the navigation tree are buttons for "Method", "Sequence", "Reports", "Control", and "Views".

The main workspace shows the following settings:

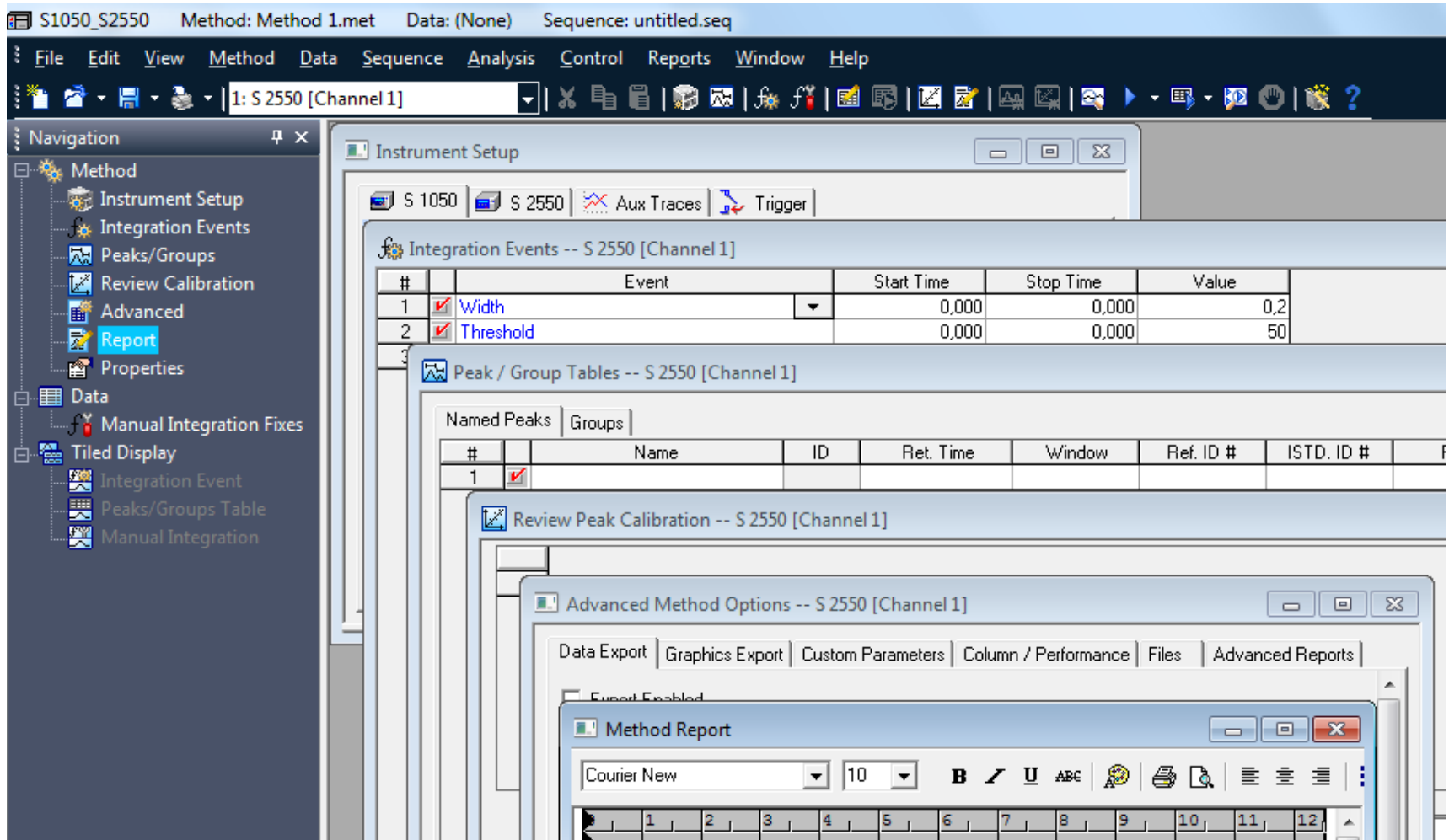
- Working Mode: Isocratic
- Solvent(s): A: [Empty field]
- Control Pressure Limits (MPa): Min: 0,0 Max: 0,0
- Action at the end of run: No Action
- Pretreatment:
- Buttons: Setup ..., Solvent Type ...

The "Pump Program" table is as follows:

#	Time (min)	Flow (ml/min)	Comp. A (%)	Events (0/1/P/_)	Comments
1	0,00	1,000	100	00000000	
2	10,00	1,000	100	00000000	

At the bottom, a plot shows "Wavelength (nm)" vs "Minutes". The plot title is "Time: 9.40348 Minutes - Amplitude: 254 Wavelength (nm)". The x-axis ranges from 0 to 10 minutes, and the y-axis ranges from 250 to 750 nm. Two traces are visible: "WL_1 [S. 2550]" (blue line) and "Flow [S. 1050]" (green line). Both traces are constant at 254 nm. The status bar at the bottom indicates "User: SYSTEM (SYSTEM) Project: Driver Validation October 2012 Idle".

Short Introduction OpenLAB (21)



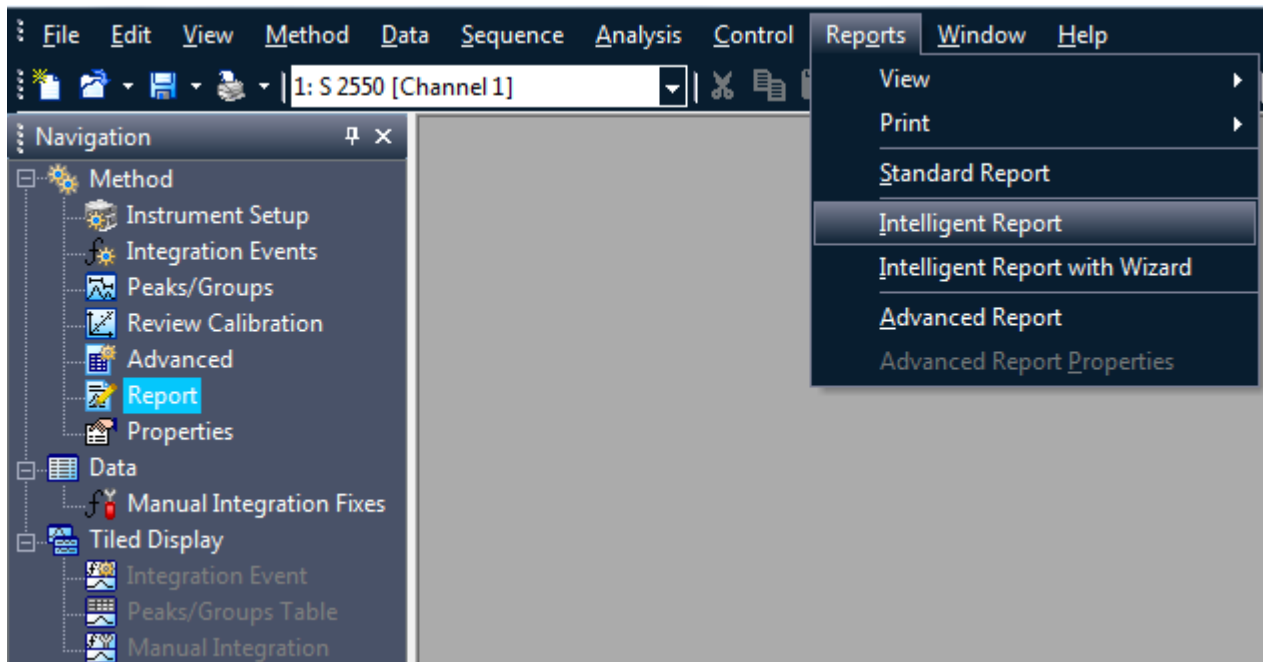
The screenshot displays the OpenLAB software interface with the following components:

- Navigation Tree (Left):**
 - Method
 - Instrument Setup
 - Integration Events
 - Peaks/Groups
 - Review Calibration
 - Advanced
 - Report
 - Properties
 - Data
 - Manual Integration Fixes
 - Tiled Display
 - Integration Event
 - Peaks/Groups Table
 - Manual Integration
- Instrument Setup Window:** Shows tabs for S 1050, S 2550, Aux Traces, and Trigger.
- Integration Events -- S 2550 [Channel 1]:**

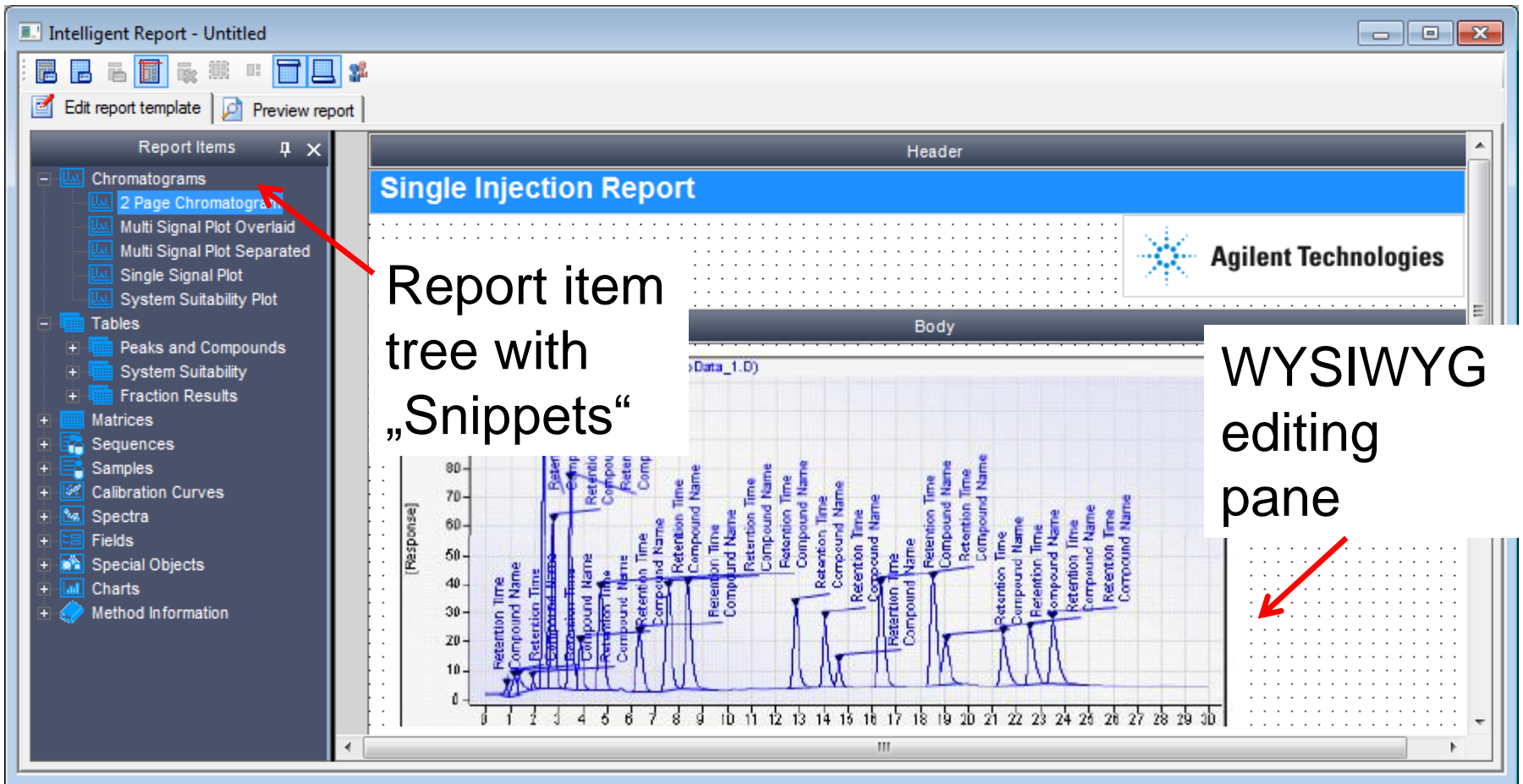
#	Event	Start Time	Stop Time	Value
1	Width	0,000	0,000	0,2
2	Threshold	0,000	0,000	50
- Peak / Group Tables -- S 2550 [Channel 1]:**

#	Name	ID	Ret. Time	Window	Ref. ID #	ISTD. ID #
1						
- Advanced Method Options -- S 2550 [Channel 1]:**
 - Export Enabled
 - Method Report window showing font settings (Courier New, size 10) and a table with columns 1-12.

Short Introduction OpenLAB (22)



Short Introduction OpenLAB (23)



Intelligent Report - Untitled

Report Items

- Chromatograms
 - 2 Page Chromatogram
 - Multi Signal Plot Overlaid
 - Multi Signal Plot Separated
 - Single Signal Plot
 - System Suitability Plot
- Tables
 - Peaks and Compounds
 - System Suitability
 - Fraction Results
- Matrices
- Sequences
- Samples
- Calibration Curves
- Spectra
- Fields
- Special Objects
- Charts
- Method Information

Single Injection Report

Header

Agilent Technologies

Body

WYSIWYG editing pane

Short Introduction OpenLAB (24)

- ▶ OpenLAB CDS Intelligent Reporter Features
 - Search-based reporting
 - Simple and advanced calculations
 - Trend charts
 - Reporting of chromatograms for one or multiple injections
 - Easy to use Report Template Editor
 - Reporting of calibration curves and spectra

Conclusion

- ▶ KNAUER will replace ChromGate CDS with OpenLAB EZChrom Edition in 2013
- ▶ OpenLAB EZChrom Edition supports standalone and network-distributed systems
- ▶ All newer KNAUER devices will be supported
- ▶ FRC Option and Runtime Settings will be supported

More questions ???

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