

An informed way to manage information

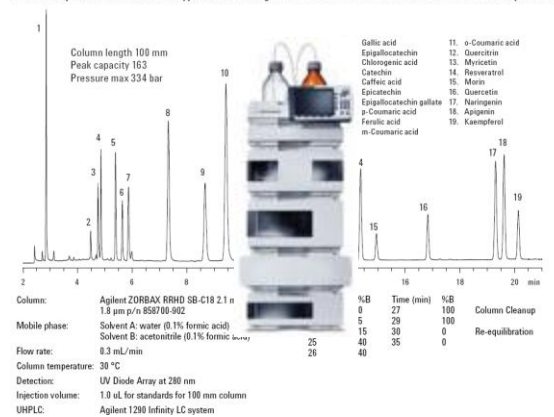


OpenLAB



Steve Brown
Rich Mutkoski
Agilent Technologies

Efficient Separation of Nineteen Polyphenols on an Agilent ZORBAX RRHD SB-C18 2.1 mm x 100 mm, 1.8 µm Column



Laboratory Data Collection, Analysis, Interpretation and Management

Agenda

Overview of OpenLAB (CDS, ELN, ECM)

OpenLAB CDS Remote Control (AIC)

OpenLAB Collaboration (remote access)

OpenLAB Demo

Wrap up and Questions

Challenges for Laboratories

- *Record Keeping - Paper*
- *Data Overload*
- *Access to Data and Instruments (remotely)*
- *Collaboration*

- *Regulatory Compliance (CLIA, 21CFRpart11, CBER...)*
- *IP Protection*
- *Data Integrity*
- *Turn Over in labs (training)*
- *Multiple Sources of Data and Instrumentation*

Agilent OpenLAB Laboratory Software Suite



CDS

OpenLAB CDS

Chromatography Data System

Workstation, Networked, Distributed

- ChemStation, EZChrom workflows
- Agilent and Non Agilent Instrument Control (Multi-vendor)
- OpenLAB ECM Intelligent Reporter
- Regulated and non-regulated modes
- Web-based options



ECM

OpenLAB ECM

Enterprise Content Manager

Scientific Data Management System

- Data archiving
- Instrument vendor neutral
- Viewers, filters, converters
- Agilent workstation aware!
- Time stamp/audit trail
- Report capture
- E-signatures
- Regulatory compliance
- TNF conversion (LTDA)



ELN

OpenLAB ELN

Electronic Lab Notebook

Capture, Organize, Collaborate, Protect

- Smart, high productivity alternative to paper notebooks
- IP protection and compliance features
- Simplifies and accelerates lab work
- Smart data import and dynamic forms
- Simple web-based client
- Analytical request module



SERVICES

OpenLAB

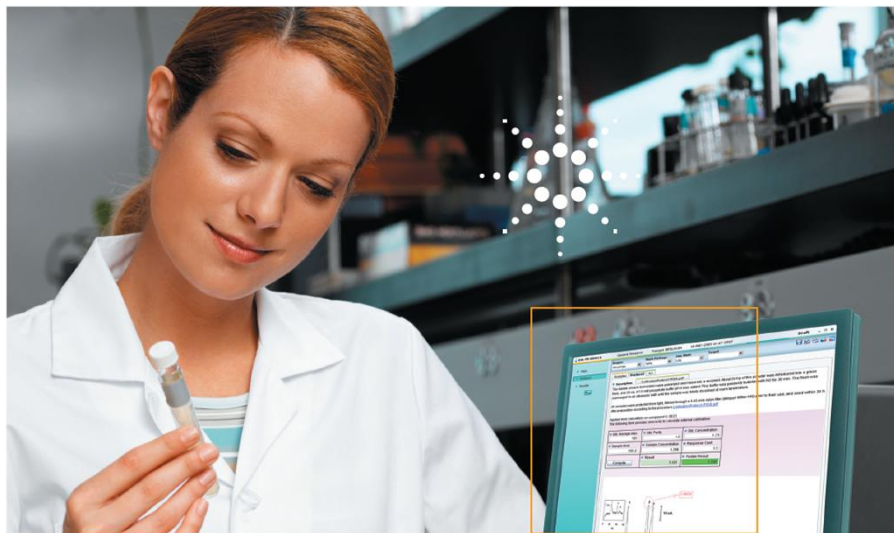
Professional Services

Integration of OpenLAB Solutions

- Speeds full utilization of OpenLAB software & instruments
- Maximizes the return on investment in OpenLAB
- Accelerates OpenLAB adaptation to existing workflows



OpenLAB ELN



Agilent OpenLAB ELN



OpenLAB ELN

Electronic Lab Notebook

Capture, Organize, Collaborate, Protect

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Agilent OpenLAB ELN

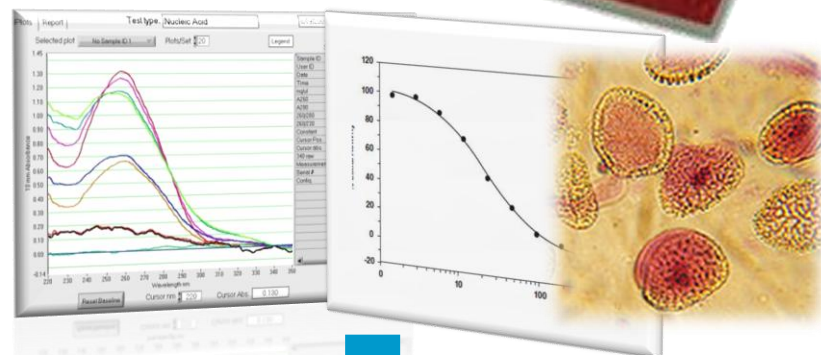
Electronic Lab Notebook

A Web-based ELN which enables you to...

- Document, manage and share across multiple disciplines with a single solution
- Search and collate disparate data sources into single experiment
- Reduce cycle times with integrated workflow processing and improve lab efficiency
- Integrate with existing information systems

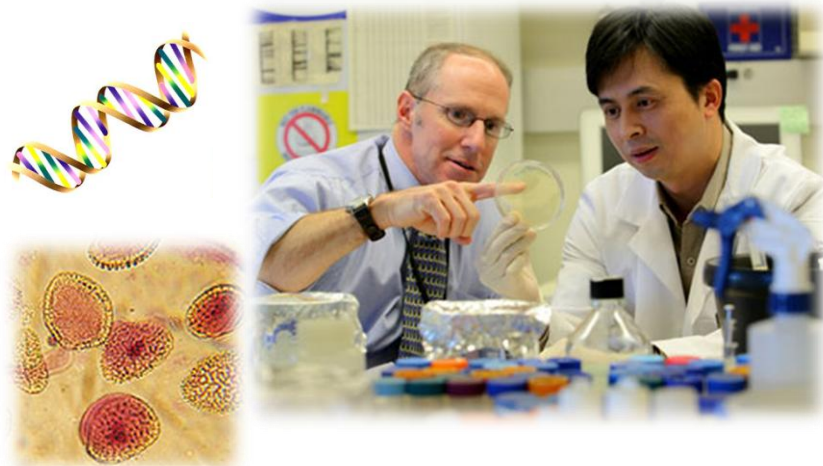
Resulting in...

- Improved efficiency and data quality
- More secure Intellectual Property protection

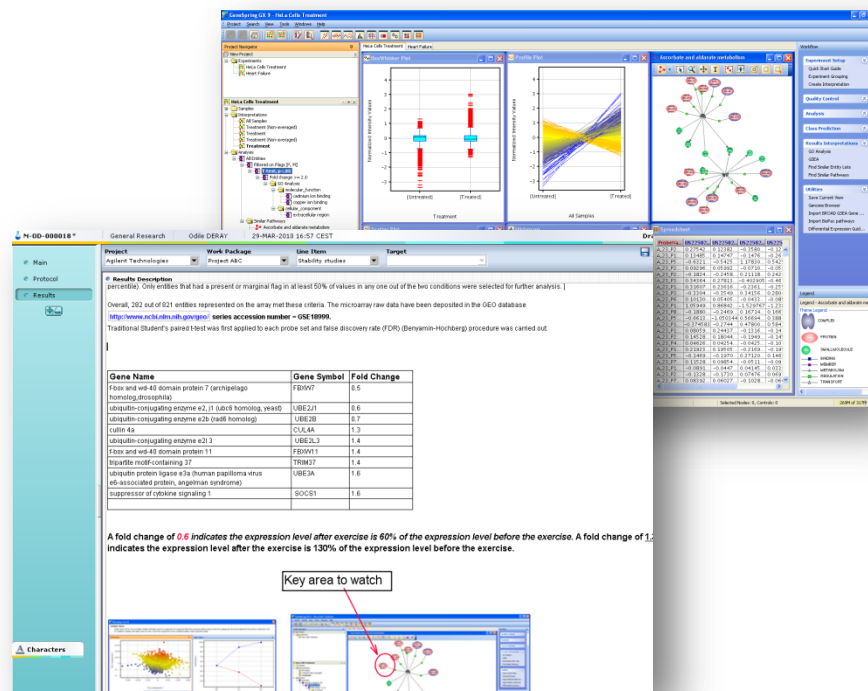


OpenLAB ELN

- Cell biology and Molecular biology
- Genomics and Proteomics
- Chemistry (synthetic and analytical)
- Toxicology and Forensics
- General R&D



- ❖ Rich text environment for free-form data entry
- ❖ Insert images, searchable annotations
- ❖ Re-use protocols and methods
- ❖ Clone previous experiments
- ❖ Link to external sources (e.g. websites, documents)
- ❖ Import files, data and results from other applications



Experiment results in OpenLAB ELN...

Project: Agilent Technologies | **Work Package:** Project ABC | **Line Item:** Stability studies | **Target:**

Results Description
percentile). Only entities that had a present or marginal flag in at least 50% of values in any one out of the two conditions were selected for further analysis.]

Overall, 262 out of 821 entities represented on the array met these criteria. The microarray raw data have been deposited in the GEO database
<http://www.ncbi.nlm.nih.gov/geo/> series accession number = GSE10999.

Traditional Student's paired t-test was first applied to each probe set and false discovery rate (FDR) (Benjamin-Horowitz)

Gene Name	Gene Symbol	Fold Change
F-box and wd-40 domain protein 7 (archipelago)	FBXW7	0.5
ubiquitin-protein ligase E2B (ubiquitin-conjugating enzyme e2, j1 (ubc6 homolog, yeast))	UBE2J1	0.6
ubiquitin-protein ligase E2B (ubiquitin-conjugating enzyme e2b (rad6 homolog))	UBE2B	0.7
ubiquitin-protein ligase E2B (ubiquitin-conjugating enzyme e2b (rad6 homolog))	CUL4A	1.3
ubiquitin-protein ligase E2B (ubiquitin-conjugating enzyme e2b (rad6 homolog))	UBE2L3	1.4
ubiquitin-protein ligase E2B (ubiquitin-conjugating enzyme e2b (rad6 homolog))	FBXW11	1.4
ubiquitin-protein ligase E2B (ubiquitin-conjugating enzyme e2b (rad6 homolog))	TRIM37	1.4
ubiquitin-protein ligase E2B (ubiquitin-conjugating enzyme e2b (rad6 homolog))	UBE3A	1.6
ubiquitin-protein ligase E2B (ubiquitin-conjugating enzyme e2b (rad6 homolog))	SOCS1	1.6

Annotations:

- Add free text, urls and links to external applications** (points to the Results Description text)
- Create tables or embed MS Excel spreadsheets** (points to the Gene Expression table)
- Link to the original data files** (points to the [Analysis.xls](#) link)
- Insert and annotate images** (points to the analysis charts and network diagram)
- Key area to watch** (points to a specific node in the network diagram)

Case Study:

Quickly enter protocol details with Experiment Templates

Prompt for required values

Fast data entry with pick lists

Quickly add one or more Forms to an experiment

M-OD-000018 * General Research Odile DERAY 29-MAR-2010 16:57 CEST Draft

Project: [dropdown] Work Package: [dropdown] Line Item: [dropdown]

Samples Protocol +/-

Description:

Neutrophil Isolation

... were isolated from ml EDTA-treated peripheral blood
... Prep® Density Gradient Medium (SIGM [dropdown]).

... on from blood draw to stabilization of RNA never exceeded 90 min. Using Wright-Giemsa stain, we determined that this approach to
isolation consistently yielded ≥ purification.

RNA Extraction

Total RNA was extracted using RNA pellets were resuspended in diethyl pyrocarbonate-treated water.
RNA integrity was assessed (prior to beginning target processing) by running out a small
amount of each sample (typically 25-250 ng/well) onto a

Context menu:

- Cut Ctrl+X
- Copy Ctrl+C
- Paste Ctrl+V
- Undo Ctrl+Z
- Redo Ctrl+Y
- Insert Current Date
- Send to Word Alt+W
- Navigate
- Standard Sentences
- Dynamic Forms/Fields
- Link an experiment
- Smart Import

Form selection menu:

- Analysis of Anabolic Agents in Urine by LCMSMS
- miRNA Microarrays
- Neutrophil Isolation
- Passed / Failed
- Phenol Extraction of rRNA (Rat liver)
- RNA Extraction
- Keyword
- Successful
- Suspension cell volume (µL)
- Manage...

OpenLAB ELN – Predefined Forms

Project: Chemical Analysis
Work Package: Impurities Identification
Line Item:
Target:
Status: Draft

Description:
Impurities in Octyl Dimethyl p-Aminobenzoic Acid

Sample Preparation
The OD-PABA is obtained at a concentration of 1 mg/mL in methanol. Injection volumes of 5 µL at this concentration are made into the LC/MS system.

LC/MS Method Details
LC Conditions
Agilent 1200 Series binary pump SL, wellplate sampler, thermostatted column compartment
Agilent 1200 Series Rapid Resolution - Rapid Resolution HD 1.8 µm Columns

Column temperature (°C): 75

Mobile phase: 0.1% formic acid in acetonitrile

Flow rate (mL/min): 1.0
Injection volume (µL): 5

Gradient	Time (min)	%B
	0	25
	7	75

Stop time (min): 7
Post-run time (min): 2

UV Conditions
Sample: 320 nm; Bw, 5 nm; reference off

MS Conditions
Mode: Positive ESI using the Agilent G1948B ionization source

Nebulizer (psig): 60
Drying gas flow (L/min): 12
Drying gas temp (°C): 350
Vcap (V): 3000
MS Scan (m/z): 100-450
Cycle mode: Standard Fast Scan mode
Cycle time (min): 0.09

-- END OF PROCEDURE --

Annotations:

- Protocol as a searchable field
- Warning displayed with some values
- All parameters are pre-filled with default values
- Value is calculated depending on selection

Using Dynamic Forms and Excel in OpenLAB ELN

Project: M-OD-000019* | General Research | Odile DERAY | 05-APR-2010 22:03 CEST

Project: [Dropdown] | Work Package: [Dropdown] | Line Item: [Dropdown] | Target: [Dropdown]

Samples | Protocol +/-

Description:

Micro Array | DNA Labeling Protocols

E.coli Total RNA Labeling Protocol for High Density Oligonucleotide Array

Note:
Start with 10 µg of total RNA for each labeling reaction.
All solutions that can be filtered should be filtered.

RNA Preparation
If RNA is in ethanol, spin down 10 ug of RNA per reaction @ 14000 rpm for 20 m

- Pipette off supernatant and wash pellet with 100 ul of 70% ETOH. (prepared with 70% ETOH)
- Spin 5 min and remove supernatant without disturbing pellet
- Air dry pellet 8-10 min at Room Temp (RT). (Caution: if pellet is over dried it is unusable)
- Resuspend pellet in 11 ul DEPC H₂O and add 1 ul 0.5 ug/ul Random Hexamer, 1 ul 100 U/ml RNase Inhibitor
- Heat to 70°C for 5 min and chill on ice for 2 min, quick spin.
- Mix following reagents:

RNA/Primer Mix		12 µl
dNTP Mix	10mM	3 µl
First-Strand Buffer	5x	12 µl
DTT	0.1M	3 µl
DEPC H ₂ O		24 µl
SuperScript II	200 U/ul	6 µl
Total		60 µl

Predefined protocol including Excel templates for reagent calculation

Double click and open MS Excel...

Full functionality of Excel to update values, add calculations, graphics and macros

Managing changes within MS Excel

Kalabie ELN by Agilent Technologies, Inc.

M-0D-000012 General Research Odile DERAY 20-AUG-2009 14:38 CEST Draft

Project: MAO-B Inhibitors Work Package: KLB-0901 Line Item: Target:

Protocol: +/-

Description:

RT reaction		60 µl
dNTP Mix	10mM	3 µl
First-Strand Buffer	5x	12 µl
DTT	0.1M	3 µl
DEPC H ₂ O		24 µl
SuperScript II	200 U/ul	6 µl
Total		60 µl

- Mix everything except Superscript II. Heat to 42°C for 1 min, then add enzyme. (Can make the
- Incubate 90 min at 42°C.
- Inactivate the reaction by heating at 70°C for 15 min then chill on ice

Digest RNA and Purification of cDNA

RT reaction		60 µl
RNase H	2 u	
RNase A	1 u	
H ₂ O		
Total		

- Incubate 10 min

Purify cDNA with

- Add 500 µl of B
- Place a QIAquick
- Apply the comp
- Discard flow-thr
- Add 750 µl Buffi
- Discard flow-thr
- Place the colum
- Add 34 µl Buffer
- column for 1 mi
- Quantitate cDN

cDNA Fragmentation and end labeling

Document History

Version	Created on
Version 1	20-AUG-2009 14:39
Version 2	20-AUG-2009 14:40

Close

Maintain each version of Excel, see the history, track the changes

Design

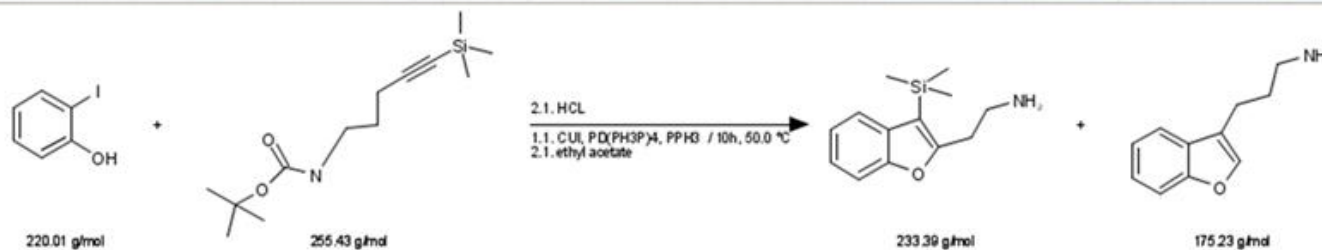
Protocol

Results

Context



Project: Antibiotics
 Work Package: Cycloserine
 Line Item:
 Target:
 Mode: Full reaction



External Edit

Advanced Edit

Fit

Mode: Full reaction

K0000148 + K0000149 → M-NL-000006-001 + M-NL-000006-002

Step	Solvents/Reagents	T	p
1	CUI Pd(PH3P)4 PPH3 ± 10h	50 °C	bar
2	HCL +	°C	bar

Clean Values

Role	Structure	Additive	MW	L	Eq	Qty.	Purity	Load	Amount	d	C	Volume
Reactant			220.01		1.00 eq	10.00 mmol			2.20 g			
Reactant			255.43		1.00 eq	10.00 mmol			2.55 g			
Solvent			84.09		1.20 V	12.00 mmol			1.01 g			2.64 ml
Solvent			1 155.58		1.20 V	12.00 mmol			13.87 g			2.64 ml
Solvent			62.97		1.20 V	12.00 mmol			0.77 g			2.64 ml

Expected Results

Structure	Additive	Formula	MW	Exp. Yield	Exp. Load	Exp. Qty.	Exp. Am.
		C ₁₃ H ₁₉ NOSi	233.39	95.00		9.50 mmol	2.22 g
		C ₁₁ H ₁₃ NO	175.23	95.00		9.50 mmol	1.66 g

- Signature workflow offers:
 - Graphical status
 - Notification of next signers
- Configuration:
 - Witness/validation rules
 - # level of validation
 - Delegation

QUICK SEARCH

GO

Advanced Search
Help Contents

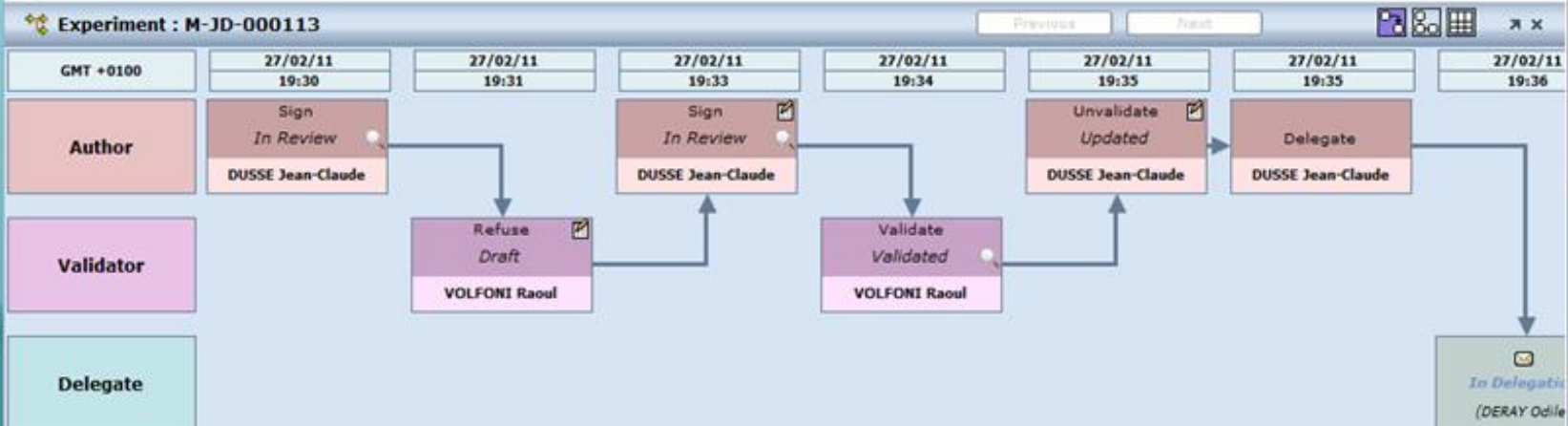
Last Exp.
Current Exp.
My Exp.
My Transmitted Exp.
Exp. In Review
Exp. In Delegation
Exp. To Be Signed
My AR - To Be Sent
My AR - Pending
My AR - Completed
AR - Accepted
AR - Completed
Pending Analyses
Selection
Last Search

My Favorites

Demo validation circuit
Demo exp

MY TRANSMITTED EXPERIMENTS 1 Exp.

Exp. Number	Title
M-JD-000113	Successfully culturing Schwann cells from adult peripheral nerve





OpenLAB **ECM**



ECM

OpenLAB ECM

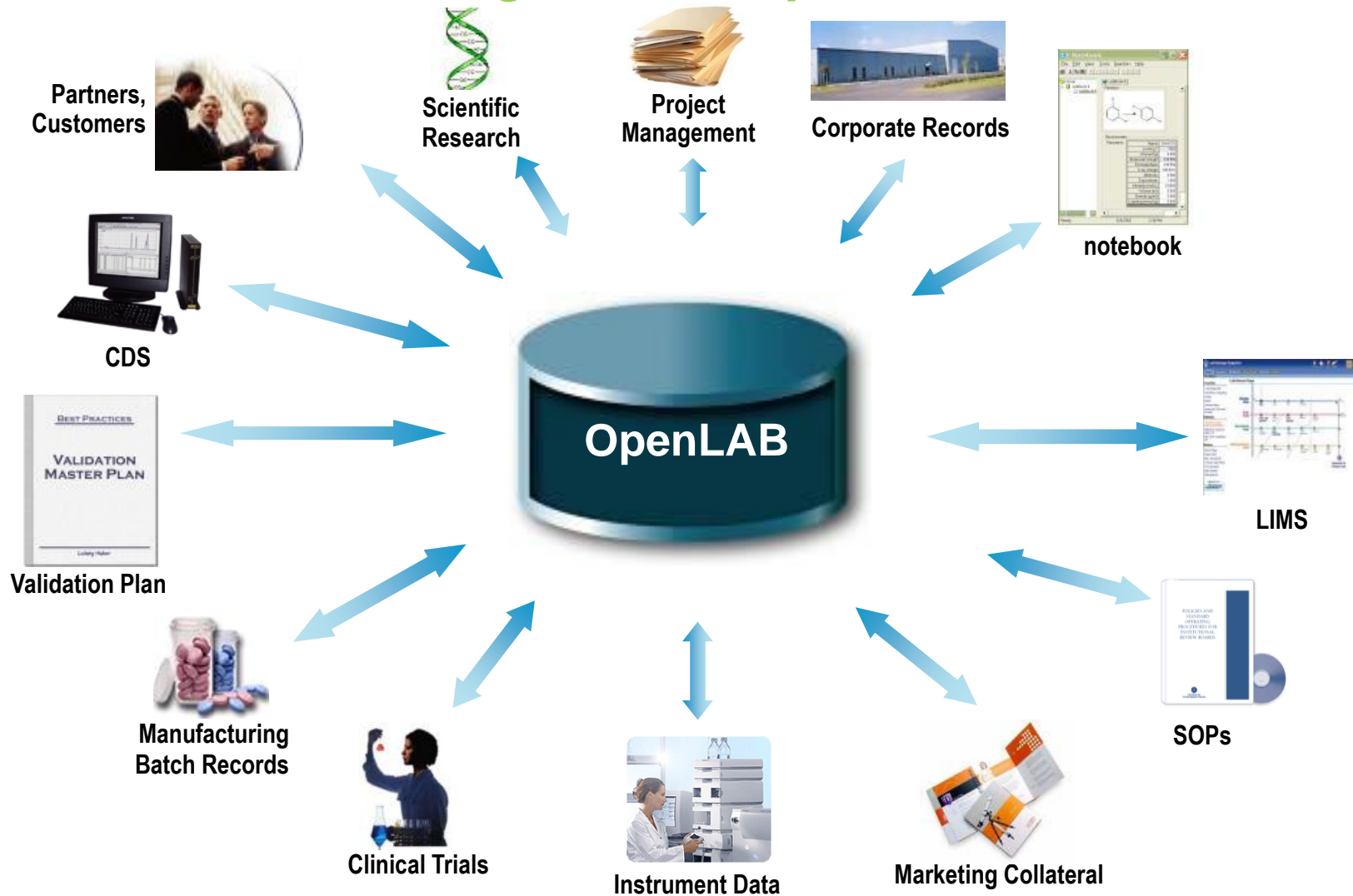
Enterprise Content Manager

Scientific Data Management System

- Data archiving
- Instrument vendor neutral
- Viewers, filters, converters
- Agilent workstation aware!
- Time stamp/audit trail
- Report capture
- E-signatures
- Regulatory compliance
- TNF conversion (LTDA)

OpenLAB can store any electronic data

- *Central data storage in a compliance environment*



Generating and Storing Electronic Data in OpenLAB



Go from
printing paper

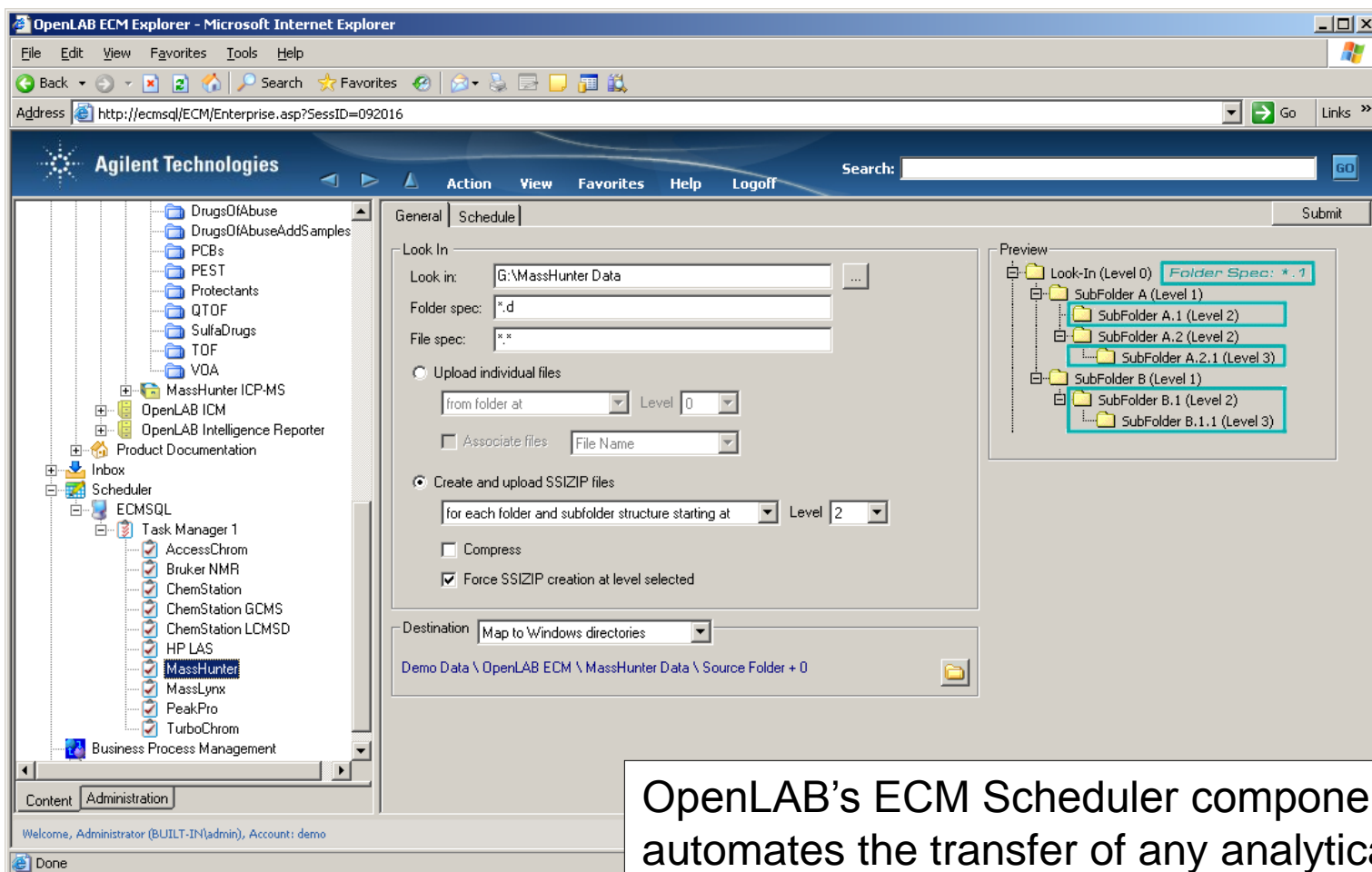
To OpenLAB

The screenshot shows the OpenLAB ECM Explorer web interface. The left sidebar displays a hierarchical tree structure under 'OpenLAB ECM', including folders like 'Data Examples', 'AccessChrom', 'Beckman Coulter PeakPro', 'Bruker NMR', 'ChemStation', 'ChemStation GCMs', 'ChemStation LCGC', 'ChemStation LCMS', 'Chromleon', 'Empower 2', 'EZChrom Elite', 'Galaxie', 'Graphics', 'Perkin Elmer TotalChrom', 'Various Lab Data', 'Waters Micromass MassLynx', and 'MassHunter Data'. The main area shows a table of data files with columns for Name, Status, # of signal..., Versio..., and Date Modified. The table lists various files such as '31_Oct_Blank-I.D.General.SSIZip', 'Basil 5xSpiked-I.D.General.SSIZip', and 'Black Pepper 5xSpiked-I.D.General.SSIZip'.

Name	Status	# of signal...	Versio...	Date Modified
31_Oct_Blank-I.D.General.SSIZip	0	1		7/15/2009 4:05:26 PM (GMT -07:00)
31_Oct_Blank-II.D.General.SSIZip	0	1		7/15/2009 4:05:26 PM (GMT -07:00)
31_Oct_Blank-III.D.General.SSIZip	0	1		7/15/2009 4:05:24 PM (GMT -07:00)
31_Oct_Blank-IV.D.General.SSIZip	0	1		7/15/2009 4:05:24 PM (GMT -07:00)
31_Oct_Blank-V.D.General.SSIZip	0	1		7/15/2009 4:05:22 PM (GMT -07:00)
31_Oct_Blank-VI.D.General.SSIZip	0	1		7/15/2009 4:05:22 PM (GMT -07:00)
31_Oct_Blank-VII.D.General.SSIZip	0	1		7/15/2009 4:05:22 PM (GMT -07:00)
31_Oct_Blank-VIII.D.General.SSIZip	0	1		7/15/2009 4:05:22 PM (GMT -07:00)
Basil 5xSpiked-I.D.General.SSIZip	0	1		7/15/2009 4:05:20 PM (GMT -07:00)
Basil 5xSpiked-II.D.General.SSIZip	0	1		7/15/2009 4:05:20 PM (GMT -07:00)
Basil Extract-I.D.General.SSIZip	0	1		7/15/2009 4:05:20 PM (GMT -07:00)
Basil Extract-II.D.General.SSIZip	0	1		7/15/2009 4:05:18 PM (GMT -07:00)
Basil Spiked-I.D.General.SSIZip	0	1		7/15/2009 4:05:16 PM (GMT -07:00)
Basil Spiked-II.D.General.SSIZip	0	1		7/15/2009 4:05:16 PM (GMT -07:00)
Black Peper 5xSpiked-I.D.General.SSI...	0	1		7/15/2009 4:05:14 PM (GMT -07:00)
Black Peper 5xSpiked-II.D.General.SSI...	0	1		7/15/2009 4:05:14 PM (GMT -07:00)
Black Peper Spiked-I.D.General.SSI...	0	1		7/15/2009 4:05:14 PM (GMT -07:00)
Black Pepper Extract-I.D.General.SSI...	0	1		7/15/2009 4:05:12 PM (GMT -07:00)
Black Pepper Extract-II.D.General.SSI...	0	1		7/15/2009 4:05:12 PM (GMT -07:00)
Black Pepper Spiked-I.D.General.SSI...	0	1		7/15/2009 4:05:12 PM (GMT -07:00)
Fennel Extract 5xspiked-I.D.General...	0	1		7/15/2009 4:05:10 PM (GMT -07:00)
Fennel Extract 5xspiked-II.D.General...	0	1		7/15/2009 4:05:10 PM (GMT -07:00)
Fennel Extract spiked-I.D.General.SSI...	0	1		7/15/2009 4:05:10 PM (GMT -07:00)
Fennel Extract spiked-II.D.General.SSI...	0	1		7/15/2009 4:05:10 PM (GMT -07:00)
Fennel Extract-I.D.General.SSIZip	0	1		7/15/2009 4:05:08 PM (GMT -07:00)

OpenLAB's ECM component can automate the centralized storage all electronic data within your laboratory – both raw analytical and report data.

Automated Data Collection with OpenLAB



The screenshot displays the OpenLAB ECM Explorer web interface within a Microsoft Internet Explorer browser. The browser's address bar shows the URL: `http://ecmsql/ECM/Enterprise.asp?SessID=092016`. The interface features a navigation pane on the left with a tree view of the system structure, including folders like 'DrugsOfAbuse', 'Protectants', and 'MassHunter'. The 'MassHunter' folder is selected. The main content area is titled 'Agilent Technologies' and contains a 'Scheduler' configuration panel. This panel has two tabs: 'General' and 'Schedule'. The 'General' tab is active, showing the following settings:

- Look In:** G:\MassHunter Data
- Folder spec:** *.d
- File spec:** *.*
- Upload individual files:** Unchecked. Includes a dropdown for 'from folder at' and a 'Level' dropdown set to 0.
- Associate files:** Unchecked. Includes a 'File Name' dropdown.
- Create and upload SSZIP files:** Checked. Includes a dropdown for 'for each folder and subfolder structure starting at' and a 'Level' dropdown set to 2.
- Compress:** Unchecked.
- Force SSZIP creation at level selected:** Checked.
- Destination:** Map to Windows directories. The resulting path is: Demo Data \ OpenLAB ECM \ MassHunter Data \ Source Folder + 0.

A 'Preview' pane on the right shows a hierarchical folder structure starting with 'Look-In (Level 0)', followed by 'SubFolder A (Level 1)', 'SubFolder A.1 (Level 2)', 'SubFolder A.2 (Level 2)', 'SubFolder A.2.1 (Level 3)', 'SubFolder B (Level 1)', 'SubFolder B.1 (Level 2)', and 'SubFolder B.1.1 (Level 3)'. A 'Submit' button is located at the top right of the configuration panel.

At the bottom of the browser window, a status bar displays: 'Welcome, Administrator (BUILT-IN\admin), Account: demo' and 'Done'.

OpenLAB's ECM Scheduler component automates the transfer of any analytical data within your laboratory – regardless of the instrument vendor.



Electronic Signature of PDF Files in OpenLAB

The screenshot displays the OpenLAB ECM Explorer interface, which is a Microsoft Internet Explorer browser window. The address bar shows the URL: <http://olserver.usa.agilent.com/ecm/Enterprise.asp?SessID=112617>. The main content area shows a tree view of folders and files, including 'MSD-PTON', 'Neptune', 'Beta-2', 'Air_Water', 'DATA', 'Method', 'Sequence', and 'Tune_Eval'. A table of files is visible, listing names, versions, and dates modified.

Name	Status	Version #	# of signatures	Date Modified
2006-12-17-1039 alune.PDF		1	1	12/27/2006 11:45:49 AM (GMT -08:00)
2006-12-17-1140 Tune Evaluation.PDF		1	0	12/17/2006 11:40:16 AM (GMT -08:00)
2006-12-17-2113 neptune.PDF	Checked out	1	1	12/22/2006 12:29:49 AM (GMT -08:00)
alune.csv		1	0	12/17/2006 10:39:49 AM (GMT -08:00)
neptune.csv		1	0	12/17/2006 9:13:43 PM (GMT -08:00)

Below the browser window, the Adobe Acrobat Professional interface is shown, displaying the digital signature of a PDF file. The signature is valid and was signed by Chris Fudge (BUILT-IN\chrfudge) on December 22, 2006, at 12:29:49 AM (GMT -08:00) in Santa Clara. The document revision is 1 of 1.

The signature details include:

- Signature is valid
- Signed by Chris Fudge (BUILT-IN\chrfudge)
- Signature is valid
- Time: 2006.12.22 00:29:49 -0800'
- Reason: I am approving this document.
- Location: Santa Clara
- Field: Signature2 on page 1
- Document revision: 1 of 1

The signature is also displayed on a chromatogram plot, indicating that the PDF file is electronically signed by Chris Fudge (BUILT-IN\chrfudge) on December 22, 2006, at 12:29:49 AM (GMT -08:00) in Santa Clara. The reason is: I am approving this document.

- The PDF files that are stored in the Air_Water, Tune, and Tune_Eval folders can be signed with the Adobe PDF signature tool.
- This tool encrypts a visible signature within the PDF file.
- The signature is present when the file is viewed, printed, or removed from the ECM.
- Signing the PDF files with the Adobe PDF Signature tool requires Adobe Acrobat (not Reader)
- PDF files that are stored inside the SSZIP file can not be signed individually.



Interacting with Content from Desktop Applications



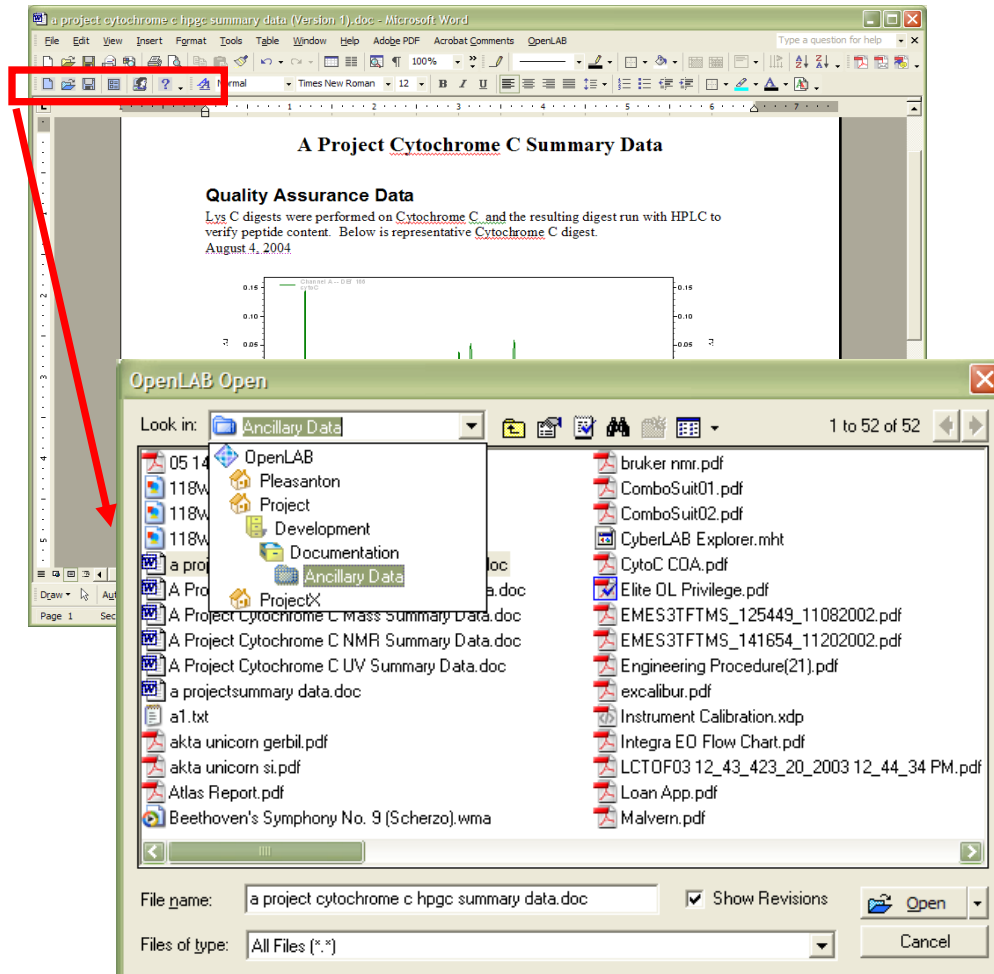
Integration with Desktop Applications like **Microsoft Office**, **Adobe Acrobat**

Open and Save files directly to the content repository from familiar desktop application

Small OpenLAB toolbar mimics Desktop functions with Content security

Search the content repository from within the Desktop application for files of interest

Compare documents or versions stored in the repository



Cell by Cell auditing capabilities for Excel spreadsheets

Audits cell content changes

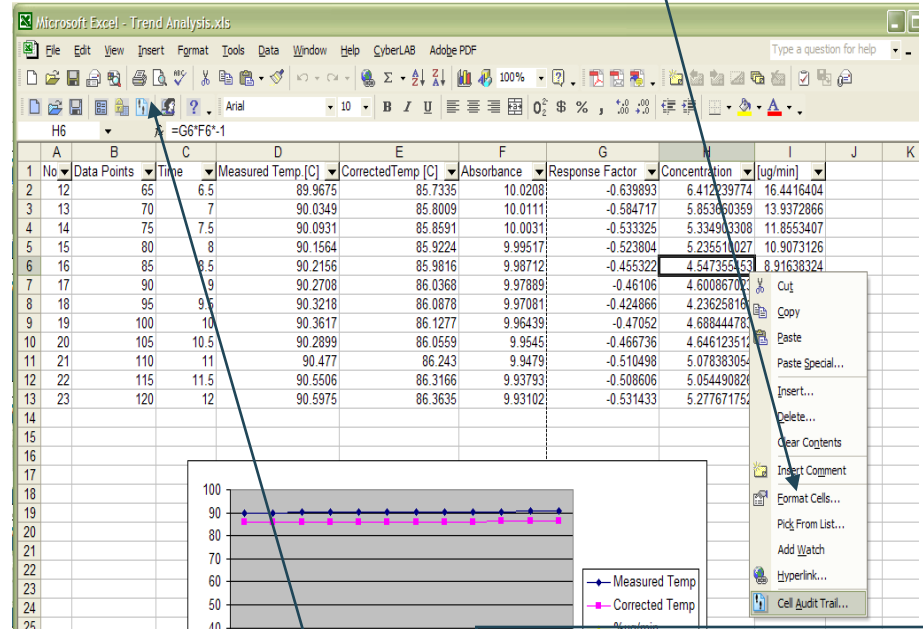
Audits cell formula changes

Audits macro changes

Each audit trail entry captures:

- Date / time of edit
- User ID
- Worksheet name and cell
- Old / New value
- Description & Reason for change

View the entries for a single cell



Or the entire spreadsheet



OpenLAB CDS



CDS

OpenLAB CDS

Chromatography Data System

Workstation, Networked, Distributed

- ChemStation, EZChrom workflows
- Agilent and Non Agilent Instrument Control (Multi-vendor)
- OpenLAB ECM Intelligent Reporter
- Regulated and non-regulated modes
- Web-based options

OpenLAB Control Panel



Central point for:

- Launching ChemStation & EZChrom instruments
- “Lab-at-a-Glance” view
- Administration of users, storage and instruments
- User privileges/user security
- Administrative reports

New look and feel:

- Intuitive
- Easy-to-use

Support and troubleshooting:

- Central access to all config and log files

Status	Name	Location	Application	Type	Controller
	LC1200	Laboratory 1	ChemStation	Agilent LC System	OLIRC1
	LC1100	Laboratory 1	ChemStation	Agilent LC System	OLIRC1
	7890	Laboratory 2	ChemStation	Agilent 7890 GC System	OLIRC1
	6890	Laboratory 2	ChemStation	Agilent 6890 GC System	OLIRC1

Lab-at-a-glance view

Name	Description
Everything	All privileges
System Administrator	Manage users and security settings
Instrument Administrator	Manage instruments and locations
Project Administrator	Manage projects and project groups
ChemStation Administrator	ChemStation Administrator role
ChemStation Lab Manager	ChemStation Lab Manager role
ChemStation Analyst	ChemStation Analyst role
ChemStation Operator	ChemStation Operator role

View project or project group
Run acquisition
Save data to ECM
Preview/print report
Edit sequence summary
Save sequence
Access Method and Run Control view

Scalability for instrument management and administration

OpenLAB Control Panel

Agilent OpenLab LaunchPad

Management

Create Edit Delete Edit Access Edit Notifications

Instruments

Create Edit Delete Edit Access Edit Notifications

Locations

Instruments

Name	Application	Type	AIC
GC 2000 Series	ChemStation	Agilent 1100 / 1200 Serie: AIC Santa Clara	
LC 1800 Series	EzChrom	Agilent 1100 / 1200 Serie: AIC Pleasanton	
Inst1	ChemStation	ChemStation Driver	AIC Pleasanton
1290_1	ChemStation	ChemStation Driver	AIC Santa Clara
1290_2	EzChrom	Agilent 1100 / 1200 Serie: AIC Pleasanton	
roche1	EzChrom	Agilent 7890 GC	AIC Pleasanton

Lab-at-a-glance view

Instruments

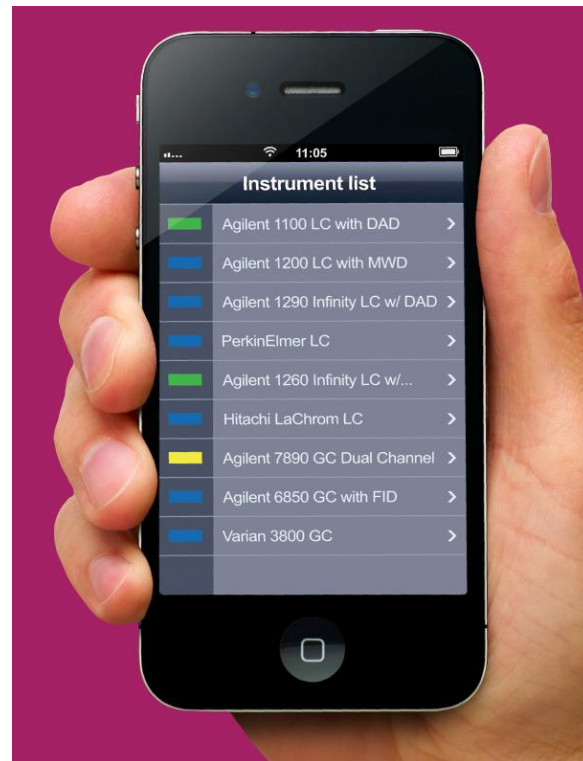
Projects

Configuration

Ready

Welcome admin

EZChrom and ChemStation in one application



Remote lab monitoring

- Lab at a Glance
- Instrument status
- System logbook
- Any errors

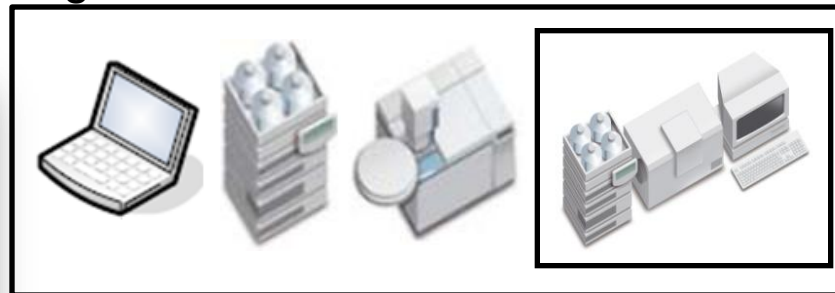
OpenLAB CDS

Chromatography Data System

Workstation



ChemStation Edition –
Agilent LC/GC/LCMS/CE/AD

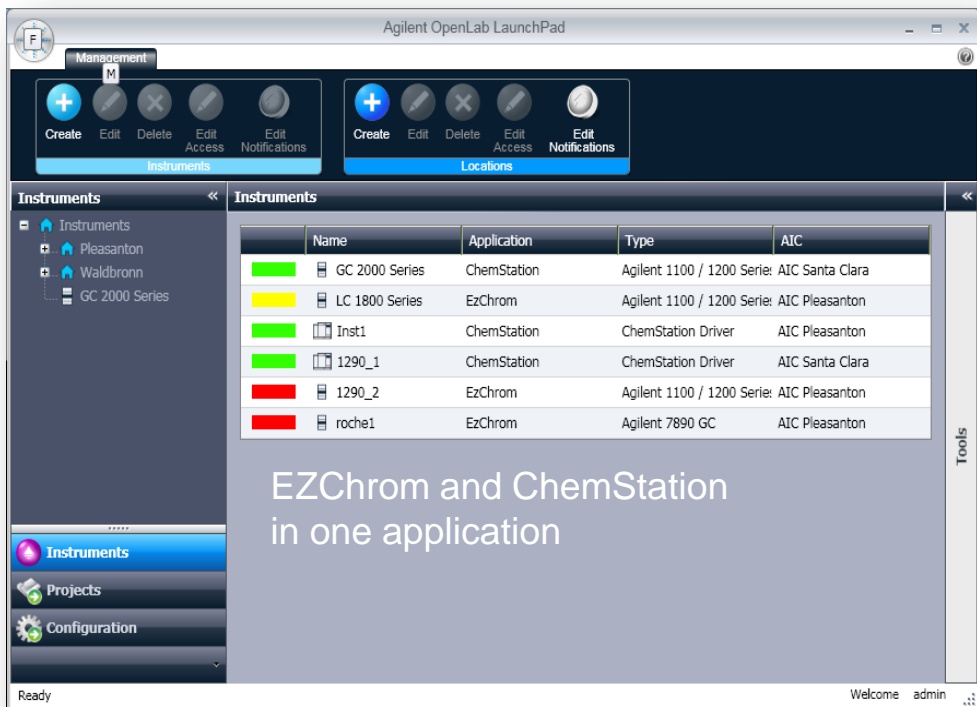


Or

EZChrom Edition

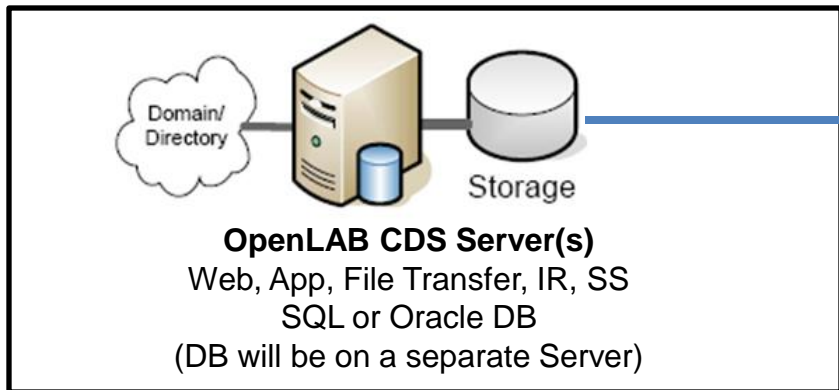


Control of Agilent LC/GC Waters,
Shimadzu, Varian, PE...



OpenLAB CDS

Server Room



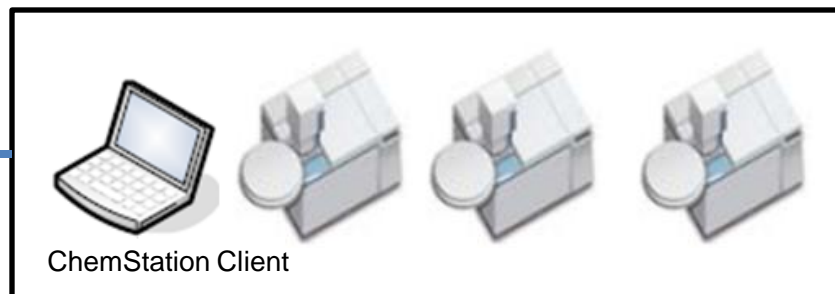
Example topology 1:
OpenLAB CDS –
Example: Local ChemStation



LC Lab 1



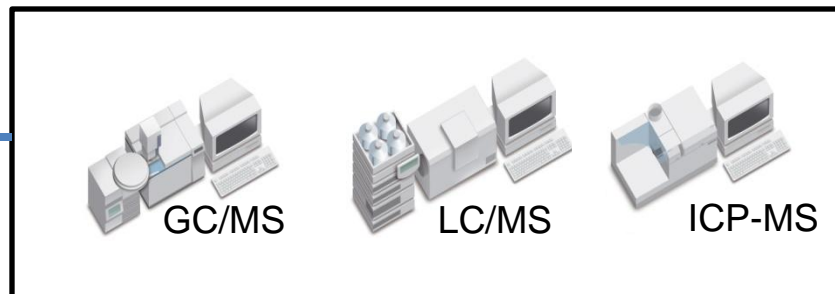
GC Lab 1



LC Lab 2



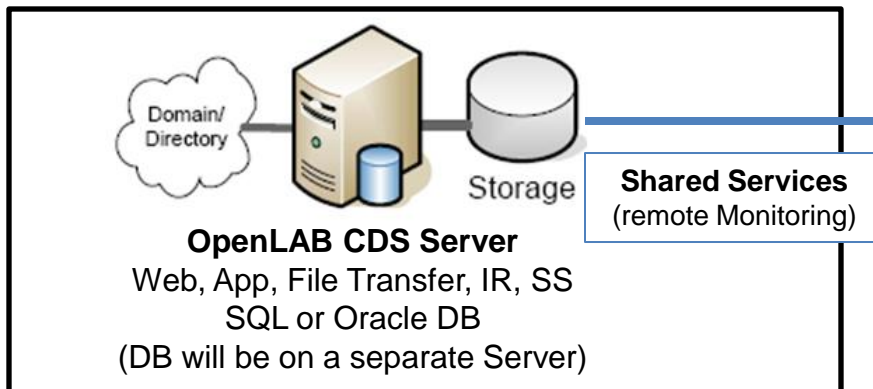
Mass Spec Lab 1



Note: 1200 LC data buffering in instrument

OpenLAB CDS

Server Room



Example topology 2: OpenLAB CDS - AIC

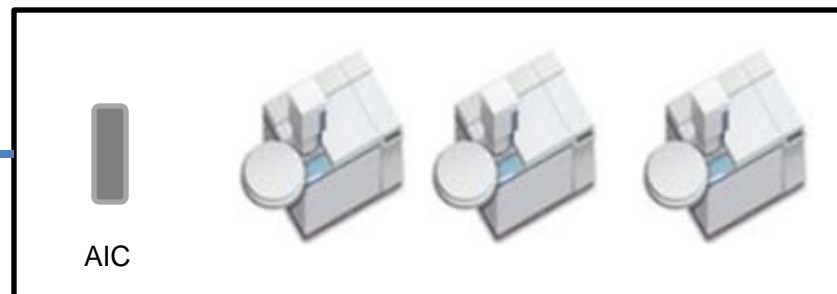
Remote Access / Control / Processing / Monitoring



LC Lab 1



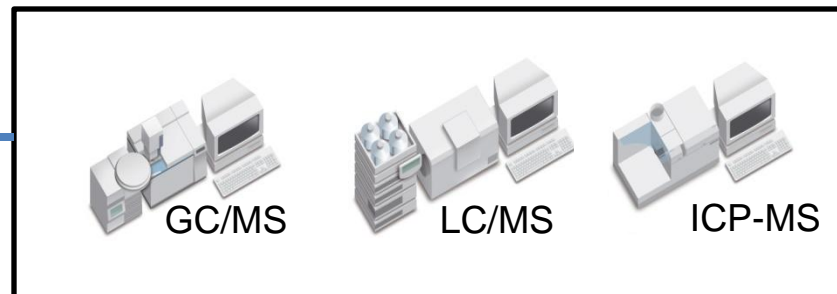
GC Lab 1



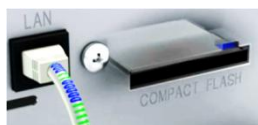
LC Lab 2



Mass Spec Lab 1



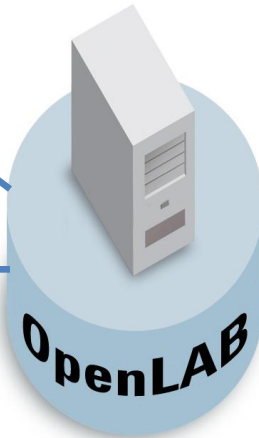
AIC = Agilent Instrument Controller



Note: 1200 LC data buffering in instrument (flash)

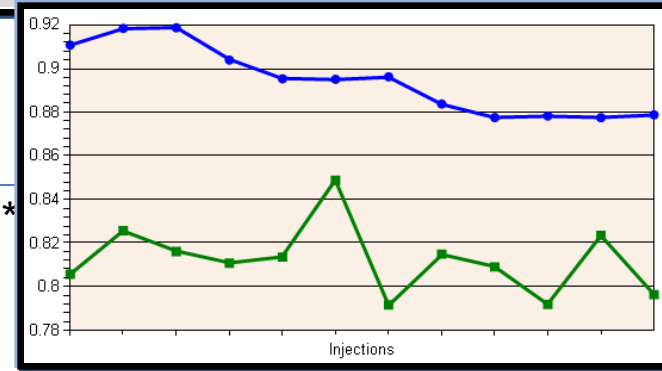
Steve Brown

OpenLAB Intelligence Reporter



System Suitability Test		Failed tests are marked red					
	Amount	RSD(RT)	RSD(Area)	Resolution EP	PW 50%	K'	S/N
des-hyd cis tramadol (C)	0.805	0.789	1.728	15.686	-0.040	21.307	11.308
des-hyd trans tramadol (B)	0.746	0.735	1.908	3.771	-0.127	22.403	8.547
o-desm tramadol (D)	0.823	2.130	2.789		0.291	6.860	9.001
TRAMADOL							
trans- tramadol (A)							

		trans- tramadol (A)			TRAMADOL				
		RT	Area	Amount ()	RT	Area	Amount ()		
6	SS RSD 2	3	1FC-0603.D	1.43	3.15	5.1944	1.62	1.28	5.4352
	SS RSD 2	1	1FC-0601.D	1.44	3.16	5.2022	1.63	1.31	5.5515
	SS RSD 2	4	1FC-0604.D	1.43	3.17	5.2243	1.62	1.28	5.4390
	SS RSD 2	5	1FC-0605.D	1.44	3.2	5.2702	1.62	1.3	5.5245
	SS RSD 2	2	1FC-0602.D	1.44	3.17	5.2186	1.62	1.29	5.4773
	SS RSD 2	6	1FC-0606.D	1.44	3.14	5.1764	1.62	1.27	5.3594
Average				1.44	3.16	5.2143	1.62	1.29	5.4645
Stand. Dev.				0	0.02	0.0323	0	0.01	0.0691
Min				1.43	3.14	5.1764	1.62	1.27	5.3594
Max				1.44	3.2	5.2702	1.63	1.31	5.5515

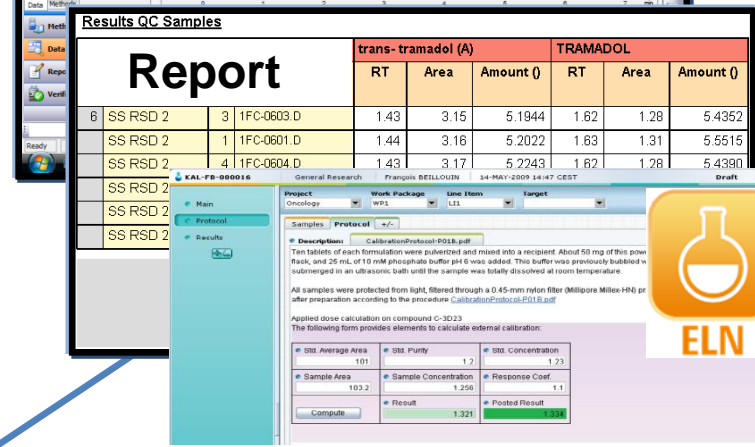
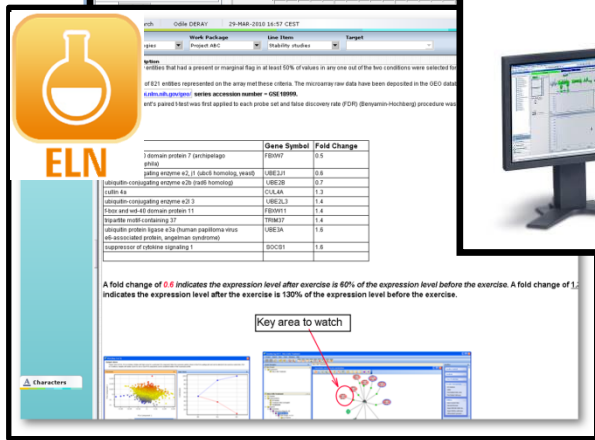
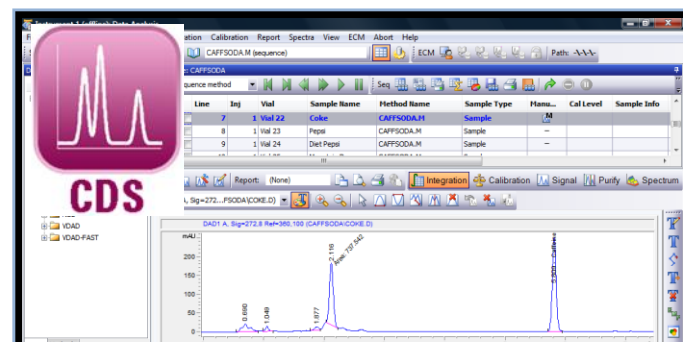
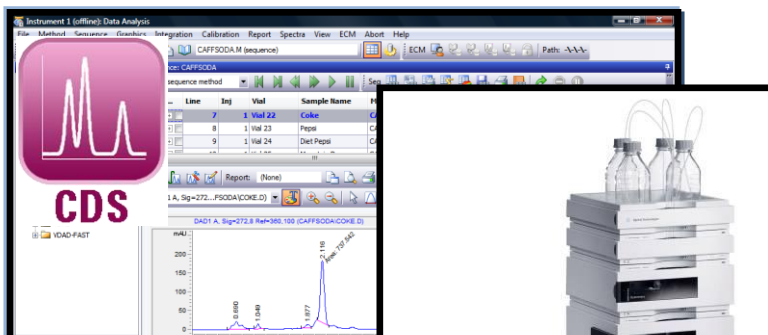


- Reports from CDS Instruments*
- Dynamic report templates
- Database reporting
- Automatic report generation
- Simple to advanced calculations with control charts
- Easily export results to Excel, PDF, or other formats
- Reports and templates managed securely in ECM
- Report templates work across different analysis/sites

Summary: From the Lab Bench to the Desktop - OpenLAB

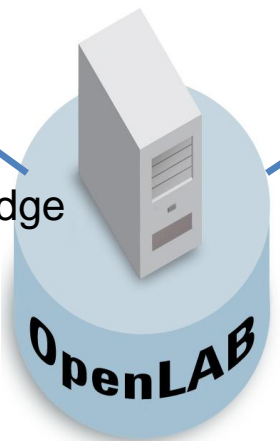
Laboratory

Office/Home



- Centrally store all data, reports, knowledge
- Security, versions, audit trail, e-sig
- OpenLAB unifies data, information and regulatory compliance

- Run & Reprocess from anywhere
- Easily find data and results
- Create custom reports
- Collaborate: ELN (Word, Excel, PDF)



21CFRPart11 Compliance

Steve Brown

Questions

Where to get more information



- <http://www.agilent.com/chem/openlabcds>
- Agilent Account Managers
or
- Agilent Informatics Product Specialists
Linda Johnson 302-636-3805
linda_johnson@agilent.com

Steve Brown – West - Midwest

Marc Mandelbaum – East Coast

Jonathon McSayles – Midwest to North East

Steve Miller – Southern States

Spencer Tse – West Coast