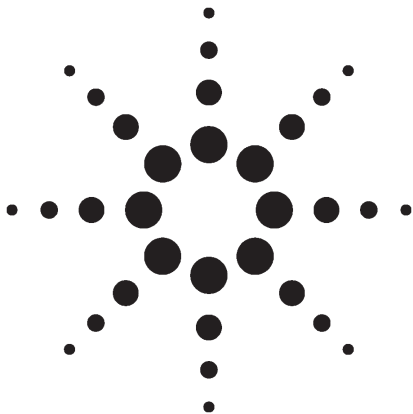


# Utilizing the Web with Agilent Network Data Systems



## Technical Note

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### Abstract

Traditionally, laboratories have operated with isolated islands of information from individual chemical analysis systems. With the advent of local area networks (LANs) and the World Wide Web, laboratories can now integrate these systems into an information infrastructure and share information easily. This technical note describes in detail how Agilent software makes it simple to take advantage of the Web and client/server technology.

### Key Words

Local area network, HTML, World Wide Web, information management

### Maximizing Information Access

Adhering to industry standards when developing software products maximizes the solutions the software can provide. Creating products based on open systems leverages technology widely available from many sources instead of pursuing proprietary or out-dated platforms. Two examples of this are Agilent's use of LAN communication for its instruments and making it easy to create reports in the format used by the World Wide Web. Agilent customers can seamlessly integrate their chemical measurement systems

into their information infrastructure and easily share that information throughout their enterprises.

With the simple click of a button, as illustrated in figures 1 and 2, the Agilent Cerity and ChemStation Plus networked data systems can make

information and graphics available in Hypertext Markup Language (HTML) for anyone with a browser. Information in this format can be shared with those who need it quickly to speed decision making or deliver answers to a laboratory's customers inside or outside of the company.

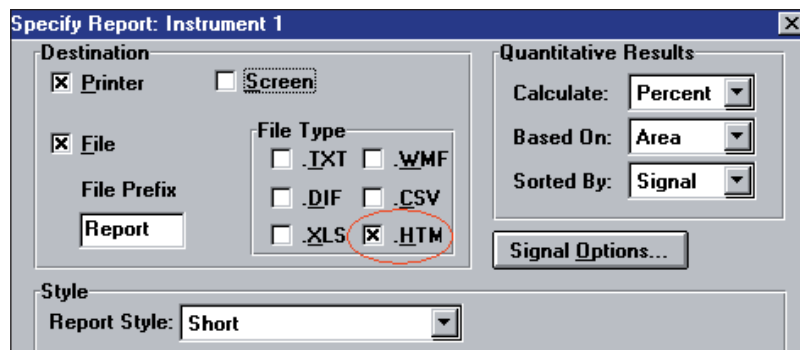


Figure 1. ChemStation report destination.

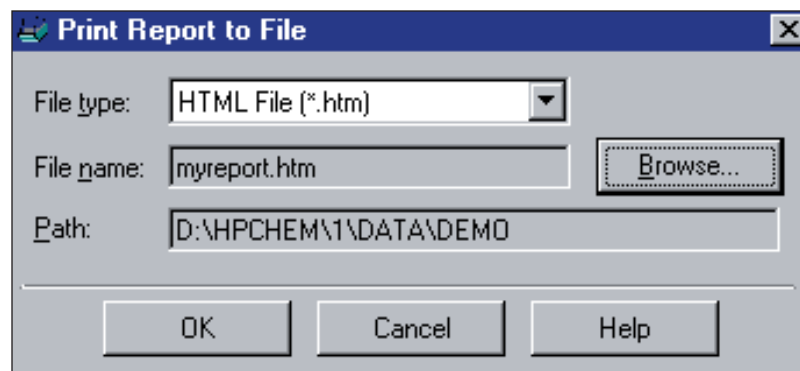


Figure 2. Easy HTML reporting using the ChemStation Plus HTML option in the software's ChemStore module.



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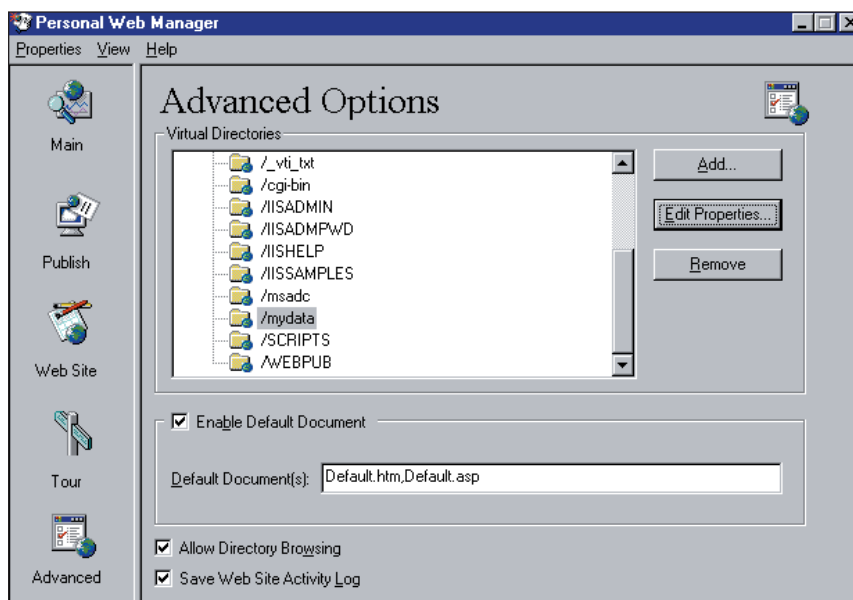


Figure 3: Advanced options.

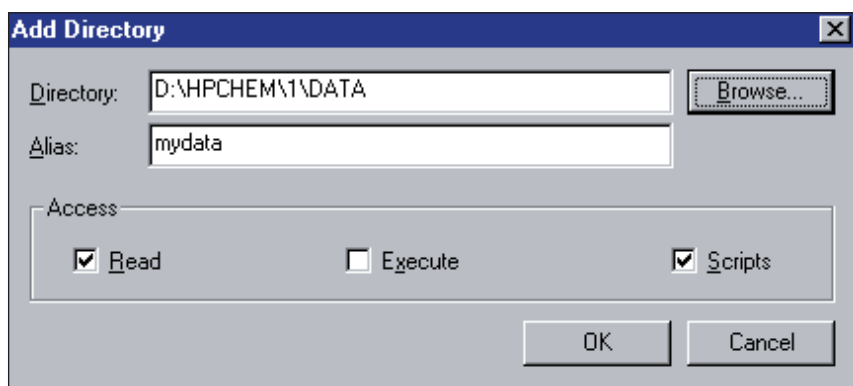


Figure 4: Adding a directory.

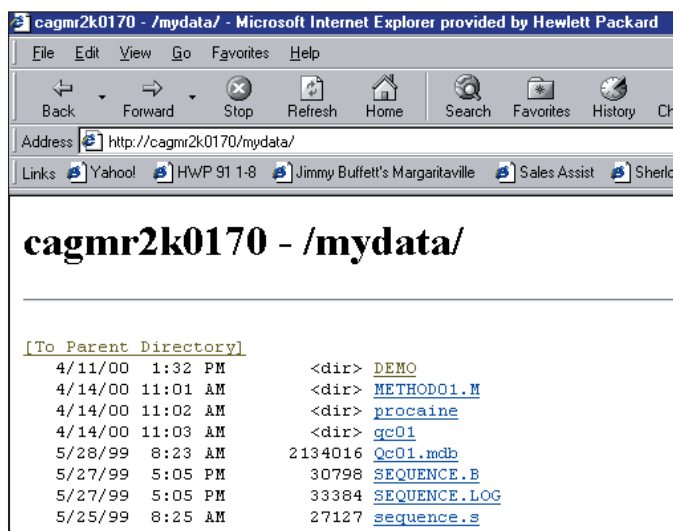


Figure 5: Browsing data.

In the base ChemStation software, you just click the htm check box, a few files are generated in the XXXX.d sub-directory of the data file; index.htm, content.htm, and a page#.gif for every page of the report. These files represent the report. In the ChemStore module, choosing *print report to file* allows you to select any destination. A myreportXX.htm is generated for every page in the report.

In the most basic application, these reports can be stored locally or placed on a server and be shared by anyone with a Web browser. The PC or the server can be made into a Web server easily with free software called the personal Web manager available from Microsoft® at the following Web address:

<http://www.microsoft.com/NTWorkstation/downloads/Recommended/ServicePacks/NT40ptPk/Default.asp>

### The Simple Solution: Web-Shared Directories

When installing Web server software, you can easily share a particular directory over the Web, whether this is your local data directory or a shared data directory on a server. The directory can be shared simply by starting up the Web publishing application and adding the directory to the list to be shared. For example, you can share the ChemStation data directory so that other users may access the data from other personal computers. By bringing up the advanced window in the Microsoft Personal Web Manager utility, as shown in figure 3, you can add any directories you want to be Web published. To allow Web access, check the box for "Allow Directory Browsing." Simply click on add and browse to the ChemStation data and give it an alias such as "mydata," as in figure 4.

Microsoft's Web publishing software automatically sets your computer up as a Web server with the name corresponding to your computer's network name (in this example, http://cagmr2k0170\). Your ChemStation data are now accessible for browsing by typing http://computername\mydata\. From any browser you now can browse the ChemStation directory tree. Double clicking on any index.htm file created in the *specify report* screen of ChemStation brings up a view of the report, as shown in figures 5, 6 and 7.

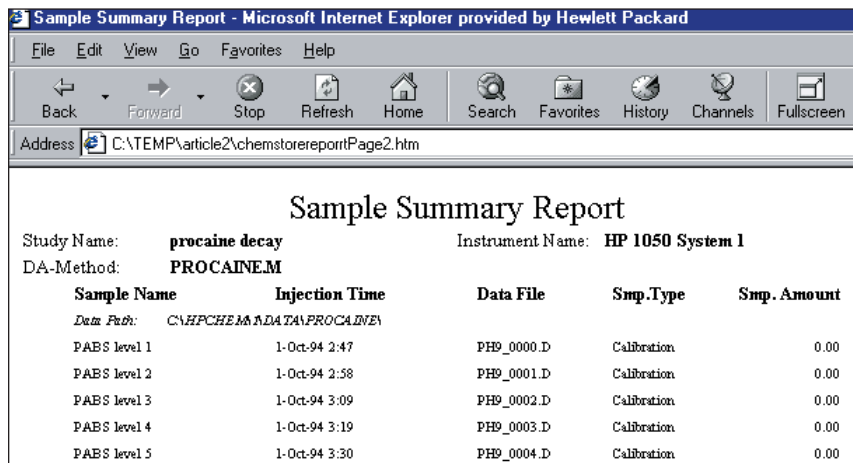


Figure 6. HTML report in the ChemStore module of ChemStation Plus.

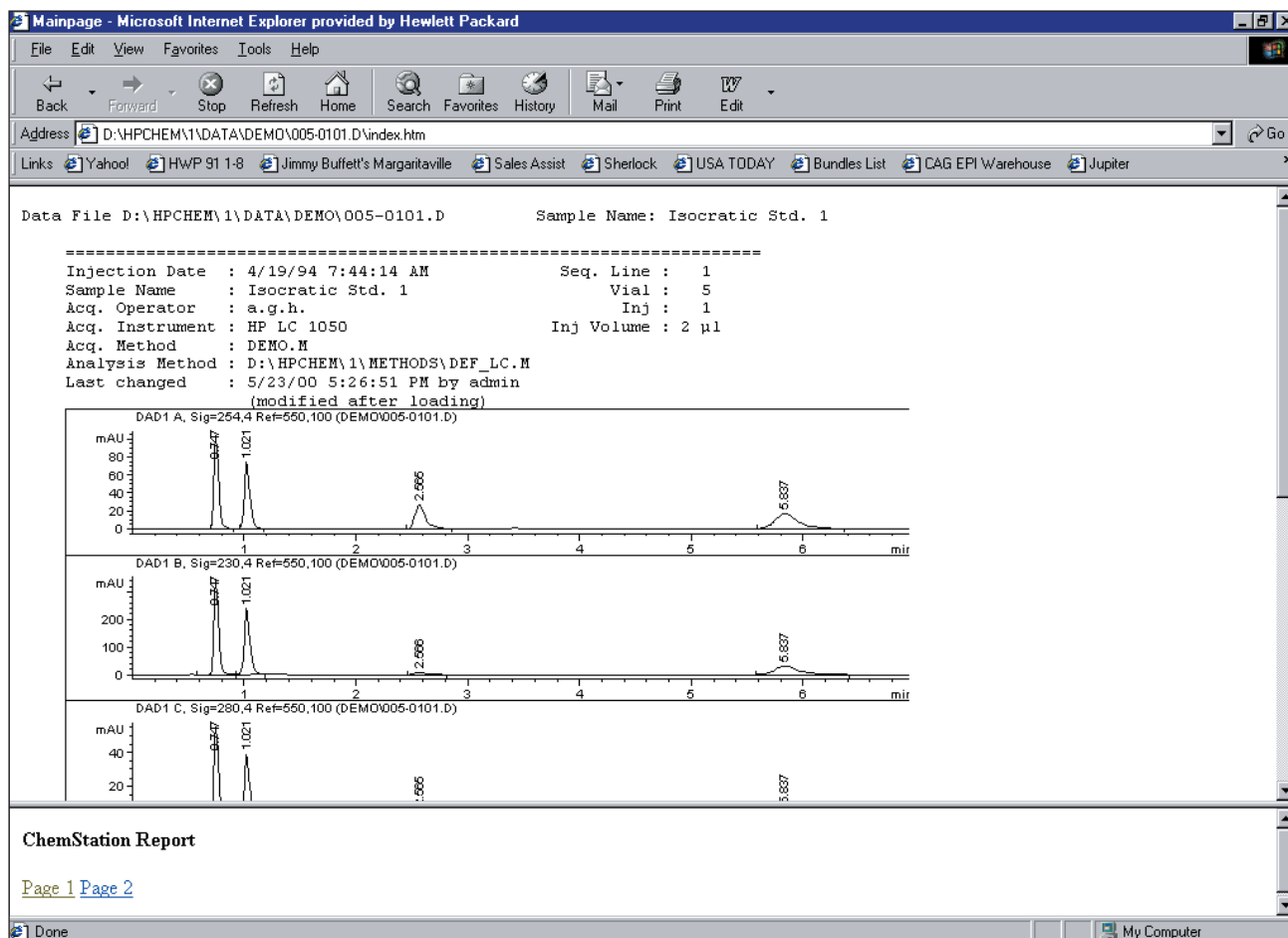


Figure 7. ChemStation individual HTML report.

The simplest way to implement this solution is to purchase the inexpensive Agilent ChemStation Plus ChemAccess module. This server solution automatically handles the copying of data files to a central server for easy access and storage. This module also provides remote control and access to all instruments on your network run by a ChemStation. The functionality to share data over the Web can be added easily to the ChemAccess server by an Agilent Customer Service Engineer specifically trained in this area.

## The Complete Solution: The ChemStation WebReporter

To make sharing data over the Web easier, in addition to making reports available in Web-ready format, Agilent Technologies provides a free utility that uses graphical navigation to organize those reports. On Agilent's ChemStation CD-ROM, under the UCL subdirectory, is a utility to organize ChemStation reports on the Web by such categories as the ChemStation, the instrument or sample sequence. When installing the Microsoft Web

server, you also install the ChemStation Web reporter on the server and each client. This utility copies the data to a central server and builds a graphical tree to navigate to the different sequences run on different computers and instruments. This allows a user with only a Web browser to navigate and view all sequence data across instruments with just a click of the mouse. The view can be organized by laboratory, workstation, instrument or batches—as shown in figure 8.

HP ChemWeb - Microsoft Internet Explorer

File Edit View Go Favorites Help

Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Print

Address http://casdsrv1/chemweb/ Links

### HP ChemWeb Reports Navigator

[My Lab's HOME PAGE](#) [HP CAG Home Page](#) [Add other custom links here](#)

**Lab Groups**

- drug lab
- food lab
- foodpc1
- Instrument 1**
- Guest Lab

**Batch: //food lab/foodpc1/Instrument 1/PROCAINE**

Sample	Report	Type	Line	Inj	Sample Information	Method	Datafile
PABS level 1	<a href="#">View</a>	Calib	1	1	Paraaminobenzoic acid calibration standard Calibration level #1 19.08 ng/ul	PROCAINE.M	PH9_0000.D
PABS level 2	<a href="#">View</a>	Calib	2	1	Paraaminobenzoic acid calibration standard Calibration level #2 47.70 ng/ul	PROCAINE.M	PH9_0001.D
PABS level 3	<a href="#">View</a>	Sample	3	1	Paraaminobenzoic acid calibration standard Calibration level #3 190.80 ng/ul	PROCAINE.M	PH9_0002.D

Use Chromatogram Buttons if Image Size is < 20 k

Internet zone

Figure 8. ChemStation WebReporter view.

The ChemStation WebReporter allows simpler viewing of the reports from a browser by navigating to the batch that you want to view. You can easily see sample information such as method, comments and data file name. You may then view the report by simply clicking on the view button for the desired sample (illustrated in figure 9).

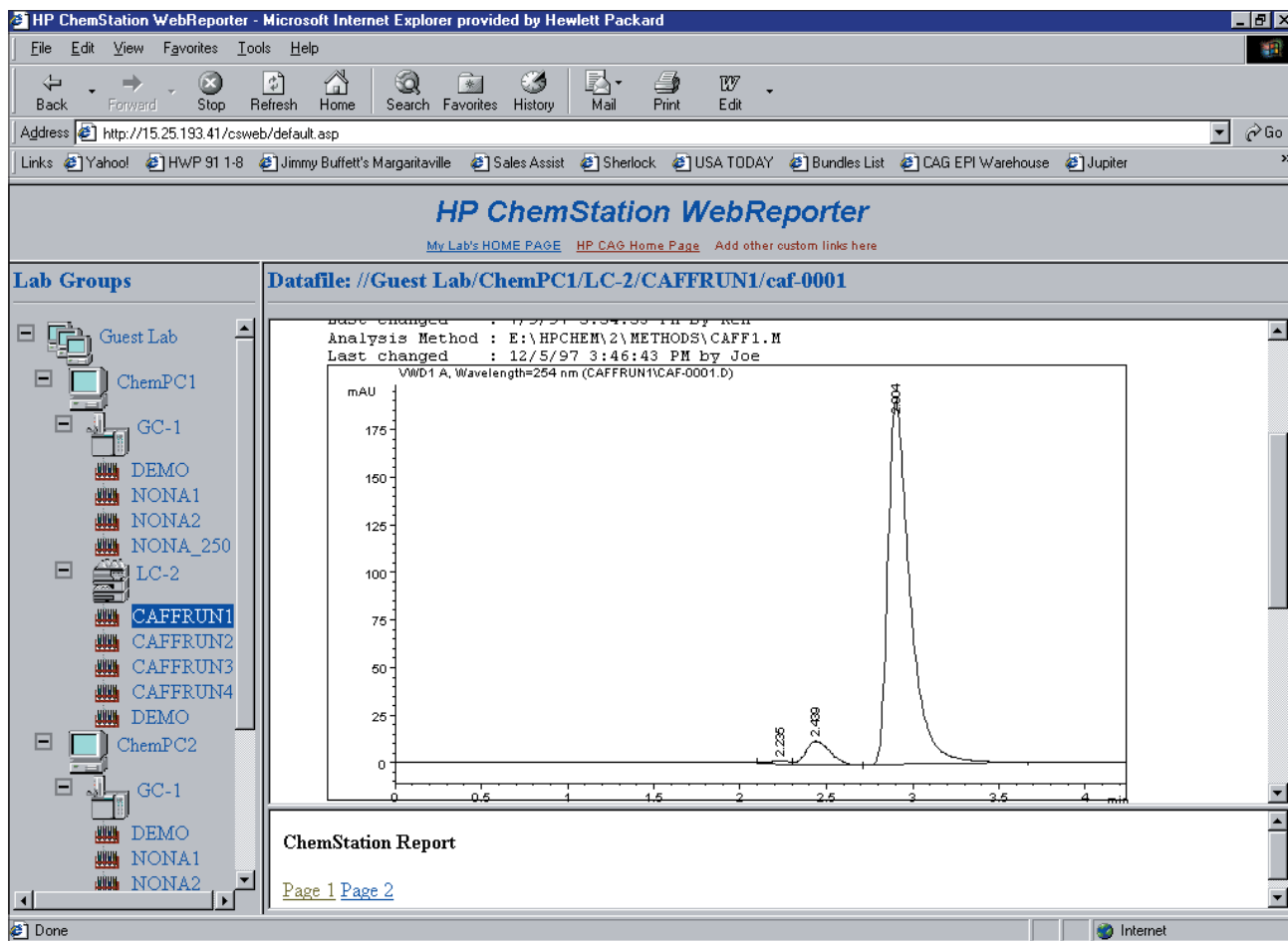


Figure 9. Report viewing within the WebReporter.

The WebReporter comes free on the Agilent ChemStation CD-ROM, revision A.06.01 or later. It is stored under the subdirectory \UCL\Cswebprt\ with an install program for the clients and the server.

Here, too, the simplest way to take advantage of Reporter functionality is to add the ChemAccess client/server solution to your ChemStations. This lets you easily manage centralization of your data files to make them available over the Web.

## Conclusion

Information access is the most critical need in today's laboratories. Agilent Technologies, by making it easy for you to create information in Web-ready format, enables critical data to be accessed easily and efficiently across organizations. With tools from Microsoft® and Agilent Technologies, the information this functionality provides can be easily implemented by anyone with a need to share ChemStation Plus reports with many users from a simple Web browser. By enabling Microsoft Web-sharing utilities, you can share reports with multiple users. Alternatively, the free tool from Agilent Technologies can easily be implemented by Agilent trained personnel to take advantage of the Web and client/server technology to provide a simple navigation tree for browsing these reports graphically.

For more information about these utilities please contact your local Agilent sales representative or contact the Agilent professional services organization.

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