EXHIBIT 1

UNITED STATES DISTRICT COURT

for the

Northern District of California

XEROX CORPORATION
Plaintiff
v.
GOOGLE INC., et al.
Defendant

Civil Action No. 1:10-cv-00136-LPS

(If the action is pending in another district, state where: District of Delaware)

SUBPOENA TO PRODUCE DOCUMENTS, INFORMATION, OR OBJECTS OR TO PERMIT INSPECTION OF PREMISES IN A CIVIL ACTION

To: Astoria Software, Inc.
300 Broadway Street, Suite 8, San Francisco, CA 94133

☑ *Production:* **YOU ARE COMMANDED** to produce at the time, date, and place set forth below the following documents, electronically stored information, or objects, and permit their inspection, copying, testing, or sampling of the material: See Exhibit A

Place:	Date and Time:
Davis Polk & Wardwell LLP 1600 El Camino Real Menlo Park, CA 94025	11/19/2010 5:00 pm

☐ *Inspection of Premises:* **YOU ARE COMMANDED** to permit entry onto the designated premises, land, or other property possessed or controlled by you at the time, date, and location set forth below, so that the requesting party may inspect, measure, survey, photograph, test, or sample the property or any designated object or operation on it.

Place:	Date and Time:

The provisions of Fed. R. Civ. P. 45(c), relating to your protection as a person subject to a subpoena, and Rule 45 (d) and (e), relating to your duty to respond to this subpoena and the potential consequences of not doing so, are attached.

Date: 10/27/2010

CLERK OF COURT

OR

Signature of Clerk or Deputy Clerk

Attorney's signature

The name, address, e-mail, and telephone number of the attorney representing *(name of party)* Defendants Yahoo! Inc. and Right Media LLC, who issues or requests this subpoena, are:

Jesse Dyer
Davis Polk & Wardwell LLP, 1600 El Camino Real, Menlo Park, CA 94025
tel: (650) 752-2000 fax: (650) 752-2111 email: jesse.dyer@davispolk.com

Civil Action No. 1:10-cv-00136-LPS

PROOF OF SERVICE

(This section should not be filed with the court unless required by Fed. R. Civ. P. 45.)

This subpoena for *(name of individual and title, if any)* _____

was received by me on *(date)* _____ .

❒ I served the subpoena by delivering a copy to the named person as follows: _____

_____

_____ on *(date)* _____ ; or

❒ I returned the subpoena unexecuted because: _____

_____ .

Unless the subpoena was issued on behalf of the United States, or one of its officers or agents, I have also tendered to the witness fees for one day's attendance, and the mileage allowed by law, in the amount of $ _____ .

My fees are $ _____ for travel and $ _____ for services, for a total of $ 0.00 .

I declare under penalty of perjury that this information is true.

Date: _____

_____
Server's signature

_____
Printed name and title

_____
Server's address

Additional information regarding attempted service, etc:

Federal Rule of Civil Procedure 45 (c), (d), and (e) (Effective 12/1/07)

(c) Protecting a Person Subject to a Subpoena.

(1) ***Avoiding Undue Burden or Expense; Sanctions.*** A party or attorney responsible for issuing and serving a subpoena must take reasonable steps to avoid imposing undue burden or expense on a person subject to the subpoena. The issuing court must enforce this duty and impose an appropriate sanction — which may include lost earnings and reasonable attorney's fees — on a party or attorney who fails to comply.

(2) ***Command to Produce Materials or Permit Inspection.***

(A) *Appearance Not Required.* A person commanded to produce documents, electronically stored information, or tangible things, or to permit the inspection of premises, need not appear in person at the place of production or inspection unless also commanded to appear for a deposition, hearing, or trial.

(B) *Objections.* A person commanded to produce documents or tangible things or to permit inspection may serve on the party or attorney designated in the subpoena a written objection to inspecting, copying, testing or sampling any or all of the materials or to inspecting the premises — or to producing electronically stored information in the form or forms requested. The objection must be served before the earlier of the time specified for compliance or 14 days after the subpoena is served. If an objection is made, the following rules apply:

(i) At any time, on notice to the commanded person, the serving party may move the issuing court for an order compelling production or inspection.

(ii) These acts may be required only as directed in the order, and the order must protect a person who is neither a party nor a party's officer from significant expense resulting from compliance.

(3) ***Quashing or Modifying a Subpoena.***

(A) *When Required.* On timely motion, the issuing court must quash or modify a subpoena that:

(i) fails to allow a reasonable time to comply;

(ii) requires a person who is neither a party nor a party's officer to travel more than 100 miles from where that person resides, is employed, or regularly transacts business in person — except that, subject to Rule 45(c)(3)(B)(iii), the person may be commanded to attend a trial by traveling from any such place within the state where the trial is held;

(iii) requires disclosure of privileged or other protected matter, if no exception or waiver applies; or

(iv) subjects a person to undue burden.

(B) *When Permitted.* To protect a person subject to or affected by a subpoena, the issuing court may, on motion, quash or modify the subpoena if it requires:

(i) disclosing a trade secret or other confidential research, development, or commercial information;

(ii) disclosing an unretained expert's opinion or information that does not describe specific occurrences in dispute and results from the expert's study that was not requested by a party; or

(iii) a person who is neither a party nor a party's officer to incur substantial expense to travel more than 100 miles to attend trial.

(C) *Specifying Conditions as an Alternative.* In the circumstances described in Rule 45(c)(3)(B), the court may, instead of quashing or modifying a subpoena, order appearance or production under specified conditions if the serving party:

(i) shows a substantial need for the testimony or material that cannot be otherwise met without undue hardship; and

(ii) ensures that the subpoenaed person will be reasonably compensated.

(d) Duties in Responding to a Subpoena.

(1) ***Producing Documents or Electronically Stored Information.*** These procedures apply to producing documents or electronically stored information:

(A) *Documents.* A person responding to a subpoena to produce documents must produce them as they are kept in the ordinary course of business or must organize and label them to correspond to the categories in the demand.

(B) *Form for Producing Electronically Stored Information Not Specified.* If a subpoena does not specify a form for producing electronically stored information, the person responding must produce it in a form or forms in which it is ordinarily maintained or in a reasonably usable form or forms.

(C) *Electronically Stored Information Produced in Only One Form.* The person responding need not produce the same electronically stored information in more than one form.

(D) *Inaccessible Electronically Stored Information.* The person responding need not provide discovery of electronically stored information from sources that the person identifies as not reasonably accessible because of undue burden or cost. On motion to compel discovery or for a protective order, the person responding must show that the information is not reasonably accessible because of undue burden or cost. If that showing is made, the court may nonetheless order discovery from such sources if the requesting party shows good cause, considering the limitations of Rule 26(b)(2)(C). The court may specify conditions for the discovery.

(2) ***Claiming Privilege or Protection.***

(A) *Information Withheld.* A person withholding subpoenaed information under a claim that it is privileged or subject to protection as trial-preparation material must:

(i) expressly make the claim; and

(ii) describe the nature of the withheld documents, communications, or tangible things in a manner that, without revealing information itself privileged or protected, will enable the parties to assess the claim.

(B) *Information Produced.* If information produced in response to a subpoena is subject to a claim of privilege or of protection as trial-preparation material, the person making the claim may notify any party that received the information of the claim and the basis for it. After being notified, a party must promptly return, sequester, or destroy the specified information and any copies it has; must not use or disclose the information until the claim is resolved; must take reasonable steps to retrieve the information if the party disclosed it before being notified; and may promptly present the information to the court under seal for a determination of the claim. The person who produced the information must preserve the information until the claim is resolved.

(e) Contempt. The issuing court may hold in contempt a person who, having been served, fails without adequate excuse to obey the subpoena. A nonparty's failure to obey must be excused if the subpoena purports to require the nonparty to attend or produce at a place outside the limits of Rule 45(c)(3)(A)(ii).

SCHEDULE A

DEFINITIONS AND INSTRUCTIONS

1. The term "document" is to be understood broadly to encompass "documents" and "electronically stored information" as those terms are used in rules 26 and 34 of the Federal Rules of Civil Procedure.

2. "You", "Your" and "Astoria" mean Astoria Software, Inc., Lightspeed Interactive, Inc. and Chrystal Software, their corporate affiliates, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

3. "Documentum" means Documentum, Inc., a wholly owned subsidiary of EMC Corporation, and any and all persons or entities acting on its behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

4. "SAS" means SAS Institute, Inc., its corporate affiliates, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

5. "Xerox" means Xerox Corporation, its corporate affiliates, KnowledgePath Software, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

6. "Data and Document Synchronization Software" means software designed to facilitate the integration and synchronization of data and/or the results of analysis of data created, stored and/or otherwise managed in one system (including but not limited to SAS/PH-Clinical) with documents created, stored and/or otherwise managed by another system (including but not limited to the Documentum Enterprise Document Management System and Chrystal Software's Astoria document management system).

7. “Xerox Data and Document Synchronization Software” means any and all Data and Document Synchronization Software designed and/or developed by SAS, Documentum and/or Xerox. “Xerox Data and Document Synchronization Software” includes, without limitation, the PH-Document Linker Interface, the Xerox API Translator for Documentum, the Xerox DOC2PHC program, and Xerox’s DataDocket software. *See, e.g.*, Exhibit A.1 hereto (Peter Villiers, “New Architecture for Linkage of SAS/PH-Clinical Software with Electronic Document Management Systems,” SAS Institute Inc. (June 19, 1997)).

8. The “‘994 Patent” means U.S. Patent No. 6,236,994 and/or all related patents and patent applications, including, without limitation, the provisional patent application no. 60/062,933.

9. "The named inventors" means the inventors who appear on the face of the '994 patent: Ronald M. Swartz, Jeffrey L. Winkler, Evelyn A. Janos, Igor Markidan and Qun Dou.

10. With respect to any document withheld on the basis of privilege, you are instructed to log said document in conformance with the requirements of the Federal Rules of Civil Procedure and applicable case law.

CATEGORIES OF DOCUMENTS AND THINGS

CATEGORY NO. 1:

All documents and things that refer or relate to the Xerox Data and Document Synchronization Software. This category includes but is not limited to

- documents constituting or reflecting communications between and amongAstoria, Xerox (including its KnowledgePath Software division), and/or any of the named inventors about Data and Document Synchronization Software and/or any proposed or actual development of such software;

- documents showing Astoria's role in conceiving, designing and/or implementing the Xerox Data and Document Synchronization Software and/or any components thereof; and
- agreements, contracts, memoranda of understanding, and/or letters of intent between Astoria and Xerox (including its KnowledgePath Software division) relating to Data and Document Synchronization Software.

CATEGORY NO. 2:

Documents sufficient to show the technical operation of any and all Data and Document Synchronization Software that was developed by Astoria and, prior to October 21, 1997, was described in a printed publication or invented, known, in public use, or on sale in the United States, including, without limitation, such software that operated in conjunction with the Astoria document management system.

CATEGORY NO. 3:

Documents sufficient to identify any Data and Document Synchronization Software that is known to Astoria and, prior to October 21, 1997, was described in a printed publication or invented, known, in public use, or on sale in the United States, including, without limitation, such software that operated in conjunction with the Astoria document management system, and including any software or system identified by you or anyone else as prior art to the '994 patent.

CATEGORY NO. 4:

All documents and things that refer or relate to the '994 Patent (as defined herein in definition no. 8), including, without limitation, communications or agreements relating to Astoria's contributions to any alleged inventions described in the '994 Patent and/or Astoria's interests in the '994 Patent.

CATEGORY NO. 5:

All documents and things that refer or relate to this litigation.

Exhibit A.1

New Architecture for Linkage of SAS/PH-Clinical® Software with Electronic Document Management Systems

Peter Villiers, SAS Institute Inc., Cary, North Carolina

Abstract

The purpose of this paper is to provide the reader with an overview of an interface that is being developed as a result of a collaborative effort between SAS Institute and Xerox. The interface will enable SAS® PharmaTechnology Center products to interact with document management systems. This is referred to as the PH-Document Linker Interface or PH-DLI and is part of a larger, comprehensive architecture referred to as the SAS PharmaTechnology Process. The paper will cover the following major areas:

- Business case for the interface
- Design goals which are to be achieved
- Host computing environment impact
- Architecture components involved
- The overall PharmaTechnology Center Process

The paper will not cover lower level details of the code that has been written.

Introduction

One of the many challenges in the pharmaceutical industry is to manage and maintain the huge volume of documentation that is generated during the lengthy and complex process of developing a new drug. The research and development process is an iterative cycle of safety and efficacy testing. The collaborative efforts required at each phase of the process must be carefully documented. In order to submit a new drug for approval, the entire development process must be available for the scrutiny of the regulatory agencies involved in the approval. This can result in a submission document that is hundreds of thousands of pages in length and whose structure is strictly defined by the approving agency. If approval is sought in the international arena, the documentation must be restructured to meet the requirements of each regulatory body from which approval is sought. Any process and technology that streamlines the preparation and production of the submission documentation is therefore invaluable in the pharmaceutical environment.

For this reason, and in response to customer requests, coinciding with Release 2.10 of SAS/PH-Clinical, the SAS PharmaTechnology Center and Xerox plan to release an interface between SAS/PH-Clinical® software and the Documentum™ Enterprise Document Management System (EDMS). The Documentum EDMS is used by many of the major pharmaceutical firms that are SAS/PH-Clinical users as well. SAS/PH-Clinical software is used to review clinical trial data and generate reports that are used by pharmaceutical companies. This information represents a significant portion of the knowledge that is gained during the drug development process. Just as critical to the process is the information generated by various "authors" who review and work with the data.

Working with Xerox, the SAS PharmaTechnology Center will help automate the synchronization of all the information used during drug development, thus enabling pharmaceutical users to streamline their processes and make better, faster business decisions.

Goal, User Benefits and Design Objectives

The initial goal of the collaboration between SAS Institute and Xerox is to provide a method to synchronize the output from a SAS/PH-Clinical template report with a document in an EDMS. The subsequent goal of the collaboration is to enable <u>any</u> object from SAS/PH-Clinical to be exported to an EDMS and to provide a method for a user in the EDMS to start SAS/PH-Clinical software and automatically navigate to the original (source) object. It is anticipated that this functionality will also be available for other word processors and file formats (e.g., PDF and HTML).

The benefits of this functionality to a reviewer are enormous. The ability to view a PDF file and automatically start the review system; navigate to the source object and subsequently examine the underlying data will lead to less time learning the review system and more time performing the review process.

For technical reasons that will be outlined later, the functionality described will be provided via a two-stage development approach in line with the goals outlined above. The primary reason for this is that the PharmaTechnology Center and Xerox would like to provide realizable benefits to SAS/PH-Clinical Customer sites using Documentum within a

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reasonable time frame.

The Impact of Hardware Configuration

The client-server configuration of Documentum and multi-vendor architecture support of SAS/PH-Clinical software introduces a greater level of diversity into the solution that has been developed. There are three overall scenarios that will be supported by the software:

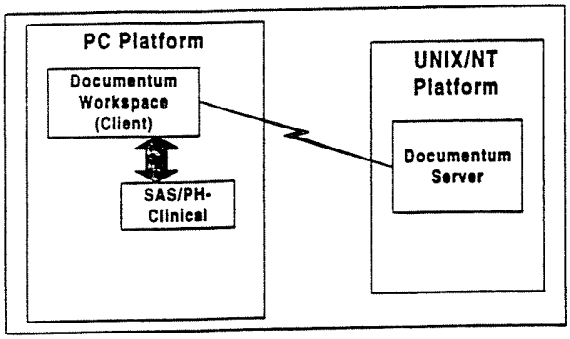

Figure 1

In Figure 1, SAS/PH-Clinical and the Documentum Workspace are run on the PC platform. Cross-product communication is carried out on the PC (indicated with a shaded arrow) and the standard process contained in Documentum software will carry out cross-platform support.

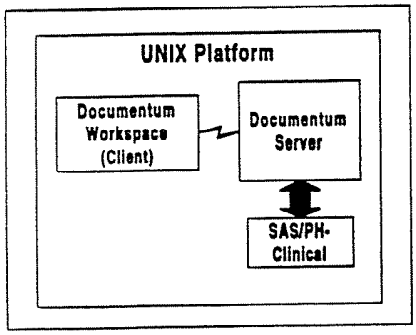

Figure 2

In Figure 2, all software components are located on the UNIX host. In this situation, there is no cross-platform communication needed but unlike the previous configuration, cross-product communication occurs between the Documentum Server and SAS/PH-Clinical software. The reason for this is outlined in Figure 3 where the Documentum Workspace is located on the PC host and SAS/PH-Clinical is located on the UNIX host. Access to SAS/PH-Clinical is provided by an X-Server.

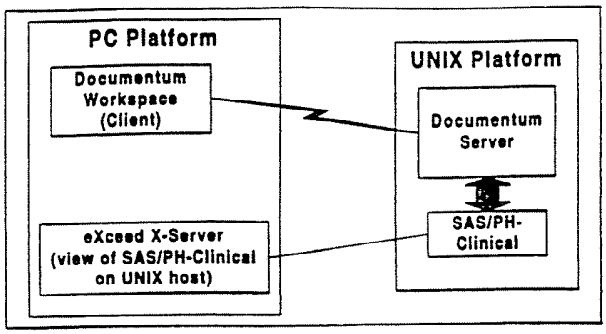

Figure 3

Documentum Objects

Before describing the process of registering SAS/PH-Clinical objects in Documentum software, it is necessary to give a brief explanation of how Documentum software actually stores information.

Documentum software stores data as objects; within each object there may be many *renditions* of the same object. These can be thought of as different views of the same information. One rendition is always identified as the *primary rendition* while the others are secondary but are available for use. This allows for bundling of information together into one package that can be more easily managed.

Taking the SAS/PH-Clinical output object as an example, the primary rendition would be the actual output while the log and source would be the secondary renditions of the object.

Phase 1: SAS/PH-Clinical to Documentum

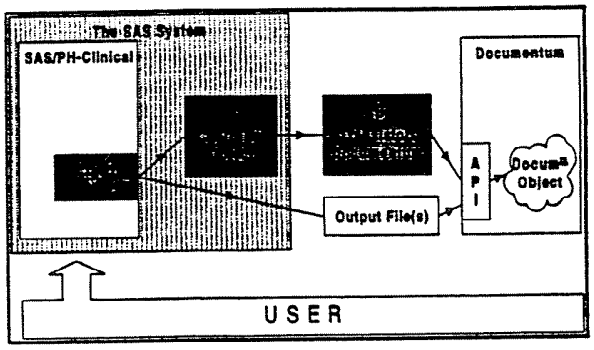

Figure 4

Figure 4 shows the components required to complete the first phase of the architecture.

Within SAS/PH-Clinical, a user will be able to select objects and specify that these should be exported (registered) to Documentum software. The actual number and type of renditions that are registered is object specific and shown in Table 1. However all objects will export a file called the SAS Clinical Pointer (or SCP file). The SCP file will be stored

with the Documentum object as a rendition and will contain information that describes a SAS/PH-Clinical environment. This description will include the current library; open studies; active query expressions and, in certain cases, the folder that is currently open.

Table 1

SAS/PH-Clinical Object	What will be registered?
Output	Output, log, source code and SCP
Variable Group	A text description of the variable group and SCP file
Expression	A text description of the expression and SCP file
Study	SCP file only
Folder	SCP file only
Library	SCP file only
Template	SCP file only

Once SAS/PH-Clinical software has created the temporary output files, the API Controller Object (ACO) is called via a series of SCL methods. It is the ACO's responsibility to supervise the transmission of information and commands to the non SAS component in the process.

Firstly, the ACO generates a *job* file from the information supplied by SAS/PH-Clinical software. This is an ASCII file that has a specific syntax designed for the purpose of communicating with the Xerox API Translator for Documentum. The choice of an ASCII file over a more sophisticated method of inter-system communication (e.g.: DDE, OLE Automation) was due to the simpler cross-platform support and the requirement that the solution be extensible. Once the job file has been written, the ACO makes a call to the Xerox API Translator that handles the communication with Documentum. When the Xerox API Translator has completed execution, the ACO will optionally read a *log* file and display the results to the user.

The job file is structured to have two parts: a short header and a body that is made up of the instructions for the individual SAS/PH-Clinical objects that are to be registered. An example of a job file is shown below:

```
USER: SASPXV
SEND PHCLINICAL
   SRC_ID=00100L0100AC
   OBJTYPE=OUTPUT
   NAME=List of AEs by Body System
   OUT=C:\SASWORK\1.OUT
   LOG=C:\SASWORK\1.LOG
   SRC=C:\SASWORK\1.SRC
   SCP=C:\SASWORK\1.SCP
SEND PHCLINICAL
   SRC_ID=0010BD0100FC
   OBJTYPE=VARGRP
   NAME=AE Variable Group
   TXT=C:\SASWORK\2.TXT
   SCP=C:\SASWORK\2.SCP
```

The SEND command identifies the source system and the processing that should occur for the subsequent parameters. SRC_ID is the original SAS/PH-Clinical object identifier on which the processing was requested. OBJTYPE identifies the SAS/PH-Clinical object type and is used to determine how the temporary files should be processed and NAME is the object's label. The subsequent parameters are dependent on the OBJTYPE field (see Table 1) and identify the location of the temporary files that SAS/PH-Clinical produced. As can be seen from the example, the default location for temporary files will be the SAS session's WORK library.

The Xerox API Translator is a stand-alone program that takes the location of the job file as a parameter, reads it and converts the instructions into calls to the Documentum API. When called, the Xerox API Translator will prompt the user for the target filing cabinet and folder within Documentum software where the SAS/PH-Clinical objects should be placed.
The Xerox API Translator will also write a log file which shows the success or otherwise of the requested actions:

```
DATE: 16JUL98
USER: SASPXV
JOB_FILE: /SASPXV/SASWORK/AT.JOB
INITIALIZATION_STATUS: OK
SEND PHCLINICAL 00100L0010AC 0
SEND PHCLINICAL 0010BD0010FC 99 COULD NOT OPEN..
```

In the above example, the final SEND command failed because the API Translator could not open one of the files.

The SAS/PH-Clinical object has now been registered within the Documentum database and can be used as part of a "virtual document" and subsequently published to paper or another electronic medium such as Adobe's PDF format.

Extensibility
The PharmaTechnology Center and Xerox recognize

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that there are other document management systems and applications that could leverage this interface. For this reason, the PH-DLI has been designed to be extensible. Xerox plans on working with the SAS Institute to offer additional interfaces based on customer requirements.

When the API Controller Object is instantiated, it reads an initialization file containing details of the API Translator programs that are supported by the PH-DLI at the individual site. The default initialization file has the following structure:

```
*******************************************
*  SAS API Controller Object, INI File    *
*                                         *
*  Created: 01JUL96                       *
*  By:      The SAS System (default)      *
*                                         *
*  Modifications:                         *
*  02MAR97 SASPXV - Pathname added for the *
*                   Documentum executable *
*                                         *
*******************************************

AT_Documentum: z:\public\at_doc.exe
```

Each non-comment line that begins with "AT_" identifies a target system and the location of an executable that will read the job file and communicate with the target system. For example, to add Microsoft Word as a target system the client site would need a translator program. This translator would be stored in a place that can be accessed by all users. The initialization file will be modified as follows:

```
*******************************************
*  SAS API Controller Object, INI File    *
*                                         *
*  Created: 01JUL96                       *
*  By:      The SAS System (default)      *
*                                         *
*  Modifications:                         *
*  02MAR97 SASPXV - Pathname added for the *
*                   Documentum executable *
*                                         *
*******************************************

AT_Documentum: z:\public\at_doc.exe
AT_Word97: z:\public\at_word97.exe
```

Microsoft Word97 would then be available as a valid destination from within SAS/PH-Clinical software.

Phase 2: Documentum to SAS/PH-Clinical

The second and more complex phase of the collaboration is to provide a link back from Documentum software to SAS/PH-Clinical (the acronym for this interface is DOC2PHC).

If the Documentum user chooses the SCP rendition of the SAS/PH-Clinical object, the rendition will be passed to the Xerox DOC2PHC interface. The first thing the interface must do is to establish if the SAS System is running and if so, whether SAS/PH-Clinical software is active. If this is not the case, both SAS and SAS/PH-Clinical should be started. Next it will pass in a command to prepare the SAS/PH-Clinical interface to accept the subsequent command(s). Finally, the interface will instruct SAS/PH-Clinical to re-generate the environment that is described in the SCP rendition of the Documentum object. This is shown in Figure 5. SAS/PH-Clinical will then open/close studies; apply/revoke query expressions; open/close library views and perform the operations required as necessary. Once this is complete, SAS/PH-Clinical will display the actual output object that was transferred to SAS/PH-Clinical. From this point, the user will have the ability to validate the results by re-reviewing the data and even performing other analyses on the same data.

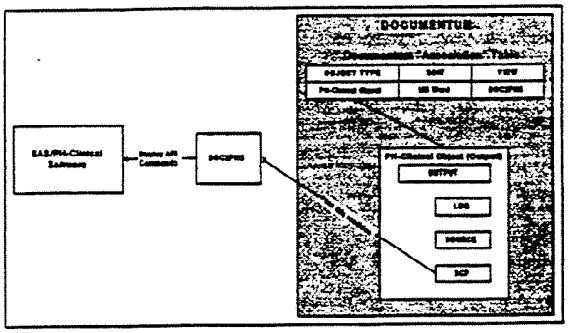

Figure 5

A similar procedure will also be true if the final version of the document has been published in an electronic form that supports hyperlinks. Examples of this are the PDF format and also HTML. A hyperlink that references the SCP rendition would start the Xerox DOC2PHC program which in turn, would manage the SAS/PH-Clinical session as described in the previous paragraph.

The current architecture of SAS/PH-Clinical software does not support the ability to reset the interface via a command passed from an external product. For this reason, Xerox and the PharmaTechnology Center have decided to release the functionality described here in a two-stage process. Future releases of
SAS/PH-Clinical will have the ability to interpret the commands passed in and act upon them.

SAS PharmaTechnology Center Process

The introduction of the PH-Document Linker Interface is only one of the initiatives currently underway. As a whole, the initiatives are known as the *SAS PharmaTechnology Process* and encompass a large proportion of the activities involved in the management and review of data from clinical trials. Figure 7 shows this in a graphical

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format. The goal is to streamline the movement of data from the entry systems through to the publication of findings and subsequent review by Regulatory Agencies.

The first major component after data entry and cleanup is the Clinical Data Warehouse. This performs several functions:

- Provide facilities to register the data and metadata surfaced by the data entry sources.
- Provide a framework for migrating this data entry, study oriented format into a standardized, consistent, "analysis friendly" format.
- Provide tools to help with the transformation of data.
- Schedule and automatically run the programs to perform the transformations.
- Provide automated documentation relating to the data sources, migration process and target data structures.
- Serve as a central repository for metadata used in the analysis phase.

The PH-Dictionary accesses the data and metadata managed by the Clinical Data Warehouse. Among other tasks, it is the PH-Dictionary's role to absolve the subsequent users of the information from knowing where the data is physically stored. This allows a reviewer to concentrate on the information rather than how it should be joined or merged.

The viewers that access the PH-Dictionary are specific and targeted towards a certain group of users. It is anticipated that the PharmaTechnology Center will provide a number of different viewers and that Clients will be able to build additional viewers should it be required.

The final component, the PH-Document Linker Interface allows the information and findings to be migrated to the Enterprise Document Management System. In addition, it will allow a reviewer in the Document Management System to traverse back into the review system and the source data.

Summary

As this paper has described, the ability to move the results of a clinical review into a Document Management System will have a positive effect on time required to prepare a clinical trial report. The ability to traverse back into the data review system from a document will benefit internal and external reviewers as they will require less knowledge of how to navigate through the review system, thus leaving more time to perform the actual review of the data.

The overall process, of which the PH-Document Linker is a component, will prove to be a valuable part in the preparation, synchronization and review of data from clinical trials and associated documents. It is the author's belief that the introduction of this process will greatly reduce data preparation time while providing the significant benefits of complete, automated process documentation and increased control over the flow of information.

About the Author

Peter Villiers is an Applications Developer within the PharmaTechnology Center of SAS Institute. His primary area of expertise is Information Warehousing and its application to the Clinical Data Environment. Peter can be reached via mail at:

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Cary, NC, 27513

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Fax: (919) 677 - 4444
Email: saspxv@unx.sas.com

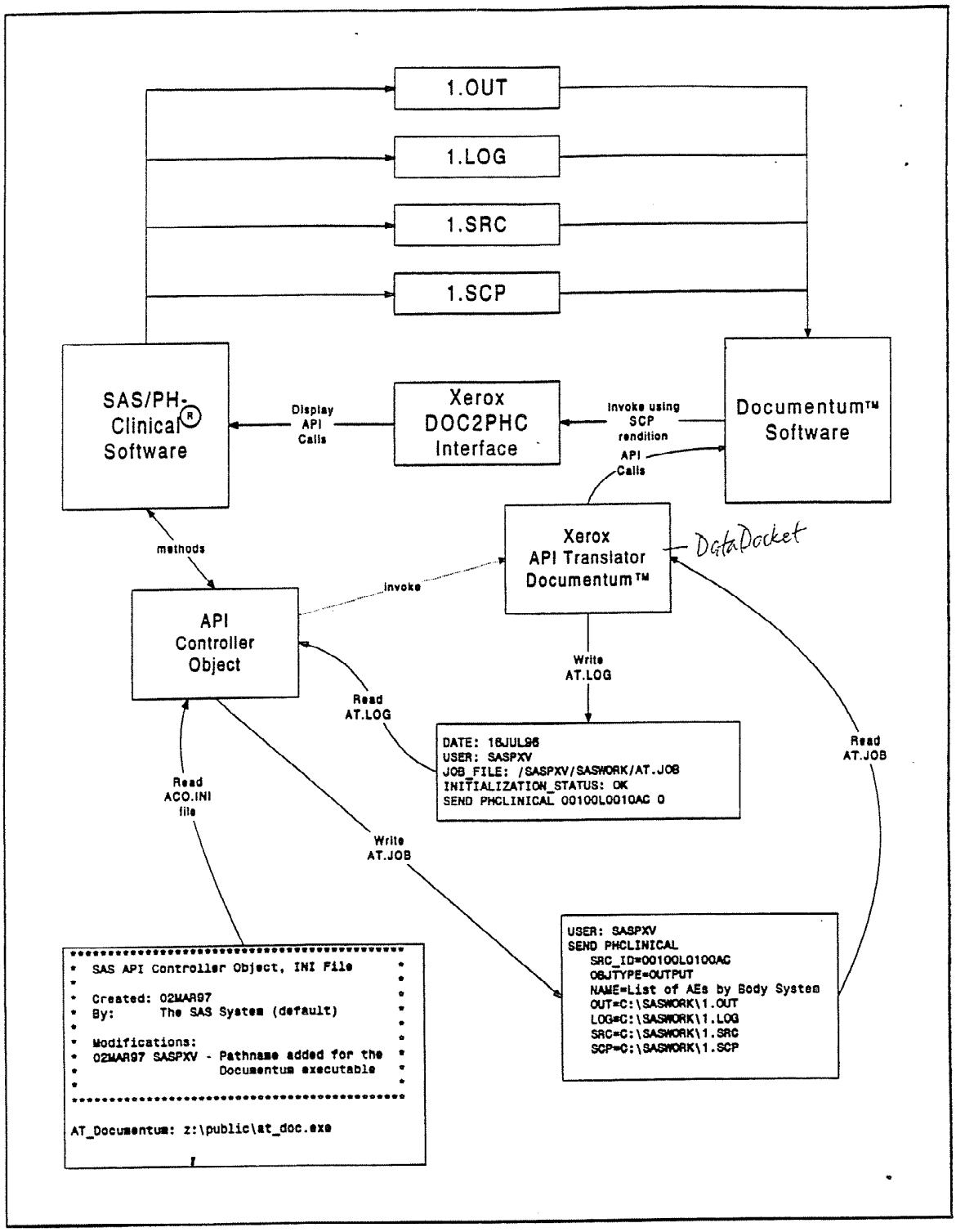

Figure 6: Overview of the PH-Document Linker Interface

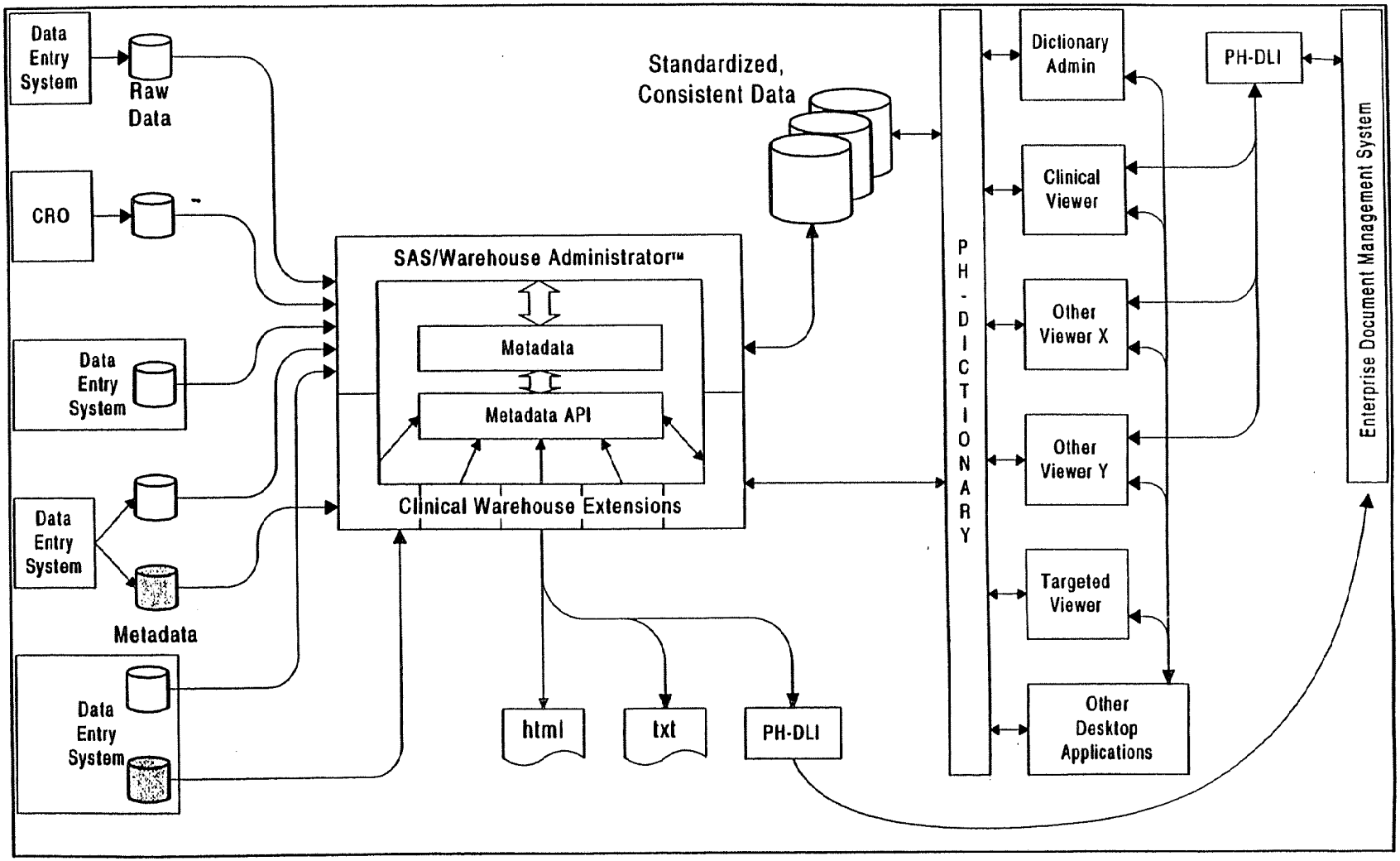

Figure 7: The PharmaTechnology Process

EXHIBIT 2

UNITED STATES DISTRICT COURT

for the

District of Massachusetts

XEROX CORPORATION
Plaintiff
v.
GOOGLE INC., et al.
Defendant

Civil Action No. 1:10-cv-00136-LPS

(If the action is pending in another district, state where: District of Delaware)

SUBPOENA TO PRODUCE DOCUMENTS, INFORMATION, OR OBJECTS OR TO PERMIT INSPECTION OF PREMISES IN A CIVIL ACTION

To: EMC Corporation
176 South Street, Hopkinton , MA 01748

☑ *Production:* **YOU ARE COMMANDED** to produce at the time, date, and place set forth below the following documents, electronically stored information, or objects, and permit their inspection, copying, testing, or sampling of the material: See Exhibit A

Place:	Date and Time:
Barry Sims 1000 Worcester Road Framingham, MA 01702	11/19/2010 5:00 pm

☐ *Inspection of Premises:* **YOU ARE COMMANDED** to permit entry onto the designated premises, land, or other property possessed or controlled by you at the time, date, and location set forth below, so that the requesting party may inspect, measure, survey, photograph, test, or sample the property or any designated object or operation on it.

Place:	Date and Time:

The provisions of Fed. R. Civ. P. 45(c), relating to your protection as a person subject to a subpoena, and Rule 45 (d) and (e), relating to your duty to respond to this subpoena and the potential consequences of not doing so, are attached.

Date: 10/27/2010

CLERK OF COURT

OR

Signature of Clerk or Deputy Clerk

Attorney's signature

The name, address, e-mail, and telephone number of the attorney representing *(name of party)* Defendants Yahoo! Inc. and Right Media LLC , who issues or requests this subpoena, are:

Jesse Dyer
Davis Polk & Wardwell LLP, 1600 El Camino Real, Menlo Park, CA 94025
tel: (650) 752-2000 fax: (650) 752-2111 email: jesse.dyer@davispolk.com

Civil Action No. 1:10-cv-00136-LPS

PROOF OF SERVICE

(This section should not be filed with the court unless required by Fed. R. Civ. P. 45.)

This subpoena for *(name of individual and title, if any)* _____

was received by me on *(date)* _____ .

❒ I served the subpoena by delivering a copy to the named person as follows: _____

_____

_____ on *(date)* _____ ; or

❒ I returned the subpoena unexecuted because: _____

_____ .

Unless the subpoena was issued on behalf of the United States, or one of its officers or agents, I have also tendered to the witness fees for one day's attendance, and the mileage allowed by law, in the amount of $ _____ .

My fees are $ _____ for travel and $ _____ for services, for a total of $ 0.00 .

I declare under penalty of perjury that this information is true.

Date: _____

_____
Server's signature

_____
Printed name and title

_____
Server's address

Additional information regarding attempted service, etc:

Federal Rule of Civil Procedure 45 (c), (d), and (e) (Effective 12/1/07)

(c) Protecting a Person Subject to a Subpoena.

(1) ***Avoiding Undue Burden or Expense; Sanctions.*** A party or attorney responsible for issuing and serving a subpoena must take reasonable steps to avoid imposing undue burden or expense on a person subject to the subpoena. The issuing court must enforce this duty and impose an appropriate sanction — which may include lost earnings and reasonable attorney's fees — on a party or attorney who fails to comply.

(2) ***Command to Produce Materials or Permit Inspection.***

(A) *Appearance Not Required.* A person commanded to produce documents, electronically stored information, or tangible things, or to permit the inspection of premises, need not appear in person at the place of production or inspection unless also commanded to appear for a deposition, hearing, or trial.

(B) *Objections.* A person commanded to produce documents or tangible things or to permit inspection may serve on the party or attorney designated in the subpoena a written objection to inspecting, copying, testing or sampling any or all of the materials or to inspecting the premises — or to producing electronically stored information in the form or forms requested. The objection must be served before the earlier of the time specified for compliance or 14 days after the subpoena is served. If an objection is made, the following rules apply:

(i) At any time, on notice to the commanded person, the serving party may move the issuing court for an order compelling production or inspection.

(ii) These acts may be required only as directed in the order, and the order must protect a person who is neither a party nor a party's officer from significant expense resulting from compliance.

(3) ***Quashing or Modifying a Subpoena.***

(A) *When Required.* On timely motion, the issuing court must quash or modify a subpoena that:

(i) fails to allow a reasonable time to comply;

(ii) requires a person who is neither a party nor a party's officer to travel more than 100 miles from where that person resides, is employed, or regularly transacts business in person — except that, subject to Rule 45(c)(3)(B)(iii), the person may be commanded to attend a trial by traveling from any such place within the state where the trial is held;

(iii) requires disclosure of privileged or other protected matter, if no exception or waiver applies; or

(iv) subjects a person to undue burden.

(B) *When Permitted.* To protect a person subject to or affected by a subpoena, the issuing court may, on motion, quash or modify the subpoena if it requires:

(i) disclosing a trade secret or other confidential research, development, or commercial information;

(ii) disclosing an unretained expert's opinion or information that does not describe specific occurrences in dispute and results from the expert's study that was not requested by a party; or

(iii) a person who is neither a party nor a party's officer to incur substantial expense to travel more than 100 miles to attend trial.

(C) *Specifying Conditions as an Alternative.* In the circumstances described in Rule 45(c)(3)(B), the court may, instead of quashing or modifying a subpoena, order appearance or production under specified conditions if the serving party:

(i) shows a substantial need for the testimony or material that cannot be otherwise met without undue hardship; and

(ii) ensures that the subpoenaed person will be reasonably compensated.

(d) Duties in Responding to a Subpoena.

(1) ***Producing Documents or Electronically Stored Information.*** These procedures apply to producing documents or electronically stored information:

(A) *Documents.* A person responding to a subpoena to produce documents must produce them as they are kept in the ordinary course of business or must organize and label them to correspond to the categories in the demand.

(B) *Form for Producing Electronically Stored Information Not Specified.* If a subpoena does not specify a form for producing electronically stored information, the person responding must produce it in a form or forms in which it is ordinarily maintained or in a reasonably usable form or forms.

(C) *Electronically Stored Information Produced in Only One Form.* The person responding need not produce the same electronically stored information in more than one form.

(D) *Inaccessible Electronically Stored Information.* The person responding need not provide discovery of electronically stored information from sources that the person identifies as not reasonably accessible because of undue burden or cost. On motion to compel discovery or for a protective order, the person responding must show that the information is not reasonably accessible because of undue burden or cost. If that showing is made, the court may nonetheless order discovery from such sources if the requesting party shows good cause, considering the limitations of Rule 26(b)(2)(C). The court may specify conditions for the discovery.

(2) ***Claiming Privilege or Protection.***

(A) *Information Withheld.* A person withholding subpoenaed information under a claim that it is privileged or subject to protection as trial-preparation material must:

(i) expressly make the claim; and

(ii) describe the nature of the withheld documents, communications, or tangible things in a manner that, without revealing information itself privileged or protected, will enable the parties to assess the claim.

(B) *Information Produced.* If information produced in response to a subpoena is subject to a claim of privilege or of protection as trial-preparation material, the person making the claim may notify any party that received the information of the claim and the basis for it. After being notified, a party must promptly return, sequester, or destroy the specified information and any copies it has; must not use or disclose the information until the claim is resolved; must take reasonable steps to retrieve the information if the party disclosed it before being notified; and may promptly present the information to the court under seal for a determination of the claim. The person who produced the information must preserve the information until the claim is resolved.

(e) Contempt. The issuing court may hold in contempt a person who, having been served, fails without adequate excuse to obey the subpoena. A nonparty's failure to obey must be excused if the subpoena purports to require the nonparty to attend or produce at a place outside the limits of Rule 45(c)(3)(A)(ii).

SCHEDULE A

DEFINITIONS AND INSTRUCTIONS

1. The term "document" is to be understood broadly to encompass "documents" and "electronically stored information" as those terms are used in rules 26 and 34 of the Federal Rules of Civil Procedure.

2. "You", "Your" and "EMC" mean EMC Corporation, its corporate affiliates, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

3. "Documentum" means Documentum, Inc., a wholly owned subsidiary of EMC, and any and all persons or entities acting on its behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

4. "SAS" means SAS Institute, Inc., its corporate affiliates, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

5. "Xerox" means Xerox Corporation, its corporate affiliates, KnowledgePath Software, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

6. "IPValue" means IPVALUE Management, Inc., its corporate affiliates, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

7. "Data and Document Synchronization Software" means software designed to facilitate the integration and synchronization of data and/or the results of analysis of data created, stored and/or otherwise managed in one system (including but not limited to SAS/PH-Clinical) with documents created, stored and/or otherwise managed by another

system (including but not limited to the Documentum Enterprise Document Management System).

8. "Xerox Data and Document Synchronization Software" means any and all Data and Document Synchronization Software designed and/or developed by SAS, Documentum and/or Xerox. "Xerox Data and Document Synchronization Software" includes, without limitation, the PH-Document Linker Interface, the Xerox API Translator for Documentum, the Xerox DOC2PHC program, and Xerox's DataDocket software. *See*, *e.g.*, Exhibit A.1 hereto (Peter Villiers, "New Architecture for Linkage of SAS/PH-Clinical Software with Electronic Document Management Systems," SAS Institute Inc. (June 19, 1997)).

9. The "'994 Patent" means U.S. Patent No. 6,236,994 and/or all related patents and patent applications, including, without limitation, the provisional patent application no. 60/062,933.

10. "The '994 named inventors" means the inventors who appear on the face of the '994 patent: Ronald M. Swartz, Jeffrey L. Winkler, Evelyn A. Janos, Igor Markidan and Qun Dou.

11. The "'979 Patent" means U.S. Patent No. 6,778,979 and/or all related patents and patent applications, including, without limitation, the provisional patent application no. 60/311,857.

12. The "Patents-in-Suit" means the '994 Patent and the '979 Patent, individually and collectively.

13. With respect to any document withheld on the basis of privilege, you are instructed to log said document in conformance with the requirements of the Federal Rules of Civil Procedure and applicable case law.

CATEGORIES OF DOCUMENTS AND THINGS

CATEGORY NO. 1:

All documents and things that refer or relate to the Xerox Data and Document Synchronization Software. This category includes but is not limited to

- documents constituting or reflecting communications between and among Documentum, SAS, Xerox (including its KnowledgePath Software division), and/or any of the '994 named inventors about Data and Document Synchronization Software and/or any proposed or actual development of such software;
- documents showing Documentum's role in conceiving, designing and/or implementing the Xerox Data and Document Synchronization Software and/or any components thereof; and
- agreements, contracts, memoranda of understanding, and/or letters of intent between Documentum and SAS and/or Xerox (including its KnowledgePath Software division) relating to Data and Document Synchronization Software. *See, e.g.*, Exhibit A.2 hereto (Press Release, "Xerox and SAS Institute to Synchronize Corporate Knowledge" (May 7, 1997)).

CATEGORY NO. 2:

Documents sufficient to show the technical operation of any and all Data and Document Synchronization Software that was developed by EMC and/or Documentum and, prior to October 21, 1997, was described in a printed publication or invented, known, in public use, or on sale in the United States, including, without limitation, such software that operated in conjunction with the Documentum Enterprise Document Management System.

CATEGORY NO. 3:

Documents sufficient to identify any Data and Document Synchronization Software that is known to EMC and/or Documentum and, prior to October 21, 1997, was described in a printed publication or invented, known, in public use, or on sale in the

United States, including, without limitation, such software that operated in conjunction with the Documentum Enterprise Document Management System.

CATEGORY NO. 4:

Documents sufficient to identify anything identified by you or anyone else as prior art to the Patents-in-Suit.

CATEGORY NO. 5:

All documents and things that refer or relate to the Patents-in-Suit, including, without limitation

- communications or agreements relating to Documentum's contributions to any alleged inventions described in the '994 Patent and/or EMC and/or Documentum's interests in the '994 Patent;
- communications with Xerox and/or IPValue that refer or relate to the Patents-in-Suit, including those relating to any alleged infringement by EMC of the Patents-in-Suit; and
- agreements with Xerox and/or IPValue relating to the Patents-in-Suit, including agreements to license the Patents-in-Suit.

CATEGORY NO. 6:

All documents and things that refer or relate to this litigation.

Exhibit A.1

New Architecture for Linkage of SAS/PH-Clinical® Software with Electronic Document Management Systems

Peter Villiers, SAS Institute Inc., Cary, North Carolina

Abstract

The purpose of this paper is to provide the reader with an overview of an interface that is being developed as a result of a collaborative effort between SAS Institute and Xerox. The interface will enable SAS® PharmaTechnology Center products to interact with document management systems. This is referred to as the PH-Document Linker Interface or PH-DLI and is part of a larger, comprehensive architecture referred to as the SAS PharmaTechnology Process. The paper will cover the following major areas:

- Business case for the interface
- Design goals which are to be achieved
- Host computing environment impact
- Architecture components involved
- The overall PharmaTechnology Center Process

The paper will not cover lower level details of the code that has been written.

Introduction

One of the many challenges in the pharmaceutical industry is to manage and maintain the huge volume of documentation that is generated during the lengthy and complex process of developing a new drug. The research and development process is an iterative cycle of safety and efficacy testing. The collaborative efforts required at each phase of the process must be carefully documented. In order to submit a new drug for approval, the entire development process must be available for the scrutiny of the regulatory agencies involved in the approval. This can result in a submission document that is hundreds of thousands of pages in length and whose structure is strictly defined by the approving agency. If approval is sought in the international arena, the documentation must be restructured to meet the requirements of each regulatory body from which approval is sought. Any process and technology that streamlines the preparation and production of the submission documentation is therefore invaluable in the pharmaceutical environment.

For this reason, and in response to customer requests, coinciding with Release 2.10 of SAS/PH-Clinical, the SAS PharmaTechnology Center and Xerox plan to release an interface between SAS/PH-Clinical® software and the Documentum™ Enterprise Document Management System (EDMS). The Documentum EDMS is used by many of the major pharmaceutical firms that are SAS/PH-Clinical users as well. SAS/PH-Clinical software is used to review clinical trial data and generate reports that are used by pharmaceutical companies. This information represents a significant portion of the knowledge that is gained during the drug development process. Just as critical to the process is the information generated by various "authors" who review and work with the data.

Working with Xerox, the SAS PharmaTechnology Center will help automate the synchronization of all the information used during drug development, thus enabling pharmaceutical users to streamline their processes and make better, faster business decisions.

Goal, User Benefits and Design Objectives

The initial goal of the collaboration between SAS Institute and Xerox is to provide a method to synchronize the output from a SAS/PH-Clinical template report with a document in an EDMS. The subsequent goal of the collaboration is to enable <u>any</u> object from SAS/PH-Clinical to be exported to an EDMS and to provide a method for a user in the EDMS to start SAS/PH-Clinical software and automatically navigate to the original (source) object. It is anticipated that this functionality will also be available for other word processors and file formats (e.g., PDF and HTML).

The benefits of this functionality to a reviewer are enormous. The ability to view a PDF file and automatically start the review system; navigate to the source object and subsequently examine the underlying data will lead to less time learning the review system and more time performing the review process.

For technical reasons that will be outlined later, the functionality described will be provided via a two-stage development approach in line with the goals outlined above. The primary reason for this is that the PharmaTechnology Center and Xerox would like to provide realizable benefits to SAS/PH-Clinical Customer sites using Documentum within a

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reasonable time frame.

The Impact of Hardware Configuration

The client-server configuration of Documentum and multi-vendor architecture support of SAS/PH-Clinical software introduces a greater level of diversity into the solution that has been developed. There are three overall scenarios that will be supported by the software:

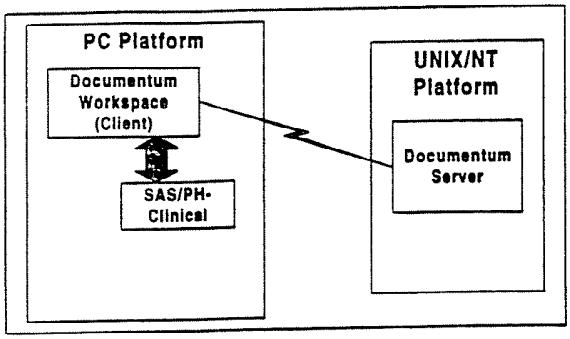

Figure 1

In Figure 1, SAS/PH-Clinical and the Documentum Workspace are run on the PC platform. Cross-product communication is carried out on the PC (indicated with a shaded arrow) and the standard process contained in Documentum software will carry out cross-platform support.

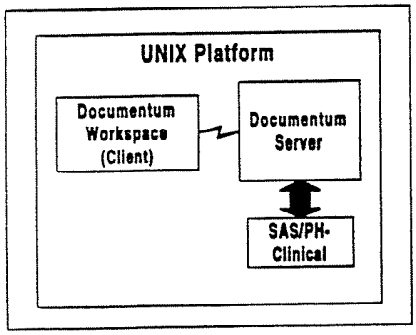

Figure 2

In Figure 2, all software components are located on the UNIX host. In this situation, there is no cross-platform communication needed but unlike the previous configuration, cross-product communication occurs between the Documentum Server and SAS/PH-Clinical software. The reason for this is outlined in Figure 3 where the Documentum Workspace is located on the PC host and SAS/PH-Clinical is located on the UNIX host. Access to SAS/PH-Clinical is provided by an X-Server.

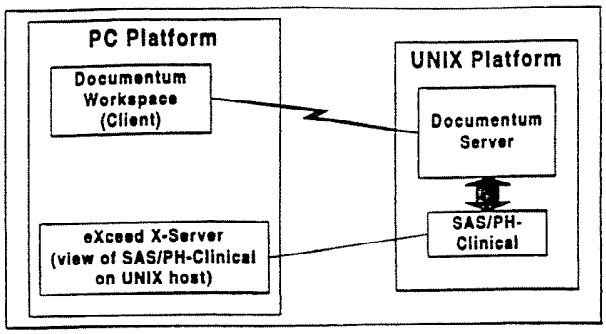

Figure 3

Documentum Objects

Before describing the process of registering SAS/PH-Clinical objects in Documentum software, it is necessary to give a brief explanation of how Documentum software actually stores information.

Documentum software stores data as objects; within each object there may be many *renditions* of the same object. These can be thought of as different views of the same information. One rendition is always identified as the *primary rendition* while the others are secondary but are available for use. This allows for bundling of information together into one package that can be more easily managed.

Taking the SAS/PH-Clinical output object as an example, the primary rendition would be the actual output while the log and source would be the secondary renditions of the object.

Phase 1: SAS/PH-Clinical to Documentum

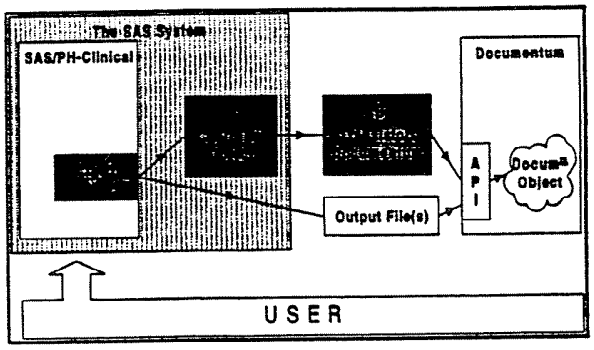

Figure 4

Figure 4 shows the components required to complete the first phase of the architecture.

Within SAS/PH-Clinical, a user will be able to select objects and specify that these should be exported (registered) to Documentum software. The actual number and type of renditions that are registered is object specific and shown in Table 1. However all objects will export a file called the SAS Clinical Pointer (or SCP file). The SCP file will be stored

with the Documentum object as a rendition and will contain information that describes a SAS/PH-Clinical environment. This description will include the current library; open studies; active query expressions and, in certain cases, the folder that is currently open.

Table 1

SAS/PH-Clinical Object	What will be registered?
Output	Output, log, source code and SCP
Variable Group	A text description of the variable group and SCP file
Expression	A text description of the expression and SCP file
Study	SCP file only
Folder	SCP file only
Library	SCP file only
Template	SCP file only

Once SAS/PH-Clinical software has created the temporary output files, the API Controller Object (ACO) is called via a series of SCL methods. It is the ACO's responsibility to supervise the transmission of information and commands to the non SAS component in the process.

Firstly, the ACO generates a *job* file from the information supplied by SAS/PH-Clinical software. This is an ASCII file that has a specific syntax designed for the purpose of communicating with the Xerox API Translator for Documentum. The choice of an ASCII file over a more sophisticated method of inter-system communication (e.g.: DDE, OLE Automation) was due to the simpler cross-platform support and the requirement that the solution be extensible. Once the job file has been written, the ACO makes a call to the Xerox API Translator that handles the communication with Documentum. When the Xerox API Translator has completed execution, the ACO will optionally read a *log* file and display the results to the user.

The job file is structured to have two parts: a short header and a body that is made up of the instructions for the individual SAS/PH-Clinical objects that are to be registered. An example of a job file is shown below:

```
USER: SASPXV
SEND PHCLINICAL
   SRC_ID=00100L0100AC
   OBJTYPE=OUTPUT
   NAME=List of AEs by Body System
   OUT=C:\SASWORK\1.OUT
   LOG=C:\SASWORK\1.LOG
   SRC=C:\SASWORK\1.SRC
   SCP=C:\SASWORK\1.SCP
SEND PHCLINICAL
   SRC_ID=0010BD0100FC
   OBJTYPE=VARGRP
   NAME=AE Variable Group
   TXT=C:\SASWORK\2.TXT
   SCP=C:\SASWORK\2.SCP
```

The SEND command identifies the source system and the processing that should occur for the subsequent parameters. SRC_ID is the original SAS/PH-Clinical object identifier on which the processing was requested. OBJTYPE identifies the SAS/PH-Clinical object type and is used to determine how the temporary files should be processed and NAME is the object's label. The subsequent parameters are dependent on the OBJTYPE field (see Table 1) and identify the location of the temporary files that SAS/PH-Clinical produced. As can be seen from the example, the default location for temporary files will be the SAS session's WORK library.

The Xerox API Translator is a stand-alone program that takes the location of the job file as a parameter, reads it and converts the instructions into calls to the Documentum API. When called, the Xerox API Translator will prompt the user for the target filing cabinet and folder within Documentum software where the SAS/PH-Clinical objects should be placed.
The Xerox API Translator will also write a log file which shows the success or otherwise of the requested actions:

```
DATE: 16JUL98
USER: SASPXV
JOB_FILE: /SASPXV/SASWORK/AT.JOB
INITIALIZATION_STATUS: OK
SEND PHCLINICAL 00100L0010AC 0
SEND PHCLINICAL 0010BD0010FC 99 COULD NOT OPEN..
```

In the above example, the final SEND command failed because the API Translator could not open one of the files.

The SAS/PH-Clinical object has now been registered within the Documentum database and can be used as part of a "virtual document" and subsequently published to paper or another electronic medium such as Adobe's PDF format.

Extensibility
The PharmaTechnology Center and Xerox recognize

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that there are other document management systems and applications that could leverage this interface. For this reason, the PH-DLI has been designed to be extensible. Xerox plans on working with the SAS Institute to offer additional interfaces based on customer requirements.

When the API Controller Object is instantiated, it reads an initialization file containing details of the API Translator programs that are supported by the PH-DLI at the individual site. The default initialization file has the following structure:

```
*******************************************
*  SAS API Controller Object, INI File    *
*                                         *
*  Created: 01JUL96                       *
*  By:      The SAS System (default)      *
*                                         *
*  Modifications:                         *
*  02MAR97 SASPXV - Pathname added for the *
*                   Documentum executable *
*                                         *
*******************************************

AT_Documentum: z:\public\at_doc.exe
```

Each non-comment line that begins with "AT_" identifies a target system and the location of an executable that will read the job file and communicate with the target system. For example, to add Microsoft Word as a target system the client site would need a translator program. This translator would be stored in a place that can be accessed by all users. The initialization file will be modified as follows:

```
*******************************************
*  SAS API Controller Object, INI File    *
*                                         *
*  Created: 01JUL96                       *
*  By:      The SAS System (default)      *
*                                         *
*  Modifications:                         *
*  02MAR97 SASPXV - Pathname added for the *
*                   Documentum executable *
*                                         *
*******************************************

AT_Documentum: z:\public\at_doc.exe
AT_Word97: z:\public\at_word97.exe
```

Microsoft Word97 would then be available as a valid destination from within SAS/PH-Clinical software.

Phase 2: Documentum to SAS/PH-Clinical

The second and more complex phase of the collaboration is to provide a link back from Documentum software to SAS/PH-Clinical (the acronym for this interface is DOC2PHC).

If the Documentum user chooses the SCP rendition of the SAS/PH-Clinical object, the rendition will be passed to the Xerox DOC2PHC interface. The first thing the interface must do is to establish if the SAS System is running and if so, whether SAS/PH-Clinical software is active. If this is not the case, both SAS and SAS/PH-Clinical should be started. Next it will pass in a command to prepare the SAS/PH-Clinical interface to accept the subsequent command(s). Finally, the interface will instruct SAS/PH-Clinical to re-generate the environment that is described in the SCP rendition of the Documentum object. This is shown in Figure 5. SAS/PH-Clinical will then open/close studies; apply/revoke query expressions; open/close library views and perform the operations required as necessary. Once this is complete, SAS/PH-Clinical will display the actual output object that was transferred to SAS/PH-Clinical. From this point, the user will have the ability to validate the results by re-reviewing the data and even performing other analyses on the same data.

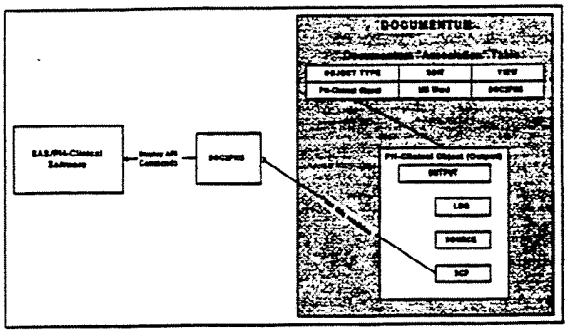

Figure 5

A similar procedure will also be true if the final version of the document has been published in an electronic form that supports hyperlinks. Examples of this are the PDF format and also HTML. A hyperlink that references the SCP rendition would start the Xerox DOC2PHC program which in turn, would manage the SAS/PH-Clinical session as described in the previous paragraph.

The current architecture of SAS/PH-Clinical software does not support the ability to reset the interface via a command passed from an external product. For this reason, Xerox and the PharmaTechnology Center have decided to release the functionality described here in a two-stage process. Future releases of
SAS/PH-Clinical will have the ability to interpret the commands passed in and act upon them.

SAS PharmaTechnology Center Process

The introduction of the PH-Document Linker Interface is only one of the initiatives currently underway. As a whole, the initiatives are known as the *SAS PharmaTechnology Process* and encompass a large proportion of the activities involved in the management and review of data from clinical trials. Figure 7 shows this in a graphical

LG

format. The goal is to streamline the movement of data from the entry systems through to the publication of findings and subsequent review by Regulatory Agencies.

The first major component after data entry and cleanup is the Clinical Data Warehouse. This performs several functions:

- Provide facilities to register the data and metadata surfaced by the data entry sources.
- Provide a framework for migrating this data entry, study oriented format into a standardized, consistent, "analysis friendly" format.
- Provide tools to help with the transformation of data.
- Schedule and automatically run the programs to perform the transformations.
- Provide automated documentation relating to the data sources, migration process and target data structures.
- Serve as a central repository for metadata used in the analysis phase.

The PH-Dictionary accesses the data and metadata managed by the Clinical Data Warehouse. Among other tasks, it is the PH-Dictionary's role to absolve the subsequent users of the information from knowing where the data is physically stored. This allows a reviewer to concentrate on the information rather than how it should be joined or merged.

The viewers that access the PH-Dictionary are specific and targeted towards a certain group of users. It is anticipated that the PharmaTechnology Center will provide a number of different viewers and that Clients will be able to build additional viewers should it be required.

The final component, the PH-Document Linker Interface allows the information and findings to be migrated to the Enterprise Document Management System. In addition, it will allow a reviewer in the Document Management System to traverse back into the review system and the source data.

Summary

As this paper has described, the ability to move the results of a clinical review into a Document Management System will have a positive effect on time required to prepare a clinical trial report. The ability to traverse back into the data review system from a document will benefit internal and external reviewers as they will require less knowledge of how to navigate through the review system, thus leaving more time to perform the actual review of the data.

The overall process, of which the PH-Document Linker is a component, will prove to be a valuable part in the preparation, synchronization and review of data from clinical trials and associated documents. It is the author's belief that the introduction of this process will greatly reduce data preparation time while providing the significant benefits of complete, automated process documentation and increased control over the flow of information.

About the Author

Peter Villiers is an Applications Developer within the PharmaTechnology Center of SAS Institute. His primary area of expertise is Information Warehousing and its application to the Clinical Data Environment. Peter can be reached via mail at:

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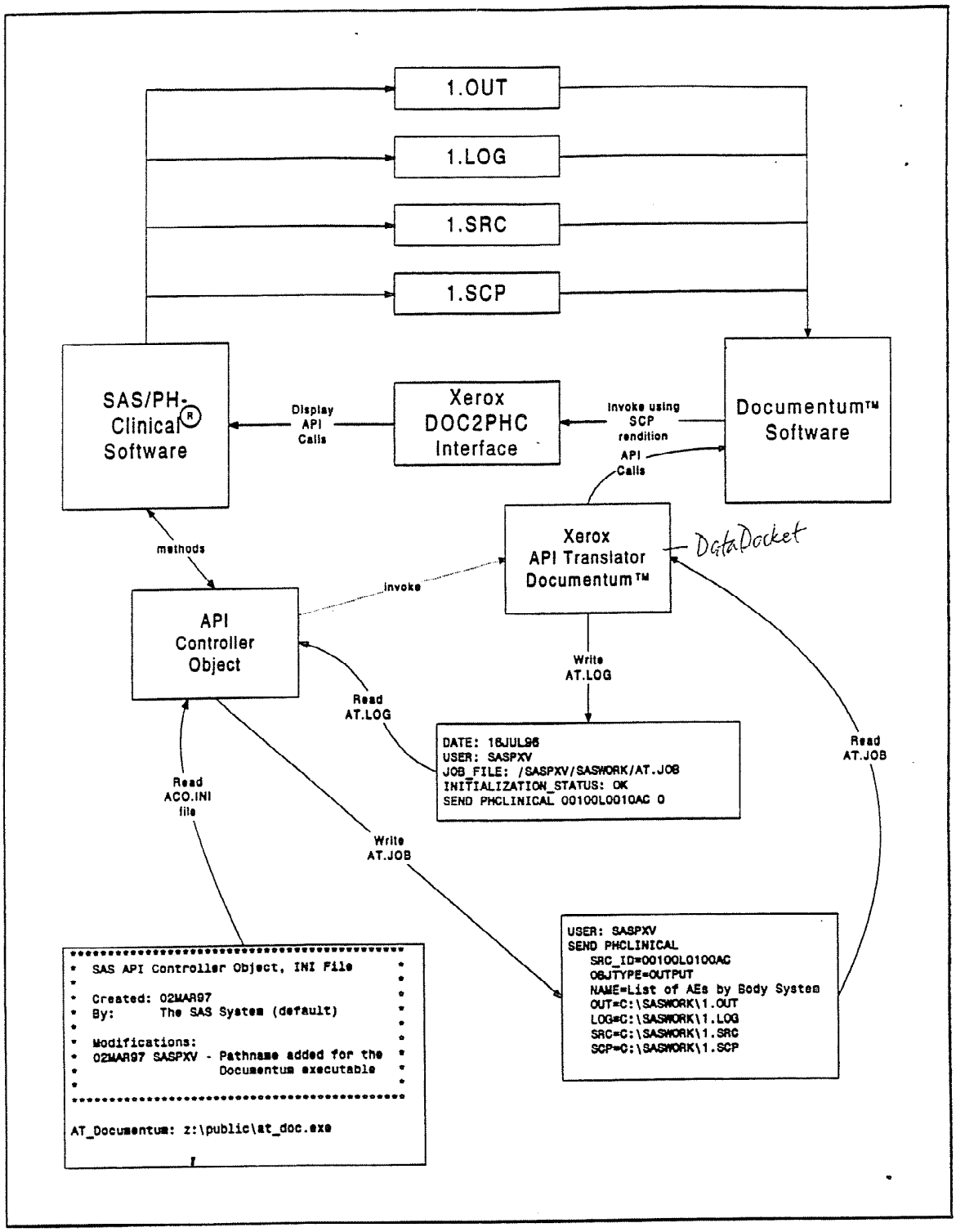

Figure 6: Overview of the PH-Document Linker Interface

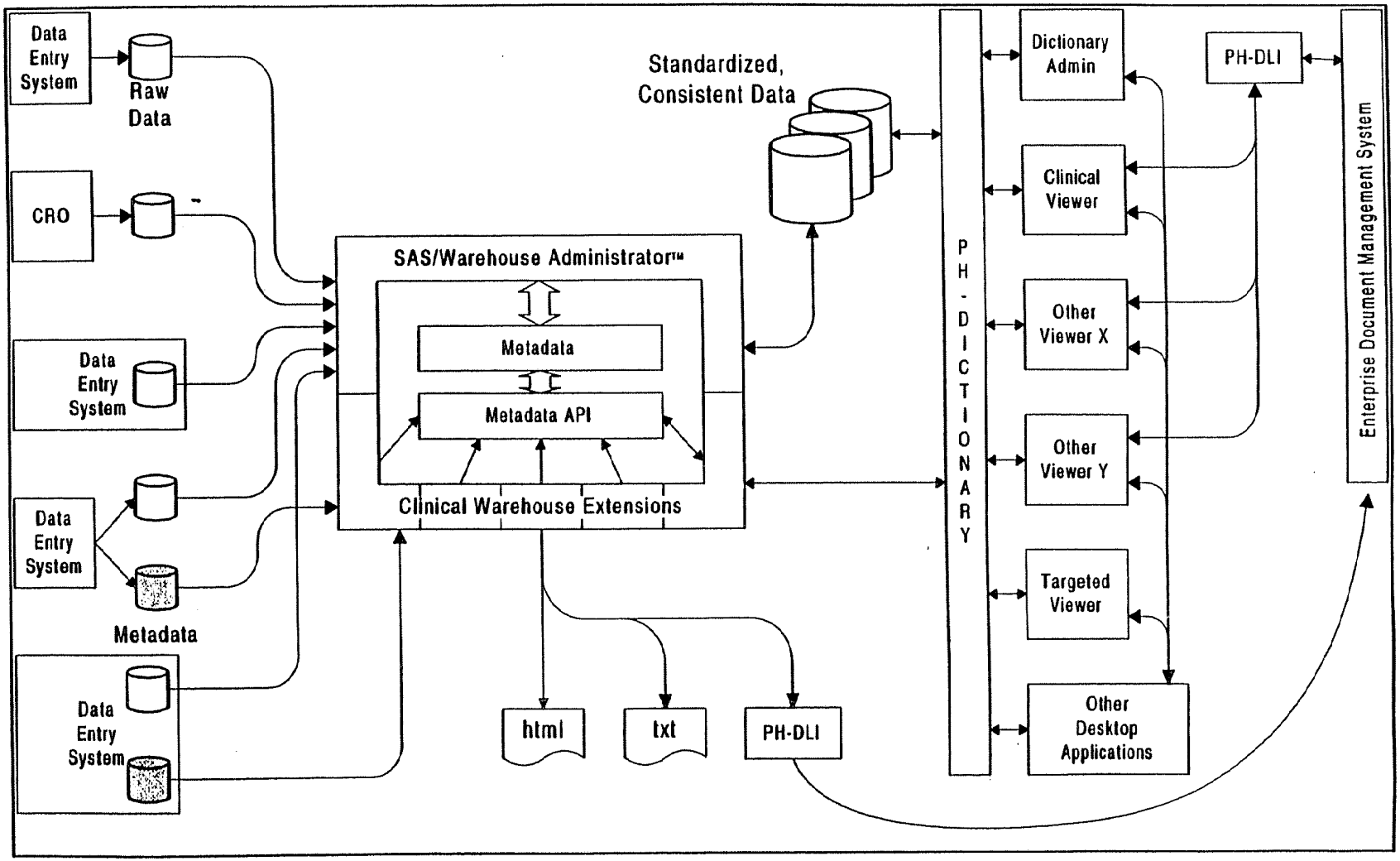

Figure 7: The PharmaTechnology Process

Exhibit A.2

Xerox and SAS Institute to Synchronize Corporate Knowledge

Better, Faster Business Decisions for Companies Using Documentum™ and SAS® Software

STAMFORD, Conn., May 7, 1997 -- Xerox Professional Document Services (XPDS) and the SAS Institute today announced plans to form a strategic alliance to collaborate on development and delivery of software solutions that provide synchronization between SAS® applications and enterprise wide document management systems (EDMS).

The initial efforts of the collaboration have been focused on the development of an interface between the Documentum™ EDMS and SAS/PH-Clinical® software. The first supported release will create an automated information flow between these products. Early customer engagements are planned for later this year. A beta version will be available for implementation through XPDS.

"This is a significant first step in helping our clients improve their decision making across the enterprise by ensuring synchronization between all critical corporate information sources," stated Tony Holden, vice president and general manager of the Xerox Professional Document Services (XPDS) worldwide consulting organization. "Our unique understanding of document management, coupled with SAS Institute's expertise in data warehousing and decision support software, will deliver added value to our clients."

XPDS
XEROX PROFESSIONAL DOCUMENT SERVICES

"SAS software is used by 90% of the top pharmaceutical companies worldwide for data analysis, review and warehousing of clinical trials data," said Jim Goodnight, SAS Institute's president and co-founder. "We are pleased to be collaborating with Xerox in this effort to improve the efficiency and quality of the clinical research cycle."

Xerox and SAS Institute are also working on plans to develop solutions for other industries, including utilities and financial services, to provide automation and synchronization of information vital to companies in these markets.

About The Document Company, Xerox

Xerox (http://www.xerox.com) is a leader in the global document processing market, with 1996 revenues of $17.4 billion. The Xerox Professional Document Services -- XPDS -- (http://www.xpds.com) organization is part of the company's Document Services Group (DSG). XPDS provides a variety of services centered around the digital document. These services focus on the links between business processes and the documents that support them, and they include a wide range of consultancy offerings, solutions design, project management, and systems integration and implementation.

About SAS Institute

Now in its 21st year, SAS Institute (http://www.sas.com) is one of the top ten largest independent software vendors in the world, and is the largest privately held software company. The Institute's success is due in part to its continued investment in R&D - nearly $209 million in 1996, and more than $1 billion since its formation. This commitment to customer solution-oriented R&D has resulted in the Institute being awarded the reader-selected 1996 and 1997 Datamation magazine Data Warehousing Product of the Year, the 1996 DM Review magazine World Class Solutions for Data Warehousing award (for Outstanding Service & Decision Support tools), Data Warehouse World's Excellence in Business Information award (customer service), and other industry honors.

About Documentum

DOCUMENTUM (http://www.documentum.com) develops, markets and supports a family of enterprise document management products that improve the effectiveness of the organization based on a company's business-critical information and proven processes. Headquartered in Pleasanton, California, DOCUMENTUM sells its products and services through a direct sales force, systems integrators, and affiliated distributors in North America, Europe, Australia and Japan. DOCUMENTUM is the recognized leader in the document management market, with worldwide customers in the pharmaceutical, process manufacturing, computers/electronics, and finance industries.

Contacts Xerox Corporation: Judd Everhart -- (203) 968 3572 or
Ron Swartz -- rswartz@sprynet.com
In Europe -- David Jones + (44) 1628 89 3724

SAS Institute: Beverly Brown or Pamela Meek -- (919) 677-8000

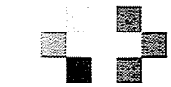

EXHIBIT 3

UNITED STATES DISTRICT COURT

for the

Eastern District of North Carolina

XEROX CORPORATION
Plaintiff
v.
GOOGLE INC., et al.
Defendant

Civil Action No. 1:10-cv-00136-LPS

(If the action is pending in another district, state where: District of Delaware)

SUBPOENA TO PRODUCE DOCUMENTS, INFORMATION, OR OBJECTS OR TO PERMIT INSPECTION OF PREMISES IN A CIVIL ACTION

To: SAS Institute Inc.
100 SAS Campus Drive, Cary, NC 27513-2414

☑ *Production:* **YOU ARE COMMANDED** to produce at the time, date, and place set forth below the following documents, electronically stored information, or objects, and permit their inspection, copying, testing, or sampling of the material: See Exhibit A

Place:	Date and Time:
Paralegal Service of North Carolina 120 Penmarc Drive, Suite 118 Raleigh, NC 27603	11/19/2010 5:00 pm

☐ *Inspection of Premises:* **YOU ARE COMMANDED** to permit entry onto the designated premises, land, or other property possessed or controlled by you at the time, date, and location set forth below, so that the requesting party may inspect, measure, survey, photograph, test, or sample the property or any designated object or operation on it.

Place:	Date and Time:

The provisions of Fed. R. Civ. P. 45(c), relating to your protection as a person subject to a subpoena, and Rule 45 (d) and (e), relating to your duty to respond to this subpoena and the potential consequences of not doing so, are attached.

Date: 10/27/2010

CLERK OF COURT

OR

Signature of Clerk or Deputy Clerk

Attorney's signature

The name, address, e-mail, and telephone number of the attorney representing *(name of party)* Defendants Yahoo! Inc. and Right Media LLC, who issues or requests this subpoena, are:

Jesse Dyer
Davis Polk & Wardwell LLP, 1600 El Camino Real, Menlo Park, CA 94025
tel: (650) 752-2000 fax: (650) 752-2111 email: jesse.dyer@davispolk.com

Civil Action No. 1:10-cv-00136-LPS

PROOF OF SERVICE

(This section should not be filed with the court unless required by Fed. R. Civ. P. 45.)

This subpoena for *(name of individual and title, if any)* _____

was received by me on *(date)* _____ .

❒ I served the subpoena by delivering a copy to the named person as follows: _____

_____

_____ on *(date)* _____ ; or

❒ I returned the subpoena unexecuted because: _____

_____ .

Unless the subpoena was issued on behalf of the United States, or one of its officers or agents, I have also tendered to the witness fees for one day's attendance, and the mileage allowed by law, in the amount of $ _____ .

My fees are $ _____ for travel and $ _____ for services, for a total of $ 0.00 .

I declare under penalty of perjury that this information is true.

Date: _____

_____
Server's signature

_____
Printed name and title

_____
Server's address

Additional information regarding attempted service, etc:

Federal Rule of Civil Procedure 45 (c), (d), and (e) (Effective 12/1/07)

(c) Protecting a Person Subject to a Subpoena.

(1) ***Avoiding Undue Burden or Expense; Sanctions.*** A party or attorney responsible for issuing and serving a subpoena must take reasonable steps to avoid imposing undue burden or expense on a person subject to the subpoena. The issuing court must enforce this duty and impose an appropriate sanction — which may include lost earnings and reasonable attorney's fees — on a party or attorney who fails to comply.

(2) ***Command to Produce Materials or Permit Inspection.***

(A) *Appearance Not Required.* A person commanded to produce documents, electronically stored information, or tangible things, or to permit the inspection of premises, need not appear in person at the place of production or inspection unless also commanded to appear for a deposition, hearing, or trial.

(B) *Objections.* A person commanded to produce documents or tangible things or to permit inspection may serve on the party or attorney designated in the subpoena a written objection to inspecting, copying, testing or sampling any or all of the materials or to inspecting the premises — or to producing electronically stored information in the form or forms requested. The objection must be served before the earlier of the time specified for compliance or 14 days after the subpoena is served. If an objection is made, the following rules apply:

(i) At any time, on notice to the commanded person, the serving party may move the issuing court for an order compelling production or inspection.

(ii) These acts may be required only as directed in the order, and the order must protect a person who is neither a party nor a party's officer from significant expense resulting from compliance.

(3) ***Quashing or Modifying a Subpoena.***

(A) *When Required.* On timely motion, the issuing court must quash or modify a subpoena that:

(i) fails to allow a reasonable time to comply;

(ii) requires a person who is neither a party nor a party's officer to travel more than 100 miles from where that person resides, is employed, or regularly transacts business in person — except that, subject to Rule 45(c)(3)(B)(iii), the person may be commanded to attend a trial by traveling from any such place within the state where the trial is held;

(iii) requires disclosure of privileged or other protected matter, if no exception or waiver applies; or

(iv) subjects a person to undue burden.

(B) *When Permitted.* To protect a person subject to or affected by a subpoena, the issuing court may, on motion, quash or modify the subpoena if it requires:

(i) disclosing a trade secret or other confidential research, development, or commercial information;

(ii) disclosing an unretained expert's opinion or information that does not describe specific occurrences in dispute and results from the expert's study that was not requested by a party; or

(iii) a person who is neither a party nor a party's officer to incur substantial expense to travel more than 100 miles to attend trial.

(C) *Specifying Conditions as an Alternative.* In the circumstances described in Rule 45(c)(3)(B), the court may, instead of quashing or modifying a subpoena, order appearance or production under specified conditions if the serving party:

(i) shows a substantial need for the testimony or material that cannot be otherwise met without undue hardship; and

(ii) ensures that the subpoenaed person will be reasonably compensated.

(d) Duties in Responding to a Subpoena.

(1) ***Producing Documents or Electronically Stored Information.*** These procedures apply to producing documents or electronically stored information:

(A) *Documents.* A person responding to a subpoena to produce documents must produce them as they are kept in the ordinary course of business or must organize and label them to correspond to the categories in the demand.

(B) *Form for Producing Electronically Stored Information Not Specified.* If a subpoena does not specify a form for producing electronically stored information, the person responding must produce it in a form or forms in which it is ordinarily maintained or in a reasonably usable form or forms.

(C) *Electronically Stored Information Produced in Only One Form.* The person responding need not produce the same electronically stored information in more than one form.

(D) *Inaccessible Electronically Stored Information.* The person responding need not provide discovery of electronically stored information from sources that the person identifies as not reasonably accessible because of undue burden or cost. On motion to compel discovery or for a protective order, the person responding must show that the information is not reasonably accessible because of undue burden or cost. If that showing is made, the court may nonetheless order discovery from such sources if the requesting party shows good cause, considering the limitations of Rule 26(b)(2)(C). The court may specify conditions for the discovery.

(2) ***Claiming Privilege or Protection.***

(A) *Information Withheld.* A person withholding subpoenaed information under a claim that it is privileged or subject to protection as trial-preparation material must:

(i) expressly make the claim; and

(ii) describe the nature of the withheld documents, communications, or tangible things in a manner that, without revealing information itself privileged or protected, will enable the parties to assess the claim.

(B) *Information Produced.* If information produced in response to a subpoena is subject to a claim of privilege or of protection as trial-preparation material, the person making the claim may notify any party that received the information of the claim and the basis for it. After being notified, a party must promptly return, sequester, or destroy the specified information and any copies it has; must not use or disclose the information until the claim is resolved; must take reasonable steps to retrieve the information if the party disclosed it before being notified; and may promptly present the information to the court under seal for a determination of the claim. The person who produced the information must preserve the information until the claim is resolved.

(e) Contempt. The issuing court may hold in contempt a person who, having been served, fails without adequate excuse to obey the subpoena. A nonparty's failure to obey must be excused if the subpoena purports to require the nonparty to attend or produce at a place outside the limits of Rule 45(c)(3)(A)(ii).

SCHEDULE A

DEFINITIONS AND INSTRUCTIONS

1. The term "document" is to be understood broadly to encompass "documents" and "electronically stored information" as those terms are used in rules 26 and 34 of the Federal Rules of Civil Procedure.

2. "You", "Your" and "SAS" mean SAS Institute, Inc., its corporate affiliates, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

3. "Documentum" means Documentum, Inc., a wholly owned subsidiary of EMC Corporation, and any and all persons or entities acting on its behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

4. "Xerox" means Xerox Corporation, its corporate affiliates, KnowledgePath Software, and any and all persons or entities acting on their behalf, including but not limited to employees, consultants, contractors, associates, attorneys, agents, or representatives.

5. "Data and Document Synchronization Software" means software designed to facilitate the integration and synchronization of data and/or the results of analysis of data created, stored and/or otherwise managed in one system (including but not limited to SAS/PH-Clinical) with documents created, stored and/or otherwise managed by another system (including but not limited to the Documentum Enterprise Document Management System).

6. "Xerox Data and Document Synchronization Software" means any and all Data and Document Synchronization Software designed and/or developed by SAS, Documentum and/or Xerox. "Xerox Data and Document Synchronization Software" includes, without limitation, the PH-Document Linker Interface, the Xerox API

Translator for Documentum, the Xerox DOC2PHC program, and Xerox's DataDocket software. *See, e.g.*, Exhibit A.1 hereto (Peter Villiers, "New Architecture for Linkage of SAS/PH-Clinical Software with Electronic Document Management Systems," SAS Institute Inc. (June 19, 1997)).

7. The "'994 Patent" means U.S. Patent No. 6,236,994 and/or all related patents and patent applications, including, without limitation, the provisional patent application no. 60/062,933.

8. "The named inventors" means the inventors who appear on the face of the '994 patent: Ronald M. Swartz, Jeffrey L. Winkler, Evelyn A. Janos, Igor Markidan and Qun Dou.

9. With respect to any document withheld on the basis of privilege, you are instructed to log said document in conformance with the requirements of the Federal Rules of Civil Procedure and applicable case law.

CATEGORIES OF DOCUMENTS AND THINGS

CATEGORY NO. 1:

All documents and things that refer or relate to the Xerox Data and Document Synchronization Software. This category includes but is not limited to

- documents constituting or reflecting communications between SAS, Documentum and/or Xerox (including its KnowledgePath Software division) about Data and Document Synchronization Software and/or any proposed or actual development of such software;
- documents showing SAS's role in conceiving, designing and/or implementing the Xerox Data and Document Synchronization Software and/or any components thereof; and
- agreements, contracts, memoranda of understanding, and/or letters of intent between SAS and Documentum and/or Xerox (including its KnowledgePath Software division) relating to Data and Document Synchronization Software.

See, e.g., Exhibit A.2 hereto (Press Release, "Xerox and SAS Institute to Synchronize Corporate Knowledge" (May 7, 1997)).

CATEGORY NO. 2:

Documents sufficient to identify any Data and Document Synchronization Software that is known to SAS and, prior to October 21, 1997, was described in a printed publication or invented, known, in public use, or on sale in the United States, including, without limitation, such software that operated in conjunction with SAS/PH-Clinical and/or any other software developed and/or sold by SAS, and including any software or system identified by you or anyone else as prior art to the '994 patent.

CATEGORY NO. 3:

All documents and things that refer or relate to the '994 Patent (as defined herein in definition no. 7), including, without limitation, communications or agreements relating to SAS's contributions to any alleged inventions described in the '994 Patent and/or SAS's interests in the '994 Patent.

CATEGORY NO. 4

All documents and things that refer or relate to this litigation.

Exhibit A.1

New Architecture for Linkage of SAS/PH-Clinical® Software with Electronic Document Management Systems

Peter Villiers, SAS Institute Inc., Cary, North Carolina

Abstract

The purpose of this paper is to provide the reader with an overview of an interface that is being developed as a result of a collaborative effort between SAS Institute and Xerox. The interface will enable SAS® PharmaTechnology Center products to interact with document management systems. This is referred to as the PH-Document Linker Interface or PH-DLI and is part of a larger, comprehensive architecture referred to as the SAS PharmaTechnology Process. The paper will cover the following major areas:

- Business case for the interface
- Design goals which are to be achieved
- Host computing environment impact
- Architecture components involved
- The overall PharmaTechnology Center Process

The paper will not cover lower level details of the code that has been written.

Introduction

One of the many challenges in the pharmaceutical industry is to manage and maintain the huge volume of documentation that is generated during the lengthy and complex process of developing a new drug. The research and development process is an iterative cycle of safety and efficacy testing. The collaborative efforts required at each phase of the process must be carefully documented. In order to submit a new drug for approval, the entire development process must be available for the scrutiny of the regulatory agencies involved in the approval. This can result in a submission document that is hundreds of thousands of pages in length and whose structure is strictly defined by the approving agency. If approval is sought in the international arena, the documentation must be restructured to meet the requirements of each regulatory body from which approval is sought. Any process and technology that streamlines the preparation and production of the submission documentation is therefore invaluable in the pharmaceutical environment.

For this reason, and in response to customer requests, coinciding with Release 2.10 of SAS/PH-Clinical, the SAS PharmaTechnology Center and Xerox plan to release an interface between SAS/PH-Clinical® software and the Documentum™ Enterprise Document Management System (EDMS). The Documentum EDMS is used by many of the major pharmaceutical firms that are SAS/PH-Clinical users as well. SAS/PH-Clinical software is used to review clinical trial data and generate reports that are used by pharmaceutical companies. This information represents a significant portion of the knowledge that is gained during the drug development process. Just as critical to the process is the information generated by various "authors" who review and work with the data.

Working with Xerox, the SAS PharmaTechnology Center will help automate the synchronization of all the information used during drug development, thus enabling pharmaceutical users to streamline their processes and make better, faster business decisions.

Goal, User Benefits and Design Objectives

The initial goal of the collaboration between SAS Institute and Xerox is to provide a method to synchronize the output from a SAS/PH-Clinical template report with a document in an EDMS. The subsequent goal of the collaboration is to enable <u>any</u> object from SAS/PH-Clinical to be exported to an EDMS and to provide a method for a user in the EDMS to start SAS/PH-Clinical software and automatically navigate to the original (source) object. It is anticipated that this functionality will also be available for other word processors and file formats (e.g., PDF and HTML).

The benefits of this functionality to a reviewer are enormous. The ability to view a PDF file and automatically start the review system; navigate to the source object and subsequently examine the underlying data will lead to less time learning the review system and more time performing the review process.

For technical reasons that will be outlined later, the functionality described will be provided via a two-stage development approach in line with the goals outlined above. The primary reason for this is that the PharmaTechnology Center and Xerox would like to provide realizable benefits to SAS/PH-Clinical Customer sites using Documentum within a

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reasonable time frame.

The Impact of Hardware Configuration

The client-server configuration of Documentum and multi-vendor architecture support of SAS/PH-Clinical software introduces a greater level of diversity into the solution that has been developed. There are three overall scenarios that will be supported by the software:

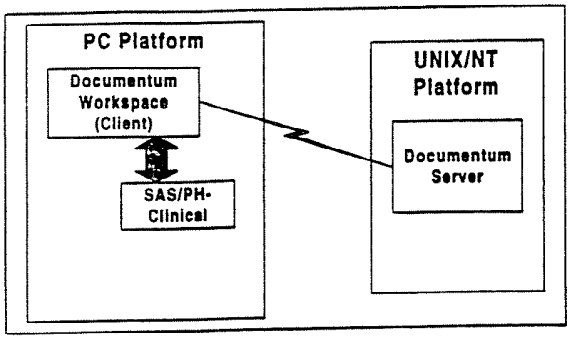

Figure 1

In Figure 1, SAS/PH-Clinical and the Documentum Workspace are run on the PC platform. Cross-product communication is carried out on the PC (indicated with a shaded arrow) and the standard process contained in Documentum software will carry out cross-platform support.

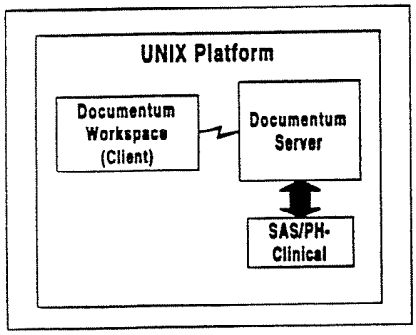

Figure 2

In Figure 2, all software components are located on the UNIX host. In this situation, there is no cross-platform communication needed but unlike the previous configuration, cross-product communication occurs between the Documentum Server and SAS/PH-Clinical software. The reason for this is outlined in Figure 3 where the Documentum Workspace is located on the PC host and SAS/PH-Clinical is located on the UNIX host. Access to SAS/PH-Clinical is provided by an X-Server.

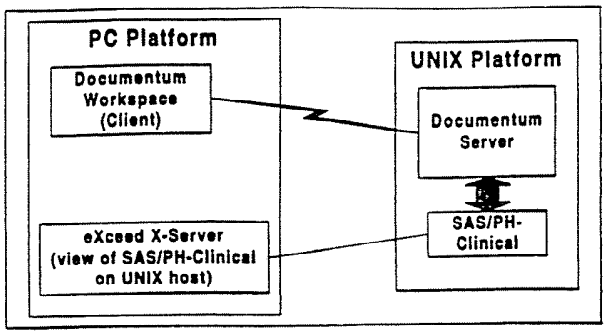

Figure 3

Documentum Objects

Before describing the process of registering SAS/PH-Clinical objects in Documentum software, it is necessary to give a brief explanation of how Documentum software actually stores information.

Documentum software stores data as objects; within each object there may be many *renditions* of the same object. These can be thought of as different views of the same information. One rendition is always identified as the *primary rendition* while the others are secondary but are available for use. This allows for bundling of information together into one package that can be more easily managed.

Taking the SAS/PH-Clinical output object as an example, the primary rendition would be the actual output while the log and source would be the secondary renditions of the object.

Phase 1: SAS/PH-Clinical to Documentum

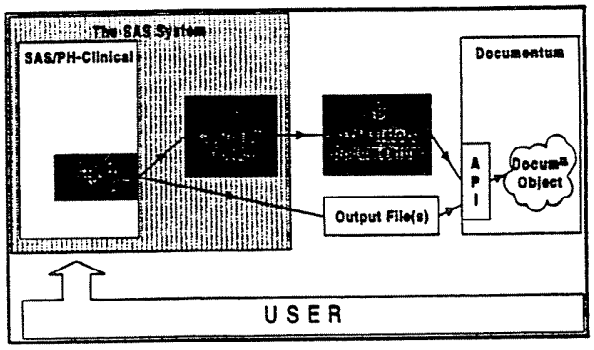

Figure 4

Figure 4 shows the components required to complete the first phase of the architecture.

Within SAS/PH-Clinical, a user will be able to select objects and specify that these should be exported (registered) to Documentum software. The actual number and type of renditions that are registered is object specific and shown in Table 1. However all objects will export a file called the SAS Clinical Pointer (or SCP file). The SCP file will be stored

with the Documentum object as a rendition and will contain information that describes a SAS/PH-Clinical environment. This description will include the current library; open studies; active query expressions and, in certain cases, the folder that is currently open.

Table 1

SAS/PH-Clinical Object	What will be registered?
Output	Output, log, source code and SCP
Variable Group	A text description of the variable group and SCP file
Expression	A text description of the expression and SCP file
Study	SCP file only
Folder	SCP file only
Library	SCP file only
Template	SCP file only

Once SAS/PH-Clinical software has created the temporary output files, the API Controller Object (ACO) is called via a series of SCL methods. It is the ACO's responsibility to supervise the transmission of information and commands to the non SAS component in the process.

Firstly, the ACO generates a *job* file from the information supplied by SAS/PH-Clinical software. This is an ASCII file that has a specific syntax designed for the purpose of communicating with the Xerox API Translator for Documentum. The choice of an ASCII file over a more sophisticated method of inter-system communication (e.g.: DDE, OLE Automation) was due to the simpler cross-platform support and the requirement that the solution be extensible. Once the job file has been written, the ACO makes a call to the Xerox API Translator that handles the communication with Documentum. When the Xerox API Translator has completed execution, the ACO will optionally read a *log* file and display the results to the user.

The job file is structured to have two parts: a short header and a body that is made up of the instructions for the individual SAS/PH-Clinical objects that are to be registered. An example of a job file is shown below:

```
USER: SASPXV
SEND PHCLINICAL
   SRC_ID=00100L0100AC
   OBJTYPE=OUTPUT
   NAME=List of AEs by Body System
   OUT=C:\SASWORK\1.OUT
   LOG=C:\SASWORK\1.LOG
   SRC=C:\SASWORK\1.SRC
   SCP=C:\SASWORK\1.SCP
SEND PHCLINICAL
   SRC_ID=0010BD0100FC
   OBJTYPE=VARGRP
   NAME=AE Variable Group
   TXT=C:\SASWORK\2.TXT
   SCP=C:\SASWORK\2.SCP
```

The SEND command identifies the source system and the processing that should occur for the subsequent parameters. SRC_ID is the original SAS/PH-Clinical object identifier on which the processing was requested. OBJTYPE identifies the SAS/PH-Clinical object type and is used to determine how the temporary files should be processed and NAME is the object's label. The subsequent parameters are dependent on the OBJTYPE field (see Table 1) and identify the location of the temporary files that SAS/PH-Clinical produced. As can be seen from the example, the default location for temporary files will be the SAS session's WORK library.

The Xerox API Translator is a stand-alone program that takes the location of the job file as a parameter, reads it and converts the instructions into calls to the Documentum API. When called, the Xerox API Translator will prompt the user for the target filing cabinet and folder within Documentum software where the SAS/PH-Clinical objects should be placed.
The Xerox API Translator will also write a log file which shows the success or otherwise of the requested actions:

```
DATE: 16JUL98
USER: SASPXV
JOB_FILE: /SASPXV/SASWORK/AT.JOB
INITIALIZATION_STATUS: OK
SEND PHCLINICAL 00100L0010AC 0
SEND PHCLINICAL 0010BD0010FC 99 COULD NOT OPEN..
```

In the above example, the final SEND command failed because the API Translator could not open one of the files.

The SAS/PH-Clinical object has now been registered within the Documentum database and can be used as part of a "virtual document" and subsequently published to paper or another electronic medium such as Adobe's PDF format.

Extensibility
The PharmaTechnology Center and Xerox recognize

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that there are other document management systems and applications that could leverage this interface. For this reason, the PH-DLI has been designed to be extensible. Xerox plans on working with the SAS Institute to offer additional interfaces based on customer requirements.

When the API Controller Object is instantiated, it reads an initialization file containing details of the API Translator programs that are supported by the PH-DLI at the individual site. The default initialization file has the following structure:

```
*******************************************
*  SAS API Controller Object, INI File    *
*                                         *
*  Created: 01JUL96                       *
*  By:      The SAS System (default)      *
*                                         *
*  Modifications:                         *
*  02MAR97 SASPXV - Pathname added for the *
*                   Documentum executable *
*                                         *
*******************************************

AT_Documentum: z:\public\at_doc.exe
```

Each non-comment line that begins with "AT_" identifies a target system and the location of an executable that will read the job file and communicate with the target system. For example, to add Microsoft Word as a target system the client site would need a translator program. This translator would be stored in a place that can be accessed by all users. The initialization file will be modified as follows:

```
*******************************************
*  SAS API Controller Object, INI File    *
*                                         *
*  Created: 01JUL96                       *
*  By:      The SAS System (default)      *
*                                         *
*  Modifications:                         *
*  02MAR97 SASPXV - Pathname added for the *
*                   Documentum executable *
*                                         *
*******************************************

AT_Documentum: z:\public\at_doc.exe
AT_Word97: z:\public\at_word97.exe
```

Microsoft Word97 would then be available as a valid destination from within SAS/PH-Clinical software.

Phase 2: Documentum to SAS/PH-Clinical

The second and more complex phase of the collaboration is to provide a link back from Documentum software to SAS/PH-Clinical (the acronym for this interface is DOC2PHC).

If the Documentum user chooses the SCP rendition of the SAS/PH-Clinical object, the rendition will be passed to the Xerox DOC2PHC interface. The first thing the interface must do is to establish if the SAS System is running and if so, whether SAS/PH-Clinical software is active. If this is not the case, both SAS and SAS/PH-Clinical should be started. Next it will pass in a command to prepare the SAS/PH-Clinical interface to accept the subsequent command(s). Finally, the interface will instruct SAS/PH-Clinical to re-generate the environment that is described in the SCP rendition of the Documentum object. This is shown in Figure 5. SAS/PH-Clinical will then open/close studies; apply/revoke query expressions; open/close library views and perform the operations required as necessary. Once this is complete, SAS/PH-Clinical will display the actual output object that was transferred to SAS/PH-Clinical. From this point, the user will have the ability to validate the results by re-reviewing the data and even performing other analyses on the same data.

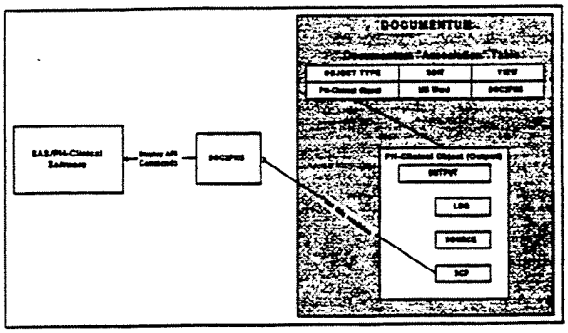

Figure 5

A similar procedure will also be true if the final version of the document has been published in an electronic form that supports hyperlinks. Examples of this are the PDF format and also HTML. A hyperlink that references the SCP rendition would start the Xerox DOC2PHC program which in turn, would manage the SAS/PH-Clinical session as described in the previous paragraph.

The current architecture of SAS/PH-Clinical software does not support the ability to reset the interface via a command passed from an external product. For this reason, Xerox and the PharmaTechnology Center have decided to release the functionality described here in a two-stage process. Future releases of
SAS/PH-Clinical will have the ability to interpret the commands passed in and act upon them.

SAS PharmaTechnology Center Process

The introduction of the PH-Document Linker Interface is only one of the initiatives currently underway. As a whole, the initiatives are known as the *SAS PharmaTechnology Process* and encompass a large proportion of the activities involved in the management and review of data from clinical trials. Figure 7 shows this in a graphical

LG

format. The goal is to streamline the movement of data from the entry systems through to the publication of findings and subsequent review by Regulatory Agencies.

The first major component after data entry and cleanup is the Clinical Data Warehouse. This performs several functions:

- Provide facilities to register the data and metadata surfaced by the data entry sources.
- Provide a framework for migrating this data entry, study oriented format into a standardized, consistent, "analysis friendly" format.
- Provide tools to help with the transformation of data.
- Schedule and automatically run the programs to perform the transformations.
- Provide automated documentation relating to the data sources, migration process and target data structures.
- Serve as a central repository for metadata used in the analysis phase.

The PH-Dictionary accesses the data and metadata managed by the Clinical Data Warehouse. Among other tasks, it is the PH-Dictionary's role to absolve the subsequent users of the information from knowing where the data is physically stored. This allows a reviewer to concentrate on the information rather than how it should be joined or merged.

The viewers that access the PH-Dictionary are specific and targeted towards a certain group of users. It is anticipated that the PharmaTechnology Center will provide a number of different viewers and that Clients will be able to build additional viewers should it be required.

The final component, the PH-Document Linker Interface allows the information and findings to be migrated to the Enterprise Document Management System. In addition, it will allow a reviewer in the Document Management System to traverse back into the review system and the source data.

Summary

As this paper has described, the ability to move the results of a clinical review into a Document Management System will have a positive effect on time required to prepare a clinical trial report. The ability to traverse back into the data review system from a document will benefit internal and external reviewers as they will require less knowledge of how to navigate through the review system, thus leaving more time to perform the actual review of the data.

The overall process, of which the PH-Document Linker is a component, will prove to be a valuable part in the preparation, synchronization and review of data from clinical trials and associated documents. It is the author's belief that the introduction of this process will greatly reduce data preparation time while providing the significant benefits of complete, automated process documentation and increased control over the flow of information.

About the Author

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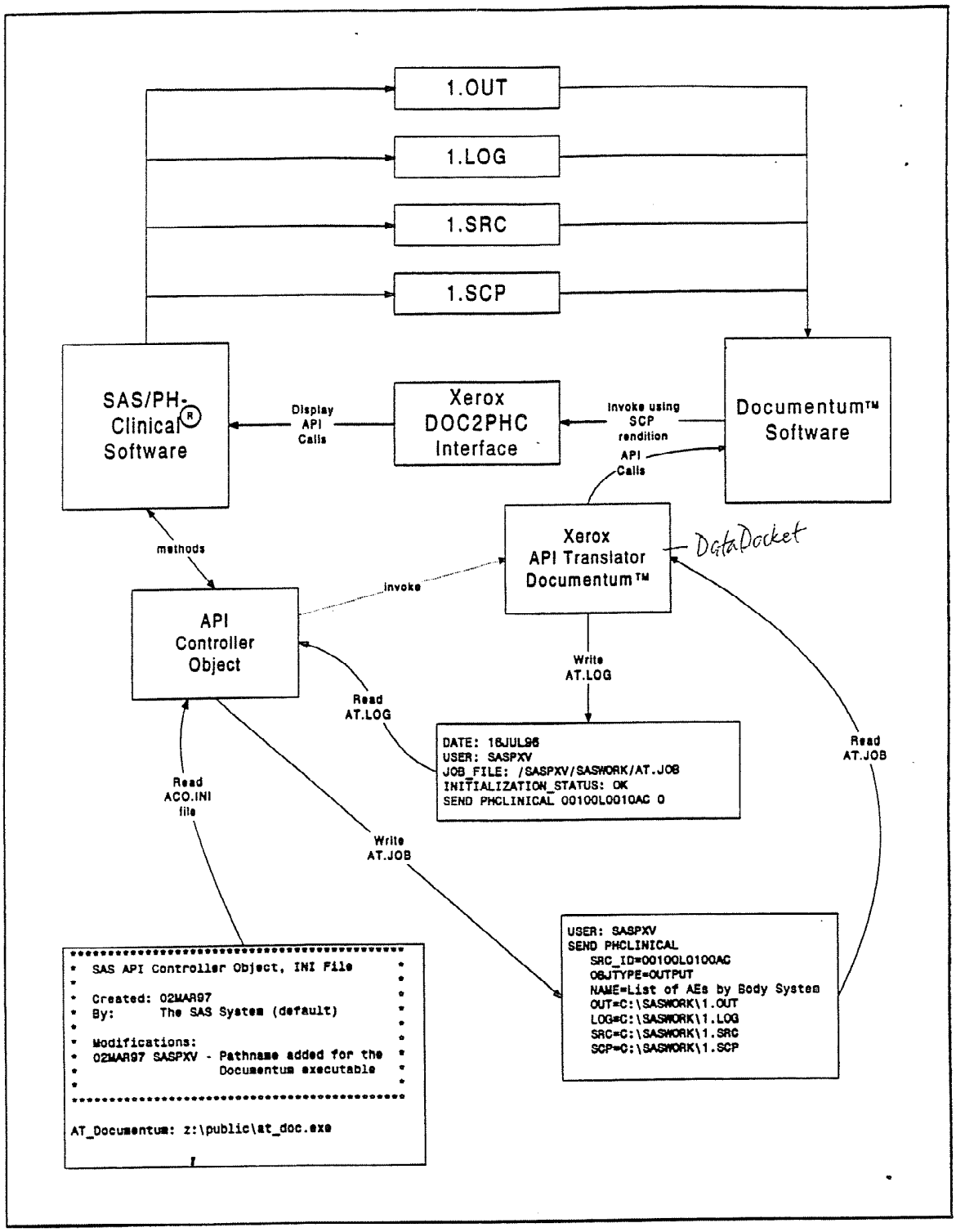

Figure 6: Overview of the PH-Document Linker Interface

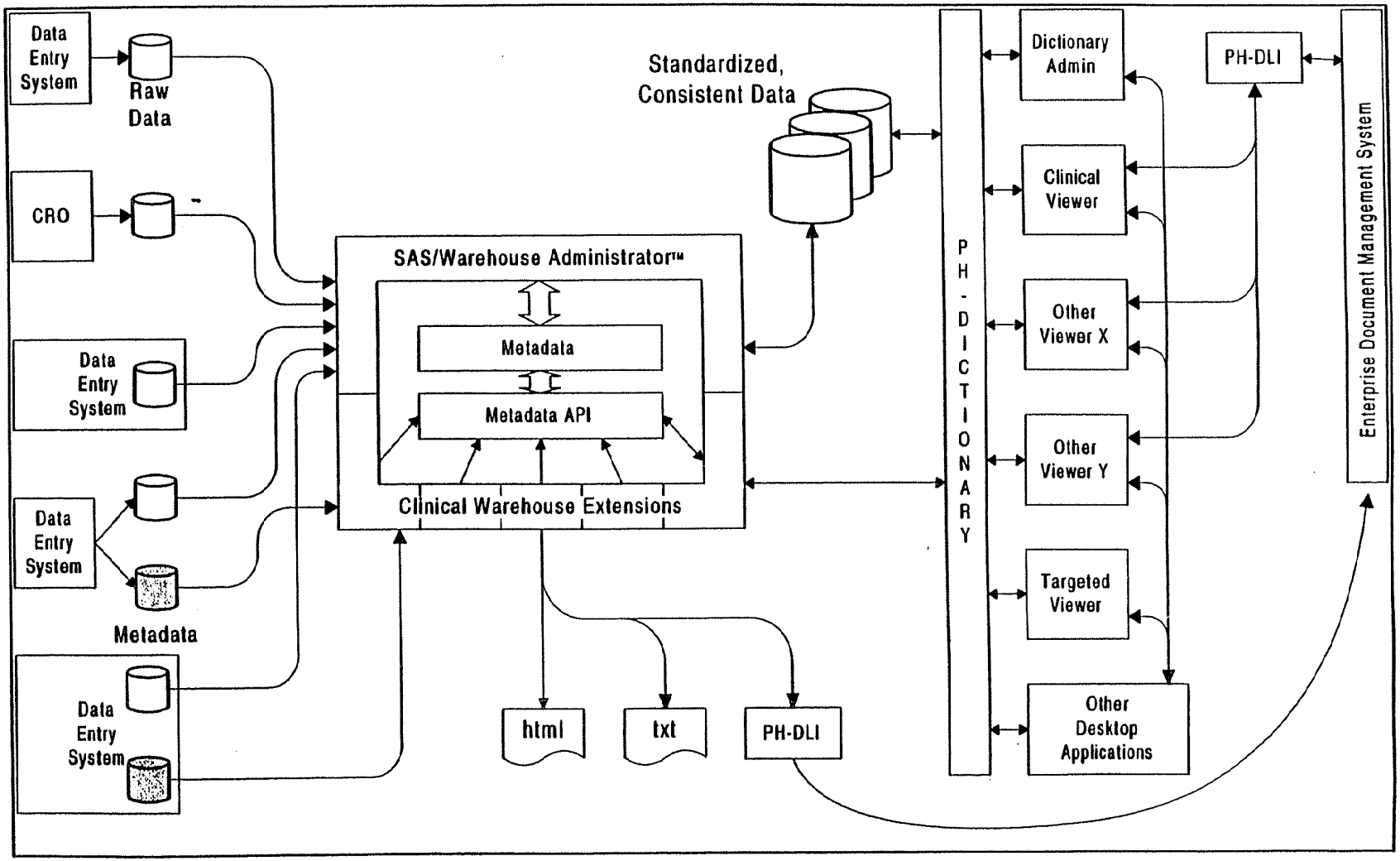

Figure 7: The PharmaTechnology Process

Exhibit A.2

Xerox and SAS Institute to Synchronize Corporate Knowledge

Better, Faster Business Decisions for Companies Using Documentum™ and SAS® Software

STAMFORD, Conn., May 7, 1997 -- Xerox Professional Document Services (XPDS) and the SAS Institute today announced plans to form a strategic alliance to collaborate on development and delivery of software solutions that provide synchronization between SAS® applications and enterprise wide document management systems (EDMS).

The initial efforts of the collaboration have been focused on the development of an interface between the Documentum™ EDMS and SAS/PH-Clinical® software. The first supported release will create an automated information flow between these products. Early customer engagements are planned for later this year. A beta version will be available for implementation through XPDS.

"This is a significant first step in helping our clients improve their decision making across the enterprise by ensuring synchronization between all critical corporate information sources," stated Tony Holden, vice president and general manager of the Xerox Professional Document Services (XPDS) worldwide consulting organization. "Our unique understanding of document management, coupled with SAS Institute's expertise in data warehousing and decision support software, will deliver added value to our clients."

XPDS
XEROX PROFESSIONAL DOCUMENT SERVICES

"SAS software is used by 90% of the top pharmaceutical companies worldwide for data analysis, review and warehousing of clinical trials data," said Jim Goodnight, SAS Institute's president and co-founder. "We are pleased to be collaborating with Xerox in this effort to improve the efficiency and quality of the clinical research cycle."

Xerox and SAS Institute are also working on plans to develop solutions for other industries, including utilities and financial services, to provide automation and synchronization of information vital to companies in these markets.

About The Document Company, Xerox

Xerox (http://www.xerox.com) is a leader in the global document processing market, with 1996 revenues of $17.4 billion. The Xerox Professional Document Services -- XPDS -- (http://www.xpds.com) organization is part of the company's Document Services Group (DSG). XPDS provides a variety of services centered around the digital document. These services focus on the links between business processes and the documents that support them, and they include a wide range of consultancy offerings, solutions design, project management, and systems integration and implementation.

About SAS Institute

Now in its 21st year, SAS Institute (http://www.sas.com) is one of the top ten largest independent software vendors in the world, and is the largest privately held software company. The Institute's success is due in part to its continued investment in R&D - nearly $209 million in 1996, and more than $1 billion since its formation. This commitment to customer solution-oriented R&D has resulted in the Institute being awarded the reader-selected 1996 and 1997 Datamation magazine Data Warehousing Product of the Year, the 1996 DM Review magazine World Class Solutions for Data Warehousing award (for Outstanding Service & Decision Support tools), Data Warehouse World's Excellence in Business Information award (customer service), and other industry honors.

About Documentum

DOCUMENTUM (http://www.documentum.com) develops, markets and supports a family of enterprise document management products that improve the effectiveness of the organization based on a company's business-critical information and proven processes. Headquartered in Pleasanton, California, DOCUMENTUM sells its products and services through a direct sales force, systems integrators, and affiliated distributors in North America, Europe, Australia and Japan. DOCUMENTUM is the recognized leader in the document management market, with worldwide customers in the pharmaceutical, process manufacturing, computers/electronics, and finance industries.

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