



[54] METHOD AND SYSTEM FOR INTEGRATING DISPARATE INFORMATION TECHNOLOGY APPLICATIONS AND PLATFORMS ACROSS AN ENTERPRISE

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[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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[57] ABSTRACT

A method and system for integrating disparate information technology applications and platforms across an enterprise provides a web client interface that associates with an enterprise network. Connecting with the web client through the network is the Hyper-Text Transfer Protocol (HTTP) server that includes a Common Gateway Interface (CGI) interface program for augmenting the integration of the disparate applications and platforms via remote and local applications execution. The HTTP server is specific to the particular enterprise for specifically dealing with application servers and information servers and further for collecting information and gathering it together into a form that is then displayed on the web client.

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[52] U.S. Cl. 709/300; 709/250

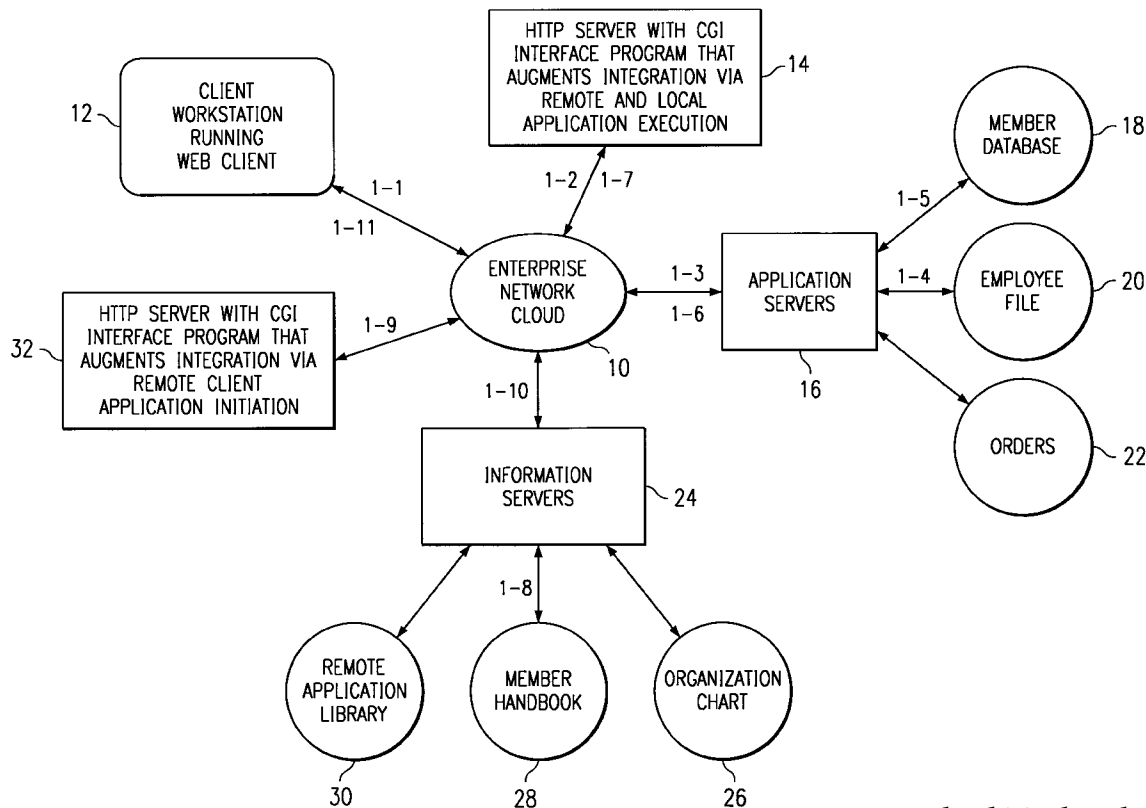
[58] Field of Search 395/800; 709/300, 709/250, 219

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20 Claims, 2 Drawing Sheets



Plaid Technologies Inc.
Exhibit 1024

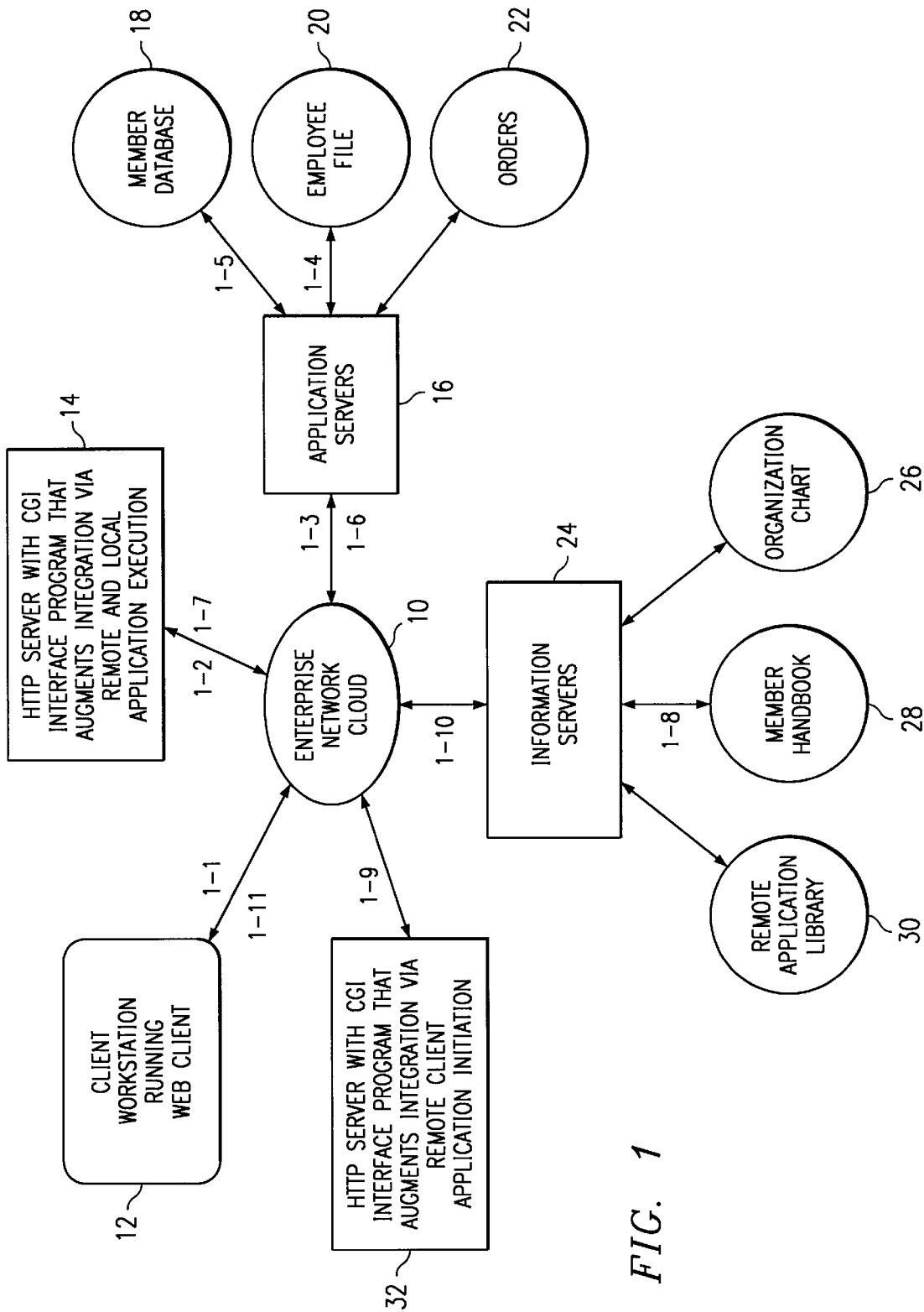


FIG. 1

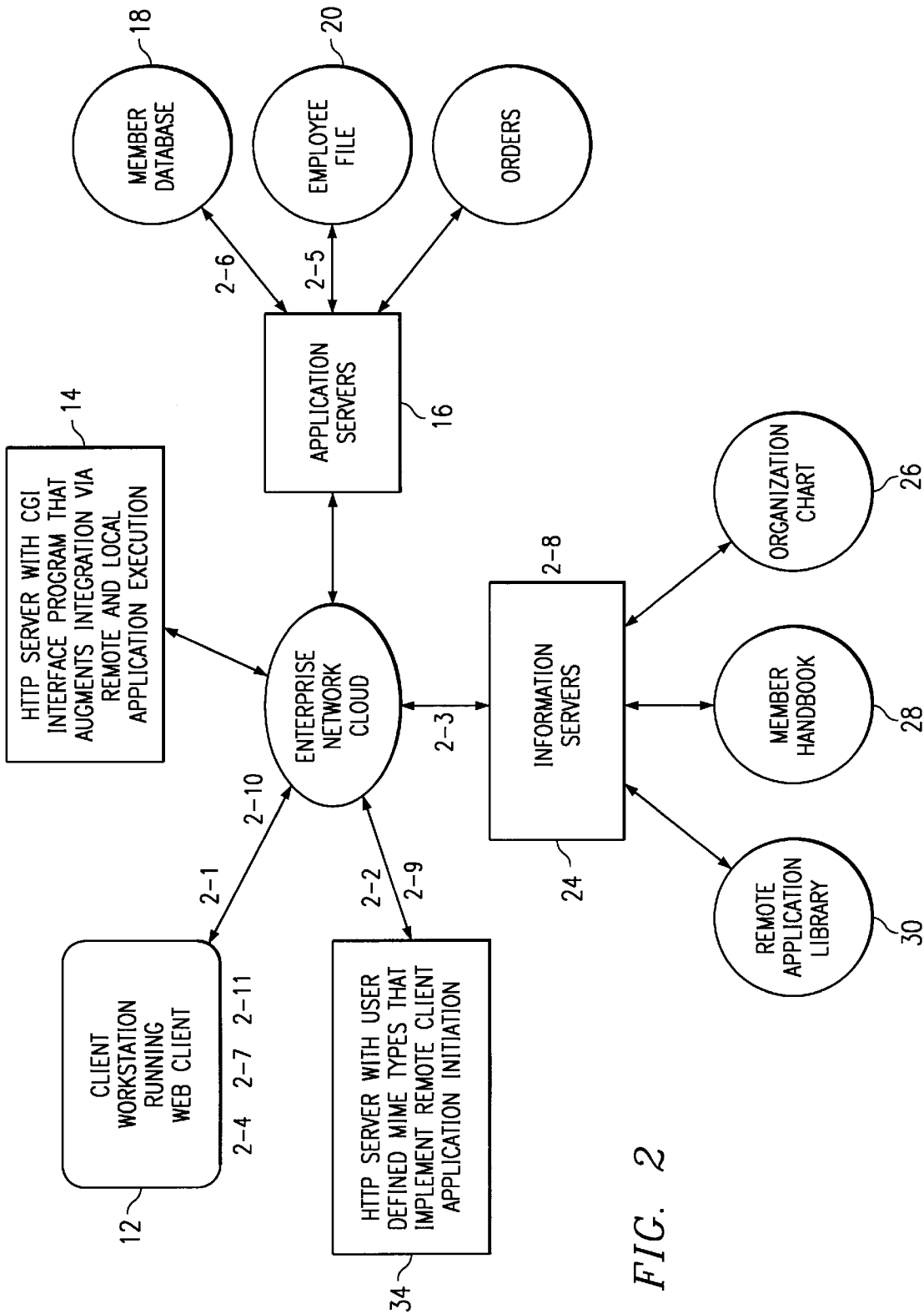


FIG. 2

**METHOD AND SYSTEM FOR
INTEGRATING DISPARATE INFORMATION
TECHNOLOGY APPLICATIONS AND
PLATFORMS ACROSS AN ENTERPRISE**

TECHNICAL FIELD OF THE INVENTION

The present invention relates to a method and system for obtaining, processing, and displaying information and, more particularly, to a method and system for integrating disparate information technology applications and platforms across an enterprise that permits remote application execution and information delivery, local application execution from a remote application library, and a variety of other services through a single user interface.

BACKGROUND OF THE INVENTION

Corporations have many disparate new and old or existing applications that generally have been developed as stand-alone functions. Information technology systems, for example, may have been written by or for the accounting department, the shipping department, or the order entry group and often have different designs and user interfaces, different applications, and run on different platforms. They also are often stored in many different, and different types of, data bases.

The stand-alone functions can require different interfaces and login identifiers for each function, the use of multiple network navigation functions (i.e., searching for the applications), multiple menuing systems and specific knowledge of each application in order to know when and how to use them. This results in "islands of information" in any enterprise. The consequences of this can be lost opportunity, reinvention and rework, and unproductive time spent searching for data and other information about the enterprise and its human, tangible, and intangible resources and assets.

One of the principle tasks of system integration is to integrate disparate databases, applications, and platforms into one system that is accessible to desired enterprise employees. Almost without exception, in these situations many established software systems that may have already been installed are replaced by systems that fit within the integrator's new integration scheme. Presently, it is not possible, without rewriting or replacing all the existing systems, to integrate the different applications and platforms inside the corporation. Unfortunately, when this occurs, there is the need to retrain the employees who used the previously existing systems.

With the conventional methods of integrating the need for different software systems to be useable by different users for many different applications, many other limitations also exist. For example, the existing enterprise applications and platforms are not network connectable using the various protocols, such as TCP/IP that permit communication on networks. In addition, the many applications and platforms that an enterprise uses in their present state require different and separate passwords.

Moreover, even though a system integrator may provide new software systems for an enterprise, there is yet a great deal of information on different databases in different formats that either does not become incorporated into the system or that does not become usable in a common or integrated format. Also, different interfaces are necessary to integrate the different applications and the different platforms. In fact, even with the best of system integration products and services, there is no ability to provide to employees and other users a single comprehensive user

interface that provides an automatically updated, up-to-the-minute view of the information and processes occurring within the enterprise across its many different applications and platforms.

Consequently, there is a need for a method and system that permits use of the numerous applications and data, including platforms that are disparate.

There is a need for a method and system that permits a user to avoid the unnecessary complexity and frustration of having to logon to every single system of a wide-area or other network, with a separate password for each logon operation.

There is the further need for a user interface providing a single menu that permits authorized users to access all information that an entire corporation holds.

There is the need for a method and system that permits local application execution from a remote application library, even in the instance that the remote application library includes functional, structurally, and substantively different data bases.

There is yet a further need for a method and system that provides users the ability to interface numerous intelligent and non-intelligent interfaces at the enterprise level and execute different applications on multifarious platforms.

SUMMARY OF THE INVENTION

In accordance with the present invention, a method and system for integrating disparate information technology applications and platforms across an enterprise is provided that substantially eliminates or reduces disadvantages and problems associated with previously developed systems for integrating disparate applications and platforms.

One aspect of the present invention provides a web client interface that associates with an enterprise network where the web client comprises a computer software application. Connecting through the enterprise network and with the web client is an application integrating server that includes a graphical interface program for augmenting the integration of the disparate applications and platforms by remotely and locally executing applications. The applications integrating server, which is specific to the particular enterprise specifically interfaces and integrates with the disparate application and information servers and collects and gathers information for display in an integrated form through the comprehensive graphical interface.

One embodiment of the applications integrating server is a Hyper-Text Transfer Protocol (HTTP) server that includes a form that is displayed to the web client in an Hyper-Text Markup Language (HTML) document. As a result of the user providing information that the form uses, the HTTP server causes the execution of a graphical interface script that contains logical instructions for sending a request to execute a transaction to the various application servers. The appropriate application server or servers respond to the request to update affected information on associated databases, by addressing the application integrating server and providing the results of the initiated activity. The HTTP server then builds an HTML document and returns the document to the web client. The user may then respond, as desired, to the HTML document, by requesting more or different information from the different applications and platforms of the enterprise.

The present invention provides network capable software for the application integrating server, such as an Internet World Wide Web browser system, to create a single point of

interface for the user to access and communicate with any sub-organization of the enterprise. By using a networked set of application integrating servers that interface and control the disparate application systems, documents, presentations, source code programs, software objects and other digitally stored information all within the enterprise, the present invention provides the methodology and system for communicating between the disparate servers within the enterprise. With the present invention, the user has the ability to send and receive requests for information and transactions that interface all types of applications, technical libraries, object libraries, code libraries, document repositories, discussion databases, and information databases within the enterprise.

Accordingly, the present invention provides the user with a single "window" into the entire enterprise. The present method and system permit the user to browse through multiple applications from a single interface, rapidly share information, and update and disseminate the information inside the enterprise. The present method and system permit the enterprise to logically organize information to permit employees and other users to search, download and use the information by topic, type of information (e.g., documents, presentations, and interactive applications, etc.), or by business function or other structures, as desired.

Another especially attractive feature of the present invention is that it permits "mining" old applications that heretofore were difficult or impossible to access and use. Information of significant value that may not have been used because of these difficulties becomes useable as a result of the present invention. This results in a more comprehensive view of the enterprise than has been possible previously. Multimedia applications, for example, are made simple as a by-product of the present invention. This is because, through the single integrated user interface, the many images and audio tracks that a user may desire for multimedia presentations and that an enterprise may have on various different applications and platforms now becomes readily available to the user.

In fact, in a manner that was previously not possible, the present invention permits the user to "move" from department to department across the enterprise using the single integrated user interface. The present invention, in effect, provides a single point of contact for personnel seeking information and, therefore, becomes a "rallying point" for all new applications.

Other technical advantages of the present invention include the fact that employees, who may have been trained on a prior or existing application or interface, can use the single interface without requiring additional training on the new and separate applications. The present invention initiates transactions from the integrated interface to operate applications or without the user's knowledge.

Also, security of the many different applications and different platforms of an enterprise is simplified with the present invention. When a user desires information that initiates a given application or requires access to a particular platform, the present invention sends the user's password to the appropriate applications or platform behind the scenes. Accordingly, the present invention provides a single homogenous interface for all of the departments within an enterprise.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and the advantages thereof, reference is now made to the following description which is to be taken in conjunction with the accompanying drawings in which like reference numerals indicate like features and wherein:

FIG. 1 shows one embodiment of the present invention as applied to a single user interface for disparate applications; and

FIG. 2 depicts another embodiment of the present invention as applied to a single user interface for disparate applications.

DETAILED DESCRIPTION OF THE INVENTION

Preferred embodiments of the present invention are illustrated in the FIGURES like numerals being used to refer to like and corresponding parts of the various drawings.

The present invention provides a web client interface that connects through an enterprise network to an application integrating server such as an Hyper-Text Transfer Protocol (HTTP) server. The HTTP server includes a graphical interface such as that provided by a Common Gateway Interface (CGI) interface program for integrating the disparate applications and platforms of the enterprise via remote and local applications execution. The HTTP server may be specific to the particular enterprise for specifically integrating and interfacing with application servers and information servers and further for collecting and gathering information together to display it in a desired form on the CGI interface.

One embodiment of the HTTP server may include a form that is displayed in an Hyper-Text Markup Language (HTML) format. The user provides information that the form requires, and, in response, the HTTP server causes the execution of CGI script that may contain the logic and other instructions for sending a request that executes a transaction to an addressed and interfaced application server. The particular application server then may respond to the request, update information relating to that user's request by addressing the particular application server, and providing the results of the initiated activity. The HTTP server then can build a new or supplemental existing HTML document that the HTTP server returns to the web client. The user may then respond, as desired, to the built document by, for example, seeking more or different information from the different applications and platforms of the enterprise.

Implementing the present architecture includes the steps of identifying all the components to make this work. The enterprise network is specific to the particular enterprise according to the various disparate applications and platforms within the enterprise. The HTTP server includes a CGI interface program that augments integration via remote and local application execution. The CGI interface is unique to the particular enterprise and specifically deals with the particular application servers or information servers of the enterprise to collect the information, gather it together, and assemble it in a form that the user interface displays.

The CGI script contains the logic and instructions for sending a request for a transaction to an appropriate application server and for receiving a response back from that application server. The CGI interface program may be written in C, PERL, or some other appropriate computer language that permits the formation of logic and instructions for the particular application server.

FIGS. 1 and 2 illustrate the operation of one embodiment of the present invention wherein enterprise network 10 interfaces with client workstation 12 that operates on the web client where the web client comprises a computer software application. It should be understood that client workstation 12 is used by a user or operator, and the web client is run by client workstation 12 for use by the user or operator. HTTP server 14 includes a CGI interface program that augments integration via remote and local application execution and connects with enterprise network 10. Application servers 16 connects to enterprise network 10 and

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