INTERACTIVE E-MAIL STATEMENT

TECHNICAL FIELD

The present invention relates generally to communication of and about electronic document forms of statements and reports, and more particularly to providing such documents by e-mail with integrated capability to respond by instant messaging or chat session.

BACKGROUND ART

Conventionally, documents used as statements and reports (collectively "statements" herein) are prepared on paper and include data stating like monthly billings, lab results, etc. Such statements are prepared by enterprises acting as vendors of goods or services, or by organizations that need to regularly communicate with their clients on standard matters. Conversely, the statements are intended for other enterprises or organizations acting as goods or services customers, or as clients that receive regular, detail intensive communications on standard matters.

Of particular present interest are how statements are then sent from the preparing parties to the receiving parties, and then how these parties handle follow up communications. Traditionally, the statements are sent via a conventional postal or courier service. Of course, as is well known, this is a notoriously slow, serial, and is an expensive process, and it becomes particularly so whenever a receiving party has to follow up with a providing party on details or issues in the statement. That very common situation may require drafting a letter and sending it by mail or courier back to the providing party. Alternately, the receiving party can try to reach the providing party by telephone, with a high attendant likelihood that the provider's best suited representative for handling the matter will be unavailable, or not have a copy of the statement or other information readily available to address the questions being raised.

Despite the advent and growing availability of e-mail, simple follow up transactions regarding statements can still take days. In fact, trying to follow up via e-mail can be worse, since it tends to be addressed to individuals rather than to roles or departments, i.e., not to entities like an Accounting Clerk or a Billing Dept. Thus, even if an original statement includes a contact e-mail address, it may be for a person who is on vacation, or who has left

the organization, or who has such a work load that it is days before they can sort through their e-mail and delegate matters.

For example, if a conventional statement is a bill in which merely one item requires clarification, resolving that is likely to require a protracted dialog that can be expected to substantially delay payment. Pragmatically, it is the very nature of the information in statements to require such clarification or correction and, continuing with billing as just our example, that is why enterprises and organizations today are still compelled to set payment terms of at least 30 days, and to then often see considerable delay beyond that despite whatever early payment incentives they may provide.

Another example of a problem for statement providers is the cost of fielding telesales support. Supporting customers via phone is a notoriously expensive proposition. These calls are measured in time and most of the time spent on the phone is merely navigating to the "right" representative and then getting the basic information from the client such that both parties are talking about the same thing, i.e., establishing the same context. Efforts to date to migrate such support to e-mail has also, by in large, been a failure. When a customer has a problem they usually want to handle it immediately, or at least in a relatively short time period. An aspect of the problem here is that there presently is no assurance that an e-mail will be responded to, in short order or ever. Even when providers implement e-mail support that is highly responsive, they often find that their customers still opt to communicate by telephone.

It follows that what is needed is an improved system to communicate statements and to then conduct further communications about them.

DISCLOSURE OF INVENTION

Accordingly, it is an object of the present invention to provide an improved system to communicate statements and to then conduct further communications about them.

Briefly, one preferred embodiment of the present invention is a method for interactively communicating with regard to a statement. The statement is prepared, in e-mail form and including a tag and a link, at a first computer system operated by a provider of the statement. The statement is then communicated from the first computer system to a second computer system via a network. The second computer system is operated by a clerk associated with a receiver of the statement. A client software is provided to the second computer system automatically, based on the tag being present in the statement. An instant

messaging session is then employed between the second computer system of the clerk and a third computer system, based on the clerk selectively activating the link. The third computer system is operated by a service representative associated with the provider (and may potentially be the same as the first computer system).

Briefly, another preferred embodiment of the present invention is a method for constructing an interactive statement. An e-mail is prepared, including data regarding the subject matter of the statement, at a first computer system operated by a provider of the statement. A tag is included in the e-mail, wherein the tag is suitable for providing an instant messaging client software in a second computer system operated by a clerk associated with a receiver of the statement. A link is also included in the e-mail, one suitable for selective activation of the client software by the clerk to employ an instant messaging session with a third computer system (potentially the same one as the first computer system) operated by a service representative associated with the provider.

Briefly, another preferred embodiment of the present invention is a method for interactively communicating about a statement. The statement, including a tag and a link, is received at a first computer system operated by a clerk associated with a receiver of the statement. An instant messaging client software is provided in the first computer system automatically, based on the tag being present in the statement. The link is then selectively activated by the clerk to employ an instant messaging session between the first computer system and a second computer system operated by a service representative associated with a provider of the statement.

Briefly, yet another preferred embodiment of the present invention is a statement embodied in a computer readable storage medium. A substantially conventional e-mail is stored in the computer readable storage medium, which is coupled with one of a first computer system of a provider that has created the e-mail, a second computer system of a clerk associated with a receiver that has received the e-mail, or a third computer system of a network where said e-mail is being communicated from the provider to the clerk. A tag is included in said e-mail that is suitable for providing a client software in the second computer system of the clerk, and that client software is suitable for conducting an instant messaging session between the clerk and a service representative associated with the provider. A link is also included in the e-mail, one suitable for selective activation by the clerk to employ said instant messaging session with the service representative.

An advantage of the present invention is the ability to present statements from providers for rapid, complete execution or processing by receivers, wherein clerks associated

with the receivers can easily follow up on and resolve any issues in the statements with service representatives associated with the providers.

Another advantage of the invention is immediate contact. The providers sent the statements rapidly, via e-mail and the clerks are able to respond with similar rapidness. The clerks do not dial through nested phone menus, only to likely be on hold for a long time. Alternately, the clerks do not send off conventional e-mails, for answer at indeterminate later times.

Another advantage of the invention is immediate shared context. Both the clerk and the service representative can be looking at the same thing at the same time. The clerk has the statement before them, since a link in it is what as been employed it start the interaction, and the service representative may have the statement (or merely the specific relevant portions) before them by automatic transmission back from the clerk as the interaction commences.

Another advantage of the invention is the ability to reduce customer service center costs. The invention permits service representatives to work with multiple clerks for multiple receivers, effectively simultaneously. While one clerk is typing a question, a service representative can be typing the answer to another. This improves the efficiency and productivity of each service representative, lowering costs, wait times, and total issue resolution times.

Another advantage of the invention is the ability to not have to build traditional call centers (with their inherent telecommunications infrastructure). The service representative can literally work out of their homes, anywhere in the world, yet effectively support customers and clients. This permits implementing economical, truly geographically distributed call centers that are completely transparent to the customers or clients.

Another advantage of the invention is the ability to immediately resolve issues in the statements, with closure. Instead of having to mail a form to fill out after agreement is reached on how the issue will be resolved (say to make a correction). Now an electronic version can be immediately pushed to the clerk, where it can be immediately filled out and transmitted back, perhaps with help from the service representative, who can still be around and interactively assist.

Another advantage of the invention is the ability to have an immediate transcript of the clerk-service representative conversations. The transcript can "captured" by either party, or by one and sent to the other for acknowledgement. It can also be digitally signed, if its a transaction meriting that. Such transcripts can be archived and further used for training purposes or for analysis to improve business practices.

And another advantage of the invention is the ability to turn a question into a sales opportunity. When combined with security and digital signatures, in particular, what started as a question about a statement could turn into a signed transaction for additional goods or services to be executed by a vendor-provider.

These and other objects and advantages of the present invention will become clear to those skilled in the art in view of the description of the best presently known mode of carrying out the invention and the industrial applicability of the preferred embodiment as described herein and as illustrated in the several figures of the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The purposes and advantages of the present invention will be apparent from the following detailed description in conjunction with the appended figures of drawings in which:

FIG. 1 is a schematic block diagram providing an overview of an embodiment according to the inventive interactive e-mail document system;

FIG. 2 is a flow chart depicting a process by which the invention may operate; and

FIG. 3 is a schematic block diagram providing an overview of a complex embodiment according to the invention.

In the various figures of the drawings, like references are used to denote like or similar elements or steps.

BEST MODE FOR CARRYING OUT THE INVENTION

A preferred embodiment of the present invention is an interactive e-mail document system. As illustrated in the various drawings herein, and particularly in the view of FIG. 1, this preferred embodiment of the invention is depicted by the general reference character 10.

FIG. 1 is a schematic block diagram providing an overview of an embodiment according to the inventive interactive e-mail document system (IEDS **10**). Briefly, a provider **12** generates a statement **14** that is provided to a receiver **16** via a network **18**. As is typically the case with statements, generally, a clerk **20** that is part of the organization of the receiver **16** may or may not need to communicate with a customer service or support representative (CSR **22**) that is part of the organization of the provider **12**. The statement **14** therefore permits initiation of an instant messaging or chat session (IM/chat **24**) between the clerk **20** and the CSR **22**.

As discussed in the Background Art section, and now extended to the context of the inventive IEDS **10**, the provider **12** is, typically but not necessarily, an enterprise acting as a vendor or an organization needing to regularly communicate with its clients on standard matters. The receiver **16** is another enterprise or organization, but acting as a customer or a client that receives regular detailed communications from the provider **12**. The statement **14** can encompass considerable breadth of data and formats. For instance, it can be virtually any document, including a statement of account, bills, lab reports, confirmation notices, other reports, or other results; it can be in text, html, or other formats; it can have image, audio, or animation elements incorporated, etc.

The provider **12** generates and provides the statement **14** to the receiver **16** in the general form of an e-mail. The e-mail format used can be essentially standard, or encryption, digital signatures, etc. can be employed. The inventive IEDS **10** does not necessarily foreclose the concurrent use of such other sophisticated e-mail options. An insert in FIG. 1 shows more details of an exemplary statement **14** here. It includes a subject **26** that identifies the purpose of the e-mail as being a statement **14**, and it includes data **28** intended for receiver **16**, i.e., the statement of account, monthly billing, lab results, other report, etc. that constitutes the very purpose of the statement **14**. The statement **14** also includes conventional e-mail header information, not shown. In particular, however, the statement **14** includes a tag **30** and a link **32**.

The tag **30** provides client software **34** to be copied to the receiver **16**, where it is then ready for use if the clerk **20** activates the link **32**. The tag **30** is basically an Applet tag in an HTML document, here the statement **14**. This has the usual behavior in that when the statement **14** is opened by the clerk **20**, a browser attempts to load the object referenced by the tag **30**, here the client software **34**. It first checks the local cache and loads the client software **34** from there, if present. Otherwise it will request a download from a server as depicted. The server for this may be the provider **12**, as shown, or another location accessible via the network **18**. Once the client software **34** is loaded it is started, allowing the clerk **20** to engage in a live IM/chat **24** session with a CSR **22**.

The receiver **16** may, understandably, have some concerns about allowing the dynamic downloading, installation, and automatic operation of software such as the client software **34**. Various means exist to address such concerns and to insure that the client software **34** is safe. For instance, it can be downloaded from a trusted source or it can be vouched for by a trusted authority (i.e., signed). The security of the client software **34** is a

matter of code signing, which is today supported by browsers directly and by code signing tools produced by the vendors who sell tools for writing downloadable code.

The link **32**, when activated, causes the clerk **20** to be connected, via the network **18**, to the CSR **22** in the IM/chat **24** session. The link **32** is, conceptually, and visually if desired, a "button" that the clerk **20** at the receiver **16** presses to employ an IM/chat **24** session. Of course, in some manner the clerk **20** would have to take an action in order to either load the client software **34** and run it, or simply run it assuming it was already loaded. Such a "lazy load" may be appropriate, since there is no point in incurring the downloading of the client software **34** every time a statement **14** is opened, particularly since it may not be needed a large percentage of the time. Alternately, depending on implementation, the clerk **20** need not press anything. Merely typing a message into a window that is already visible as a result of loading and running the client software **34** is also an option.

In general, the link **32** will initiate the IM/chat **24** session. However, the nature of the link **32** can also be to use an already opened IM/chat **24** window. That is, the link **32** may not always have to explicitly open or activate the software for the IM/chat **24** – this could already be running and available (just potentially not used).

In either case, once the clerk **20** indicates a desire to engage in the IM/chat **24** session, an instant messaging window becomes active on their screen (perhaps in the same browser window as the statement **14**, perhaps in a new one) and the clerk **20** can begin typing. On the provider **12** side, routing software **36** is present that not only connects to an available (and perhaps "specialized" CSR **22**), but then automatically opens a window on a device at that CSR **22** so that a dialog is initiated as if the clerk **20** had initiated a conversation with precisely that CSR **22**. Depending on the level of sophistication desired, and as a straightforward matter of implementation, the routing software **36** can optimize which CSR **22** gets engaged in particular IM/chat **24** sessions. For example, without limitation, such optimization can be based on the identity of the receiver **16**, characteristics of or about the clerk **20** (e.g., native language), the subject of the statement **14**, a sub-topic within the statement **14** (e.g., if many links **32** are provided in the statement **14**), the availabilities and expertise of a particular CSR **22**, etc.

The nature of the IM/chat **24** sessions can also be optimized, depending on the sophistication desired and the implementation complexity. For example, the inventor contemplates that it will be popular in many embodiments of the IEDS **10** to include context meta-data, such as a copy of the very statement **14** which a clerk **20** is viewing. Based on experience with conventional, paper statements many experts feel that that this is the only

way efficient communication can be guaranteed. "Back end" systems are regarded as not reliable enough to store read-only, non-mutable, exact copies of what is sent out. The inventive IEDS **10**, however, is not limited to any particular approach here, and different embodiments can support variations as a matter of design or as user configurable options.

Only one link **32** is depicted in FIG. 1 but, as noted above, this is not a limitation and additional links **32** can be provided in the same statement **14**. Say, to contact respective CSRs **22** in different departments or at different locations within the provider **12**. For example, the provider **12** might be a large law firm and the receiver **16** might be an automobile manufacturer purchasing various legal services from offices of the provider **12** located in different cities. The statement **14** might then be a monthly invoice for those services. The provider **12** and the receiver **16** in such a scenario will typically have centralized accounting departments, lets say in Dallas and Detroit, respectively. If our hypothetical clerk **20** in Detroit needs to clarify a matter for a number for services performed by the provider's Los Angeles office, and to protest a duplicate charge in the same invoice by the provider's Denver office, the statement **14** can include respective links **32** to reach appropriate CSRs **22** in Dallas, Los Angeles, Denver, etc.

As another example, let us say our same automotive industry receiver **16** purchases seat-belts from a provider **12** with only one site, but with many departments within that single facility. The statement **14** here might be an invoice that is also supposed to include lab reports certifying that the product units meet department of transportation (DOT) standards. Let us now say that the clerk **20** has to follow up on whether specific units being invoiced for have actually shipped, as well as follow up regarding omitted lab report data for some other units. It follows that the use of different links **32** here can facilitate reaching appropriate quality control and shipping related CSRs **22**.

FIG. 2 is a flow chart depicting a process **100** by which the inventive IEDS **10** may operate. The process **100** has steps occurring at the provider **12**, and thus shown in a provider/vendor region **102**. The process **100** also has steps occurring at the receiver **16**, and thus shown in a receiver/customer region **104**.

The process **100** starts in a step **106**, where conventional, optional set-up and initiation operations may occur. In a step **108** the statement **14** is prepared and in a step **110** it is sent to the receiver **16**.

In a step **112** the receiver **16** receives the statement **14** and the tag **30** initiates a request for a copy of the client software **34**. In a step **114** a copy of the client software **34** is retrieved from a storage **115** and sent to the receiver **16**. Both step **114** and the storage **115**

are shown here as being within the provider/vendor region **102**, but, as previously discussed, that is not a requirement. Either or both of these may be elsewhere.

In a step **116** the receiver **16** receives and installs the client software **34**. In a step **118** the clerk **20** either activates the link **32**, or not. If the clerk **20** does not activate the link **32**, say, because they have no issues with the statement **14** as received, in a step **120** other, conventional processing can occur and in a step **122** the process is complete. Conventional, optional wind-down and termination operations may occur in step **122**.

Alternately, if the clerk **20** does activate the link **32**, in a step **124** the IM/chat **24** session between the receiver **16** and the provider **12** takes place. Then, in a step **126** other, conventional processing can occur and in step **122** the process is also complete.

FIG. 3 is a schematic block diagram providing an overview of a complex embodiment according to the inventive IEDS **10**. Here the provider **12** has three locations: a 1st location **38a**, 2nd location **38b**, and 3rd location **38c**. The 1st location **38a** includes three provider systems **40**, with two (marked "accounting" and "quality assurance" for example purposes) used by the provider **12** to construct and send the statements **14**, and the other including a storage (marked "client copy") for serving the client software **34**. The 2nd location **38b** and 3rd location **38c** here have two CSRs **22** each. The routing software **36** may, for instance, direct IM/chat **24** sessions to the 2nd location **38b** or the 3rd location **38c** based on business hours. However, as discussed previously, many different criteria can be used by the routing software **36**, if it is present and if it is used.

The receiver **16** in FIG. 3 has two locations: a 4th location **42a** and 5th location **42b**. The 4th location **42a** includes clerks **20** (marked "accounting" for example purposes), and the 5th location **42b** has more clerks **20** (marked "quality control" and "shipping" for example purposes here).

Despite its complexity, however, the embodiment of the IEDS **10** in FIG. 3 is merely a sophisticated extension of the underlying principles of the embodiment of the IEDS **10** in FIG. 1. The provider system **40** marked "accounting" can create billing statements **14** that are directed to the clerks **20** marked "accounting." The provider system **40** marked "quality assurance" can create lab report statements **14** that are directed to the clerk **20** marked "quality control." The clerk **20** marked "quality control" can forward a lab report statement **14** to the clerk **20** marked "shipping," and that clerk **20** can directly follow up with an IM/chat **24** session with a CSR **22** if desired. The clerks **20** can activate the links **32** to reach the CSRs **22** in whatever manner the IEDS **10** is configured. For instance, the CSR **22** marked "CSR1" can be "hard linked" so that it is communicated with only when a link **32** specifically requests

it. The other CSRs **22** (marked "CSR 2," "CSR 3," and "CSR 4") can then be "soft linked" under control of the routing software **36**. Thus, when the CSR **22** marked "CSR 2" is busy and the clerk **20** marked "accounting 2" activates a link **32**, the routing software **36** can automatically direct the ensuing IM/chat **24** to either of the CSRs **22** marked "CSR 3" or "CSR 4." Furthermore, the CSR **22** marked "CSR 4," might not even be a human service representative. It might be an automated system, with the routing software **36** programmatically connecting a clerk **20** to it only when the other CSRs **22** are all busy.

While various embodiments have been described above, it should be understood that they have been presented by way of example only, and not limitation. Thus, the breadth and scope of the invention should not be limited by any of the above described exemplary embodiments, but should be defined only in accordance with the following claims and their equivalents.

INDUSTRIAL APPLICABILITY

The present IEDS **10** is well suited for application to communicate statements **14** and then interactively communicate about such statements **14**. As has been discussed herein with regard to the inventor's best mode and preferred embodiments, the inventive IEDS **10** meets its objectives and provides numerous advantages.

The IEDS **10** fulfills the current need for providers **12** to provide the statements **14** to receivers **16**, and for the receivers **16** to then communicate back or "follow up" with the providers **12**. In doing this, however, the invention may be largely implemented within and generally employ conventional mechanisms, such as existing computer systems, e-mail, instant messaging or chat, networks such as the Internet, and the design and support skills that already exist for such mechanisms. It then follows from this, that the invention is also highly economical.

For the above, and other, reasons, it is expected that the IEDS **10** of the present invention will have widespread industrial applicability. Therefore, it is expected that the commercial utility of the present invention will be extensive and long lasting.

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IN THE CLAIMS

What is claimed is:

1. A method for interactively communicating with regard to a statement, the method comprising the steps of:

(a) preparing the statement in e-mail form to include a tag and a link, wherein the statement is prepared at a first computer system operated by a provider of the statement;

(b) communicating the statement from said first computer system to a second computer system via a network, wherein said second computer system is operated by a clerk associated with a receiver of the statement;

(c) providing a client software to said second computer system automatically based on said tag being present in the statement; and

(d) employing an instant messaging session between said second computer system of said clerk and a third computer system based on selective activation of said link by said clerk, wherein said third computer system is operated by a service representative associated with said provider.

2. The method of claim 1, wherein said first computer system and said third computer system are the same.

3. The method of claim 1, wherein said step (c) includes providing said client software from a storage within a member of the set consisting of said second computer system of said receiver, said network, and said first computer system of said provider.

4. The method of claim 1, wherein:

said provider has an associated plurality of said service representatives; and

said step (a) includes including a plurality of said links in the statement, each suitable for initiating a respective said instant messaging session with a specific said service representative.

5. The method of claim 1, wherein:

said provider has an associated plurality of said service representatives; and

said step (c) includes routing said instant messaging session to a particular said service representative based on criteria set by said provider.

6. A method for constructing an interactive statement, the method comprising the steps of:

(a) preparing an e-mail including data regarding subject matter of the statement, wherein said e-mail is prepared at a first computer system operated by a provider of the statement;

(b) including a tag in said e-mail, wherein said tag is suitable for providing an instant messaging client software in a second computer system operated by a clerk associated with a receiver of the statement; and

(c) including a link in said e-mail, wherein said link is suitable for selective activation of said client software by said clerk to employ an instant messaging session with a third computer system operated by a service representative associated with said provider.

7. The method of claim 6, wherein said first computer system and said third computer system are the same.

8. The method of claim 6, wherein said tag is suitable for providing said client software from a storage within a member of the set consisting of said second computer system of said receiver, a network accessible by said second computer system, and any computer system of said provider.

9. The method of claim 6, wherein said step (c) includes including a plurality of said links in the statement, each suitable for initiating a respective said instant messaging session with a specific said service representative.

10. A method for interactively communicating about a statement, the method comprising the steps of:

(a) receiving the statement at a first computer system operated by a clerk associated with a receiver of the statement, wherein the statement includes a tag and a link;

(b) providing an instant messaging client software in said first computer system automatically based on said tag being present in the statement; and

(c) activating said link selectively by said clerk, to employ an instant messaging

session between said first computer system to a second computer system operated by a service representative associated with a provider of the statement.

11. The method of claim 10, wherein said tag is suitable for providing said client software from a storage within a member of the set consisting of said first computer system of said receiver, a network accessible by said first computer system, and any computer system of said provider.

12. The method of claim 10, wherein the statement includes a plurality of said links each suitable for initiating a respective said instant messaging session with a specific said service representative and said step (c) includes said clerk selectively activating one said link.

13. The method of claim 10, wherein the statement includes a plurality of said links each suitable for initiating a said instant messaging session with a specific said service representative, and the method further comprising:

prior to said step (c), selecting a respective said link by said clerk; and

in said (c) activating said respective said link selected by said clerk.

14. A statement embodied in a computer readable storage medium, comprising:

a substantially conventional e-mail stored in the computer readable storage medium, wherein the computer readable storage medium is coupled with one of a first computer system of a provider that has created said e-mail, a second computer system of a clerk associated with a receiver that has received said e-mail, or a third computer system of a network wherein said e-mail is being communicated from said provider to said clerk;

a tag included in said e-mail, wherein said tag is suitable for providing a client software in said second computer system of said clerk and said client software is suitable for conducting an instant messaging session between said clerk and a service representative associated with said provider; and

a link included in said e-mail, wherein said link is suitable for selective activation by said clerk to employ said instant messaging session with said service representative.

15. The statement of claim 14, wherein said tag is suitable for providing said client software to said second computer system from a storage within a member of the set consisting of said second computer system of said receiver, said network, and said first computer system of said provider.

16. The statement of claim 14, wherein said tag is suitable for providing said client software from a storage accessible via said network and then execution of said client software at said second computer system.

17. The statement of claim 16, wherein said tag is suitable for providing said client software when said storage is within said provider.

18. The statement of claim 14, wherein:

said provider has an associated plurality of said service representatives; and

said link is suitable for employing said instant messaging session with a specific said service representative.