# METHOD FOR CROSS-PROMOTING COMMUNICATIONS SERVICES

## BACKGROUND

The growth and adoption of wide-area data networks such as the Internet have enabled merchants to offer a number of new services to consumers. These services often center around data manipulation and storage, and can be provided to a large number of consumers without significant setup or operational expense. As a result, merchants often provide these services to consumers *gratis*, and look to alternate revenue sources such as advertising and data aggregation (that is, collection and sale of data about consumers' preferences and habits) in hopes of creating a viable business. Unfortunately, operating a service business in this manner engenders a feeling of entitlement to future free service among consumers. Consequently, merchants find it difficult to provide new services which *do* require significant investment or operating capital, because consumers are reluctant to try a new service that is not free, yet many services cannot economically be provided for the amount of money that can be earned by advertising or data aggregation.

Merchants have commonly addressed this problem by simply offering the new, expensive-to-provide service *gratis* (and at a financial loss) during an introductory period, in the hope that consumers will find the service valuable or indispensable and continue to use it when the introductory period terminates and the service must be paid for. However, this all-or-nothing approach does not work well given consumers' feelings of entitlement to free services; even if the new service is convenient or useful, a consumer faced with the choice to "pay up" or get out will often grumble and stop using the service, and may become annoyed enough to abandon the merchant's other services as well.

## BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention are illustrated by way of example and not by way of limitation in the figures of the accompanying drawings in which

like references indicate similar elements. It should be noted that references to "an" or "one" embodiment in this disclosure are not necessarily to the same embodiment, and such references mean "at least one."

**Figure 1** depicts an overview of the components that may be involved in one or more embodiments of the invention.

**Figure 2** depicts an embodiment of the invention wherein a customer who uses the merchant's system to receive Y facsimile pages earns credit to use the merchant's system to transmit X facsimile pages.

**Figure 3** depicts a possible interaction between a customer and an automated server, in a service provided through another embodiment of the invention.

## DETAILED DESCRIPTION

In the information-services realm, and particularly in the realm of communication services, a single performance of a service is often of very small value, yet the ability to obtain that service at any time is important and valuable. This disparity is reflected in the pricing structure for Internet services, for example. Currently, most businesses charge a fee for generalized Internet access (hourly, or more commonly, monthly) but do not impose any extra charge for amount of data transferred, number of websites visited, or number of electronic mail messages sent or received, although it would be technologically feasible to do so.

A further economic pressure that favors pay-for-availability over pay-per-use pricing is the high (relative) transaction cost associated with small monetary value transactions. As previously noted, the value of receiving a single performance of a service is often very small. However, there are no viable, widely-accepted micropayment systems that would support a pay-per-use pricing scheme for very small transaction amounts. There is simply no

efficient way to sell a service for a fraction of a cent, or even for a few cents – all commonly-used payment methods have a transaction cost in excess of that amount.

In one embodiment of the invention, the merchant offers a customer credit toward one service when the customer uses another service. (Note that the term "customer" as used herein includes persons or entities with which the merchant has an existing commercial relationship, as well as persons or entities with which the merchant is attempting to establish a new relationship.) The merchant can maintain an account of these credits, which obviates the problem of dealing in small monetary amounts (in current-dollar terms, the range between zero and a few tens of cents, for example). Furthermore, by maintaining such an account, the merchant can fine-tune the credit offered much more precisely than can a typical merchant of physical goods who operates a typical customer loyalty program. Different credit amounts, including fractional credits, can be given based on the behaviors the merchant wants to encourage or discourage. For example, if the merchant offered services A (which was inexpensive or free, and widely used) and B (which was relatively expensive to provide and not widely used), it could encourage users to try B by offering a credit toward B each time a customer used A. However, once a particular customer had begun to use B regularly, the merchant could reduce the credit earned by using A, or transition to a B-only credit plan, where a customer would earn credit for future performances of B by using B.

Embodiments of the invention are well-suited to providing a variety of somewhat specialized communication services. For general communication services such as telephone, pager or electronic mail service, the mere availability of the service may be so valuable that consumers are willing to enter into long- or indefinite-term, monthly service contracts even if they do not always use the full amount of service to which they are entitled. However, for more specialized services such as facsimile transmission and reception, voicemail, conference call management, or oral recitation of textual data by a machine, a customer might be unwilling to enter a monthly contract when it is

uncertain whether he will use the service at all in a particular month. Such services could be excellent candidates for pay-per-use sales strategies, but for reasons already discussed, it may not be possible to sell them in that manner. However, by applying the fractional credit accounting and incentive system disclosed, it becomes feasible to offer these services on a pay-per-use basis.

In an embodiment of the invention, a merchant such as j2 Global Communications of Hollywood, California, could offer facsimile reception and transmission services to its customers. Both services may require equipment and telephone lines to communicate with traditional facsimile equipment, so some capital expenditure may be necessary to provide those services. However, for sending facsimiles, outbound calling charges are also incurred, and so that service may be more expensive to provide. Thus, while it might be possible to provide facsimile reception services for free, the merchant could not provide transmission services without charging the customer. By applying an embodiment of the invention, the merchant could introduce a customer to the transmission service on a basis that is equivalent to a free introductory period (by giving a certain number of free transmission credits), and transition smoothly over time to a pay-per-use model by adjusting the credits given for the customer's use of sending and receiving services, ultimately arriving at the point where the customer would have confidence in the commercial relationship and would be willing to leave funds on account with the merchant to pay for future facsimile transmissions. In one specific application of an embodiment of the invention, a customer could earn credits to send a first number of outbound facsimile pages each time he receives a second number of inbound pages (both the first number and the second number being selectable by the merchant).

**Figure 1** depicts a number of elements that may be involved in one or more embodiments of the invention that involve providing fax and voicemail services. A merchant such as j2 Global Communications of Hollywood, California, may maintain one or more co-located data centers **120a, 120b,** which may be located in diverse physical locations. Such diverse locations may

be chosen to facilitate connections **111a, 111b** to local telephone switching stations (not shown) that are part of a public switched telephone network (PSTN) **110**. Connections to local telephone switching stations may be desired because they allow the connected machines to be accessed through the PSTN by a local phone number (as opposed to a long-distance phone number). For example, if a co-located data center was placed in Tokyo, Japan, then the connected machines could place and receive inexpensive local phone calls to other phones in Tokyo, and less-expensive calls to and from other locations in Japan, as compared to such calls placed to or from a machine located in Geneva, Switzerland.

The co-located data centers may contain a number of server functions such as web server **121**, electronic mail (e-mail) server **122**, database server **123**, voice mail server **124**, and fax server **125**. Each function may be distributed among a number of physical machines, or a number of functions may be consolidated in one machine. The machines may be connected to a data communication network **126**, which allows them to communicate with each other and with a network routing and/or security device such as firewall **127**.

Each co-located data center may be able to communicate with other centers and/or with a central data center **150** through a variety of data networks, such as private data network **130**, virtual private network (VPN) **135**, and/or public data network **140**. The Internet is a well-known example of a public data network. Data transmitted over a private network are relatively secure against eavesdropping, but data transmitted over a public network such as the Internet may be exposed to third parties at many points. A VPN uses encryption to transmit data securely between two locations over either public or private data networks. Data are much less vulnerable to eavesdropping and modification while in transit across a VPN, so the computers using the VPN to communicate may not need to encrypt their data separately to protect it, although such encryption may provide additional security.

The merchant may operate a central data center **150**, containing server functions such as file server **151**, database server **152**, web server **153**, and

email server **154**. Each server function may be distributed across a number of physical machines, or several server functions may be consolidated on a single physical machine. Each machine may be connected to a network **155**, which may provide access to private data networks **130**, VPNs **135**, and/or public data networks **140** through a network routing and/or security device such as firewall **156**.

The merchant's customers and other participants in an embodiment of the invention include fax machines **100** and customers who connect to the PSTN by means of a land line **101** or a cell phone **102**. Customers may interact with services provided by the merchant over a data network by means of computers **165** and **170**, which may be connected directly to a public data network **140** or to the network through an ISP **160**.

A specific example of the way in which facsimile reception could be provided may be explained with reference to **Figure 1**. A person who wished to transmit a facsimile to a customer could send it through PSTN **110** from his fax machine **100** to a fax server **125** located in one of the merchant's co-located data centers **120a**, **120b**. The fax server could convert the facsimile signal into one or more tag image file format (TIFF) files. These files could be assembled into an e-mail message and sent directly to an e-mail address of the customer by e-mail server **122**, where the customer's e-mail address could be obtained from database server **123**. For added security, the message could be encrypted prior to transmission by formatting the message as an S/MIME message. The customer could view the facsimile by retrieving the e-mail message, decrypting it if necessary, and displaying the TIFF file attachments.

Alternatively, to provide increased security without the difficulty of maintaining encryption key information for each customer, the merchant could arrange a VPN connection from a co-located data center to a data center serving a number of customers (not shown). The e-mail containing the TIFF attachments could be transmitted to the data center serving a number of customers securely over the VPN, and could later be retrieved from the second data center by the customer.

In yet another alternative, the merchant could transmit the e-mail message from its co-located data center **120a** securely by means of a VPN connection **135** to its own central data center **150**. Once received in the central data center, the TIFF attachments could be removed from the e-mail message, encrypted, and stored on database server **152**. Then, a notification e-mail message could be sent from the e-mail server **154** to the customer's computer **165** or **170**, informing the customer that a facsimile was available for viewing. The customer could connect to the merchant's web server **153** through public data network **140**, using a secure protocol such as HTTPS, authenticate himself to the web server through an appropriate challenge-and-response sequence, and download or display the facsimile from the database server **152**. This alternative may provide favorable security characteristics because the facsimile data are always protected by encryption while being transmitted from one place to another.

To provide facsimile transmission services, the merchant could accept electronic mail sent from a customer's computer (**165** or **170**) to the merchant's mail server **154**. This mail could contain a destination facsimile number and an attached document or image file to be transmitted. A server in the central data center could determine which co-located data center would provide the best connection to the destination facsimile machine, where the best connection may be selected on the basis of geographical proximity, low outbound calling cost, quality of connection, or other criteria. Once a "best" data center was selected, the email could be forwarded to the email server there, and then to a facsimile server. The facsimile server could convert the document or image file into a format suitable for transmission via facsimile, and then connect to the destination facsimile machine and send the converted document or image. After transmitting the document (or after attempting but failing to transmit the document), the facsimile server could transmit an email message notifying the customer of the result of the transmission.

In another embodiment of the invention, voice message communication services may be promoted. A customer could be provided with a telephone

number that is connected to inbound call processing equipment. When a calling party dials the number, he would be asked to leave a voice message for the customer. When a message has been recorded, the customer could be notified through electronic mail or other means, and can retrieve the message at his leisure. Alternatively, the message could be converted into an electronic format and transmitted directly to a network address of the customer, without the need to store it on any of the merchant's systems.

In the context of facsimile and/or voice mail reception and facsimile transmission services, the embodiment of the invention depicted graphically in **Figure 2** would permit the merchant to offer to transmit X facsimile pages for a customer each time the customer receives Y voice mail messages or facsimile pages, where "X" and "Y" are non-negative numbers, and "X" need not be an integer. The merchant **201** would provide a telephone number **202** to the customer **203**, where the telephone number was connected to a device **206** maintained by the merchant that can record voice mail messages and/or receive facsimiles. The customer could give the telephone number to third parties **204** as the customer's own voice mail or facsimile number. When a voice mail message or facsimile is sent to that telephone number **205**, the merchant's device **206** receives it and may retransmit it to the customer, store it locally, or forward it to a central repository for later retrieval by the customer. In addition, the device **206** may notify the customer that the message or facsimile has been received. When Y messages and/or pages have been received, the customer's account **207** is credited so that the customer can send X facsimile pages by using the merchant's equipment, according to the method described above. After transmission, the merchant could deduct the number of pages sent from the customer's credit balance.

Another communication service that is suitable for promotion though this invention is conference call management. A merchant could provide a telephone number to a customer, where the telephone number is connected to equipment that can receive multiple callers and connect them in a conference-call fashion. The telephone number could be dedicated to conferences hosted

by the customer, or it could be allocated only temporarily to the customer for a limited time.

Another communication service that is suitable for promotion through this invention is oral recitation of textual data. Many consumers receive information in electronic form, through electronic mail or other channels. However, when a customer lacks the necessary equipment to retrieve and/or review the information, a proxy service that can access the information and communicate it to the customer may be useful. This service comprises receiving a voice telephone call from the customer, identifying textual data that the customer wishes to review, locating the data and reading it to the customer over the voice telephone connection. The identification, location, and reading can all be performed by an automated attendant system.

Another communication service that is suitable for promotion through this invention is "find-me/follow-me." In this service, a customer can obtain a special telephone number that is connected to a find-me/follow-me server, which is capable of locating the customer and connecting calls to him based on a set of rules and other information. Thus, calls from certain originating phone numbers might be forwarded to the customer's home phone, cell phone, or a phone near the customer's present physical location (if that location was known). Alternatively, unwanted calls might be directed to voicemail or simply dropped after a notification that the customer was "presently unavailable."

A sample interaction with such an automated attendant is depicted in **Figure 3**. The customer **301** places a voice call to the automated attendant **302**, and issues a request to "read e-mail," **303**. The attendant responds with the number of messages found **304**. The customer instructs the attendant to find a particular message **305**, and the attendant responds with information **306** about any messages located. Finally, the customer can instruct the attendant to read the message **307**, and the attendant complies **308**.

It will be apparent to one of ordinary skill in the art that other communication services, beyond those discussed previously, can also be promoted by means of the invention.

Possible promotion patterns include offering to transmit X facsimile pages for free for each Y voice mail messages or facsimile pages received, up to a selectable maximum of number of pages or messages in either direction, or up to a maximum number of pages or messages per unit of time such as a day, week, or month. Pages transmitted in excess of the free pages earned might be billed at an appropriate rate determined by the merchant, which may incorporate such considerations as reduced rates for certain destinations or for volume exceeding a certain number of pages. Alternate promotion patterns include offering a selectable number of minutes of conference call activity or interaction with an automated attendant to review electronic information in exchange for receiving or transmitting a number of facsimile pages.

An embodiment of the invention may be a machine-readable medium having stored thereon instructions which cause a processor to perform a process according to an embodiment of the invention. In other embodiments, operations might be performed by specific hardware components that contain hardwired logic. Those operations might alternatively be performed by any combination of programmed computer components and custom hardware components.

A machine-readable medium may include any mechanism for storing or transmitting information in a form readable by a machine (*e.g.*, a computer), not limited to Compact Disc Read-Only Memory (CD-ROMs), Read-Only Memory (ROMs), Random Access Memory (RAM), Erasable Programmable Read-Only Memory (EPROM), and a transmission over a data network such as the Internet.

The applications of the present invention have been described largely by reference to specific examples and in terms of particular allocations of functionality to certain hardware components. However, those of skill in the

art will recognize that alternate communication services may also be promoted in the manner disclosed, and that hardware and software functionality may be distributed among a large number of cooperating machines or may be performed by a single device. Such variations and implementations are understood to be apprehended according to the following claims.

## CLAIMS

1. A computerized method comprising:

performing, by a computer system of a merchant, a first communication service to a customer, by transmitting electronic data between the customer and a participant; [[and]]

determining, by the computer system of the merchant, whether the customer has used a predetermined amount of the first communication service; and

transmitting, by the computer system of the merchant, an offer to the customer to perform a second, different communication service at a price that is less than a usual price for the second communication service when the customer has used the predetermined amount of the first communication service.

2. The method of claim 1 wherein the first communication service is one of facsimile transmission, facsimile reception, conference call management, voice mail and machine-implemented oral recitation of textual data.

3. The method of claim 1 wherein the second communication service is one of facsimile transmission, facsimile reception, conference call management, find-me/follow-me and machine-implemented oral recitation of textual data.

4. The method of claim 1 wherein the second communication service is performed to the customer at no charge to the customer.

5. The method of claim 1 wherein said transmitting the offer for the second communication service at a price that is less than the usual price comprises notifying the customer that he is given a credit to receive a predetermined amount of the second communication service for free.

6. The method of claim 5 where the credit is stored in a customer account maintained for the benefit of the customer.

7. The method of claim 1 wherein the first communication service is forwarding a facsimile received at an inbound telephone number assigned to the customer, to a data network address of the customer.

8. The method of claim 7 wherein the data network address is an electronic mail address.

9. The method of claim 7 wherein the second communication service is forwarding via a facsimile transmitter a message received from the customer to a destination selected by the customer.

10. A computer-readable storage medium comprising processor instructions that, when executed by a computer system,

cause a first communication service to be performed by the computer system for a customer by transmission of electronic data between the customer and a participant, determine whether the customer has used a predetermined amount of the first communication service, and present an offer of a second, different communication service to the customer at a price that is less than a usual price for the second communication service when the customer has used the predetermined amount of the first communication service.

11. The storage medium of claim 10 further comprising instructions that maintain a customer account for the benefit of the customer and credit the customer account with an amount by which the second communication service is offered below the second communication service's usual price.

12. The storage medium of claim 10 wherein the first communication service and the second communication service are one of facsimile transmission, facsimile reception, conference call management, and machine-implemented oral recitation of textual data.

13. The storage medium of claim 10 wherein the first communication service is facsimile reception and the second communication service is facsimile transmission.

14. The storage medium of claim 13 wherein the offer of the second communication service being contingent upon use of the first communication service is to transmit a predetermined number of free facsimile pages for every predetermined number of facsimile pages received.

15. The storage medium of claim 10 wherein the first communication service is voice message reception and the second communication service is voice message transmission.

16. The storage medium of claim 15 wherein the offer of the second communication service being contingent upon use of the first communication service is to transmit a predetermined number of free voice messages for every predetermined number of voice messages received.

17. A computerized method comprising:

providing, by a computer system of a merchant, a first communication service to a customer, the first communication service supports a transmission of electronic data between the customer and a participant;

providing, by the computer system of the merchant, a second communication service that is different from the first communication service to the customer; and

giving, by the computer system of the merchant, the customer credit for having used a predetermined amount of the first communication service, wherein the credit is given in the form of making a predetermined amount of the second communication service available to the customer for free.

18. The method of claim 17 wherein the first communication service comprises

receiving a facsimile transmission and sending a message to the customer to notify him that the facsimile transmission has been received; and the second communication service comprises

accepting an electronic message from the customer, converting the message to a format suitable for transmission via facsimile, and transmitting the converted message to a recipient; and

the credit is in the form of a predetermined number of pages that can be transmitted by the second communication service.

19. A computerized method comprising:

providing to a customer, by a computer system of a merchant, a telephone number of a device that can receive facsimile transmissions;

receiving, by the computer system of the merchant, one or more pages transmitted to the device; and

offering, by the computer system of the merchant, to transmit via facsimile, at no charge to the customer, a number of pages that is proportional to the one or more pages received by the

device, wherein a cost of transmitting more than said number of pages by the computer system of the merchant, on behalf of the customer, is charged to the customer.