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| 2. 🗸 A | Applicant of | t an original and a duplicate for fee processing) ant claims small entity status. 7 CFR 1.27. | | 9. Assignment Papers (cover sheet & document(s)) | | | | | | | |
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| | or Declara | 10. 37 CFR 3.73(b) Statement Power of (when there is an assignee) Attorney | | | | | | | | | |
| i. | (for con | ntinuation/divisional with Box | 18 completed) | 11. English Translation Document (if applicable) | | | | | | | |
| | Signe | ed statement attached deleting i e in the prior application, see 37 (d)(2) and 1.33(b). | nventor(s) CFR | 12. Information Disclosure Statement (PTO/SB/08 or PTO-1449) Copies of citations attached | | | | | | | |
| 6. 🗌 🖌 | Applicatio | on Data Sheet. See 37 CFR | 1.76 | 13. Preliminary Amendment | | | | | | | |
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| Prior applic | cation inform | nation: Examine | er Todd Ingberg | | Art Unit: 🛓 | 2124 | | | | | |
| | | | 19. CORRESPO | NDENCE ADDRESS |) | | | | | | |
| The a | address as: | sociated with Customer Number | | | OR | Corre | spondence address below | | | | |
| Name | Jos | Joseph E. Chovanes | | | | | | | | | |
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| Country | US | ** | 610.648.3994 | | Email jchovanes@chovanes. | | | | | | |
| Signature | | \sim | ~ | | Date | 4/5/2006 | | | | | |
| Name | | Joseph E. Chovanes | | | • | Registration | 1 No. 33,481 | | | | |

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USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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| Signature | <u> </u> | | Registration No. (Attomey/Agent) 33,481 | | | Telephone 610.648.3994 | | |
| Name (Print/Type) Joseph E. | | Date 4/5 | /2006 | | | | | |
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APPARATUS AND SYSTEMS FOR MEASURING, MONITORING, TRACKING AND SIMULATING ENTERPRISE COMMUNICATIONS AND PROCESSES

This application is a CONTINUATION of U.S. Patent Application Serial No. 09/737,494 of Promenix, Inc. filed December 15, 2000.

The present invention relates to apparatus and systems for measuring, monitoring, tracking and simulating enterprise communications and processes. More particularly, the present invention relates to computer-based apparatus and systems for measuring, monitoring, tracking and simulating enterprise communications and processes in an asynchronous messaging environment.

BACKGROUND OF THE INVENTION

The activities of a business or enterprise can be grouped into processes. Processes are business operations that are separated as desired and usually occur across business units. For example, the process of taking orders and turning those orders into revenue may be known as Order to Cash. The processes are comprised of sub-processes. For example, Order to Cash may be broken down into sub-processes such as Receive Order Inquiry, Provide Customer Quotation, Create Customer Outline Agreement, Create Sales Order, Schedule Production, Manufacture Product, Ship Product and Invoice Customer. Each sub-process may in turn be broken down into discrete activities such as providing customer number, entering that customer number, establishing pricing, determining a shipping date, etc.

The processes, sub-processes and activities operate, in part, by communicating information. For example, users may communicate through email. As another example,

applications may communicate amongst themselves through electronic data interchange ("EDI") and other similar services. Communication occurs horizontally, that is, among a process, sub-process and activities, as well as vertically, that is, between processes, subprocesses and activities.

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Whether communications occur horizontally or vertically, among applications or users, communications are increasingly asynchronous or message based. That is, enterprise communications were formerly primarily synchronous, or connection oriented, in which a connection is established with prior coordination between communication end points with data then being transmitted over the connection. Enterprise communications are now increasingly asynchronous, or connectionless, transmitting data without prior coordination between communication end points, such as through "event based" communications which use messages to move data instead of large files.

Asynchronous or message based communications permit loosely coupled connections among and between systems because the end points do not have to be prepared to receive the data when the message is transmitted. Loosely coupled connections permit more flexibility in assembling processes. Flexibility in assembling processes is desirable in order to permit quick reaction to changing business conditions: if a particular sub-process or activity becomes unusable, the process can be reassembled with a new sub-process or activity. For example, if a Manufacture Product sub-process in the Order to Cash process at Widget Co. enterprise has a specific factory identified to manufacture the product and that factory has a fire or other disaster, making it unusable, Widget Co. will need to substitute a new factory. The ripple effect of that substitution among all of Widget Co.'s processes will change any number of parameters. A loosely

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coupled asynchronous connection among Widget Co.'s processes provides rapid substitution of the new factory for the old because the end points of communication to the new factory do not have to be predetermined before communications begin with the new factory. Thus, the flexibility of the asynchronous message based communication has permitted quick response to changing business conditions.

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Despite this flexibility, asynchronous or message based communications are problematic because of their loosely coupled nature. At any given time, precise information on the progress of the processes is difficult to obtain -- messages may be in transit and not instantly locatable. For example, if a customer calls for the status of an order, an enterprise customer service representative may be able to determine nothing more than the fact that the order has been received and that the scheduled ship date is X. There is often no ability to drill down into the information levels and review the status in more granularity, such as the location of the good, the manufacturing status, etc., because the information required to review that status is in transit and unable to be reviewed.

Of course, if the enterprise lacks the ability to access status information, business partners of the enterprise will similarly lack that ability. Thus, asynchronous communications may well increase inefficiency among business partners as well.

The difficulty in reporting caused by message based architecture also makes it difficult for the enterprise to measure the efficiency of its processes and their sub-process. Asynchronous messaging, with its indeterminate transmission of information, means a company may not be able to easily measure the interval between each sub-process, e.g. the time between Scheduling Production and the Manufacturing of a Product, and so easily measure the efficiency of their operations.

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