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McIver et al.

(54) **METHOD, SYSTEM, AND COMPUTER PROGRAM PRODUCT FOR ELECTRONIC MESSAGING**

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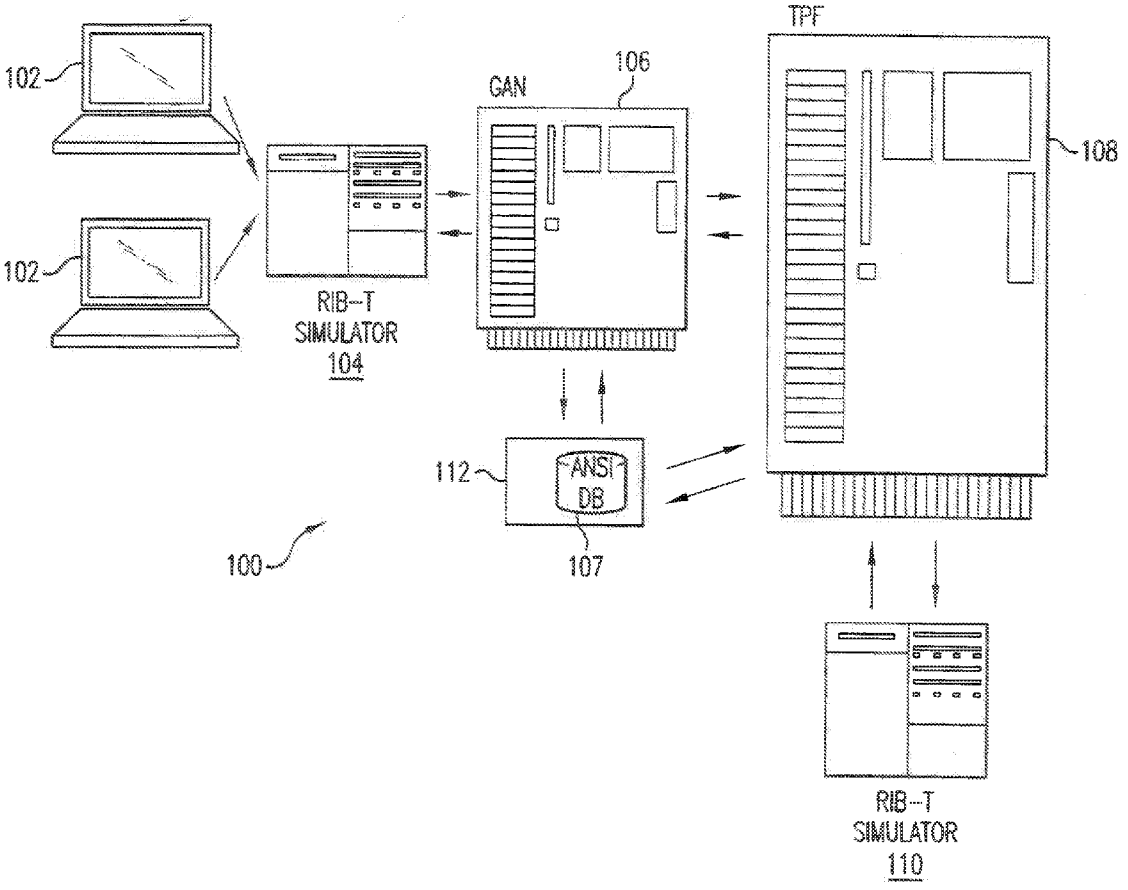
CPC ***G06F 11/28*** (2013.01)
USPC **714/703**

(57) **ABSTRACT**

A browser-based simulator may be used to create and send test messages to one or more transaction processing facilities (TPFs) to determine the response of the TPF system. It allows a user or plurality of users to create ISO 8583 messages, send the messages to the TPF systems, receive a response, and display the results to the users. Messages created by the simulator are stored within an ANSI queryable SQL database to make test selection simple. The TPF test messages and results are thus available worldwide. Further, the simulator is server-based, so desktop licenses are not required. The simulator allows a user to either select a preformatted message or derive a new message by selecting the data of interest.



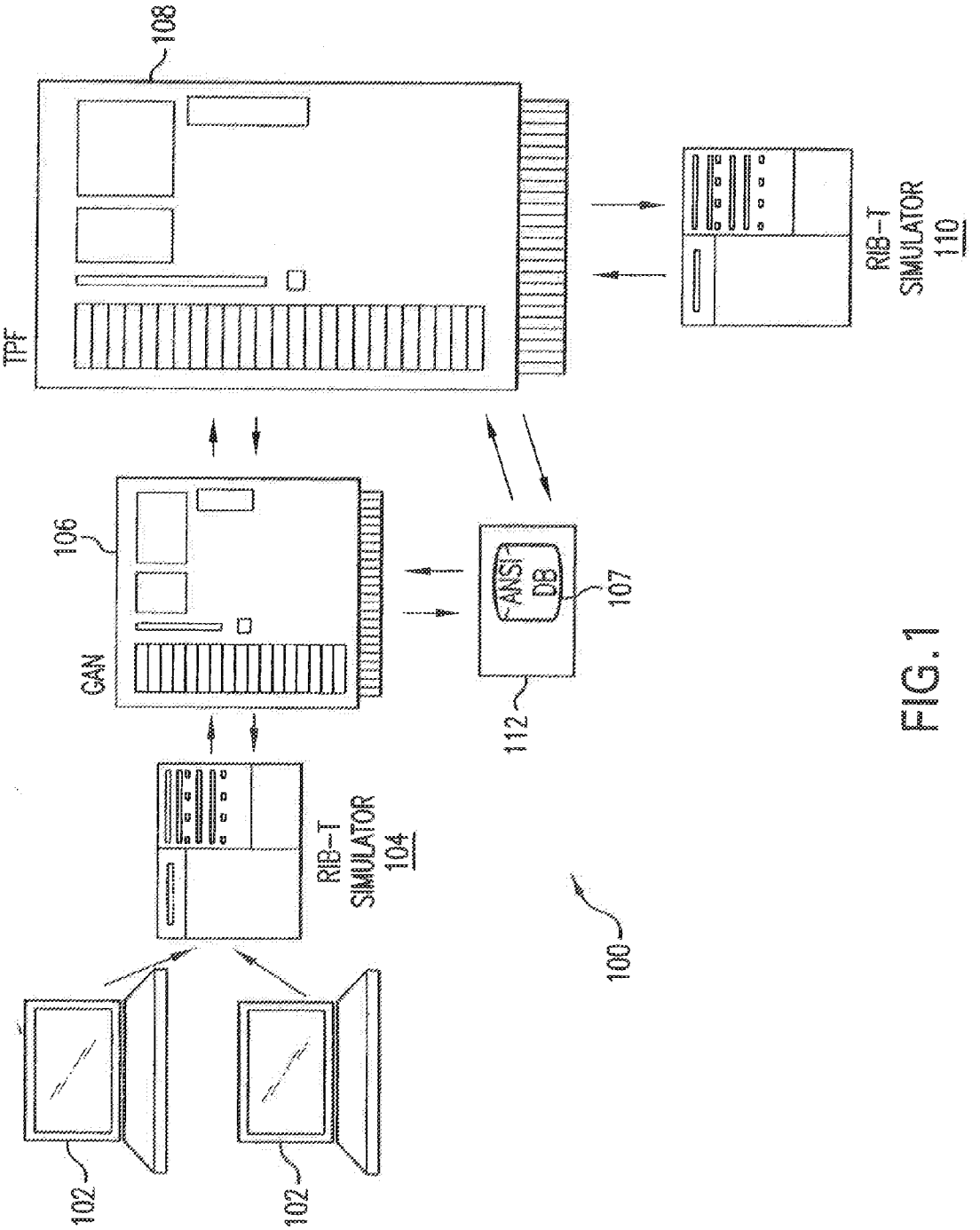

108
TPF
RIB-T SIMULATOR 110
106
CAN
ANSI DB
107
112
RIB-T SIMULATOR 104
100
102
102

FIG. 1

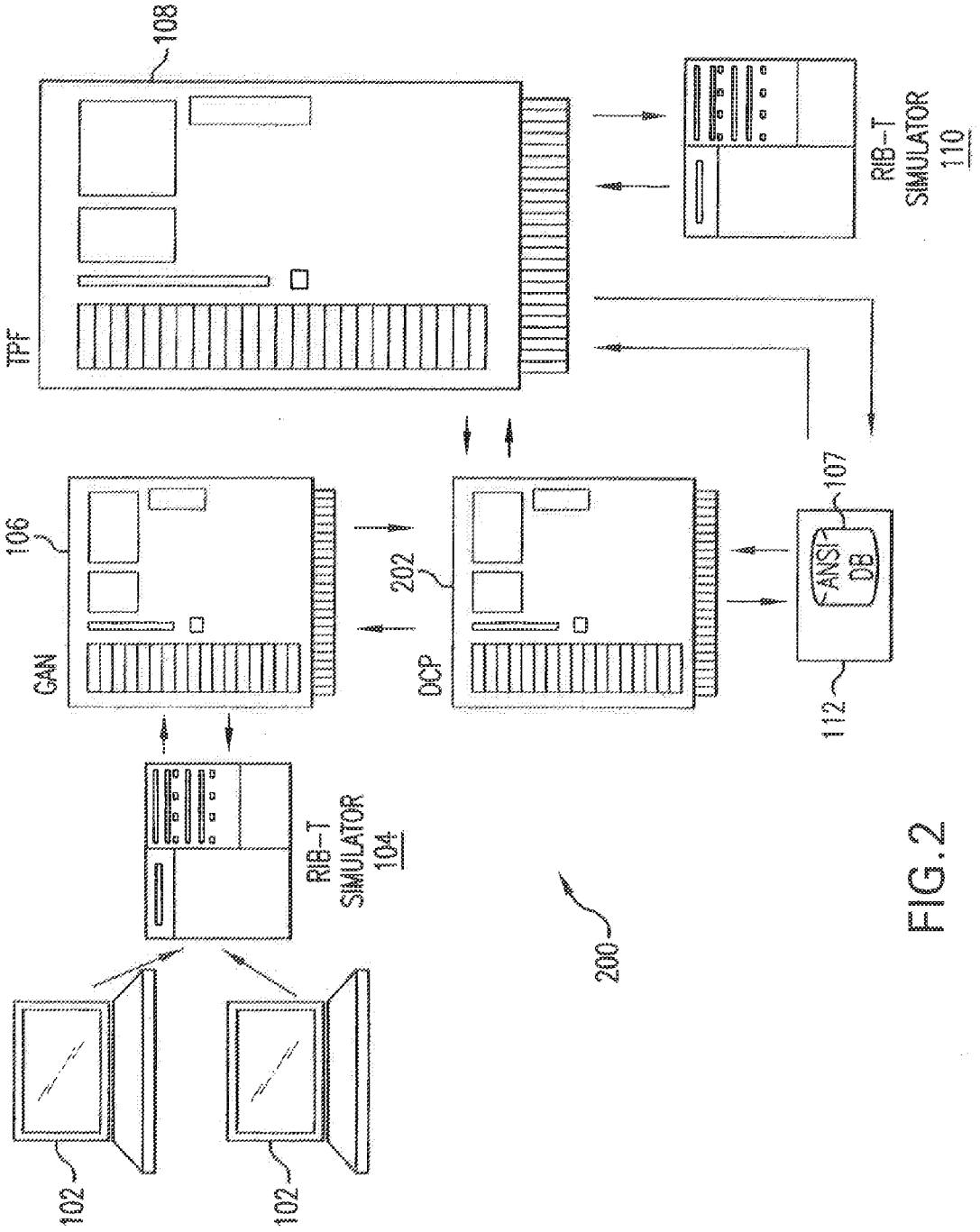

108
TPF
RIB-T SIMULATOR 110
106
GAN
202
DCP
107
ANSI DB
112
RIB-T SIMULATOR 104
102
102
200

FIG. 2

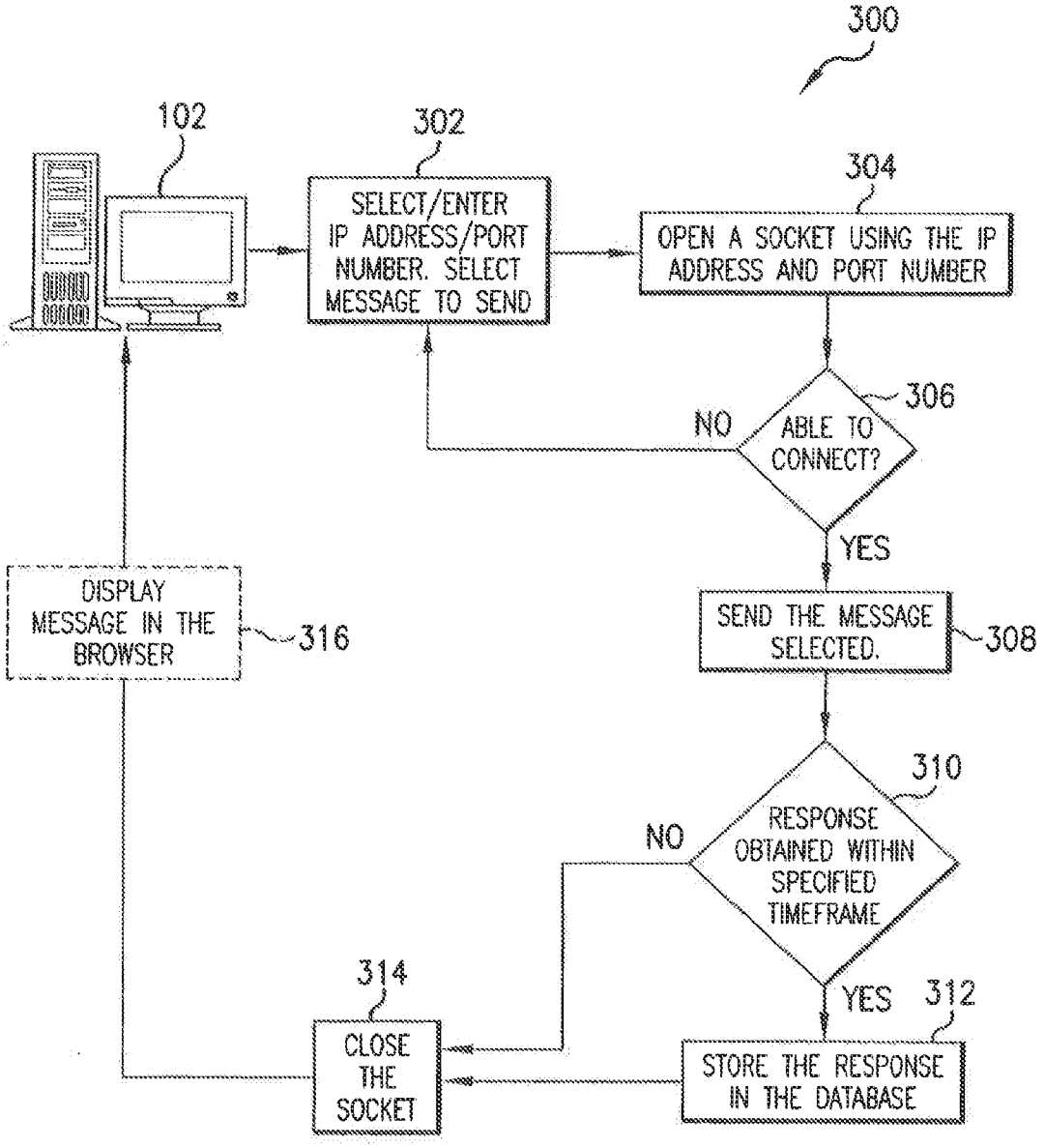

300
102
302
304
SELECT/ENTER IP ADDRESS/PORT NUMBER. SELECT MESSAGE TO SEND
OPEN A SOCKET USING THE IP ADDRESS AND PORT NUMBER
306
NO
ABLE TO CONNECT?
YES
DISPLAY MESSAGE IN THE BROWSER
316
SEND THE MESSAGE SELECTED.
308
310
NO
RESPONSE OBTAINED WITHIN SPECIFIED TIMEFRAME
314
YES
312
CLOSE THE SOCKET
STORE THE RESPONSE IN THE DATABASE

FIG.3

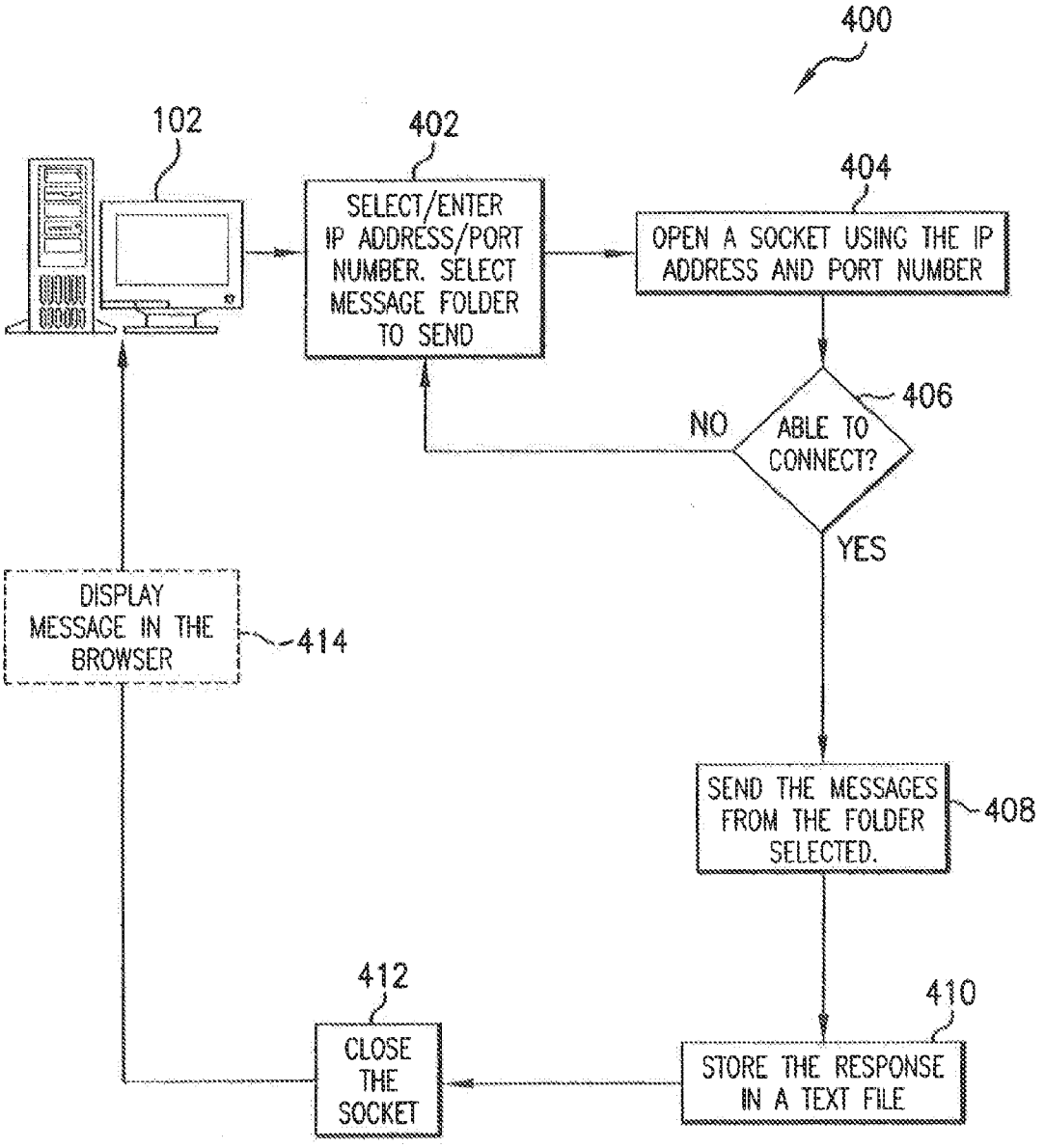

400
102
402
SELECT/ENTER IP ADDRESS/PORT NUMBER. SELECT MESSAGE FOLDER TO SEND
404
OPEN A SOCKET USING THE IP ADDRESS AND PORT NUMBER
406
ABLE TO CONNECT?
NO
YES
DISPLAY MESSAGE IN THE BROWSER
414
SEND THE MESSAGES FROM THE FOLDER SELECTED.
408
412
CLOSE THE SOCKET
410
STORE THE RESPONSE IN A TEXT FILE

FIG.4

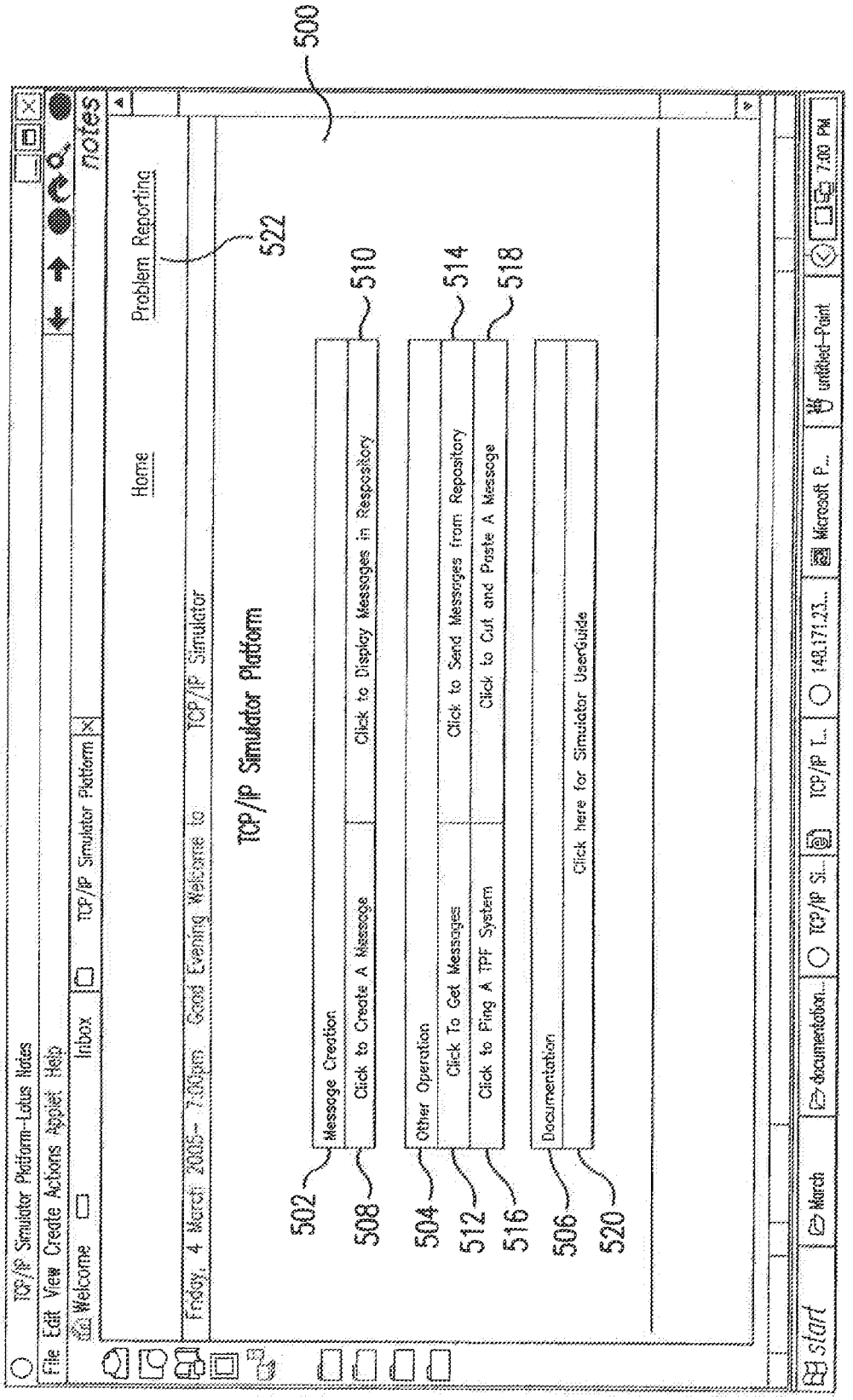

500
TCP/IP Simulator Platform - Lotus Notes
File Edit View Create Actions Applet Help
Welcome
Inbox
TCP/IP Simulator Platform
notes
Home
Problem Reporting
522
Friday, 4 March 2005 - 7:00pm Good Evening Welcome to TCP/IP Simulator
TCP/IP Simulator Platform
Message Creation
Click to Create A Message
Click to Display Messages in Repository
Other Operation
Click To Get Messages
Click to Send Messages from Repository
Click to Ping A TPF System
Click to Cut and Paste A Message
Documentation
Click here for Simulator UserGuide
502
508
504
512
516
506
520
510
514
518
start
March
documentation...
TCP/IP Si...
TCP/IP L...
148.171.23...
Microsoft P...
untitled - Paint
7:00 PM

FIG. 5

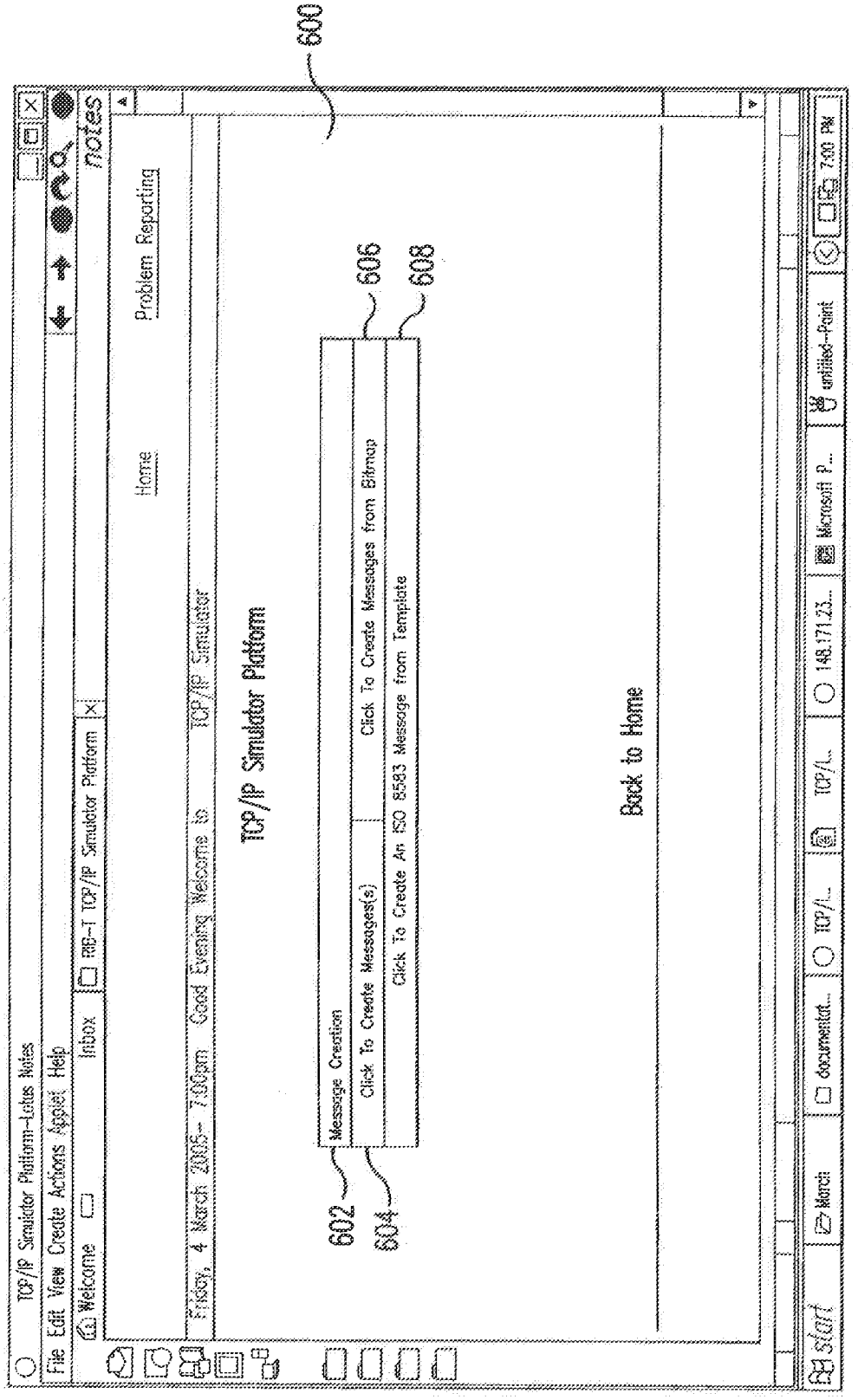

600
TCP/IP Simulator Platform - Lotus Notes
File Edit View Create Actions Applet Help
Welcome
Inbox
RBE-T TCP/IP Simulator Platform
notes
Home
Problem Reporting
Friday, 4 March 2005 - 7:00pm Good Evening Welcome to TCP/IP Simulator
TCP/IP Simulator Platform
Message Creation
Click To Create Messages(s)
Click To Create Messages from Bitmap
Click To Create An ISO 8583 Message from Template
606
608
602
604
Back to Home
start
March
documentat...
TCP/I...
TCP/I...
148.171.23...
Microsoft P...
unified-Point
7:00 PM

FIG. 6

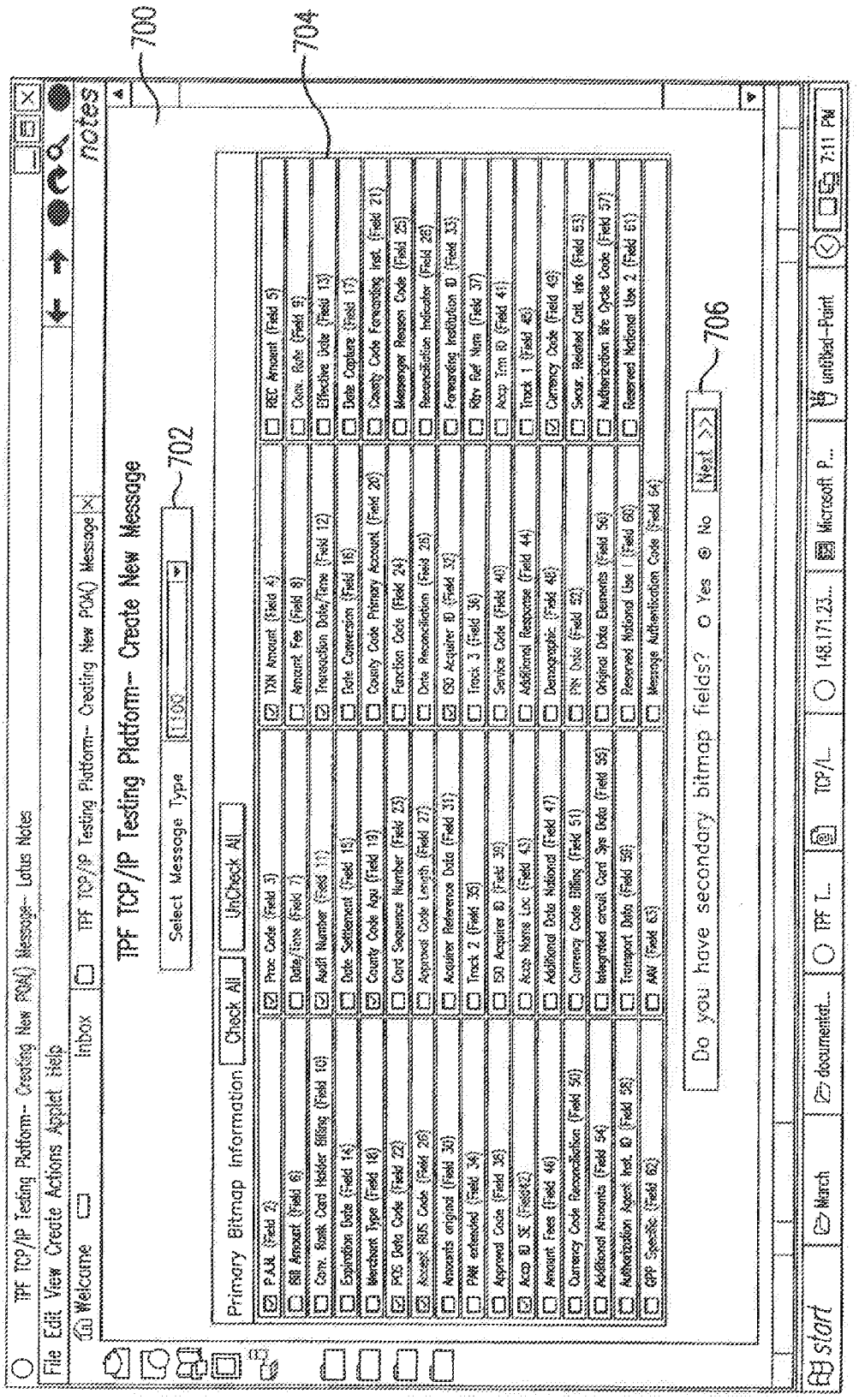

700
704
TPF TCP/IP Testing Platform-- Create New Message
Select Message Type
702
Primary Bitmap Information
Check All
UnCheck All
Do you have secondary bitmap fields?
Yes
No
Next >>
706

FIG. 7

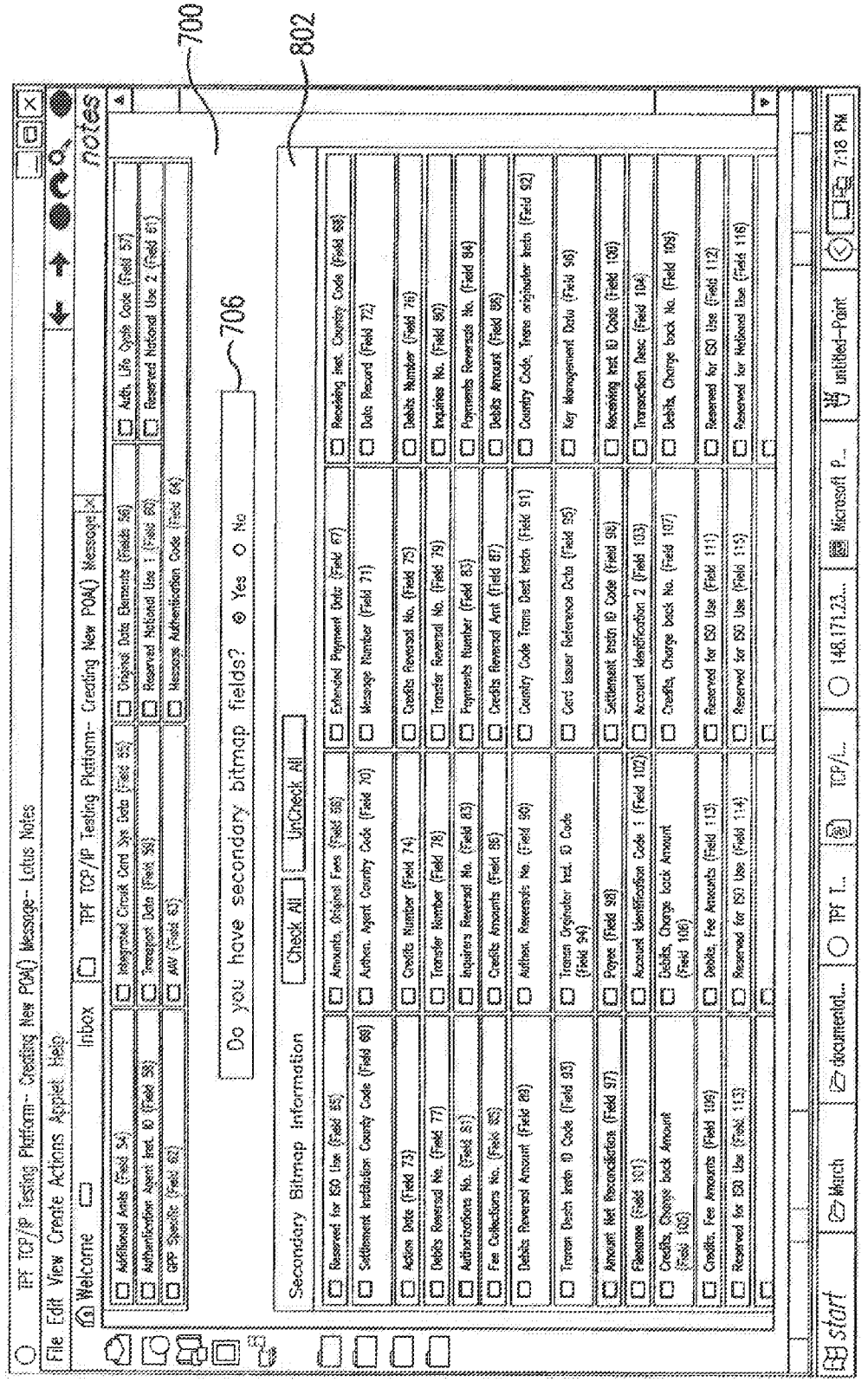

700
802
706
Do you have secondary bitmap fields?
Yes
No
Secondary Bitmap Information
Check All
UnCheck All
IPF TCP/IP Testing Platform-- Creating New POA() Message-- Lotus Notes
File Edit View Create Actions Applet Help
Welcome
Inbox
IPF TCP/IP Testing Platform-- Creating New POA() Message
notes
start
March
documentat...
IPF T...
TCP/I...
148.171.23...
Microsoft P...
untitled-Paint
7:18 PM

FIG. 8

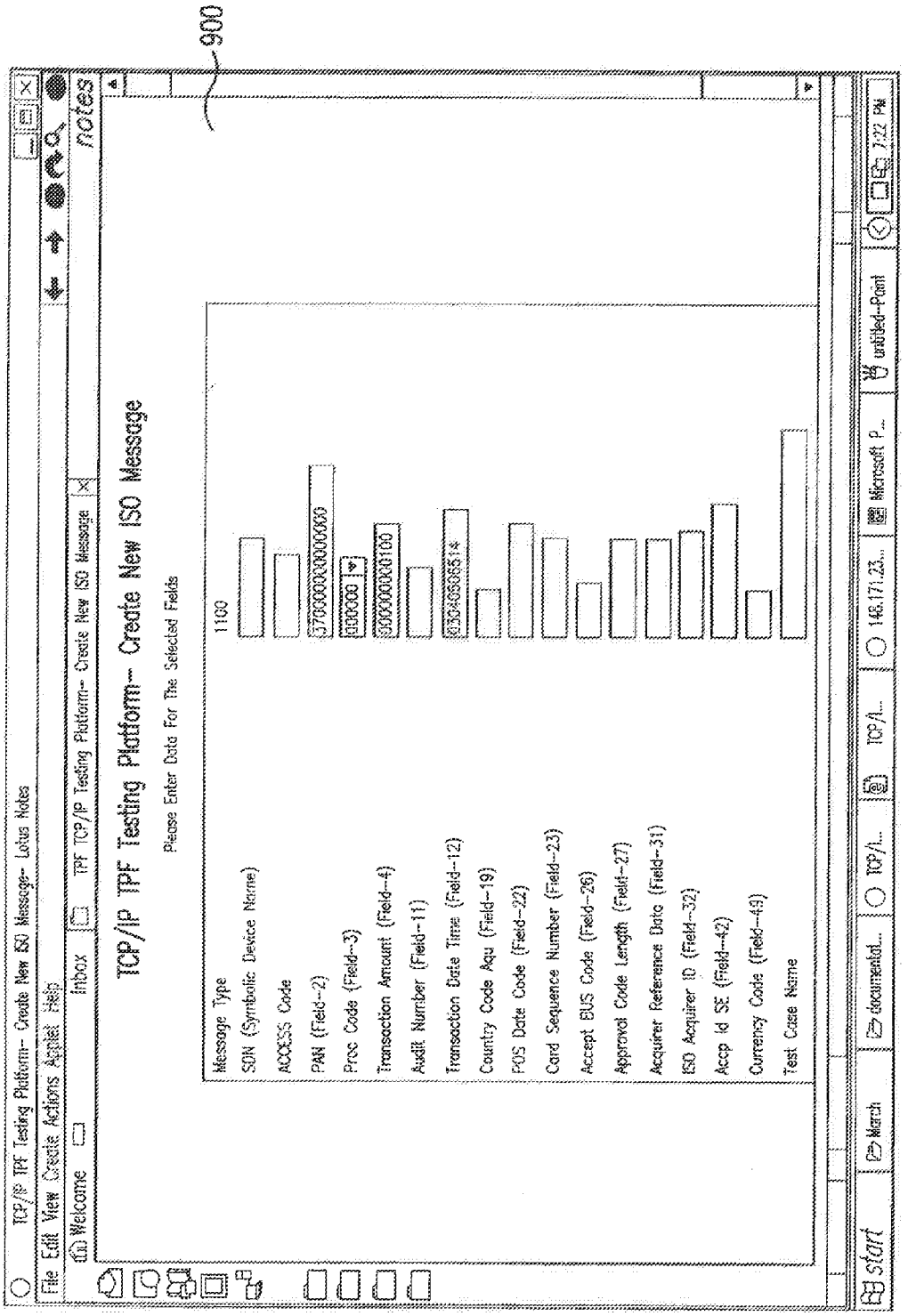

900
TCP/IP TPF Testing Platform-- Create New ISO Message
Please Enter Data For The Selected Fields
1100
Message Type
SDN (Symbolic Device Name)
ACCESS Code
PAN (Field-2)
Proc Code (Field-3)
Transaction Amount (Field-4)
Audit Number (Field-11)
Transaction Date Time (Field-12)
Country Code Acq (Field-19)
POS Date Code (Field-22)
Card Sequence Number (Field-23)
Accept BUS Code (Field-26)
Approval Code Length (Field-27)
Acquirer Reference Data (Field-31)
ISO Acquirer ID (Field-32)
Accp Id SE (Field-42)
Currency Code (Field-49)
Test Case Name

FIG. 9

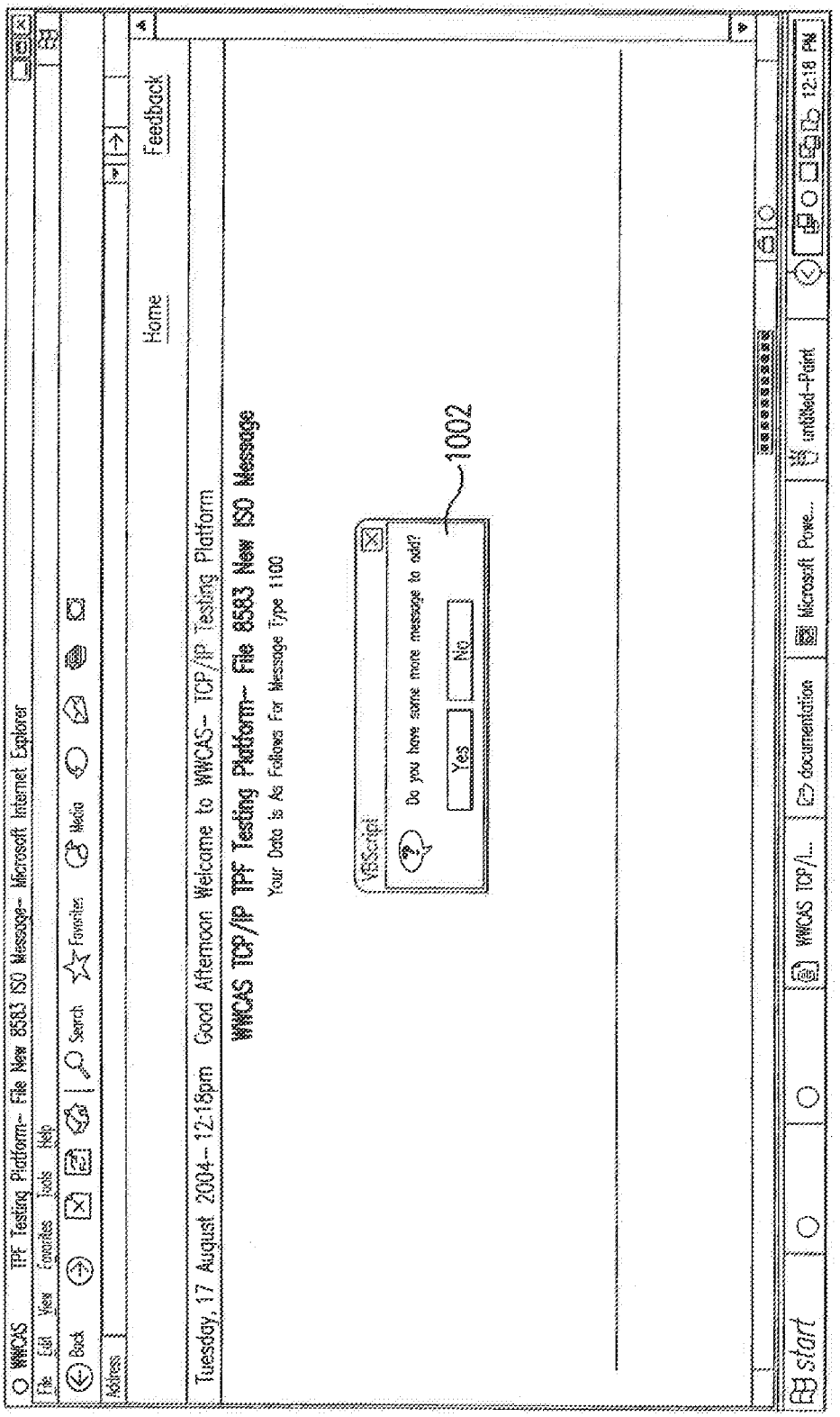

WWCAS TPF Testing Platform- File New 8583 ISO Message- Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address
Home
Feedback
Tuesday, 17 August 2004- 12:18pm Good Afternoon Welcome to WWCAS- TCP/IP Testing Platform
WWCAS TCP/IP TPF Testing Platform- File 8583 New ISO Message
Your Data is As Follows For Message Type 1100
VBScript
Do you have some more message to add?
Yes
No
1002
start
WWCAS TCP/I...
documentation
Microsoft Powe...
untitled - Paint
12:18 PM

FIG. 10

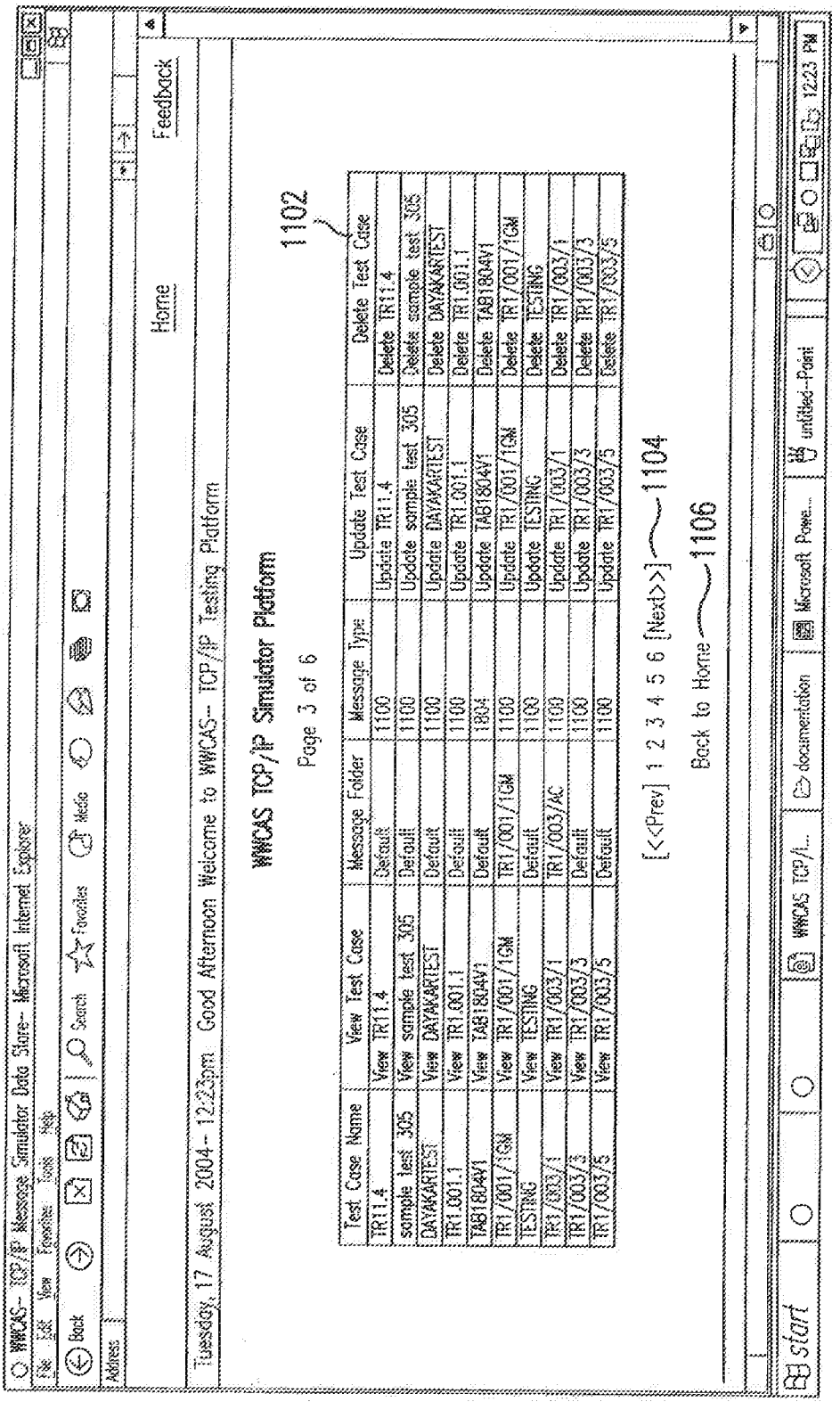

WWCAS- TCP/IP Message Simulator Data Store- Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address
Home
Feedback
Tuesday, 17 August 2004- 12:23pm Good Afternoon Welcome to WWCAS-- TCP/IP Testing Platform
WWCAS TCP/IP Simulator Platform
Page 3 of 6
1102
Test Case Name | View Test Case | Message Folder | Message Type | Update Test Case | Delete Test Case
TR11.4 | View TR11.4 | Default | 1100 | Update TR11.4 | Delete TR11.4
sample test 305 | View sample test 305 | Default | 1100 | Update sample test 305 | Delete sample test 305
DAYAKARTEST | View DAYAKARTEST | Default | 1100 | Update DAYAKARTEST | Delete DAYAKARTEST
TR1.001.1 | View TR1.001.1 | Default | 1100 | Update TR1.001.1 | Delete TR1.001.1
TAB1804V1 | View TAB1804V1 | Default | 1804 | Update TAB1804V1 | Delete TAB1804V1
TR1/001/1GM | View TR1/001/1GM | TR1/001/1GM | 1100 | Update TR1/001/1GM | Delete TR1/001/1GM
TESTING | View TESTING | Default | 1100 | Update TESTING | Delete TESTING
TR1/003/1 | View TR1/003/1 | TR1/003/AC | 1100 | Update TR1/003/1 | Delete TR1/003/1
TR1/003/3 | View TR1/003/3 | Default | 1100 | Update TR1/003/3 | Delete TR1/003/3
TR1/003/5 | View TR1/003/5 | Default | 1100 | Update TR1/003/5 | Delete TR1/003/5
[<<Prev] 1 2 3 4 5 6 [Next>>]
1104
Back to Home
1106
start
WWCAS TCP/I...
documentation
Microsoft Powe...
untitled - Paint
12:23 PM

FIG. 11

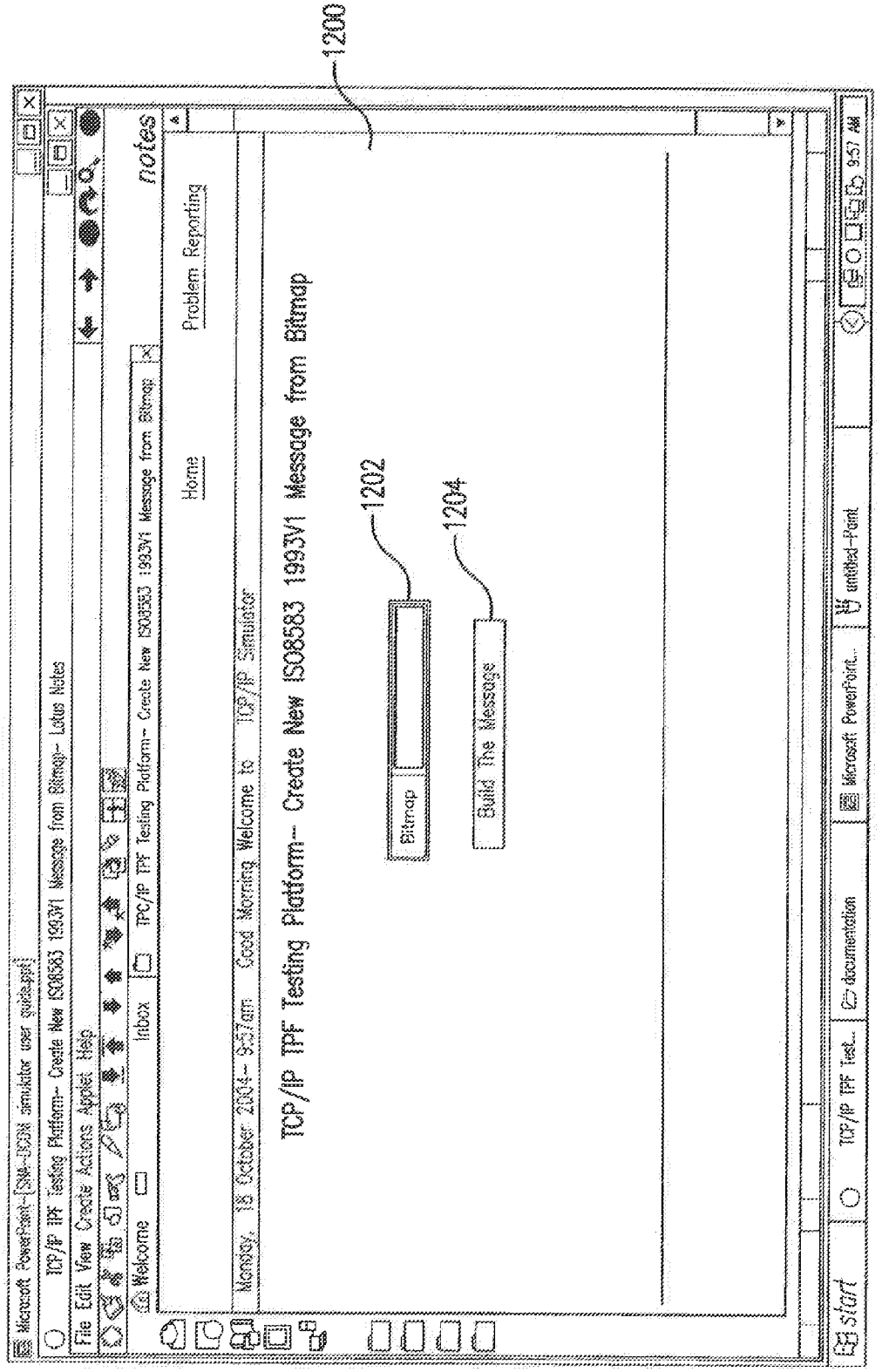

1200
1202
1204
TCP/IP TPF Testing Platform-- Create New ISO8583 1993V1 Message from Bitmap
Bitmap
Build The Message
Home
Problem Reporting
notes

FIG. 12

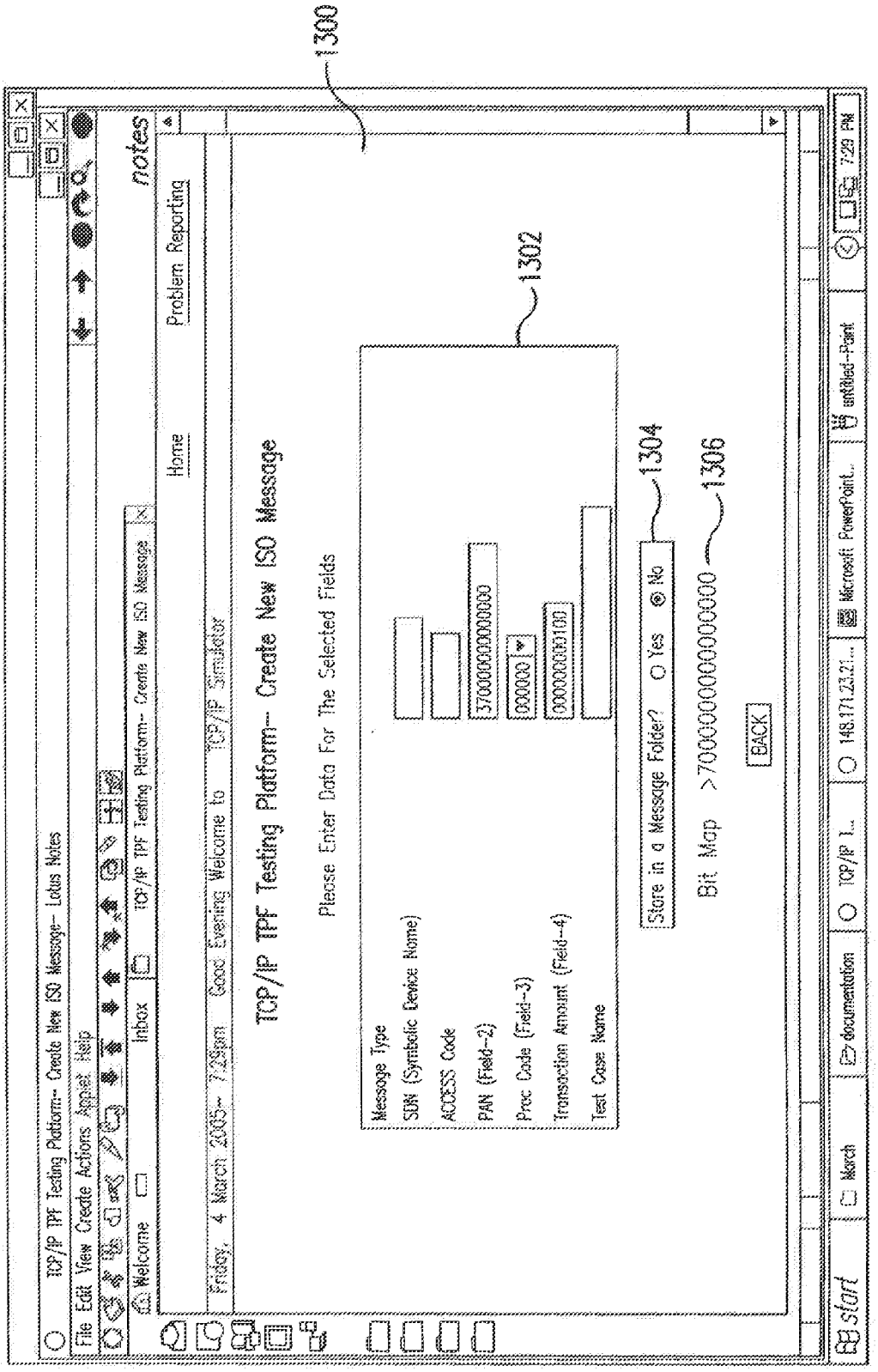

1300
TCP/IP TPF Testing Platform-- Create New ISO Message- Lotus Notes
File Edit View Create Actions Appel Help
Welcome
Inbox
TCP/IP TPF Testing Platform-- Create New ISO Message
notes
Home
Problem Reporting
Friday, 4 March 2005- 7:29pm Good Evening Welcome to TCP/IP Simulator
TCP/IP TPF Testing Platform-- Create New ISO Message
Please Enter Data For The Selected Fields
1302
Message Type
SDN (Symbolic Device Name)
ACCESS Code
PAN (Field-2)
Proc Code (Field-3)
Transaction Amount (Field-4)
Test Case Name
3700000000000
000000
000000000100
1304
Store in a Message Folder? Yes No
1306
Bit Map >70000000000000000
BACK
start
March
documentation
TCP/IP L...
148.171.23.21...
Microsoft PowerPoint...
untitled--Paint
7:29 PM

FIG. 13

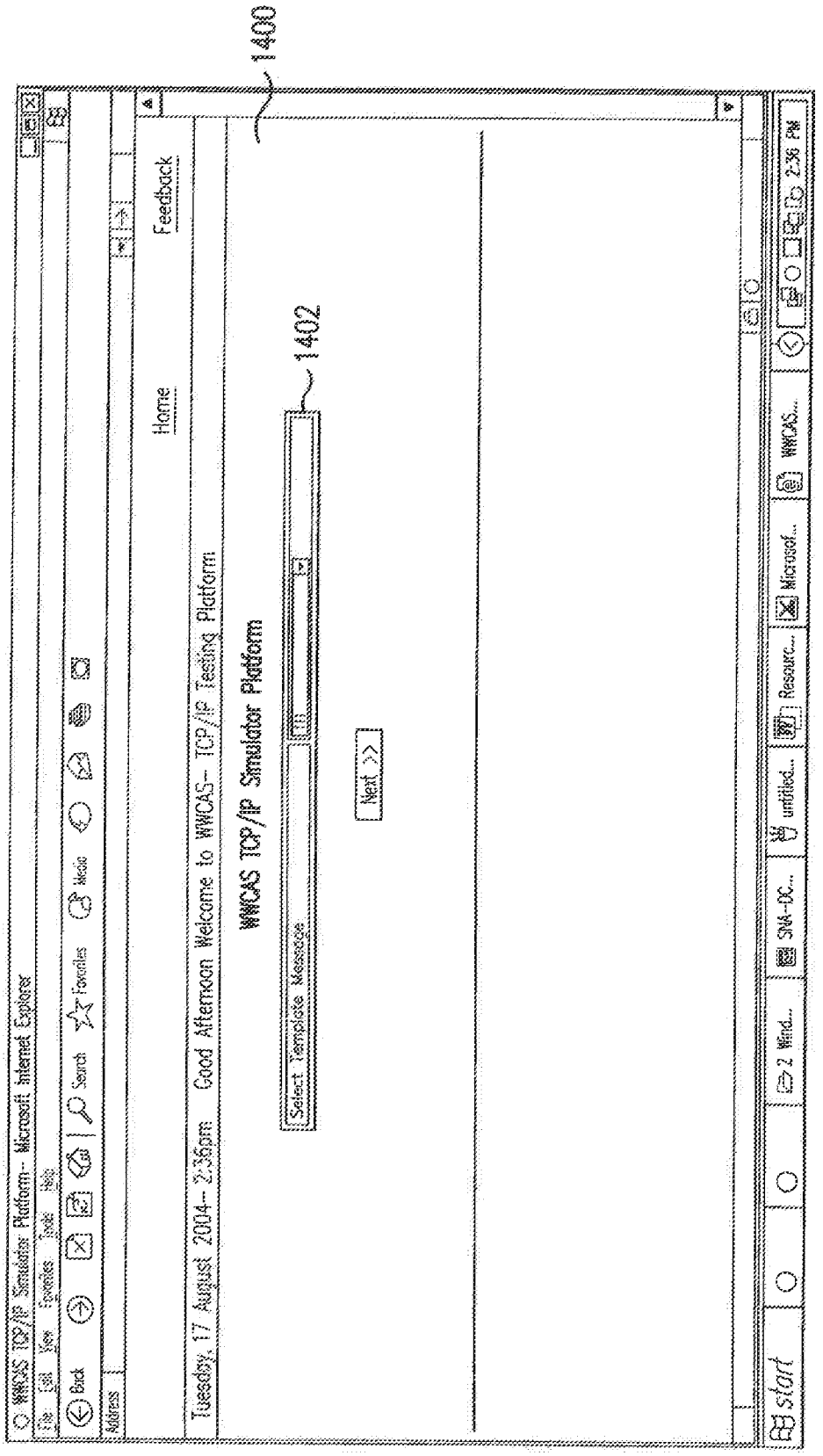

1400
1402
WWCAS - TCP/IP Simulator Platform - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Media
Address
Home
Feedback
Tuesday, 17 August 2004 - 2:36pm Good Afternoon Welcome to WWCAS - TCP/IP Testing Platform
WWCAS TCP/IP Simulator Platform
Select Template Message
Next >>
start
2 Wind...
SNA-DC...
untitled...
Resourc...
Microsof...
WWCAS...
2:36 PM

FIG. 14

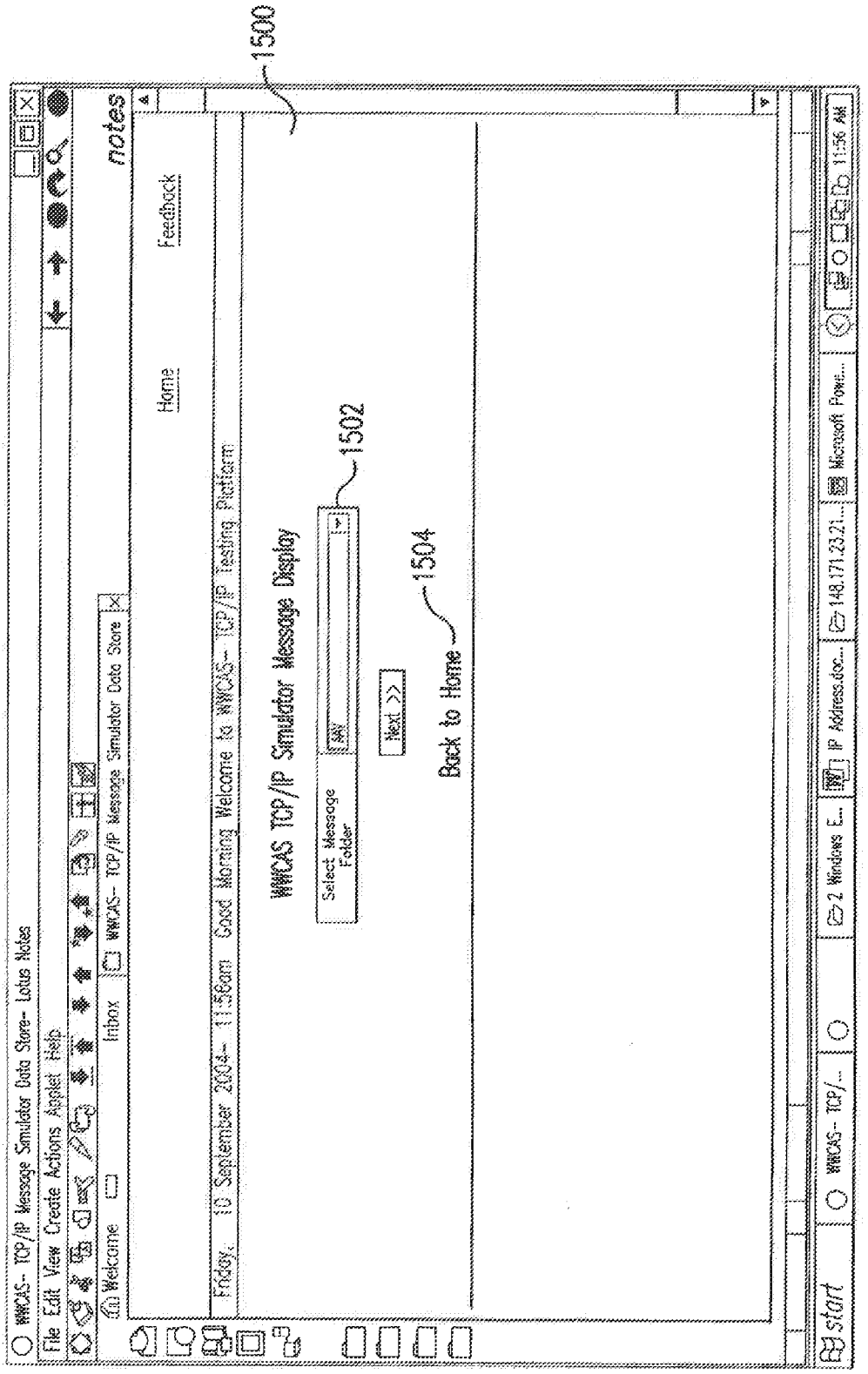

1500
WWCAS- TCP/IP Message Simulator Data Store- Lotus Notes
File Edit View Create Actions Applet Help
Inbox
WWCAS- TCP/IP Message Simulator Data Store
notes
Welcome
Home
Feedback
Friday, 10 September 2004- 11:56am Good Morning Welcome to WWCAS- TCP/IP Testing Platform
WWCAS TCP/IP Simulator Message Display
1502
Select Message Folder
1504
Next >>
Back to Home
start
WWCAS- TCP/...
2 Windows E...
IP Address.doc...
148.171.23.21...
Microsoft Powe...
11:56 AM

FIG. 15

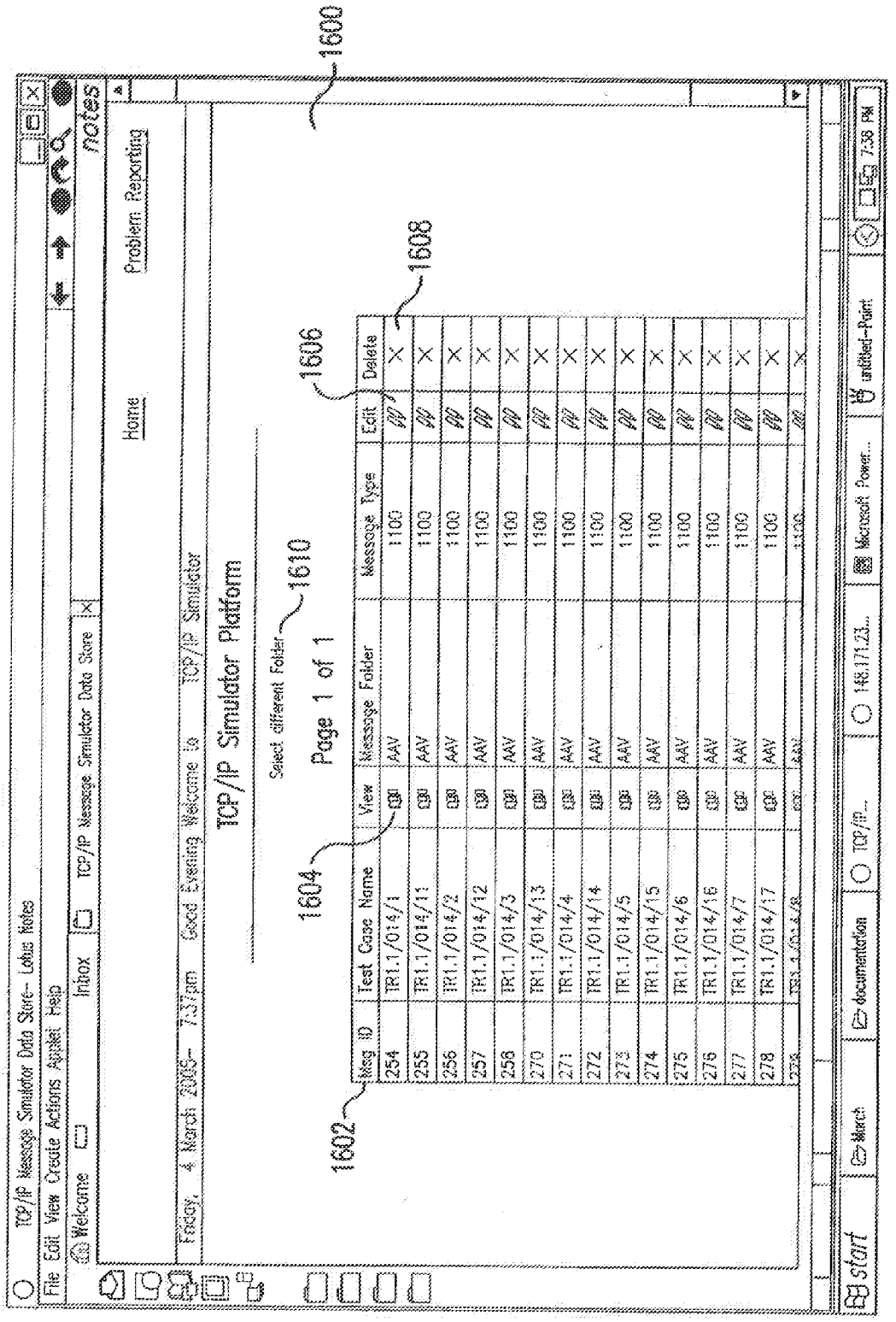

1600
1602
1604
1606
1608
1610
TCP/IP Simulator Platform
Page 1 of 1
Select different Folder
Problem Reporting
Home
Msg ID
Test Case Name
View
Message Folder
Message Type
Edit
Delete

FIG. 16

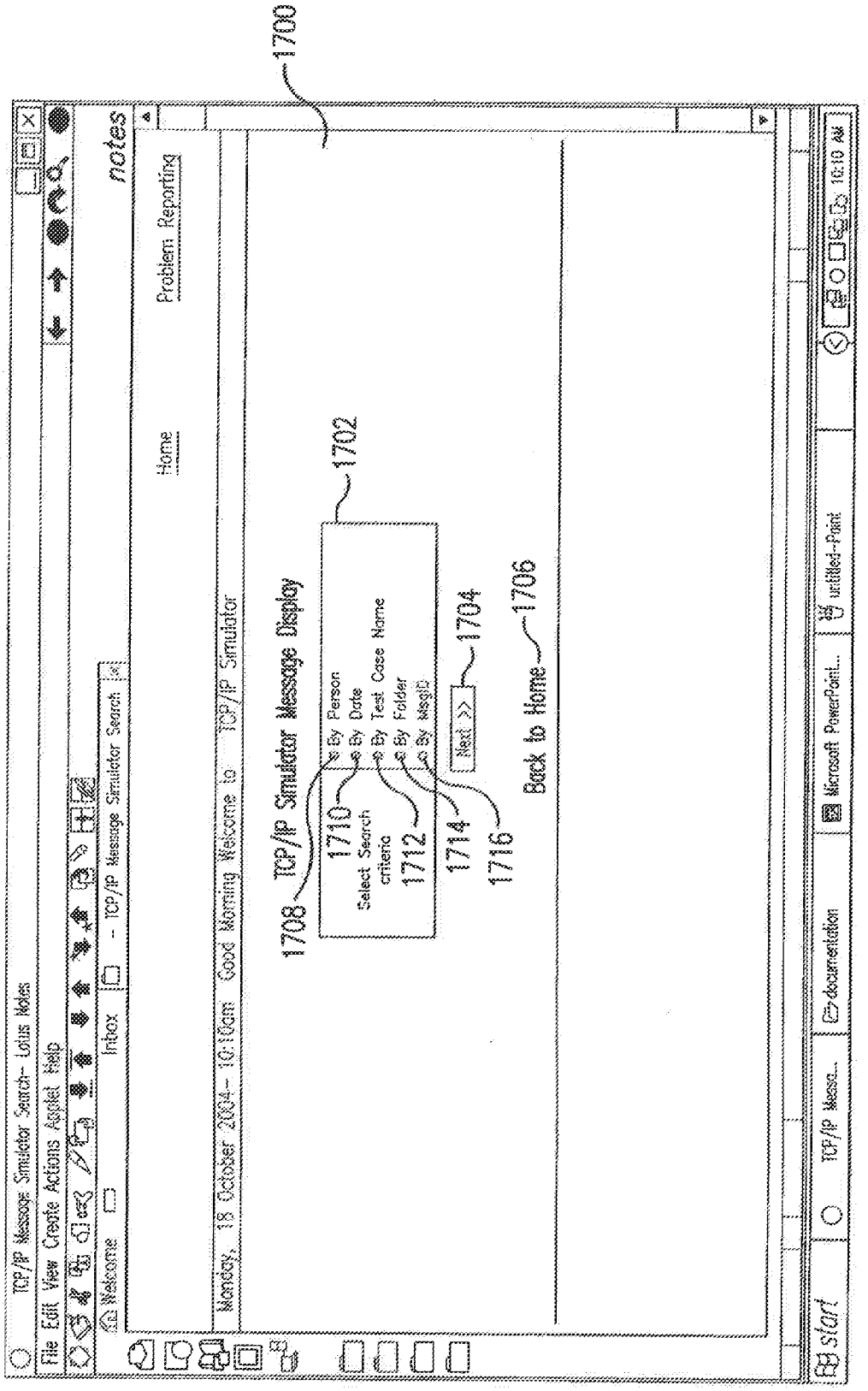

1700
TCP/IP Message Simulator Search - Lotus Notes
File Edit View Create Actions Applet Help
Welcome
Inbox
- TCP/IP Message Simulator Search
notes
Home
Problem Reporting
Monday, 18 October 2004 - 10:10am Good Morning Welcome to TCP/IP Simulator
TCP/IP Simulator Message Display
1708
1702
1710
Select Search criteria
By Person
By Date
By Test Case Name
By Folder
By MsgID
1712
Next >>
1704
1714
1716
Back to Home
1706
start
TCP/IP Messa...
documentation
Microsoft PowerPoint...
untitled - Paint
10:10 AM

FIG. 17

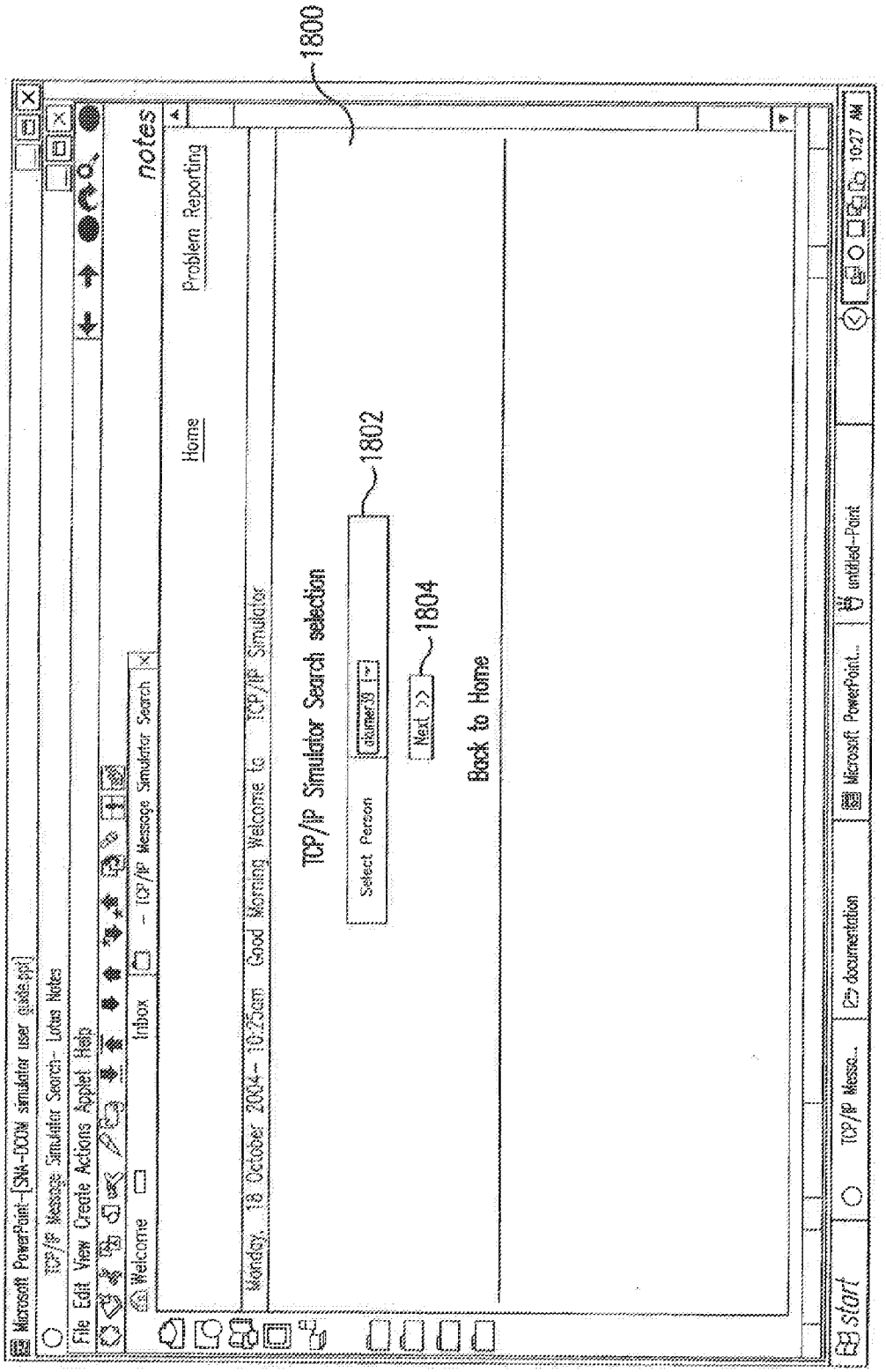

1800
notes
Problem Reporting
Home
TCP/IP Simulator Search selection
1802
Select Person
1804
Next >>
Back to Home
Monday, 18 October 2004 -- 10:25am Good Morning Welcome to TCP/IP Simulator
Welcome
Inbox
TCP/IP Message Simulator Search
TCP/IP Message Simulator Search - Lotus Notes
File Edit View Create Actions Applet Help
Microsoft PowerPoint - [SNA-DCOM simulator user guide.ppt]
Start
TCP/IP Messa...
documentation
Microsoft PowerPoint...
untitled - Paint
10:27 AM

FIG. 18

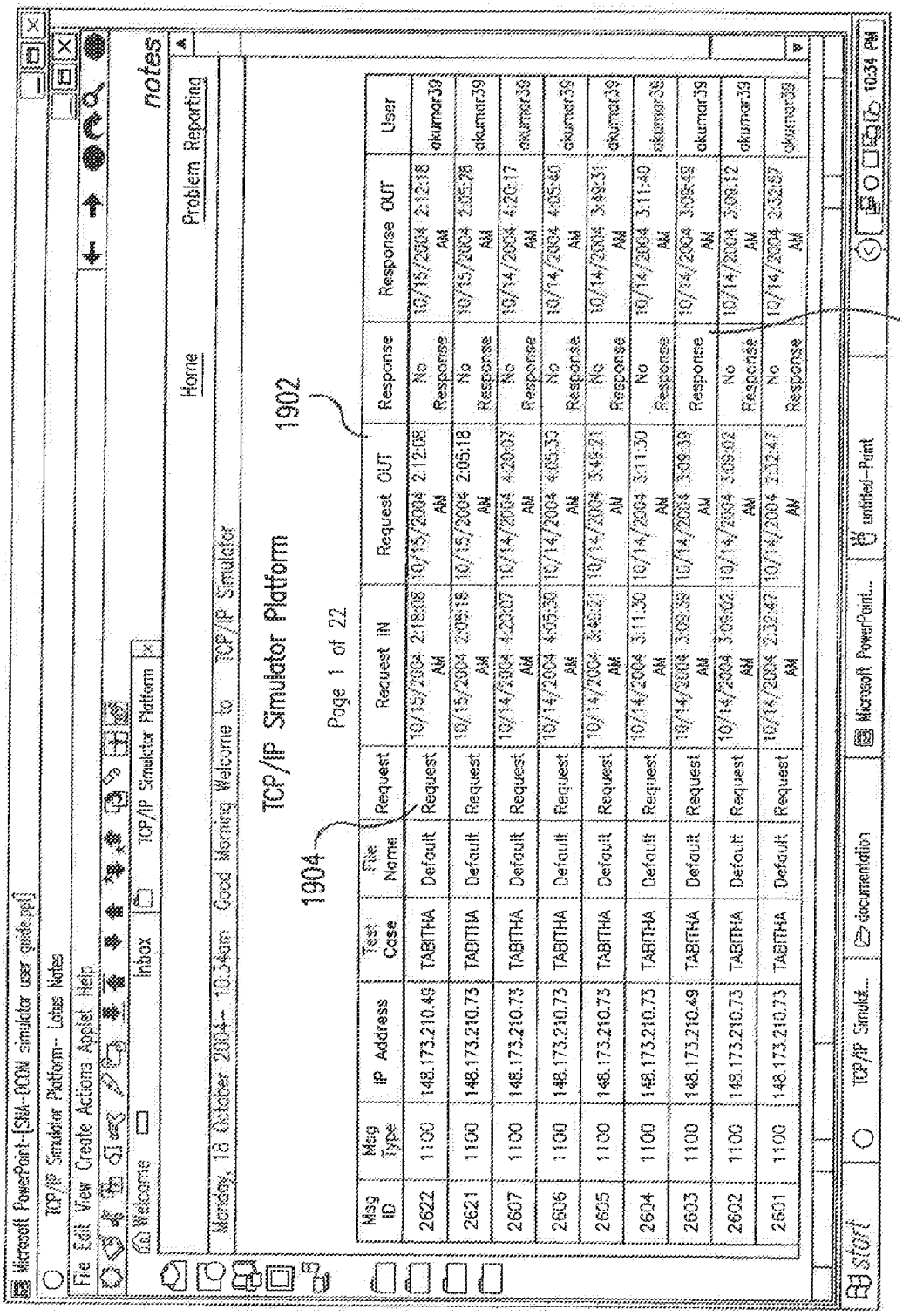

TCP/IP Simulator Platform
1902
1904
1906
Page 1 of 22
Home
Problem Reporting
Msg ID
Msg Type
IP Address
Test Case
File Name
Request
Request IN
Request OUT
Response
Response OUT
User

FIG. 19

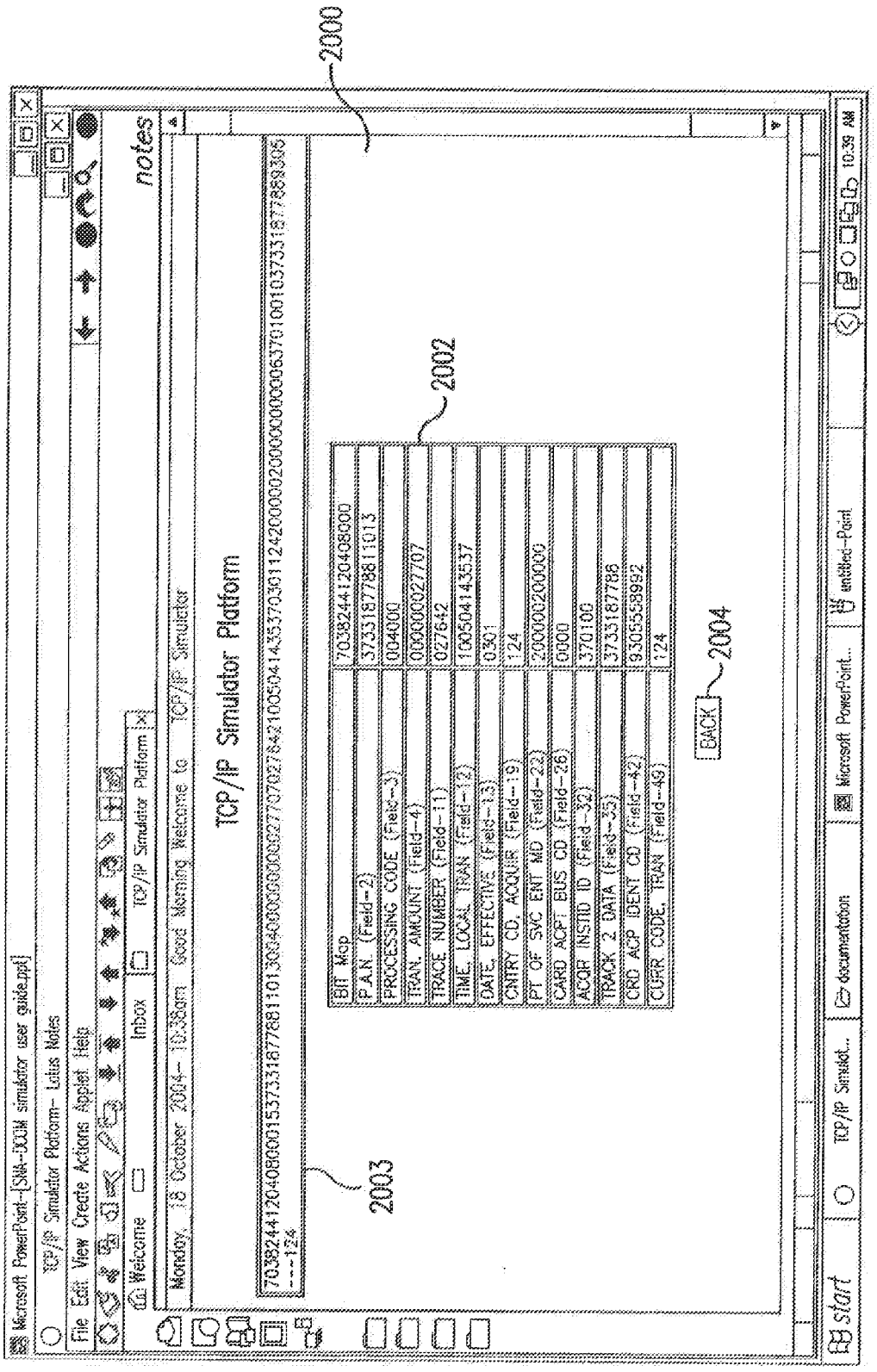

2000
2002
2003
2004
TCP/IP Simulator Platform
BACK
BIT Map
P.A.N. (Field-2)
PROCESSING CODE (Field-3)
TRAN. AMOUNT (Field-4)
TRACE NUMBER (Field-11)
TIME, LOCAL TRAN (Field-12)
DATE, EFFECTIVE (Field-13)
CNTRY CD, ACQUIR (Field-19)
PT OF SVC ENT MD (Field-22)
CARD ACPT EUS CD (Field-26)
ACQR INSTID ID (Field-32)
TRACK 2 DATA (Field-35)
CRD ACP IDENT CD (Field-42)
CURR CODE, TRAN (Field-49)

FIG. 20

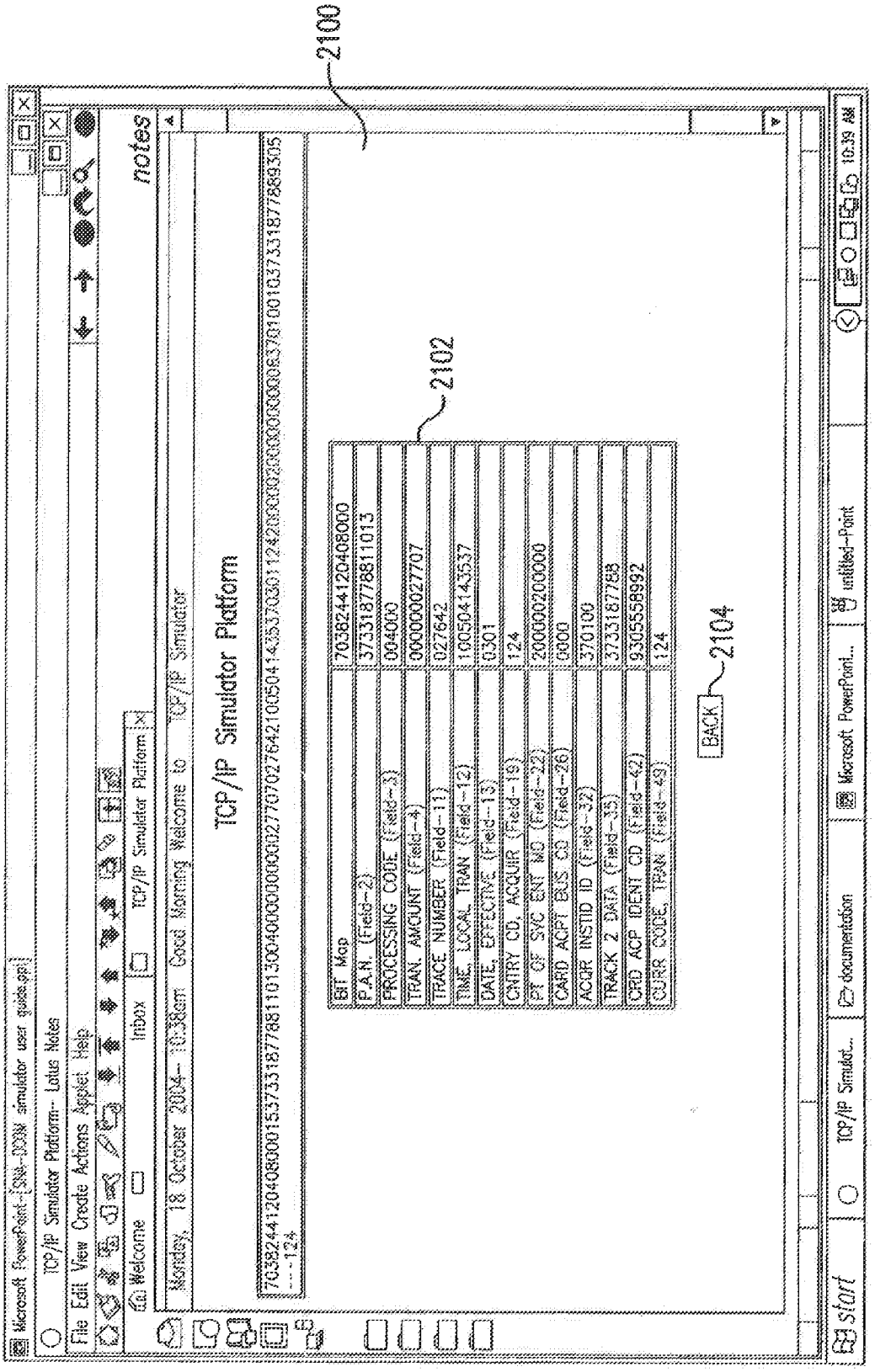

2100
2102
2104
TCP/IP Simulator Platform
BIT Map
P.A.N. (Field-2)
PROCESSING CODE (Field-3)
TRAN. AMOUNT (Field-4)
TRACE NUMBER (Field-11)
TIME, LOCAL TRAN (Field-12)
DATE, EFFECTIVE (Field-13)
CNTRY CD, ACQUIR (Field-19)
PT OF SVC ENT MD (Field-22)
CARD ACPT BUS CD (Field-26)
ACQR INSTID ID (Field-32)
TRACK 2 DATA (Field-35)
CRD ACP IDENT CD (Field-42)
CURR CODE, TRAN (Field-49)
7038244120408000
3733187788111013
004000
000000027707
027642
100504143537
0301
124
200000200000
0000
370100
3733187788
9305558992
124
BACK

FIG. 21

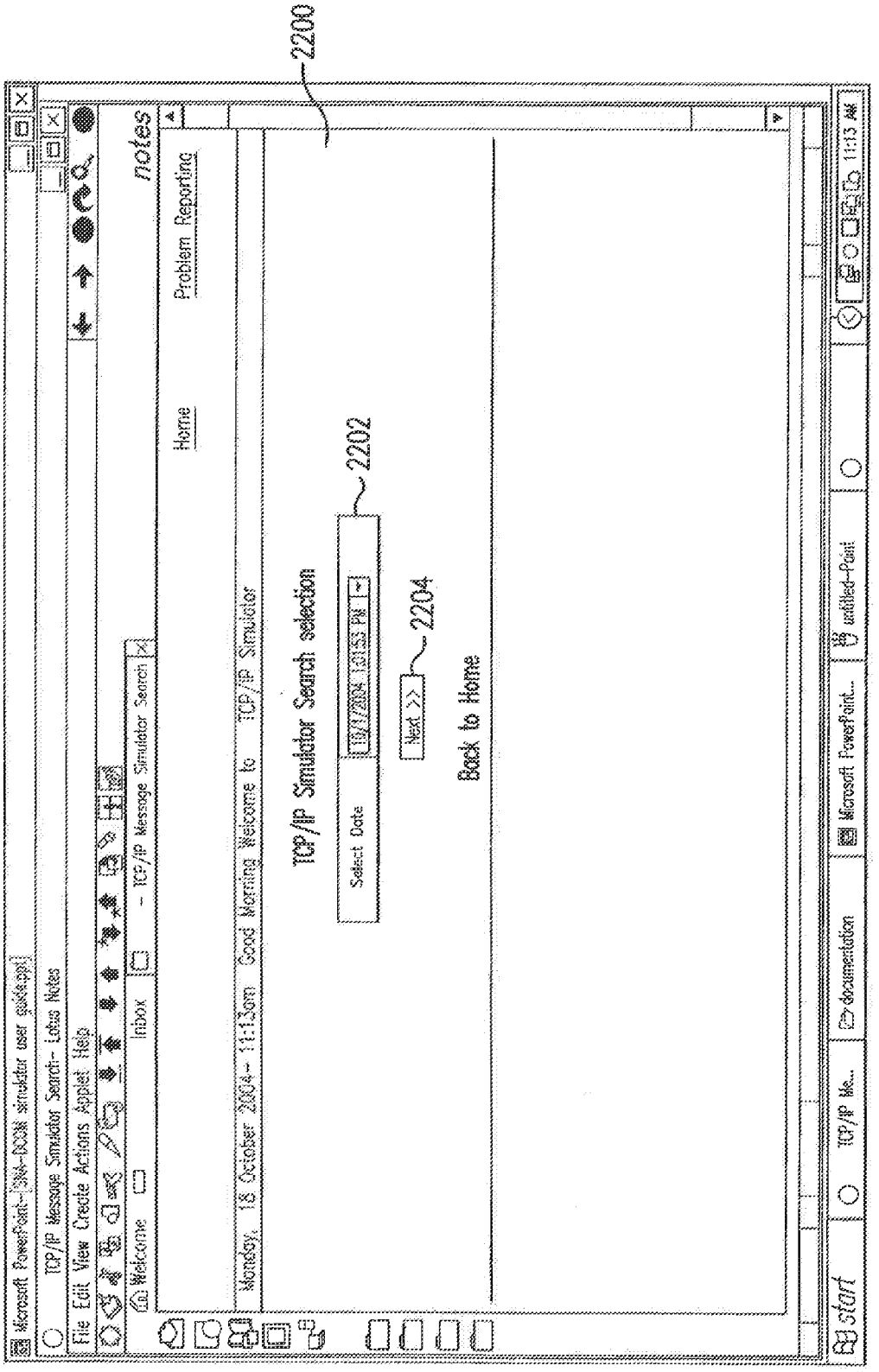

2200
2202
2204
TCP/IP Simulator Search selection
Select Date
10/17/2004 10:55:55 PM
Next >>
Back to Home
Home
Problem Reporting
notes
Monday, 18 October 2004 - 11:13am Good Morning Welcome to TCP/IP Simulator
start

FIG. 22

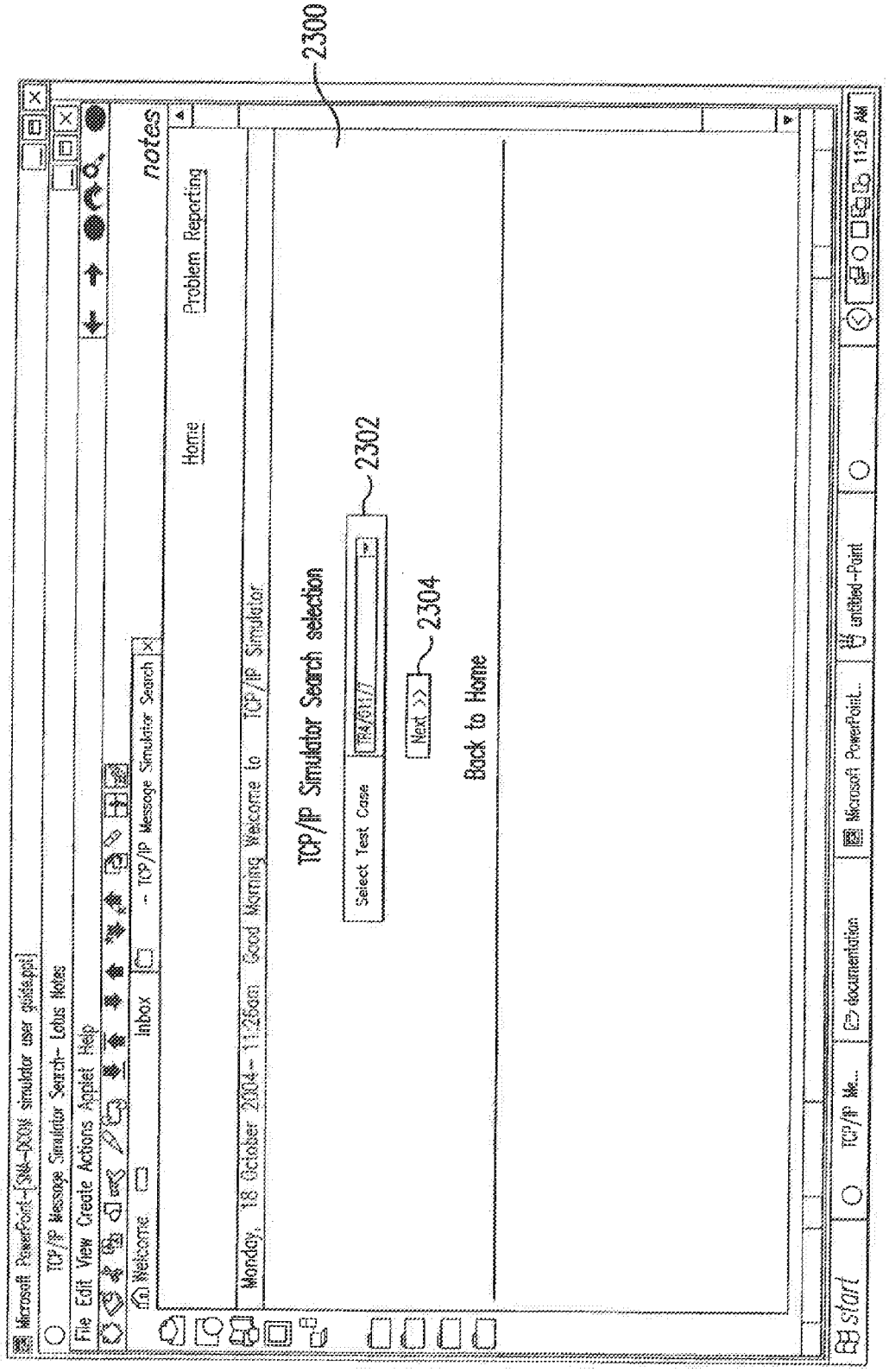

2300
notes
Problem Reporting
Home
TCP/IP Simulator Search selection
2302
Select Test Case
2304
Next >>
Back to Home
Monday, 18 October 2004 - 11:26am Good Morning Welcome to TCP/IP Simulator
Welcome
Inbox
- TCP/IP Message Simulator Search
TCP/IP Message Simulator Search - Lotus Notes
File Edit View Create Actions Applet Help
start
documentation
Microsoft PowerPoint...
untitled - Point
11:26 AM

FIG. 23

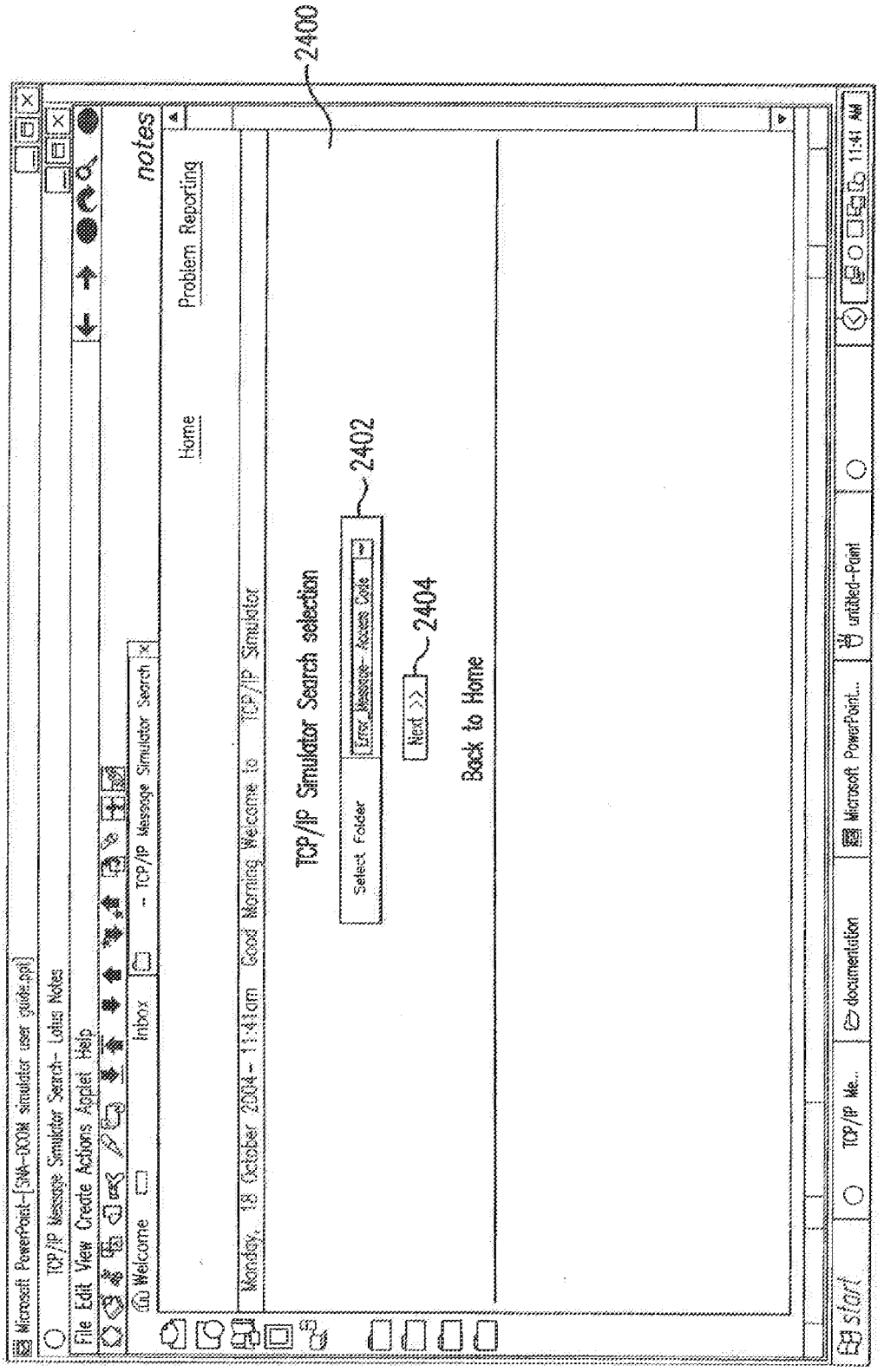

2400
2402
2404
TCP/IP Simulator Search selection
Select Folder
Error Message- Access Code
Next >>
Back to Home
Home
Problem Reporting
notes
Welcome
Inbox
TCP/IP Message Simulator Search
TCP/IP Simulator
Monday, 18 October 2004 - 11:41am Good Morning Welcome to
File Edit View Create Actions Applet Help
TCP/IP Message Simulator Search - Lotus Notes
Microsoft PowerPoint - [SWA-0008 simulator user guide.ppt]
start
documentation
Microsoft PowerPoint...
untitled - Paint
11:41 AM

FIG. 24

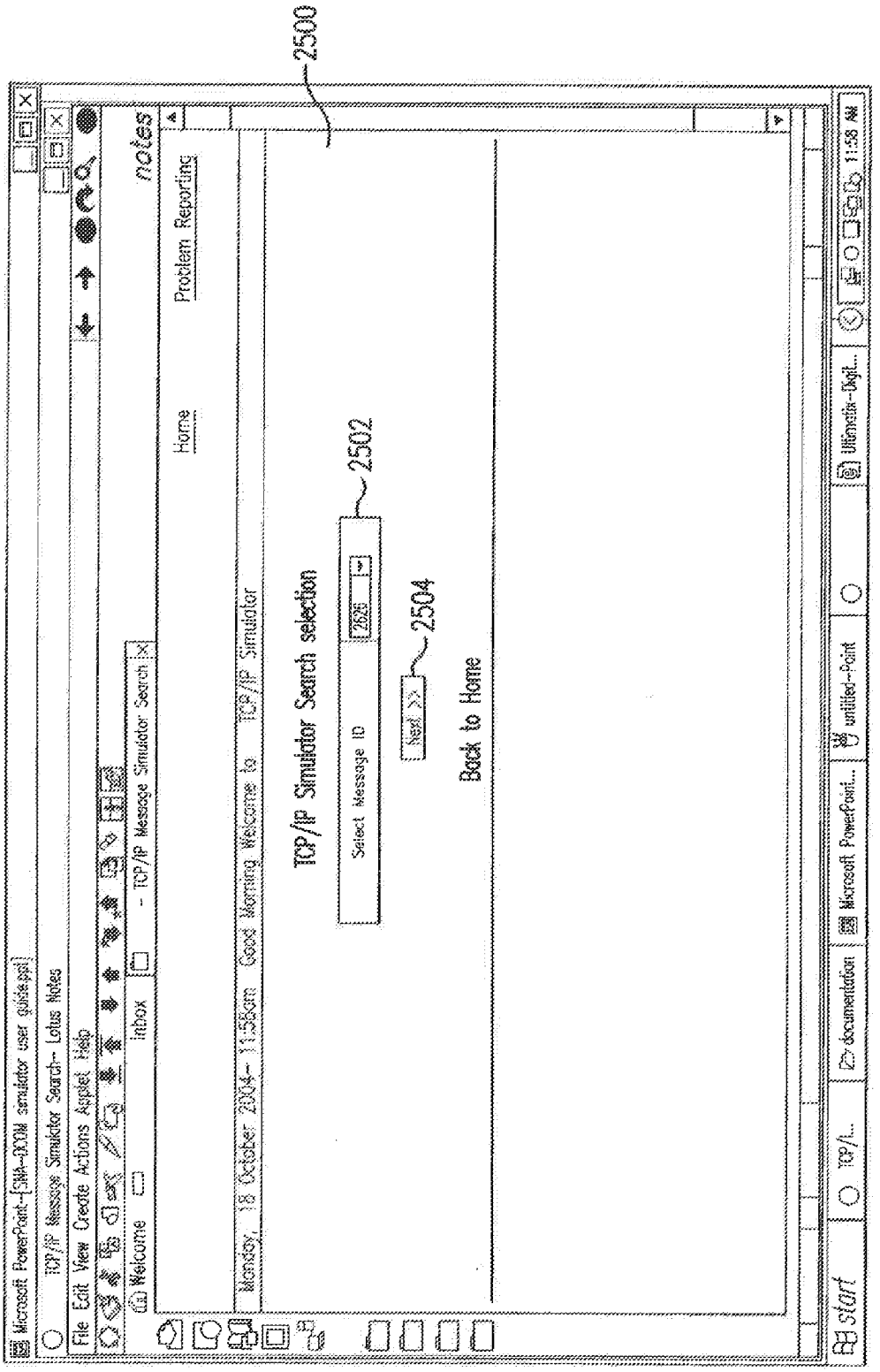

2500
Problem Reporting
Home
TCP/IP Simulator Search selection
Select Message ID
2626
2502
Next >>
2504
Back to Home

FIG. 25

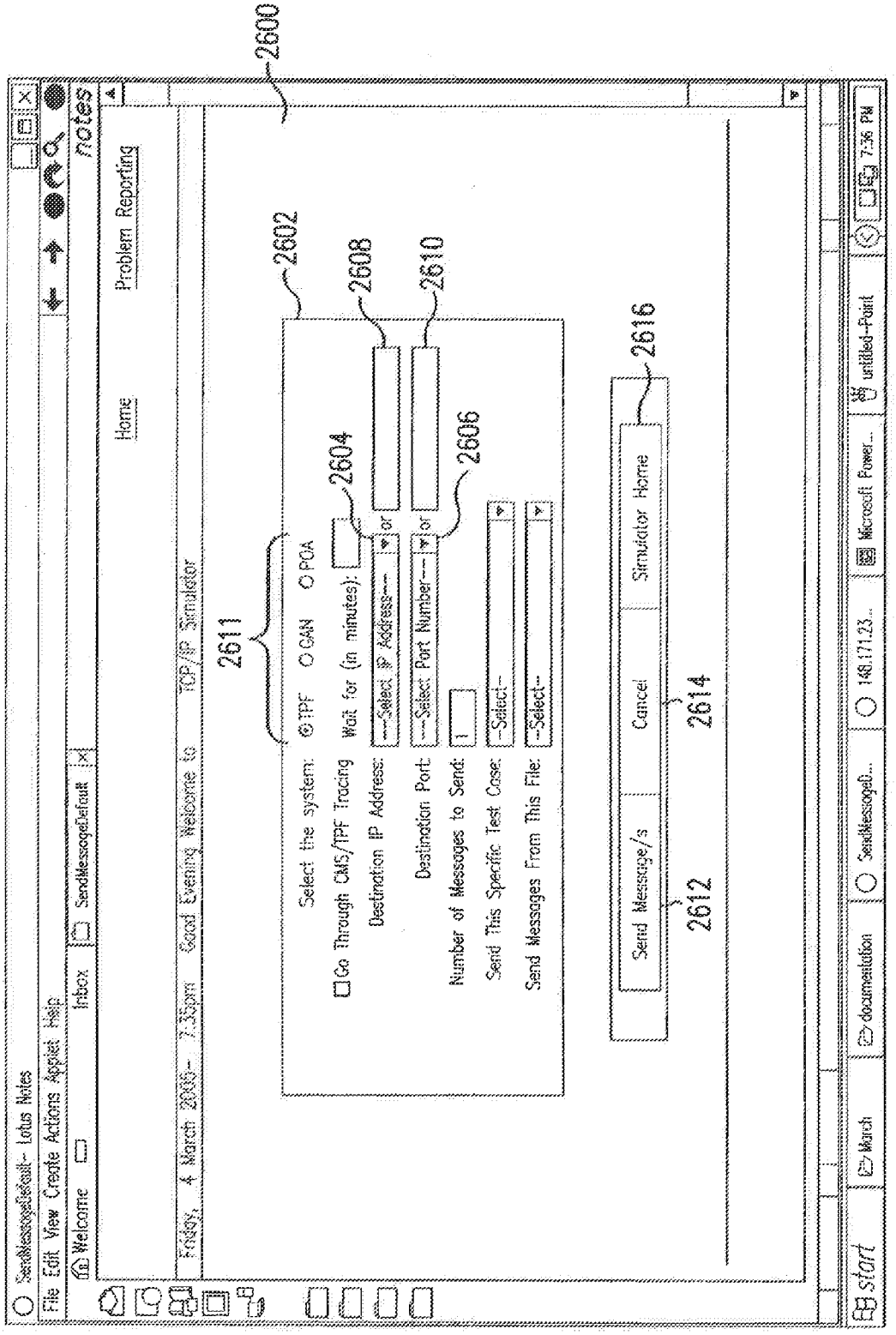

2600
2602
2604
2606
2608
2610
2611
2612
2614
2616
Problem Reporting
Home
Select the system: ◉ TPF ○ CAN ○ POA
Go Through CMS/TPF Tracing
Wait for (in minutes):
Destination IP Address:
---Select IP Address---
Destination Port:
---Select Port Number---
Number of Messages to Send:
Send This Specific Test Case:
-Select-
Send Messages From This File:
-Select-
Send Message/s
Cancel
Simulator Home

FIG. 26

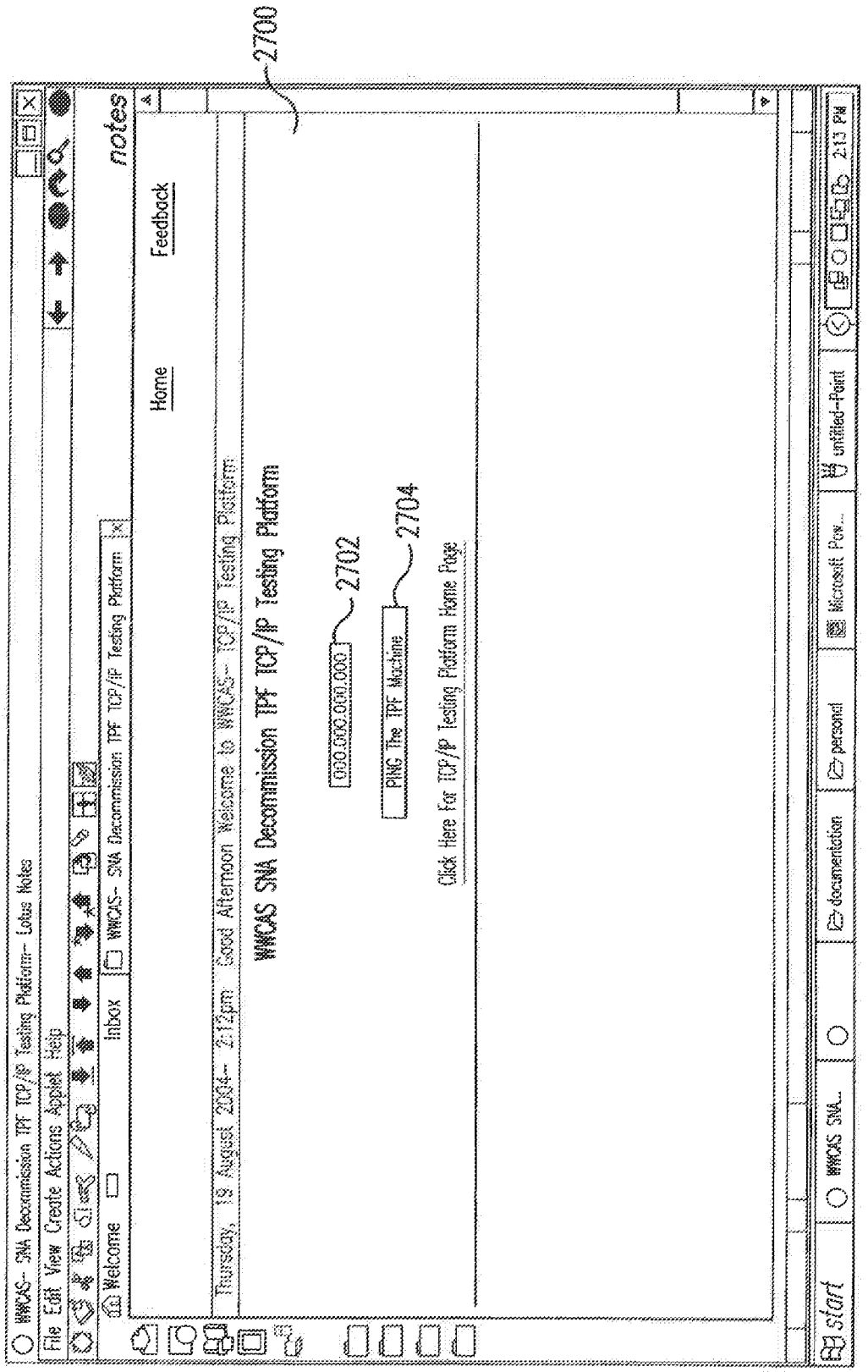

2700
WWCAS- SNA Decommission TPF TCP/IP Testing Platform- Lotus Notes
File Edit View Create Actions Applet Help
notes
Welcome
Inbox
WWCAS- SNA Decommission TPF TCP/IP Testing Platform
Home
Feedback
Thursday, 19 August 2004- 2:12pm Good Afternoon Welcome to WWCAS- TCP/IP Testing Platform
WWCAS SNA Decommission TPF TCP/IP Testing Platform
000.000.000.000
2702
PING The TPF Machine
2704
Click Here For TCP/IP Testing Platform Home Page
start
WWCAS SNA...
documentation
personal
Microsoft Pow...
unfiled--Point
2:13 PM

FIG. 27

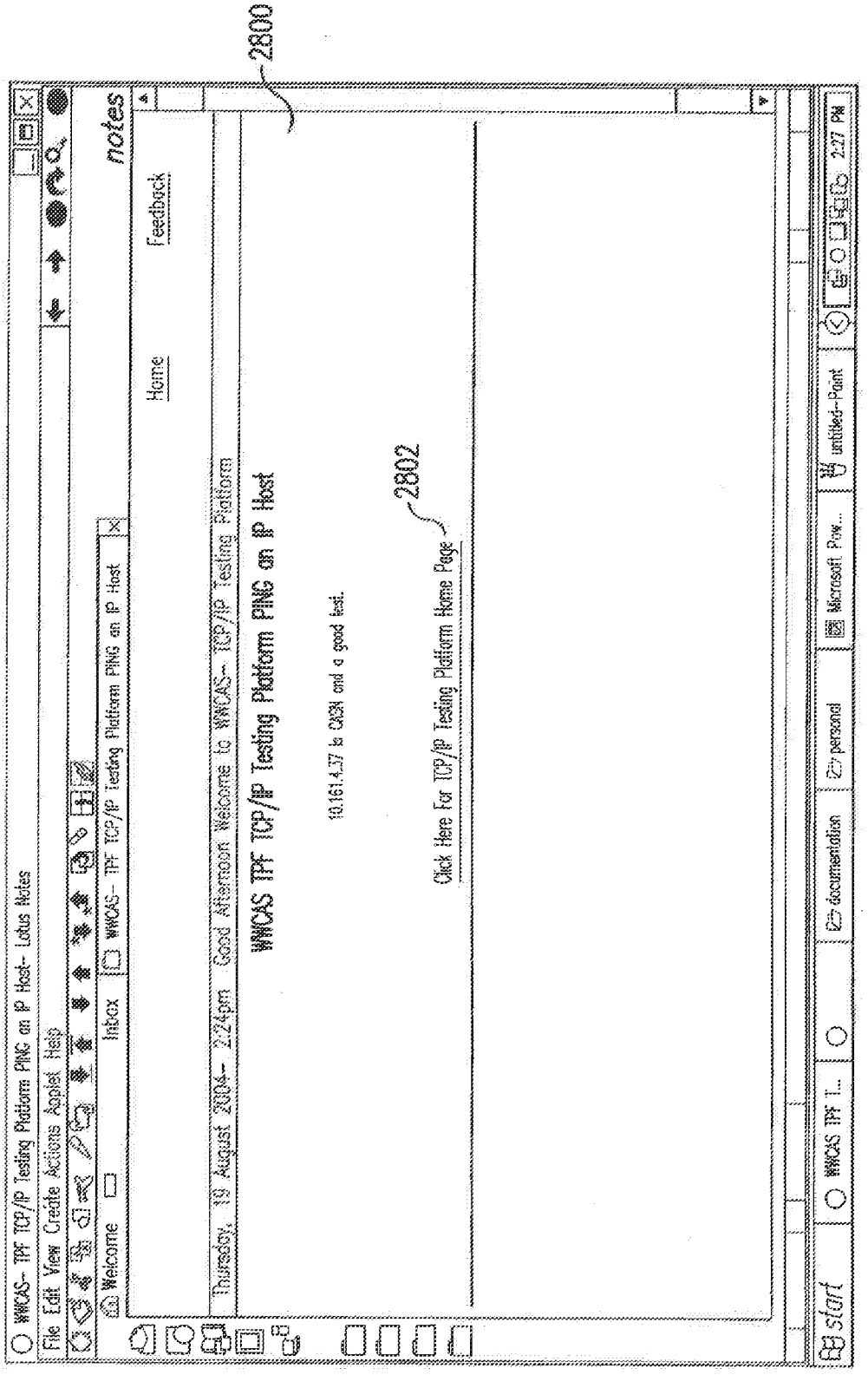

2800
WWCAS- TPF TCP/IP Testing Platform PING on IP Host- Lotus Notes
File Edit View Create Actions Applet Help
notes
Welcome
Inbox
WWCAS- TPF TCP/IP Testing Platform PING on IP Host
Home
Feedback
Thursday, 19 August 2004- 2:24pm Good Afternoon Welcome to WWCAS- TCP/IP Testing Platform
WWCAS TPF TCP/IP Testing Platform PING on IP Host
10.161.4.37 is OKAY and a good test.
2802
Click Here For TCP/IP Testing Platform Home Page
start
WWCAS TPF T...
untitled - Paint
2:27 PM

FIG. 28

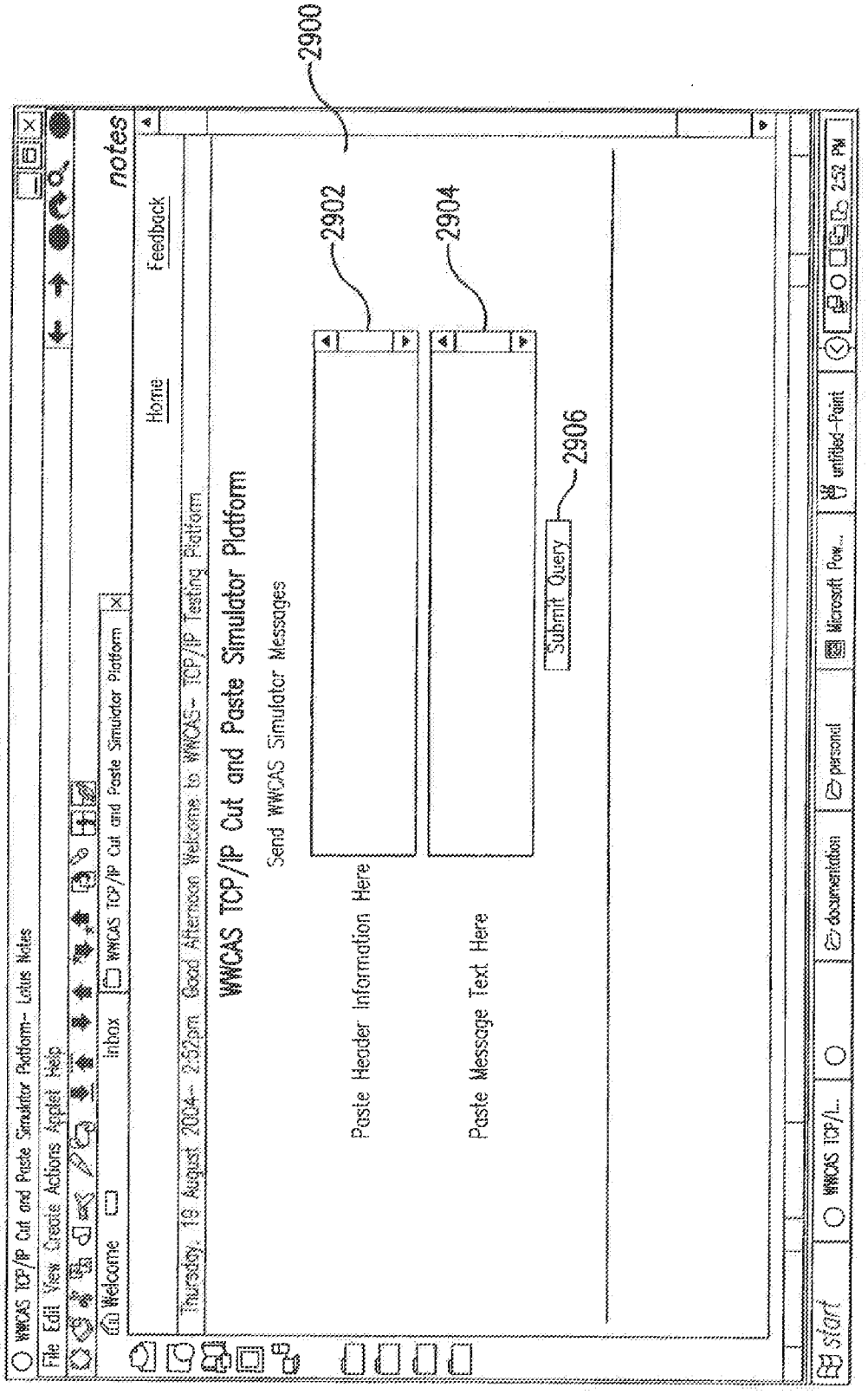

2900
2902
2904
2906
WWCAS TCP/IP Cut and Paste Simulator Platform
Send WWCAS Simulator Messages
Paste Header Information Here
Paste Message Text Here
Submit Query
Home
Feedback
notes
Thursday, 16 August 2004 2:52pm Good Afternoon Welcome to WWCAS- TCP/IP Testing Platform
WWCAS TCP/IP Cut and Paste Simulator Platform
Welcome
Inbox
File Edit View Create Actions Applet Help
WWCAS TCP/IP Cut and Paste Simulator Platform- Lotus Notes
start
WWCAS TCP/I...
documentation
personal
Microsoft Pow...
untitled - Paint
2:52 PM

FIG. 29

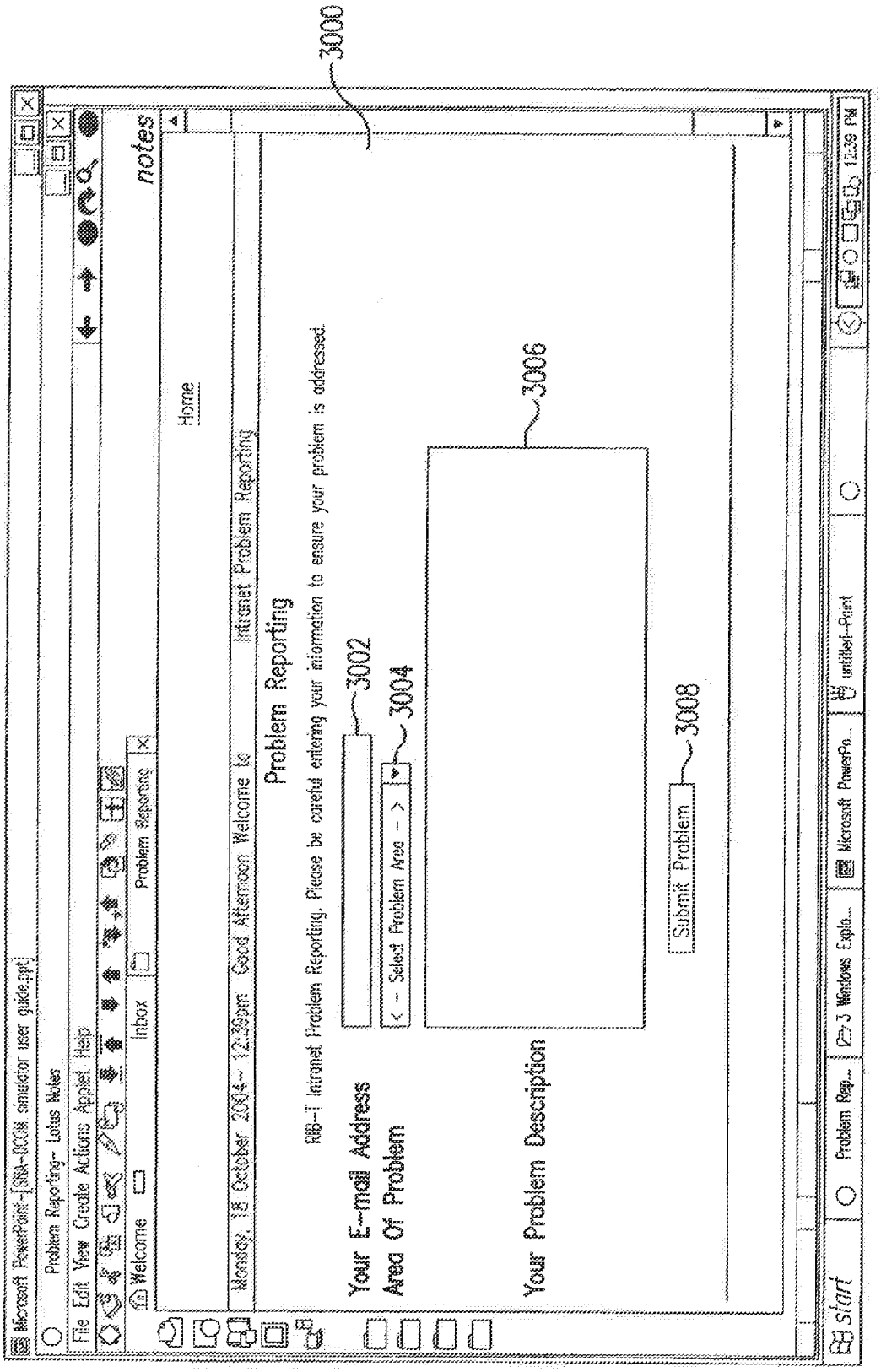

3000
Problem Reporting
RIB-T Intranet Problem Reporting. Please be careful entering your information to ensure your problem is addressed.
Your E-mail Address
3002
Area Of Problem
< - Select Problem Area - >
3004
Your Problem Description
3006
Submit Problem
3008
notes
Home
Welcome
Inbox
Problem Reporting
Intranet Problem Reporting
Monday, 18 October 2004 - 12:39pm Good Afternoon Welcome to
start
Problem Reg...
3 Windows Explo...
Microsoft PowerPo...
untitled - Paint
12:39 PM

FIG. 30

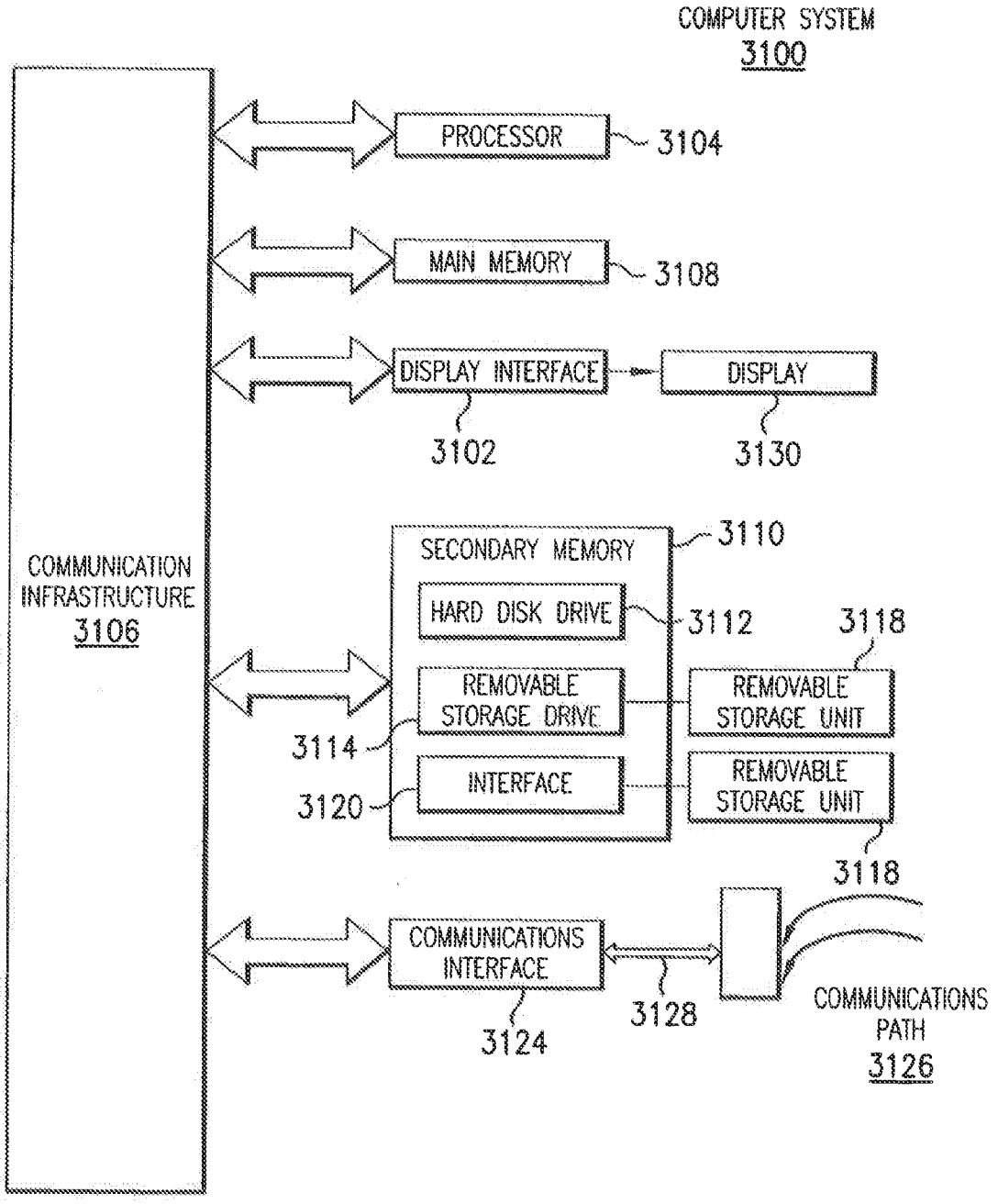

COMPUTER SYSTEM
3100
PROCESSOR
3104
MAIN MEMORY
3108
DISPLAY INTERFACE
3102
DISPLAY
3130
COMMUNICATION INFRASTRUCTURE
3106
SECONDARY MEMORY
3110
HARD DISK DRIVE
3112
REMOVABLE STORAGE DRIVE
3114
INTERFACE
3120
REMOVABLE STORAGE UNIT
3118
REMOVABLE STORAGE UNIT
3118
COMMUNICATIONS INTERFACE
3124
3128
COMMUNICATIONS PATH
3126

FIG.31

METHOD, SYSTEM, AND COMPUTER PROGRAM PRODUCT FOR ELECTRONIC MESSAGING

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of, claims priority to and the benefit of, U.S. Ser. No. 11/293,115 filed Dec. 5, 2005, entitled "METHOD, SYSTEM, AND COMPUTER PROGRAM PRODUCT FOR ELECTRONIC MESSAGING." The '115 application claims the benefit of U.S. Provisional Application No. 60/666,308, filed Mar. 30, 2005. Both of which are incorporated herein by reference in their entirety.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to the field of electronic transmission of messages.

[0004] 2. Background Art

[0005] The International Organization for Standardization has adopted a format standard called ISO 8583 for exchanging financial transaction originated messages ("ISO 8583: Financial Transaction Card Originated Messages—Interchange Message Specifications", 2003, incorporated herein by reference in its entirety). ISO 8583 specifies message structure, format, content, data elements, and values for data elements. There are different types of ISO 8583 messages, such as, and without limitation, point-of-sale messages and ATM transaction messages, which vary depending on the purpose of the message.

[0006] When a transaction occurs, the related ISO 8583 message is transmitted for processing to a transaction processing facility (TPF), such as that provided by International Business Machines Corporation (IBM) of Armonk, N.Y. When a user, such as a financial transaction card issuing company, is testing, for example and without limitation, connectivity of a system, different types of messages, or new processes, such as a new authorization process within a TPF, a test message must be sent to a TPF. The TPF response will indicate whether the message can be used. The TPF response will also indicate any negative impacts that may affect the transaction card issuer or the cardmember.

[0007] In order to test a TPF response to a particular type of message, a programmer has been required to code a driver for each specific message. This is a slow and time consuming process. What is needed is a system and method for sending test messages without requiring individual programming of each message.

BRIEF SUMMARY OF THE INVENTION

[0008] A browser-based TCP/IP simulator may be used to create and send test messages to one or more TPFs to determine the response of the TPF system. It allows a user or plurality of users to create ISO 8583 messages, send the messages to the TPF systems, receive a response from the TPF systems, and display the results to the users. The simulator may also have the ability to send MQseries messages to the TPF and/or any other MQ-supported operating system.

[0009] Messages created by the simulator are stored within an ANSI (American National Standards Institute) queryable structured query language ("SQL") database to make test selection simple. As the SQL database may be accessed from any location, the TPF test messages and results are available worldwide. Further, the simulator may be server-based. If the simulator is server-based, desktop licenses are not required. The simulator allows a user to either select a preformatted message or derive a new message by selecting the data of interest.

[0010] Further embodiments, features, and advantages of the present invention, as well as the structure and operation of the various embodiments of the present invention, are described in detail below with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS/FIGURES

[0011] The accompanying drawings, which are incorporated herein and form a part of the specification, illustrate the present invention and, together with the description, further serve to explain the principles of the invention and to enable a person skilled in the pertinent art to make and use the invention.

[0012] FIG. **1** is a block diagram of an example messaging test system.

[0013] FIG. **2** is a block diagram of another example messaging test system.

[0014] FIG. **3** is a flowchart of an example method for testing a TPF response to a single message.

[0015] FIG. **4** is a flowchart of an example method for testing a TPF response to a volume of messages.

[0016] FIG. **5** illustrates an example graphical user interface homepage of a simulator according to an embodiment of the present invention.

[0017] FIG. **6** illustrates an example message creation screen generated by the graphical user interface.

[0018] FIG. **7** illustrates another example message creation screen generated by the graphical user interface.

[0019] FIG. **8** illustrates an example secondary message field table generated by the graphical user interface.

[0020] FIG. **9** illustrates an example data entry screen generated by the graphical user interface.

[0021] FIG. **10** illustrates an example additional message menu generated by the graphical user interface.

[0022] FIG. **11** illustrates an example message table generated by the graphical user interface.

[0023] FIG. **12** illustrates an example bitmap selection screen generated by the graphical user interface.

[0024] FIG. **13** illustrates an example data entry screen generated by the graphical user interface.

[0025] FIG. **14** illustrates an example message from template screen generated by the graphical user interface.

[0026] FIG. **15** illustrates an example message folder select screen generated by the graphical user interface.

[0027] FIG. **16** illustrates an example message list screen generated by the graphical user interface.

[0028] FIG. **17** illustrates an example message filter screen generated by the graphical user interface.

[0029] FIG. **18** illustrates an example person selection screen generated by the graphical user interface.

[0030] FIG. **19** illustrates an example filtered message table generated by the graphical user interface.

[0031] FIG. **20** illustrates an example requested message screen generated by the graphical user interface.

[0032] FIG. **21** illustrates an example response screen generated by the graphical user interface.

[0033] FIG. **22** illustrates an example date selection screen generated by the graphical user interface.

[0034] FIG. **23** illustrates an example test case selection screen generated by the graphical user interface.

[0035] FIG. **24** illustrates an example folder selection screen generated by the graphical user interface.

[0036] FIG. **25** illustrates an example message identification selection screen generated by the graphical user interface.

[0037] FIG. **26** illustrates an example message information screen generated by the graphical user interface.

[0038] FIG. **27** illustrates an example TCP/IP test screen generated by the graphical user interface.

[0039] FIG. **28** illustrates an example ping results screen generated by the graphical user interface.

[0040] FIG. **29** illustrates an example cut-and-paste screen generated by the graphical user interface.

[0041] FIG. **30** illustrates an example problem reporting screen generated by the graphical user interface.

[0042] FIG. **31** is an exemplary computer system useful for implementing the present invention.

[0043] The present invention will be described with reference to the accompanying drawings. The drawing in which an element first appears is typically indicated by the leftmost digit(s) in the corresponding reference number.

DETAILED DESCRIPTION OF THE INVENTION

[0044] The terms "user", "end user", "consumer", "customer", participant", and/or the plural form of these terms are used interchangeably throughout herein to refer to those persons or entities capable of accessing, using, being affected by, and/or benefiting from the tool described herein.

[0045] Furthermore, the terms "business" or "merchant" may be used interchangeably with each other and shall mean any person, entity, distributor system, software, and/or hardware that is a provider, broker, and/or any other entity in the distribution chain of goods or services. For example, a merchant may be a grocery store, a retail store, a travel agency, a service provider, an online merchant, or the like.

[0046] Persons skilled in the relevant art(s) will understand the breadth of the terms used herein and that the exemplary descriptions provided are not intended to be limiting of the generally understood meanings attributed to the foregoing terms.

[0047] While specific configurations and arrangements are discussed, it should be understood that this is done for illustrative purposes only. A person skilled in the pertinent art will recognize that other configurations and arrangements can be used without departing from the spirit and scope of the present invention. It will be apparent to a person skilled in the pertinent art that this invention can also be employed in a variety of other applications. Although the invention will be described herein as using the ISO 8583 message format, one of skill in the art will recognize that other message formats may also be used.

[0048] It is noted that references in the specification to "one embodiment", "an embodiment", "an example embodiment", etc., indicate that the embodiment described may include a particular feature, structure, or characteristic, but every embodiment may not necessarily include the particular feature, structure, or characteristic. Moreover, such phrases are not necessarily referring to the same embodiment. Further, when a particular feature, structure, or characteristic is described in connection with an embodiment, it would be within the knowledge of one skilled in the art to effect such feature, structure, or characteristic in connection with other embodiments whether or not explicitly described.

[0049] Current message test software requires a user to code a driver for each specific message sent to a transaction processing facility ("TPF"). Additionally, message test software is currently client-based, in that the system must be installed on an end user's local device for operation by each end user. This presents several disadvantages, such as requiring a license fee on a per-seat basis. All messages and responses are likewise stored in the local device. This inhibits sharing of messages and responses between end users, such as end users working together on a specified project at separate locations.

[0050] Many of the messages tested by users are similar in type and/or format. To prevent users from having to re-code similar messages, and in order to accommodate various message types that may be requested by users, a variety of ISO 8583 message shells may be stored in an ANSI (American National Standards Institute) queryable structured query language ("SQL") database on a centralized server. These message shells may have been previously coded to include information corresponding to desired message types. A browser-based TCP/IP simulator (hereinafter referred to simply as the simulator) can be used by multiple users to access the database. As the SQL database may be accessed from any location, the TPF test messages and responses are available worldwide. Additionally, since the simulator is server-based, desktop licenses are not required.

[0051] FIG. **1** is a block diagram of an example system **100** in which a message simulator may be used for communicating with a TPF **108**. Users can connect to simulator **104** using, for example, user interfaces **102**. A user interface **102** may be, for example, a personal computer, workstation, or point of sale ("POS") terminal. Simulator **104** may connect to TPF **108** through a network, such as global area network **106**. Alternatively, the simulator may connect directly to TPF **108**, as shown by the connection between simulator **110** and TPF **108**. User interface **102** may be located at any point in global area network ("GAN") **106**, and may be used at any point in the end-to-end process. Simulator **104** may be used to test the response of TPF **108** to any type of financial transaction message, such as point-of-sale messages or ATM transaction messages. Communication between simulator **104** and TPF **108** may occur using, for example and without limitation, message queue software such as MQSeries software from IBM.

[0052] Messages sent from simulator **104** to TPF **108** may be stored in ANSI queryable database **107**. ANSI queryable database **107** may be implemented in a database server **112**, which may be separate from TPF **108** and GAN **106**. Responses received from TPF **108** may also be stored in ANSI queryable database **107**. ANSI queryable database **107** may also store the message shells used by the user through simulator **104** in creating test messages.

[0053] FIG. **2** is a block diagram of another example system **200** for communicating with TPF **108**. As shown in FIG. **2**, a data control protocol (DCF) device **202** may optionally be used to communicate between network **106** and TPF **108**.

[0054] FIG. **3** is a flowchart of a method **300** for testing a TPF system's response to a single test message.

[0055] In step **302**, the IP address and port number for a TPF, such as TPF **108**, is selected or entered into a simulator, such as simulator **104**, which is accessed at user interface **102**. The message is then requested to be sent.

[0056] In step **304**, a socket is opened between the simulator and the TPF using the TPF IP address and port number.

[0057] In step **306**, it is determined whether a connection has been made to the TPF. If a connection is made, method **300** proceeds to step **308**. If no connection is made, method **300** returns to step **302**, where the same or a new IP address and port number may be selected or entered.

[0058] In step **308**, the test message is sent to the TPF and stored in the ANSI queryable database.

[0059] In step **310**, it is determined whether a response to the sent message is obtained from the TPF within a specified timeframe. If a response is timely obtained by simulator **104**, method **300** proceeds to step **312**. If a response is not timely obtained, method **300** proceeds to step **314**.

[0060] In step **312**, the received TPF response to the sent test message is stored. A test message sent as a single message, as opposed to a batch of messages, is often a critical message whose response will undergo significant analysis. The single message response may thus be stored in message format in, for example, ANSI queryable database **107** for ease of access and analysis by a user. Alternatively, the message response may be output to a text file.

[0061] In step **314**, the socket is closed.

[0062] In an optional step **316**, the message and/or any received response is displayed by the simulator on user interface **102**, such as, for example, in the browser of user interface **102**.

[0063] FIG. **4** is a flowchart of a method **400** for testing a TPF system's response to a volume of messages.

[0064] In step **402**, the IP address and port number for a TPF, such as TPF **108**, is selected or entered into a simulator, such as simulator **104**, which is accessed at user interface **102**. Multiple messages are then requested to be sent by, for example, selecting the messages from a list or selecting a folder containing the messages.

[0065] In step **404**, a socket is opened between the simulator and the TPF using the IP address and port number of the TPF.

[0066] In step **406**, it is determined whether a connection has been made to the TPF. If a connection is made, method **400** proceeds to step **408**. If no connection is made, method **400** proceeds to step **402**, where a new IP address and port number may be selected.

[0067] In step **408**, the selected messages are sent. When multiple messages are being sent, the number of transactions per second may be predetermined or may be set by, for example, a user.

[0068] In step **410**, any received response is stored. The response may be stored in a file, such as a text file, or a database, such as ANSI queryable database **107**. Storing to a text file is useful when a plurality of responses is expected, as when a plurality of messages was initially sent, so that the responses do not overload the database. The text file can be audited at a later time, if necessary. The text file may be stored, for example, external to database **107** on server **112**.

[0069] In step **412**, the socket is closed.

[0070] In an optional step **414**, the sent messages and/or any received response is displayed by the simulator on the user interface **102**, such as, for example, in the browser of user interface **102**.

[0071] An example embodiment of a browser-based TCP/IP simulator, such as simulator **104**, for creating and testing TPF response to messages will now be described with reference to FIGS. **5-31**, one of skill in the pertinent art will recognize that other simulator formats may be used without departing from the spirit and scope of the present invention.

[0072] FIG. **5** depicts an example graphical user interface homepage **500** for simulator **104**. Homepage **500** may be displayed, for example, by logging into a server running simulator **104**. Homepage **500** includes a message creation menu **502**, an operations menu **504**, and a documentation menu **506**. The term "link" as used herein will be recognized by one of skill in the relevant art(s) as referring to any link, hyperlink, button, or other selector that directs the user to additional information. Similarly, references to any radio button, check box, text box, drop box, or other selector that allows for data entry by a user will be recognized by one of skill in the relevant art(s) to be interchangeable with each other as used herein.

[0073] Message creation menu **502** includes a message creation link **508** and a messages in repository display link **510**. Operations menu **504** includes a get messages link **512**, a send messages from repository link **514**, a TPF system ping link **516**, and a message cut-and-paste link **518**. Documentation menu **506** includes a simulator user guide link **520**. The functions of each of these links will be described below.

[0074] FIG. **6** depicts a message creation screen **600** that is displayed when message creation link **508** is selected. Message creation screen **600** includes a second message creation menu **602**. Second message creation menu **602** includes a standard message creation link **604**, a message creation from bitmap link **606**, and a message creation from template link **608**.

[0075] FIG. **7** depicts a new message creation screen **700** that is displayed when standard message creation link **604** is selected. New message creation screen **700** includes a select message type menu **702** for selecting or entering a message type. The message type options may be predetermined, or may be entered by, for example, a user. Once a message type is determined, new message creation screen **700** displays a table **704** of fields, or primary bitmap information, that can be included in the message. A bitmap of an ISO 8583 message is the first portion of the message data stream. A bitmap may be 8, 16, or 32 characters. In FIG. **7**, an example message type "1100" is selected in message type menu **702**. One or more boxes next to the available fields may be checked to indicate inclusion in the message. Each message type may include a variety of fields. For example, an ISO 8583 point-of-arrival ("POA") message can include 128 fields. Different message types may include the same or similar fields.

[0076] New message creation screen **700** also includes a secondary bitmap selection box **706**. If no secondary fields are to be specified, the "no" radio button may be selected. The "next" button may then be selected to continue. As shown in FIG. **8**, if the "yes" radio button is selected, a secondary field table **802** is displayed in new message creation screen **700**. Secondary field table **802** includes a list of secondary bitmap information that may be included for the specified message type. Once the appropriate fields are selected, the "next" button (not shown) may be selected to advance to the next screen.

[0077] The simulator then displays a data entry screen **900**, as shown in FIG. **9**. The fields selected in new message creation screen **700** are displayed with text boxes for entering the requested data. Certain data may be pre-entered based on information from new message creation screen **700**. Such

data may be editable or uneditable. Once the required data has been entered, an ISO message save button (not shown) can be selected to save the message.

[0078] After the message is saved, the simulator displays additional message menu **1002**, as shown in FIG. **10**. Additional message menu **1002** contains text asking whether more messages will be added. If more messages are to be added, the "yes" button may be selected. If no more messages are to be added, the "no" button may be selected. If the "yes" button is selected, new message creation screen **700** is displayed again and the screen sequence is repeated.

[0079] If the "no" button is selected, a message table **1102** listing created messages is displayed, as shown in FIG. **11**. For each message, message table **1102** may include, for example and without limitation, the name of the test message, a hyperlink to a detailed view of the message, the folder where the message is stored, the message type, a link for updating the test message, and a link for deleting the test message. To navigate through pages containing the messages, a message navigation menu **1104** may be used. To return to homepage **500**, a back to home link **1106** may be selected.

[0080] FIG. **12** depicts a bitmap selection screen **1200** that is displayed when message creation from bitmap link **606** (as shown in FIG. **6**) is selected. The bitmap is the first portion of the ISO 8583 message. Each data element in the message is assigned a position indicator in the bitmap. A bitmap identifier, such as the first 8 characters, may be entered to identify a desired message bitmap. Once a bitmap identifier is entered into bitmap text box **1202**, a message building button **1204** may be selected.

[0081] FIG. **13** depicts a data entry screen **1300** that is displayed when message building button **1204** is selected. Data entry screen **1300** includes a selected field data entry menu **1302**. Selected field data entry menu **1302** includes text boxes for entering data corresponding to the selected fields. The available fields may be automatically determined based on the bitmap requested. The data may be pre-entered based on previously received information, or may be entered by, for example, a user. Once the message data is entered, the message may be stored in a message folder. The appropriate radio button can be selected from message folder storage menu **1304**. Data entry screen **1300** may also display a bitmap identifier, such as bitmap identifier **1306**, which indicates the bitmap from which the message is being created.

[0082] After the message has been saved, the simulator process and display is similar to that described with respect to FIGS. **10** and **11**.

[0083] FIG. **14** depicts a message from template screen **1400** that is displayed when message creation from template link **608** (as shown in FIG. **6**) is selected. Message from template screen **1400** includes a template menu **1402**, where a particular message template can be selected or entered. Once the message template has been determined, a "next" button may be selected to proceed to the next screen. The simulator process and display is then similar to that described with respect to FIGS. **7** through **11**.

[0084] From homepage **500**, all the messages in a particular folder may be displayed by selecting messages in repository display link **510**. Message folder select screen **1500** is then displayed, as shown in FIG. **15**. Message folder select screen **1500** includes a message folder select menu **1502**. Message folder select menu **1502** includes names of folders having messages stored therein. The name of the folder from which messages are to be displayed is selected from message folder select menu **1502**. If a user wishes to continue displaying messages in the selected message folder, the "next" button may be selected. If the user wishes to return to homepage **500**, the back to home link **1504** may be selected.

[0085] Once the appropriate folder has been chosen from message folder select menu **1502** and the "next" button has been selected, a message list screen **1600** is displayed, as shown in FIG. **16**. Message list screen **1600** includes a message table **1602** that displays the messages contained in the selected message folder. Listed for each message in the selected folder may be, for example and without limitation, a message identifier, the name of the related test case, the name of the folder in which the message is stored, and the message type. To view a particular message, a message view icon, such as icon **1604**, may be selected. To edit a particular message, a message edit icon, such as icon **1606**, may be selected. To delete a particular message, a message delete icon, such as icon **1608**, may be selected. Selecting a select different folder link **1610** returns the user to message folder select screen **1500**.

[0086] To filter messages in a particular folder, get messages link **512** may be selected. This displays message filter screen **1700**, as shown in FIG. **17**. Message filter screen **1700** includes a search criteria menu **1702** in which criteria for filtering the messages may be selected. Search criteria menu **1702** may allow a user to search, for example, by person, by date, by test case name, by folder, and/or by message identifier. One of skill in the art will recognize that other search criteria may be used to filter the messages without departing from the spirit and scope of the present invention. To view messages according to a particular criterion, the radio button next to the criteria is selected. Optionally, multiple criteria may be selected at one time. Once the appropriate radio button is selected, next button **1704** may be selected. Alternatively, back to home button **1706** may be selected.

[0087] If "by person" radio button **1708** is selected, a person selection screen **1800** displays a person selection menu **1802**, as shown in FIG. **18**. A name of a person for whom messages will be filtered may be selected from person selection menu **1802**. After the appropriate person has been selected, next button **1804** may be selected. This displays, as shown in FIG. **19**, a filtered message table **1902**. Filtered message table **1902** lists messages created and/or sent by the selected person. For each message, filtered message table **1902** may include, for example and without limitation, a message identifier, the message type, the sending and/or host IP address, the name of the related test case, one or more timestamps related to the request, the status of a response, one or more timestamps related to the response, and a user identifier. Filtered message table **1902** may also include hyperlinks tri individual messages. To navigate through the messages, a navigation bar (not shown) may be provided.

[0088] To view details of a particular message in filtered message table **1902**, a request link for the particular message, such as request link **1904**, may be selected. This displays a requested message screen **2000**, as shown in FIG. **20**. Requested message screen **2000** displays a table **2002** listing detailed information about the particular message. A data stream field **2003** may also be displayed to show the actual data stream for the message. To return to the previous window, back button **2004** may be selected.

[0089] To view details about a TPF response to a particular message, a response link, such as response link **1906** in FIG. **19**, may be selected. This displays a response screen **2100**, as

shown in FIG. **21**. Response screen **2100** displays a table **2102** listing detailed information about the response. To return to the previous window, back button **2104** may be selected.

[0090] If "by date" radio button **1710** is selected in search criteria menu **1702**, a date selection screen **2200** displays a date selection menu **2202**, as shown in FIG. **22**. A date may be selected from or entered into date selection menu **2202**. After the appropriate date has been determined, next button **2204** may be selected. This displays a filtered message table listing messages sent on the selected date. The filtered message table is similar to message table **1902** in FIG. **19**. Messages and responses in the filtered message table may be viewed in a similar manner to that described with respect to FIGS. **20** and **21**.

[0091] If "by test case" radio button **1712** is selected in search criteria menu **1702**, a test case selection screen **2300** displays a test case selection menu **2302**, as shown in FIG. **23**. A test case may be a particular project in progress, such as, for example and without limitation, a test of hardware or server configuration or a test of message format. A test case may be selected from or entered into test case selection menu **2302**. After the appropriate test case has been selected, next button **2304** may be selected. This displays a filtered message table listing messages related to the selected test case. The filtered message table is similar to message table **1902** in FIG. **19**. Messages and responses in the filtered message table may be viewed in a similar manner to that described with respect to FIGS. **20** and **21**.

[0092] If "by folder" radio button **1714** is selected in search criteria menu **1702**, a folder selection screen **2400** displays a folder selection menu **2402**, as shown in FIG. **24**. A specific folder may be selected from or entered into folder selection menu **2402**. After the appropriate folder has been selected, next button **2404** may be selected. This displays a filtered message table listing messages included in the selected folder. The filtered message table is similar to message table **1902** in FIG. **19**. Messages and responses in the filtered message table may be viewed in a similar manner to that described with respect to FIGS. **20** and **21**.

[0093] If "by msgID" radio button **1716** is selected in search criteria menu **1702**, a message identification selection screen **2500** displays a message identifier selection menu **2502**, as shown in FIG. **25**. A message identifier may be selected from or entered into message identifier selection menu **2502**. After the appropriate message identifier has been selected, next button **2504** may be selected. This displays a filtered message table listing one or more messages having the selected message identifier. The filtered message table is similar to message table **1902** in FIG. **19**. Messages and responses in the filtered message table may be viewed in a similar manner to that described with respect to FIGS. **20** and **21**.

[0094] On homepage **500**, send messages from repository link **514** may be selected to send messages in volume from a particular folder. This displays a message information screen **2600**, as shown in FIG. **26**. Message information screen **2600** displays a data entry box **2602**. Data entry box **2602** allows a user to enter testing information. For example, the destination IP address and the destination port can be selected from destination IP address menu **2604** and destination port menu **2606**, respectively. If the desired IP address is already known or is not found in destination IP address menu **2604**, the IP address may be entered in destination IP address text box **2608**. Similarly, if the desired port is already known or is not found in destination port menu **2606**, the port may be entered in destination port text box **2610**. The type of system to which the message is being sent (e.g., TPF, GAN, POA) may also be selected using radio buttons **2611**. To send multiple messages, the number of messages to send, the specific test case to send, or a file containing specific messages may be input in data entry box **2602**. One of skill in the relevant art(s) will recognize that other information relevant to sending multiple messages may also be input without departing from the spirit and scope of the present invention.

[0095] Once the information requested in data entry box **2602** is complete, the message may be sent by selecting send message button **2612**. If no message is to be sent, cancel button **2614** may be selected. To return to homepage **500**, simulator home button **2616** may be selected.

[0096] On homepage **500**, a TCP/IP connection to a TPF system may be tested by selecting TPF system ping link **516**. This displays a TCP/IP test screen **2700** having a TPF IP address text box **2702**, as shown in FIG. **27**. Once the IP address of the TPF in question is entered in text box **2702**, a TPF machine ping button **2704** may be selected to proceed with the test.

[0097] The result of the test may be displayed in ping results screen **2800**, as shown in FIG. **28**. Ping results screen **2800** may indicate, for example and without limitation, the type of system located at the entered IP address and/or the status of the ping test. To return to TCP/IP test screen **2700**, a TCP/IP testing platform home page link **2802** may be selected.

[0098] On homepage **500**, message cut-and-paste link **518** may be selected to cut and paste information from a previous message into a new message. This displays a cut-and-paste screen **2900**, as shown in FIG. **29**. Header information from the previous message may be pasted into header information data entry box **2902**. Message text from the previous message may be pasted into message text data entry box **2904**. Edits may also be made in each of header information data entry box **2902** and message text data entry box **2904**. Once all of the information has been entered, submit query button **2906** may be selected to send the message to the TPF.

[0099] On homepage **500**, documentation menu **506** includes, for example, simulator user guide link **520**. Selecting simulator user guide link **520** may open, for example, an electronic and/or a printable copy of a user guide for the simulator.

[0100] Homepage **500** also includes a problem reporting link **522**. Selecting problem reporting link **522** displays a problem reporting screen **3000**, as shown in FIG. **30**. Problem reporting screen **3000** includes an email address text box **3002**, a problem area menu **3004**, and a problem description text box **3006**. The email address of the user encountering a problem may be entered in email address text box **3002**. The type of problem encountered may be selected from or entered into problem area menu **3004**. Problem area menu **3004** may include predetermined categories, or may be similar to a subject line of a typical email. Details related to the encountered problem may be entered into problem description text box **3006**. Once the details have been entered, a submit problem button **3008** may be selected. The information is then routed to support staff for analysis and response.

[0101] The present invention (or any part(s) or function(s) thereof) may be implemented using hardware, software or a combination thereof and may be implemented in one or more

computer systems or other processing systems. Useful machines for performing the operation of the present invention include general purpose digital computers or similar devices.

[0102] In fact, in one embodiment, the invention is directed toward one or more computer systems capable of carrying out the functionality described herein. An example of a computer system **3100** is shown in FIG. **31**.

[0103] The computer system **3100** includes one or more processors, such as processor **3104**. The processor **3104** is connected to a communication infrastructure **3106** (e.g., a communications bus, cross-over bar, or network). Various software embodiments are described in terms of this exemplary computer system. After reading this description, it will become apparent to a person skilled in the relevant art(s) how to implement the invention using other computer systems and/or architectures.

[0104] Computer system **3100** can include a display interface **3102** (such as, for example, user interface **102**) that forwards graphics, text, and other data from the communication infrastructure **3106** (or from a frame buffer not shown) for display on the display unit **3130**.

[0105] Computer system **3100** also includes a main memory **3108**, preferably random access memory (RAM), and may also include a secondary memory **3110**. The secondary memory **3110** may include, for example, a hard disk drive **3112** and/or a removable storage drive **3114**, representing a floppy disk drive, a magnetic tape drive, an optical disk drive, etc. The removable storage drive **3114** reads from and/or writes to a removable storage unit **3118** in a well known manner. Removable storage unit **3118** represents a floppy disk, magnetic tape, optical disk, etc. which is read by and written to by removable storage drive **3114**. As will be appreciated, the removable storage unit **3118** includes a computer usable storage medium having stored therein computer software and/or data.

[0106] In alternative embodiments, secondary memory **3110** may include other similar devices for allowing computer programs or other instructions to be loaded into computer system **3100**. Such devices may include, for example, a removable storage unit **3118** and an interface **3120**. Examples of such may include a program cartridge and cartridge interface (such as that found in video game devices), a removable memory chip (such as an erasable programmable read only memory (EPROM), or programmable read only memory (PROM)) and associated socket, and other removable storage units **3118** and interfaces **3120**, which allow software and data to be transferred from the removable storage unit **3118** to computer system **3100**.

[0107] Computer system **3100** may also include a communications interface **3124**. Communications interface **3124** allows software and data to be transferred between computer system **3100** and external devices. Examples of communications interface **3124** may include a modem, a network interface (such as an Ethernet card), a communications port, a Personal Computer Memory Card International Association (PCMCIA) slot and card, etc. Software and data transferred via communications interface **3124** are in the form of signals **3128** which may be electronic, electromagnetic, optical other signals capable of being received by communications interface **3124**. These signals **3128** are provided to communications interface **3124** via a communications path (e.g., channel) **3126**. This channel **3126** carries signals **3128** and may be implemented using wire or cable, fiber optics, a telephone line, a cellular link, a radio frequency (RE) link and other communications channels.

[0108] In this document, the terms "computer program medium" and "computer usable medium" are used to generally refer to media such as removable storage drive **3114**, as hard disk installed in hard disk drive **3112**, and signals **3128**. These computer program products provide software to computer system **3100**. The invention is directed to such computer program products.

[0109] Computer programs (also referred to as computer control logic) are stored in main memory **3108** and/or secondary memory **3110**. Computer programs may also be received via communications interface **3124**. Such computer programs, when executed, enable the computer system **3100** to perform the features of the present invention, as discussed herein. In particular, the computer programs, when executed, enable the processor **3104** to perform the features of the present invention. Accordingly, such computer programs represent controllers of the computer system **3100**.

[0110] In an embodiment where the invention is implemented using software, the software may be stored in a computer program product and loaded into computer system **3100** using removable storage drive **3114**, hard drive **3112** or communications interface **3124**. The control logic (software), when executed by the processor **3104**, causes the processor **3104** to perform the functions of the invention as described herein.

[0111] In another embodiment, the invention is implemented primarily in hardware using, for example, hardware components such as application specific integrated circuits (ASICs). Implementation of the hardware state machine so as to perform the functions described herein will be apparent to persons skilled in the relevant art(s).

[0112] In yet another embodiment, the invention is implemented using a combination of both hardware and software.

[0113] While various embodiments of the present invention have been described above, it should be understood that they have been presented by way of example only, and not limitation. It will be apparent to persons skilled in the relevant art that various changes in form and detail can be made therein without departing from the spirit and scope of the invention. Thus, the breadth and scope of the present 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.

What is claimed is:

1. A method, comprising:

creating, by a processing device configured to create a test message, the test message from a message shell in a database using a simulator, wherein the message shell comprises information corresponding to a message type, and wherein a selection of the message type is based on the purpose of the message;

sending, by the processing device, the test message to a transaction processing facility using the simulator to test the transaction processing facility response to the message type;

storing, by the processing device, a response from the transaction processing facility in the database; and

auditing, by the processing device, the stored response, wherein attributes of responses are filtered by message type.

2. The method of claim 1, wherein the message type includes a variety of fields.

3. The method of claim 1, wherein the message type is selectable.

4. The method of claim 1, further comprising storing, by the processing device, a record of the test message in a test message table.

5. The method of claim 4, wherein the test message table comprises a hyperlink to a detailed view of the test message, a link for updating the test message and a link for deleting the test message.

6. The method of claim 1, wherein the database is a server-based ANSI queryable database.

7. The method of claim 1, wherein the test message is an ISO 8583 message.

8. The method of claim 1, further comprising viewing the response through the simulator.

9. The method of claim 1, wherein the test messages and the responses are accessible by a user from multiple locations regardless of a seat license for the user.

10. The method of claim 1, further comprising:

determining, by the processing device, whether a response to the test message has been received within a specified timeframe;

in response to the test message being received within the specified timeframe, storing, by the processing device, the response; and

displaying, by the processing device, the response.

11. The method of claim 1, wherein the message type is at least one of point-of-sale messages and ATM transaction messages.

12. The method of claim 1, further comprising using the test message created from the message shell to test connectivity of the server associated with the database to the transaction processing facility.

13. A system comprising:

a database configured to store message shells in a server, wherein the message shells comprise information corresponding to a message type, wherein a selection of the message type is based on the purpose of the message, wherein the received responses are audited;

a test message creation interface to the database; and

a communications link between the server and a transaction processing facility, wherein a test message is created via the test message creation interface from the message shells, and wherein the test message is transmitted via the communications link to the transaction processing facility, wherein attributes of responses filtered by message type test the transaction processing facility.

14. The system of claim 13, wherein the test messages and responses are accessible by a user from multiple locations regardless of a seat license for the user.

15. The system of claim 13, wherein the created message is an ISO 8583 message.

16. The system of claim 13, wherein the database is accessible from a variety of user interfaces.

17. The system of claim 13, wherein the communications link is coupled directly to the transaction processing facility.

18. The system of claim 13, wherein the communications link passes through a global area network.

19. The system of claim 13, further comprising storing, by the processing device, a record of the test message in a test message table, wherein the test message table comprises a hyperlink to a detailed view of the test message, a link for updating the test message and a link for deleting the test message.

20. A non-transitory computer readable storage medium having instructions stored thereon that, if executed by a computing device configured to create a test message, cause the computing device to perform operations comprising:

creating, by the computing device, the test message from a message shell in a database using a simulator, wherein the message shell comprises information corresponding to a message type, and wherein a selection of the message type is based on the purpose of the message;

sending, by the computing device, the test message to a transaction processing facility using the simulator to test the transaction processing facility response to the message type;

storing, by the computing device, a response from the transaction processing facility in the database; and

auditing, by the computing device, the stored response, wherein attributes of responses are filtered by message type.

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