Exhibit 5
Part 8
To Third Declaration of
Joseph N. Hosteny

> depending on the resolution of the scanning and printing devices. Each glyph element represents a binary 0 or 1 depending on whether it slopes downward to the left or the right respectively. Accordingly, DataGlyph™ elements can represent character strings as ASCII or EBCDIC binary representations. Further, encryption methods, as known to persons of ordinary skill in the art encrypt the data represented by the DataGlyph™ Technology. ('988 Patent, Col. 5, l. 58 to Col. 6, l. 6.)

In addition Campbell, et al. teaches:

> Since there are no universally adopted standards regarding imaging formats and compression standards, the node 12 contains a signal converter 50 which converts signals received by the node 12 in one format used by a sender into another format usable by a recipient. The converter 50 uses information stored in the database 46 regarding the formats and compression algorithms involved. This information will be relayed from the database 46 to the signal converter 50 by the node controller 42. The converter 50 may contain multi-vendor image format and compression processors which can uncompress and reconstruct images from one imaging system to another. (Campbell, et al., Col. 7, ll. 15-27.)

Thus, the sending institution 14 may compress the images before transmitting to the node 12. Bitmap compression is one known compression standard. The node is designed to handle all compression formats.

As further taught in Campbell, et al.: "The assembler/disassembler 40 [at the processing node 12] may read certain overhead information accompanying the images, including frame relay flags, identifiers, address bits, indicators, and other overhead information." (Campbell, et al., Col. 5, ll. 2-5.) "A storage device 48, which may be an electronic mailbox as shown in FIG. 2, stores at least temporarily some or all of check images received by the node 12. A signal converter 50 contains information used by the node 12 to convert images in a format used by the sending institutions into a format understandable by the receiving institution." (Campbell, et al., Col. 4, ll. 45-52.) "The

storage device 48 may be a rewritable mass storage device which can at least temporarily store or archive compressed or uncompressed check images prior to transmission to their destinations." (Campbell, et al., Col. 6, ll. 57-60.)

Because all of the above were well known instrumentalities to manipulate, transmit or store data, one of ordinary skill in the art at the time the invention was created would find it obvious to use these well known technologies in order to enable the claimed invention within the instant '988 Patent, absent a showing of criticality for a particular instrumentality as a necessity of implementation of the disclosed invention.

Claims 9-16, 19-21 and 30-35 rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell, et al. in view of Owens et al. (USPN 4,264,808) and Minoli.

What Campbell, et al. discloses, teaches and suggests is either discussed above or discussed in the Exhibit entitled "Element by element comparison of claims 1-41 of the '988 Patent to Campbell, et al. (U.S. Patent No. 5,373,550)" and is incorporated herein. What Minoli discloses, teaches and suggests is either discussed above or discussed in either the Exhibit entitled "Element by element comparison of claims 42-45 of the '988 to Minoli, "Imaging in Corporate Environments" or the Exhibit entitled "Element by element comparison of claims 1-41 of the '988 Patent to Campbell, et al. (U.S. Patent No. 5,373,550)" and is likewise incorporated herein. Moreover, what Owens et al. teaches and suggests is discussed in the Exhibit entitled "Element by element comparison of claims 1-41 of the '988 Patent to Campbell, et al. (U.S. Patent No. 5,373,550)" and is incorporated herein. Moreover, as admitted by the '988 Patent disclosure: "[a]s is known

to persons of ordinary skill in the art, the DAT 200 could also be custom designed around a general purpose network computer running other operating systems as long as the chosen operating system provides support for multiprocessing, memory management and dynamic linking required by the DataTreasury™ System 100." ('988 Patent, Col. 6, ll. 46-60.) In an analogous system for electronic image processing Owens et al. teaches and suggests what is stated in the Exhibit entitled "Element by element comparison of claims 1-41 of the '988 Patent to Campbell, et al. (U.S. Patent No. 5,373,550)" where the above identified claims are discussed within said Exhibit and is incorporated herein.

Claim 9 details further elements of the data management subsystem of the central data processing subsystem and the prior art teaches and suggests such subsystems, such as a "polling server" (Minoli, pp. 33 and 350; Owens, et al., Col. 12, ll. 12-16); a database (Owens, et al., Col. 12, ll. 18-27); a report generator (Owens, et al., Col. 14, ll. 12-18); a CPU (Owens, et al., Col. 12, ll. 27-36); a domain name services program (Owens, et al., Col. 21, ll. 1-17; Minoli, pp. 248-49); and a memory hierarchy (Owens, et al., Col. 12, ll. 23-27). Claim 19 parallels claim 9. Claim 19 depends on claim 18, which describes a collecting subsystem in between the remote and central subsystems. Claim 19 specifies that the data management subsystem (controller or CPU) of the collecting (intermediate) subsystem of claim 18 comprises a server; a database; a CPU; and a domain name services program; and a memory hierarchy. Each of these limitations is expressly taught by either Owens or Minoli. Claims 20-21, dependent on claim 19, are drawn to the memory hierarchy of claim 19. Claim 20 adds limitations of a primary memory for collecting transaction data and a secondary memory for backup storage of the transaction data. Campbell, et al., describes temporary and long-term archiving of the images at the

check processing node 12. (Campbell, et al., Col. 7, ll. 6-8.) Claim 21 describes a type of magnetic tape storage device. Minoli describes several image storage systems including: CD-ROMs, WORMs, recordable CD, and magnetooptic (MO) storage. See Minoli, Chapter 7, at page 219. The limitation of claim 11, wherein the memory hierarchy comprises at least one primary memory for storage and at least one secondary memory for storage, is specifically taught by Owens, Col. 12, ll. 23-27. Claim 12, dependent on claim 11 and thus claim 9, describes the memory hierarchy of claim 9 as comprising a WORM jukebox and an optical storage jukebox. Both types of storage may be used to store check images as taught in Minoli on pages. 30-31 and Chapter 7. Claim 13, dependent on claim 12, specifies that the optical storage jukebox comprises read only memory technology including compact disc read only memory. CD-ROM optical storage is described as being faster (150 kbps) than video servers. Minoli, p. 33. Claim 14 is drawn to the database of claim 9 comprising at least one predefined template for portioning the stored transaction data into panels. Owens, et al. discusses ways of storing the data into predefined fields, "machine pattern recognition units" which include "a conventional character recognition reader which read the decompressed image of a document 18 and ascertains the monetary amount thereon." (Owens, et al., Col. 23, ll. 44-47.) Claim 15 depends from claim 14 and adds that "a data entry gateway for correcting errors in the panels of stored transaction data." Owens describes this limitation wherein transaction data is sent to a workstation wherein an operator may correct any errors through viewing the image, "[w]hen data is missing, the associated image is routed to one of the processors 396, 398 for display on one of the CRTS 150 where an operator keys in the appropriate data on an associated keyboard 152." (Owens,

Col. 23, ll. 47-52.) Claim 30 parallels claim 9. Claims 31-32, parallel to claims 14-15, are dependent on claim 30. Thus, each of these limitations is taught by Minoli and Owens, et al. Claims 34-35 are dependent on claim 32, but add limitations that are taught by Campbell, et al. These limitations include: transmitting within the remote subsystem (Campbell, et al., FIG. 1); transmitting between the remote and central subsystems (Campbell, et al., Col. 2, ll. 26-32); transmitting within the central subsystem (Campbell, et al., Col. 3, ll. 41-52); connecting the remote to the central subsystem (Campbell, et al. Col. 3, ll. 20-43); and connecting the central subsystem to the remote subsystem (Campbell, et al., Col. 3, ll. 32-52).

Because the above identified claims are directed to "subsystems" that either can be categorized as support for multiprocessing, memory management, data generation, image file capture, storage or retrieval or dynamic linking for communication between systems, one of ordinary skill in the art would find it obvious to incorporate the teachings found in Owens et al. into the check interchange system of Campbell, et al. in order to facilitate an effective and efficient operation of Campbell, et al.'s check interchange system in order to avoid the errors identified in Owens et al. background of the invention.

Claims 10 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell, et al. in view of Owens, et al. and Minoli as applied to claims 9 and 32 above, and further in view of AAPA.

Claim 10 and 33 describe polling for biometric and signature data and comparing said data for identity verification. As acknowledged by the Applicant in the disclosure of the '988 patent, "[a]s is known to persons of ordinary skill in the art, the DATs 200 could

also include additional devices for capturing other biometric data for additional security. These devices include facial scans, fingerprints, voice prints, iris scans, retina scans and hand geometry." ('137 Patent, Col. 6, ll. 53-58.) Moreover, the '137 patent admits:

> In addition to scanning images and text, the DAT scanner 202 also scans DataGlyph™ elements, available form Xerox Corporation. As is known to persons of ordinary skill in the art, the Xerox DataGlyph™ Technology represents digital information with machine readable data which is encoded into many, tiny, individual glyph elements. Each glyph element consists of a 45 degree diagonal line which could be as short as 1/100th of an inch depending on the resolution of the scanning and printing devices. Each glyph element represents a binary 0 or 1 depending on whether it slopes downward to the left or the right respectively. Accordingly, DataGlyph™ elements can represent character strings as ASCII or EBCDIC binary representations. Further, encryption methods, as known to persons of ordinary skill in the art encrypt the data represented by the DataGlyph™ Technology. ('137 Patent, Col. 5, l. 64 to Col. 6, l. 12.)

Because all of the above were well known instrumentalities to manipulate, transmit or store data, one of ordinary skill in the art at the time the invention was created would find it obvious to use these well known technologies in order to enable the claimed invention within the instant '988 Patent, absent a showing of criticality for a particular instrumentality as a necessity of implementation of the disclosed invention.

Claims 17, 22-25, 36-41 and 43-45 rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell, et al. in view of Minoli.

What Campbell, et al. discloses, teaches and suggests is either discussed above or discussed in the Exhibits entitled "Element by element comparison of claims 1-41 of the '988 Patent to Campbell, et al. (U.S. Patent No. 5,373,550)" and "Element by element

comparison of claims 42-45 of the '988 Patent to Campbell, et al. (U.S. Patent No. 5,373,550)" and are incorporated herein. What Minoli discloses, teaches and suggests is either discussed above or discussed in either the Exhibit entitled "Element by element comparison of claims 42-45 of the '988 to Minoli, "Imaging in Corporate Environments" or the Exhibit entitled "Element by element comparison of claims 1-41 of the '988 Patent to Campbell, et al. (U.S. Patent No. 5,373,550)" and is likewise incorporated herein.

Claim 17, dependent on claim 16, describes modems for connecting the first LAN to the WAN and a bank of modems for connecting the second LAN to the WAN. Using a dial-up or modem connection to a WAN was well known in the art and is specifically described in Minoli. See Minoli, p. 263. Claim 22 depends on claim 18, which describes a collection subsystem in between the remote and central subsystems. Claim 22 adds further architecture to the communication network of claims 1 and 18, such as a first, second, and third LANs corresponding to the remote subsystem, the collection subsystem, and the central subsystems, and a WAN for transmitting data between the remote and the central subsystems. Minoli teaches that several LANs may be interconnected through a WAN, such as in a banking or check processing environment. See Minoli, pp. 31; 269-271. Claims 23-25, dependent on claim 22, describe hardware that is typically part of a communication network and that is expressly taught by Minoli. These claims add limitations of a modem (Minoli, p. 263); a bank of modems (Minoli, p. 263); routers (Minoli, p. 269); a carrier cloud using frame relay (Minoli, p. 268); and a network switch (Minoli, p. 268). For Claims 36 and 38-41 are each dependent on claim 29, which is disclosed by Campbell et al. Claim 36 (the method embodiment of claim 18) describes a collecting step at an intermediate location, such as at the intermediary

bank 14. (Campbell, et al., Col. 2, ll. 46-49.) Claim 36 also requires a transmitting of the transaction data within the intermediate location and between the intermediate locations and the central locations. As described above with respect to claim 18, Campbell, et al. teaches that such a collection may occur at an intermediary bank 14 (intermediary) that transmits check images between the bank of first deposit and the processing node 12. (Campbell, et al. Col. 2, ll. 46-49.) Claim 37, dependent on claim 36 and thus 29 (both disclosed by Campbell) adds limitations relating to: polling (Campbell, et al., Col. 3, ll. 30-39); storing (Campbell, Col. 3, ll. 43-58); and dynamically assigning (Campbell, Col. 3, ll. 30 - 39; Minoli, p. 248-49). Claims 38-41, add further steps, relating to connecting and transmitting among the three locations. Campbell, et al. teaches these connections and transmissions among 3 tiers, specifically as to the bank 14, the node 12, and the bank 16. However, these connecting and transmitting steps are directly applicable to the connecting and transmitting among the bank 36, the bank 14, and the processing node 12 (specifically described as in claims 18 and 36). These include: transmitting between the remote and intermediate (Campbell, et al., Col. 2, ll. 25-33); transmitting between the intermediate and central (*Id.*); connecting the remote to the intermediate location (Campbell, et al., Col. 3, ll. 30-39); connecting the intermediate to the central location (Campbell, et al., Col. 2, ll. 25-33; Col. 3, ll. 30-39); connecting the intermediate to an external network (Campbell, et al., Col. 2, ll. 25-33; Col. 2, ll. 50-63; Col. 3, ll. 30-39); connecting the central location to the communication network (Campbell, et al., Col. 2, ll. 25-33; Col. 2, ll. 50-63; Col. 3, ll. 30-39); packaging the transaction data into frames (Campbell, et al., Col. 3, ll. 30-39); and transmitting the frames through the external communication network (Campbell, et al., Col. 3, ll. 30-39).

Therefore, all of the limitations of the above identified depend claims are either disclosed, taught or suggested in the prior art as well known instrumentalities for implementing check interchange systems and can be categorized as either communication support, network architecture, storage, security, connection and transmission between systems and data collection and storage, and absent a showing of criticality in the necessity of having one of the particular claimed means for manipulating data, said means would be obvious to one of ordinary skill in the art at the time the invention was created.

Claims 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell, et al. in view of Geer, ANSI or Minoli.

What Campbell, et al., Geer, ANSI and Minoli disclose, teach and suggest to one of ordinary skill in the art has been either discussed above or discussed in the Exhibits identified above and is incorporated herein.

For claims 43-45, Campbell teaches the existence of three subsystems, one at each of the sending bank 14, the node 12, and the receiving bank 16, each expressly or inherently having local area network, and a wide area network (telephone network 10) for transmitting images between the 3 subsystems in a tiered architecture (See, FIG. 1 directional arrows of the communications lines 22, 24, 26, and 28, as well as FIG. 2 directional arrows). The local area network ("LAN") connecting the subsystems of the node 12 is expressly taught. (Campbell, et al., Col. 4, ll. 56-58.) The LANs at each of the sending and receiving banks are inherent to the nature of the equipment at each bank. Campbell further teaches that the check imaging equipment 18 ("an imaging subsystem

for capturing images of documents and receipts") and/or 32 may be "large multiworkstation systems available from companies such as IBM, UNISYS, or NCR." (Campbell, et al. Col. 3, ll. 10-12 and 46-48.) One skilled in the art would understand that the term "large multiworkstation systems" means that the equipment 18 includes multiple components interconnected by a local area network. LANs were commonplace at banking institutions by the early 1990's, as is evidenced by the express teaching of the LAN at the check processing node 12. Thus, Campbell, et al. alone teaches all of the hardware components of claims 42-45. Campbell, et al. does not expressly teach capturing images of "receipts." It would have been obvious to apply the teaching of Campbell to process any financial (or other paper) document, including receipts, as broadly taught by Geer, ANSI or Minoli, because doing so would desirably eliminate the need to handle such documents in paper form. See e.g. ANSI p. 1 ("[It] is intended to improve the payments system by supporting the interchange of digitized images of financial documents, specifically checks and similar paper-based instruments; facilitate the truncation of the paper at the earliest possible point in the clearing process; and support transmissions from a single transaction to thousands of transactions serving all banking payment processing applications.")

Correspondence

All correspondence relating to this *ex parte* reexamination proceeding should be directed as follows:

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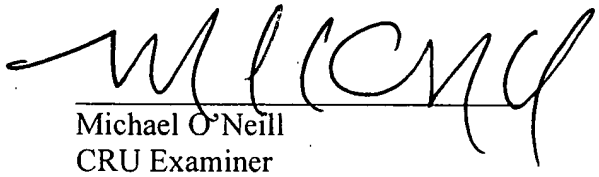
Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:



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APPENDIX

Element by element comparison of claims 1-41 of the '988 Patent to Campbell, et al. (U.S. Patent No. 5,373,550).

'988 Patent	'550 to Campbell, et al.
1. A system for central management, storage and report generation of remotely captured paper transactions from documents and receipts comprising:	Checks used to effectuate commercial and private transactions may be cleared through the banking system by transporting images of those checks between sending institutions and receiving institutions in forward and reverse flow paths between banks of first deposit and payor banks. The check images are transported through a public switched telephone network which contains a special check imaging node which provides a network based check clearing service for customers of telephone network. The check imaging node receives images of checks from institutions which subscribe to this service and routes those images through the telephone network to intended subscriber and non-subscriber recipients. Campbell, et al., Abstract.
1a. one or more remote data access subsystems for	Remote data access subsystem = sending institution 14. "The sending institution 14 is a subscriber to the telecommunications services provided by the node 12." "For example, the sending institution 14 may be a payor bank and the receiving institution may be a bank of first deposit which are involved in a processes of returning a check dishonored by institution 14 to the institution 16. Alternatively, the sending institution 14 may be a bank of first deposit which is in the process of forwarding checks to an institution 16 which is acting as a payor bank." Campbell, et al., Col. 2, lns. 32-45.
capturing and	"The sending institution 14 possesses check imaging equipment 18 which produces electrical or optical signals representing the image of a check." Campbell, et al., Col. 2, ln 64-66.
sending	"The images produced by the equipment 18 are directed to a network interface 20 which converts the signals from the equipment 18 into signals suitable for transmission on the telephone network 10." Campbell, et al., Col. 3, ln 17-20.
paper transaction data and Subsystem identification information comprising	"The controller 42 may read some data accompanying check images, for example, it may identify that TCP/IP protocol information accompanying those images. That information may instruct the node 12 about the identity of the sending institution and the intended receiving institution." Campbell, et al., Col. 5, ln 23-28. "The assembler/disassembler 40 [at the processing node 12] may read certain overhead information accompanying the images, including frame relay flags, identifiers, address bits, indicators, and other overhead information." Campbell, et al., Col. 5, ln 2-5.
at least one imaging subsystem for capturing the documents and receipts and	"The sending institution 14 possesses check imaging equipment 18 which produces electrical or optical signals representing the image of a check. ... The imaging equipment may be large multiworkstation systems available from companies such as IBM, UNISYS, or NCR. Campbell, et al.,Col. 2, ln. 64 – Col. 3, ln. 12.
at least one data access controller for managing the capturing and sending of the transaction	"The images produced by the equipment 18 are directed to a network interface 20 which converts the signals from the equipment 18 into signals suitable for transmission on the telephone network 10."

'988 Patent	'550 to Campbell, et al.
data;	Campbell, et al., Col. 3, lns. 17-20.
1b. at least one central data processing subsystem for	The network 10 contains at least one check image processing node 12 which provides check clearance services. The node 12 receives images of checks from a sending institution 14 transmitted through the network 10. The node 12 processes the check images and sends them to a receiving institution 16." Campbell, et al., Col. 2, lns. 26-32.
processing, sending, verifying and storing	"[T]he processing node 12 receives check images and performs certain processing procedures on those images, including at least temporary storage of the received check images." Campbell, et al., Col. 3, lns. 43-58. "The node 12 contains a frame relay assembler/disassembler 40 which receives frames of digital information representing check images sent by service subscribers to the network 38. The assembler/disassembler 40 also transmits frames of digital information representing check images to the network 38 after those images have been processed by the node 12. A node controller and router 42 controls the routing of check images to their intended destinations, both in the controller and to their ultimate destinations outside the network 38." Campbell, et al., Col. 3, lns. 30 – 39. Verify: "The controller 42 may receive instructions from the work center 54 through the interface 52 to control changes made to the information in the database 46. These changes may include the addition or changes to personal identification numbers or bank related data." Campbell, et al., Col. 5, lns. 31 -39.
the paper transaction data and the subsystem identification information comprising	"The controller 42 may read some data accompanying check images, for example, it may identify that TCP/IP protocol information accompanying those images. That information may instruct the node 12 about the identity of the sending institution and the intended receiving institution." Col. 5, ln 23-28.
a management subsystem for managing the processing, sending and storing of the of the transaction data; and	"A node controller and router 42 controls the routing of check images to their intended destinations, both in the controller and to their ultimate destinations outside the network 38." Col. 3, ln 30 – 39. "The node controller and router 42 provides interfaces to systems external to the node 12. It is connected to all the other subsystems in the node 12 by way of the local area network 56. ...The controller 42 may also be configured to handle information encrypted by sending institutions to provide security for the images transported by the network 38. The controller 42 may have its own encryption and decryption equipment to provide a secure environment in the node 12." Campbell, et al., Col 5, lns. 14-60.
1c. at least one communication network for the transmission of the transaction data	"The image of a check is created in a sending institution and sent to a receiving institution by means of the public switched telephone network." Campbell, et al., Col. 2, lns. 20-22. "The public switched telephone network 10 may be a telephone network provided by a local exchange carrier ...The network may be digital or analog. Two examples of suitable digital networks are a packet network and a frame relay network, such as the existing packet and frame relay networks now provided by carriers such as AT&T." Campbell, et al., Col. 2, lns. 50-63.

'988 Patent	'550 to Campbell, et al.
within and	"A local area network 56 connects the subsystems of the node 12 described above." Campbell, et al., Col. 4, lns. 56-58. "The images produced by the equipment 18 are directed to a network interface 10 which converts the signals from the equipment 18 into signals suitable for transmission on the telephone network 10." Campbell, et al., Col. 3, lns. 17-20.
between said one or more data access subsystems and said at least one data processing subsystem,	"The network access lines 22 may comprise any form of transmission line suitable for carrying the expected volume of check image traffic between the sending institution 14 and the telephone network 10. For example, the network access lines 22 may comprise one or more digital transmission lines operating at speeds of about 2400 bits per second to about 1.544 megabits per second or more. Connection to the network 10 may be by an ordinary dial up line or by a dedicated private line." Campbell, et al., Col. 3, lns. 20-43.
1d. with the data access subsystem providing encrypted subsystem identification information and encrypted paper transaction data to the data processing subsystem.	"The controller 42 may also be configured to handle information encrypted by sending institutions to provide security for the images transported by the network 38. The controller 42 may have its own encryption and decryption equipment to provide a secure environment in the node 12." Campbell, et al., Col. 5, lns. 55-60. This implies that the sending bank 14 is capable of sending encrypted information. This information includes check images and also information "about the identity of the sending institution." Campbell, et al., Col. 5, lns. 26-27.
2. A system as in claim 1 wherein said one or more data access subsystems further comprise at least one scanner for capturing the paper transaction data.	Campbell et al. "The sending institution 14 possesses check imaging equipment 18 which produces electrical or optical signals representing the image of a check. ... The imaging equipment may be large multiworkstation systems available from companies such as IBM, UNISYS, or NCR." Campbell, et al., Col. 2, ln. 64 – Col. 3, ln 12.
3. A system as in claim 2 wherein said one or more data access subsystems also capture electronic transactions from credit cards, smart cards and debit cards, signature data or biometric data, further comprising:	Campbell et al. in view of prior art admission
at least one card interface for capturing the electronic transaction data;	Applicants' admission
at least one signature interface for capturing an electronic signature; and	Applicants' admission

'988 Patent	'550 to Campbell, et al.
at least one biometric interface for capturing biometric data.	Applicants' admission
4. A system as in claim 3 wherein said at least one data access controller successively transforms the captured transaction data to a bitmap image, a compressed bitmap image, an encrypted, compressed bitmap image and an encrypted, compressed bitmap image tagged with information identifying a location and time of the transaction data capture.	Campbell et al. in view of prior art admission "Since there are no universally adopted standards regarding imaging formats and compression standards, the node 12 contains a signal converter 50 which converts signals received by the node 12 in one format used by a sender into another format usable by a recipient. The converter 50 uses information stored in the database 46 regarding the formats and compression algorithms involved. This information will be relayed from the database 46 to the signal converter 50 by the node controller 42. The converter 50 may contain multi-vendor image format and compression processors which can uncompress and reconstruct images from one imaging system to another." Campbell, et al., Col. 7, lns. 15 – 27. Thus, the sending institution 14 may compress the images before transmitting to the node 12. Bitmap compression is one known compression standard. The node is designed to handle all compression formats. "The assembler/disassembler 40 [at the processing node 12] may read certain overhead information accompanying the images, including frame relay flags, identifiers, address bits, indicators, and other overhead information.". Campbell, et al., Col. 5, ln 2-5.
5. A system as in claim 4 wherein said one or more data access subsystems further comprise digital storage for storing the tagged, encrypted, compressed bitmap image.	Campbell et al. in view of prior art admission "A storage device 48, which may be an electronic mailbox as shown in FIG. 2, stores at least temporarily some or all of check images received by the node 12. A signal converter 50 contains information used by the node 12 to convert images in a format used by the sending institutions into a format understanable by the receiving institution." Campbell, et al., Col. 4, lns. 45-52. "The storage device 48 may be a rewritable mass storage device which can at least temporarily store or archive compressed or uncompressed check images prior to transmission to their destinations." Campbell, et al., Col. 6, lns 57-60.
6. A system as in claim 5 wherein said at least one card interface initiates the electronic transaction.	Campbell et al. in view of prior art admission Applicants' admission
7. A system as in claim 6 wherein said one or more data access subsystems further comprise at least one printer for printing the paper transaction initiated by said at least one card interface.	Campbell et al. in view of prior art admission Applicants' admission
8. A system as in claim 7 wherein the paper transaction printed by said at least one printer	Campbell et al. in view of prior art admission

'988 Patent	'550 to Campbell, et al.
includes data glyphs.	Applicants' admission
9. A system as in claim 1 wherein said data management subsystem of said at least one data processing subsystem comprises:	Campbell et al. in view of Owens, et al. (4,264,808) and Minoli
at least one server for polling said one or more remote data access subsystems for transaction data;	"As the 'images' of the documents 18 included in a transaction group or batch are received in the form of entry records 74 (FIG. 3B) by the communication means 88, they are routed to the image file means 100 via a system bus 102 which may be any conventional high-speed bit serial bus." Owens, et al., Col. 12, lns 12-16. Minoli describes several servers suitable in imaging applications. Minoli, pg. 33; 250.
a database subsystem for storing the transaction data in a useful form;	All images and data coming into or going out of the IPC 14 are controlled by the communication means 88, which performs all handshake protocol, logical addressing and communications packaging, and which directs all incoming images and data to the appropriate file means, as for example, image file means 100. The image file means 100 is processor controlled and broadly includes a primary storage 104 which represents, for example, a plurality of high-capacity magnetic discs and a back-up storage or archival file system, shown, for example, as a video disc 106. Owens, et al., Col. 12, lns 18-27.
a report generator for generating reports from the transaction data and providing data to software applications;	"The data associated with a transaction group of documents 18 is extracted from the data file means 114, and is put in the appropriate format by a conventional interface 124. From the interface 124, the data associated with the "on-us" documents 18 is presented in the desired format to the conventional application systems 126 where reports and application posting are performed." Owens, Col. 14, lns 12-18.
at least one central processing unit for managing the storing of the transaction data;	"A system manager 108 at the IPC 14 (FIG. 1) provides common support functions such as operator consoles 110 (only one being shown), line printers (not shown), program libraries, and non-volatile storage and retrieval of system information needed by other subsystems. The system manager 108 also provides the operator interface to all subsystems of the banking system 10, and conventionally provides the control of initiation, termination and re-start processes." Owens, Col. 12, lns 27-36.
a domain name services program for dynamically assigning one of said at least one server to receive portions of the transaction data for balancing the transaction data among said at least one server; and	"The communications controllers 232, 234, and 236 (FIG. 5A) act as buffers in controlling the flow of the entry records 74 to the communications nodes 246, 248 which also include memory to store portions of an entry record 74. Conventional direct link adapters 252 are used to couple the communication nodes 246, 248 to the system bus 102. When all the portions of an entry record 74 are received at one of the communication nodes 246, 248 all of these portions of an entry record are then routed to the image file means 100 (FIG. 1) under the control of an image file processor 254 (FIG. 5B) which is included in the image file means 100. When all the entry records 74 for a transaction group are received at the image file means 100, an end of documents 18 signal from the input hopper 24 shown in

'988 Patent	'550 to Campbell, et al.
	FIG. 3A indicates this fact to the system manager 108." Owens, Col. 21, lns 1-17. "Bridges connect two or more LANs at the MAC layer. A bridge receiving packets (frames of information will pass the packets to the interconnected LAN based on some forwarding algorithm selected by the manufacturer (explicit route, dynamic address filtering, static address filtering, etc.) Minoli, p. 248-49.
a memory hierarchy.	"The image file means 100 is processor controlled and broadly includes a primary storage 104 which represents, for example, a plurality of high-capacity magnetic discs and a back-up storage or archival file system, shown, for example, as a video disc 106." Owens, Col. 12, lns 23-27.
10. A system as in claim 9 wherein said at least one server also polls for biometric and signature data, said database stores the biometric data and the signature data, and said at least one central processing unit verifies the biometric data and the signature data.	Campbell et al. in view of Owens, et al. (4,264,808) and Minoli and prior art admission Applicants' admission "Signature cards or images 166 which are input into the system 10 via the ILU 22 in FIG. 2 are data completed as non-dollar batches by the data development means 112 and are used to derive account and control information therefrom; they are placed in the data file means 114 (FIG. 1)." Owens, et al., Col. 16, lns 20- 26. "With regard to FIG. 8, the various reports (non-image application reports) shown as 214, various reporting data 216, the associated images 218 from the image file means 100, qualified transaction data 220 from the data file means 114 and the associated signatures 222 from a signature file means located at IPC 14 are used to create image reports 224 at the associated IPC 14." Owens, et al., Col. 19, lns 3-9.
11. A system as in claim 9 wherein said memory hierarchy comprises at least one primary memory for storage of recently accessed transaction data and at least one secondary memory for storage of other transaction data.	Campbell et al. in view of Owens, et al. (4,264,808) and Minoli "The image file means 100 is processor controlled and broadly includes a primary storage 104 which represents, for example, a plurality of high-capacity magnetic discs and a back-up storage or archival file system, shown, for example, as a video disc 106." Owens, et al., Col. 12, lns 23-27. "The image file means 100 (FIG. 1) is shown in more detail in FIG. 5B. Basically, the function of the image file means 100 is to store the raw images or entry records 74 received from the POAs 12, and consequently, any conventional storing means may be used. For example, the processor 254 may be a conventional processor such as an NCR Criterion 8570 with two megabytes of memory, with the processor 254 being used to write the entry records 74 on conventional memory units such as magnetic disc units 256, 258, and 260 (such as NCR 6550 disc units) which comprise the primary storage 104 (FIG. 1). ...The back-up storage or archival storage system shown as a video disc 106 in FIG. 1 may include an conventional system such as the video recorders 274, 276, and 278 shown in FIG. 5B."

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	Owens, et al., Col. 21, lns 17-38.
12. A system as in claim 11 wherein said at least one secondary memory comprises at least one write once read many jukebox and at least one optical storage jukebox.	Campbell et al. in view of Owens, et al. (4,264,808) and Minoli Minoli displays each of an optical jukebox (pg. 30), a WORM jukebox (pg. 31), and a video jukebox (pg. 28). Owens, et al. describes its back-up storage as a video disc, video recorder or magnetic disc. Col. 21, lns 35-39; Col. 22, lns 33-35.
13. A system as in claim 12 wherein said at least one optical storage jukebox comprises read only memory technology including compact disc read only memory form factor metallic write once read many disc.	Campbell et al. in view of Owens, et al. (4,264,808) and Minoli CD-ROM optical storage is described as being faster (150 kbps) than video servers. Minoli, p. 33.
14. A system as in claim 9 wherein said database subsystem comprises at least one predefined template for partitioning the stored transaction data into panels and identifying locations of the panels.	Campbell et al. in view of Owens, et al. (4,264,808) and Minoli MPR (machine pattern recognition) units connected to processors at the IPC (FIG. 5C) "include[] a conventional character recognition reader which reads the decompressed image of a document 18 and ascertains the monetary amount thereon." Owens, et al., Col. 23, lns 44-47.
15. A system as in claim 14 wherein said data processing subsystem further comprises a data entry gateway for correcting errors in the panels of stored transaction data.	Campbell et al. in view of Owens, et al. (4,264,808) and Minoli "After completion at the MPR unit 140, all the developed data for a document 18 is analyzed for completeness. When data is missing, the associated image is routed to one of the processors 396, 398 for display on one of the CRTS 150 where an operator keys in the appropriate data on an associated keyboard 152. The image display controllers 410 and 412 have conventional decompression units associated therewith for the purpose of permitting operator viewing of the images from the file means 100. The operators complete the data completion function 148 (FIG. 10) by keying in the appropriate data such as monetary amounts (if necessary) while using the keyboards 152." Owens, et al., Col. 23, lns 47-52.
16. A system as in claim 1 wherein said at least one communication network comprises:	Campbell et al.
at least one first local area network for transmitting data within a corresponding one of	"The imaging equipment may be large multiworkstation systems available from companies such as IBM, UNISYS, or NCR." Campbell, et al., Col. 3, ln. 10-12. "The images produced by the equipment

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said one or more remote data access subsystems;	18 are directed to a network interface 20 which converts the signals from the equipment 18 into signals suitable for transmission on the telephone network 10." Campbell, et al., Col. 3, ln 17-20. "The output of the network interface 20 is connected to one or more network access lines 22 in FIG. 1. The network access lines 22 may comprise any form of transmission line suitable for carrying the expected volume of check image traffic between the sending institution 14 and the telephone network 10. For example, the network access lines 22 may comprise one or more digital transmission lines operating at speeds of about 2400 bits per second to about 1.544 megabits per second or more. Connection to the network 10 may be by an ordinary dial up line or by a dedicated private line." Campbell, et al., Col. 3, ln 20-31.
at least one second local area network for transmitting data within a corresponding one of said at least one data processing subsystem; and	"A local area network 56 connects the subsystems of the node 12 described above." Campbell, et al., Col. 4, lns. 56-58. "The node controller and router 42 provides interfaces to systems external to the node 12. It is connected to all the other subsystems in the node 12 by way of the local area network 56. The controller 42 provides access to the database 46 and directs check images to appropriate subsystems in the node 12 connected to the local area network 56. The controller 42 also routes the check images from the node 12 to their ultimate destinations by way of the assembler/disassembler 40 and the frame relay network 38. The controller 42 may read some data accompanying check images, for example, it may identify that TCP/IP protocol information accompanying those images." Campbell, et al., Col. 5, lns. 14-26.
at least one wide area network for transmitting data between said one or more remote data access subsystems and said at least one data processing subsystem.	The public switched telephone network 10 may be a frame relay network, a WAN. Campbell, et al., Col. 2, ln 61.
17. A system as in claim 16 wherein said at least one communication network further comprises:	Campbell et al. in view of Minoli "Connection to the network 10 may be by an ordinary dial up line or by a dedicated private line." Campbell, et al., Col. 3, lns 29-31.
at least one modem for connecting said at least one first local area network of said one or more data access subsystems to a corresponding one of said at least one second local area network of said at least one data processing subsystem through said at least one wide area network; and	Dial-up link between LAN routers. This approach involves the use of modems connected to the LAN server (bridge or router), to utilize the analog public telephone network. Circuit switching implies that the communications channel is not dedicated 24 h per day, but must be brought on line when needed (via a process called call setup) and then taken down when no longer needed. Minoli, p. 263.
at least one bank of modems for connecting said at least one second local area network of	Dial-up link between LAN routers. This approach involves the use of modems connected to the LAN server (bridge or router), to utilize the