Exhibit 5
Part 18
To Third Declaration of
Joseph N. Hosteny

the of the transaction data; and	application. Then, the receiving imaging application may generate acknowledgements or replies to query requests, and become the originating imaging application for a new image interchange." ANSI, p. 12.
at least one communication network for the transmission of the transaction data	"[P]ackaged interchange content is delivered from the originating imaging application's financial image interchange translator to the receiving imaging application's financial image interchange translator is through a computer network by transmitting the packaged interchange data electronically." ANSI, pp. 15; 199.
within and	Items are transmitted from the 'Image and Data Processing Application' to the 'Originating FII translator' within the originating financial institution. See ANSI, p. 202 (FIG. F. 1). Items are transmitted from the 'Receiving FII translator' to the 'Image and Data Processing Application' within the receiving financial institution. See ANSI, p. 203 (FIG. F.2).
between said one or more data access subsystems and said at least one data processing subsystem,	Examples of communication methods include "teleprocessing methods: links, network end point addresses, speed, data transfer protocols, etc." ANSI, pp. 172; 199.
with the data access subsystem providing encrypted subsystem identification information and encrypted paper transaction data to the data processing subsystem.	The ANSI standard describes encryption and various security methods. See ANSI, pp. 55-61. Encryption of specific data elements is taught, "[e]ncryption key name.., conveys the name of the key used to encipher the contents of this functional group. The name is mutually known to the security originator and the security recipient, is unique for this relationship, and allows a particular key to be specified." ANSI, p. 57. Thus, data elements are encrypted (enciphered) at the functional group level. This is further supported by the initialization vector showing the length of the data element to be encrypted. See ANSI, pp. 55 and 57. As explained, one (1) type of functional group is known as 'item views.' The check images are item views. The 'creation computer' which identifies the computer that creates the image is also an item view data element. See ANSI, pp. 93; 105. Thus, the originating institution (remote subsystem) provides encryption to both the images and the subsystem identification information.

Claim 43	
A method for central management, storage and verification of remotely captured paper transactions from checks comprising the steps of:	The ANSI X9.46 standard is an electronic data interchange protocol for the exchange of electronic digitized images of financial documents among different financial institutions involved in a payment transaction. See ANSI, p. 1. The exchange occurs across diverse computing platforms. Packaged interchange content may be delivered from the originating imaging application's financial image interchange translator to the receiving imaging application's financial image interchange translator is through a computer network by transmitting the data electronically. See ANSI, p. 15-16. "This standard is intended to improve the payments system by supporting the interchange of digitized images of financial documents, specifically checks; facilitate the truncation of the paper at the earliest possible point in the clearing process; and support transmissions from a single transaction to many transaction serving banking payment processing applications." ANSI, p. 1.
capturing an image of the check at one or more remote locations and sending a captured image of the check;	"The institution participating in check image interchange shall capture both the full front and the full back of the item." ANSI, p. 9. The ANSI X9.46 standard is an electronic data interchange protocol for the exchange of electronic digitized images of financial documents among different financial institutions involved in a payment transaction. See ANSI, p. 1.
managing the capturing and sending of the transaction data;	"The data to be interchange from the originating imaging application are packaged by the FII- translator." ANSI, p. 10. "The translator (FII-translator) function of the originating application produces an interchange object (i.e., a complex data structure) by translating the output of the local imaging handling, data processing, or data storage application into a standardized interchangeable 'edi' structure." ANSI, pp. 12; 150-151.
collecting, processing, sending and storing the transaction data at a central location;	"The data to be interchanged from the originating imaging application are packaged by the FII- translator, and sent to the receiving imaging application." ANSI, p. 12.

	"[U]pon receipt of the interchanged data, the FII-translator will parse the incoming data for the receiving imaging application. Then, the receiving imaging application may generate acknowledgements or replies to query requests, and become the originating imaging application for a new image interchange." ANSI, p. 12.
managing the collecting, processing, sending and storing of the transaction data;	"[U]pon receipt of the interchanged data, the FII-translator will parse the incoming data for the receiving imaging application. Then, the receiving imaging application may generate acknowledgements or replies to query requests, and become the originating imaging application for a new image interchange." ANSI, p. 12.
encrypting subsystem identification information and the transaction data;	The ANSI standard describes encryption and various security methods. See ANSI, pp. 55-61. Encryption of specific data elements is taught, "[e]ncryption key name.., conveys the name of the key used to encipher the contents of this functional group. The name is mutually known to the security originator and the security recipient, is unique for this relationship, and allows a particular key to be specified." ANSI, p. 57. Thus, data elements are encrypted (enciphered) at the functional group level. This is further supported by the initialization vector showing the length of the data element to be encrypted. See ANSI, pp. 55 and 57. As explained, one (1) type of functional group is known as 'item views.' The check images are item views. The 'creation computer' which identifies the computer that creates the image is also an item view data element. ANSI, pp. 93; 105. Thus, the originating institution (remote subsystem) provides encryption to both the images and the subsystem identification information. **From Owens et al.:** Owens et al. teaches the verifying transaction date from checks. "[T]he processor 400 (FIG. 5C) typically performs the data qualification function 154 and the transaction group consolidation function 156 shown in FIG. 10. Essentially, the qualification function 154 performed by processor 400 relates to verifying the data contents to insure completeness and correctness of the developed data and also relates to adding document routing instructions which are used by the storing means 120 to "break out" the documents 18." (Owens, et al. Col. 23, l. 64 to Col. 24, l. 4.)

verifying the transaction data from the check; and	**From Campbell et al**: Images are transmitted from the sending bank 14 along with destination identifying data so that the image is routed to the appropriate receiving bank 16. See Campbell, et al. Col. 3, ll. 61-63. The destination identifying data is "transaction data" in that it identifies one of the banks involved in the underlying transaction represented by the check. See Campbell, et al., Col. 4, ll. 13-21. The destination identifying data may be obtained from the endorsements on the check. See Campbell, et al., Col. 4, ll. 5-9. The destination identifying data may be obtained by an operator who views the image of the check and manually enters the destination data, verifying the accuracy of the endorsement from the image. See Campbell, et al., Col. 3, ll. 65-67.
transmitting the transaction data and the subsystem identification information within and between the remote location(s) and the central location.	Transaction sets are interchanged. Transaction set contents are different for each functional group that can be interchanged. See ANSI, p. 14. The function groups include 'item views'. ANSI, p. 14. 'Item Views' include "bundles of views of imaged items, item information for each view and item view data." ANSI, p. 14. "For each item, e.g., check, this standard defines mechanisms for sending and receiving both information about the item (item information) and digitized representations of the item." ANSI, p. 9. "[P]ackaged interchange content is delivered from the originating imaging application's financial image interchange translator to the receiving imaging application's financial image interchange translator is through a computer network by transmitting the packaged interchange data electronically." ANSI, pp. 15; 199. Items are transmitted from the 'Image and Data Processing Application' to the 'Originating FII translator' within the originating financial institution. See ANSI, p. 202 (FIG. F. 1). Items are transmitted from the 'Receiving FII translator' to the 'Image and Data Processing Application' within the receiving financial institution. See ANSI, p. 203 (FIG. F.2). "[P]ackaged interchange content is delivered from the originating imaging application's financial image interchange translator to the receiving imaging application's financial image interchange translator is through a computer network by transmitting the packaged interchange data electronically." ANSI, pp. 15; 199.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-8 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell, et al. as evidenced by ANSI as applied to claims 1 and 2 above, and further in view of Applicant Admission of Prior Art (AAPA) at the time of filing and prosecution.

What Campbell and ANSI disclose, teach and suggest to one of ordinary skill in the art is discussed above or discussed in the Exhibit entitled "Element by element comparison of claims 1-43 of the '137 Patent to Campbell, et al. (U.S. Patent No. 6,032,137) (sic 5,373,550) and in view of other references" that the requester presented in its request of reexamination and both are incorporated herein.

Claim 3 and its dependent claims 4-8 and further claim 28 of the '137 patent relate to capturing additional information such as transactional data, biometric data, and signature data. Such teaching is clearly taught by the patentee as being obvious additional limitations to the remote capture system. Campbell, et al. teaches the compressed tagged image of claim 4 (Campbell, et al., Col. 7, Ins. 15-27). Campbell, et al. teaches the digital storage of claim 5 (Campbell, et al., Col. 6, Ins. 57-60.). Claims 6-8 and 28 contain further limitations which are admitted "well known to those in the art." [1]

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[1] See the '137 patent at Col. 5, l. 58 to Col. 6, l. 6 ("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

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.)

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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 EBCIDIC binary representations.

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 '137 Patent, absent a showing of criticality for a particular instrumentality as a necessity of implementation of the disclosed invention.

Claims 9, 11-15, 19-21, 30-32, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell, et al. as evidenced by ANSI as applied to claims 1 and 26 above, and further in view of Owens et al. and Minoli "Imaging in Corporate Environments: Technology and Communication" (Minoli).

What Campbell, et al. as evidenced by ANSI discloses, teaches and suggests is either discussed above or discussed in the Exhibit entitled "Element by element comparison of claims 1-43 of the '137 Patent to Campbell, et al. (U.S. Patent No. 6,032,137) (sic 5,373,550) and in view of other references" and is incorporated herein. What Minoli discloses, teaches and suggests is discussed likewise in the Exhibit entitled "Element by element comparison of claims 1-43 of the '137 Patent to Campbell, et al. (U.S. Patent No. 6,032,137) (sic 5,373,550) and in view of other references" and is likewise incorporated herein. Moreover, what Owens et al. teaches and suggests is also discussed in the Exhibit entitled "Element by element comparison of claims 1-43 of the '137 Patent to Campbell, et al. (U.S. Patent No. 6,032,137) (sic 5,373,550) and in view of other references" and is incorporated herein. Moreover, as admitted by the '137 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

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Further, encryption methods, as known to persons of ordinary skill in the art encrypt the data represented by the as long as the chosen operating system provides support for multiprocessing, memory management and dynamic linking required by the DataTreasury™ System 100." ('137 Patent, Col. 5, ll. 46-51.) 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 1-43 of the '137 Patent to Campbell, et al. (U.S. Patent No. 6,032,137) (sic 5,373,550) and in view of other references" 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

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DataGlyphTM Technology.")

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 17, 22-25, 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell, et al. as evidenced by ANSI as applied to claims 1, 16 and 18 above, and further in view of Minoli.

What Campbell, et al. as evidenced by ANSI discloses, teaches and suggests is either discussed above or discussed in the Exhibit entitled "Element by element comparison of claims 1-43 of the '137 Patent to Campbell, et al. (U.S. Patent No. 6,032,137) (sic 5,373,550) and in view of other references" and is incorporated herein. What Minoli discloses, teaches and suggests is discussed likewise in the Exhibit entitled "" or the Exhibit entitled "Element by element comparison of claims 1-43 of the '137 Patent to Campbell; et al. (U.S. Patent No. 6,032,137) (sic 5,373,550) and in view of other references" and is likewise incorporated herein.

Claims 17 and 37, dependent on claims 16 and 36 respectively, describe 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 3-8 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI as applied to claims 1 and 2 above, and further in view of Applicant Admission of Prior Art (AAPA) at the time of filing and prosecution.

What ANSI discloses, teaches and suggests is discussed above and in the Exhibit entitled "Element by element comparison of claims 1and 26 (sic 1-43) of the '137 Patent to ANSI X9.46-1995 Printed Publication" both of which are incorporated herein.

As acknowledged by the Applicant in the disclosure of the '137 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. 53-57.) Moreover, the '137 Patent admits:

> In addition to scanning images and text, the DAT scanner 202 also scans DataGlyph^{TM} elements, available form Xerox Corporation. As is known to persons of ordinary skill in the art, the Xerox DataGlyph^{TM} 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^{TM} 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^{TM} Technology. ('137 Patent, Col. 5, l. 64 to Col. 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 9, 11-15, 19-21, 30-32, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI as applied to claim 1 and 26 above, and further in view of Owens et al. and Minoli "Imaging in Corporate Environments: Technology and Communication" (Minoli).

What ANSI discloses, teaches and suggests is discussed above and in the Exhibit entitled "Element by element comparison of claims 1and 26 (sic 1-43) of the '137 Patent to ANSI X9.46-1995 Printed Publication" both of which are incorporated herein. What Owens, et al. and Minoli teach and suggest are likewise discussed in the above identified Exhibit and is incorporated herein.

Moreover, as admitted by the '137 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." ('137 Patent, Col. 5, ll. 46-51.)

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.

Claim 10 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI in view of Owens et al. and Minoli as applied to claims 1 and 9 or 26 and 30-32 above, and further in view of AAPA at the time of filing and prosecution.

What ANSI discloses, teaches and suggests is discussed above and in the Exhibit entitled "Element by element comparison of claims 1and 26 (sic 1-43) of the '137 Patent to ANSI X9.46-1995 Printed Publication" both of which are incorporated herein. What Owens, et al. and Minoli teach and suggest are likewise discussed in the above identified Exhibit and is incorporated herein.

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 16, 17, 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI as applied to claims 1 and 26 above, and further in view of Minoli.

What ANSI discloses, teaches and suggests is discussed above and in the Exhibit entitled "Element by element comparison of claims 1and 26 (sic 1-43) of the '137 Patent to ANSI X9.46-1995 Printed Publication" both of which are incorporated herein. What Minoli teaches and suggests is likewise discussed in the above identified Exhibit and is incorporated herein.

Claim 16 describes first and second LAN and a WAN. In Minoli on page 31, there is taught a 'Scan Segment LAN' and an 'Access Segment LAN'. In Minoli on pages 269-70, there is taught WAN connectivity for associated imaging and processing LANs through a Public PVC or SVC frame relay network.

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).

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 19-21 and 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI as applied to claims these claims depend from above, and further in view of Campbell, et al. and Minoli.

What ANSI discloses, teaches and suggests is discussed above and in the Exhibit entitled "Element by element comparison of claims 1and 26 (sic 1-43) of the '137 Patent to ANSI X9.46-1995 Printed Publication" both of which are incorporated herein. What Campbell, et al. and Minoli teach and suggest are likewise discussed in the above identified Exhibit and is incorporated herein.

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.

For Claims 36 and 38-41 are each dependent on claim 29, which is disclosed by Campbell et al. Claim 36 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. 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 (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