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Financial Services Clipsheet
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Check 21

Aqubanc Check 21 offering *PRWEB 10/27* Aqubanc, LLC, Buffalo Grove IL, a provider of Payment, Check, & Form Processing Solutions announces the Check 21 Pass™ for processing check transactions. Every check transaction which can physically move through a check or page image scanner is imaged with the checks first & always before any other documents in the transaction. Check 21 Pass documents do not need or require any OCR scan lines or barcodes. Eliminating OCR scan lines or barcodes means more real estate is available on each document for use by marketing, sales & business development in soliciting & to convey information. In the Check 21 Pass, document recognition, data field capture & data excellence are performed on multiple fonts in multiple sizes on multiple documents within each batch. This makes it easier for operations to open/sort mail, post transactions & submit electronic deposits to meet ARC & Check 21 conversion needs.

Will imaging prompt Fed to exit from clearing? 10/27 AB Many believe that as banks start using electronic images to clear checks they will switch from the Federal Reserve Banks' check processing service to private systems. Nobody expects an instant transformation Thursday, when Check 21 will take effect. The law will merely make banks accept printouts of check images as substitute checks. But Thursday will be a symbolic kickoff to full-scale image clearing, & a number of companies are poised to offer image-based clearing & settlement, which would divert business from the Fed. Furthermore, community bankers are among those at the forefront of a clamor for change. That would surprise the Fed committee that in 1998 said a Fed pullout from check processing would hurt smaller banks. Scott Copeland, $3b-asset BancFirst of Oklahoma, said he plans to move more of his item processing volume to private processors. BancFirst was 1 of 2 banking companies to start settling transactions with check images two years ago in a pilot test of the Endpoint Exchange network. The network was then operated by CheckClear LLC, which was acquired in July by Metavante. BancFirst now clears about 8% - 9% of its checks through Endpoint; the rest go through the Fed or correspondent banks. Copeland said he is eager to shift as much traffic as he can to the electronic network, to reduce his reliance on the Fed. 'The Fed has done a good job for us historically,' but it is planning to close its Oklahoma City check processing center next year, while private image networks are ramping up. 'It looks like the private sector players are ahead of the game.' A number of contenders are positioning themselves to capture image traffic. Endpoint has signed up 3,200 community banks & CUs & was the first to go into commercial operation, in 2002. Its members agreed to rules that permit image exchange. Other systems have conducted tests but are waiting until Check 21 takes effect before starting high-volume settlement. SVPCo is developing an image network that more than two dozen major banks are committed to using. Viewpointe offers a shared archive for several of the biggest banks in the country & plans to let its members settle transactions by sharing access to the image. The item processing outsourcers Fiserv & Jack Henry & Associates are planning to offer image exchange systems for their client banks. Steve Whitney, FRB Boston, said he is eager to facilitate the transition to imaging, no matter what that may do to the Fed's item processing volume. 'We think it's important for us to be there & start the move toward this electronic environment. It moves the industry in that direction, & that's the key thing.' Fed executives have acknowledged that the Fed is losing its position in the check processing world. Anthony Santomero, FRB Philadelphia, said 10/16 at a conference in Spain: 'It is expected that the Fed's role in paper processing will diminish over time as checks recede in absolute volume & relative importance in our retail payments system.' Until recent years the Fed cleared about half of the nation's checks, with the rest going through private clearing houses, correspondent banks, direct exchanges between pairs of banks, or internal 'on-us' settlement. & though precise figures are hard to come by, the consensus today is that the Fed's market share has dropped to about one-third. Jeanne Capachin, Financial Insights, said the privatization of check processing may be more than just a consequence of market action. 'I think the Fed is going to make that happen, actually. The private market is trying to capture volume. The Fed is less concerned about that & more concerned about trends in the payment system.' The Fed's role is shrinking. Last October it said it expected to clear 4.7% fewer checks that year, & 9% fewer this year. This summer it revised its 2004 projection to an 11% plunge, & it predicted an even steeper 13% - 15% for next year. Fed officials cite a variety of factors, including increased use of payment cards, the surging popularity of check conversion to ACH transactions, & big-bank mergers, which increase the number of on-us transactions. & the downward slide will probably accelerate more when Check 21 begins to affect check volume, as the Fed expects it to do by the end of next year. As its volume falls, the Fed is consolidating its processing operations. It announced plans in August to shut down 9 check clearing centers in 2005 & 2006; last year it announced it would close 13 others. These closings could well help motivate banks to shift to private image networks. There is some precedent suggesting that the Fed could abandon its role as an intermediary for check processing. The FHLBs once offered check processing services. But in a series of transactions dating back to 1991, they sold all of these operations to private outsourcers. The Federal Home Loan Bank of Indianapolis, the last to sell, in November 2003, cited geographic limitations restricting its growth & the expense of installing imaging equipment. Still, even the private network operators are cautious about predicting the end of the Fed's role in check processing. Ted Umhoefer, Fiserv, said the transition to image clearing will be a long time coming. 'The challenges of moving away from paper are easy to underestimate, & the benefits are elusive. Bankers are good at not moving until the benefits are clear.' A key issue in the transition from the Fed will probably be pricing. Jim Eckenrode, TowerGroup, said banks have developed complex pricing structures for processing paper checks & now must add image clearing. Though electronic settlement is more efficient, in the near term it could cost more than paper, because banks must add processes & equipment. 'They're going to be looking at this very closely.' Thomas Rea, US Bancorp, agreed. 'In the short term, our operating costs are going to be higher. There's no question about it.' Huey Townsend, $251.3m Guaranty B&T, Belzoni MS, said that though he is ready to convert to image clearing, pricing issues could delay his plans to shift from the Fed. 'We are 100% imaged & have been for a number of years. We're not going to be able to send image cashletters out because we don't think the pricing is where we can afford to do it.' Pricing is the only issue, Townsend said. 'As soon as we get to where we think it's beneficial, we'll go 100% to image.'

A half-hearted effort to modernise America's Byzantine payment system 10/22 *Economist* Among the less-publicised side-effects of the terrorist attacks on America in 9/01 were growing piles of cheques in banks across the land. Because air traffic was at a standstill, banks were unable to process them. Americans are still heavy users of paper cheques, & the banks at which they are deposited must send them to those on which they are drawn, perhaps thousands of miles away. Many Americans still receive wads of their cancelled cheques with their monthly statements. Regulators concluded that any system based on scribbles on pieces of paper passed from hand to hand & institution to institution before being returned to their authors is probably inefficient & possibly risky. So a year ago Congress pushed through Check 21, which is intended to hasten the
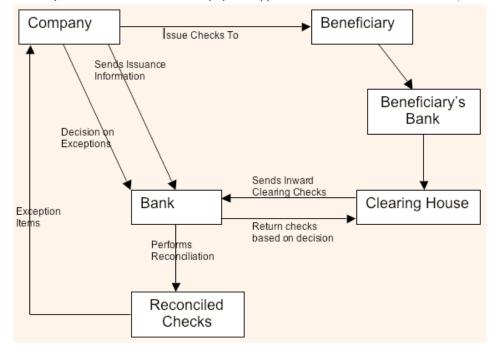
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James Cowen, Vice President of Sales, AQUBANC, LLC
800.350.4720, JamesCowen@aqubanc.com, www.aqubanc.com

adoption of electronic processing. It comes into effect on 10/28. There
is a chance that this will hasten change that is going on anyway. Most of the world has long since come to terms with electronic payments, & Americans are hardly unfamiliar with plastic cards & the internet. & for banks, the potential saving from not having to cope with a daily avalanche of paper slips could reach $2b annually, according to Prudential Securities, albeit at an investment cost of up to $10b. Yet it is hard to be sure that the law will change all that much. If customers notice any difference because of Check 21, it will be that their bank statements carry photocopies of cheques, not originals. The system producing these copies will be remarkably complex. As now, anyone paid by cheque will deposit it in their bank, to be sent on to various clearinghouses, which route the cheque back to the issuer's bank for payment approval & the transfer of funds. However,

the new system will allow the bank that first receives the cheque to create an electronic image for transmission through the system. This image can be reconstituted into a paper cheque by the drawer's bank. Banks will no longer have to fly paper cheques across the country, but the new system will be costly too—worthwhile only for fairly large payments drawn on banks far away. Many banks may stick with the old system. Regulators say that they have not pressed for a more radical change because they do not want to swamp banks with new rules. & if Americans want to use paper cheques, they should be able to. The country's attachment to this means of payment is a long one and, although it is fading, it is doing so slowly. Partly, cheques have endured because they are a cheap form of documentary evidence of a transaction. Their longevity is partly explained by America's peculiar banking geography. In most countries where electronic payment networks were quickly established, there were just a few national banks. Until recently, in America banks were confined to small areas. There are still about 15,000 of them. Exchanging bits of paper on a local basis was not too expensive; conversely, now that

such a system is in place, creating electronic links between several thousand institutions is not easy. Banks have done a good job bringing down the costs of processing cheques. Each one costs just a few pennies, reckons Carl Rutstein, Boston Consulting Group. Even the most efficient new systems would save only about $2 per account, or about 1% of revenues. That is hardly enough to provide a new service, or radically new pricing. The greatest disincentive, however, is that even though a new electronic system could cut banks' costs, their revenues might fall too. Under the current system, banks can take days, even weeks, to clear cheques. Meanwhile, they earn billions of dollars from this 'float'. & lots of cheques bounce, producing plenty in penalty fees. With fully electronic payment systems, settlement could be far faster than it is now; if funds were unavailable, this could be plain almost immediately. Little wonder, then, that the financial system is in no hurry to modernise. The real pressure for change is not coming from regulators, or banks, but rather from the market: cheque usage has been in slow decline for years. If banks do build electronic networks that are more resilient than the paper-based systems that made them vulnerable in 2001, it will be their customers that deserve the credit.

Check 21: check is dead, long live its image C*elentCommunications 10/26* A variety of forces are literally changing the face of the paper check & how it is processed, cleared & settled. The first wave of change came with the advent of check conversion (the ability to convert a check into an ACH payment) & now the second wave is building with check imaging & truncation (the replacement of the paper check by a check image & a electronic data file). The most dramatic change will be point-of-entry capture, that is, the capture of the check image as far upstream in the process as possible. These waves of change are touching all banking customers, causing a revamping of numerous operations, & generating multiple business opportunities. Check processing is getting a jump-start. After several decades without any seismic change, change is underfoot (the last watershed was the introduction of MICR which occurred decades ago). Check imaging is just beginning to hit its stride thanks to Check 21 & notable improvements in imaging technology's price/performance equation. Although Check 21 directly addresses only the creation of a substitute check, it indirectly revolutionizes check processing by opening the door to check truncation & image exchange. However, it does not provide any road maps, nor does it address legal issues surrounding truncation & exchange. The map making will be up to financial institutions, & several hundred early movers are forging ahead. The focal point of Check 21 is the substitute check. Many other areas of check processing, however, have been associated with Check 21. From all the hype in the press, one would think that Check 21 governs check truncation & image exchange. It does not. Hence, a useful starting point to understanding Check 21's implications is to outline what Check 21 is not. Check 21 does not make a check image or an ECP file the legal equivalent of a paper check. It does not require a bank to send or receive ECP files or to create a substitute check. It does not require a bank to keep the original check for any specified time period (nor does any current law). Unlike some technologies, check imaging is not merely paving the cow paths. Rather, it is enabling the paths to be redrawn. Under the current process, billions of checks are physically transported at least one time & are often transported multiple times, including by relatively expensive air transport. In the process, checks are typically handled 21 - 26 times over the course of a single day to over a week. Fast-forward to the most extensive implementation of check imaging - involving point-of-entry capture, image-based statements & image exchange - & the process is dramatically restructured, pushing the number of steps toward zero. Similar to any operational leap, check imaging & truncation does not have an on/off switch but rather involves a transition period during which paper & electronic processes co-exist. Given the sheer volume of checks & the number of

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James Cowen, Vice President of Sales, AQUBANC, LLC
800.350.4720, JamesCowen@aqubanc.com, www.aqubanc.com

financial institutions involved in the process, the transition period is
expected to last at least a decade. Integral to a smooth transition is banks' winning over customers' acceptance of check images and, in some cases, of substitute checks. While the task is significant, banks should not be daunted by it. Early movers have found that informed customers are open to receiving check images in lieu of the originals. Most early-mover community banks have achieved acceptance rates of over 99% for retail & commercial customers. While large banks have not yet achieved such high overall rates primarily due to their diverse commercial customer base, they have fared well with retail customers. The early-mover banks have found that customer acceptance is a function of education & comfort level. Education requires multiple messages over several statement cycles & notices in physical locations (branches & ATMs). A smooth migration from paper checks to images or substitute checks is gradual one. Customers must not feel coerced into accepting images. The carrot (e.g., ease of filing image statements compared to stacks of cancelled checks; ability to get check images on-demand online) should be used before the stick (e.g., charging for original checks). Quality of images & front/back images help make customers more comfortable. Several early movers are piloting new types of image statements (e.g., ones with bigger images, front/back images) & gauging customer satisfaction. The more challenging educational exercise is explaining the reduction in float. For customers who play the float, a reduction in posting times will come as a shock, especially when accompanied by NSF fees. To mitigate consumer ire, banks will have to be diligent in setting consumer expectations regarding float reduction. On the flip-side, banks will be able to offer customers improved funds availability with next-day availability likely becoming the norm. 10/28 the day Check 21 takes effect, will mark the first day of a gradual migration from paper check presentment to image/data file presentment. Paper checks, substitute checks, & check images with ECP files are expected to co-exist through to the next decade. Paper will exist to some degree for 3 of 4 combinations while imaging will dominate one combination: non-local, image-eligible items. Ultimately, paper checks may never go away for a small sliver of transit items (e.g., local, high value checks). Substitute checks will eventually go away when all banks are image-enabled.

Check 21 standards *10/25 ANSI* Check 21 becomes effective 10/28/04. It is designed to foster innovation in the payments system & to enhance its efficiency by reducing some of the legal impediments to check truncation. In anticipation of Check 21 implementation, the financial industry welcomes the approval of American National Standard ANSI X9.100-140-2004, Specifications for an IRD, developed by the Accredited Standards Committee X9. According to ASC X9, the combination of the ANSI approval & pending implementation of the Check 21 law makes the standard a key operating benefit for the financial community. Check 21 facilitates check truncation by creating a new negotiable instrument, a substitute check, which would permit banks to truncate original checks, to process check information electronically, & to deliver substitute checks to banks that want to continue receiving paper checks. A substitute check would be the legal equivalent of the original check & would include all the information contained on the original check. The law does not require banks to accept checks in electronic form nor does it require banks to use the new authority granted by the act to create substitute checks. ANSI X9.100-140 provides financial services organizations guidance on developing a machine-readable substitute check. The financial services industry refers to this type of document as an IRD. This standard establishes the construction, layout, data elements, data content, & printing specifications for IRDs. 'We had to make certain that all clarifications & dimensional requirements were met to make the standard fill the needs specified by the Check 21 law,' said Andy Garner, Wachovia. 'Work has been underway for more than 3 years by X9's subcommittee B on Checks & Related Transactions to get to this point & we are very pleased with the result.' With an IRD checks could be managed at POS, ATMs, Bank Branches, Lockbox Operations or Check Capture Operations & electronically forwarded for downstream processing. At any point in the process that an actual check is needed, the IRD could be printed & offered as a legal equivalent of the original.

Check conversion or truncation-how & where to decide? *10/1 BusinessCredit* A short while ago, the industry seemed to buzz with predictions of prodigious growth of check conversion. A significant number of retailers & billers alike have examined the business case for check conversion & found it lacking. With Check 21's passage, a new debate rages as to the superiority of 2 competing check electronification options-check conversion versus check truncation. These debates often overlook 2 fundamental realities: Payment systems can co-exist & have co-existed efficiently. Such systems are dynamic, gaining/losing traction over time. Thus, we should not necessarily object to the notion of coexistence between check conversion & check truncation. Payment choices should be made based on an overall process perspective-not merely the attributes of individual payments. While float & per-item transaction costs are important, other implications such as implementation & operational costs should, but often do not, play a role in the ongoing debates. This article supports coexistence of check conversion & check truncation in the context of a unified payments model in which the 'all or nothing' electronification of the past is replaced by intelligent endpoint routing of individual payments, administered centrally, to achieve optimum efficiency for each individual transaction. Up until now, check conversion decisions could only be made on an 'all or nothing' basis. Conversion decisions made were not based on individual payments, but a collection of individual payments which, in aggregate, were deemed better off converted to ACH. In many cases, this approach provided a favorable business case even though check conversion may not provide the optimum routing for clearing & settlement of many of the items in that group of payments. For example, a biller processing large volume remittances may indeed benefit from check conversion even though traditional clearing of local paper checks presents a more favorable disposition of high value items through same-day funds availability, versus the next-day availability afforded converted items. Intelligent Endpoint Routing Item Attributes: Point of Presentment; Time of Capture; Routing & Transit Number; Dollar Amount; Image Quality & Usability; Float Tables; Cost to Clear; Exchange Agreements; Conversion Eligibility; Check Conversion Opt-out; Traditional Paper Cashletter; ECP w/Paper to Follow; ECP w/Image to Follow; ECP with Image on Demand; X.937 Electronic Cashletter; IRD; Check Conversion to ACH; Local Clearings; Correspondent Banks; FedImage; SVPCo; ViewPointe; Endpoint Exchange; Third Party Exchange; Image Exchange Partner Bank. Ineligible items had to be processed as paper. As a result, eligibility decisions had to be made at the point of presentment, resulting in additional operations cost & complexity. Pre-Check 21, this was a defensible practice since check conversion was the only check electronification option for a bank's customers. Shortly, banks can offer depositors multiple electronification options, allowing the truncation of all items at the point of presentment. This simplifies operations for the depositor, reduces work & cost, & increases the bank's leverage with their customers. While banks can still purchase ACH conversion applications with an 'all or nothing' approach to processing check payments, next generation payment systems offer true item-level decision making & endpoint routing based on centrally managed business rules. With this approach, each item can be settled in the most efficient manner for its own particular requirements, whether that is ACH conversion, image exchange, or via remotely printed IRD. This keeps banks (not the customer) in charge of payment processing. This approach is really not as radical as it may at first appear. Banks have long been making quasi-real-time clearing & settlement decisions through periodic modification of sort patterns in their item processing shops based on periodically changing float tables. Historically, float managers would negotiate exchange agreements among banks & exchange houses for paper

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James Cowen, Vice President of Sales, AQUBANC, LLC
800.350.4720, JamesCowen@aqubanc.com, www.aqubanc.com

items. Doing so for electronic image exchange of checks is a logical

evolution-but one that is easier said than done. Beyond the challenge of change itself, the growing array of image exchange alternatives presents a challenge to banks. Moreover, each alternative brings its own protocols, file formats & infrastructure demands. Life would be easier if banks could just choose one exchange through which all its transit volume might flow. Doing so would cripple the banks ability to negotiate competitive exchange agreements. Multiple routing options are therefore a pragmatic necessity. Banks will need payment systems that accommodate them all. If that's not enough, the advent of check conversion produces another imperative. In addition to managing multiple image exchange (check truncation) endpoint routing options, next generation payment systems must unify check & ACH processing silos. The requirement is not esoteric, but utterly practical. Consider: 1. A consumer writes a check that is converted to an ACH transaction. A subsequent stop-payment request would have no effect since the ACH system knows nothing of check payment system activity. 2. An operator in a remittance processing center mishandles checks pocketed for check conversion & mistakenly processes them as a paper cashletter deposit to their bank. All the items would be double posted (as ACH & check debits) with no ability for the biller or their bank to catch or correct the error. Thus, coexistence of check conversion & truncation is best served in the context of a unified payments model. The new reality of multiple check electronification options has implications beyond Check & ACH operations. Treasury Management is coming to grips with imperatives of their own. In their case, the stakes are even higher because both cost & revenue are at stake. In the not-so-distant future: Geographic footprint will no longer be a factor-multiple electronification options mean that all checks can be truncated at the point of presentment. Banks can gain or lose new business regardless of the geographic footprint of their retail branch network. Pricing for traditional check deposit services will increase for cost recovery & to influence image adoption. Electronic capture, image services & intelligent routing replace traditional deposit services as key large customer 'must-haves'. Corporates are producing demand for virtual lockbox services allowing truncation of check payments at corporate locations. Significant advantage will accompany first-movers. Banks need unified payments systems to address these new challenges. Check-conversion-only approaches of the past prove to be inadequate because ineligible items require traditional processing-eroding benefits to both banks & their customers. This new reality, the converging payments landscape, demands a new approach to payments processing. We call it Straight-Through Check Processing. Straight-Through Check Processing (STCP) takes all of the pieces of check-based payment processing (paper, data, image inputs, inter-bank exchange & central item processing) & combines them into a flexibly integrated, straight-through processing stream. An integrated image & data workflow, which begins at the points of first presentment (POP), is governed by extensive business rules, making paper truncation possible anywhere in the process. STCP utilizes Deposit Automation at drop boxes, in-person payment locations & corporate offices to facilitate check electronification-in addition to cash vaults, retail branches & even merchant back offices-all points of presentment. Deposit Automation captures, validates, corrects, balances, manages, & distributes payments & deposits in near real-time at the point of presentment where the paper is truncated. Automation at the POP, in addition to electronification, maximizes efficiency of the total system. All subsequent processing becomes virtual. STCP utilizes intelligent endpoint routing, for each item, based on centrally-managed business rules so each item can be settled in the fastest, most efficient manner, whether that may be ACH conversion, image exchange or via locally or remotely printed IRD. As discussed previously, the 'all-or-nothing' check conversion approaches of the past required eligibility decisioning at the point of presentment because ineligible items had to be processed traditionally. This approach added cost & complexity. Going forward, having multiple electronification options eliminates the need to decision at the POP. Central decisioning minimizes the work & cost at points of presentment while providing a centralized gateway to unify payments across check & ACH systems. Decisioning at the POP has introduced meaningful cost & complexity, even when the decisions were limited to ACH eligibility. Going forward, expanding those decisions to involve the entire realm of possible electronic endpoints, makes the task all the more complex. 'Optimum' endpoint routing will be a moving target for some time, demanding exceedingly flexible converging payments solutions. Doing so at points of presentment would be extraordinarily difficult. We think this task is best left to banks. Banks increasingly need the ability to truncate check payments at remote points of presentment. Acquiring this ability will provide: New market opportunity through attracting new cashletter business outside the current retail branch footprint. Reduction of branch & vault costs by eliminating paper check deposits at those locations. Significantly lower check processing costs through clean deposits, less paper to process. Item processing can be downsized. Virtually eliminates proofing costs because deposits are proofed at the point of presentment & are automatically verified centrally using image assisted workflows. Improved customer relations since deposit disputes can be resolved at the point of entry. Image archive-ready capture of items without handling paper. Significantly reduced risk of double posting errors of items converted to ACH for dealing & settlement. Lacking this ability, banks will find themselves at a significant competitive disadvantage. Customers save cost through simpler workflows & automation that reduces the work associated with conventional check deposits. Electronification provides faster funds availability, & in many cases renders trips to the branch unnecessary. Intelligent endpoint routing produces optimum routing of each item, rendering float & per-item clearing cost advantages. Unlike previous ARC solutions, all items are eligible. Multiple DDAs, sweep accounts & reconciliation are rendered unnecessary, saving considerable cost. To make the benefits of STCP clear, we'll look at several specific examples, outlining the benefits of centralized decisioning through a Unified Payments Gateway. Lockbox operators are poised to benefit significantly from next generation unified payments systems. Historic ARC solutions required considerable investments. Plus, multiple workflows (eligible & ineligible items) added operational cost & complexity. Moreover, depending on the payments mix, local items were often float disadvantaged when cleared via the ACH. Despite these obstacles, a number of billers saw a favorable business case for 'all-or-nothing' ARC. For these billers, the future looks even more promising. Soon, billers can replace the dual ARC workflow & two-pass power encoding for ineligible items with a vastly simplified operation. Going forward, billers will be able to concentrate on remittance, without bothering about ACH eligibility decisions. Instead, delivering balanced image & data files to the bank, it will be the bank's job, as it bas been historically, to make optimum endpoint routing decisions on each item. At walk-in payment locations, the historic multiple DDA accounts, daily sweeps & time consuming reconciliation becomes unnecessary with a unified payments approach. In a check-conversion-only scenario, ineligible paper items remain along with all the baggage just mentioned. Conversely, in a check-truncation-only scenario lowest cost routing (for at least some of the items) is forfeited. A unified payments approach provides the best of both worlds. For merchants, each consumer payment option has its own pro's & con's. Among the many options, though, checks are perhaps the most problematic. No one likes checks-except consumers who continue to write upwards of 15b at the point of sale, despite the growth of debit cards. Some smaller merchants are implementing check conversion alternatives to conventional bank check processing. Competing schemes for check conversion at point of sale have questionable business cases & a variety of operational challenges impeding adoption among large merchants. Perhaps the most troublesome aspect of check conversion approaches is that a % of checks are ineligible. This means conventional deposit preparation & processing must remain in place for a small number of those ineligible checks. Unfortunately, as a result of NACHA POP rules, centralized endpoint routing for POS check transactions must exclude check conversion. Benefits of Merchant Back Office Deposit Automation for Merchants: Elimination of multiple DDAs & the associated reconciliation effort. Less work, lower overhead through automating the deposit preparation process. Accelerated postings & accelerated cash flow through timely deposits.

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James Cowen, Vice President of Sales, AQUBANC, LLC
800.350.4720, JamesCowen@aqubanc.com, www.aqubanc.com

Improved payment posting accuracy. Image archive to expedite collection of returned items. Reduced transaction costs. Benefits of Merchant Back Office Deposit Automation vs. POP Check Conversion: Less up-front investment. Reduced maintenance since there is one back-office installation versus multiple POS installations. No unfavorable impact at the checkout line. Reduced staff training. Avoid the administrative return issues inherent to ACH conversion. Check image access improves collection of disputed items. Finally, corporate depositors & their banks can gain significantly from truncating checks at corporate offices followed by Straight-Through Check Processing at the bank. Larger corporates with significant consumer payment volume are likely retail lockbox customers. Smaller corporates & those with small-to-moderate receivables volume make excellent candidates. Business checks ineligible for ARC check conversion lend themselves to image exchange or IRD settlement-particularly large dollar value items for which any modest settlement cost increment is offset by favorable float advantages over ARC. Corporate deposit automation produces these benefits: Reduced manual effort in deposit preparation saving overhead. Bank deposit preparation is streamlined & 100% accurate. Automatic upload of payment information into corporate A/R system reduces re-keying & posting errors. Electronic image archive for all payments eliminates time consuming photocopying & filing tasks. Eliminates the cost & liability of regular trips to the bank to deposit checks. Accelerated funds availability. Lower per-item bank fees. Multiple check electronification options will coexist for some time. Banks can best serve their customers through unified payments processing systems that flexibly route each item to optimum settlement endpoints based on configurable business rules applied to each item. Conversion or truncation, how & where to decide? How: At the item level, using Deposit Automation at all points of presentment to deliver proofed & balanced transactions with verifiable image quality, & killing the paper as early as possible-ideally at the point of presentment. Then, by employing Straight-Through Check Processing with intelligent endpoint routing for optimum clearing & settlement of each item-utilizing all endpoint options. Where: Centrally, whenever possible. It's the bank's job & in their best interest. This reduces cost & complexity for bank depositors while maintaining an advantageous competitive position for the bank.

Check 21 & check bounces *10/26 AB* Consumers Union has struck out in its campaign for big banks to waive bounced-check fees for the rest of the year. Bankers & analysts say the request was based on a misunderstanding. In letters mailed in August, Consumers Union asked 20 top banks to waive the fees on the theory that Check 21 would quickly speed up check clearing & therefore make more consumer checks bounce. It said that since clearing would be faster, banks should make deposited funds available to customers sooner. This month it followed the letters with a 7000-signature petition reiterating its requests. It plans to send another petition this week, with 16,000 signatures, including the first 7000, said Gail Hillebrand, Consumers Union. James Hicks, Wachovia, said 'the fundamental premise for the Consumers Union - that consumers are going to be disadvantaged - just doesn't hold up.' Check 21 is widely expected to facilitate the use of digital check images for settlement, which will indeed make it possible for banks to clear payments faster. & though many observers agree that this could lead to more bounced consumer checks, a sudden increase is unlikely, they say - because banks are going to phase in imaging slowly. That undercuts the rationale for a 2-month waiver of bounced-check fees. 'Obviously there's a lack of understanding here of what Check 21 allows & doesn't allow,' said Robert Hunt, TowerGroup. 'There isn't going to be a 100% change overnight; this is going to be a very gradual process.' Hillebrand said no bank agreed to comply with her group's request, though ABA sent a reply, as did SouthTrust, KeyCorp & Bank of the West. Nessa Feddis, ABA, wrote its letter to Consumers Union. She pointed out that imaging would not reduce float for local checks, which need not be transported far. 'Local checks will clear in virtually the same time as today,' she wrote. The letter, which was posted on the trade group's Web site, argued that consumers would eventually benefit from the law. Check imaging 'will reduce banks' overhead costs & the fact that consumers benefit from cost reductions in a competitive market is a basic & proven tenet of economics.' Feddis wrote that waiving overdraft fees 'could encourage irresponsible behavior,' since they deter customers from spending money they do not have. & because the shift to image exchange is expected to take years - Check 21 requires only that banks accept paper printouts of transmitted images as substitutes for original checks - bankers say bounced checks are unlikely to surge. Wachovia, for example, plans to begin using images to settle some checks drawn on BofA by the end of the year. But only those of Wachovia customers who do not receive canceled checks with their monthly statements will be involved. These customers will not even notice the change. Not until 2007 does Wachovia expect to be settling 70% of its check transactions using only images. In that year, said Alenka Grealish, Celent, image exchange networks will carry 60% of checking transactions. Hillebrand said that she had not realized when she made her request how gradual the move to image-based clearing would be. Nevertheless she has not withdrawn it. Waiving the bounced-check fee is a secondary point. If banks use imaging to speed up funds availability, consumers will not need the fee concession. 'If banks move on the hold-period issue, then they don't need to move on the bounced-check issue,' because faster access to funds would reduce the number of bounced checks. The 2-month waiver would ease customers into the new check-imaging environment. 'We didn't ask for a long period - just long enough for consumers to know about this change.' Only one bank need change its policies. 'If one of them does it, I think we'll see some following.' Grealish said banks will pass the float benefit along to consumers when they feel it is a good marketing move - which could happen sooner than 2007. Competitive pressure will be the trigger. 'I predict that a big bank will move forward with a big marketing blitzkrieg' & its competitors will follow. 'It could be a small community bank.' Penny Gillespie, Forrester, said banks that provide speedier fund access will be rewarded with customer loyalty & more of their customers' business. 'Customer advocacy' is a big driver of loyalty. 'I would urge banks, when looking at Check 21, to have their customer advocacy hats on.' Float may make banks reluctant to release funds to their customers sooner. Only 2 of the top 20 US banking companies - JPMorganChase & KeyCorp - have settled checks with each other using only images, in an early test of Clearinghouse Payments Co. LLC's image exchange network. JPMorganChase & Key are clearing fewer than 100 checks a day that way. They are using only checks from accountholders who volunteered to receive image-only statements, & JPMorganChase is using only checks from former Bank One accounts. The banks that own Clearinghouse Payments account for 60% of the country's check volume, including 13 of the top 20 US banks, the company says. 27 of its members are installing the systems needed to participate in the network, the company said, but this week none of those other banks are using the image exchange system to clear checks.

How will Check 21 play when it comes to fraud protection? *BS&T 10/27* The corporate battle against check fraud will shift to new ground once Check 21 goes into effect 10/28. The legislation, which allows any bank involved in processing checks to convert a paper check into an electronic image or IRD, will have positive & negative effects on the current antifraud efforts of corporations. The faster clearing that the legislation will enable should deter some fraud, but widespread use of imaging will render useless anti-fraud measures designed for paper checks. 'Payments are going to be in an evolving environment that the world hasn't seen for quite some time,' says Steve Hill, Carreker. Hill says that the Check 21 changes will bolster positive pay, one of the biggest protections against fraud employed by companies. When a company uses positive pay, it gives the bank a list of all the checks it writes & the bank compares each check against the list before paying it. Suspect checks are referred back to the company. 'Having these items sooner allows corporate cash managers to make decisions on suspect checks earlier in the process.' Hill adds

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that cash managers should find it easier to evaluate a questionable
item when they get an image of it, rather than the fax that many rely on today. The changes brought about by Check 21 will take some time to occur, as different banks will adopt imaging at different speeds. But over time, certain security measures seem likely to go the way of the dodo. 'Many corporations have taken the extra step of buying special check stock that has significant antifraud capabilities built into that stock,' says Tim Sloane, Mercator Group. 'Many of those antifraud capabilities are lost when the check is returned as an image.' Microprinting is an example. 'The very act of scanning eliminates the microprinting.' The banking industry is working on the next generation of antifraud measures. Ed Herman, EDS, says digital watermarking & barcodes are 2 technologies likely to become available in coming months. As the check is scanned, 'digital watermarking will embed certain key information into the face of the check that can be decoded.' Barcodes are similar in that they will be added as the check is imaged & will contain information that helps a company determine if the check is fraudulent. Herman adds that turning paper checks into images should help limit fraud in any case because it means fewer people have access to the check. 'The fact that you're touching a paper check less reduces the chances for people to glean information from it.' Timothy Mohr, First Global Investigations, a unit of BDO Seidman, worries about how paper checks that are scanned by companies in order to speed up deposits will be stored & safeguarded. 'If the entity that truncates (in other words, turns paper into digital images) does not properly store the hard copy checks, you've now got these pieces of critical information sitting around & accessible to somebody who wants to use them for fraudulent means.' Ed Herman notes, though, that at least some of the remote imaging devices are designed to obliterate part of the face of the check as it is imaged. While this prevents presenting the check a second time for payment, it would still leave some information accessible to crooks. Mohr notes that physical checks often serve as important evidence when cases of check fraud are prosecuted, & says that IRDs are likely to be less useful as evidence. 'I think you risk losing key pieces of information that may have been seen on the original. Mohr argues that the tactics of criminals are likely to evolve along with changes in the payments system. 'People who commit check fraud learn as they go along. These frauds will evolve & the fraudsters will exploit different weaknesses & vulnerabilities.'

Canadian 21

Canadian Payments Association mulls online payments rules *10/22 DTN* The Canadian Payments Association is reviewing comments on a set of proposed rules for Internet transactions involving the electronic debiting of consumer accounts. The association hopes to vote in December on the final rules, which if approved would become final early next year, according to Roger Dowdall, vice president of communication & education for the group, which establishes rules for the clearing & settling of checks & electronic funds transfers in Canada. At that point, any payment service that debits a consumer account to process an Internet transaction would have to abide by the new rules for the payments to be cleared & settled through the CPA, whose 115 member financial institution account for 98% of clearing volume in Canada. The rules, which were promulgated earlier this year & on which comments were due 8/6, respond to increasing interest in providing new payment channels for Web transactions. 'There's been a lot of interest in alternatives to credit cards online, not just from financial institutions but from other stakeholder groups.' Among the proposals are rules that would encourage a form of so-called credit push payments, which allow consumers shopping online to instruct their banks to transfer funds to Internet merchants in payment for goods & services bought on the merchants' sites. The rules would hold consumers' banks responsible for authenticating their customers, using at a minimum a single-factor method, such as a password & user name combination. Credit push calls for consumers to initiate funds transfer themselves, rather than relying on merchants to debit their accounts, as at physical POS. NACHA announced it was planning to begin testing a form of credit push for Web payments next spring. A number of major Canadian banks in the Canadian EFT network Interac say they will begin offering a new service next spring, iDebit, that will rely on consumers' use of online-banking system authentication to initiate payments to Web merchants. The iDebit transactions would then be cleared & settled through the CPA, as are Interac debit transactions at ATMs & POS terminals. As part of the CPA's effort to facilitate Web payments, it is proposing to create a new payment stream separate from its existing EFT system, which is similar to ACH in the US. The separate stream for online payments would however flow into the CPA's automated clearing settlement system, which calculates credits & debits for all institutions at Bank of Canada. Other payment streams cleared through the CPA include paper checks & ATM & POS transactions secured by PINs. Created by an act of Parliament in 1980, the CPA clears & settles 17m payment items worth US$106b daily.

Company News

Coinstar in 50 states *10/25 PRNewswire* Coinstar has a presence in all 50 states & DC, with the addition of locations in North & South Dakota. Since installing its first 4 machines in the San Francisco Bay area in 1992, Coinstar's coin counting network has grown to include 11,000 self-service machines in the US, Canada & UK. 'At the heart of Coinstar's success is the ability to satisfy an unmet need: how to easily convert the estimated $10.5b in change that sits unused in American homes into cash,' said Rich Stillman, Coinstar. 'Coinstar provides a quick & convenient way for consumers to transform that hidden wealth into useable currency that they can cash in & spend right in the supermarket.' Coinstar has counted $8.5b in change on behalf of its customers through 245m transactions. The Coinstar machines installed in North & South Dakota offer self-service coin counting, & pay-as-you-go products including a prepaid Mastercard Card & prepaid wireless airtime. Users may donate their change to one of several non-profit organizations that are listed on the machine.

Expand Networks helps prepare small banks for Check 21 *10/27 Businesswire* Expand Networks, a provider of Application Traffic Management Solutions for the branch office, will play a crucial roll in helping small to medium size banks across the US become 'check-imaging ready' when the federal law for Check 21 goes into effect on 10/28. Check 21 was passed so that banks can electronically handle checks, eliminating the transportation of checks & resulting in faster & more efficient check processing. In order for Check 21 to work, small to medium size banks with slow connections will require a significant increase in the strength of their WAN, due to the high number of image replacement documents which will undoubtedly congest the WAN pipe causing slow applications & delays in customer service. To solve this problem, Expand Networks is playing a major role in educating small to medium financial institutions that typically run branch offices on low speed 56 to 128 Kbps WAN connections, about the necessity of optimizing their network to compete with larger & more technologically advanced banks. 'Check 21 will definitely affect every bank at some point,' says Paul Westendorf, PCS. 'It is important that banks are prepared for this evolution in banking & fully understand the impact it will have on the WAN connecting remote branch offices. With each image file consuming 12 Kbps or more of bandwidth, the WAN could be a shop-stopper for Check 21 if banks do not address congestion & latency issues which impede the transfer of imaging applications.' The law will ultimately affect low speed networked banks the most, forcing the issue of an efficient & reliable network. As part of being Check 21 compliant, a bank must be able to send/receive messages, deal with exceptions that occur in the process, send/receive checks & return check images back to customers. All these steps will require significant network resources which many banks lack. Expand Accelerators, will optimize the

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800.350.4720, JamesCowen@aqubanc.com, www.aqubanc.com

WAN as well as accelerate the Check-imaging applications traversing
the network so that these critical operations can be carried out smoothly & quickly. 'Expand Accelerators will help facilitate the Check 21 process,' says Pedro Colaco, Expand Networks. 'The IRDs which banks will send across the network are much larger than the typical data files; slow networked banks will need to make the WAN more reliable in order to compete with other banks, amplify the performance of applications & boost customer service & satisfaction.'

Fed seeks comment on proposal to withdraw from non-cash collection service *10/21 KPMG* On 10/14, the Federal Reserve requested comment on a proposal that would allow the Reserve Banks to stop providing services to depository institutions for the collection of definitive municipal securities by yearend 2005. The Fed cites declining volume of definitive municipal securities & an expected under-recovery of costs as the impetus for this proposal. The Fed indicates that depository institution customers would have several private sector options available to them for processing definitive municipal securities, & that, collectively, these alternatives would provide an adequate level of service. The servicing of definitive municipal securities involves the collection & processing of registered or bearer bonds that have been issued by state & local governments with interest coupons in certificated, or physical, form. The Fed indicates that the volume of these securities has declined an average of 20% annually for the past 5 years & is expected to decline by 1/3 in 2005. Comments are due to the Fed by 12/20.

Mellon cash management developments *10/26 PRNewswire* Mellon GCM has implemented enhancements to its disbursements-related services & products that aim to improve the efficiency & security of its customers' payable operations. Mellon GCM is making it easier for customers to spot potential check fraud through enhancements to the Mellon Positive Payee Service available via iTelecash, Mellon's Internet-based information reporting & transaction initiation service. The service enhancements are designed to improve & simplify customers' pay/return decision process & further reduce the risk of fraud by helping them to increase the accuracy of check reviews. Enhancements include: - Expanded Positive Pay Suspect Report - By including payee data from the issue file, the expanded report will allow users to easily compare the payee information on the presented check with the original issue information, streamlining pay/return decisions. This report on Telecash ViewPoint will show payee data. - Detailed Final Disposition Report - Adding payee data from the issue file to this report, along with creating consistencies between the suspect & final disposition reports through formatting changes, may help users more easily locate the data on these reports. - Improved Entry Screen - Also called the 'interactive grid', the improved entry screen will contain an additional column allowing the user to view all available suspect information (including the payee information) & to display an image of the check. The goal is to further improve the ability to make pay/return decisions on suspect items. Users not set up for Positive Pay Suspect imaging will be able to view the data but not the check image. The second enhancement is for Mellon GCM's corporate customers nationwide, who can now save their payees time & money by offering alternative locations for cashing company-issued payroll, dividend, pension & reimbursement checks. The new solution, provided in association with Certegy permits select retailer locations to cash corporate checks for Mellon customers' various consumer payees after confirming authenticity & accuracy against company-originated check issue files. 'Our relationship with Certegy allows us to validate checks 24x7 in thousands of retail locations nationwide - a win-win for those companies managing dispersed workforces,' said Robert Stasik, Mellon. 'We seek new solutions that enable our customers to more efficiently & cost effectively serve their employees.' Benefits of this solution include: - Time & cost savings - In addition to enabling check cashing at store locations outside of normal banking hours, payees may enjoy lower check-cashing fees from participating retailers. - Flexibility - Payees without traditional bank accounts or those preferring checks (versus direct deposit) gain an acceptable & convenient option for cashing company-issued checks. - Fraud prevention - Confirming the presenter at the retailer & reviewing check information through Certegy's systems provides added fraud protection for payer & payee. Stronger security against potential fraudulent activity is achieved by combining the check- cashing solution in conjunction with Mellon's Positive Payee Service.

Mellon liquidity management service *10/27 PRNewswire* Mellon Treasury Services announced that its online Liquidity Management Service has reached $2b in money market fund asset volume in its first 10 months of operation. The service's investment inventory has grown to include 13 fund families with 70 different funds, plus a variety of fixed income securities that include commercial paper & auction rate securities. Designed to help organizations enhance & simplify their short-term investment/cash management process, LMS enables clients to purchase money market mutual funds & fixed income securities online, in addition to providing extensive transaction & performance reporting capabilities. Jointly offered by Mellon Global Cash Management (GCM) & Mellon Financial Markets, LLC (MFM), Mellon's full-service broker-dealer. LMS is accessed through iTelecash, Mellon GCM's online information reporting & transaction initiation service. Each institution's investment transactions are reviewed & confirmed by assigned MFM institutional sales representatives. 'Customers are enamored with the convenience, ease & comprehensiveness of this Internet-based system. They are telling us the consolidation of their short-term investment process promotes time efficiencies & reduces reporting errors,' said Robert Stasik, Mellon GCM. 'Our clients may see their investment returns improve by taking advantage of the wide selection of investments that LMS offers.' In a response to Sarbanes-Oxley considerations & to promote an additional level of service, a release of LMS for IVQ 2004 will allow customers to customize their inventory & specify system access levels.

Panini & RDM *10/26 Businesswire* Panini announced RDM as its newest VAR. RDM will sell Panini's product suite, which includes the My Vision X & S1 Vision series. RDM is a specialist in electronic payments solutions & systems with a particular emphasis on electronic check truncation & technologies that enable Check 21 implementations. RDM provides payment solutions to America's largest financial institutions & since 1987 have supplied proprietary hardware, software, & services to more than 35 countries. According to RDM officials, driving the transition from manual payment processes to an electronic forum reduces processing costs & cycle times, cuts capital costs & helps achieve a faster ROI. That belief was the catalyst for the development of RDM's Image & Transaction Management System (ITMS) for the capture & management of transaction data generated from check payments. ITMS is a Web-based system that facilitates the electronic deposit & settlement of payments received by paper checks. 'RDM is pleased to add the Panini line of imaging devices to our ITMS check truncation platform,' said Tom Kettell, RDM. 'With the tremendous growth of ARC coupled with the passage of Check 21, it is crucial to have a fast, reliable scanner. Addition of Panini allows customers to take advantage of one of the most comprehensive lines of document scanners in the industry. The alliance with Panini is an example of RDM's commitment to offering the most comprehensive solutions to the market, bringing maximum efficiencies & reduced costs to our customers.' With a network of more than 40 VARs nationwide, Panini's products have been installed in a variety of financial institutions, improving processes & efficiencies. A VAR is a company that takes an existing product, adds its own 'value' usually in the form of a specific application for the product (in the case of Panini, usually packaged with a software system), & resells it as a new product or 'package.' A VAR may take a check image scanner

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with vendor-supplied interface software, such as Panini's My Vision X &

add its own proprietary application designed for financial institutions, reselling the entire hardware & software package. 'Partnering with firms such as RDM enables us to provide financial institutions with a comprehensive solution for electronic document processing,' said Dave Youngerman, Panini. 'To be able to offer customers a complete package is of enormous benefit, particularly with the passage of Check 21. Instead of trying to find separate vendors for software & hardware requirements, Panini makes an investment in its reseller partners, pairing Panini's product solutions with its own applications to provide customers with value added services such as pre-sales consulting, installation, integration & training services.' A small check scanner, My Vision X reads the check code line, captures front & back of the check & prints customized endorsement information. Standard features of the product include a patent-pending three-mode feeder, MICR Plus recognition technology, programmable one line rear ink jet, a USB 2 interface, a 100 document feeder & the front & rear image capture of up to four images at 200 dpi. Panini's My Vision X covers a wide range of processing applications, allowing financial institutions greater flexibility in determining positioning for the device. It can be used at the teller window, in back office operations, at merchant locations or in cash vaults, depending on the needs of a particular institution.

S1 & Alliance & Leicester *10/25 Businesswire* Alliance & Leicester Commercial Bank has selected S1, a provider of integrated front-office applications for financial institutions, to deploy its next-generation commercial e-banking solution. A UK bank with $91b in assets & 250,000 business & corporate customers, A&L plans to deploy S1 Corporate Banking International with S1's hosting services. S1 Corporate Banking solution will enable A&L to replace its multiple existing applications with a single, best-of-breed solution for all its corporate & small to mid-sized commercial customers. S1 Corporate Banking offers an integrated service that will grow with the bank as it offers more online services & as the adoption of e-banking continues to grow strongly in the UK. 'It is imperative that our e-banking service offers our corporate customers the highest levels of security, functionally & reliability,' said Stewart Fraser, A&L. 'We selected S1 for its robust, easy-to-use e-banking solution. We look forward to developing our services for our customers with S1 in the future.' A&L will be the 2nd major European bank in 2004 to implement applications in S1's data center. The data center is dedicated to the unique needs of integrated front-office solutions for financial service providers worldwide. Within one of the most advanced operating environments, S1 has built a comprehensive network infrastructure coupled with S1's business risk management & disaster recovery services to ensure resilient, uninterrupted service delivery for e-banking. 'Our agreement with A&L is another important endorsement of our UK operations, the specialized capabilities provided by our data center, & the value offered by S1 Enterprise applications,' said Jamie Ellertson, S1. 'S1 Corporate Banking provides our global customers with the flexibility & customer-centric view required to improve service & loyalty while reducing the costs & complexity of applications. S1's agreement with A&L is a significant step in our continued expansion in Europe that highlights our ability to deliver on the intricate needs of global financial institutions.' S1 recently launched S1 Enterprise 3.0, the integration of 9 major applications on a common platform, including S1 Corporate Banking, S1 Personal Banking, S1 Business Banking, S1 Insurance, S1 Enterprise Teller, S1 Enterprise Sales & Service Platform, S1 Enterprise Call Center, S1 Enterprise Voice Banking (powered by Edify), & S1 Enterprise Analytics. The applications are available independently or collectively as an integrated solution that gives banks one view of their customers across channels. More than 100 financial service providers worldwide have committed to S1 Enterprise solutions to realize measurable benefits through implementing multi-channel ready applications.

US Dataworks - 3 retail wins *10/21 PRNewswire* US Dataworks announced that 3 retailers, May Department Stores, Price Chopper Supermarkets & Cabela's have selected Clearingworks to support their payment processing infrastructures. 'ARC & Check 21 are ushering in an industry revolution that promises retailers greater efficiencies & immediate cost savings through electronic check conversion,' said Charles Ramey, US Dataworks. 'US Dataworks is excited to be at the forefront in developing innovative electronic payment solutions for the retail sector.' The May will expand its use of UDW's Clearingworks technology for 1,000 of its affiliated department & specialty stores, including Lord & Taylor, Marshall Fields, Filene's, Foley's, Hecht's, Strawbridge's Meier & Frank, Robinsons-May, Jones Store, David's Bridal, After Hours Formalwear & Priscilla of Boston. May has been using Clearingworks ARC solution to manage all aspects of transaction processing including MICR parsing, eligibility sorting & return processing, enabling May to convert paper checks into electronic transactions that can then be processed through the ACH. Based on May's success with Clearingworks ARC solution, the company has decided to expand its use of Clearingworks to process WEB & plans to use Clearingworks for TEL in the immediate future. With 100 store locations in the Northeast, Price Chopper Supermarkets has replaced its previously outsourced electronic check conversion processing with UDW's Clearingworks POP technology. Run in-house on Price Chopper's own server architecture, Clearingworks determines 'best-fit clearing' & 'least-cost routing' of check payments allowing Price Chopper to minimize their check tender costs. 'UDW's Clearingworks allows Price Chopper to manage our electronic check conversion process with greater control, flexibility, speed & efficiency,' said Jennifer Kenneally, Price Chopper. Cabela's, the world's foremost outfitter of hunting, fishing, & outdoor gear, has selected US Dataworks' complete Clearingworks solution to process all electronic check conversion for store, catalogue & online sales. In addition to employing Clearingworks POP, ARC, WEB, TEL & Check 21 technologies, Cabela's is testing new Clearingworks functionality that will be launched by US Dataworks in November.

Banking & Payments

How positive pay deters check fraud *10/25 CashTech* Check fraud is a growing business with current estimates of losses fast approaching $15b per year in the US. Whether it is for A/P, Payroll, Claims or another payment process companies are exposed to potential losses from check fraud. Positive pay filing is the best deterrent to check fraud available today. The positive pay process entails a daily reconcilement of a company's issued checks to checks presented for payment to the bank to identify potentially fraudulent checks. Positive Pay is a fraud prevention mechanism that reconciles checks being encashed against details of the checks issued by the account holder. Customer provides the bank with the details of the checks like Beneficiary Name, amount, date etc. When a check is encashed, the details of the presented check are compared against the check information as provided by the customer. In case of a mismatch, the checks are paid or returned after confirming with the customer. Normally, Positive Pay is used by corporate houses that handle a lot of checks during their daily activities. Capturing information of the checks that are being issued by the company is the first step in positive pay. A Company issues the checks & sends the information of the checks to the bank providing positive pay service. The 'Check Issuance' file contains details like Check Number, Check Amount, Check Date & Beneficiary Name along with the account number from which the checks have been issued. This file is fed into the positive pay system at the bank. In cases of an emergency, the customer may issue a check & provide the issuance details on an ad hoc basis, over the phone, fax or through a web front-end of the bank. Capturing presentation information & reconciliation is the next step in positive pay processing. Checks may be presented in 2 ways - via inward clearing by the beneficiary's bank or across the teller's counter. In case of checks being sent via inward clearing, the check processing system

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generates the inward clearing file based on the checks received from other banks. The positive pay reconciliation engine matches this information against the information provided in the check issuance files. Matching is performed against the Check number, Check Date & Check Amount. Additionally, Beneficiary Code may be used if the beneficiary details are always picked up from a pre-defined library. Checks that match are processed as per the normal inward clearing practice of the bank. Checks that do not match any of the criteria are marked as exception items. Exceptions are classified into two types: No Match criteria - One or more of the information provided in the check does not match with the issuance data. Duplicate Match - Same check is being presented for the second time. Either the first presentment or the current check could be a fraudulent one. For unreconciled checks, the bank sends the exceptions to the company with a time window for reply with in the same day. This information could be passed on over the phone, fax or a corporate front-end. The bank may choose to send the data to a treasury workstation if supported. On receipt of the exception items, the customer verifies the details of the checks & decides to 'Pay' or 'Stop/Return' the checks. In case of a no match exception, mismatch identification becomes easier if check images are available for comparison. Duplicate exception occurs when a fraudulent check is presented to the system. A check with the same information as the one that has been paid earlier will make the system throw a 'Duplicate' exception. This information is sent to the client for a decision since the check that was earlier paid could have been a fraudulent check. The 'Stop/Return' Decision will depend on the method in which checks are processed by the bank. If checks are posted before the positive pay reconciliation is performed then they will need to be 'Returned' & 'Stopped', if no accounting entries are passed prior to reconciliation. If customer decision is not received within a specific period of time, the bank shall apply the 'Default Decision' & process the check accordingly. Default Decision is an agreed upon decision between the bank & the customer, to be used in cases where the customer does not decide within the specified time window. While the inward clearing checks can be processed based on a customer decision, across the counter presentments prove to be a difficult task since the beneficiary or their representative is waiting at the counter for the payment. These checks are processed via the positive pay reconciliation engine. If the presentment details match with the check issuance information, the check is paid. If there is a discrepancy, the default decision is used for processing the check. Since no time window is available for across the counter presentments, the decision is based on the previously agreed upon 'Default Decision'. Advantages of Positive Pay – Corporates: Daily reconcilement of Checks with those paid. Prevents fraudulent checks from being paid. Banks: Fee based income by using the existing process of check clearing. Deterrents to Positive Pay: Customer Attitude - 'It won't happen to us'. Customers are unwilling to pay this fee till a fraud takes place. Customer expectation that this service should be provided free of cost as a part of check processing. Check Issuance file formats - With a number of accounting software available with customers today, there are no standard file exchange formats that are defined. Changes to existing systems on the bank side. While companies may try to employ a cost/benefit analysis in determining whether to use positive pay services, most companies will lack sufficient credible data to perform such an analysis. Companies without a history of check fraud losses, tend to understate the potential losses from check fraud while more accurate data exists for estimating the cost of implementing the service. Positive Pay is more like an insurance policy, if things are normal there are no tangible benefits but in case of an exception, it is a boon.

E-Billing & E-Procurement

Biller-direct model has traction *10/26 PRNewswire* As more US consumers view & pay their bills online, 'biller-direct' Web sites for online bill payment & presentment have soared in popularity. TowerGroup sheds light on several myths often cited as reasons for the success of the biller-direct model (bills viewed or paid directly at the Web site of credit card companies, utilities or other billers) relative to the consolidator model (the favored approach of banks & online bill payment processors). TowerGroup identified 5 myths associated with the success of biller- direct Web sites. These include the belief that these sites immediately credit consumers' accounts for online payments; that consumers can pay by credit card at biller-direct sites; that consumers can view more bills at biller-direct sites than at consolidator sites; that biller-direct presentment & bill payment are free; & that biller-direct sites offer a deeper array of features & functionality than do consolidators. 'TowerGroup's examination of 80 top biller-direct sites raises doubts about the reliability of each of these assertions,' said Beth Robertson, TowerGroup. 'For example, only 31% of the sites reviewed actually update their customers' accounts to register that a payment has been made on the same day that a customer performs an online transaction. More than ½ of biller-direct sites take more than 2 days to post payments. Our review found that consolidator-initiated online payments are posted in as timely a manner as the average biller-direct payment - with average delivery rates of just 2 days.' Just 33% of the leading biller-direct sites reviewed offer a credit card payment option. Consolidator initiatives in this area will make credit cards available as a payment option at some bank sites by 2005 - closing the gap on this issue between the biller-direct & consolidator models. In 2004, 90% of the bills presented online will be available at biller-direct sites. But while far more bills are available for individual viewing at biller-direct sites than are available at many consolidator sites, actual use of this information remains low as the market is still considered to be in an 'emerging' state. Consumers who use presentment services access an average of just 10% - 15% of their total monthly bills electronically. It is becoming increasingly inaccurate to claim that billers offer online bill payment services free of charge. Like consolidators, many billers recognize that consumers may be willing to pay a fee for premium services such as same-day account credits. The touted benefits of biller-direct sites are collectively available at select biller sites. But another answer to the question of why the biller-direct model has gained greater traction may lie in simple math. Most consumers receive a higher rate of solicitations per month from their various billers than they do from consolidators to try online bill presentment & payment. Biller-direct site functionality & capabilities vary widely, just as they do among today's consolidator & hybrid consolidator sites. 'The experience offered by biller-direct sites is not consistently superior to that of consolidator sites. Successful online bill presentment & payment models should seek to incorporate the best features & functions of individual sites & delivery platforms. This will improve consumers' experiences - regardless of which interface they select.'

Barriers continue to obstruct adoption of electronics in B2B *10/27 PRNewswire* Organizations are more willing to migrate from checks to electronic payments for B2B transactions now than they were 4 years ago, according to Association for Financial Professionals. The AFP 2004 Electronic Payments Survey finds that a number of significant barriers obstruct progress toward the wider use of electronic payments by businesses. While more than 75% of B2B payments are currently made by paper check, 28% of respondents to the survey indicate that their organization is very likely to move to electronics for the majority of their B2B payments in the next 3 years. 50% of respondents said that it was somewhat likely that their organization would move to electronic payments in that time period. The increased willingness to move away from checks is in sharp contrast to an AFP survey conducted 4 years ago, when only 9% strongly agreed that their organization was likely to convert to electronic payments within the next 3 years. 'Most B2B payments continue to be made by paper check, the future of payments is clearly electronic,' said Arlene Chapman, AFP. 'Electronic payments are gaining ground among some organizations, especially those with annual revenues greater than $1b.' The survey found that large organizations send & receive significantly fewer check payments than smaller organizations, & are more likely to

have integrated their A/P & A/R systems. 56% of larger organizations
said in the survey that they have integrated part or all of their accounting systems with an electronic payments system, compared to 35% of smaller organizations. Financial professionals identified barriers that obstruct progress toward wider adoption of electronic payments in B2B transactions. Respondents gave nearly equal weight to 4 major barriers: accounting systems that are not integrated with electronic payment systems; shortage of IT resources; lack of a single standard format for remittance information; & trading partners who cannot send or receive electronic payments with sufficient remittance information. 'When existing check systems work well - as most respondents reported in the survey - it can be difficult to make a business case for systems changes that would make electronic payments more efficient, or even feasible,' said Douglas Downey, HCA. Respondents pointed to 4 'wish list' solutions from bankers & software vendors that would increase their use of electronic payments: accounting software that integrates with electronic payments; bank services that provide straight-through electronic payment processing to accounting systems; a standard data format; & improved fraud control over ACH payments. In spite of the obstacles, financial professionals report slow but steady progress in the move to electronic payments for B2B transactions. To comply with Sarbanes-Oxley - or for other business reasons - 28% of respondents state that their organizations will purchase software or use a third party service to integrate accounting & electronic payment systems. 18% will implement software that links their financial systems with those of their suppliers or customers. Others will take a different route to an electronic system. Using the check image capabilities that are an outgrowth of Check 21, 28% of organizations plan to image the checks they receive & send images to their banks for clearing & settlement. Respondents report that ACH credits are the most widely used electronic payments method, followed by wire transfers. Purchasing cards are not often used as a primary payment method. 'We expect to see moderate growth in B2B electronic payments in the next 2 years, & especially among larger organizations. AFP will take the lead in working with its members, financial institutions & software providers to enable our members' organizations to realize the full potential of electronic payments.'

Paperless paydays *10/27 USNewswire* Workers are becoming more comfortable with new payroll-related technologies that are gradually making their way into the workplace, according to a recent survey conducted by the San Antonio-based American Payroll Association. The survey was conducted in conjunction with the Association's annual public awareness campaign, National Payroll Week, which took place in September. *Getting Paid In America* asked workers to weigh in on payroll-related technologies, such as the use of biometrics for tracking time & attendance, paperless paydays, & information security. 91% of the 22,000 workers surveyed indicated that they feel their employers are adequately protecting vital personal information such as social security numbers & bank account numbers used for direct deposit. 'We live in a day & age where we rely on technology to help get the job done. That same technology can make us vulnerable, so it is up to employers to implement safeguards to protect against invasion of employee privacy,' said APA's Dan Maddux. 'The payroll departments of companies are entrusted with very personal information, & it could be disastrous if their systems were compromised. The industry has made it a top priority to ensure that this vital employee information is well-protected.' There is now more to payday than simply receiving the much-anticipated paycheck. With roughly 90 million workers taking advantage of direct deposit on payday, it's not so much a matter of receiving a pay check, but a pay stub. Businesses are figuring out that they can save money, & trees, by making pay stubs available electronically through secure areas on company intranets or on secure Internet sites rather than printing hard copies. Employees can then access & print the information on an as-needed basis. More than 90% of survey respondents indicated that they would be comfortable with this arrangement. 'More companies are creating efficiencies & offering new employee benefits by moving to a paperless environment, including online pay statements, employee self-service, payroll debit cards, & FSA stored value cards,' said Gary Butler, ADP. 'Employee adoption is key to maximizing these benefits. The study demonstrates that employee interest in & adoption of paperless payroll is strong.' Another new technology debuting in the workplace - biometrics - has found acceptance among workers. More than half of those surveyed communicated that they had no problem with the use of biometrics for tracking time & attendance in the workplace, while another 21% indicated they had no opinion either way. 'Biometrics, once considered futuristic technology, has become commonplace in tracking time & attendance. It is not surprising that more than 50% of survey participants support the use of biometric technology to record employee time & attendance information,' said Michael DiPietro, Kronos. 'It solves the important business problem of validating that employees are on site when they say they are. We have seen a dramatic year-over-year increase in customer demand for our biometric data collection devices.' Using biometrics to track employee time & attendance eliminates 'buddy punching,' where employees clock in for absent or tardy coworkers. Biometric technology requires employees to punch in by having a unique physical identifier, such as a fingerprint or retina, scanned. While some argue that the use of biometrics is an invasion of privacy, employers nationwide are beginning to recognize the value & cost savings of utilizing such technology. 73% of respondents indicated the transition from time clocks to biometric scanners shouldn't be a problem for most. 'Today's economy demands that companies control costs & improve efficiency - that's why many are taking advantage of new advances in payroll technology. The survey results indicate that workers are comfortable with the direction the payroll industry is moving, & that's what is most important to us: ensuring that our customers - America's workers & the companies that pay them - are happy.'

Cards, ATMs & Networks

NCR & University of Delaware pilot ATM image capture *10/26 ATM&DebitNews* The University of Delaware has become the first university in the nation to offer new image-based ATM deposits to its students. The university, in partnership with Cash Connect, a division of WSFS, has introduced NCR's Personas M Series ATMs with 'no envelope' deposit technology. Jennifer McCollum, WSFS Bank, said that student acceptance of the new service has been 'overwhelming.' With NCR's certified 'no envelope' deposit technology, one or more checks, or a stack of cash, are accepted directly into a slot on the ATM. An image of deposited check(s) appears on the screen & is printed directly on the receipt. A tally of deposited cash is listed by denomination. 'This move is part of WSFS' upgrade strategy to bring the bank of the future to its customers today,' said Tom Stevenson, Cash Connect. 'With the Check 21 law taking effect this week, image-based functionality will continue to grow in importance. NCR's technology enables greater interaction speed & convenience for ATM users, while setting the stage for improved back-office savings & operational efficiencies.' According to Mario Perottino, NCR, all major EFT networks have certified NCR's no envelope deposit software. 'It is now an available option for more than half of the ATMs in US operated by ATM processors.'

Gift cards take a bigger bite from cash, paper *10/18 DTN* The popularity of gift cards continues to grow, with 64% of US adults, 139m people, now buying or receiving the products annually, up from 59% last year & 36% 3 years ago, according to ValueLink. The survey, which canvassed 1,006 US adults ages 18 & up, revealed that consumer awareness of gift cards now stands at 94%, up from 76% in the 2001 survey, while the average number of cards purchased has gone from 4.1 to 6.9 in the same time period. The average sum spent on all gift cards in the previous year is $247, with 55% of respondents reporting they spend more than the initial amount encoded in the card. The increasing popularity of gift

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James Cowen, Vice President of Sales, AQUBANC, LLC
800.350.4720, JamesCowen@aqubanc.com, www.aqubanc.com

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cards is taking a greater bite out of cash & paper gift certificates. 52%
say they would prefer to give a gift card over cash (which 38% preferred) or gift certificates (11%). Gift-card buying patterns are now embracing the Internet, according to the survey. While 83% of gift-card buyers say they bought their cards in person at stores, another 9% say they purchased their cards on the Internet, including on merchants' Web sites. ½ of those who bought gift cards in the past say they are very likely or somewhat likely to buy a gift card from a merchant Web site in the coming year.

Moneris debit card program *10/25 Businesswire* Moneris launched its enhanced debit program, which provides access to multiple networks & enables merchants to accept online & offline debit cards. Debit card usage in the US has grown rapidly in the past decade. Packaged Facts says the debit card has grown from accounting for 274m transactions in 1990 to 10.47b transactions in 2003. According to *Nilson Report*, the number of debit cards in circulation worldwide reached 1b in 2003 & debit card sales volume will double by 2007. 'Debit cards have become the fastest-growing consumer payment method & an essential revenue-generating tool for merchants,' said Larry Wine, Moneris. 'Although the acceptance of debit transactions is relatively similar to that of credit card transactions, merchants are often challenged by the regional limitations of some debit networks & the requirements of online transactions.' 'Our flexible debit acceptance program helps merchants overcome these challenges to quickly begin experiencing the benefits of reduced costs, increased sales & increased customer loyalty. We are committed to providing our merchants with the full range of POS solutions - from credit & debit to gift & loyalty - they need to sustain a competitive edge.' Accepting debit & ATM cards for payment enables merchants to provide their customers with additional flexibility. Moneris' debit offering supports: Access to multiple debit/ATM networks: Moneris Solutions has national & regional networks that support debit card processing. Moneris provides access to major debit card networks, including Interlink, Maestro, NYCE, PULSE, SHAZAM, STAR & AFFN. An online debit transaction occurs when a cardholder's debit card is swiped & a PIN is used to authenticate the transaction. Moneris delivers the pinpad, a piece of encrypted hardware, required to support this type of debit transaction. The Moneris debit program supports a broad range of terminals & pin pads available for use on Paymentech, Vital & FDMS. Offline debit cards with the Visa or Mastercard logo on the front of the card can be accepted just like a Visa or Mastercard credit card. Acceptance of these cards does not require a pinpad & can be used as a debit card for online transactions, or as a credit card for offline transactions. Merchants can turn to Moneris for all POS payment needs. Moneris Solutions delivers point-of-sale hardware, proprietary software, e-commerce solutions, Web-based financial reporting, & the necessary services & support so that merchants can be equipped to accept credit & debit cards & paper & electronic checks. In addition to payment processing solutions, Moneris offers gift & loyalty programs.

Investing in the ATM channel *10/22 ATM&DebitNews* Financial institutions are facing the seeming inevitability of IBM's eventual withdrawal of support for its OS/2 ATM operating system & the need to comply with regulatory mandates for Triple DES & audio capabilities for ATMs. At the same time, vendors are offering them the ability to introduce personalized transactions, check imaging & other new, customer-friendly features. Yet many FIs appear to be taking a fairly conservative approach to updating their ATM channel - boosting their normal attrition rates, but frequently opting for upgrades rather than new machines. 'As long as the machines I have can keep me compliant, I'm content,' said WR Holman, Iberia Bank. 'I've got some good machines; they work fine. There just aren't enough reasons right now for me to swap them all out.' Holman expects to complete his network's Triple DES upgrade by the end of 2004 - with the possible exception of machines added during the recent acquisitions of 2 FIs. Iberia replaced 10 machines 'flat out not capable of running Triple DES,' purchased 7 new ATMs to deploy in sites that generate the highest transaction volumes, & upgraded the remainder of its 42-machine fleet. Iberia wanted to maximize its investment by putting the new machines - & introducing new transactions - where the most people would use them, Holman said. 'Customers in our lower volume sites just want to get their money, get their balance & go.' The new machines all feature Windows operating systems & will use TCP/IP communications, which Holman said will 'set the stage' for future added functionality. Advanced transactions will likely be added to all of Iberia's ATMs as it continues to update its network. Holman said he 'only put what I had to' in upgrades of existing machines. 'It didn't make sense to spend a lot of money on machines I'll want to replace in 2 to 3 years.' 5/3 expects to upgrade 1,400 of its 1,873 machines & replace the rest, some of which were incapable of running Triple DES & others where upgrades would have cost almost as much as a new machine. Curt Tiettmeyer said 5/3 will likely complete its Triple DES upgrade by summer 2005. 250 of the new machines will be on a Windows platform. The primary consideration when it came to upgrades was processing power. He wanted to make sure that machines could support Triple DES, remote injection of encryption keys, audio capability & an eventual move to Windows. In many cases, 5/3 is adding Ethernet cards to move its machines to IP communications. Tiettmeyer is evaluating introducing new options such as check imaging on 5/3's ATMs, but doesn't expect to do so in the near future. 'If I can incorporate it at the right cost, I'll do it. But I have to weigh the benefit against the cost - is it going to make me money or save me money?' Connecticut's Peoples Bank just completed the migration of its 240-machine fleet to Triple DES, replacing 8 machines - the 'really oldie moldies,' said Ted Josephson, Peoples - & upgrading the rest. Total cost, including hardware, software & service, was in 'the high 6 figures.' Josephson expects to boost his normal annual replacement rate of approximately 10% over the next few years - but only slightly. 'I've got a bunch of machines that are working just fine. In a perfect world, with no budget constraints, I'd buy more new machines. But I know I can get at least another couple of years out of the machines I upgrade.' New machines will have at least a Pentium III processor & 256 megabytes of RAM. Peoples' entire network uses IP communications. ¼ of Peoples' fleet is currently capable of running Windows, said Josephson, who plans to pilot some Windows machines in 2005. 'I'm not going to rush. I'm nervous about some of the service & maintenance issues.' 'I think we're going to see more technology changes in the next 2 to 3 years, & he is still developing business models for offering new services such as imaging checks at ATMs or targeted advertising. 'I want to see more studies with hard data that shows this stuff works.' Imaging & targeted advertising would require Peoples to make substantial investments in its back office & its ATMs. FIs are spending more now on their ATMs than they have in recent years, & they are purchasing machines with new technology platforms. TowerGroup's *Advanced ATM Technology: Too Fast, Too Furious?* estimates that large US FIs will spend $1.8b on their ATM programs in 2004, 12% more than they spent in 2003. Year-over-year ATM expenditures normally grow at a more tepid pace of 3 to 5%, said Jerry Silva. Because maintenance costs have remained stable, much of the spending is on new machines & software development. Diebold cited 'record order levels' for ATMs in 2004 IIIQ. It expects earnings per share to grow 18 to 20% in 2005, driven largely by sales of ATMs & related services. NCR anticipates EPS of at least 40c in 2004 IIIQ, at least doubling its earnings of 19c EPS in 2003 IIIQ. NCR cited growth in Financial Self-Service & Teradata Data Warehousing divisions. Silva said 70% of ATM shipments by vendors serving the FI market in 2004 will go out loaded with Windows as the default operating system. That number has risen dramatically from 10% or so of ATMs shipped with Windows in 2001. Silva estimates that approximately 20% of the current global installed base is running Windows; by 2006, he expects that number will rise to 30%. 'We'll finally start to see a decline of machines with OS/2. We're getting to the point in the replacement cycle where it makes sense for FIs to get machines with new technology. While regulatory mandates are a major driver of spending increases, Silva believes FIs are more bullish

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James Cowen、Vice President of Sales、AQUBANC、LLC
800.350.4720、JamesCowen@aqubanc.com、www.aqubanc.com

than ever before about offering new features at ATMs, a process
facilitated by moves to Windows & IP communications. Huntington began preparing itself for a major ATM technology refresh in 2002. The bank developed a broad plan in 2003 after discussions with its vendors & created more specific strategies this year. The bank is currently piloting its first Windows-based machine at a site where it is used by Huntington associates only. It plans a test of 25 Windows-based ATMs, 5 of them new, in this year's final quarter. Huntington wants to ensure the new platform works as expected before implementing customer-facing features at ATMs in 2005. Huntington intends to replace 135 of its 700 ATMs & will likely upgrade many of the rest, although it has not yet reached a decision on the fate of some 300 machines. While they can be upgraded, replacing them would make it easier to offer image capture or other new features. National City is upgrading 600 ATMs but replacing the remainder of its 2,000-machine fleet - at a total cost of some $30m. Matthew Burns, NCB, said the bank hopes to complete the project in IH 2005. 'When I passed the hat to get the funding, the first comment I heard was 'we won't have to have this conversation again in a couple of years, will we? To minimize that possibility, all of National City's machines, whether new or upgrades, will run Windows & have at least a Pentium III processor. Burns said his main aim was to 'create a consistent baseline from which we could evaluate any future enhancements.' National City has introduced a service called My ATM Choices, which allows customers to pre-select their preferred language, withdrawal amount & receipt options, at 100 ATMs. The feature 'helps factor a lot of the 'noise' out of repetitive prompts at the ATM.' Burns, who helped roll out National City's online banking program, is excited about the prospect of using knowledge gleaned from the Web at ATMs. 'With Windows, we can leverage some of what we've learned about introducing new technology. I think the learning curve for ATMs will be a lot more compressed.'

E-Commerce & M-Commerce

Ingenico & SIVA - Pay@table for restaurants *10/25 Canada NewsWire* SIVA Corp has certified & integrated the Ingenico i7770 short-range wireless portable terminal with the iSiVA POS system. SIVA is the creator of Internet technologies for multi-unit restaurant operators. The Ingenico i7770 is a wireless & portable terminal that enables restaurant patrons to pay at the table using an on-line connection to the merchant's authorization center. The i7770 is the first to leverage commercially available Bluetooth connection capability in a portable POS device. Bluetooth is a short-range radio frequency technology widely used in mobile telephony & mobile computing. Bluetooth provides outstanding communication quality, & significant range of ½ mile between the terminal & base. It operates at a very low power consumption rate, allowing for a high number of transactions without recharging. 'The i7770 is an outstanding tool for operators who wish to optimize their payment process. It allows restaurants to provide their customers with the security & convenience of tableside settlement while offering a rapid return on investment due to clearinghouse incentives,' stated Jim Melvin, SIVA. 'By integrating Ingenico's portable short-range wireless terminal with our iSIVA POS, our customers will be able to benefit from this compelling technology.' Barry Thomson, Ingenico, stated, Pay@table is an important global initiative for the company. We are pleased to have SIVA Corporation be the first foodservice solution provider to integrate the i7770 with their POS system. SIVA's solutions & industry leadership position will enable many restaurants & hospitality businesses to leverage the benefits in wait staff productivity & lower payment costs provided by the i7770.

PayPal - double-digit growth in accounts *10/22 DTN* PayPal may have made headlines last week with its intermittent outages, but IIIQ numbers released this week by its parent company, Internet auction kingpin eBay, show the online payments processor racking up significant growth in accounts, transactions, & dollar volume, while continuing to chop fraud losses. PayPal registered a 13% increase in its worldwide account base, to 56.7m accounts, of which 17.4m are active, compared to 15.5m in IIQ. Compared to the year-ago period, total accounts are up 61% while active accounts have grown 55%. PayPal considers an account active if it sends or receives at least one transaction in the quarter. The company' transaction volume grew 7% in the 3-month period ended 9/30, to 83.4m transactions, reversing a 2% dip in transactions sustained in IIQ. Transactions are up 45% over IIIQ 2003. Dollar volume processed increased 7%, to $4.64b, in IIIQ, up 52% over a year ago. 70% of its payment volume is derived from online auction sales, a % that has held steady quarter after quarter for at least the past year. Given total eBay merchandise sales of $8.31b in IIIQ, PayPal accounts for 39% of eBay sales, up from 35% a year ago. PayPal's revenue rate, or the average % of each sale it receives in revenue, was 3.59% in IIIQ. Its loss rate declined to 0.22% of payments, despite the growth in volume. Losses were as high as 0.31% as recently as IVQ 2003, a period when heavy holiday-season activity tends to spike losses owing to fraud. PayPal struggled last week with a coding error that rendered its Web site unavailable at times to buyers & sellers. The outages, which affected online retailers, auction activity, & the ability of PayPal debit card holders to withdraw cash, continued for 6 days before the company was able to restore normal service.

Yahoo to shutter PayDirect *10/25 Finextra* Yahoo is to shut down PayDirect, the online P2P funds transfer service operated with HSBC. Yahoo's decision to exit the business leaves the way clear for market-leader PayPal to strengthen its dominance in P2P e-mail payments. It comes a year after Citigroup shut down its C2IT service citing too few customer accounts. 'Without the large user base to support PayDirect, the business doesn't scale.' Yahoo says it will cease transmitting funds via PayDirect with effect from 11/22. Account holders will still be able to view payment records & withdraw any pending balances until 2/15/05. The PayDirect service & Web site will be completely discontinued 3 months later.

Address-form glitch proves an easy scam *10/22 MSNBC* It's a harmless-looking part of every a Web site retailer's checkout page. The form filled out by customers ordering products almost always has a second line — sometimes it's used for apartment numbers or other information; it's usually left blank. But that innocuous-looking second line could become a big headache for Internet merchants soon, says one fraud expert. Credit card criminals have figured out a simple way to use that second line to foil the most basic anti-fraud measures online merchants use. Already, 5 major Web merchants - with sales of $75m or more each year - have been hit by the hack, says Julie Ferguson, co-chair of the Merchant Risk Council. 'All of the sudden this has risen above the noise (of other scams). That's a good indicator this could be a big deal during Christmas,' Ferguson, ClearCommerce, said. The firm planned to issue a warning to merchants this week about the technique. The hack - & it can only loosely be called a hack - involves tricking the rather archaic address verification system (AVS) used by most merchants, often their first line of defense against fraudsters. When a consumer gives a Web site a credit card, the site asks the issuing bank - usually through a third-party service - if the account number is valid, & if there is enough credit left in the card's balance. Usually, firms perform an address verification for an additional charge of a few pennies. That is supposed to ensure the address supplied by the buyer is the same as the address on record for the credit card account at the bank. In the past, criminals have used the 'ship to a different address' form to get their stolen items shipped to an alternate location, but long ago merchants became wise to that ploy & often designate orders where the shipping & billing address don't match to get extra scrutiny. The new, 'second-line scam,' allows criminals to get past the shipping-billing discrepancy issue. They can use a substitute address in the billing area

field, & at the same time, trick the merchant into thinking the correct

billing address has been entered. Designed long ago, most address verification systems only check numerical values at the beginning of the address & zip code fields in the billing address form. Letters, such as street names & cities, are ignored. That means if the legitimate address is 123 Elmwood Street, & a criminal enters '123 XXTRTWW,' the fraud software will return a 'yes' value, indicating the address is valid. Criminals then supply the street & town where they really want the goods delivered in the second line. So a scam address could read: John Q. Public 123 XXTRTWW 99 First Street Hackertown, NY 10000 Such an address would raise immediate suspicion with orders that are visually inspected by merchants, but that's rare, Ferguson said. 'Merchants don't manually review very many orders. Most merchants manually review about 10%. The address above might still fail the address test on the zip code field, but merchants often chose to ship a product if the only error in the order is an erroneous zip code, Ferguson said. Or, the hacker may enter the zip code attached to the credit card but the city where the stolen merchandise is to be delivered, & often, the delivery firms will correct the erroneous zip code & deliver the product. In a more sophisticated form of the attack, criminals trying not to raise suspicion are sure to write valid-looking street addresses that aren't actually in the destination town, to ensure delivery to the second line address. 'But most of the time we are seeing goobly-gook,' Ferguson said. She had seen a few instances of the scam during the past 9 months, but received word from 5 different merchants in the past 2 weeks asking about the suspicious orders using this ploy. 'They were calling saying, 'What's this?' Ferguson predicted the trick would spread quickly, but other merchants indicated they hadn't seen the issue yet. Mike Fisher, who handles dozens of merchant accounts at Merchant Mechanics, said he hadn't seen any second-line fraud orders. 'I have not had experience with that with any of my merchants. We see lots of flavors of new tricks. You would think any savvy merchant would identify the order as suspicious with garbled characters in the first line. It seems it would be easy to spot.' Dan Clements, who operates merchant advocacy service CardCops.com, said he hadn't seen the scam yet. 'I don't think it's a big deal.' But he added that address verification is a easy target. 'It is pretty archaic.' While AVS is the most basic form of fraud control, most merchants include some additional fraud protection. Many now require additional numbers called 'CVV2' that are found on the back of a credit card. Requesting those numbers is supposed to prove the person ordering the merchandise is actually holding the card. But credit card thieves have caught on to that method, & often come equipped with CVV2 information as well. Several firms offer additional automated fraud screening software that detects odd ordering patterns, such as multiple orders for expensive merchandise from the same computer attached to the Internet. But many firms rely on address verification as their main line of defense, & it isn't reliable, Ferguson says. 'The biggest thing is to educate the review team at Web sites. You can look & see if you getting a lot of orders with second address line completed.'

Online purchases of music *10/27 Businesswire* According to a survey of 500 Americans by InsightExpress, only 12% of adult consumers have purchased music from an online store. The most common reasons cited for not buying music online include the preference for shopping at traditional music stores, not owning a digital music player, & the lack of appeal of downloading music. Americans say they would be more likely to consider shopping at online music stores if the prices were lower & the selections were better. Consumers describe the most important characteristics of an online music store:

Important characteristics of an online music store, Americans agreeing		
Price	67%	
Music selection	60%	
Availability of music previews	46%	
File compatibility with computer & digital music players	42%	
Reputation of online music store	30%	
Support/instructions for how to use digital music files after downloading		26%
Computer desktop integration	15%	
Digital music player/MP3 integration	11%	

'Given low consumer adoption of purchasing music online, the potential for this market is yet to be fully realized. Online music stores that can accurately capture & understand what consumers want, such as low price points & extensive selection, will have a distinct competitive advantage in this developing market.'

Other

Trends in self-service *10/23 NationalPost* It's the end of the world as we know it, & I'm in line. In the 1-8 item checkout lane at a Toronto grocery store, there is much rolling of eyes & browsing of tabloids. The smock-clad checkout lady is engaged in chit-chat with a woman buying cold cuts, who is struggling to swipe her bank card through the Interac machine. 'No, the other way around,' the cashier explains. A man in line lets out a long sigh. The conveyer belt inches forward. 20 feet away, a young woman glides her groceries over the self-checkout machine. She places the items in bags, swipes her credit card & hurries out of the store. There was a time, not long ago, when the thought of such technological independence conjured up images of a George Jetson lifestyle, where everything from getting dressed to making breakfast was accommodated through an automated program. Today, the do-it-yourself reality of airports & movie theatres, downloading & debit cards, has industries drooling & consumers taking care of business with the push of a button. But as attitudes & automated applications continue to develop, one question flashes on the touch-screen of modern life: What else are we willing to do in the name of our self-serve society? 'There's no question that you're almost being silly if you're not taking advantage of it, not only in cost-savings but in time,' says Allan Major, New Paradigm Learning Corp, where he is researching new technology & competitive advantage. The self-serve coup may have been sparked by corporate demands for cost-cutting, but the technology's staying power has been ensured by a population armed with debit cards & a fierce desire for control. A report by Interac in 2003 showed 85% of Canadians have used a bank card to make an automated transaction. In 2002, Canadians used the Interac service 2.4b times at the country's 40,000 ATMs & other self-serve locales. But some argue the automation of Canadian society, while saving time & money, will cost us in terms of human interaction. 'The consumers have more power than they ever have had in the past, & what that does is make them more demanding,' says Jamie Gruman, University of Toronto. 'If I go to the bank & the bank machine is down I get frustrated because I'm used to getting what I want, how I want, when I want. 'To sum it up, I'm spoiled now. It has made us very impatient. It's made us expect very fast, very efficient service.' Gruman believes consumers are drawn into the self-serve society without considering the impact it is having on their lifestyle. 'We've got

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James Cowen, Vice President of Sales, AQUBANC, LLC
800.350.4720, JamesCowen@aqubanc.com, www.aqubanc.com

all these things that are supposed to make our lives easier, but we just end up doing more & more. The people who are at the tellers, they're always smiling, & the people at the ATMs are frustrated & rushed.' Until the 1990s, there were few self-serve options beyond the oil-stained tarmac of the gas station. The technology, where available, was full of bugs & prone to mistakes & meltdowns, as was the untrained population that dared to use it. 'At that time the software was not nearly where it needed to be,' says Julian Bowron, Kiosk Factory, a Toronto company that has developed much of the technology that accommodates today's self-serve society. 'The key development is the Internet, which means that intelligent devices can be placed in all of these remote locations & the owner can communicate with them effectively.' His first project was the design of the Fast Lane ticket kiosks for the Famous Players movie theatre chain, which were installed in the new mega-theatres built across Canada in 1997. According to Andrew Sherbin, Famous Players Theatre, 1/3 of the company's customers now use the Fast Lane ticket machines. The privately held company does not release specific numbers, but Sherbin says the number of people who use the self-serve option throughout the year is 'greater than the population of Canada. 'I think it was just a natural progression for our business. Things were becoming automated & people were looking for that kind of service & we could offer it,. Guests appreciate the convenience.' The Famous Player Fast Lane kiosks have been one of automation's greatest success stories, but Bowron says this is as much about concepts of design as the development of technology. The most heavily used machines in the chain are at the Colossus theatre north of Toronto. They are shaped like aliens & have touch screens set into their chests. 'It violates all of the high-end German industrial design ideas - that you would want it to be made out of glass. What this shows is that people want entertainment, even in this.' But despite the success of Fast Lane, there are still a significant number of people who prefer interaction with theatre staff over plastic aliens. 'People might want to ask the box office person their opinion on a movie or get the best option from a human rather than a machine.' Sherbin cannot imagine the ticket seller ever becoming obsolete, but says the Fast Lane kiosks have antiquated one aspect of going to the movies. 'Lineups are kind of a thing of the past.' At Pearson International Airport in Toronto, lineups are still very much a thing of the present, despite Air Canada's introduction of self-check-in kiosks in 1999. 'First, our customers told us they wanted to be in control of the transaction. They said they could take money out of their bank account without having to talk to a person, why couldn't they do that with a flight. It frees up the employees to deal with customer issues that require more time. It's about giving the customer a choice.' Check-in times can be reduced by up to 80% for those who choose to use the machines, the airline claims. But like other self-serve applications, the check-in system is flawed by requirements no machine can meet. Travelers who use the machines must still wait in line to check their baggage, & many users find themselves directed to a customer representative after their passport raises a red-flag inside the machine. Bowron believes increased security concerns since 9/11, have meant a large step backward for the automation of airports. 'The changing security environment has downgraded its usefulness,' of such automatic security measures as the X-ray machine. 'That was an application that everyone thought was a done deal. But the kiosks cannot equal the effectiveness of a human in that capacity because they're not as smart & they can't detect the subtleties.' Other self-serve applications are plagued by difficulties of design or detail. The self-serve checkout line in grocery stores, is complicated by the necessity of weighing produce & other goods. Consumers can only handle a limited amount of complexity in their automated transactions, & the grocery experiment has proved too complicated for most. Although there have been no documented cases of ATM or self-checkout rage, behaviour expert Gruman believes that as demands for efficiency rise, so will tempers. 'I think it's human nature that we typically don't pay attention to these negative implications until something dire happens.' There could be a backlash, he predicts, after some of the negative effects of the do-it-yourself craze start to surface. 'Every trend in history reaches a crescendo & then backs off. I think we will eventually start noticing some negative repercussions & that's when certain organizations will jump on that opportunity - & it will be an opportunity - & reap some benefits from it.' This could lead to a 2-tier service industry, where those who can afford it will have the option to pay for the 'luxury of human interaction.' Toronto's Holt Renfrew is anticipating the backlash against the self-serve society, epitomized in the retail world by Ikea & H&M, where shoppers are presented with a maze of options & a defensive line of other shoppers. 'As society seems to be speeding up, we feel that what really needs to happen is for us to slow down,' says Barbara Atkin, Holt Renfrew. 'We need to bring our customers in to spend more time with us, not get in & get out.' Instead of just selling designer jeans & haute couture, Holts markets itself as a retail experience, an oasis from the busy mall mentality of day-to-day transactions. But Holts has had to change elements of its business in order to compete with self-serve. It has increased the presence of sales associates on the floor to accommodate a clientele who expect service now. They offer personal shoppers so customers can have quality & choice without sacrificing their time by browsing. & they must deal with the frenzied cycle of fashion trends, the desire to have a certain look at a precise moment that has been fuelled by the media & ubiquitous knock-off stores. 'Zara & H&M have quickly told the world what they're about. It's such a fast-food way of selling that there begins to be anxiety around it. If you don't get it today it'll be obsolete tomorrow.' But she believes the empowerment that has been bred by our fast-paced self-serve society will eventually lead people away from the select-and-click approach to consumerism. 'Being stressed out is no longer a status symbol. People want to spend more time on themselves & as that happens the fashion items that die an hour after you buy them won't be as appealing.' But as some industries avoid the automated, do-it-your-self approach, Bowron sees many more applications for his technological innovations. 'The new frontier as this really spreads, if you picture any situation where you have a person behind a counter doing a repetitive task, there is no point in having that person there, honestly.' His company is designing technology to help automate factory floors, allowing workers to find parts or directions they need without consulting others or leaving their work station. He is building a kiosk for a library that will allow people to sign out their own library books. Even McDonald's & Starbucks could go self-serve, simply by taking the cash register & turning it around. 'There's no reason why the customer couldn't be operating that equipment.' By narrowing the menu options & reorganizing the cash register facade, anyone could order their own Happy Meal or latte. For coffee shops plagued by morning rushes, an automated self-serve line could reduce waiting times drastically. 'By our estimates ¾ of people would settle for a narrower range of menu options in exchange for speed.' The Canadian population is especially inclined toward such automated options. According to BIS, Canada leads the world in the use of debit payments & ATMs on a per capita basis. In 1999, there were 54.3 debit transactions per Canadian compared to 27.5 in the US. 'Americans are into cash. They have 3,000 banks & 37 different transaction processing networks, where in Canada the corresponding numbers are 5 & 1. That's a big difference.' Allan Major says the survival of automated options will require not just evolving technology & available funds, but a profound cultural shift. 'It's just momentum - we're used to doing things one way & we like to have a person to hold accountable. I know it's silly, but if I get a really large cheque I go in a bank & deposit it over the counter.' He still believes the self-serve society will expand further in the coming years, not because of technology, but because people enjoy the autonomy. 'If I said, 'It's gone as far as it can go,' & we waited 20 years, I think I would look very, very naive. If anything, we're probably just seeing the tip of the iceberg.'

Electric currents boost brain power *10/26 Nature* Connecting a battery across the front of the head can boost verbal skills, says a team from the US National Institutes of Health. A current of 2 thousandths of an ampere (a fraction of that needed to power a digital watch) applied for 20 minutes is enough to produce a significant improvement. Apart from an itchy sensation around the scalp electrode, subjects in the trials reported no

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side-effects. Meenakshi Iyer of the National Institute of Neurological Disorders & Stroke in Bethesda ran the current through 103 initially nervous volunteers. 'I had to explain it in detail to the first one or 2 subjects.' But once she had convinced them that the current was harmless, Iyer says, recruitment was not a problem. The volunteers were asked to name as many words as possible beginning with a particular letter. Given around 90 seconds, most people get around 20 words. But when Iyer administered the current, her volunteers were able to name 20% more words than controls, who had the electrodes attached but no current delivered. A smaller current of one thousandth of an amp had no effect. Iyer says more work needs to be done to explain the effect, but she speculates that the current changes the electrical properties of brain cells in the prefrontal cortex, the brain region through which it passes. She believes that the cells fire off signals more easily after the current has gone by. That would make the brain area, a region involved in word generation, generally more active. Iyer's group, led by Eric Wassermann, was prompted to run the tests after considering problems facing researchers who were studying the effect of magnetic fields on the brain. Some neuroscientists hope that magnetic fields could have a therapeutic effect, perhaps by boosting activity in areas of the brain that have suffered cell loss owing to dementia. But magnetic fields can cause seizures & require bulky equipment to generate them. Iyer hopes that low electric currents will offer a safer & more portable alternative. After running further safety tests, she plans to test the effect of the current on patients with frontal temporal dementia, a brain disease that causes speech problems. 'This won't be a cure. But it could be used in addition to drugs.' The idea of using electrical current to boost brain activity dates back to experiments on animals in the 1950s. The early work showed some potential, but fell from favour because of a perceived link to electroconvulsive therapy, a controversial technique in which patients with depression are treated by having short but intense pulses of electricity applied to the brain.

NASA steals the supercomputing crown *10/27 NewScientist.com* NASA's new supercomputer, called Columbia, is now the fastest in the world. Columbia has achieved a speed of 42.7 teraflops in a standard benchmark test, say scientists from NASA, Intel & US-based Silicon Graphics Inc. A single teraflop is one million million floating-point operations - or intensive mathematical calculations - per second & is about 100 times faster than the most powerful desktop computers are capable of currently. NASA's achievement is the third claim to supercomputing superiority to be announced since 29 September 2004 as manufacturers & researchers race to hone their machines before the official update of the Top500 supercomputer list on 8 November. 'It's a little like a poker game,' says Horst Simon of the National Energy Research Scientific Computing Center at Lawrence Berkeley National Lab in California, US. 'Everyone is gradually showing some cards, but the actual winner won't be announced until November.' There are at least three supercomputers vying for first place. IBM's Blue Gene/L stole the crown from the then defending champion - the NEC Earth Simulator - when it achieved 36 teraflops on the standard benchmark test on 9/29. On 10/21, NEC announced that a large array of its newly launched SX-8 computational units could more than double Blue Gene's capability if run at full capacity, though this claim is yet to be demonstrated. But Columbia - named after the ill-fated space shuttle that crashed in 2/03 - is the first computer to record more calculations per second than Blue Gene. 'This is the fastest supercomputer in the world,' says Jack Dongarra of the University of Tennessee & an overseer of the Top500 list of the fastest supercomputers. Columbia consists of 10,240 off-the-shelf Intel Itanium 2 processors. These processors are divided into 20 clusters, or nodes, of 512 processors. Within each of the 20 nodes, the processors all pool their memory, making data exchange rates between processors very fast. The nodes are strapped together with a complex network of interconnects to form a single machine the size of 3 basketball courts (1300 square metres). This is a unique design, says Columbia's William Thigpen, because until now most supercomputers have consisted of many more nodes, but with fewer processors per node. The Earth Simulator, for example, consists of 512 nodes. Passing data between nodes is more time consuming that between processors within the same node as they need only pull data from a pooled memory, explains Thigpen. It is easier to program & debug a system with fewer nodes. But whether this will give Columbia the final edge over Blue Gene remains to be seen. Horst says that the 2 are likely to run neck & neck, with both almost certainly positioned to achieve higher speeds before the conference. Dongarra points out that Columbia has, unofficially, attained a speed of 52.7 teraflops. Hamid Arabnia, University of Georgia, thinks that the emphasis on the Top500 list is misplaced. 'All these numbers are misleading,' he says. 'If you give someone enough money, they are going to build a computer that is the fastest on earth.' He says the real judge of a supercomputer should be its cost effectiveness. Thigpen argues that while Columbia costs millions of dollars, it is worth it. Since June, the supercomputer has been simulating space shuttle flights under various weather conditions, modelling the paths of hurricanes & forecasting weather based on oceanic currents. 'We are doing in just 24 hours what used to take 3 months.'