

Special Points of Interest:

- ◆ Late For Basel
- ◆ The Case Of Continual Auditing
- ◆ ACL Useful Tips
- ◆ IIAM Conference in Malaysia
- ◆ Latest Release Of ACL 8.3.3

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Late For Basel

By Asian Banks and Basel II, FitchRatings

Introduction

Basel II, that complex upgrade of capital adequacy recommendations for the world's banks, has been so slow in the rollout that CFOs and treasurers may be forgiven for forgetting it exists. But recent analyst reports indicate that the impact of Basel II will be major, and will eventually change the funding landscape for Asia's companies.

The obvious impact, and the one most often stated, will be the increased cost of capital for Asia's borrowers if their credit standing is weak. Clients of banks that adopt the more sophisticated 'internal risk-based' (IRB) approach from the Basel Committee's recommendations will feel the bite as soon as those systems are in place. "The weaker borrowers will experience higher rates, and companies with a lower credit rating may find themselves paying more for loans," says David Marshall, the chief Asia Pacific bank analyst for FitchRatings, based in Hong Kong.

Changes in the cost of capital for struggling companies is one predicted effect that seems reasonably sure. But the ultimate outcome of the changes that Basel II will impose on the global banking system is a hotly debated question. No less a personage than venerated observer William Seidman, the chairman of the US Federal Deposit Insurance Corp. in the early 1990s, believes that the new accord will lead to accelerated banking consolidation. Speaking at the Asian Banker Summit in Singapore on March 15, Seidman said: "People are already getting worried about too much concentration of financial assets in too few hands, and there is a real concern that the new standards will further this." The caution here is that the world's capital will become the province of a handful of the strongest banks that can keep the highest-quality borrowers to themselves. The reasoning behind this argument is that the more sophisticated forms of Basel II compliance – precisely those within easier grasp of deep-pocketed major banks – confers competitive advantages out of reach of smaller institutions. These advantages include individual risk-based pricing on loans and gains from efficiencies resulting from

better control of operational risk throughout the bank. If this scenario is a problem in the most developed markets for banking – the US and Europe – then it will be more so in Asia. Experts say it will be difficult for all but the most major banks operating in the region to collect the data and build the advanced systems required for the sophisticated IRB approaches that deliver the biggest payoff.

Strike One, Basel II

Like the Bretton Woods Agreement of 1944, Basel II resembles one of those economic pacts, hammered out in a rarified atmosphere, seemingly divorced from everyday business, but which exert tremendous influence over time. In fact, the accords were born and executed with everyday, practical aims in mind. The first Basel Accord in 1988 set about the task of aligning banks' capital requirements with their levels of exposure to corporate, sovereign, and institutional credit. While considered a success, the original accord came under criticism because it set the capital-adequacy ratio at 8 percent without taking into account credit mitigation support like collateral and guarantees. This crude measure of credit-risk exposure led to unintended consequences. One was that banks began securitizing high quality assets and retaining more lucrative but riskier exposures, since they can meet the 8 percent standard even with lower quality assets.

But as the accord took effect in the 1990s, methods of risk measurement and mitigation improved, becoming a further driver toward a revision of the capital adequacy recommendations. The public release of the new rules in 2001 signalled a recognition on the part of the Basel Committee that rules on bank capital adequacy should be both more flexible and more closely aligned with individual bank exposures.

The Basel Committee recommended an approach to solving this lack of parity by

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New Release Of ACL 8.3.3

A number of improvements have been made in this maintenance release of ACL, affecting both the stand-alone use of ACL Desktop and Network Editions and the interoperability with ACL Server Editions. Improvements have been made in the areas of scripting, importing data, and joining data files. Also modifications to commands and functions such as **CROSTAB**, **DIALOG**, **LOCATE RECORD**, **IMPORT DELIMITED** and **OFFSET** have improved functionality.

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suggesting three pillars of action in more or less chronological sequence. The first pillar would cover action taken to adjust minimum capital requirements in accordance with the new rules. The second would involve the regulatory buy-in to the accord. Like International Accounting Standards, the Basel II accords are recommendations that are meant to be taken up at the discretion of local regulators, with local banking conditions in mind. The third pillar involves the heightened disclosure on the part of banks that will become necessary after Basel II measures are adopted. The importance of this pillar lies in the Basel II Committee's belief that the new rules will work best if the market, via transparent disclosure, can differentiate between the risk profiles of financial institutions.

The first pillar presents banks with technical issues that will bring about changes to their lending practices. The Basel II Committee designed the recommendations to allow for a kind of market-driven compliance, under the theory that banks kind of market-driven compliance, under the theory that banks should have an incentive, rather than a requirement, to push toward the most sophisticated type of risk modeling. Therefore, banks deciding to implement Basel II can choose between sets of approaches that vary in degrees of difficulty. The standardized approach is the simplest, being similar to Basel I in many respects, but with a different way of determining capital adequacy. For corporate and securitized assets, the banks can gauge capital charges based on a broad grouping of external ratings of the asset assigned by a recognized credit rating agency.

The second approach involves internal risk-based (IRB) calculation and calls for designing and implementing a credit risk and operational risk model that meets Basel II standards. There is also an 'advanced IRB' model, which represents a higher level of refinement to this approach.

In choosing among the various approaches, banks can weigh a decision based on cost, capability, and competitive advantage. The standardized approach according to Fitch's Marshall, will probably have a neutral effect on the amount of capital a bank must hold when compared with Basel I. The various IRB models will most likely reduce the amount of capital, but not dramatically. goes beyond conservation of capital. With the capability to gauge pricing based on the so-

ause they can offer better pricing for bank products in these individual cases without regulatory interference. That means that better companies will naturally gravitate toward banks with the more advanced models. It is precisely this effect of Basel II that worries critics such as Seidman.

Is Asia Ready for Basel II?

Where do Asian banks stand in this evolution toward a more sophisticated system? No surprise – slower on the uptake than Europe or North America. One reason is that, outside of Singapore and Hong Kong, regulators have been reluctant to buy into Basel II as a requirement for local banks. In China, for example, the China Banking Regulatory Commission (CBRC) has said that it will wait until China's banks are fully compliant with Basel I before making the second stage a requirement. The lack of regulatory take-up in the region is one reason that overall, the region's banks are behind other parts of the world in implementation.

KPMG, the accounting firm, surveyed banking clients around the world last year on the status of their Basel II implementations. It found that 16 percent of Asian financial institutions surveyed had no Basel II implementation plans, the highest for any region. Asian banks were also slowest in their preparations. "The survey revealed that banks in the Asia Pacific region tend to be at an earlier stage in the process for credit risk," according to the authors, "with a higher percentage of banks in the team building and project planning stage."

Another roadblock for the Asian financial institutions is that, even if many desire to opt for the more sophisticated, IRB approach, they lack the information required to build the databases for the credit risk models. Banks need enough historical information (three years initially and eventually five years) to gauge a client's statistical probability of default, or PD. Collecting enough material to produce reliable PDs is particularly bad in Asia, where it's common for banks to have long-standing relationships with companies not known for their transparency. "The problem all over the world," says Marshall, "is that the banks haven't collected enough data – or what they have isn't in a form that can be extracted. Only a few banks in the US and Europe had been doing this for 20 years." Sam Suen, regional sales director, Greater China, of EDS, the US outsourcing company

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which includes Basel II-related tech solutions for banks in its product line, also sees cost as a stumbling block for smaller Asian institutions. "Data is the most critical concern," Suen says. "The banks will need to redesign the data collection strategy, and this will cost them money."

Suen also argues that regulatory pressure to build solutions is lax for smaller institutions, even in Hong Kong, which is well regarded as a bastion of Basel II awareness. "The Hong Kong Monetary Authority is pushing the three largest banks to adopt the more advanced IRB approach," says Suen, "but since smaller banks don't have the infrastructure or full data sets, they can't really be pushed." He predicts that the cost of funds for these smaller banks will eventually rise, because they will lack the ability to demonstrate detailed information on exposures in their portfolios. These higher costs will be passed on to clients.

Moreover, the problem of collecting workable data for the risk models will not go away anytime soon. Looking at the style of banking in Hong Kong, where some of the biggest borrowers are private companies with a minority shareholding component, the lack of public disclosure will prove an obstacle to banks that count them as clients. According to Peter Poon, EDS sales director for Hong Kong: "Credit assessment, particularly among small- to medium-sized enterprises, is still based on the relationship between the loan officer and the client – not a very systematic tool." He adds: "That's why many second-tier banks are trying to avoid full-blown cost of compliance, the buying of the tools, and the restructuring needed, until there's an absolute regulatory requirement to do so."

Even some banks that are working closely with regulators in Hong Kong are reserving themselves a little wiggle room from full compliance.

An officer of a mid-sized bank in Hong Kong, currently in charge of putting an IRB program in place, admits as much. "Once we adopt the probability of default approach and it becomes systematic," he says of his bank's developing program, "we may still consider other factors for credit approvals – an intangible factor of client relationship." So the brave new world of Basel II may still look like business-as-usual for Asia's banks.

Basel II

The Hurdles for Asia – and Its Regulators

While arguing that Basel II will 'raise the bar' for bank risk measurement in Asia, FitchRatings analysts say implementation of the accords will present three key challenges to the region's banks.

Asian banks may not really be equipped to accurately assess their own risks. Sophisticated risk measurement systems are new to most of Asia and their reliability has not yet been demonstrated. Asian regulators may not have the resources, especially the necessary number of staff with sufficient technical expertise, to conduct effective monitoring of Basel II compliance. Banks may not be sufficiently prudent and regulators sufficiently firm when validating banks' models. According to Fitch: "It has to be recognised that during tough times for their banks many regulators in Asia have resorted to the use of 'regulatory forbearance', generally taking the form of allowing weak banks to classify and thereby defer the recognition of losses—such regulatory forbearance would undermine the effectiveness of Basel II." With these caveats in mind, Fitch advises regulators to weigh carefully adoption of Pillar I of the accords, particularly given the resource commitments of implementing and monitoring the risk measurement approaches of individual banks.



On A Lighter Side



Question :

How many tax auditor does it take to find a \$1.00 mistakes?

Answer:

Three. One to find the mistakes and two to discuss the significance of it.

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The Case for Continual Auditing

By David Coderre, Author of 'CAATTs and Other BEASTs' & 'Fraud Detection: A Revealing Look at Fraud'

The notion of continuous monitoring was first introduced to auditors in the 1980s. Its basic premise was using ongoing automated data analysis to draw conclusions concerning risk in a subject area. The results would help to determine where an audit was required and to focus the audit on the areas of greatest risk. Unfortunately, auditors were not ready; they lacked the tools and necessary data access or were unwilling to embrace this idea at the time. Now, however, there is a proliferation of information systems in the business environment, giving auditors and managers easier access to more relevant information.

Further, the rapid pace of business requires prompt identification of, and response to issues. Sarbanes-Oxley Section 409 requires timely disclosure to the public of material changes to financial conditions. This regulation, plus changes in auditing standards and the evolution of audit software, has combined to persuade auditors to adopt new approaches to assessing information. Increasingly, the marketplace demands independent assurance that control procedures are effective and that the information produced for decision-making is both relevant and reliable. Often the need for high quality information for decision-making in the highly volatile business environment is greater than the need for reliable historical cost-based financial statements. If a company can't adjust to changing market, technological and financial conditions, it won't be in business for long. The environment, technology and audit standard are driving auditors to make more effective use of information and data analysis and encouraging auditors to adopt continuous monitoring. This has produced a shift in the focus of internal audit activities.

However, many auditors are still resistant to or confused about continuous monitoring, so its acceptance and implementation is far from widespread. One of the main reasons for the reluctance is the term 'monitoring,' which is seen as a management function. Another point of confusion is the application of the term "continuous monitoring" to both instantaneous auditing (a review of transactions in real time) and to the notion of ongoing or frequent, but not real time audits.

Real-time analysis is still beyond the capabilities of many audit organizations. Therefore, proponents of continuous monitoring now define it as the identification of system or processes that are experiencing higher-than-normal levels of risk such as where the values

of the performance attributes fall outside the acceptable range. In this context, continuous monitoring measures specific attributes that, if certain parameters are met, will trigger auditor-initiated actions. The nature of these actions will vary depending on the risk identified. They may range from sending an email to the manager to a rapid response audit of the area. For example, the financial system may notify the auditors of any journal vouchers over \$250,000. The auditor's response will depend on whether or not this is seen as a single item of concern or as a systemic problem.

Continual auditing versus continuous monitoring

To help overcome some of the problems and confusion associated with the term "continuous monitoring," auditors ought to consider the notion of "continual auditing," a similar, but more powerful approach to identifying and assessing risk. Both continuous monitoring and continual auditing have their genesis in data analysis. But continual auditing goes beyond simple data analysis and includes techniques from statistical analysis, trend analysis, digital analysis and neural networks. Typically, data analysis and, to a large extent continual monitoring, is only used to identify transactions that fail a specified cut-off or threshold value, whereas continual auditing helps auditors to identify and assess risk, as well as establish dynamic thresholds that respond to changes in the organisation. Further, while data analysis contributes to an individual audit by identifying or supporting specific audit objectives, continual auditing also supports risk identification and assessment for the entire audit universe - supporting the development of the annual audit plan - in addition to contributing to the objectives of a specific audit.

Continual auditing is a unifying structure or framework that brings risk assessment, audit planning, digital analysis and the other audit tools and techniques together. It supports the macro-audit issues, such as using risk to prepare the annual audit plan; and micro-audit issues, such as developing the objectives and criteria for an individual audit.

The main difference between the macro- and micro-audit levels is the amount of detail that is considered. The annual audit plan requires high-level information to establish the risk factors, prioritise risks and set the initial timing and objectives for the planned set of audits.

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Individual audits start with the risks identified in the annual audit plan but use digital analysis and other techniques (interviews, control self assessment, walk-throughs, questionnaires, etc), to further define the main areas of risk and focus the risk assessment and subsequent audit activities. There also are a number of differences between continual auditing and continuous monitoring. The main differences are:

- Continual auditing recognises and acknowledges that monitoring is a management function - not an internal audit function.
- The frequency of continual auditing is based on the assessed level of risk and is not continuous unless the level of risk justifies a real-time analysis of transactions.
- Continual auditing uses not only the comparison of both individual and summarised transactions against cut-off or threshold values but also the comparison of an entity against other entities (e.g. one operational unit to all other operational units) and a time-wise comparison of the entity against itself (e.g. the entity's performance over the last five years compared to its current performance).

Continual auditing can be used by audit to determine if risk is at a level where audit intervention is required. However, it is not a form of monitoring that would determine if operations are functioning properly (which is a management issue) Continual auditing allows auditors to quickly identify instances that are outside the allowable range (known thresholds), and those that can only be seen.

Measuring variability

Continual auditing seeks to measure not only transactions against a cut-off but the totality of the transactions. This allows one to test the consistency of a process by measuring the variability of each dimension. For example, measuring the variability in the number of defects is a method for testing the consistency of a production line. The more variability in the number of defects, the more concerns about the proper functioning of the production line. This premise can just as easily be applied to the measurement of the integrity of a financial system by measuring the variability (e.g. number and dollar value) of the adjusting entries over time and in comparison to other similar entities. The concept of variability, over time and against other audit entities, is the key differentiating factor in continual auditing versus continuous monitoring or embedded audit modules.

Auditors need to be considering questions like: How many journal vouchers were processed

this year? What percentage was above the threshold amount? How does this compare to last year and to other audit entities? Can we tighten the criteria and lower the cut-off value? Answering these questions will allow auditors to develop a dynamic set of thresholds that provide a better idea of the direction the organization is headed, rather than simply identifying a transaction that failed to meet a static cut-off value.

Supporting audit follow-up

Finally, continual auditing supports automation of audit recommendation follow-up. With continual auditing, auditors can track specific data-driven measures of performance to determine whether management has implemented the agreed-upon recommendations and whether they are having the desired effect. Tracking performance over time is critical to ensuring the organization is being successful in meeting established goals and in identifying additional actions to be taken. It is an integral element of performance measurement and continued improvement in operations. Audit, through continual auditing, can assess the quality of performance over time.

Continual auditing applied to accounts payable - an example

While continual auditing can be used in any area of the organisation, a simple example involving accounts payable illustrates the differences and strength of this approach. The example assumes that there are numerous separate accounts payable (A/P) processing centers, of different sizes, performing similar functions.

The example will be used to discuss four main objectives:

- 1) Identification and assessment of risk related to the accounts payable processes.
- 2) Identification of trends related to performance and efficiency.
- 3) The identification of specific anomalies and potential frauds.
- 4) The tracking of the implementation of audit recommendations and their affect on accounts payable operations.

In each case, the analysis would consider trends over time and compare the accounts payable section under review to other accounts payable sections within the organization. Benchmarking against external A/P operations adds another dimension to the examination.

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David Coderre says:-

“The identification and assessment of risk through the application of analysis and other audit techniques including, but not limited to:-

The identification of anomalies;

- The analysis of patterns within the digits of numeric fields (*digital analysis*)
- Comparisons against cut-off or threshold values;
- Comparisons across years; and
- Comparisons of one audit entity to another.”

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“ACL 105 provides me with a good introduction and comprehensive fundamentals to get me started with ACL while ACL 201 showed me how to apply ACL in a step by step fashion with focus on problem solving. The varied case studies presented opportunities for me to put all that I had learnt in ACL 105 into action.

Having attended the 2 courses with a month intend in between, I have now the confidence to apply my learning into good use within my company. The tool training & support provided by Prodigy add value to my current function”

Mr Daniel Yeo
Aviva Ltd

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Risk Identification and Assessment

A wide variety of data-driven and non-data-driven risk factors should be included in the initial risk assessment. A comprehensive evaluation of business performance looks at cost, quality and time-based performance measures. Cost-based measures cover the financial side of performance, such as the labor cost for accounts payable. Quality-based measures assess how well an organisation's products or services meet customer needs, such as the average number of errors per invoice. Time-based measures focus on efficiency of the process, such as the average number of days to pay an invoice. It is also possible to determine, for each A/P section, the types of transactions and dollar amounts for each. For example, look at number of correcting journal entries and manually produced checks. These are indicators of additional workload. The analysis also will tell you how many different types of transactions are being processed. Generally speaking, there is greater complexity in operations when more transaction types are processed.

You can also examine organisation structure: reporting relationships, number and classification/level of staff, length of time in job, retention rates and training received - this data should be available from the HR system. The combination of this type of information with the transaction types and volumes can help to identify areas of risk, such as understaffing or lack of trained staff to handle complex transaction types.

Trends in performance and efficiency

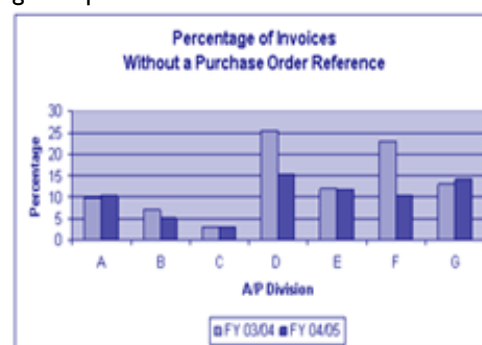
When considering A/P, trending data will easily identify performance and efficiency concerns. For example, for each A/P operation, continual auditing can determine:

- Number and classification/level of accounts payable staff
- Number of invoice processed by each user at either end of the spectrum. (Too many or too few can increase risk.)
- Average dollar cost to process an invoice.
- Average number of days to process a payment.
- Percentage of invoices paid late; percentage paid early. (Particularly telling if early payment discounts are not taken)
- Percentage of adjusting entries.
- Percentage of recurring payments or Electronic Funds Transfer (EFT) payments.
- Percentage of manual checks.

- Percentage of invoices that do not reference a purchase order.
- Percentage of invoices that are less than \$500. (Purchase card could be used for more cost efficiency and less cost).

Efficiency measures allow you to compare one audit area to another.

Analysng trends can help to identify not only problems but also areas where improvements have been made. The graph below shows that Division D still has the highest percentage of invoices without a purchase order reference, but they have made considerable improvements over the previous year, whereas Division G's percentage has gone up.



Identification of anomalies or potential fraud

Within A/P, possible anomalies and measure of potential fraud include:

- The identification of duplicate payments (should include a comparison to previous years to see if operations are improving).
- Invoices processed against purchase
- Orders that were created after the invoice date (back-dated purchase orders).
- Number of invoices going to suspense accounts.
- Identification of all functions performed by each user to identify incompatibility or lack of segregation of duties.
- Identification of vendors that were created by, and only used by, a single accounts payable clerk.
- Identification of instances where the entry user is the same as the user who approves payment.
- Identification of instances where the payee is the entry or approving user.
- Identification of duplicates in the vendor table or of vendors with names such as C.A.S.H., Mr., Mrs. or vendor with no contact information, phone numbers or any other key information.

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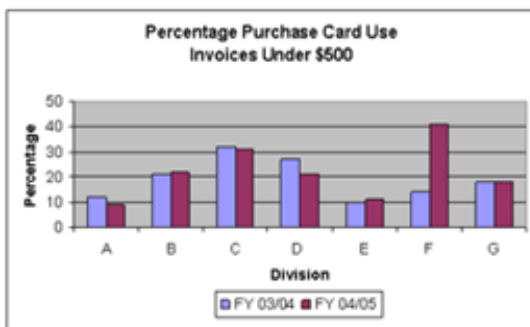
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Tracking of recommendations

The final objective of continual auditing is the tracking of recommendations. The aim is to determine whether management has implemented the recommendations and whether the recommendations are having the desired effect. Possible measures include:

- Evidence of increased use of purchase cards for low dollar transactions (reduction in percentage of invoices less than \$500 and increase in percentage of purchase card payments less than \$500).
- Reduction of duplicates in the supplier master table.
- Decrease in the number and dollar value of duplicate invoices.
- Improvements in the days-to-pay figures reduction in late payment charges, and more opportunities to take early payment discounts).
- Improved operations - lower cost per invoice, more use of EFT payments.

The graph below shows how continual auditing can be used to determine whether A/P operations in each division have successfully implemented the recommendation calling for purchase cards to be used for low dollar transactions.



Preparing for continual auditing

Continual auditing starts with the selection of audit projects, continues into the conduct and reporting phase and culminates with the ongoing monitoring and follow-up activities. All stages of the process should be risk-based and, to the maximum extent possible, data-driven. The basic implementation strategy must include a consideration of the risk, an assessment of the baseline assurance, the design of the predictive indicators, monitoring for changing conditions and follow-up as required.

More detailed steps include:

Audit plan preparation and planning phase

- Identification of categories/areas of risk.
- Identification of sources of the data to support risk assessment.
- Understanding of the data and an assessment of its reliability.
- Assessment of the levels of risk.
- Prioritisation of risk.
- Selection of audit projects.

Audit conduct phase

- Integration of audit procedures and technology.
- Definition of relevant variables (predictors) to be measured.
- Definition of the criteria for these variables to be used to predict outcomes.
- Definition of the desired traits for the variables (normal range, anomalies).
- Measurement of the variables (predictors).
- Assessment of the predicted level of risk
- Follow-up audit activity as required.
- Revision to variables that will be measured, criteria and the traits.

Conclusion

The implementation of continual auditing will place certain demands on internal auditors. In particular, the audit organization will have to develop and maintain the technical competencies necessary to access and manipulate the data in multiple information systems.

If the auditors are not already using data analysis techniques to support audit projects, the audit group will have to purchase analysis tools and develop and maintain analysis techniques. The implementation of continual auditing will also require the adoption of the concept by all persons within the audit organisation.

Monitoring and review is the final component of an effective control framework (COSO's five elements of a control). It is a key ingredient in an organisation's continuous improvement process. An effective monitoring and review environment uses both periodic reviews and those undertaken by internal and external audit, as well as built-in review mechanisms and internal review measures.

Continual auditing will support and strengthen the monitoring and review environment in an organisation. Finally, it will help focus the audit effort but will not obviate management's responsibilities to perform a monitoring function.

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"ACL has been a main tool for our data analysis. Since we used to analyse a huge amount of data, from various computer platforms, ACL is a great help. ACL can read from a lot of data types and the harddisk is the limit. Couple of years ago I did a data analysis on 200M of data, using Pentium 2 machine. I was so amaze it could do all the sorting and joining. Well, it did take around 10 to 15 minutes to process, but it works and you really need a lot of disk space to perform that...."

Mr Johaidi
Telekom Malaysia

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ACL Useful Tips

Under a few circumstances, you might need to calculate the duration taken to complete a process, given the start and end time. For example, duration for resource access, given the log in and log out time; How long has a machine been running, knowing the start and end operation time, etc.

JAN PROCESS LOG

Date	Start_Time	End_Time
1/1/2005	23:59	04:54
2/1/2005	23:57	04:42
3/1/2005	17:58	23:44
4/1/2005	23:58	04:31
5/1/2005	23:57	05:16
6/1/2005	23:57	05:28
7/1/2005	23:56	04:58
8/1/2005	23:55	04:50
9/1/2005	18:04	23:28
10/1/2005	23:58	04:42

A script that breaks the start and end time into the common measurement unit, then subtracts the start unit from the end unit, will return the difference of the two. Last step is to convert the difference (in common measurement unit) into the way the user wants to see.



PRODIGY NEWS & EVENTS

Relocation of Prodigy Data Solution's Singapore Office

Prodigy Data Solution is pleased to announce the relocation of our Singapore office. Our new office is located @ No. 10 Shenton Way #11-02 MAS Building Singapore 079117. Our telephone and fax numbers remain the same.

Since the expansion of our offices to Indonesia & Malaysia, we are now known as **The Prodigy Group** and our URL and email address had been changed to:-

URL: www.prodigy-group.com

Email: info@prodigy-group.com

See Us at 2005 East Malaysia Conference

Hosted by The Institute of Internal Auditors Malaysia
29-30 August 2005, Renaissance Kuala Lumpur Hotel

The Prodigy Group is proud to be the co-sponsor for this inaugural Internal Auditing conference titled "Governance Excellence: Staying Ahead, Staying Focused".

Surendran Nair Sankaran, our Director of Prodigy's Malaysia office will be one of the prominent speakers for this conference, presenting "Get The Most Out Of Software Solutions To Enhance Effectiveness". Experienced in leading numerous consultation assignments and conducted various ACL training for both private & government companies, he is also known for his in-depth knowledge in ACL which earned him favourable comments from the participant. For more information on the event, you may write to info@prodigy-group.com

```
OPEN JAN_PROCESS_LOG
```

```
DELETE ALL = OK
```

Group

```
Start_H = VALUE(SUBST(Start_Time,1,2),0)
```

```
Start_M = VALUE(SUBST(Start_Time,4,2),0)
```

```
End_H = VALUE(SUBSTR(End_Time,1, 2),0)
```

```
End_M = VALUE(SUBSTR(End_Time,4, 2),0)
```

If process ends on the next day then:-

Group if Start H > End H

```
MIN_DIFF = (24*60) - (Start_H*60 + Start_M)
            + (End_H*60 + End_M)
```

OR ELSE

```
MIN_DIFF = (60*End_H + End_M -
            (60*Start_H + Start_M))
```

```
END
```

```
Hour = STRING(INT(MIN_DIFF/60.00),2)
```

```
Min = STRING(MOD(MIN_DIFF,60),2)
```

```
Duration = ALLTRIM(HOUR) + ":" + ALLTRIM(MIN)
```

Extract Date Start_Time End_Time

Duration to "report"

So now you get to know the start and end operation time....

ACL Open Enrolment Training Schedule

VENUE	COURSE NAME	AUG	SEP	OCT	
Singapore	ACL 105 - Foundation of ACL - Concepts & Practice	11 – 13 25 – 27	01 – 03 20 – 22	04 – 06 25 - 27	
	ACL 201- Data Analysis Techniques - Workshop	16 – 17 30 - 31	06 – 07 23 – 24	07 - 08 28 - 29	
	ACL 301 - Advanced ACL Concepts & Techniques: Functions	18	08	18	
	ACL 302 - Advanced ACL Concepts & Techniques: Scripts	18 – 19	09 - 10	19 - 20	
	ACL 303 - Advanced ACL Concepts & Techniques: Functions & Scripts	18 – 20	08 - 10	18 - 20	
	Fraud Detection Techniques Using ACL	23 – 24	15 - 16	21 - 22	
	ACL Version 8 – Data Access	6	13	11	
	ACL Version 8 - Refresher	5	14	12	
	Malaysia	ACL 105 - Foundation of ACL - Concepts & Practice	11 – 13 23 – 25	01 – 03 20 – 22	04 – 06 25 - 27
		ACL 201- Data Analysis Techniques - Workshop	16 – 17	06 – 07 23 – 24	07 - 08 28 - 29
ACL 301 - Advanced ACL Concepts & Techniques: Functions		18	08	18	
ACL 302 - Advanced ACL Concepts & Techniques: Scripts		02 – 03	09 - 10	19 - 20	
ACL 303 - Advanced ACL Concepts & Techniques: Functions & Scripts		18 – 20	08 - 10	18 - 20	
Fraud Detection Techniques Using ACL		26 – 27	15 - 16	21 - 22	
ACL Version 8 – Data Access		6	13	11	
ACL Version 8 - Refresher		5	14	12	
Indonesia		ACL 105 - Foundation of ACL - Concepts & Practice	02 – 04	01 – 03	04 – 06
		ACL 201- Data Analysis Techniques - Workshop	05 – 06	06 – 07	07 - 08
	ACL 301 - Advanced ACL Concepts & Techniques: Functions	09	08	18	
	ACL 302 - Advanced ACL Concepts & Techniques: Scripts	10 - 11	09 - 10	19 - 20	
	ACL 303 - Advanced ACL Concepts & Techniques: Functions & Scripts	09 – 11	08 - 10	18 - 20	
	Fraud Detection Techniques Using ACL	12 - 13	15 - 16	21 - 22	
	ACL Version 8 – Data Access	16	17	11	
	ACL Version 8 - Refresher	18	14	12	
	Philippines	ACL 105 - Foundation of ACL - Concepts & Practice	-	01 - 03	10 - 12
		ACL 201- Data Analysis Techniques - Workshop	-	06 - 07	18 - 19
ACL 301 - Advanced ACL Concepts & Techniques: Functions		-	08	22	
ACL 302 - Advanced ACL Concepts & Techniques: Scripts		-	09 - 10	23 - 24	
ACL 303 - Advanced ACL Concepts & Techniques: Functions & Scripts		-	08 - 10	22 - 24	
Fraud Detection Techniques Using ACL		-	16 - 17	25 - 26	
ACL Version 8 – Data Access		-	13	15	
ACL Version 8 - Refresher		-	14	16	
Thailand		ACL 105 - Foundation of ACL - Concepts & Practice	-	01 - 03	-
		ACL 201- Data Analysis Techniques - Workshop	-	06 - 07	-
	ACL 301 - Advanced ACL Concepts & Techniques: Functions	-	08	-	
	ACL 302 - Advanced ACL Concepts & Techniques: Scripts	-	09 - 10	-	
	ACL 303 - Advanced ACL Concepts & Techniques: Functions & Scripts	-	08 - 10	-	
	Fraud Detection Techniques Using ACL	-	16 - 17	-	
	ACL Version 8 – Data Access	-	13	-	
	ACL Version 8 - Refresher	-	14	-	

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- ◆ More Useful ACL Tips
- ◆ Risk Management Compliance
- ◆ SOX
- ◆ Quality Assurance

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