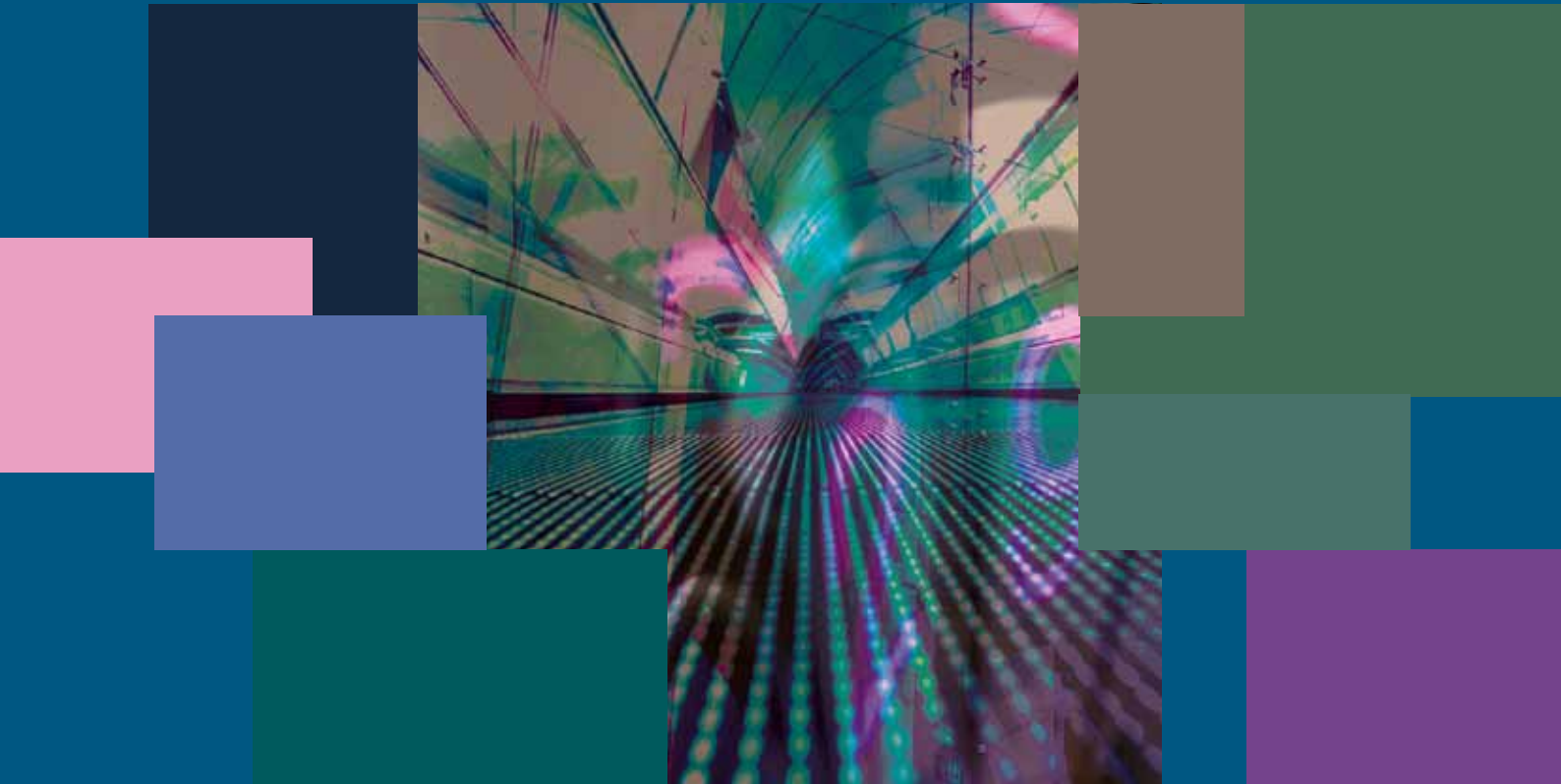


# Guidelines

For IT Management



January 2011 – Number 340

## Software Asset and Licence Management Best Practice



Since 1966, the National Computing Centre (NCC) has been helping organisations to manage IT processes and systems development and equip people with the skills to ensure business effectiveness. We do this through a unique membership service that brings together professionals and experts to identify, create and disseminate knowledge and experience across the spectrum of IT issues.



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#### Flexera Software

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The company's European headquarters is based in Maidenhead, UK. For more information, visit: [www.flexerasoftware.com](http://www.flexerasoftware.com).

## 1. Executive Summary

Software Asset Management (SAM) is a set of processes that enables organisations to gain control of their software estate from both a licence compliance and financial perspective. Next generation SAM must include licence management and optimisation to allow organisations to achieve the highest possible return on their software investment at the lowest cost. In many companies, SAM represents one of the few remaining ways that substantial IT savings can be realised. McKinsey and Sand-Hill Group estimates that 30% or more of IT budgets are consumed by software licence and maintenance costs. By adopting 'best practice' SAM processes, organisations can maximise software utilisation, reduce the risk of vendor non-compliance (audits, fees, penalties), to reduce overall IT costs by as much as 10% and software costs by over 20% per year.

SAM requires a combination of people, processes and technology to gain optimum efficiency – from both a risk mitigation and cost management perspective. Key to a successful SAM strategy is having the right people and resources in place to ensure that assets are managed and roles and responsibilities are clearly defined so that daily tasks are performed seamlessly.

Also critical is having the technology in place to manage the IT estate effectively – both to discover what hardware and software is installed and to have the ability to fully optimise the IT estate.

Good processes are then essential to bring people and technology together to form a best practice strategy that allows organisations to achieve 'best practice'.

These Guidelines will discuss some of the key challenges and pitfalls of SAM and examine some of the processes that can be adopted to ensure an effective SAM strategy is implemented throughout the organisation.

## 2. What is Software Asset Management and Licence Management Best Practice?

Software Asset Management (SAM) is generally understood as the process of maintaining software compliance or avoiding over spend on software licences. However, SAM includes much more. It is a set of best practice processes that touch a great number of functions within an organisation. SAM process is a means of integrating optimised licence management with existing IT systems such as Configuration Management/Inventory tools, Enterprise Resource Planning, Procurement, Human Resource and Service Catalogue/Helpdesk to allow the collection of the vast amount of data needed to effectively manage a software estate.

### 2.1 Cost Savings – The number one driver for an optimised SAM programme

“Companies can expect to achieve 30% savings in the first year and between 5-10% annually with an effective Software Asset Management (SAM) programme.” – Gartner

This statement highlights the very real cost benefits to taking a 'best practice' approach to SAM. But, it's not just from a cost saving perspective that optimised SAM makes sense. It resonates as a common-sense approach across the entire organisation that also increases operational efficiency and reduces risk.

*‘Companies can expect to achieve 30% savings in the first year and between 5-10% annually with an effective Software Asset Management (SAM) programme’*

| SAM Cost benefit analysis                                                                                                                  |                                                                                                                                   |                           |                              |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------|
| <b>Industry Facts:</b>                                                                                                                     |                                                                                                                                   |                           |                              |
| i)                                                                                                                                         | A good License management tool will lower ownership cost of help desk by between \$25 (GBP12) and \$140 (GBP 70) per PC (Gartner) |                           |                              |
| ii)                                                                                                                                        | It costs around 20% of the purchase price of a PC to maintain SW per year. (Gartner)                                              |                           |                              |
| iii)                                                                                                                                       | 41% of companies waste money by overlicensing. The average company will be overlicensed by 5-10% (FAST)                           |                           |                              |
| iv)                                                                                                                                        | Around 7% of total Software spend is spent on unused Applications (Gartner)                                                       |                           |                              |
| v)                                                                                                                                         | Many companies continue to pay support for Software of retired PC and maintenance on leased PC's that have been returned. (FAST)  |                           |                              |
| <b>Example : Average company of 2,000 PCs</b>                                                                                              |                                                                                                                                   |                           |                              |
| Company cars around 1% of employee base i.e 20 vehicles avg                                                                                | £20,000 per vehicle                                                                                                               | Total expenditure of Cars | £400,00                      |
| Avg amount spent on of software over 3 year life                                                                                           | £1,000 per PC/3a                                                                                                                  | Total expenditure on PC's | £2,000,00                    |
| <b>YET: The Average company will have much tighter controls over it's company car policy than it's IT processes!!!</b>                     |                                                                                                                                   |                           |                              |
| <b>For Same Company: (based on above industry norms)</b>                                                                                   |                                                                                                                                   |                           |                              |
| Saving from implementing a License management tool alone (avg £50 per PC) (gained from savings in staffing and time supporting IT Estate ) | =                                                                                                                                 | £                         | 30,000                       |
| Reharvesting unused Software = 7% of 2m                                                                                                    | =                                                                                                                                 | £                         | 140,000 in Unused SW         |
| If 5-10% of this software is over-licensed = Average of 7.5% of 2m                                                                         | =                                                                                                                                 | £                         | 150,000 in over-licensing    |
| If 1% of PC's were retired (1% of 2m), but still had maintenance paid @ 20%                                                                | =                                                                                                                                 | £                         | 400,000 in Maintenance costs |
| License optimization (Application of Product use Rights) 15%                                                                               | =                                                                                                                                 | £                         | 300,000 in Optimization      |
| <b>TOTAL SAVING</b>                                                                                                                        |                                                                                                                                   | <b>£</b>                  | <b>1,020,000 per annum *</b> |

Figure 1

Figure 1 shows some common industry facts taken from various sources, projecting savings on software for an IT estate of an average of 2,000 PCs.

Without taking into account the number of servers and PC's, it's clear to see that savings of £1m over a three year period are potentially achievable by implementing an effective SAM programme.

Organisations know they have challenges in their ability to fully control all aspects of their IT estate. However, the real problem is often knowing how and where to adopt improvements in control to achieve the biggest benefit.

## 2.2 Getting started on a best practice-based approach to SAM

Taking a best practice approach, first and foremost, requires an understanding of the extent of the challenge. Common questions may be:

- Do we really know how many PCs and servers we have and where they are located?
- Do we know what software is deployed?
- Are we counting our entire virtual or thin client infrastructure? Do we understand what we are purchasing?
- Do we have adequate records of what we are purchasing?
- Do we know what we are 'allowed' to use?

Adopting some practical methods for addressing and improving asset control is required, yet companies often mistakenly try to tackle all aspects at once. An organisation should assess the key areas of risk. This could be based around specific software vendors with whom the expenditure is high or there is a strong likelihood of a software audit. Alternatively, the decision could be based around certain contract renewals. Any of these areas are a good place to start. Reducing the problem into manageable chunks offers a much greater chance of success.

Taking on a best practice methodology at the right level in the organisation is also a key factor. If there is no adequate executive level backing, then adopting SAM can become a largely ineffective strategy. Because SAM is a matrix of processes, taking an holistic look at all key business areas and identifying practical ways to adopt change can only be successful if those responsible for identifying gaps are given the support and backing at a senior level. Ultimately, SAM requires change to be facilitated across a broad set of business functions within the organisation.

## 2.3 How to use these Guidelines

The following section will look at assessing current process maturity levels and identifying the process gaps within to ascertain where the strengths and weaknesses lie. Once the current maturity level of SAM is identified, an organisation can begin designing and adopting a methodology for improvement. The subsequent sections will cover SAM best practices, licence optimisation and mitigating licence liability risk areas.

## 3. Analysing Current SAM Processes and Maturity Levels

To implement a programme that manages, controls and protects the organisation's software assets, it is necessary to understand the maturity and effectiveness of existing SAM processes.

By reviewing the policies and processes already in place, an organisation will be able to identify areas of failure or missing resource. This inturn will facilitate corrective action to reduce the risks associated with the management of IT assets and adoption of methodologies for improvement.

*'An organisation should assess the key areas of risk. This could be based around specific software vendors with whom the expenditure is high or there is a strong likelihood of a software audit'*

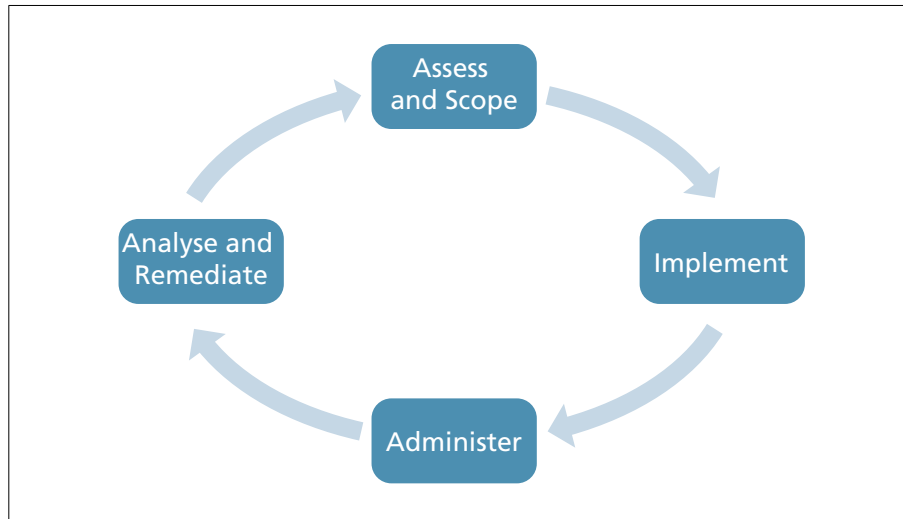


Figure 2

Figure 2 illustrates the following process:

- Identify where strengths and weaknesses exist within current processes
- Perform a 'gap analysis' between current processes and best practice
- Decide a strategy for improvement that will offer the best possible ROI
- Continue to make regular assessments and analyses of processes

Identifying where strengths and weaknesses lie within the organisation requires maturity assesment modelling. An organisation should devise a set of key questions around various aspects of its IT processes and best pratices to measure their maturity.

Key stakeholders should then be asked to answer these questions independently of each other. The collated results can then provide an overall perspective of where areas of weakness or risk may lie within the organisation.

Typical questions include:

- Is there a written SAM policy?
- Do we have a senior executive sponsor with the organisation?
- Is there a policy for authorised software?
- Is there a central licence repository?
- Are unused licences re-harvested?
- Are staff able to install their own software onto PCs?
- Do we have a tool for managing and optimising software licences?
- Do we have an authorised vendor/supplier list?
- Do we purchase software centrally?
- When a computer is retired, are the associated licences re-harvested?

Once the answers have been collated, then a series of weighted measurements should be used to determine where key issues lie.

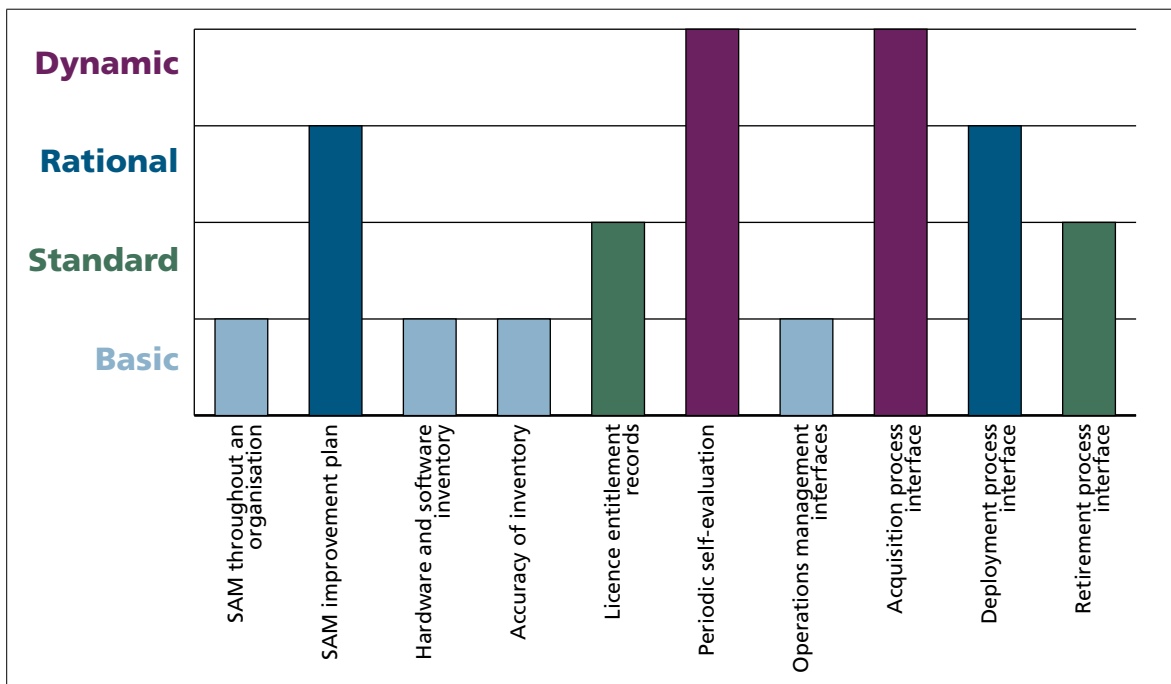


Figure 3

Figure 3 shows an assessment outcome where the levels of maturity have been translated into a structure based around the standard SAM maturity model. For each key area, the organisation is rated from 'basic' to 'dynamic'.

Once the key areas of weakness have been identified, a gap analysis methodology should be adopted. A gap analysis will highlight where the organisation is and where it needs to be. The ISO 19770-1 standard offers an approach to measuring such process gaps.

### 3.1 Background on ISO 19770-1

ISO 19770-1 provides companies with a measurement to establish performance against an agreed standard of corporate governance, lifecycle management and effective IT service delivery. The ISO standard defines SAM as:

"Processes and resources to help firms oversee and control their various assets and inventory throughout their life cycle."

The ISO 19770-1 standard incorporates 27 key components of SAM that define processes and data technologies that are key to an organisation's SAM programme. These components are grouped into three key areas:

#### 1. Organisational Management Processes for SAM

This encompasses broad management processes such as defining policies and procedures or defining a corporate governance initiative and the SAM project lifecycle.

#### 2. Core SAM Processes

These are key processes for SAM such as software asset inventory and identification or interfaces to other systems like financial systems for key data needed to assess software entitlements and compliance

#### 3. Primary Process Interfaces for SAM

This defines key interfaces to other systems that are not as critical to key SAM management

Using the ISO standard to measure against process gaps offers a framework for an organisation to easily identify where they are and where they need to be. It also helps to identify the challenges faced when adopting a best practice approach. Common challenges include:

- What mechanism/tools do we need?
- How much will it cost?
- How do we educate users?
- What products/applications are installed?
- What licences do we currently hold?
- How do we support/maintain a compliant position?



An organisation must assess the challenges and define strategies to implement best practice. The next section looks at some common strategies for the realistic adoption of a best practice approach to SAM.

#### 4. SAM Best Practice Policy and Process

SAM best practice principles that companies should adopt include:

- Manage hardware assets effectively throughout the full asset life-cycle
- Define software application requirements (i.e. which applications, versions and editions should be purchased)
- Centralise purchasing
- Collect hardware and software inventory (including for virtual environments)
- Reconcile installations against purchased licences
- Manage software maintenance
- Apply licence entitlements to minimise licence consumption (Section 5)

These are all necessary and important steps to adopting best practice-based SAM. This section looks into each one of these principles and defines key challenges and some practical approaches to improvement.

##### a. Manage the hardware asset life-cycle

An important starting point when adopting a SAM best practice strategy is to establish control of hardware assets throughout their life-cycle. Understanding what hardware is deployed is essential to understanding what software is installed.

However, managing the IT asset life-cycle can be highly challenging. Large organisations don't always have visibility of the hardware deployed and so adopting an inventory tool can be an eye opener in terms of discovering previously unknown devices. However, many tools don't manage virtual machines or non-Windows machines very effectively, and may not fully support licence metrics. Only a next generation SAM tool can truly provide a complete view of the software estate.

The use of such a tool requires integration between the hardware and software asset management functions. In addition, these software asset management and licence optimisation tools must integrate with other IT systems such as procurement, Enterprise Resource Planning and Human Resources. In fact, IT Infrastructure library (ITIL), a standard that outlines how IT infrastructure should be managed effectively, lists integration with other IT systems and processes as being key to the success of any SAM programme.

Understanding hardware inventory is a useful indication of where a 'software liability' may exist. But aligning this against purchase quantity is not by any means a one-to-one relationship for a number of reasons such as different licence metrics and product use rights, to name a few. Nonetheless, having an accurate grasp on IT assets is crucial. This includes assets that are yet to be installed along with those that are no longer active on the estate. Some common gaps in managing the hardware asset lifecycle that pose some level of risk to an organisation include:

- **Purchased hardware not yet active on a network**  
Hardware that has been purchased, but not yet used can represent a significant, but largely under-managed capital value.
- **Hardware currently in storage**  
Hardware assets in storage with software installed is still legally considered liable. This means that the software on an unused hardware device must be counted as part of any software vendor audit even though the device itself is not active. Software must be wiped as the hardware asset goes into storage in order to reduce compliance risk and enable the companies to re-harvest the licences for use elsewhere.
- **Hardware that has been retired**  
Many companies are not vigilant about tracking retired or disposed hardware assets. Although the computer is no longer active, its status is frequently not updated. Worse still, installed software on retired computers is often not tracked or re-harvested. This represents a potential cost risk to the organisation as new licences may be purchased unnecessarily. Original Equipment Manufacturer software, which comes pre-installed on new machines, is typically not eligible for re-harvesting, but many other applications are candidates, and leveraging the ability to re-harvest facilitates significant cost savings.

*'Understanding hardware inventory is a useful indication of where a 'software liability' may exist. But aligning this against purchase quantity is not by any means a one-to-one relationship for a number of reasons such as different licence metrics and product use rights, to name a few'*

Best practice requires that organisations accurately account for hardware assets at the end of their life-cycle. Organisations should consider Waste Electrical and Electronic Equipment Regulations (WEEE) for disposal processes.

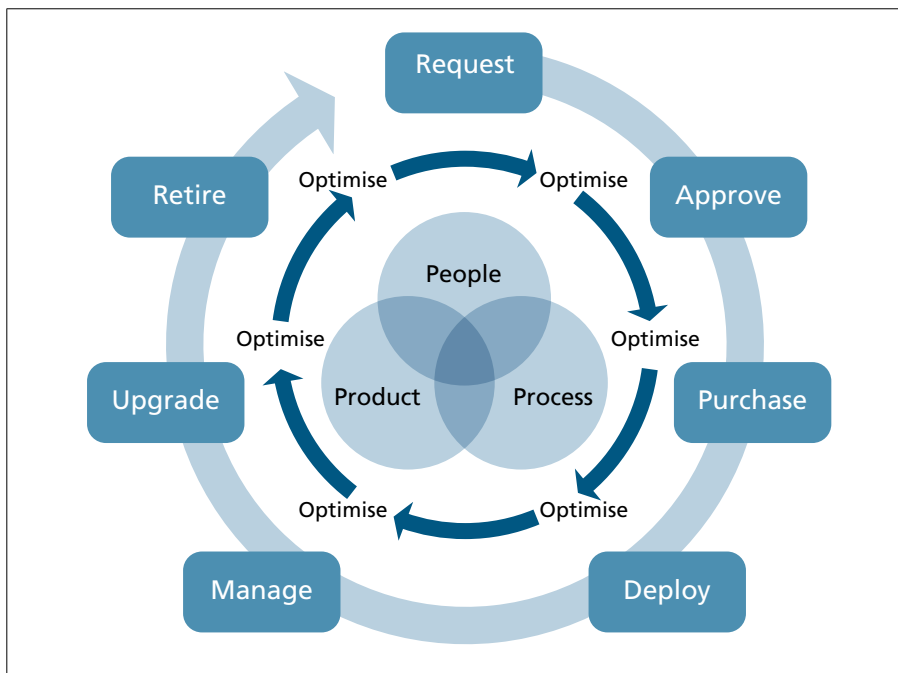


Figure 4

#### **b. Centralise purchase**

Many large organisations purchase software ineffectively. They often try to streamline their purchasing processes, but changing the existing purchasing system is difficult, especially taking into account the audit trails and corporate governance that enterprises have to adhere to. Furthermore, while much attention is given to what software is being purchased, not as much attention is given to how software is purchased.

Take the example used back in Figure 1. Although the expenditure on company cars is a fraction of software spend, no employee is allowed to buy a car on a company credit card or outside the company's lease agreement. Yet these same controls are often not applied to the purchasing of software within an organisation.

Even if an organisation is purchasing the correct licence 'quantities' to maintain licence compliancy and meet its software needs, it may not be doing it as cost effectively as it could be done. Commonly, individual business units make their own software purchases. In the worst scenario, individual employees make their own software purchases or simply download software unchecked. However, by centralising software procurement, organisations can consolidate vendors and maximise volume discounts, potentially resulting in cost savings.

#### **c. Collect hardware and software inventory**

Before purchasing new licences, an organisation should check if it really needs to buy the extra copy. If the answer is 'no' then it would save the cost of the software plus the cost of raising the purchase order. If the answer is 'yes', the question should be how to purchase that copy most cost effectively.

SAM technology can quickly provide accurate answers to these pertinent questions. SAM tools provide a view across business units and facilitate sharing of licences, based on vendor licence agreements.

For companies that don't have SAM tools capable of delivering licence optimisation, buying the software may be cheaper than trying to trawl through complex spreadsheets to consolidate all purchases and software installs to ascertain if a spare copy exists.

#### **d. Hardware and software inventory collection requirements**

Many organisations have multiple sources of inventory data from systems such as Microsoft System Center Configuration Manager (SCCM) and other tools. Next generation SAM tools collect the hardware and software inventory data and/or import it from third party tools.

*'...while much attention is given to what software is being purchased, not as much attention is given to how software is purchased...'*

**e. Application recognition**

Once the full set of hardware and software inventory has been collected, the data must be processed to extract the list of installed software titles, versions and editions on each computer including desktops, laptops and servers. This requires an Application Recognition Library or some other mechanism to scrub the raw data, which consists of file evidence (.exe's and .ini's), installer evidence (add/remove programmes) and registry data.

**f. Volume purchase agreement considerations**

Note that some volume purchasing agreements allow a specified time period between installing software and making the residual purchase. For example, under a Microsoft Select Agreement, the user is allowed 30 days between installing software from a set of master disks to making a residual purchase. This gives 'Company X' at least a few days to establish whether the software actually needs to be purchased. If extra/unused copies are located, the cost can be avoided.

Although 30 days wouldn't give a large multi-national organisation enough time to manage this from a spreadsheet, having good technology that is able to easily identify spare or unused software is key to good process. In addition, identifying where under-used licences can be re-assigned can result in big savings if done efficiently. On the other hand, if an organisation must purchase the new licence, a good best practice is to implement a monthly cut-off date by which all purchases must be submitted to a supplier.

In summary, organisations must make sure they actually need to buy software before they make the purchase. And if a purchase must be made, good process ensures large batch ordering where possible.

**g. Deployment and versioning control**

Often, when an organisation adopts a new inventory tool, it is surprised by the number of different versions of key software that it has installed. An organisation faces additional costs when it uses different versions of the same software. Firstly, implementing multiple software versions puts additional strain on the IT support team. The team not only needs to keep users functioning with the old copy, it they must also keep its knowledge current with the latest release.

Licence compliance issues add further costs and complexity to this scenario. Is the software covered by maintenance and does this give the right to upgrade to a newer version? Or have these rights expired? Is someone tracking those rights? If not, will a new copy be purchased when there may be no need for it?

Ideally, organisations should use a SAM tool that has a mechanism for tracking entitlements such as upgrade rights (refer to Section 5 for more information). This right comes as part of a purchasing agreement if an organisation is paying a maintenance fee. Because of the high cost of migrating to new versions, it can be several years before an organisation takes advantage of upgrade rights. Having the ability to understand what version has been purchased and what can be installed, both today and in the future, is critical as it can save large sums of money by eliminating the need to re-purchase software.

From a best practice perspective – maintaining a level of versioning control in software deployment contributes directly to cost management and reduces the time and effort involved in establishing and maintaining compliance.

**h. Reconcile installations against purchases**

Knowing what software is installed on all the systems is only the first step in an optimised SAM process. Next is purchasing data. Best practice is to utilise Stock Keeping Unit (SKU) numbers on software purchase orders and employ a SAM tool that provides the functionality to automatically match inventory data with purchase orders. This process generates a 'purchased versus installed' licence reconciliation. Product use rights must then be applied to give a fully optimised licence position (see 'Licence optimisation' section on the next page).

**i. Manage software maintenance**

The cost of adding maintenance to a software purchase can be significant, which sometimes cannot be avoided. While some software vendors insist on maintenance being mandatory, others offer it as an option. Maintenance offers access to a number of key support services, along with the right to upgrade to the newest version of the software. It's important to note that paying maintenance/support doesn't always provide the right to upgrade, but is frequently offered as a major benefit to purchasing maintenance.

Purchasing maintenance that offers upgrade rights, is like taking out an insurance policy, and can be expensive. So how should organisations decide whether paying for software maintenance makes sense?

The answer is that it's a gamble, but it can be an educated one based on questions such as how often does the organisation upgrade software?; if an organisation has versioning controls in place, is it able to take advantage of an upgrade?; if PCs are only refreshed every five to six years and a new version is released every two to three, based on the cost of maintenance, would it be more cost effective to re-purchase software every six years?

The timing of a software purchase is also a factor. For example, if software was purchased two years ago and a new version is released just before the maintenance expires, the organisation can upgrade to the latest version. So, is it cost effective to renew maintenance knowing that it's unlikely that a new version will be released for another few years?

Again, there is no hard and fast rule – but carrying out due diligence around these variables can result in savings of 20-30% on purchasing maintenance.

#### ***j. Track application usage to reduce ongoing licence and maintenance costs***

For some software, an organisation may opt to turn on usage tracking (metering) to gain insight into whether the application is actually being used. This should be done optimally before a licence true-up is due to happen. Unused software should be removed from those devices and the organisations should use this usage data to renegotiate ongoing maintenance fees.

SAM tools are available that specifically track usage of software that use the Concurrent Licencing, also known as Floating Licence model. This licence model is common for technical applications in the electronic design automation (EDA), geographic information systems (GIS), exploration & production (E&P) and product lifecycle management (PLM) industries. These tools help optimise the use of software, reduce denial of service and decrease ongoing costs.

#### ***k. Re-harvest unused licences***

Unused or under-used software in one part of a large organisation can potentially be re-harvested and allocated to another group that needs that software. This helps defer new licence purchases.

The discussion on upgrade rights leads to the larger subject of licence entitlements such as product use rights and optimised licence management. As we have seen in this section, SAM touches many more business areas than straight-forward software licence compliance. The challenges of licence compliance and Enterprise Licence Optimisation are integral to mature best practice.

## **5. Establishing and Managing an Optimised Licence Position**

### **5.1 Licence optimisation**

Enterprise Licence Optimisation is a means of analysing software purchased, minimising licence consumption and ensuring the most efficient allocation of software across the organisation.

Even if an organisation is under-licensed, optimisation strategies can be implemented to ensure that installs are optimised before new purchases are made.

Optimisation takes into account software 'usage' and 'product use rights' – i.e. rights pertaining to on what hardware software can be installed, how it can be used and whether the software can be freely upgraded or downgraded between versions. Essentially, these rights define how software licences can be consumed. It is not possible to determine an optimised software vendor licence position without knowing 'what software is used' and 'what kind of consumption is allowed'. Product use rights and usage give the organisation benefits that are frequently untapped. If properly applied, they can significantly increase IT savings.

### **5.2 Licence types**

A large number of licence types exist, with new types coming into play as technology evolves. These include device, user, named user, processor-based, site and more.

The licence type can dramatically alter the consumption of a licence. For example, a user licence will count consumption differently than a device or processor licence. For example, a device licence is generally consumed for every machine on which an application is installed, whereas a user licence may allow installs of an application on more than one machine as long as those machines belong only to the licensee in question. A processor licence is consumed according to the number of processors

a machine has – meaning that multiple licences are usually needed per computer. Hence, in order to avoid over-buying licences, an organisation needs to understand and optimise software usage based on specific licence agreements and licence types.

### 5.3 Common product use rights

Common product use rights include upgrade, downgrade, second use, virtual machine use and multiple versions rights. All licences grant a right of use in some form. Typically, an End User Licence Agreement comes with each licence. A 'Volume Agreement' can also offer additional product use rights.

Upgrade rights allow an organisation to use the latest version of the software as soon as it becomes available, at no additional cost. Downgrade rights allow an organisation to purchase a newer version of the software, but install an older version. Many organisations for example, have purchased Office 2010, but have installed and run Office 2007 on their desktop computers to manage version control. Unless downgrade rights are tracked, it is difficult for an organisation to reconcile the Office 2010 purchases against the installed inventory. This can result in what appears to be an over-purchase of Office 2010 licences and a licence breach for Office 2007.

The multiple versions right allows an organisation to run more than one version of the software on the same computer. Application of this right means that an organisation will not be liable for multiple versions of the same product installed on the same machine. If a SAM tool does not support this right, then an organisation's licence consumption would potentially be over-counted.

Virtual environment use rights allow an application or operating system to be installed and used on a physical machine, as well as on one or more virtual machines. This increases the licence management challenges. Not only does an organisation have to know what applications are installed on each virtual machine, it also needs to know which underlying hardware in the host server, depending on the licence type in effect. Furthermore, different versions and editions of software have different virtual use rights, making the licence management more difficult.

Second use rights allow a user to have one copy of the software on their desktop and a second copy on their laptop or home computer. Once again, the "counting and comparing" method of licence reconciliation would lead an organisation to believe that it has many more copies of the software installed than licences purchased when users have both a desktop and laptop computer with the same application installed.

It's easy to see that product use rights can significantly impact an organisation's licence position. Companies must take full advantage of their benefits to avoid over-spending on licences and associated maintenance. Enterprise Licence Optimisation tools automate the process of managing licence entitlements for key software. These tools help minimise licence consumption and help determine the optimum licence type required to reduce licence and maintenance costs.

### 5.4 Microsoft Developer Network and 'development' environments

Developer licences are often based on a named user metric that allows the installation and use of a broad range of software on multiple machines in a development environment belonging to a single named user.

The number of products the named user is entitled to install varies according to the licence itself. In the case of Microsoft Developer Network subscriptions, the range of products that a developer may use generally runs into literally hundreds of titles and versions. During the course of the subscription, a developer can also benefit from the release of any software updates or new versions; and may install these new products in the 'development' environment – making Microsoft Developer Network a very valuable entitlement.

However, a fact often overlooked and one that further contributes to its value, is that some subscriptions also allow one copy of certain 'Office' products (such as Office Ultimate, Visio, Project) to be used on the subscriber's production PC. The value of these may amount to several hundred pounds per user. For an organisation with say 200 developers, this could amount to substantial savings in not requiring standard licences for this group of production PCs.

In complex IT environments, mapping licence entitlements can be an extremely involved process. As a result, many companies exclude the developers from being counted and concentrate only on counting the liability of production computers. There are two problems with this approach. Firstly, excluding a whole tranche of PCs from the IT estate is not good SAM best practice; and unless development hardware is also fully identified and excluded, it may result in over-counting. Secondly,

*It's easy to see that product use rights can significantly impact an organisation's licence position. Companies must take full advantage of their benefits to avoid over-spending on licences and associated maintenance'*

excluding developer PCs does not account for the entitlement to install a copy of the aforementioned Office products on production PCs.

By excluding developer machines as part of licence liability, an organisation will not be able to leverage all the entitlements allowed, resulting in over-buying.

Mapping complex software licencing mechanisms and leveraging complex developer use rights is a difficult task. A licence management tool helps with this complexity to uncover additional savings.

### Top 10 Licencing Mistakes

- 1 **Making *ad hoc* purchases** – Lack of controls over purchases is common, even for when made under a Volume Agreement. Try having ‘licence amnesty’ where everyone can send the Proof of Licence for boxed copies so evidence that they were bought can be documented. Adopt controls.
- 2 **Not tracking installation and use** – By tracking installations of software and its usage, organisations may be able to substantially reduce ongoing maintenance payments
- 3 **No central repository** – A central repository holds proof of software licences, making them more easily accessible for review. It also allows organisations to quickly comply with vendor audit requests, saving time and money.
- 4 **Not tracking renewal dates** – Failing to keep track of software licence agreements and renewal dates makes organisations vulnerable to lapses in maintenance or loss of use rights, which can prove costly.
- 5 **No communication between departments** – IT operations must work with procurement to ensure that software is installed and used in accordance with the respective licence agreements to avoid compliance issues.
- 6 **Not purchasing maintenance at the right time** – The right time to purchase maintenance is when organisations are looking to upgrade. If organisations buy maintenance before a release is announced, the price will be significantly lower and they will become automatically eligible for that product upgrade.
- 7 **Not ascertaining strategic requirements** – Ordering licences without determining what the organisation truly requires over the longer term could be an expensive mistake. Check if the product is needed before buying. Think
- 8 **Assuming licencing rules don’t change** – Licencing rules change frequently and failure to stay on top of these changes can result in being out of compliance.
- 9 **Not applying product use rights** – Product use rights define how software licences can be consumed. Accurately applying product use rights can drastically reduce licence consumption and hence reduce the need to buy more licences.
- 10 **Not automating Enterprise Licence Optimisation** – An optimised licence environment cannot be achieved without Enterprise Licence Optimisation solutions, also known as next generation SAM tools, which enable organisations to collect all the necessary data and apply licence entitlement rules to generate the necessary reports to effectively manage software licences.

## 6. Mitigate Operational and Business Risk

Maintaining software licence compliance is as important as cost savings. This section discusses the broader requirement for organisations to be audit-ready and to meet the obligation of corporate governance laws.

### 6.1 Software audits

The risk of software audits presents a real threat to organisations. The resulting fine or licence ‘true-up’ resulting from an audit is generally an unbudgeted cost. Investing in better management of software purchase or adopting better systems and processes appears to be a large cost and so sometimes organisations are willing to take the risk of a software publisher audit. However, the investment is potentially only a fraction of the many millions of pounds a software audit may cost.

When an audit takes place, the whole software estate is frozen, so there is no ability to quickly uninstall software that’s not being used or swiftly purchase required licences. All software is audited at ‘steady-state’ and any breaches found – i.e. where the quantity of software purchased does not cover the quantity of software installed – must be ‘trued-up’. These requisite licences are often charged at full retail price and not the usual discount rate a company may usually benefit from.

Audits can be highly disruptive to an organisation. Below are some key areas to focus on when defending against an audit:

**Inventory and asset recognition**

Collect and analyse inventory for all computers to accurately list all the installed products. Sometimes the tools the auditors use may not be as accurate in determining exactly what's installed, so having good internal systems where full inventory can be determined will provide a much better grounds for negotiation.

When determining installations, all versions and editions of the different products should also be included. For example, if there are three versions of Adobe Acrobat installed, then the inventory analysis must accurately report all of these versions.

In addition, an organisation must accurately determine the versions and editions of all suites installed versus respective component products. This has significant cost implications.

**Licence management**

Understand what volume licence agreements are in place and what entitlements those agreements offer. The product use rights for each product purchased generally differs from product to product and version to version. For example, Adobe Acrobat Pro 7.0, 8.0 and 9.0 may all be installed on the same computer and it will only consume one licence. However, this is not the case for the older versions of Adobe Acrobat, where each installation consumes a licence. Hence, the importance of accurately reckoning installations and applying use rights correctly.

'Freeware' may come in to play too. This includes software that may not be purchased and is free to use, but only within certain 'terms and conditions'. If the software publisher has freeware such as 'players' and 'readers', ensure that these are identified and not mistaken for their purchasable counterparts.

Automating the inventory collection, asset recognition and licence management process is the only failsafe option for organisations. A SAM tool with a comprehensive Application Recognition Library and built-in support for product use rights is a must. Such a tool not only ensures enterprise-wide compliance, but also helps optimise licence consumption and even reduce spend on software.

**6.2 Corporate governance**

Large global organisations have many corporate governance rules concerning the management of the company, how assets and financial reports are collated and published and also how businesses value their worth.

Ostensibly, there may seem to be little link between managing IT assets and government compliance regulations. However, IT is now a key aspect of most businesses. In fact, IT spend relates to around 20% of all spend in an organisation. Organisations should look closely at the corporate governance regulations of the jurisdictions in which they are regulated. Companies that have a good handle on their IT management will be able to report more effectively and accurately on the significant value of their assets.

Looking at Sarbanes-Oxley (SOX) by way of example to understand how these types of regulations intersect with SAM, some key provisions and explanations as to why they also implicate SAM are highlighted below. Best practices include:

**a. Establishing controls for disclosure of information (including material assets such as IT) (Section 302)****b. Managing and assessing the effectiveness of these controls (Section 302)**

To satisfy this requirement, an organisation should adopt adequate control to facilitate disclosure of information and be effective in managing such controls. Having mature processes in place to control the lifecycle and value of hardware and software assets, will allow the organisation to help meet the requirements of SOX 302.

**c. Audit requirement (Section 401)****d. Disclosure requirements (Section 401)**

When it comes to auditing and disclosure of information, if a company does not know which assets it owns – especially high value IT equipment, and then it is not able accurately disclose their value to meet these guidelines.

**e. Internal control requirement (Section 404)**

Management teams must enact effective internal asset controls. Individuals can themselves become liable for prosecution in organisations that are found NOT to have adequate and documented controls in place. SAM can assist in implementing such control.

*'...there may seem to be little link between managing IT assets and government compliance regulations. However, IT is now a key aspect of most businesses'*

Organisations large and small audit their finances regularly as the law requires. Very few companies regularly audit their IT estate. This is because a full audit is costly. By adopting a 'best practice' approach, an organisation can incorporate processes that allow it to achieve a high degree of optimisation and achieve continuous compliance across the IT estate.

### Case study

**Corporate Profile:** Rentokil Initial is one of the largest business services companies in the world, operating in the major economies of Europe, North America, Asia Pacific and Africa.

**Challenge:** Due to its strong growth, partially through a large number of acquisitions, Rentokil Initial required better control over software assets to reduce licence compliance risk and manage expenditures.

Rentokil Initial needed to ensure tight IT SAM to help manage software compliance and control expenditure. The company was also keen to ensure that it was compliant with the likes of FAST (having achieved Bronze level accreditation) and ITIL.

The company implemented an Enterprise Licence Optimisation solution. Martyn Howe, Director of IT Services at Rentokil Initial explained, "Once the implementation was complete, we found we were significantly over licenced. We discovered that local procurement had resulted in employees re-purchasing equipment such as laptops, and at the same time purchasing new software even though there was no need to do so. Our over subscription in the UK alone represents a six figure sum and we have introduced a freeze on UK licence purchasing until the over subscription has been consumed."

The licence optimisation solution allows Rentokil Initial to combine asset inventory, software usage, contract terms, purchase order data, and licence compliance. SAM is a key component to successful IT asset management, and once implemented, it provides quantifiable business value.

Howe concluded, "Now that an effective SAM policy is in place, the risk of non-compliance has been reduced – the process is smoother and decisions are easier to make. Reporting allows for definitive information, with no guesswork. We now have the ability to manage all of our software assets, which is critical for the good management of our enterprise from a strategic point of view."

## 7. The Future of SAM Best Practice

### 7.1 ISO 19770-2 and -3

As previously highlighted, the ISO19770-1 standard assists organisations in performing a 'gap' analysis and adopting a framework for best practice SAM. The ISO19770 standard has recently developed further. The 'dash 2' standard is not yet ratified, but has been completed and the 'dash 3' standard is in the pipeline.

ISO 19770-2 covers 'software tagging' and the ability to identify what is installed from a 'tag' effectively attached to the installation. This tag provides seven key pieces of data about the software installation including product name, version and edition and the purchasing condition (i.e. Volume/Retail purchase). This tagging is designed to allow easy identification of software without complex analysis of 'file evidence' (such as .exe's or .ini's.), or 'add/remove' programme information, which not all software incorporates.

The goal of the dash 2 standard is to make the process of identifying software more transparent, and thus make it easier for organisations to maintain compliance. However to date, only a small number of software publishers have shown willingness to adopt this standard. Adobe and Symantec are the two publishers that are trail blazing the standard, but are facing challenges in normalising the tags and adopting them across all products.

Another challenge for 19770-2 is development in the way software is purchased and used. 'Computing in the cloud' and usage-based software are becoming increasingly common. But the absence of localised software installs presents challenges for tagging.



Tagging also does not automate the ability to manage compliance and it does not offer the ability to establish a licence position based on product use rights – although ‘entitlement’ is the subject of the dash 3 standard, it is yet to be fully defined. Tagging is not a tool for managing compliance and optimisation, but it is a facilitator that could undoubtedly have benefits in removing some of the ambiguity in licencing.

## 7.2 Virtualisation technologies

Server virtualisation has broken the bonds of the legacy datacenter IT architecture in which a single application and a single operating system run on each server. Server virtualisation allows multiple software instances of a computing platform to run concurrently on one physical machine. These virtual machines are capable of running an operating system and a set of applications. Each virtual machine may run a different operating system – Windows, Linux, UNIX, etc., or different versions of the same operating system, depending on the needs of the software applications.

There are several common server licence models that originated in the physical datacenter and add licencing complexity in virtual server environments. These include physical server based licences, processor (CPU or core)-based licences and processor value unit (PVU) licences. In all of these cases, licences are tied in some way to the underlying physical hardware such as the server itself, the processor type, number of processors and/or the number of cores. This can be problematic from a licence compliance standpoint because the physical hardware details may be hidden from the virtual environment by the server virtualisation technology (e.g. Microsoft’s Hyper-V, VMware’s vSphere, and Citrix’s XenServer).

When considering dynamic virtualisation, organisations should look out for mobility restrictions. Some software licences place limits on the frequency of application/operating system transfers from one server to another, thereby compounding the risk of compliance drift. With automatic load balancing for example, it’s easy to violate this mobility rule and drift out of licence compliance. Even if there are no mobility restrictions, simply moving a virtual machine to another server may require a different licence if the new server has a different number or type of processors and cores than the original server.

Given the current state of affairs, short of wholesale changes to vendor licence models, adopting a next generation SAM solution is the only way to ensure licence compliance and minimise software costs in virtual environments. Such solutions provide leverage to negotiate the most economical licencing model with software publishers and make software purchases suitable for virtualised environments.

## 7.3 Computing in the cloud

Computing in the cloud is a current trend, but this type of technology has been around for a while, and is defined by where software is accessed and used via a web-based interface. Vendors like Salesforce have been offering their product via this ‘software as a service’ (SaaS) method for several years. But with the growth of cloud based desktop applications such as ‘Google Apps’ competing with traditionally installed office products, computing in the cloud is changing the way software is used and licenced as metrics move from being largely device based to ‘per user’ and ‘per usage’ based licencing models.

Thin client technology such as Citrix or Terminal Server has always presented challenges to managing software. Tracking an actual install while measuring multiple people accessing that software remotely is difficult to automate, largely because there is no evidence of that software on local machines. Adopting best practice requires that these licences are managed and a good licence management system is able to do this. However, it also involves complex and tight management and controls.

Computing in the cloud takes the issue one step further. Managing which user may need a licence based on remote access poses an interesting challenge. Licences that the user does not purchase from the software publisher, and which the user only pays for what he uses, presents a new problem in terms of compliance and licence management. Although it becomes difficult for a company to be out of compliance with ‘per usage’ licences, there is still the need to understand how to manage what is being used and what the associated costs are. Computing in the cloud presents a new generation of process and SAM best practices to define.

*‘Given the current state of affairs, short of wholesale changes to vendor licence models, adopting a next generation SAM solution is the only way to ensure licence compliance and minimise software costs in virtual environments’*

## 8. Summary

Enterprise Licence Optimisation and SAM best practice require a major cultural shift within organisations to take control of processes so that a more active approach to SAM can be undertaken. Organisations that do so, better harness the power of this crucial business asset.

Adopting SAM should not be taken lightly – the change process is complex, it requires genuine buy-in at a senior executive level. Also, the change process may only happen over many months or even years.

The change process should be split into manageable chunks. As with all other large scale corporate projects, good planning and clear direction is required. Here is an overview of what those change processes look like:

1. Carry out a gap analysis and identify process strengths and weaknesses – where is the organisation now and what does it want to achieve.
2. Define ‘business outcomes’ – what needs to be achieved at each ‘key’ stage. This will assist a top-down approach that will help avoid deviation from the goals.
3. Identify the key risk areas and where the biggest initial return of investment (this may not be financial, but may also be risk or time related) may be gained.
4. Amend existing processes or develop new processes that that will allow tighter controls to be enforced.
5. Adopt a system that offers the ability to fully manage IT assets, supports the hardware and software lifecycle, and will allow the integration of purchasing and contract data as well as supports accurate licence management.
6. Define roles and responsibilities for ongoing management of processes. Determine what periodic tasks are key to the ongoing management of the new structure.
7. Adopt a means of managing software compliance and licencing – looking at ‘high value/high risk’ software publishers first to ensure more efficient purchasing and licence management. A good system allows optimisation of licences and supports the ability to map licence metrics, software usage and product use rights.
8. Take a cyclical approach to ‘best practice’ – adopt, manage and remediate.

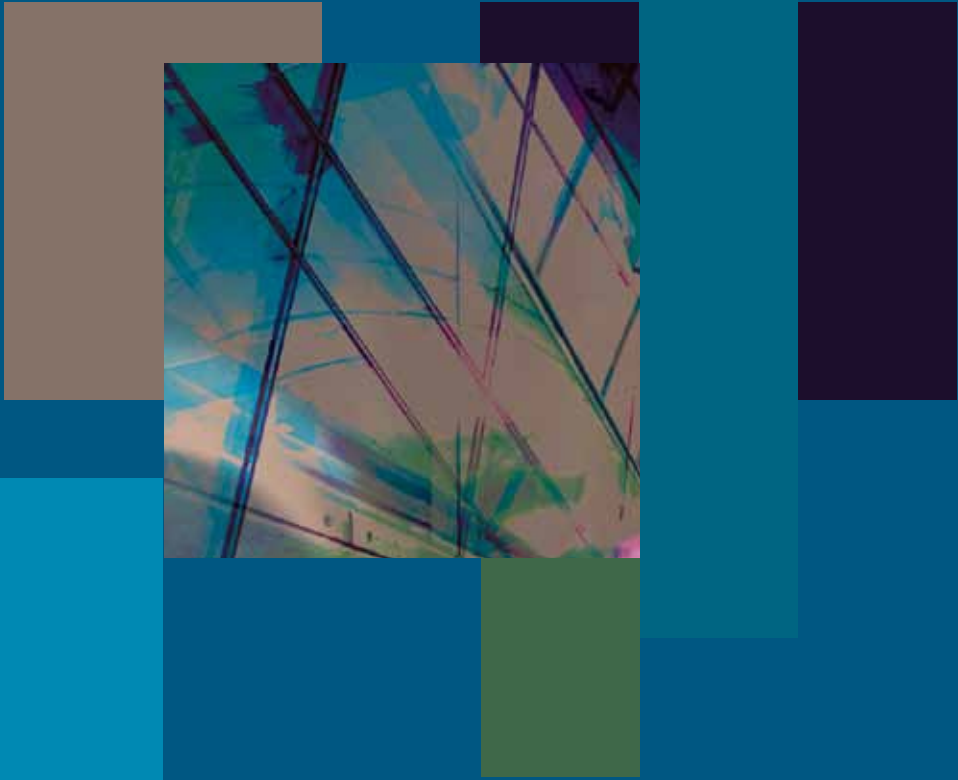
Adoption of these processes will not happen overnight, but many can be achieved surprisingly quickly. The benefits are palpable; organisations with good processes in place can make better financial decisions and are usually able to benefit from significant, ongoing cost savings and efficiency gains.

According to the InformationWeek Analytics Outlook 2010 survey, demand is on the rise for new IT projects to help automate and improve business processes. Some 51% of respondents reported that IT demand is expected to be higher this year than in 2010.



#### **The Author**

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