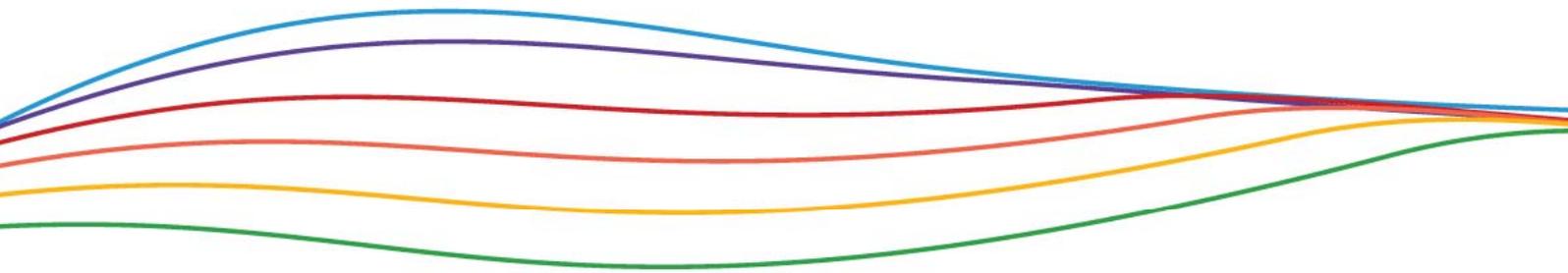


# Developing an asset management system for schools and academies

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Version 1.5 - September 2013





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## Overview

This document aims to outline the cost savings, simplified administration, and improved efficiency your establishment can gain from building an up-to-date and accurate inventory or asset register, and how you can go about doing this.

Financial regulation and other statutory requirements now make accurate and up-to-date asset and equipment inventories a key management function. Whilst academies certainly need to adopt a more stringent financial management approach, state schools are not immune due to the introduction in 2011 of the DFE Schools Financial Value Standard (SFVS) requirements. Particularly relevant requirements include:

- Academies must account fully for assets with capital values typically between £500 and £1000, and these items must be audited yearly as part of financial returns.
- The SFVS requires governors to question school managers specifically about disaster recovery plans. This includes making sure that full asset/equipment inventories are maintained, and that insurance cover is adequate.
- The Waste Electrical and Electronic Equipment (WEEE) regulations create a need to maintain an accurate equipment list, and to provide documentary evidence of correct disposal procedures.
- Health and Safety regulations require routine testing of portable electronic equipment, and for the results to be documented fully.

It is probably fair to say that the traditional method advocated by many local authorities has been to maintain these records as spreadsheets. Such an approach, whilst very simple in principle, does mean that drilling down through the data to extract management information is a much more complex and time-consuming process in practice. Furthermore they are difficult and time-consuming to maintain accurately, and vulnerable to loss or error.

## Why computerise?

In many cases, asset and equipment lists already exist in some form, perhaps as a series of spreadsheets or in some form of database. Pulling everything into a single system presents major advantages in management and control, providing a single point from which managers can:

- monitor and track assets.
- manage and model costs.
- manage maintenance and leases.
- manage your vendors and contacts.
- enter and update data from a single point.
- gain near-instant access to relevant data.

If you choose the right asset management system, much of the work involved in recording IT assets can be carried out automatically. However, the asset management system needs to be flexible, as ICT assets are only a small part of the equation. The range of assets within an establishment can be wide, from washing machines, cookers, and microwares in food technology, to lathes in Design and Technology, and microscopes in Science. An asset management system has to have the flexibility to record such a wide range of equipment types.

## Getting started

The average school or academy has several thousand assets or pieces of equipment that are candidates for inclusion in an asset register. There may be a temptation to dive straight in, but in our experience the best approach is to take a step back, look at the wider picture, think carefully before acting, and consider the following questions:

- Is it a priority for your establishment to create a computerised asset register?
- Are you driven primarily by the need of your financial management team to create an asset register for accounting/forecasting purposes?
- Is the priority to build an equipment register for insurance/disaster planning scenarios?
- Is the priority simply to computerise existing asset information held as spreadsheets?

How you answer these questions will determine what kind of system you really need to deliver.

We would also advise that you plan a gradual phased introduction. In this way you will keep the process manageable, and be able to review, evaluate, and adapt it as you move forward.

### **Asset management policy**

One of the first tasks is to define an asset management policy and gain approval and support from the Senior Management Team and governors. The policy document will need to set out the requirements and responsibilities of managing and maintaining the asset register. It will spell out the financial rules that will be applied, defining the monetary value of items that need to be in the register, and the depreciation values applied to various asset categories, such as buildings, computers, plant, and so on. In addition, it should also define those asset categories that are seen as attractive and valuable, and rules relating to the disposal of assets, including the sale of items.

The policy must address the statutory requirements laid out by the EFA and other associated bodies such as the Charity Commission on financial controls appropriate to public funds. It should also address the additional requirements that will be specified by your insurance provider.

CSE can provide examples of suitable asset management policies and procedures that can be refined and modified to meet individual establishment needs.

### **Asset management procedure**

A companion to the policy is the document that defines the procedure and responsibilities of tagging and maintaining the asset register. This will document the process of receiving equipment, and the checks required to determine whether it needs to be included in the register. It will also describe what information needs to be recorded, and how to apply asset tags to the item.

### **Choosing a partner**

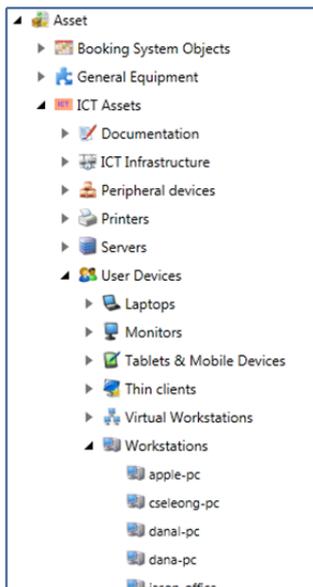
If you are new to the field of asset management, it is important to select a partner who can provide you with a complete environment. Software systems may represent only a small part of your overall investment. Your partner should offer leadership, and provide a complete service that includes helping you to create policies, and consultancy to assist in designing the systems,

CSE is a specialist in all aspects of ICT in education, and can provide a complete range of services from simple software supply to complete asset register creation.

processes, and policies for you. Their full service should include tagging and recording your existing assets, and to providing ongoing training, consultancy, and support. You will need to appoint a partner who is receptive to your needs, and is willing to adapt its systems to meet them.

## Asset register structure

‘Structure’ refers here to how the data in the asset register database is organised and presented to users of the system.



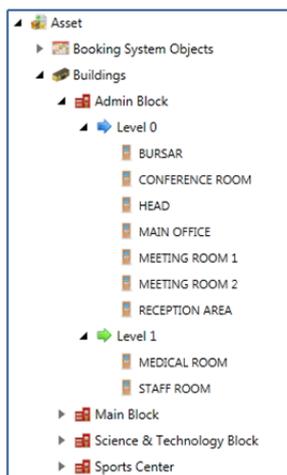
Flat database structures are difficult to visualise and navigate: the only major advantage is that they are simple. This is where a configurable hierarchical database structure can help. This can be viewed as similar to the structure of a computer drive, where a hierarchy of directories makes it easy to manage your files logically. Using a hierarchy, you can build an asset register structure that meets the needs of your establishment precisely.

CSE Asset Manager is based on an hierarchical SQL database, allowing great flexibility in structure.

It supports any number of levels of hierarchy.

The structure of a hierarchical database should be flexible to cater for individual establishment needs. A structure based on asset category type has the advantage of grouping similar assets together under the same heading (e.g. computer workstations or fire extinguishers). It can be particularly useful to have the flexibility to build a complete hierarchy of asset categories – for example ‘Notebook PCs’ within ‘Workstations’ within ‘ICT Equipment’ – as this will allow you to analyse and manipulate data at a number of levels.

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An alternative approach is to build a structure that represents the physical fabric of the establishment: buildings, floors, and rooms. The advantage of structuring your data in this way is that it tracks the location of assets accurately within your establishment.

This method can also help to simplify audit processes by providing a clearly defined list of the assets contained within

each room.

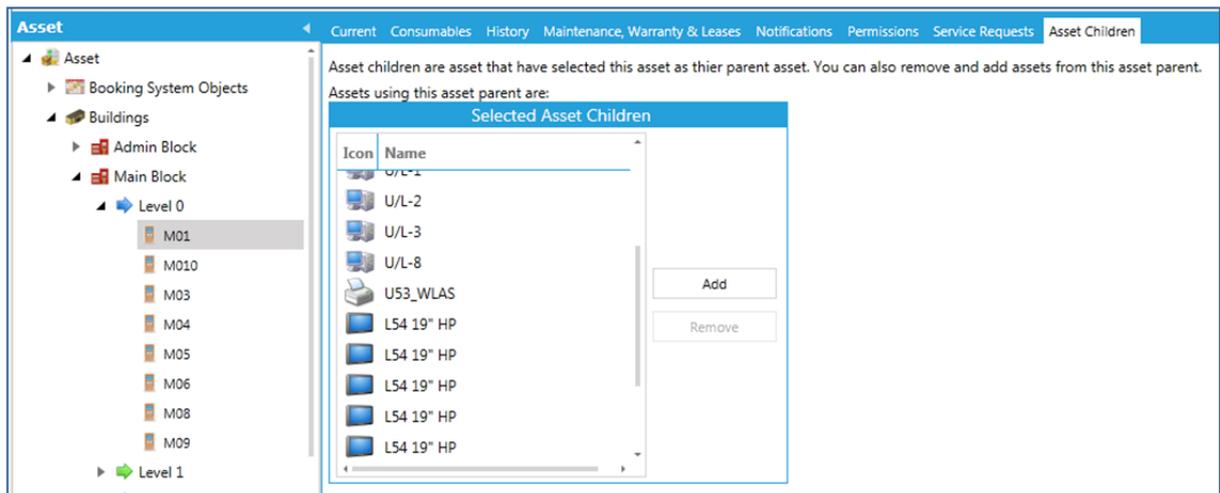
Both approaches have advantages and disadvantages, and the best solution would probably be a combination of the two which would provide a physical linkage between assets and rooms, but also provide an asset structure that is easier to

Because of its multiple category functionality, CSE Asset Manager can offer the best of both worlds. You can designate rooms as asset categories, and then allocate individual assets from different categories as child assets belonging to the room parent. In this way you can see all the assets of a single type grouped together, but also know which assets are in which room.

navigate through being categorised by type.

An additional advantage of this approach would be that you could easily generate reports based on the contents of a room – an important consideration when conducting yearly audits – without compromising the ability to manage all instances of a particular equipment type.

The important consideration remains being able to create an asset structure that works for you: you need to be able to navigate and find individual objects as quickly as possible by whichever method works best at the time. As you can probably see, it is important that an asset management system supports flexibility in hierarchy configuration.



## Asset and equipment records

Assets or pieces of equipment are effectively individual objects that you want to maintain information on, and possibly track and account for within your accounting systems. The type of information you need to record about individual assets depends upon why you need an asset register in the first place. If your priority is to have flexibility and the ability to tailor your asset register to your exact needs, then being able to define and add your own custom fields in an asset record is important.

From a purely financial management perspective, the dataset necessary to record relevant information on each asset does not need to be very extensive. It can include fields such as purchase date, purchase price, purchase order number, supplier details, warranty period, maintenance period, and physical details such as location and serial number.

Purchase information (price and date) are important fields, as they provide the basic

CSE Asset Manager is already populated with a wide variety of pre-build asset fields, but you can easily add your own. Each one can contain one of 17 different data types, including:

- Single and multi-line text.
- Date, date and time, and time period.
- Currency (denomination selectable).
- Email address.
- Multiple, single, and dropdown choice.
- File upload.
- Picture.
- Barcode.
- Web Link.
- Contact selector.
- SQL Query.

information needed to manage depreciation. Warranty periods and costs are important if you are interested (for example) in modelling the total cost of ownership.

If you also want to record technical details of ICT assets to help inform your IT support services, the dataset will also need to include technical attributes such as MAC and IP addresses.

Software licence compliance has become increasingly important over recent years, and your asset register should also be able to provide you with compliance management facilities. Software licences are often nothing more than an email with attachments containing agreements, licence keys or files. Software licences can be treated as assets in their own right, and your asset register system should allow you to check your site's compliance with your agreements easily. Equally, it makes sense to be aware when software licences are not being used fully, as this could allow you to identify possible long-term cost savings.

If you have a Microsoft Schools Agreement, your licences and product keys are accessed via a Microsoft web portal. The usernames and passwords required to access this are themselves candidates for inclusion as asset fields.

In summary, successful asset and equipment records are all about managing the information that you have about each individual asset in such a way that it can be accessed easily and quickly when the need arises. You will also need to be able to create your own custom fields easily, and have the ability to assign them to specific asset categories.

In the case of a software licence asset, you should consider creating a field (or fields) that contain file attachments, so you can save emails and licence files or codes directly into the individual software asset record. This information is then stored safely, and is accessible easily when required.

## Automatic discovery systems

We have already touched on the need to record and manage ICT-based assets. Most computerised asset management systems have some capability to scan the network and auto-populate the register with any ICT based assets that they find.

This can be an important function, as some ICT assets will be amongst the most expensive equipment that you have, and will almost certainly need to be recorded and tracked for accounting purposes. Some ICT equipment is also likely to be very difficult to identify due to its location: for instance, much of the school's networking infrastructure will be mounted in cabinets, or even embedded in other devices (for example, hard disks in servers). Being able to scan and audit these types of device automatically from a computer console can make life a lot easier.

A good automatic discovery system should also be able to monitor your ICT devices. This is an especially useful feature, as it can notify you when assets have been modified or changed, for example by monitoring the

CSE Asset Manager's ICT auto-discovery facilities are among the most sophisticated available, with the ability to scan and monitor devices on a regular basis.

Not only can it interrogate a wide variety of devices, but it can also discover internal specification, configuration details and software installed.

location of devices and determining whether they have been moved or even stolen.

The best automatic discovery systems should also provide added value to your ICT support and management functions. Being able to drill down into the configuration data and extract useful information such as the individual serial numbers of hard disk drives and memory modules can be a significant time-saver when reporting warranty claims.

## Non-ICT assets

Whilst IT assets probably account for a significant proportion of your high-value items, many other types of asset should also be accounted for. It is important to be able to create a system that can handle and enable adequate financial control over these items too, so your systems should be capable of importing them quickly and provide the same facilities to manage them as they do for ICT assets.

Many (perhaps most) non-ICT assets may not have a serial number or unique identifying labels. In these cases it will be necessary to provide such a label to tie the physical asset to its asset register entry.

Asset labels with bar codes or QR codes could be generated and printed directly from the system. Alternatively, it may be easier to buy pre-printed labels that can be scanned or imported into the system: an added benefit of this approach is that tamper proof labels are available for increased security.

Once the assets are tagged and recorded, it is important to be able to audit them quickly and easily. Scanning the assets bar code or QR code using a simple code scanner will provide the most basic mechanism for capturing audit information, but for a more powerful and sophisticated system might use a smartphone app to interact directly with the asset register when a code is scanned.

CSE Asset Manager has a free format input facility that will allow data to be imported without major reformatting.

The system can generate asset tags directly, or use third-party labels. The CSE Asset Manager phone app simplifies audits by scanning assets and updating the register interactively and wirelessly.

## Consumables

Consumables can represent significant expenditure for any education establishment, so being able to account for usage and allocation is important, especially when some consumables (such as projector bulbs) may cost several hundred pounds. In many cases, consumables are purchased against a budget and then written off for accounting purposes. However, being able to manage your consumables and to identify how they are being used can provide useful management information.

CSE Asset Manager provides complete stock control and reporting for consumables and, when combined with CSE Service Manager, can provide automatic alerts when devices run low on supplies.

Asset Number	Asset Name	Asset Life Span
1	L33 OFFICE COPIER	3 year(s), 8 month(s), 2 week(s), 6 day(s), 13 hour(s), 35 min(s)
<b>Currency Asset Fields</b>		
<b>Name</b>		<b>Cost</b>
Purchase Price		£2,800.00
<b>Total</b>		<b>£2,800.00</b>
<b>Power Consumption (400 Watts)</b> 9 month(s), 1 week(s), 2 day(s), 1 hour(s)		
<b>CO<sub>2</sub>(kg)</b>		<b>Energy(kWh)</b> <b>Cost</b>
1262.564885764		2506
<b>Total</b>		<b>£445.32</b>
<b>Consumables</b>		
<b>Name</b>	<b>Purchase Order</b>	<b>Consumable</b> <b>Cost</b>
Toshiba E-Studio 4520C Cartridge Pack (4)	ZZ1928992	Toshiba E-Studio 4520C Cartridge Pack (4) £285.00
Staples A4 Value Copier / Printer Paper (Ream)	A878766-09	Staples A4 Value Copier / Printer Paper (Ream) £1.99
Staples A4 Value Copier / Printer Paper (Ream)	A878766-09	Staples A4 Value Copier / Printer Paper (Ream) £1.99
Staples A4 Value Copier / Printer Paper (Ream)	A878766-09	Staples A4 Value Copier / Printer Paper (Ream) £1.99
Staples A4 Value Copier / Printer Paper (Ream)	A878766-09	Staples A4 Value Copier / Printer Paper (Ream) £1.99
Staples A4 Value Copier / Printer Paper (Ream)	A878766-09	Staples A4 Value Copier / Printer Paper (Ream) £1.99
<b>Total</b>		<b>£294.95</b>
<b>Lease, Maintenance, Warranty</b>		
<b>Description</b>	<b>Type</b>	<b>Expires</b> <b>Cost</b>
3 Year Maintenance	Maintenance	Expires in 777 days £250.00
<b>Total</b>		<b>£250.00</b>
<b>Asset Total Cost Of Ownership :</b>		<b>£3,790.27</b>

An asset system that accounts for consumable usage and costs would clearly bring additional benefits, such as providing visibility of the day-to-day cost of printers so that their true total cost of ownership can be calculated. A further positive aspect of strong consumables management is adequate stock control, which will help to ensure that you never run out of vital supplies.

Managing your consumables allows you to track usage and identify assets that use consumables less efficiently than others. In our experience, being able to generate cost of ownership reports for your printers in particular can be an eye-opener in identifying inefficiencies and saving money. With proper analysis, you can model different scenarios,

and put strategies into place to consolidate and reduce your printing costs. This can include replacing printers and investing in more efficient models.

## Software compliance

Keeping track of your software licences is an important (and often overlooked) task that organisations need to undertake, and involves three key questions:

- Do you have enough licences to operate your software legally?
- Do you really know how much your software inventory has cost you and is costing you each year?
- Are you spending money on software that is no longer being used?

A good ICT-based asset management system should be able automatically to collect information on application licences that are deployed to workstations, and provide facilities to manage and allocate them accordingly. It should then be able to generate compliance snapshots which will highlight over- and under-provision. This allows you to question how those licenses are distributed, and identify deficiencies and potential cost savings.

One additional feature is the ability to monitor what software is actually installed on your computers accurately. It is an inherent risk of the Internet that your end users will download and install applications onto their devices, and although there are tools to stop this from happening, some

CSE Asset Manager can monitor all devices automatically and identify new software as it is installed. Its powerful reporting functions will identify instances of non-compliance, and devices that do not have authorised licences.

users will always question these restrictions and find ways to by-pass them (particularly on laptops that are used at work and at home). As a result, your organisation may have little control over what software is being installed on some machines.

This represents a real risk, because although the software was not installed or sanctioned by the organisation, it may still be the organisation's responsibility to monitor installations and ensure licence compliance when the machines are being used 'in the office'. The ability to audit what

software is installed and where is therefore an important tool in policing your system.

Software Compliance Report				
Generated on	15/11/2012 13:53:48	Compliance Type	All	
Selection Type	AllAssets			
Software Name	Vendor	Number of Installed	Number of Verified Licenses	In Compliance
Adobe Flash Player 10 ActiveX		12	12	True
CSE Network Toolkit .Net Services 2012.2.1.7		1	1	True
CSE UM Exchange Connector 2011.2.2.3		1	1	True
CSE User Manager 2012.1.1.3		1	1	True
CSE User Manager Client Q2 2011		12	12	True
CSE Workspace Explorer.Net 2011.2.1.2		12	11	False
Microsoft Exchange Server		1	1	True
Microsoft Exchange Server 2010		1	1	True
Microsoft Lync 2010	Microsoft Corporation	2	2	True
Microsoft Office Access MUI (English) 2010	Microsoft Corporation	8	8	True
Microsoft Office Excel MUI (English) 2010	Microsoft Corporation	8	8	True
Microsoft Office Live Meeting 2007	Microsoft Corporation	1	0	False
Microsoft Office Outlook MUI (English) 2010	Microsoft Corporation	8	0	False
Microsoft Office PowerPoint MUI (English) 2010	Microsoft Corporation	8	0	False
Microsoft Office Professional Plus 2010	Microsoft Corporation	8	0	False
Microsoft Office Visio 2010		1	0	False

This also goes some way towards protecting your systems from inappropriate software being used (or indeed present) on your property. This is fundamentally your establishment's responsibility, but a good asset management system should be able to assist you.

## Portable Appliance Testing (PAT testing)

Health and Safety legislation requires organisations to carry out routine Portable Appliance Testing. Whilst the regulations state that (as a minimum) simple visual inspection and risk assessment is adequate in most cases, it is usually an insurance requirement that more rigorous testing is carried out. The need for records to be kept and for these to be easily accessible by management is, however, consistent.

CSE Asset Manager prints lists of devices requiring testing automatically, and can produce pass/fail labels to attach to appliances.

If possible, it makes sense to incorporate your PAT results into your asset inventory, and to use its reporting and asset management facilities to keep track of and manage your records.

PAT Failed Test Results Report									
Generated on	15/11/2012 13:38:37	Status	Fail						
Test Date	Date Range	01/06/2012 - 15/11/2012	Selection Type	SelAssetCat					
Next Test Date	**No Selection**								
Appliance ID	Asset	Description	Location	Status	Fuse Amp	Test Engineer	Updated By	Updated Date	
1794	L33 22" HP	Desktop Computer Monitor	L33	Fail	13	TSA	sdadmin	26/08/2012 13:27:32	
<b>FAILED</b>	Appliance ID: 1794 Test Date: 22/08/2012 <b>DO NOT USE</b> Test Engineer: TSA Fail Reason: Insulation test failed		Notes	Insulation test failed		ELECTRICAL SAFETY TEST	Test Date	22/08/2012	
	Fail Reason: Insulation test failed			Insulation test failed				Next Test Date	22/08/2013
1892	L28 HANNSG	Desktop Computer Monitor	L28	Fail	13	TSA	sdadmin		26/08/2012 13:27:32
<b>FAILED</b>	Appliance ID: 1892 Test Date: 22/08/2012 <b>DO NOT USE</b> Test Engineer: TSA Fail Reason: Earth Leakage Failed		Notes	Earth Leakage Failed		ELECTRICAL SAFETY TEST	Test Date	22/08/2012	
	Fail Reason: Earth Leakage Failed			Earth Leakage Failed				Next Test Date	22/08/2013

## Asset disposal

The Waste Electrical and Electronic Equipment (WEEE) regulations create a need to maintain an accurate equipment list, and to provide documentary evidence of correct disposal procedures being followed. A computerised asset inventory facilitates this by centrally recording and storing compliance documentation in a form that can be accessed easily by the senior management team.

Transactions in CSE Asset Manager cannot be deleted or modified, and always record who has done what. This means that you have a complete audit trail from initial purchase to responsible disposal.

## Depreciation modelling

Keeping track of asset values is important in determining the economic life of an asset. These can be modelled in a number of ways to ease the decision-making process over replacing or renewing items. This exercise is often carried out using spreadsheets, but the weakness of this approach is that spreadsheet records have to be updated manually when new items have been acquired, or when items have been

scrapped or disposed of.

CSE Asset Manager supports the three most common depreciation methods, and these can be applied at device or category level.

Asset Depreciation - Printers				
Generated on	16/11/2012 10:46:09	Key:	Real Depreciation	
Selection Type	SelfAssetCat		Current Depreciation	
Show Forecast	true		Forecast Depreciation	
Asset	Depreciation Type	Depreciation	Purchase Date	Purchase Price
L31_OFFICE COPIER	Straight Line Percentage	10%	12/09/2009	£2,800.00
			Depreciation Year	Depreciation Value (NBV)
			1	£2,800.00
			2	£2,240.00
			3	£1,680.00
			4	£1,120.00
			5	£560.00
			6	£0.00
			7	£0.00
			8	£0.00
			9	£0.00
			10	£0.00
L77_DET	Straight Line Percentage	10%	12/09/2009	£375.00
			Depreciation Year	Depreciation Value (NBV)
			1	£375.00
			2	£292.50
			3	£210.00
			4	£127.50
			5	£45.00
			6	£0.00
			7	£0.00
			8	£0.00
			9	£0.00
			10	£0.00

Being able to model depreciation directly within an asset management system provides great benefits, as it ensures that the data is correct and always up-to-date.

The overriding benefit of maintaining an asset inventory is that vital information such as this is available on demand to members of the management team.

## Warranty management

Managing warranties and associated maintenance agreements effectively provides important protection to any organisation, but the wide range of agreements and dispersion of items throughout an organisation can lead to them being overlooked and lost track of. An asset management system is ideally placed to provide the hub for managing and maintaining your warranty agreements.

Ideally, you should be able to associate warranty information with each asset. This should include all the details necessary to allow your support staff to find and expedite warranty claims quickly and efficiently. In addition, a reporting system should be able to warn you when warranties are expiring, allowing you to plan ahead and extend them as required. Since extended warranties have

CSE Asset Manager doesn't just provide a comprehensive management system for warranties, but will also check the on-line databases of IT suppliers such as HP and Dell automatically to check individual asset warranties.

associated costs, you should also be able to model these to ensure best value when negotiating contracts.

## Linking assets to your help desk

Asset management systems can benefit from being linked to your help desk function, saving significant time in cross-referencing hardware details. Support staff can identify the equipment being reported as faulty immediately, and access the devices asset inventory record instantly. This means that when staff report faulty equipment to warranty providers, they already have the information that is required.

A linkage with your help desk system also helps in providing information on asset reliability and 'epidemic' problems. It should allow you to easily spot problem units and poorly performing equipment types.

CSE Asset Manager discovers serial numbers and what is inside each piece of IT equipment automatically. There's no need to crawl under the desk, or to dismantle any equipment.

When linked to CSE Service Manager service requests can be easily tagged to assets to simplify support and record performance data.

## Room and asset booking

If your asset register already knows about all your equipment (and possibly also about your rooms and other resources), then there is no reason why it should not also provide a booking system for shared assets such as rooms, laptop trolleys, minibuses, etc. If these assets are also linked to assets located within them – laptops within trolleys, for example – these can be booked at the same, time ensuring that everybody is aware of what has been booked and when.

It would also be useful if the person booking the asset could see any outstanding help desk tickets against the equipment being booked. In this way the booker could decide whether to continue with the booking or make alternative arrangements.

CSE Asset Manager allows you to make any asset bookable, and provides an easy-to-use calendar visible to authorised users. It can also link to the Help Desk to flag outstanding tickets on the bookable assets. The calendar also supports multi-week timetables.

## Reporting

Once all the relevant information is stored within an asset management system, a simple method of accessing the information is needed, which is where the reporting system enters the picture. Timely, up-to-date, and accurate information is a critical management function for any organisation, so the reporting feature is probably the most visible and important method that the Senior Management Team will use to access and extract management information.

CSE Asset Manager supports report generation from templates, but also provides comprehensive preformatted reports to meet a variety of requirements. All reports can be scheduled to run and be distributed to an email list automatically.

Among the common report generation methods, ad-hoc systems allow you to create your own report templates and then run them to extract the data. Such systems can work well for those who understand the structure and format of the data they are working with.

Another method is to use pre-formatted reports that perform set functions (a report on assets disposed of in the last 30 days, or the cost of ownership of printers over the last year, for example). There would be great advantages to having these standard reports scheduled to run at set intervals and circulated to key personnel within the organisation automatically.

## Conclusion

Developing an inventory management system requires investment in systems and time. However, the advantages are immense, as inventory management puts you in complete control of procuring and maintaining of your assets. It provides you with a single point of reference when dealing with asset-related queries, from modelling depreciation for the accounting books, to looking up part numbers for warranty claims or replacement ordering.

A good IT-based asset management system can remove much of the drudgery from the initial set-up and (perhaps more importantly) from ongoing data maintenance.