



Certero AssetStudio Report

A Broadband-Testing Report

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BROADBAND-TESTING

Broadband-Testing is Europe's foremost independent network testing facility and consultancy organisation for broadband and network infrastructure products.

Based in Andorra, Broadband-Testing provides extensive test demo facilities. From this base, Broadband-Testing provides a range of specialist IT, networking and development services to vendors and end-user organisations throughout Europe, SEAP and the United States.

Broadband-Testing is an associate of the following:

NSS Labs (specialising in security product testing)

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Broadband-Testing Laboratories are available to vendors and end-users for fully independent testing of networking, communications and security hardware and software.

Broadband-Testing Laboratories operates an **Approval** scheme which enables products to be short-listed for purchase by end-users, based on their successful approval.

Output from the labs, including detailed research reports, articles and white papers on the latest network-related technologies, are made available free of charge on our web site at [HTTP://www.broadband-testing.co.uk](http://www.broadband-testing.co.uk)

Broadband-Testing Consultancy Services offers a range of network consultancy services including network design, strategy planning, Internet connectivity and product development assistance.



EXECUTIVE SUMMARY

- Software and hardware are now major company assets – in some cases *the* company – but are often mis-managed.
- This can cost companies literally millions of pounds a year in wasted resource or over-spending.
- At the same time, many companies are unsure as to the legalities of their software licensing status and are therefore potentially open to prosecution.
- With AssetStudio and Software Metering For Decision Makers, Certero has given an IT administrator the ability to see exactly what their network – hardware and software – consists of, what software is licensed (including over and under) and the ability to re-allocate licenses as required.
- The application is based around an industry standard SQL database and simple, browser-based interface meaning it can be run from anywhere on any client type.
- The product also provides intelligent software delivery and complete automation of this and other software management processes.
- AssetStudio also includes a smart network discovery tool which builds the network accurately by using multi-discovery techniques at Layer 2 and Layer 3.
- For Microsoft environments, AssetStudio can import a Microsoft Claret (Microsoft Licensing Statement) report and ascertain accurate licensing information directly. All Microsoft software can be auto-managed from this point.
- Reporting options are exceptional and include the concept of dynamic groups whereby you can search easily for any combination of elements and get a report instantly. No development skills are required here since a report builder writes the SQL statement for you as you simply group components together. All variable elements in the query will then change dynamically in real time, so they are always 100% accurate and up to date.
- Alerting options are equally flexible, especially when taking advantage of the dynamic group functionality.
- All clients discovered can be auto-managed in terms of their on/off status and rebooted as necessary during – for example – software delivery processes through taking advantage of features such as Wake on LAN.
- The bottom line is that AssetStudio and its companion software metering tool can actively optimise and manage your network assets, creating enormous savings at the same time.

INTRODUCTION: WHAT IS THE REAL COST OF NOT MANAGING YOUR ASSETS?

Measurable versus immeasurable...

How do you measure ROI on a software investment when the benefits are more perceived than visible? At the same time, how can you manage a resource if you can't measure it? If that resource is software – now often the primary investment for an IT department – and the user base is ever-changing, both in terms of personnel and an individual's configuration (software and hardware), then unless you have the means of managing and controlling that resource the chances are that you are burning considerable IT funds unnecessarily.

Let us assume a cost per asset of £700 made up of £350 hardware and £350 software. The potential overall value of these assets is:

- 100 assets = £70,000
- 500 assets = £350,000
- 1000 assets = £700,000
- 5000 assets = £3.5million

And these are just basic costs, not allowing for support and maintenance and other related costs. For example, a Forrester report estimated that 26 percent of a company's software expense involves maintenance costs. They are clearly substantial investments, emphasising the need to extract maximum benefit and value from that expenditure. So how do you achieve that? The first point to make is that you need to know exactly what you own – for example software licenses per product, per Operating System (OS) – and what is actually being used. It may be that you have acquired licenses in excess of what are actually needed. Equally it may be that you are, however unwittingly, in the position of exceeding your actual licensed users and therefore open to prosecution.

So it's not simply a case of being efficient, but the legal aspect is equally huge. Would your company really be in a position to respond positively to a software audit demand? And how efficient is your administration? Do you really know if you are over or under-licensed and maybe have software that is paid for but not being used? And there are hardware issues to consider too. Is your client base up to the task or does it need upgrading? Or has it been over-engineered so your expenditure is more than it need be? It is estimated that companies replace or refresh around 25 percent of their hardware devices each year but is this sound investment or wasted money and resource?

The question is – how do you manage all this? Such is the *raison d'être* for Certero's AssetStudio application that we are testing here. Certero claims that its software can be implemented and working in less than a day, with key staff trained up within a day and start to deliver ROI within two weeks.

This is a bold claim, which is why we are putting it to the test here.

A history of Asset Management

Of course, there's nothing new about IT asset management.

I, for one, was testing this kind of product almost 20 years ago. And, during that time little has changed in some ways, until now at least. Management products were primarily focused on hardware management – network device discovery, PC and server configuration management; basically what were the expensive parts of the network. But times have changed and so have the relative values of hardware and software. PCs are commodity yet software – on the other hand – can form the bulk of IT spend, year on year. So the focus is now on software asset management (SAM), licensing, compliance and everything that comes with running an IT shop in 2010.

Certero's John Lunt argues that the incumbent network asset management products are simply not geared to addressing current SAM requirement. While they may have elements of the total solution, in many cases it's a series of "bolt-ons" that makes up the final "solution" which is typically less than ideal, to put it nicely.

Meantime, Certero has the benefit of entering the market now, with a completely new product, designed from day one as a Web 2.0 application to address today's SAM issues, not those of 15-20 years ago.

One of the major challenges with SAM is – and always has been – automation. Even in the mid '90's we were speaking with network management vendors about the potential of "automation"; the means of reducing human input and therefore human error, as well as accelerating admin processes. In the SAM world, this has essentially been seen as close to impossible because of the complexity of software licensing and the many variations it brings. But, because Certero – with AssetStudio – has taken complete ownership of the SAM issue from day one, rather than relying on upgrades and bolt-ons, it has been able to automate many processes bringing lead-times measured in weeks down to hours.

This also impacts positively on training requirements. The official line from Microsoft is that it takes an individual around a year to become proficient with its SAM solution. In contrast, with AssetStudio, Certero is looking to minimise training as a result of the amount of automation in the product. Moreover, from day one, where typically a long-winded and expensive compliance audit would be required – days and weeks of analysing license data, working out what is under-purchased and what is over-purchased, and what is allocated where – AssetStudio minimises the human element and the reliance on guesswork here by intelligently analysing the software assets.

So how does the automation work? For example, with Microsoft products, Certero takes an MVLS Report from Microsoft, analyses it and produces an output file to import Microsoft Volume Licensing information directly into AssetStudio. From there on in the complete Microsoft portfolio is under the control of AssetStudio. All sounds too good to be true? That's why we're reviewing the product here...

ASSETSTUDIO: PRODUCT OVERVIEW

AssetStudio is effectively a client-server solution that sits on a standard range of hardware and OS options.

The server software is compatible with Windows 2003 Server and above and the database with SQL 2000 and above. The client is a browser-based application, compatible with all major web browsers, including Internet Explorer, Firefox, Sahara and Opera.

While not actually modular in form AssetStudio covers the following specific areas:

- Discovery.
- Inventory.
- Software Delivery.
- Metering (coupled with an additional product: Software Metering for Decision Makers).
- License Management and Compliance.

So, let's go through each area of the product.

Discovery

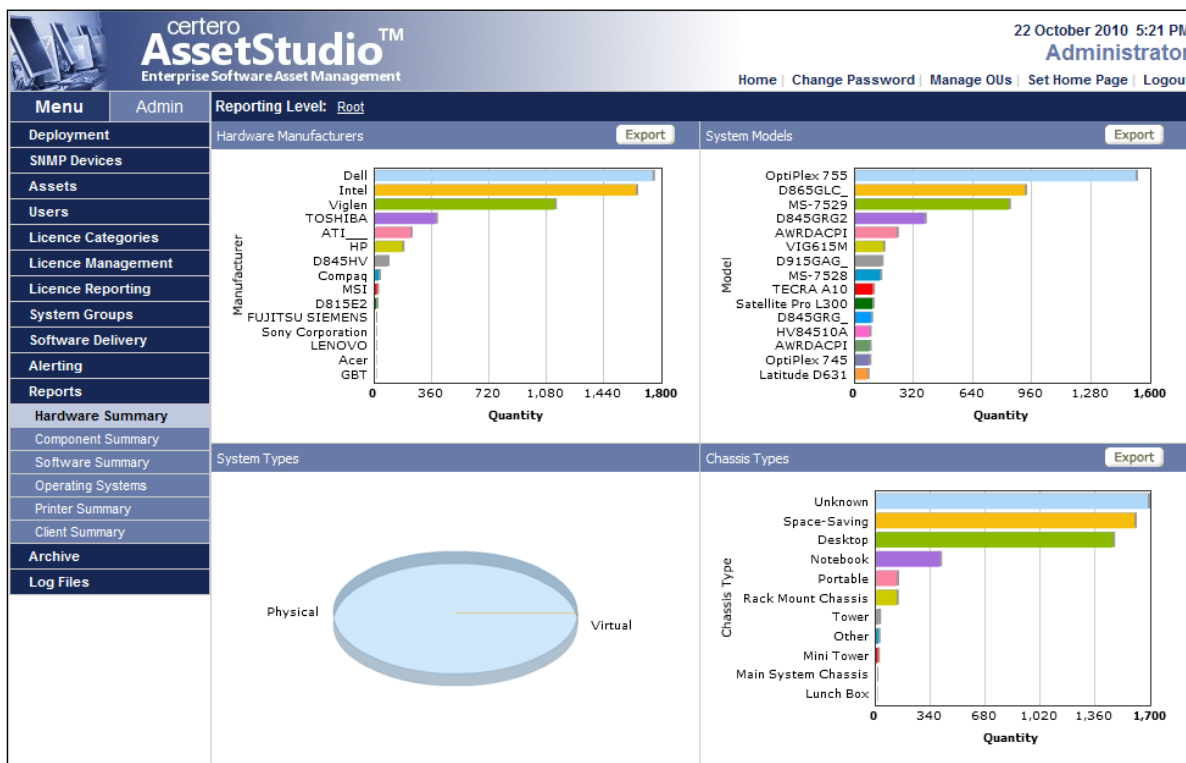


Figure 1 – Discovered Hardware Summary

Starting with Network Discovery, while there are already many tools out there that provide this function but Certero decided there were still benefits in providing its own and

adding the right level of intelligence to compliment the SAM functionality of AssetStudio. A key point about the AssetStudio network discovery is that it can automatically carry out a network audit without the use of agent technology. It performs a multi-protocol discovery to discover, identify and provide asset, resource and system information.

The 'network learning' capability automatically populates and discovers subnets and captures information on SNMP enabled devices providing switch port, routing tables, device port history, printer page count and consumable information. Agent based technology is then used to collate comprehensive hardware and software inventory on systems and software usage information is also captured and retained. Several elements of the discovery, such as the schedule and target subnets are configurable. All discovery events are logged. In addition to 'standard' information gathering such as device details, switch port and router/routing table information it extends this to elements such as printer page counts, daily average print counts and consumables information.

AssetStudio Server

AssetStudio Server is a web-based asset management application, consisting of a web application and SQL database. Scheduled management and maintenance tasks are configured to run as Windows Services and all administration is carried out through the web interface. It allows organisations to capture additional asset information such as warranty, department and purchase information. In combination with the static and dynamic group functionality it means that relatively complex reporting options become a simple task.

The archiving facility provides organisations with the ability to remove decommissioned assets, yet retain the data for compliance purposes. You can add and report on your own custom fields such as cost, purchase date, department or track asset allocation. Both local and LDAP authentication are supported so you can use your existing user accounts or groups. It has a single page view of client inventory information to make life easy for the administrator.

Inventory

The AssetStudio inventory client is the inventory software that collects hardware and software information from the host machine and uploads it, via HTTP or HTTPS to the AssetStudio Server at configurable intervals. The inventory client can be deployed by computer name, IP address, network, domain or OS and features multiple Active Directory (AD) domain support.

Software Delivery

AssetStudio Software Delivery provides remote software delivery which, when combined with the asset information provided by AssetStudio, means organisations can automatically target computers based on pre-defined criteria.

It provides remote deployment of application packages and features silent software installation and supports Wake on LAN, reboot and shutdown capability to allow installation of packages outside business hours without leaving computers switched on. It includes logging at both client and delivery job level to provide progress and error checking status. It also supports dynamic and static grouping of assets - see later - which allows much simplified targeting of systems.

For delivery to certain applications it includes a set of pre-configured application packages. In addition, for organisations that do not have skills in application packaging, Certero can provide an application packaging service to help these customers optimise the software delivery feature.

Software Metering For Decision Makers

In most cases, software licensing accounts for over 30% of all IT spend, yet it is estimated that around 30% of deployed software is underused or unused.

Even for a small company, that's a significant waste of money; for a large company, it can amount to millions. Hence the value of software metering and the reason behind Certero's Software Metering for Decision Makers product, which integrates with AssetStudio and provides the user with the necessary information to reallocate or remove unused software.

Many software contracts are complex and varied, from concurrent usage to named user and increasingly, subscription-based models. Software Metering for Decision Makers performs passive software metering to allow companies to identify unnecessary, unused or underutilised software meaning that - with this information - they can accurately acquire licenses as required, rather than guesstimate. It also provides the evidence needed to negotiate with software vendors for more appropriate license agreements than may otherwise be offered.

It has a browser-based interface and small client footprint, so is simple and unobtrusive. It also integrates with LDAP/AD and supports Citrix and terminal server environments. Application usage trend analysis can be carried out in addition to general software usage tracking (networked or standalone clients).

License Management

Certero has worked hard to ensure that its license management and compliance has been designed to simplify what is a very complex discipline.

Again, this is made possible due to the real time access to functions and information in AssetStudio. With the ability to import Microsoft Claret reports and automatically reconcile the license information, for example, to account for software assurance (upgrade & downgrade rights) the end result is an accurate license entitlement. This information, coupled with the ability to assign software licenses to installed software, provides a real-time Effective License Position (ELP) at all levels including: organisation, vendor, product

and entitlement. Even more generic license challenges like Microsoft Client Access Licenses (CALs) and Citrix Terminal Services are accommodated.

The ability to pre-allocate licenses means the flexibility needed in the 'day to day' administration is there. AssetStudio License Management provides a centralised repository for recording license agreement, entitlements, purchase information and physical evidence. Dynamic groups (see later) are a vital part of the AssetStudio software. Software is discovered and licenses assigned in real-time. More importantly, they are then released and re-allocated automatically on an on-demand basis with no user intervention.

License Compliance

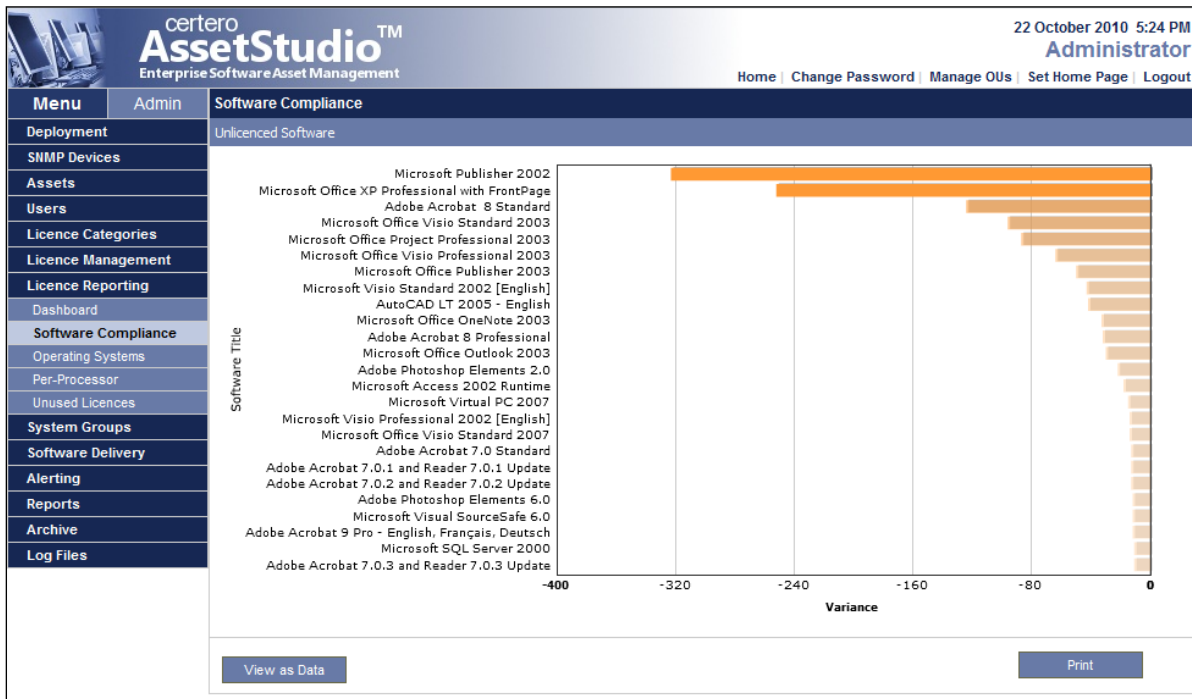


Figure 2 – Software Compliance Report

When you buy a software licence you are buying the right to use the software not the software itself. So, how do you know whether you are buying the correct licence for your needs and are legally compliant? How can you minimise your costs and maximise your benefits?

AssetStudio license compliance integrates with AssetStudio license management to provide an accurate view of software compliance. It aligns entitlements to installed software and supports automatic or manual assignment. It includes a simple compliance reporting feature and has a dashboard summary report with drill down capability.

It can mask types of software from compliance reports, such as freeware and drivers and is designed to help protect the business from legal and financial exposure. Licenses can be assigned by business unit, department or country and the software is compatible with thin client environments. Reports can be exported to pdf file format for easy distribution.

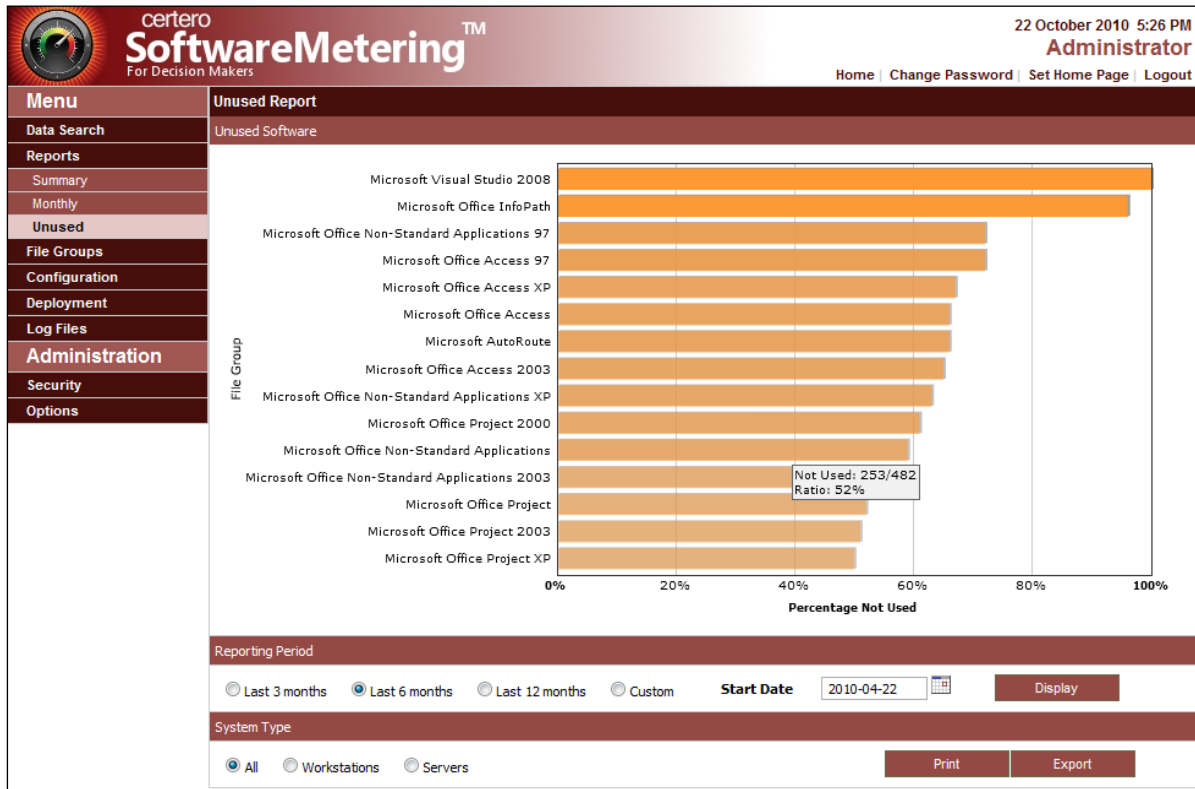


Figure 3 –Unused Software

Server Application Licensing Benefits

AssetStudio can derive critical information from Microsoft server applications such as SQL, Exchange and ISA including the installed version and edition.

Combine this with the extended processor information and the ability to determine whether a server is physical or virtual, and an accurate licensing position can be achieved in this normally problematic area. Certero is also keen to stress the ability of AssetStudio to work at the server level; for example, in providing the inventory information that enables licenses for SQL Server to be assigned – typically beyond the capabilities of a SAM product. Licensing in this type of scenario is very complex, in that it can be assigned on a per-processor, per data centre basis – you name it... AssetStudio can overlay a strategic licensing position, for example adding multi-processor licenses to a single-processor license.

The important point is that a company must have an audit trail showing the licensing position from the base license forward. Given that AssetStudio is a complete license management and compliance solution, it is worth noting that it is less expensive to purchase than a simple license management solution from other suppliers.

ASSETSTUDIO: PUT TO THE TEST

Deployment Overview

AssetStudio installation and deployment is a multi-step process.

AssetStudio Server administration is carried out through a web interface and all data is stored within a SQL database. The engine is based around a Windows server with SQL Express, the free version of SQL server, so there is no requirement to invest in SQL server licenses if you don't already have it. The AssetStudio Server can be hosted in a corporate DMZ as a secure SSL website.

The inventory client supports Microsoft Windows NT4, 2000, XP, 2003, Vista and 2008. An agent has also been developed to support Solaris and Linux (Ubuntu, Fedora and Red Hat) systems. Client-Server communication is configurable to use either http port 80 or SSL, https port 443 for secure connections. The inventory client will upload its information over SSL either through a proxy server or via a direct connection. Once the inventory client is deployed the system will continue to upload its inventory wherever it has an internet connection. Data creation is anything but excessive. A system inventory profile is typically less than 6KB in size.

AssetStudio is fully Web 2.0 based. The software also fully integrates with AD, supporting multiple domains and forests and is therefore ideal for supporting very large domains (see NHS example).

Certero feels it has an advantage in being the new kid on the block, in that it brings no baggage, so the software is written from day one as a Web 2.0 application with no compromise required for supporting legacy versions and legacy customers.

Running Discovery and Inventory Functions

Network discovery can be fully automated or run manually, depending on the administration rights of the AssetStudio user.

The software can auto-build a network by scanning the routing tables of all the routers it finds and building outwards from there. This is definitely the most accurate way to discover a network – something we've found in the Broadband-Testing labs over the years. The discovery routine then sends out NetBIOS requests onto the network and waits for a response, then SNMP requests and finally ICMP (ping) packets, gathering all devices as a result, through highest to lowest common denominator methodology. Rescans can be scheduled as required. As we mentioned earlier, this initial discovery is agent less and the discovery appears to be relatively fast – 90 minutes to scan 546 networks has been recorded.

In order to extract more details from the client PCs, you can set a filter to push the aforementioned agent out to the clients on an 'as required' basis. For larger companies where this might be impractical, there is an option to auto-push the agent out to clients as it discovers them. LDAP is also fully supported here too, so you can alternatively use this approach.

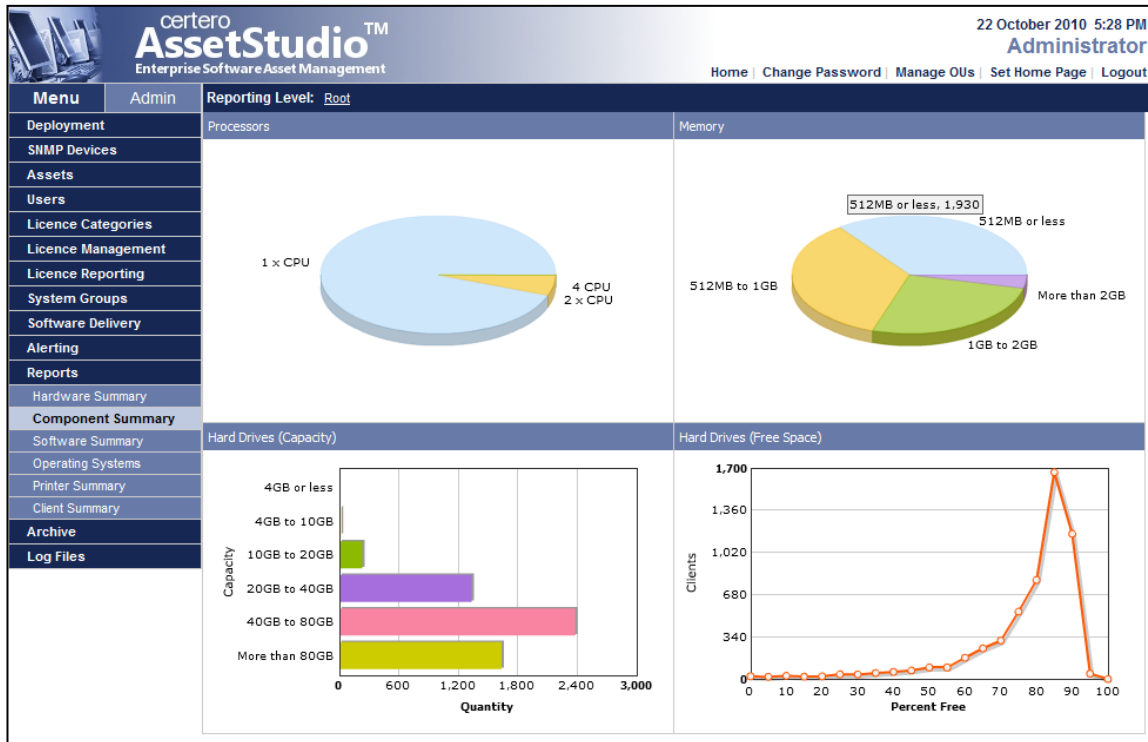


Figure 4 – Discovered Component Summary

The NHS Opportunity

We have already stated that multi-domain AD support is ideal from a scalability perspective.

The NHS is a good case in point. A typical Primary Care Trust (PCT) may have more than 50 different domains to manage; this is a requirement arguably beyond most historical solutions. It's a similar story with multi-national companies and what is key here is that these are *exactly* the type of companies who need to manage their assets as tightly as possible.

For the past nine years, the NHS has worked with an enterprise-wide agreement with Microsoft (a multi-billion dollar agreement no less) that meant any part of the NHS could simply contact Microsoft and get additional software and licenses, with no other asset management requirement. However, that agreement has come to a halt with the new government. What does this mean? It means that each and every element of the NHS now has to be self-accountable. GPs will own budgets and local and regional NHS departments will have to manage themselves. The problem is: how can they possibly know what licenses they (individually) do and don't own? And will Microsoft simply sit back and let them off the hook? Is that a pig I see flying past the window?

Here, then, we have a classic IT opportunity to provide SAM solutions to the NHS which is, otherwise, simply guessing in the dark. And that could be very expensive obscurity if Microsoft decided to come down hard. Unsurprisingly, Certero has led the conversations and has already signed up North Mersey HIS and others.

There is also a manual inventory client that can be run from a USB key or other removable storage device. A full inventory of the system can be taken in under a minute.

A flag within the database allows simple identification of standalone computers. User-defined fields allow you to enter and report on any information that the agent cannot collect for whatever reason. In terms of the agent contacting the server, this is fully configurable. The inventory client can be set to upload its profile as often as you like. The default setting is every two hours.

AssetStudio/Software Metering For Decision Makers In Use

The first thing you see on logging into AssetStudio is a dashboard featuring a number of pre-canned reports.

These include a hardware summary, such as by PC type, system details (model, type etc) – basically every imaginable detail – components (CPU, memory, hard disk details etc), software (titles, MS office products in detail, software publishers etc), OS details (including physical and virtual), printers (mono/colour, by model, average and total print counts), client types (networked and standalone), profile status (active, archived etc) and network details – in other words, what has been discovered by the software. For more focused detail you simply drill down on a particular component; this methodology applies throughout the application.

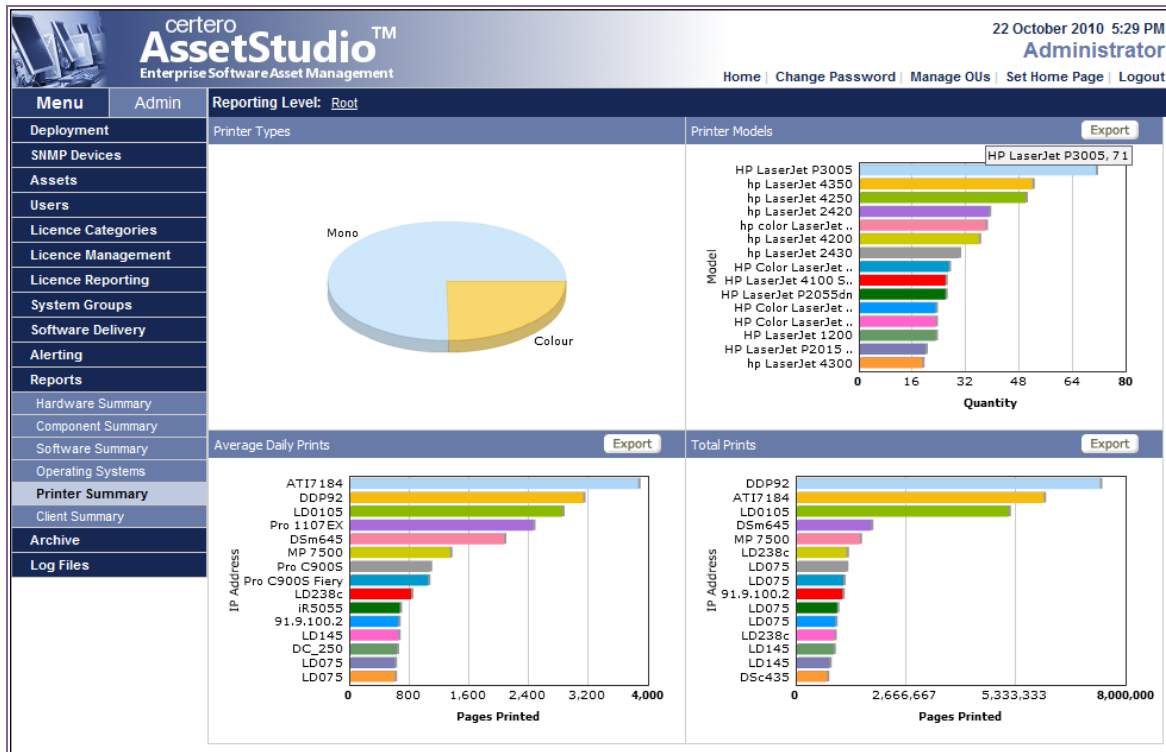


Figure 5 – Printer Summary

License categories include categorised (with sub-categories) and uncategorised software, so you always know the situation for every application. All Microsoft software is categorised out of the box. So, if you have an application that defaults to uncategorised, once a license category and possibly sub-category have been assigned, then it becomes categorised.

In this way, all software within the company can be fully accounted for and controlled. OSs are auto-categorised. In addition to the standard options, it is also possible to create new categories; for example, some widely used software such as Adobe Acrobat may have different versions within the company, such as 'professional' and 'standard' so it is useful to be able to custom categorise and sub-categorise products such as these. Realistically, within a couple of hours the categorisation can be completed in most cases.

A Fine Claret

For Microsoft licensing, AssetStudio can take a Claret report (a Microsoft Licensing Statement or MVLS), auto-import the data and create an output MVLS file.

Every transaction ever made is recorded, so the accuracy is complete. You can see exactly how many licenses of each product have been purchased and how many are still available. Where licenses have been upgraded this information is also available – what was upgraded to what, what license type, while MS Software Assurance is applied automatically where relevant – basically every element of the license agreement is covered.

Filtering options make it easy to focus on any aspect of the licensing. From here the Microsoft software can be automatically managed, assigning licenses as required, applying upgrades where entitled and reporting on licensing issues. The system is flexible enough to cope with all kinds of variance, such as all the different versions of Microsoft products and which licences have been purchased for which version and whether auto-upgrading or downgrading is required and the rights are in place to do so. A key aspect of AssetStudio is its support for the aforementioned 'dynamic groups'. The reality is that software user groups are not static; members change all the time for a number of reasons – combinations of OS and applications change, versions change...

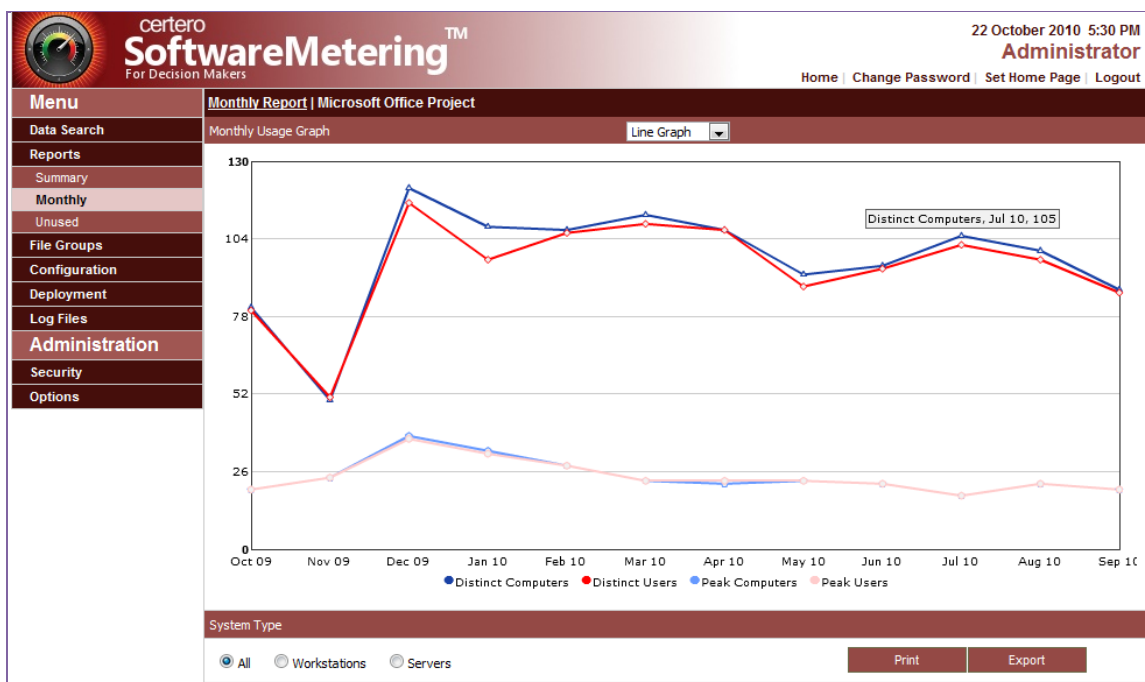


Figure 6 – Software Metering Trend Analysis

Let's face it, with so many variables, how do you get accurate information on these kind of combinations without spending weeks manually trying to assess the situation (during which time everything changes again!)? Hence, Certero has created a truly invaluable methodology with dynamic groups, whereby you can search easily for any combination of elements and get a report instantly.

No development skills are required here since a report builder writes the SQL statement for you as you simply group components together. For example, you might want to create a new dynamic group based on all systems with XP Professional SP3, then you might want to further add "and have MS Project installed"... and then – ah yes – "and have system memory less than or equal to 512MB" and so forth.

The variations and combinations are literally endless and real-time views of all the combinations are available. Additionally these groups can be used for all kinds of applications such as for software delivery and license management. Since there are no boundaries, dynamic groups can be global – for example, by business unit, regions or even country-based parts of global organisations may be over or under licensed and reallocated accordingly, permissions allowing. Licenses can also be reserved for specific business units, for example. As variables within the dynamic groups change, so the groups are updated automatically.

Thin clients are catered for, notably because licensing requirements can differ here compared with standard PC/laptops. So, it is possible to mark a system as having no license required – e.g. a group of Citrix clients might require licensing but not the server. AD is fully supported; For example, you might want to allocate CALs based on an AD group. If an account is – for whatever reason – disabled, then the license won't be issued.

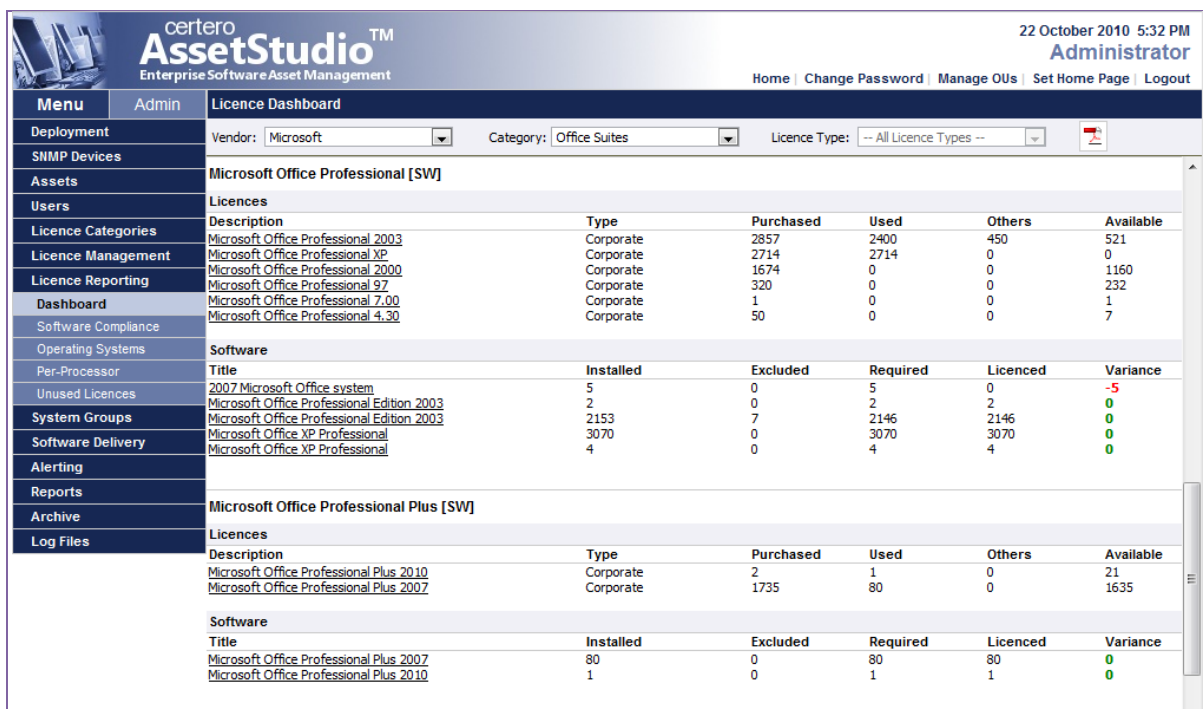


Figure 7 – License Dashboard

The License dashboard gives you a top-down view where you can, for example, filter by vendor and then drill down to get more detail.

With MS Office, we can see licensed and installed software and any variances. Licenses can therefore be easily re-assigned where necessary and spare licenses are easily identified – this is the biggest cost waste in software purchasing. We can also get an immediate compliance view that can be exported to a pdf document as evidence to show a vendor as to your compliance position. You can also add external documents and other reference material such as purchases orders and invoices to support the case.

As you drill down you can see licensed and unlicensed details on a per application basis. This is very useful where certain software licenses become complex. For example, with something like SQL Server where licensing might be based on the number of processors and cores within those processors, it is not so obvious as to your licensing position, especially where there are virtual environments to account for too. AssetStudio takes all this in its stride however. You can also see licensing details on a per PC, per application basis.

Why Software Metering Saves Money

So, now we get into the benefits of software metering. The issues with users is simple; if you carry out a user survey and ask them if they use a particular installed application, they will always answer “yes”. However, if you carry out software metering instead, monitoring usage of applications, the story is often very different. With the Certero software metering you can monitor usage of any .exe file by PC or server, who ran what, on what day at what time etc.

You can check usage of applications by groups – for example, query on MS Access usage by individual version, over any given time period. A good way of doing this is to show the top unused products with a regular report – monthly, quarterly, bi-annually, annually, for example. As ever you can drill down in these reports for more information in terms of users, licenses etc, when an application has been used, and by how much – on a per-user basis – and where that application is being run from, locally or via a network share.

So, for example, you might want to search on a per user basis for all applications based on the last time they were actually used, or filter with a specific requirement such as “used less than three times in the past 12 months”. In this way, regardless of the users’ argument, you can prove whether they did or did not use a particular application and – if appropriate – re-allocate their license to another user.

It’s clear to see that with software metering, the longer it is in use, the better the benefits to the company.

Software Delivery

Software delivery management is still a misunderstood science and one that costs companies huge amount of time and, therefore, money.

With agents in place, you can choose how often you want to perform an inventory update. These can be scheduled and broken down so you can have scan options – such as scan for files – and have different schedule settings; for example, for daily and weekly scans. Once an agent is deployed, the client appears in a list which is dynamically updated, such as advising on when that agent last reported back. With an agent in place, extensive information can be gathered beyond the IP address etc type information gathered in the initial discovery, such as PC BIOS info, serial number and detailed OS breakdown, such as which Service Pack update is installed. Again, you can drill down on a client to discover more information, this taking you directly to the inventory of that PC so you can see information such as memory installed and memory capacity, what adapters are installed, active network connections with attached switch and switch port details, including interrogating the switch interface directly.

The screenshot shows the AssetStudio web interface. At the top, it displays 'certero AssetStudio™ Enterprise Software Asset Management' and the date '22 October 2010 5:35 PM' with the user role 'Administrator'. A navigation menu on the left includes options like 'Deployment', 'SNMP Devices', 'Assets', 'Systems', 'Duplicate Systems', 'Monitors', 'Software', 'Hotfixes', 'Files', 'SQL Servers', 'Upload Profile(s)', 'Client Versions', 'Users', 'Licence Categories', 'Licence Management', 'Licence Reporting', 'System Groups', 'Software Delivery', 'Alerting', 'Reports', 'Archive', and 'Log Files'. The main content area shows details for a specific system (PC-31440). It is divided into two columns of information:

Last Profile Upload	21/10/2010 16:51:41	BIOS Name	Phoenix ROM BIOS PLUS Version 1.10 2.3.1
Client Installed	30/10/2009 18:13:19	BIOS Manufacturer	Dell Inc.
Client Type	Network	BIOS Release Date	21/05/2007
Client Version	2.0.0	BIOS Serial Number	H01T22J
Network	CITY HALL [SYS]	BIOS Version	2.3.1
IP Address	91.19.21.14	Physical Memory	1 GB
Username	DOMAIN\elsdonc	Max Memory	8 GB
Domain	DOMAIN	Memory Slots	4
System Type	Space-Saving	Operating System	Windows XP Professional
Manufacturer	Dell	Version	5.1.2600
Model	OptiPlex 745	Service Pack	Service Pack 2
Serial Number	H01T22J	Install Date	26/03/2009 17:06:56
Asset Number		Product ID	55274-640-1200927-23734
Last Boot	17/03/2010 08:43:01	System Drive	C:
Last Shutdown	16/03/2010 17:12:49	Windows Directory	C:\WINDOWS
Up Time	8h 8m 31s	System Directory	C:\WINDOWS\system32

Below the system details, there is a 'User Fields' section with several input fields and dropdown menus:

- Cost:
- Department:
- Operational status:
- Purchase Date:
- Section:
- Service Area:
- Warranty Expiry Date:

At the bottom right of the form are 'Reset' and 'Update' buttons.

Figure 8 – System Inventory Example

With AssetStudio’s delivery capabilities, importantly, all aspects of software pushing, distribution and scanning are logged, so if there is a failure it is logged with an error code so you can see why it failed.

And with monitoring enabled you can see historical trends as well as the current status. This extends to peripherals such as printers, as well as direct user client activity such as Windows services running and their status, which applications are running and when. It is also possible to build uninstall packages to remove software remotely. Again, there are Microsoft specific features such as identifying all Microsoft products installed with their associated product key and checking whether that key matches the corporate license key or whether it appears they have installed the software themselves. Where a Microsoft

hot-fix is required, it is possible to identify this – and by install date – and click on a link to Microsoft to add to the hot-fix.

All aspects of a delivery are tracked and recorded and complete reports can be created and exported accordingly via a PDF file. So, delivery history can be archived, per PC, group or in whatever way the software delivery was defined. In this way it is possible to know the exact status for each client, in terms of what software they have received, what needs to be pushed out again, etc... For more complex installations requiring additional tools, elements such as Active X plug-ins can be added, as can specific path and additional installation parameter information.

Menu	Admin	Drive Mappings					
Deployment		Computer Name ↑ ↓	Username ↑ ↓	Full Name ↑ ↓	Drive Letter ↑ ↓	UNC Path ↑ ↓	Last Update ↑ ↓
SNMP Devices							
Assets		DEMO01	DOMAIN\Administrator	Administrator	T	\\war-nas01\Shared	21/09/2010 15:23:51
Users		DEMO01	DOMAIN\Administrator	Administrator	S	\\war-nas01\Software	21/09/2010 15:23:51
Users		KWL-005	DOMAIN\OraAdmin	Ora Admin	K	\\SVR-sn01\Shared\Shared Services\ICT Servic...	13/03/2010 23:04:20
Groups		PC-17096	DOMAIN\youngv	Young Vikki	Y	\\SVR-233\Socsoft	16/03/2010 14:58:00
Profiles		PC-17096	DOMAIN\youngv	Young Vikki	S	\\SVR-182\Shared	16/03/2010 14:58:00
Drive Mappings		PC-17217	DOMAIN\storeskwl	StoresKWL	K	\\SVR-es01\KWL_Shared_Store\HMFOX32	18/03/2010 05:25:51
Printer Mappings		PC-17716	DOMAIN\dickinsonc	Dickinson Christine	R	\\SVR-038\Recoverable Order Searches	17/03/2010 15:32:12
Licence Categories		PC-17719	DOMAIN\beldings	Belding Stephen	Z	\\SVR-129\Housing	17/03/2010 15:22:17
Licence Management		PC-17731	DOMAIN\eastera	Easter Alan	U	\\SVR-165\Timesheets\EasterA	17/03/2010 12:12:49
Licence Reporting		PC-17731	DOMAIN\eastera	Easter Alan	G	\\SVR-165\DecentH	17/03/2010 12:12:49
System Groups		PC-17921	DOMAIN\higginsk2	Higgins Keith (Housing)	F	\\SVR-038\recoverable order searches	16/03/2010 15:27:59
Software Delivery		PC-18206	DOMAIN\cheesemane	Cheeseman Elaine	Z	\\SVR-014\SHARED	17/03/2010 12:42:55
Alerting		PC-18366	DOMAIN\hogbenm	Hogben Mark	J	\\SVR-015\mayrise	17/03/2010 16:02:13
Reports		PC-18366	DOMAIN\bakerp	Baker Paul	G	\\SVR-124\parks_allteams	14/03/2010 09:31:34
Archive		PC-18366	DOMAIN\bakerp	Baker Paul	F	\\SVR-124\parks_west	14/03/2010 09:31:34
Log Files		PC-18366	DOMAIN\gill	Gill Loz	G	\\SVR-124\parks_allteams	13/03/2010 21:19:13
		PC-18366	DOMAIN\gill	Gill Loz	F	\\SVR-124\parks_west	13/03/2010 21:19:13
		PC-18366	DOMAIN\barrowcliffes	Barrowcliffe Shaun	N	\\SVR-124\GENERALPARKSANDGROUNDS	14/03/2010 13:35:35
		PC-18366	DOMAIN\barrowcliffes	Barrowcliffe Shaun	J	\\SVR-015\Mayrise	14/03/2010 13:35:35
		PC-18366	DOMAIN\barrowcliffes	Barrowcliffe Shaun	I	\\SVR-124\GROUNDSOPS	14/03/2010 13:35:35
		PC-18426	DOMAIN\martinn	Martin Noreen	Z	\\SVR-168\VOICECOMMS\General\Siemens	18/03/2010 06:10:54
		PC-18426	DOMAIN\martinn	Martin Noreen	S	\\SVR-168\VOICECOMMS\General	18/03/2010 06:10:54
		PC-18440	DOMAIN\jeffersona	Jefferson Andy	T	\\SVR-142\Shared\Area Co-Ordination & Neigh...	18/03/2010 05:15:51
		PC-18446	DOMAIN\hayleri	Hayler Ian	S	\\SVR-144\Shared	18/03/2010 04:45:55
		PC-18502	DOMAIN\Gipsyville.Lib...	Gipsyville Library	Z	\\SVR-059\SHARED	18/03/2010 06:06:31
		PC-18504	DOMAIN\milstedr	Milsted Rebecca	E	\\SVR-059\PERSONAL\Ending Library	13/03/2010 15:35:09
		PC-18504	DOMAIN\milstedr	Milsted Rebecca	F	\\SVR-059\SHARED\Library Work Space	13/03/2010 15:35:09
		PC-18507	DOMAIN\Fredmoore.lib...	Fred Moore Library	Y	\\SVR-059\SHARED\Library Procedure Manual	18/03/2010 04:50:53
		PC-18508	DOMAIN\andrewsd	Andrews David (ICT a...	k	\\SVR-140\prism	11/03/2010 17:26:49

Figure 9 – Drive Mappings

Other detailed information, such as drive mappings per user, are captured so, for example, in the event of a drive mapping being lost, they can be rebuilt so you can see exactly what the user is connected to and where, likewise with printer mappings. User details such as when they last logged in, what AD groups they are members of, drive and printer mappings and email contact details are all captured. Other group options include static group creation, which typically you would only use if none of the other options were applicable. Grouping by domain and other static groupings are all supported.

So while, from a software delivery perspective, Certero is looking to provide the complexities of this 'science' it will provide basic training as necessary, typically no more than a half-day.

The company has found that a lot of software delivery products in place already – such as those from Microsoft and Novell – are simply not being used because the skill sets required in order to successfully use them are lacking, even when those products have been provided free of charge. Certero provides – for customers only – support for a growing number of applications 'out of the box' via private website access.

There are also lots of different examples that can be adapted for customers to build their own delivery scripts.

As with other aspects of delivery within AssetStudio, software delivery actions are logged and can also be viewed real-time as active jobs, so all elements of the jobs are recorded such as target client PC, status, completed with/without errors, who created the delivery job, when it was sent and so forth. And when creating a new software delivery job, various remote control aspects of the target client can be controlled, such as wake up options, whether to reboot or shutdown, before or after the delivery, any job order changes and duration limits (or run to completion regardless).

Alerting (messaging)

Alerting options are very flexible with AssetStudio. For example, onscreen alerts can be sent to any PC clients and customised in terms of appearance (such as screen colour and background, font types, custom images – a corporate logo, say) and how they are sent out in the first place. For example, messages can be sent out based on dynamic groups, such as if the email system goes down and you have a dynamic group based on users of that particular email system. As new alerts are created they can be stored as templates and reused, as well as being edited and changed. For example, document links can be embedded – useful for manual download requirements or pointing to online information. For general, regular alerts, these can be scheduled and targeted specifically, as required.



Figure 10 – Alert Example

A history log of alerts created and sent is recorded, along with which clients have read the alert/message.



Figure 11 – Alert Logging

THE CUSTOMER PERSPECTIVE: HULL CITY COUNCIL

For Steve Moffat, Principal Strategic Infrastructure Officer at Hull City Council, budget restructuring means that efficiency within IT is more important than ever.

If you have 5000+ PCs it's easy to imagine that the only way to deploy software is using Active Directory. Lots of reboots later it might work and then it might not. With no visibility how do you to see if it the deployment has worked? And guess what – often it doesn't work. For Hull City Council, Active Directory was not the 'centre of the universe', the service desk was, supporting 15,000 employees (only 6,500 of whom were in Active Directory). So that answer was to introduce AssetStudio and integrate the software with the service desk software so that all data is only entered once and is instantly available in all locations, including Active Directory.

Prior to using the Certero software, if a new product was being brought in the licensing issues would involve a significant amount of work; liaise with the service desk, speak with administration, find ways of gathering information together and managing the project... now it's instant instead. Moffat sees huge value in the ability to create dynamic groups and queries; because of the sheer volume of software he has to manage there is a real need to deploy pretty well continuously but with very specific combinations of software and PC plus a given time of day, so the flexibility is essential.

"We can't afford to waste time searching for information on the system. For example, if a PC user reports a service request, an incident or requires an application update on their computer, we need to deal with it immediately. Certero's tools give us the information we need, and the web interface feature means we can pull up the details we need in a matter of minutes to make informed decisions," he explained.

According to Moffat, AssetStudio deployment has improved the council's PC update process. It can identify where updates need to be made and deploy them directly from the service desk, without disrupting staff. The tool also allows them to be specific, so if one particular site needs a new work application or assistance with a computer, it can be done centrally. Among the client base at Hull City Council are lots of laptops that don't necessarily connect to the network every day. So, Moffat is able to create a job – such as a clean-up or upgrade – and it will automatically wait until the laptop is connected, then carry out the required task.

Moffat noted that the council has had issues with Service Packs; the problem with deploying 100MB+ updates. AD doesn't work for this as it just kills the network. The answer is to use Wake-up technologies so you can deploy out of hours. This was the first major task the Certero software dealt with for Hull City Council. From then, the council has rolled out over 70,000 pieces of software in 18 months using AssetStudio. AssetStudio has an audit trail so you can see the status and history; using Wake-up out of hours it means you can see errors before the user gets into work.

Another example was where a 115MB Microsoft office upgrade had to be sent out to remote users across 2Mbps links, meaning out of core hours updates was the only way to realistically achieve this.

From a software licensing perspective, Moffat also sees lots of value in the Certero software. He imported a Claret report from Microsoft and was able to clean up the network immediately, remove software that wasn't being used and reallocate licenses and upgrade old versions.

"To achieve what AssetStudio does we would have been looking at needing three to four products; it does it all in one and we try to push more and more through the one product," said Moffat.

Efficiency is also key; with an old product that AssetStudio replaced, it was only realistic to audit the network once a day; with AssetStudio the council is auditing every two hours, meaning it is always on top of potential problems.

For Moffat the key thing is that the software is simple to use.

"Other stuff does a fraction of what AssetStudio does and takes weeks of training to learn and months to deploy," he explained.

With all the dynamic groups established, little time needs to be spent now managing the system because it is all automated. If a new PC comes online the software is immediately installed on it and it is audited and metered from day one. A lot of people don't have scripting skills so they can use the GUI instead, preview the job, check that is correct and fire it off. Moffat explained that, previously when it came to problem management, if the council had a performance issue they would spend 3-4 weeks onsite at the problem spot, mainly collecting information and that's before they started to analyse it. Now, within two minutes it has all that information available.

Unsurprisingly, in the current economic climate, the council has had its IT budgets slashed, so the need to maximise and reuse software is essential.

So if one user is not using installed software and another user requests it, that software gets taken off one PC and reallocated. As well as AssetStudio, Hull City Council is a keen user of Software Metering for Decision Makers, which also integrates into its service desk and tells the team everything it needs to know about its software usage.

For example, if a PC has an application that is not being utilised it can be removed and reallocated. This saves the council from investing in additional software licenses that it does not need. Moffat explained that with the software metering it was great having all the data but no one was initially asking for it. But as soon as budgets got tighter they started asking and Moffat's team could provide all the historical information and they could clean-up their licensing.

Importantly, Certero has responded to any requests for product enhancements, such as improving alerting capabilities. For example, for software upgrades, Moffat was able to create a dynamic group, send an alert out and deliver the upgrade within the time and bandwidth limitations all network managers are faced with; in other words the ability to deliver to person A in user group B at time C and contact the user directly.

"We're happy with Certero's solution as it provides us with reliable and accurate information for resolving network issues and providing support for Council staff, so they can concentrate on their core duties. AssetStudio and Software Metering for Decision Makers both require low maintenance overheads and sit in the background, running smoothly," concluded Moffat.

SUMMARY & CONCLUSIONS

Software is now a major asset in most companies – along with hardware – but is hugely mis-managed in many cases, which can cost companies literally millions of pounds a year in wasted resource or over-spending.

At the same time, many companies are unsure as to the legalities of their software licensing status and are therefore potentially open to prosecution. But with AssetStudio and Software Metering For Decision Makers, Certero has given an IT administrator the ability to see exactly what their network – hardware and software – consists of, what software is licensed (including over and under) and the ability to re-allocate licenses as required.

The product also provides intelligent software delivery and complete automation of this and other software management processes. AssetStudio also includes a smart network discovery tool which builds the network accurately by using multi-discovery techniques at Layer 2 and Layer 3. For Microsoft environments, AssetStudio can import a Microsoft Claret (Microsoft Licensing Statement) report and ascertain accurate licensing information directly. All Microsoft software can be auto-managed from this point.

Reporting options are exceptional and include the concept of dynamic groups whereby you can search easily for any combination of elements and get a report instantly. No development skills are required here since a report builder writes the SQL statement for you as you simply group components together. All variable elements in the query will then change dynamically in real time, so they are always 100% accurate and up to date. Alerting options are equally flexible, especially when taking advantage of the dynamic group functionality.

With the ability to manage PC client behaviour – such as during remote software installations, it means that the Certero solution can be relied upon to automate most asset management processes once installed, actively optimising and managing your network assets, creating enormous savings at the same time.

