



# HAM Practice Guide

Amanda Reinhardt

Kim Rasmussen

Lori Levenson

Steve Mullins

Teemu Kuivala

Toby Ivens



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# Preface

## Authors

This practice guide was produced by a team of experts from around the world:

**Amanda Reinhardt** is a Solution Engineering Manager working for Flexera since 2015. She has spent her whole career in IT Asset Management, both in practitioner and advisor roles. Her areas of expertise include Microsoft Licensing, helping customers understand their license positions and setting up IT Asset Management programs.

**Kim Rasmussen** is a Senior Solution Engineer, working for Flexera since December 2017. He is a longtime subject matter expert on IT Asset and Inventory Management for over 20 years and has a special interest in Software Asset Management. Kim also has a passion for making complex data understandable.

**Lori Levenson** is a Senior Solution Engineer who came to Flexera with extensive experience as a Global Manager of Desktop Hardware and Software Asset Management. Her 15+ years as a practitioner at large corporations brings a wealth of real life asset management expertise for complex environments. She is a Certified Software and Mobile Asset Manager and loves to share her knowledge to assist customers in all roles to set up the needed processes and governance to support a solid asset management program.

**Steve Mullins** has lead the US Professional Services team and currently manages worldwide training. Steve has over 35 years of experience in IT Support, IT Management, Training, Retail Management and Project Management. Steve has been involved in many of the largest Flexera implementations and numerous projects for organizations requiring large and complex solutions. His strength is working in complex environments, devising and enabling customers to plan and implement the best solutions while focusing on industry best practices.

**Teemu Kuivala** is a Principal Services Consultant working for Flexera since 2015. He has over 10 years of experience in various large IT organizations in varying positions. His areas of expertise are in scripting, process creation, architecture and hardware.

**Toby Ivens** is a Senior Licensing Consultant who has worked for Flexera since February 2015. Toby has a broad Software Asset Management background with years of experience specializing in IBM licensing. Toby regularly provides license reconciliations & training across the world.

Special thanks to Flexera's Sales Engineering and Professional Services departments for the continuous support and resources.

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You can become a Flexera practice guide author, too! Join the biggest collaboration exercise and spotlight your skills! Your efforts will help shape the industry, increase customer satisfaction and product awareness - all at the same time. Email [learning@flexera.com](mailto:learning@flexera.com) to find out more.

# Feedback

Your feedback is important!

We know Hardware Asset Management is a complex domain. While this guide covers many strategies and approaches to Hardware Asset Management, you will undoubtedly find more scenarios and situations to handle than can be adequately covered here.

Share your thoughts and help us improve by completing this short [survey](#).

## Let's Keep in Touch!

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# Overview

This is a prescriptive guide to producing and refining the lifecycle management of hardware in your environment using Flexera's best practices and FlexNet Manager Suite. This practice guide is meant to enhance and support your current Hardware Asset Management practice. A good understanding of Flexera's solution areas and products is a prerequisite to using this guide. We recommend using the practice guide to enhance existing product knowledge, such as:

- The SLO Practice Guide (accessible through the Learning Center via our [Customer Community](#))
- Free training courses (accessible through the Learning Center via our [Customer Community](#))
- FlexNet Manager Suite Online Help (accessible through the product UI)
- FlexNet Manager Suite [Product Documentation](#)
- [Knowledge Base](#) articles

You should already be familiar with these materials and have a practical understanding of how to use FlexNet Manager Suite for general licensing activities. This guide is part of our Software License Optimization (SLO) practice guides and is based on a **hardware lifecycle approach**. The [asset lifecycle](#) follows the hardware asset from request to exit, explaining product functionality and providing best practices along the way.

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**Note:** *This guide outlines general Hardware Asset Management best practices but does not dive deep into specific scenarios or use cases.*

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**YES, IT CAN BE THIS SIMPLE!**

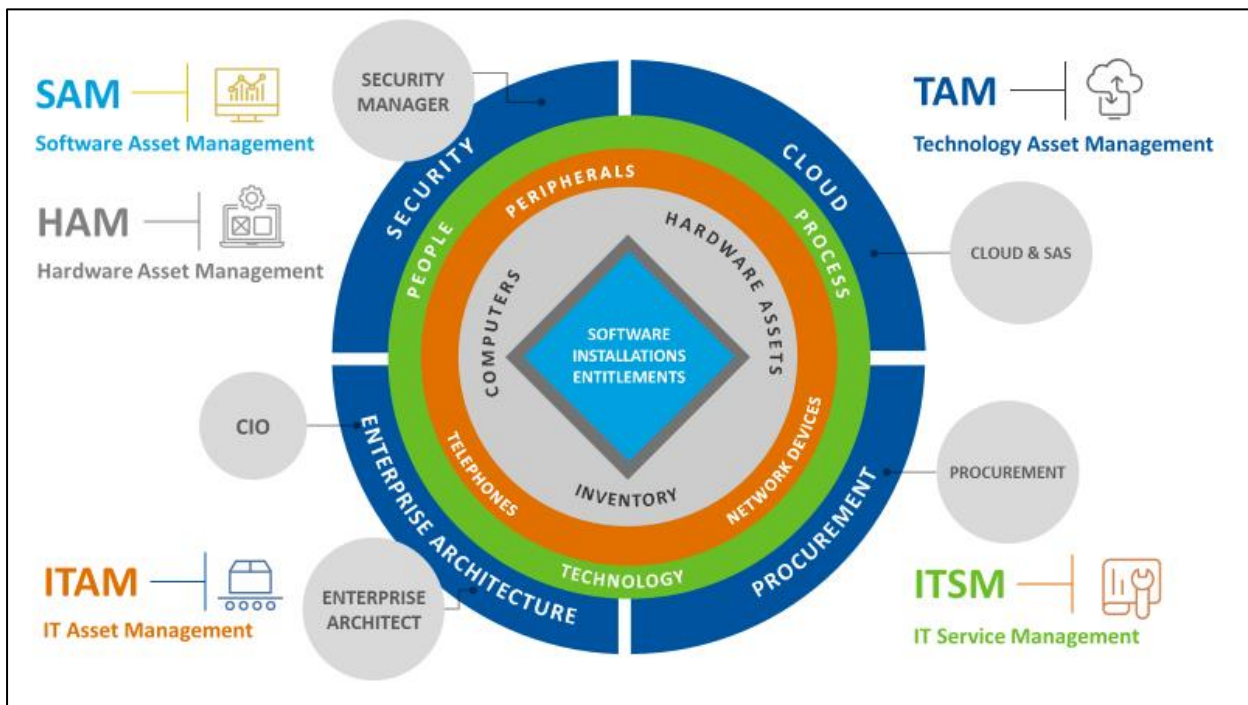


# Asset Management Considerations

The perception of IT has evolved from being a cost center to a business enabler. As a result, Hardware Asset Management (HAM) has been shown to optimize financial management and enable business alignment. To manage an asset effectively, it is important to understand the total costs associated with that asset, and how it supports critical business services during its lifespan.

For an effective Hardware Asset Management process, the identification and tracking of key components must be performed frequently and regularly. This will provide accurate data to all needed parties (e.g., Operations, Enterprise Architects or IT Technicians). The Business Units and Procurement teams can utilize this information as well. This will lead to better budget forecasting and better contract negotiations for both your hardware and software assets. You will know when assets need to be retired due to the end of support data or when they need to be returned to leasing companies. It will provide important insight to how your hardware and software are being utilized by your users, throughout your organization.

Technology Asset Management is the set of business practices that join financial, contractual and inventory functions to support lifecycle management and strategic decision making for the entire IT environment. Assets include all elements of software, hardware (both on-premise or virtual), devices and peripherals that are found in the business environment. The objective of Technology Asset Management is to ensure that the large volume of dynamic, costly assets is effectively managed from beginning to end to achieve the highest possible return on investment. It should be considered as the integrated management of all IT asset inventory, policies, processes, tools and resources necessary. Technology Asset Management provides benefits to several personas spanning across the enterprise, from enterprise architects, to software asset managers or security officers.



Software cannot run without hardware, even if the hardware is virtual or in the cloud. A complete and accurate Software Asset Management practice without looking into Hardware Asset Management aspect

will not be possible because of the way software licensing rules are tightly linked with hardware asset data.

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**Note:** *There are numerous practice guides available in our Learning Center which go into detail of how Flexera can assist in managing software assets (e.g., the SLO practice guides). Consider reviewing the “Discovery & Inventory” chapters and Learning Center trainings via the [Customer Community](#) for more details.*

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Along with the software and hardware comes all the peripheral accessories (monitors, telephones or RAM). Once all of these are taken into consideration, the SAM or HAM scope broadens into IT Asset Management.

With current trends, such as ever greater Virtualization (including containerization), Cloud and other IAAS and SAAS offerings, the definitions of technology assets are ever expanding and hence the management of that technology is expanding. This is where Technology Asset Management comes into play. Technology Asset Management spans not only on premises hardware and software, but other virtual software and hardware solutions no matter how those are delivered or managed, and it provides a normalized view of technology information for the extended personas that cannot be obtain from existing HAM, SAM and ITAM disciplines. Technology Asset Management is also looking at software & hardware procurement, virtual cloud procurement, security remediations, Enterprise Architecture, IT Service Management or IT Financial Management – the complete integration of people, process and technology for the all the lifecycle events.

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**Note:** *For a more complete overview of Flexera’s Technology Asset Management solutions, please review the ITSM Practice Guide and EA Practice Guide on our Learning Center, via the [Customer Community](#).*

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For the purpose of this practice guide we will be referring to the IT Asset Management discipline with a special focus on Hardware Asset Management.

## Benefits

There is a long list of IT Asset Management benefits and some of the include:

### Compliance Audit

License compliance audits by vendors are increasing, making it important to minimize the financial penalties associated with the oversubscription of licenses.

### Monitoring and Detection

A mature IT Asset Management process provides a faster response time for identifying and locating assets to assess a vulnerability.

## Standardization

In terms of standardization, IT Asset Management can help provide a standardized methodology for collecting and reporting on software and hardware assets, centralize hardware & software asset tracking, automate manual processes, prepare for technology upgrades or increased speed of communication of more accurate data.

## Limit Risk

IT Asset Management minimizes lost or stolen equipment risk, identifies the number of assets that are end-of-life and validates that the appropriate security controls are in-place prior to disposal.

## Security

By understanding what assets are in use and what rogue devices could potentially introduce security risks to the organization, IT Asset Management can help prevent breaches and reduce security risks.

## Cost Savings

A good IT Asset Management process helps the organization reclaim unused licenses, reduce duplicate asset purchases, optimize redeployment of equipment, stop paying for maintenance on assets that are no longer used, take advantage of the best licensing program options and establish more effective long-term planning & budgeting practices.

# Maturity Model

Below are five IT Asset Management maturity steps. You can use this model to measure your ITAM maturity and plan for improvements.

## Basic

A very reactive approach to IT Asset Management with no real process or teams assigned to manage the assets. The organization rarely knows what assets it owns, where the assets are in the environment or who is using them. Unpredictable service, support and costs. No central database of assets.

## Reactive

Limited accountability where some processes are being established and a team that is beginning to utilize raw discovery data. Local offices maybe tracking assets in spreadsheets or databases. Inventories are usually only done when they are needed for projects.

## Proactive

The work is no longer ad-hoc. There is starting to be a centralized focus on the asset lifecycle. A tool such as FlexNet Manager Suite is implemented to act as an integrated source of discovery and asset data as well as a central repository for organizational structure information. Processes are now starting to align with other department's focus areas, such as Service and IT Operations management. Processes are

implemented to manage assets throughout their lifecycle. Inventory data is linked with financial and contractual data for an expanded overview.

## Service

Service Level Agreements (SLA) are now in place to monitor your created processes and ensure accurate data is being collected and used for reporting. Metrics are established to measure the IT Asset Management program's value. There is now close collaboration between all teams and everyone knows their roles in the process. Internal audits are starting to be regularly performed for data accuracy purposes. Routine and managed communication about service delivery takes place.

## Value Creation

You are now continuously refining the processes around the lifecycle. The dedicated IT Asset Management team is not certified. Monitoring and reporting are fully functioning. You are now in cost recovery, true savings mode. The enterprise has implemented all three components of a mature IT Asset Management program (it has a central repository, it performs network assets auto-discovery and monitors software and hardware usage). IT cost recovery encompasses a broader range of user requirements and sophistication levels, with usage-based pricing models (e.g., standard service and premium service). License compliance is no longer an issue.

	1. Basic	2. Reactive	3. Proactive	4. Service	5. Value Creation
<b>Maturity Level</b>	<ul style="list-style-type: none"> <li>- One-time activity rather than a systematic approach</li> </ul>	<ul style="list-style-type: none"> <li>- Perform annual inventory and spot audits.</li> <li>- Report on asset counts but cannot produce solid detail data to identify and solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>- Clearly defined processes with accountability that detail the practical application if people, process and tools that support the ITAM program.</li> </ul>	<ul style="list-style-type: none"> <li>- Create SLAs for asset management and use them as a basis for planning.</li> <li>- Conduct periodic review of service delivery quality.</li> <li>- Institute and enterprise a technology refresh plan.</li> </ul>	<ul style="list-style-type: none"> <li>- Continuous process improvement with improving metrics.</li> <li>- ITAM used for problem prevention.</li> </ul>
<b>People</b>	<ul style="list-style-type: none"> <li>- Few control mechanism, significant gaps in responsibility and accountability</li> <li>- Limited understanding of ITAM scope</li> <li>- No dedicated people</li> </ul>	<ul style="list-style-type: none"> <li>- ITAM team beginning to form</li> <li>- Low ITAM head count</li> <li>- Focus on core processes (accountability and operations)</li> </ul>	<ul style="list-style-type: none"> <li>- Formal asset management discipline with manager and dedicated staff</li> <li>- ITAM team members gaining understanding of the full scope</li> <li>- ITAM headcount stable and growing</li> </ul>	<ul style="list-style-type: none"> <li>- Infrastructure managers beginning to understand the critical interdependencies of their roles on the ITAM team</li> <li>- Increased level of cooperation and collaboration among ITAM team members</li> </ul>	<ul style="list-style-type: none"> <li>- ITAM team knowledgeable and integrated</li> <li>- Some team members have CITAM certification</li> </ul>

	1. Basic	2. Reactive	3. Proactive	4. Service	5. Value Creation
<b>Process</b>	<ul style="list-style-type: none"> <li>- Little process maturity and no knowledge of what assets are owned or where they are used</li> <li>- No centralized configuration tracking</li> <li>- Purchasing is ad-hoc</li> <li>- IT disposition is ad-hoc</li> </ul>	<ul style="list-style-type: none"> <li>- ITAM processes maturing with focus on asset counting</li> <li>- Procurement functions loosely integrated with the rest of the process</li> </ul>	<ul style="list-style-type: none"> <li>- ITAM lifecycle management processes defined and implemented</li> <li>- Configuration management stabilized</li> <li>- Global IT disposition</li> </ul>	<ul style="list-style-type: none"> <li>- Metrics are in place to measure value and service levels have been created to meet business and/or IT goals.</li> <li>- Close integration between processes</li> <li>- Inventory levels are tracked to prevent overbuying</li> </ul>	<ul style="list-style-type: none"> <li>- Audits are conducted to review the efficiency and effectiveness of established ITAM business processes</li> <li>- Quantifiable monetary value provided to the enterprise</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>- Lack of adequate tools to track and manage assets</li> <li>- Available tools loosely integrated</li> <li>- Limited reporting capabilities</li> </ul>	<ul style="list-style-type: none"> <li>- Spreadsheets or databases are created to track assets</li> <li>- Limited use of auto-discovery tool to supplement data</li> <li>- Basic reporting with little detail</li> </ul>	<ul style="list-style-type: none"> <li>- Software usage tool and auto-discovery tools are integrated with the asset repository</li> <li>- IT Asset Management Repository in place</li> </ul>	<ul style="list-style-type: none"> <li>- IT Assurance systems fully operational</li> <li>- Reports are run frequently, and cost savings are identified</li> </ul>	<ul style="list-style-type: none"> <li>- All operational and accountability systems are in place and integrated</li> <li>- Sophisticated monitoring and reporting</li> </ul>

We recommend organizations use the above process maturity guidelines to assess status and create a program and strategy for sequential improvement. This is done by investing in people, business management, processes and technology. Sound strategies and clear requirements will help you be successful. As you move your organization to the proactive state of value creation, IT Asset Management will become a core enterprise component.

**Note:** Remember that the path to maturity takes time. The size and complexity of your organization affects how long it will take to mature. The more you can align the various processes and people to be working toward the same goal, the easier it will be to move further on the path.

## Baseline Considerations

To measure maturity and progress it is a best practice to establish a baseline (an initial starting point of the hardware data). Once established, you can use this as a basis for comparison as your IT Asset Management process matures. The organization needs to determine the assets required to track and include them as part of the baseline moving forward.

**Note:** To ease the workload, we recommend starting with the assets currently in your inventory (what is currently in use, discovered by your inventory solutions) as your initial baseline. You can then supplement

*it with purchase history records (if available). You would then add data around assets which are not currently used (in stock rooms or datacenters).*

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This baseline should include at a minimum: **make, model, serial number, purchased or leased, location, user information, lifecycle information (purchased, in storage, retired).**

## Program Considerations

Now that you are starting down the path of establishing baseline and IT Asset Management process, below are some things to consider for a successful program:

- **Executive Alignment & Support:** This is essential to influence the greater team, help gain alignment and work toward common goals. An executive sponsor will be able to influence and keep the program on track with a wider organizational view.
- **Define what an asset is to your organization:** The scope can always evolve from desktops and servers to add mobile devices and firewalls later.
- **Take a phased approach:** Similar to our license optimization recommendations in the SLO Practice Guide, keep your initial scope limited to develop that good cadence of process, policies and people as well as the technology. Work with your executive sponsor to make sure your roadmap is aligned with their needs (e.g., reducing costs, mitigating risks). Use this initial success to roll out other benefits.
- **Create a baseline before implementing changes:** Make sure to include items both on and off your network.
- **Only capture and manage quality data:** Make sure your data sources are accurate and the processes and people are there to support it.
- **Cross functional dependencies:** IT Operations, Finance, Legal, Risk, Procurement - your policies and processes must be aligned with all these teams to be successful.
- **Develop solid processes to support the technology:** Processes and policies need to be well defined, communicated and enforced. This will keep the data accurate.
- **Automate:** Integrate your user information, your inventory discovery tools, your procurement and financial systems, your license management systems. This will keep your data enriched, updated and reduce manual updates.
- **Share your results:** Be transparent with management and the business on your progress. This will keep them engaged.

Some would say, “treat every day as an audit” and in the IT Asset Management world this is great advice. Treating everyday as if you are being audited ensures that your organization is always proactive with their hardware and software license management. Try to think about what the auditor would do. Regular internal audits of your hardware and software data that have a clear path through your processes, from the request to retirement, can identify gaps which you then can correct before they become seemingly unmanageable.

Make sure you have a dedicated and clear process about how your organization reacts to an audit and what user's roles and responsibilities are. It can then be a huge time savings for your staff and helps the organization be prepared when the audit comes.

## The IT Asset Management Repository

The IT Asset Management Repository is a database designed to manage, track and report on IT assets, including financial, physical and contractual data throughout the entire lifecycle of each asset. The asset management repository holds all relevant asset information. It combines all the hardware and software asset data with your discovery data. This discovery data can come from a variety of sources such as Microsoft SCCM, IBM BigFix, purchase and financial information, Active Directory and many more. This is not limited to but includes:

Colleague and business unit details	Location	Asset Type	Make, Model & Serial number	Purchase & Lease cost (chargeback info)
Purchase/Lease info – PO, term etc.	End of life data	Status of Asset in its lifecycle	History	Network info

The IT Asset Management Repository can be a standalone database, or it can be a part of your IT Service Management (ITSM) platform within the Configuration Management Database (CMDB).

**Note:** *If you currently do not have one, FlexNet Manager Suite makes a perfect IT Asset Management Repository.*

It is a best practice that the asset ownership and discovery data should be managed as two separate objects. If you do not have ownership data, you can use your asset discovery records to seed the database. You would then add those assets that are currently in a stock room, which would not normally be in the discovery records.

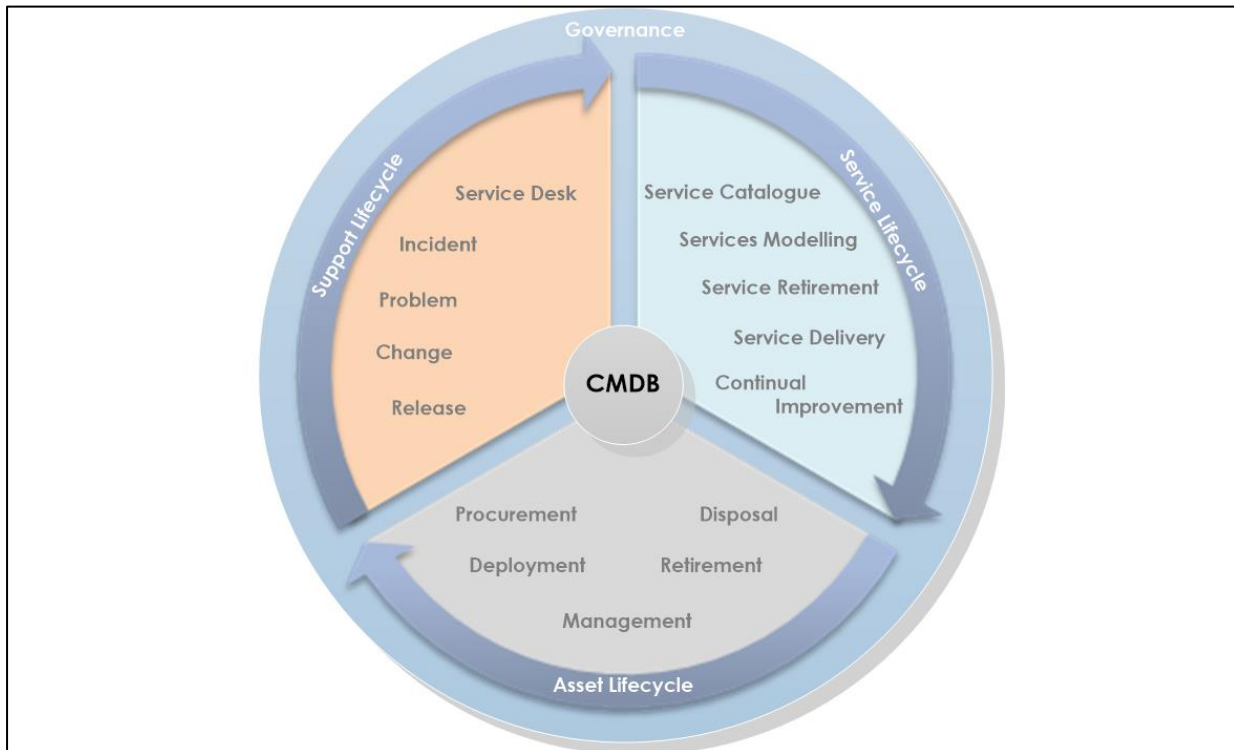
Whether your ownership information is in a standalone system or contained in your CMDB it will enable you to link the relevant information about your hardware as well as the relationships between the different assets.

**Note:** *If different, it is a best practice to have the CMDB and IT Asset Management Repository integrated. This ensures the assets data, managed by the asset manager, is made available to all parts of the organization. In this scenario, some data points such as software product use rights and entitlements may remain in FlexNet Manager Suite. FlexNet Manager Suite would then host the data of truth for software asset managers, enabling them to work closely with Procurement and ensure proper licensing and spend levels.*



# The Configuration Management Database

The CMDB, especially for larger organizations, is already your data warehouse for IT assets. It contains all relevant information about the hardware and software in your organization's IT services, as well as the relationships between those components. The CMDB provides a single organized view of configuration data and allows viewing of that data from any perspective. It is normally part of an IT Service Management solution such as ServiceNow, CA, Remedy etc. If you do not currently utilize a CMDB, these attributes would be the same in the IT Asset Management Repository of your choosing (e.g., FlexNet Manager Suite).



The four major tasks of configuration management are:

- Identify the Configuration Items (CI) to be included in the CMDB (remember, you can gradually add them as your governance and processes evolve).
- Control the data to ensure that it can only be modified by authorized individuals (security reduces risk).
- Maintain the status of the CI: where it is in its lifecycle, ensure that it is current and consistently recorded and kept up to date (solid processes).
- Verify through audits and reviews of the data to ensure the data is accurate.

CMDB's capture all kinds of attributes. A CMDB also provides details about the relationships or dependencies between CIs, which is very powerful if used correctly. As you enter more CIs into the CMDB it becomes a stronger resource to predict changes within your organization. For example, should an outage occur, IT can understand through the CI data who or which systems will be affected. Another

benefit of a CMDB is the ability to integrate data from other sources. You can use that data to identify any inconsistencies within the database and then ensure that all data is synchronized.

You can integrate FlexNet Manager Suite to both take and provide information to your CMDB. For example, you can have your SCCM discovery data flow into FlexNet Manager Suite, take the hardware attributes of your choosing (such as RAM, Processor, IP address etc.) and then feed it back to the corresponding CI record in the CMDB, thus enhancing the initial data set. The CMDB also becomes part of configuration related processes such as change management and incident management to better manage the technology environment. The IT Asset Management Repository is a very important foundational data source to the CMDB.

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**Note:** *Not all assets represented in the IT Asset Management repository are relevant from a configuration management perspective. While there is a clearer one-to-one correlation between a hardware asset and a corresponding CI this is typically not the case when it comes to software assets. A software asset in the asset management repository represents the license entitlement associated to the purchase, whereas the interesting corresponding CI objects would be instantiations of applications running in the infrastructure governed by this specific license entitlement.*

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In the modern IT world with virtualization and clustering techniques there will also be a need to separate the layers in the CMDB design to differentiate between the hardware and the software. Even though most IT assets are useful in both IT Asset Management and Configuration Management, the two systems serve very different purposes:

- IT Asset Management focuses of managing asset cost (ownership, location, lifecycle, warranty etc.) from an organization’s financial perspective.
- Configuration Management focuses on an operational and support perspective.

## The Importance of Clean Data

Both Hardware Asset Management and Software Asset Management need clean data to work with. If you are utilizing Flexera’s Data Platform, you can integrate the enriched asset data into the IT Asset Management Repository (such as end of support information and whether the hardware is Win 10 compatible).

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**Note:** *To be effective, we recommend having the CMDB 97% accurate. On average, data in the CMDB is only 50%–75% accurate.*

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“Poor data quality is a primary reason for 40% of all business initiatives failing to achieve their targeted benefits”.

Ted Friedman, Gartner

But what does clean data mean in the context of the CMDB? It means that the data is consistent, authoritative, complete, and up-to-date:

- **Consistent:** As a central repository for data from many sources, the CMDB must clean up any inconsistencies in how data is reported.

- **Authoritative:** All data should be de-duplicated and any conflicts resolved. The CMDB also needs change management to ensure that only authorized individuals can update it.
- **Complete:** The CMDB should store all relevant information for configured items, including relationships.
- **Up-to-date:** The data in the CMDB must remain up-to-date and accurate even as the environment and external conditions change.

Several factors affect every CMDB, no matter how well designed and implemented:

- **IT data sources:** The data sources do not have information about every aspect of an asset.
- **Multiple sources:** The typical IT organization collects asset data from at least three sources for the CMDB, often many more.
- **Lack of standardization:** These different data sources have many ways of referring to the same software or hardware.
- **Vendor-induced complexity:** Vendors themselves are constantly adding to the complexity by acquiring companies, updating versions and renaming products.

## The Five CMDB Problems

Taken together, these factors contribute to five essential problems with CMDB data:

### Inconsistent Data

Data in a CMDB comes from multiple sources: discovery tools, procurement, provisioning systems, etc. Each of these tools represents vendors and products in very different ways. Micro Focus® Universal Discovery and DDMi might represent the same product in a different way than Microsoft SCCM, for example. The lack of standardization makes data consistency a big problem. Based on our research, the average duplication ratio in vendor names due to inconsistent naming is 10:1. The average duplication ratio in software product names due to inconsistent naming is as high as 20:1.

### Duplicate or Conflicting Data

Because CMDBs combine data from multiple different sources, they often contain duplicate data and conflicting data. If the CMDB is to be the authoritative system of record supporting IT decisions and processes, it needs to resolve those conflicts and filter out duplicates. The problem can be significant. Research shows that 40 percent of data collected across different sources is duplicate. Different inventory and asset management tools may report conflicting or duplicate data, for many reasons. When the problem scales to millions of lines of data, finding and fixing the conflicts can be a huge task.

### Irrelevant Data

Almost 95% of data gathered from various discovery sources is irrelevant. Removing the irrelevant data can reduce the data footprint significantly. For example, when looking at data for an audit, you do not need to look at files such as .dlls, knowledge base files, patches, and .exe files that are individual

components of a larger bundle. Ignoring those files helps to eliminate the noise, so that you can focus on the remaining 5% of data that is truly relevant.

### **Incomplete Data**

Even if you address the first two problems (your data is consistent and authoritative), the data in the CMDB still has a serious limitation: it is missing data that you need to make decisions. Data is only as good as its source. For the CMDB, the source is your IT systems. All IT systems lack critical information you need to know, such as end-of-life or end-of-support date, licensing and packaging options, current version, etc. These external data points (market data) are essential for many day-to-day processes.

### **Outdated Data**

Some of the data in your CMDB is out of date. 25% of the Fortune 500 use software that is past its support date. Networks are changing all the time, with new devices and software. And the vendors are constantly changing, with new software versions, patch updates, product names, mergers and acquisitions, and support changes. A large organization may have hundreds of CI updates each week. Organizations often spend a lot of time and money in the initial setup of the CMDB. Failure to maintain the CIs makes data in the CMDB outdated very quickly.

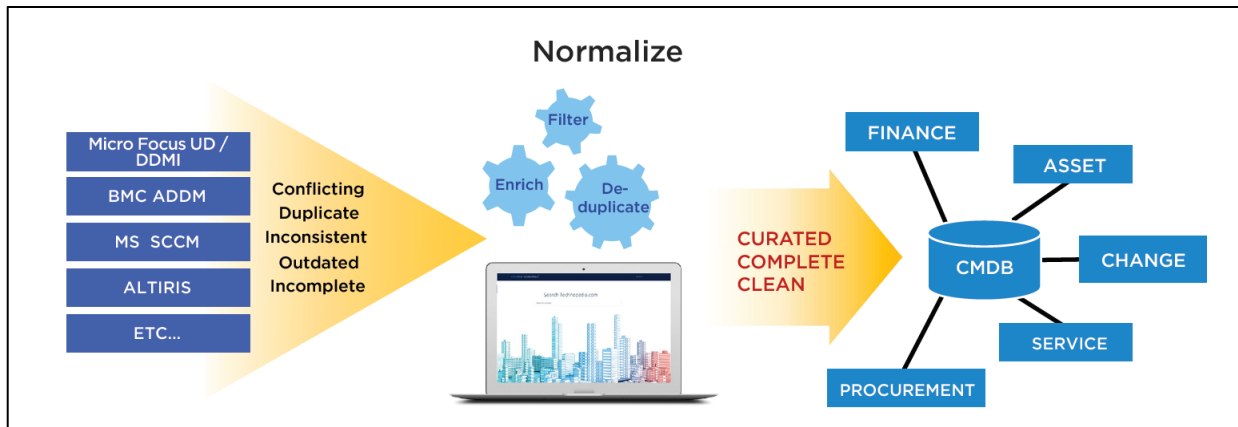
## **Flexera's Data Platform**

The Data Platform enables organizations to build and maintain an accurate, reliable CMDB by consolidating data across multiple systems, cleansing the data, enriching it with market information, and keeping it current with product and market changes. Technopedia® Catalog delivers more than 2.1 million unique software and hardware models with category and version information. This provides a reference product catalog that can be used to standardize CIs across all data sources. The Data Platform has built-in data extractors to aggregate CI data across more than 40 data sources, including HP, ServiceNow, BMC, Microsoft, IBM, and others. Normalize® then filters the noise, de-duplicates and normalizes the data to establish CI identity, and then enriches it with non-discoverable market data from Technopedia.

Leveraging Technopedia, the Data Platform delivers best in class coverage and accuracy for CI data and metadata. The Data Platform takes the raw discovery data, filters out noise, normalizes it to the product catalog, and enriches it with the missing information. Certified integrations with the top CMDB vendors ensure that CI data and metadata are automatically populated and kept current.

Data Platform also augments CI data with non-discoverable metadata and market information, including end-of-life dates, support type, OS compatibility, upgrade and downgrade paths, versioning and licensing information, and more.

For more information about Data Platform, Technopedia and how normalized data can help your organization, see the [Data Platform](#) page on our website.



## The Asset Lifecycle

As previously presented, Hardware Asset Management is an integral part of both IT Asset Management and Technology Asset Management. The actual types of hardware in scope will vary from industry to industry, but will typically include: desktop, laptop, mobile devices, servers and virtual machines. Other hardware asset, from pencils to MRI machines will also be in scope, dependent on your business.

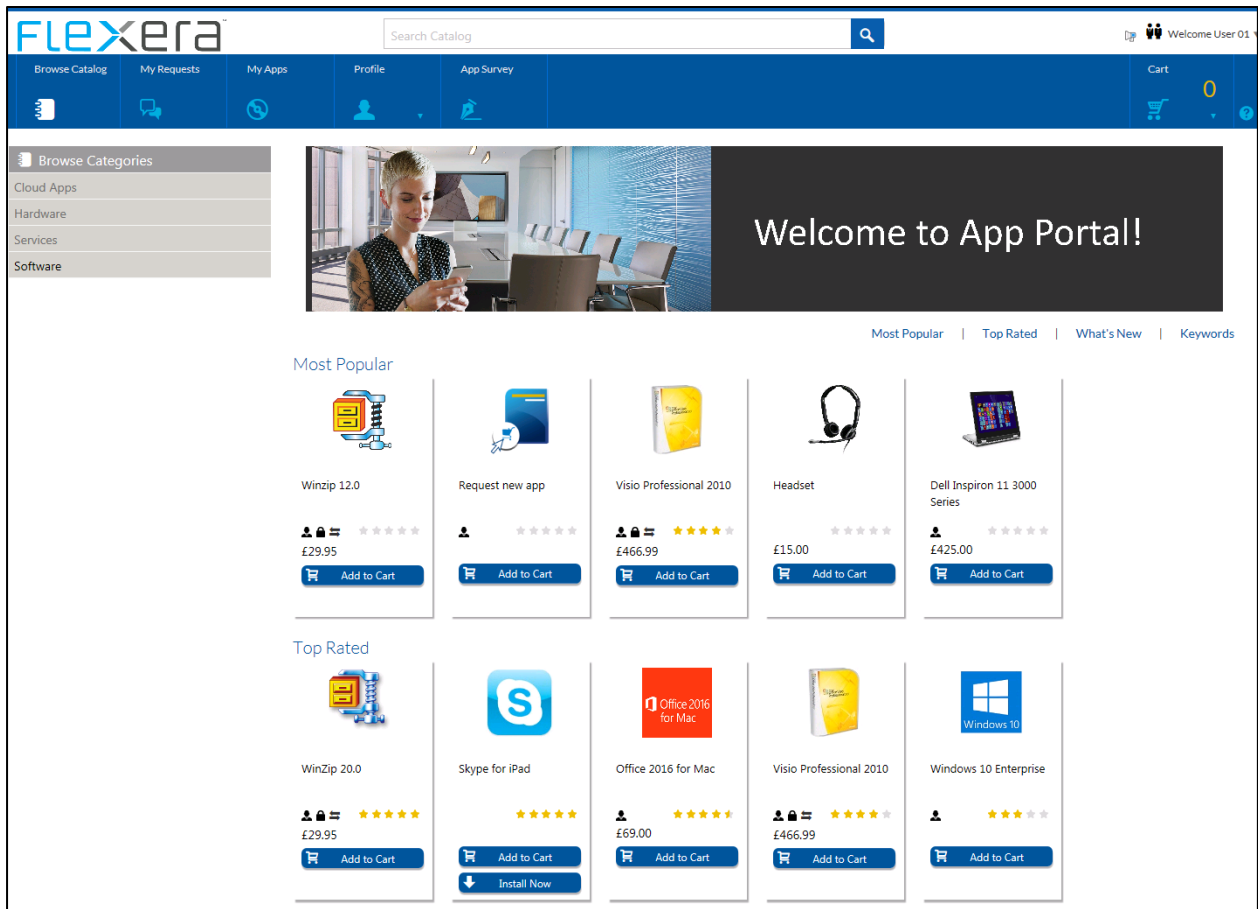
The Asset Lifecycle is a log of everything which is owned and what changes are made to them as they transition through the business. The more you know about the asset, the easier it is to manage it. Most organizations have some processes and tools to track their hardware assets, with the goal to have visibility and control of those assets throughout the product lifecycle. Being able to know and document when an asset has been requested and approved will give you a clear view of what item will be added to your environment in the near term.

We recommend following the below steps and guidelines to ensure a successful hardware asset management process using Flexera's solutions.

## Request

This is where the user initiates an asset request or the business requests new equipment due to a needed change. During this first phase, the request must be assessed to determine if the piece of hardware has been reviewed and approved to be brought into your environment. Usually there is an Enterprise Architecture team who creates hardware standards for various aspects of the hardware landscape. This can change over time as needs change and assets become unsupported by the vendor. It is vital to remove non-standard assets to eliminate risk to the data and systems in your environment.

Flexera's App Portal should be utilized to manage these requests and improve customer experience, governance and hardware compliance.



App Portal is a storefront which is linked to current inventory and business rules. The solution can house any asset type, from approved software to hardware. It can be set up to be role based (a user in a specific department can or cannot have a software title).

For software requests, App Portal is easily linked to FlexNet Manager Suite to determine if a license is available or a new license purchase needs to be made. The knowledge of license availability is gained from your discovery and purchase records. When these are connected in FlexNet a software entitlement position is gained (do you have any licenses not in use that can be used for the user's request or does a purchase have to be made).

App Portal has a workflow engine to facilitate and automate the approval process and it can be customized to the offering. For example, you can offer a freeware software (no license is required), that you have previously certified as fit for your entire organization. You may want to set it up to have the user's manager approval, if necessary or the request could be pre-approved based upon the requestor's role in your organization. Once approved, Microsoft SCCM or JAMF (in the case of desktop assets) would automatically push the install to the selected asset. App Portal can also be used to deploy software to mobile devices (via AirWatch or MobileIron) and many others.

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**Note:** This process would also automatically be captured in your Service Management solution (such as ServiceNow).

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For hardware request, the approval flow in most instances will be different. You may set up the approval process and once approved it may go to the team who manages the stock for that asset class. For a laptop it may go to on-site support to see if the type of laptop is available or if it needs to be purchased. This would be captured in a service desk ticket. In addition, App Portal can facilitate OS upgrades to allow users to schedule the upgrade when it is convenient for them. The organization can also establish “blacklist” software (software which is deemed unsuitable for their organization) and automatically remove it.

App Portal also allows users to review the software they currently have deployed to their computer and resolve any enterprise issues. These issues can be the identification of software they currently are not using and can then have it removed or acknowledge and retain it.

The screenshot displays the Flexera App Portal interface. At the top, there is a search bar and navigation tabs for 'Browse Catalog', 'My Requests', 'My Apps', 'Profile', 'App Survey', and 'Cart'. The main content area is titled 'Choose Your Device: DESKTOP02'. It features a 'Software Policy Score™' section with a pie chart showing: No Alerts (95%), Action Alerts (0%), and Unused Software Alerts (4%). Below this, there is a 'My Current Alerts' section with a red alert for WinRAR: 'Unused Software Alert: You have not used WinRAR during the last 478 days, Click Uninstall to uninstall this software or click Keep to retain it.' The 'Installed Applications' table is shown below:

Application	Version	Edition	Publisher	Classification	Is Used?	Cost	Action
WinRAR	5.40		RARLab	Commercial	No	29.95000076293...	
.NET Framework	4.5		Microsoft	Freeware	No		
Update Helper	1		Google	Freeware	No		
Silverlight	5		Microsoft	Freeware	No		
Configuration manager Toolkit	2012 R2		Microsoft	Freeware	No		
System Center Configuration	2012		Microsoft	Commercial	No		

At the bottom of the page, it shows 'App Portal 2016 (11.0.0.0)' and 'Powered by © Flexera Software'.

For IT personnel, App Portal provides the governance around your assets, eliminates the mundane, repetitive tasks around requests and can integrate with current solutions.

For the enterprise, it provides compliance over the request process, an easy way to add services and offerings, a method to track and reclaim unused software as well as accelerate application adoption.



For more information about App Portal and how governance can help your organization, see the [App Portal](#) page on our website.

## Approve

The approval process has numerous levels. Management or a department head may have to approve the user's asset request. If the request is for something not currently utilized a review must be done by the Enterprise Architecture team to make sure the requested asset does not bring risk or a new support model to the organization. For example, the asset may need to run a different Operating System, which may change current software licensing and support. After EA has approved, Operations will need to review the request to determine if the hardware is currently available or will require a purchase. Once Operations has decided a purchase needs to be made, the cost of the new acquisition needs business approval. The approvals should be tracked in your financial system for reference. A communication should be sent to the requestor once the final approval has been received.

## Purchase

Once approved, a purchase order is created in the appropriate system. The asset is then ordered (purchased or leased) and shipped to the appropriate party for configuration. Once received, it can then be recorded in the IT Asset Management Repository.

The procurement system should be linked to your asset repository to track incoming orders of equipment. This linkage can be done in a variety of ways. You can have the vendor who you purchased from create a feed automating the creation of a new asset into your repository using Advanced Shipping Notices (ASN). You will need to determine what your organization deems appropriate to add to your database. For example, you may want to track monitors, but not track laptop docking stations. Yet the docking station maybe more expensive than a monitor.

When the asset is received on-site by Operations, they will need to find the asset in the repository or manually add it, then have the status to indicate its receipt, affix an asset tag and confirm all the asset's data elements are correct in the repository.

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**Note:** An asset tag is a best practice way to ensure each hardware asset has a unique identifier.

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This initial asset information should be brought into the repository: asset name (should be unique, such as “Asset Type – Serial Number”), asset type (laptop, workstation, server, cell phone, printer, firewall, monitor etc.), serial number, asset tag, manufacturer, make, model, hardware category, location, business unit, cost.

Most hardware assets which will contain data need to have this information secured so that it is not easily read by those not intended. Computers have various methods including encryption. These solutions safeguard your data and intellectual property. For example, if a laptop gets lost or stolen the data cannot be retrieved. Some have a long character password needed just to sign into the device before the OS boots up. There are also products that can find the device should it be found on the internet. These again are all to protect your data. Your hardware is housing your business it needs to be secure and available only to those who should have access. Ensure your processes include this step to avoid any data security breaches.

## Deploy

Operations will normally configure the device for utilization. The hardware may reside in a stand-alone Repository such as FlexNet Manager Suite or be part of the CMDB. In any case both Configuration and Asset Management should have access to the data. With the systems integrated, all data owners can access the assets they are responsible for, as they relate to ticket history, who owns or uses the asset, etc.

Assets can get into your IT Asset Management Repository in a variety of ways:

- A user orders a new device
- A merger or acquisition
- An asset which was found in the organization and was not captured in the repository
- Most hardware suppliers (VAR’s, Manufacturer’s etc.) can automatically, via an API, provide Advanced Shipping Notices (ASN’s) for your new hardware purchases.

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**Note:** *Automatic upload via API from the ASN is the best practice as it gets the accurate data directly from the source, avoiding human error.*

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## Manually Adding an Asset to The ITAM Repository

If the Advanced Shipping Notices process is not yet in place, the IT Operations technician or the asset receiver will have to manually create the asset and add its details into the IT Asset Management Repository.

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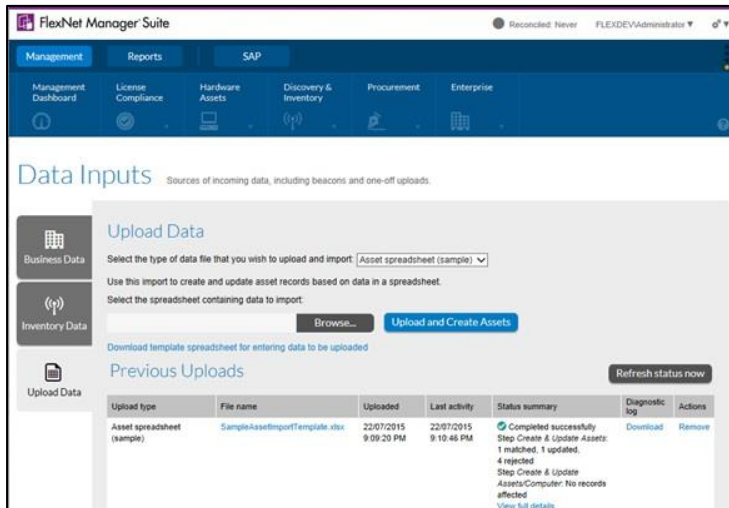
**Note:** *For the best practices below, we are considering the IT Asset Management Repository as FlexNet Manager Suite.*

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The **In Storage** status needs to be used if the asset is transferred to a stock room. This process would also be used for merger & acquisition or any other asset which needs to be added to the system. Once the

asset is active on the network it needs to be linked via a serial number to the incoming inventory asset data.

There is a possibility to upload asset details into the FlexNet Manager Suite UI. The system will check this data, compare it to the existing one and give a report of how many devices were matched, rejected or updated.



## Automatically Adding an Asset to The ITAM Repository

Work with your suppliers to get a feed via an API directly into your IT Asset Management Repository. This Advanced Shipping Notice will create a new asset record in the IT Asset Management Repository. They should be imported into the system in the status of **Purchased**, as they probably have yet to be received. Most vendors will send the data over as soon as they invoice for the purchase. Once the asset has arrived on site, the IT Technologist who receives it would then search for the asset using its serial number in the IT Asset Management Repository. They would update the status to **In Storage** to acknowledge receipt and then review and update any attributes to confirm accuracy of the data brought in by the ASN. For example, if the asset is now moving to production, you would change the status to **Installed**.

## Asset Status

The following hardware asset statuses in FlexNet Manager Suite set the inventory device status from **Active** to **Ignored**. An ignored inventory device is not included in FlexNet Manager Suite license calculations. These are assets which are currently not in use.

FlexNet Manager Suite

Management Reports SAP

Management Dashboard Management View Index License Compliance Hardware Assets Discovery & Inventory Procurement Enterprise

### All Inventory

All devices that have ever reported inventory.

2,646 results returned 50 rows per page

Name	Status	Recommended asset link	Manufacturer	Model	Serial number	Last inventory date	Inventory device type
ZoneHost6	Ignored		Sun_Microsystems	Fujitsu SPARC Enterprise M8000 Server	84765893	8/14/2018	VM Host
ZoneHost	Ignored		Sun_Microsystems	Fujitsu SPARC Enterprise M8000 Server	84765892	8/14/2018	VM Host
ZoneGuest2	Active		Sun_Microsystems	Fujitsu SPARC Enterprise M8000 Server	Sun660384	8/14/2018	Virtual Machine
ZoneGuest	Ignored				SN666684	8/14/2018	Computer
ZoneGuest	Ignored		Sun_Microsystems	Fujitsu SPARC Enterprise M8000 Server	Sun541781	8/14/2018	Virtual Machine
VMHost00986	Active		Dell Inc	Precision WorkStation T3506	Dell986732	8/14/2018	VM Host
VMHost009	Ignored		Dell	PowerEdge 1950	Dell971374	10/10/12	VM Host
VMHost0080	Active		Dell	OptiPlex 780	Dell807151	8/14/2018	VM Host
VMHost008	Ignored		Dell	PowerEdge R710	Dell871372	10/10/12	VM Host

**Retired** means an asset has been retired from use but remains within the enterprise. The **End of Life** section of the **General** tab is displayed for this status. Applications installed on a retired asset are not included in license compliance calculations.

A **Disposed** asset is no longer held by the enterprise, as it has been sold, given away or destroyed. These assets have either been returned to their leasing company or been given to your disposal vendor. (for more details on this process please see the [Retire](#) section). Applications installed on a disposed asset are not included in license compliance calculations.

FlexNet Manager Suite

Management Reports SAP

Management Dashboard Management View Index License Compliance Hardware Assets Discovery & Inventory Procurement Enterprise

### All Assets

These are physical items of value including workstations, servers, other electronic items, and furniture.

Serial number is not empty Add filter

Delete

2,901 results returned 50 rows per page

Name	Status	Serial number	Asset type	Manufacturer	Model
zeppo	Disposed	VMware-56 4d d6 af 48 24 6e 72-b4 9b f9 25 3a ea 82 f9	Server	VMware, Inc.	VMware Virtual Platform
xpkacetest	Disposed	VMware-56 4d ed ab cf 13 68 99-b1 24 df 5f 1a 58 53 1d	Workstation	VMware, Inc.	VMware Virtual Platform
WIN-NICKTEST	Disposed	4GCF7C1	Workstation	Dell Inc.	Precision WorkStation 390
win-11n244b586s	Disposed	VMware-56 4d bb f7 d9 14 c6 8d-8a ab 79 68 23 d6 9f e5	Server	VMware, Inc.	VMware Virtual Platform
Windows XP	Disposed	2804-5384-8678-2087-6546-7311-12	Workstation	Microsoft Corporation	Virtual Machine
winasdemo2012	Disposed	DBY06R1	Server	Dell Inc.	Latitude E6420
W2K8R2_Sld (2)	Disposed	VMware-564d510b-6c16-8bde-7d29-a63f9367a18	Server	VMware, Inc.	VMware Virtual Platform
VMHost00986	Installed	Dell986732	Workstation	Dell Inc.	Precision WorkStation T3500
VMHost009	Disposed	Dell971374	Server	Dell	PowerEdge 1950
VMHost0080	Installed	Dell807151	Workstation	Dell	OptiPlex 780
VMHost008	Disposed	Dell871372	Server	Dell	PowerEdge R710
VMHost00772	Disposed	Dell772728	Server	Dell Inc.	PowerEdge R710

The **In Storage** status does not change an inventory device status from active to ignored but the **Applications** and **Licenses** tab of the device will now report “No results”. Therefore, the device will not be

included in the license calculations. The status means the asset has been delivered but has not been installed.

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**Note:** For more information on managing inventory devices in FlexNet Manager Suite, please refer to the online course “Managing Inventory Devices in FlexNet Manager Suite” which is available from the Flexera Learning Center via the [Customer Community](#).

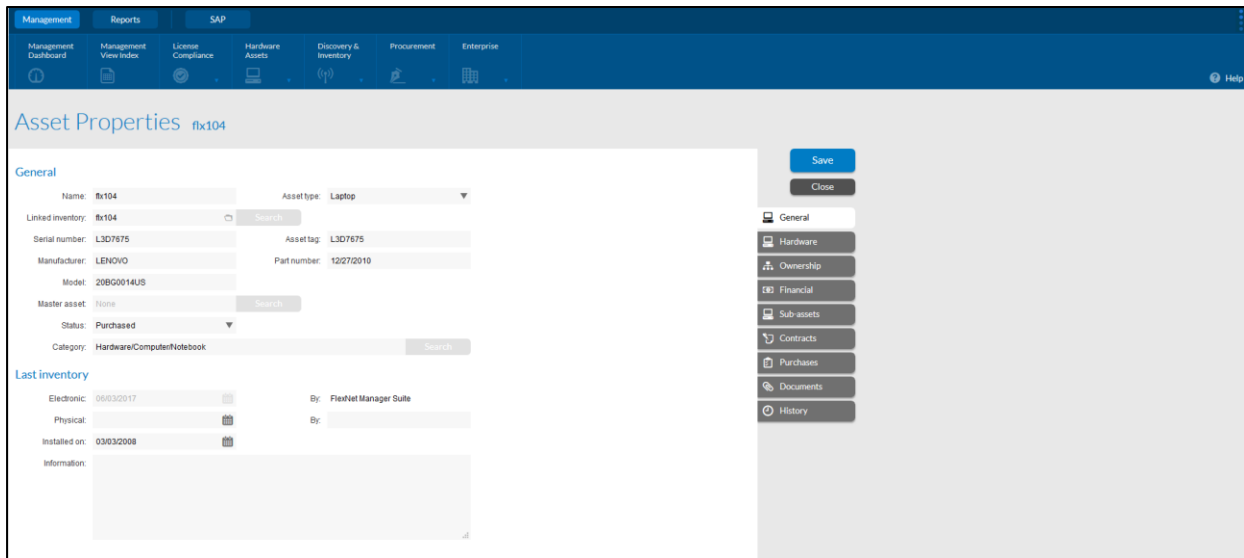
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## Asset Information

This information can be seen in FlexNet Manager Suite under **Hardware Assets** on the **General** tab. The data here is initially from either Advanced Shipping Notices or from your discovery and purchase records. The serial number of the asset will be the unique identifier of the equipment. If it is a device that can be found using discovery tools, such as Microsoft SCCM, it is the serial number which will sync the record.

Some of the data points are:

- **Name of the Asset:** Once the asset is discovered and linked to the hardware asset record, this will be over-written with the associated computer name.
- **Asset Type:** Laptop, workstation, server, mobile device, monitor, printer etc.
- **Serial Number:** The serial number is an identification number showing the position of a manufactured item in a series.
- **Asset Tag:** An asset tag is a company-specific identification code that can be used to label the asset. This can be useful when doing physical inventories for the ability to easily scan the device and recognize it. It becomes a uniquely identifiable number or sticker that is a constant. This then allows to physically map the device to the internal serial number.
- **Manufacturer, Model, Part Number:** Gives the name of the company that produced the asset, the model and the part number.
- **Status:** The current disposition of the asset, such as “Purchased”, “Retired”, “In Storage”, “Installed”, “Disposed” etc. The status needs to map back to the status in the CMDB, if applicable.
- **Category:** Categories represent how assets are classified within your enterprise. For example, if you would like to group assets for different purposes (such as production or backup), you could define a category called Asset Types and sub-categories for each type of asset. You could then assign each asset to one of these categories. Such as “Hardware/Computer/Notebook”.
- **Last Inventory:** **Electronic** - this is the last time the discovery tool saw the asset on the network.  
**Physical** - this is the last time a physical audit was completed.
- **Installed on:** this is the date it was first put into service, **not** the date it was acquired.



## Environment Role

This will indicate how the device is currently being used in your organization. By default, the environment role associated with an inventory device in FlexNet Manager Suite is set as **Production**. This inventory device status can be updated via a business connection to a Configuration Management Database (CMDB), a business adaptor, from a spreadsheet or through manual changes applied in the FlexNet Manager Suite UI. You may decide to have the status of a specific type of asset be automatically changed to **Production** if it is found on your network by your discovery tools. This may be worthwhile for servers but may not be of value for desktop computers if those desktops are active on your network during the build process.

Some software licenses are separately sold for production and non-production use. Other software licenses may only require you to count production or other specific device roles in your license consumption calculations, where development or testing may not require a license. Having the correct inventory device role assigned to your inventory devices enables an accurate and efficient management of your licenses in FlexNet Manager Suite.

## Enterprise Group Attributes

Your organization's software license entitlement may be restricted only to certain locations or certain business functions. The Enterprise Group structure should be applied to your inventory devices and hardware assets. This enables the efficient and optimal management of your licenses, as FlexNet Manager Suite has the capability to restrict relevant license types license consumption based on enterprise groups.

For example, if your organization operates across Europe and North America but you have a software license restricted only to the United Kingdom, having your inventory devices associated to their relevant locations enables the license in FlexNet Manager Suite to be restricted only to the United Kingdom. Therefore, any devices outside of the UK will not be able to consume a license. If your Organization has clearly defined Corporate Units (e.g., Finance, Marketing), if a piece of design software is licensed only to be used by your Marketing team, then your license can be restricted to this corporate unit and only devices assigned to the Marketing team can consume the license.

**Note:** Assigning enterprise Groups to your Inventory Devices (and hardware assets) not only enables the automated restriction of license consumption by enterprise group, but it also enables the automated reporting of enterprise group level license consumption.

For example, if your organization has purchased 1000 licenses that have a global use right, in FlexNet Manager Suite you would likely have only one software license created for which would not be restricted to any specific enterprise group. This would therefore allow all devices with the relevant linked application installations to consume the license. However, you may want to internally keep track of and recharge your software license consumption per location, corporate unit or cost center. By assigning your enterprise groups to your inventory devices you can automatically see your enterprise group level license consumption within FlexNet Manager Suite. Please see the FlexNet Manager Suite UI help for the **Group Assignments** tab of a license or the online course “Managing the Organizational Structure in FlexNet Manager Suite” available from the Flexera Learning Center via the [Customer Community](#) for further information.

## User Details

You will also need to capture who is utilizing the hardware. Moving to the **Ownership** tab in FlexNet Manager Suite you can now find information which is typically brought into FlexNet Manager Suite from the CMDB but could also be managed directly into FlexNet Manager Suite. When an asset is assigned to a user in the CMDB, the data is migrated into FlexNet Manager Suite which then adds additional information using a feed from your employee data repository (such as WorkDay). This enhanced data is imperative for budgeting (replacement time and chargeback to the appropriate organization).

The screenshot displays the 'Inventory Device Properties' page in FlexNet Manager Suite. The page is titled 'Inventory Device Properties' with a sub-header 'Computer: Computer00111'. The main content area is divided into two sections: 'Ownership and access rights' and 'User'. The 'Ownership and access rights' section includes three fields: 'Location' (EMEA/Cheshire, UK), 'Corporate unit' (Technical Support), and 'Cost center' (3000 - Engineering and Support), each with a search button. The 'User' section includes three fields: 'Assigned' (Jason Banks), 'Calculated' (Jason Banks), and 'Last logged on' (Jason Banks), each with a search button. On the right side, there is a sidebar with a 'Save' button, a 'Close' button, and a list of navigation options: General, Hardware, Applications, Licenses, Ownership, Virtual Desktop Templates, and History.

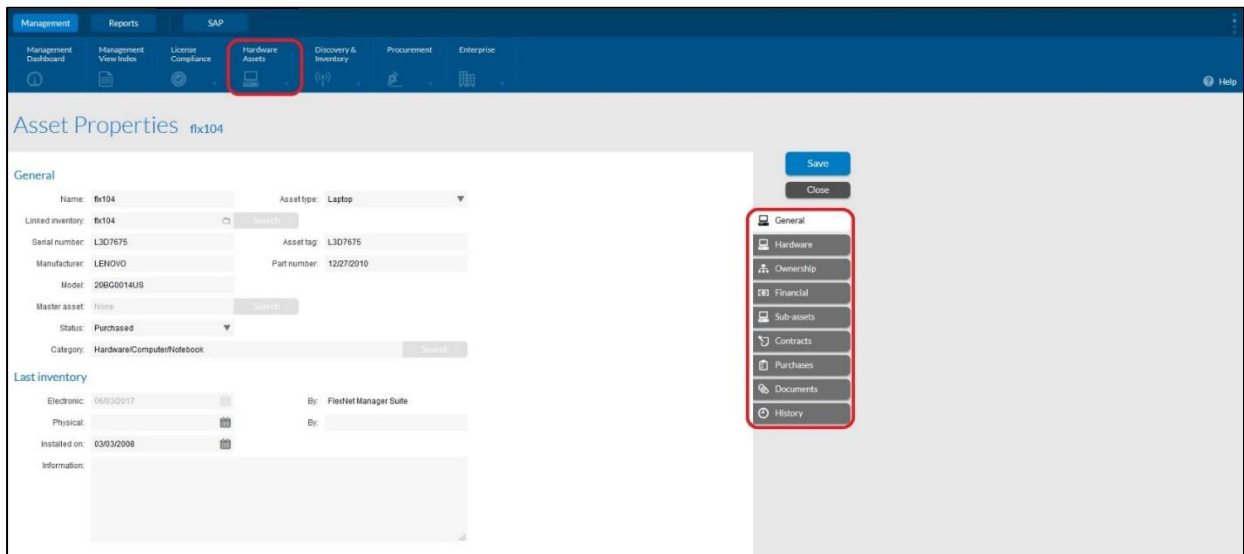
Some of the data points are:

- **Location:** Specifies the location within your enterprise that is responsible for the device. FlexNet Manager Suite enables you to create a hierarchy of locations based on the geographical hierarchy of your enterprise. For example, you can have a location Seattle under Washington, which is then under USA.

- **Corporate Unit:** Specifies the corporate unit responsible for the device. FlexNet Manager Suite enables you to create a hierarchy of corporate units based on the structure of your enterprise. For example, you can have “Example Enterprises” at the top level, dividing into business groups at the next level, and then divisions such as “Marketing” and “Engineering” within those.
- **Cost Center:** Specifies the cost center responsible for all costs incurred for this device. The application enables you to create a hierarchy of cost centers units based on the geographical hierarchy of your enterprise. For example, you can have a cost center Bangalore, India, which is under Asia.
- **Assigned and Calculated User:** FlexNet Manager Suite also has the ability to show whether the user name entered in your IT Asset Management Repository matches the user your discovery tool identified. FlexNet Manager Suite looks at the discovery data and will display the name of the user that was the most frequent use of this device, over the previous 10 inventory collections. This is important to validate the user is correct or not in your IT Asset Management Repository (if different from FlexNet Manager Suite). Should the asset be given to a new user, and the technician fails to update the user information, it would then show it is being used by the wrong department.

FlexNet Manager Suite is also able to provide the **Acquisition mode** (Purchased, BYOD, Leased etc.), **Date of Delivery, Warranty Type** and date of **End of Warranty**. You can also add **Depreciation** and **Chargeback** information as well.

Moving to the **Purchases** tab you can search and associate the Purchase Order to the asset. The **Contracts** tab allows you to link different contracts to an asset. This can be very useful for incident purposes where a laptop needs repair and might be covered by a warranty or repair contract. When doing Hardware Asset Management in FlexNet Manager Suite, maintenance and lease contracts should be imported into the system, either manually or by import. These contracts provide the basis for changes happening in the environment, such as: lease expiry, warranty expiry, maintenance expiry, maintenance costs, lease costs.



**Note:** You cannot process hardware purchases the same way you would software ones in FlexNet Manager Suite. It is a best practice to create the asset first, then add the purchase with all the PO assets, any maintenance or leasing contracts.

# Manage & Upgrade

## Tracking Assets

Hardware assets are dynamic. They can be used by one user at one specific location today and the next month by that same user half in a different location or by another user. This data needs to be as up to date as possible in your IT Asset Management Repository. FlexNet Manager Suite captures hardware data from network discovery tools, such as Microsoft SCCM, IBM BigFix, SolarWinds etc. This data includes IP address and domain name of the last logged in user. The hardware discovery information is also known as **inventory data**. FlexNet Manager Suite automates the process of linking this inventory data to the hardware asset in the repository. It is this link that provides confirmation the asset is still active, who the user is as well as other hardware specifications such as RAM, Processor, OS. FlexNet Manager Suite also offers the ability to customize the hardware attributes. This way, you can easily identify if the asset is a desktop used in a data center as a server or is just a desktop used by an employee. This curated data can then be fed back into your CMDB, if using the CMDB as the IT Asset Management Repository.

FlexNet Manager Suite also extracts information about the software running on the hardware. Publisher, version and last used date are only a few items exposed. This data then allows FlexNet Manager Suite to tie the hardware asset back to the software license agreements, a very powerful concept that really brings IT Asset Management together.

FlexNet Manager Suite

Management Reports SAP

Management Dashboard Management View Index License Compliance Hardware Assets Discovery & Inventory Procurement Enterprise

### Inventory Device Properties Computer: Computer00111

Applications installed on this device

51 results returned 50 rows per page

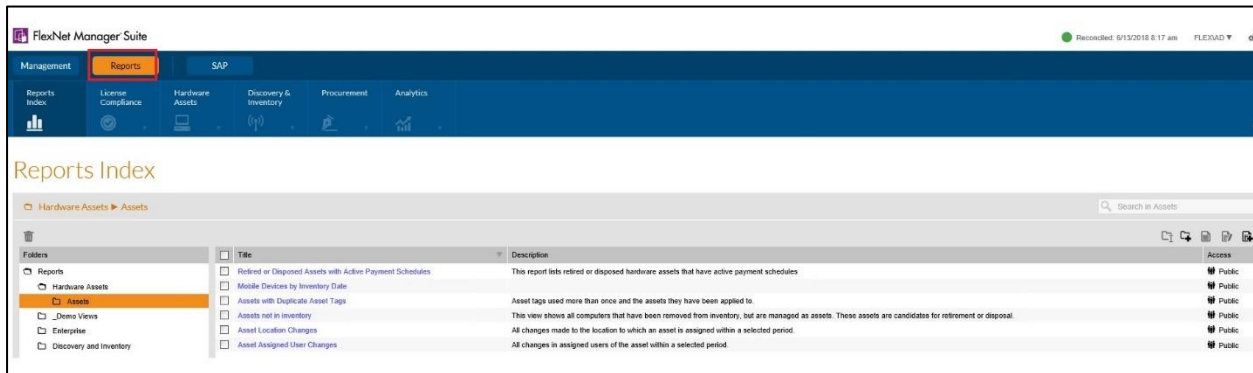
<input type="checkbox"/>	Publisher	Name	Product	Device name	Version	Edition	Classification	License name
<input type="checkbox"/>	Microsoft	Visual Studio Tools for Office 2010	Visual Studio Tools For Office	Computer00111	2010		Freeware	Visual Studio Professional MS with SA
<input type="checkbox"/>	Microsoft	Windows 7 Enterprise	Windows	Computer00111	7	Enterprise	Commercial	Visual Studio Professional MS with SA
<input type="checkbox"/>	Microsoft	SQL Server 2008 Express	SQL Server	Computer00111	2008	Express	Freeware	Visual Studio Professional MS with SA
<input type="checkbox"/>	Symantec	Endpoint Protection 12.1	Endpoint Protection	Computer00111	12.1		Commercial	Symantec Endpoint Protection
<input type="checkbox"/>	Attachmate	Reflection Suite for X 2011	Reflection Suite for X	Computer00111	2011		Commercial	Reflection Suite for X
<input type="checkbox"/>	Symprex	Mail Signature Manager 4	Mail Signature Manager	Computer00111	4		Commercial	Email Signature Manager
<input type="checkbox"/>	Hewlett-Packard	Connected Backup/PC Agent 8.6	Connected Backup/PC Agent	Computer00111	8.6		Component	Autonomy Connected Backup/Agent
<input type="checkbox"/>	Wireshark Foundation	Wireshark 1.6	Wireshark	Computer00111	1.6		Freeware	
<input type="checkbox"/>	Microsoft	Feedback Tool 1.1	Feedback Tool	Computer00111	1.1		Component	
<input type="checkbox"/>	Microsoft	Windows SDK for Visual Studio 2010	Windows SDK for Visual Studio	Computer00111	2010		Freeware	
<input type="checkbox"/>	Adobe Systems	Flash Player ActiveX 10	Flash Player ActiveX	Computer00111	10		Freeware	

## Recommended Weekly Tasks

Computers are being added, retired and moved to different colleagues daily. For this reason, asset managers have tasks which need to be performed on a regular basis. This will ensure the data is accurate.



FlexNet Manager Suite can be used to run a variety of reports. There are both out of the box and some ad-hoc custom reports. Remember, all reports can be customized to your needs. Below are some recommendations:



## Review new assets

Any new assets that have been logged into inventory must be assessed. This includes both new computers added to your inventory and new software installed across your network.

- Run a report to identify assets which have not yet been found on your network via a discovery solution. You can then reach out to local support to confirm they are still in stock ready to be deployed and review if the asset has a status of **Production**. Operations will need to make sure the discovery agent is running properly on the device or if the status is incorrect.
- You can also run a report to confirm all the asset attributes of active/new devices has been entered into record. For example, if the asset is in **Production**, you want to make sure you have the associated colleague assigned to that asset in record.

## Review asset utilization

This is used to investigate any assets that are not operational or are not being actively used. It indicates their status (in repair, in service for periodic maintenance, etc.) and allows you to estimate how long it will take to get them back into production.

- Run a report in FlexNet Manager Suite showing the different statuses. You can then confirm processes are accurately reporting them, such as the timeframe an asset has been in the status of **Repair**. Remember, you can customize statuses of assets to meet your needs.

## Identification of missing assets

Locate any assets that are not reporting frequently or have not reported within the last week. Determine whether they are lost, or if they are still in use. If they are not being utilized, indicated whether they can be reallocated, or if they should be rendered obsolete.

- Run a report in FlexNet Manager Suite which shows assets not in inventory. This will display assets which have no inventory record but are still being managed. These maybe candidates for retirement or disposal. Operations can also validate if the status of the asset is correct.

## Review risks & license compliance

Review new risks detected in the last week as well as risks that existed before and were not yet resolved. Remind users to act to remove these risks. Review license compliance standing and impact of this week's inventory changes on your license standing.

- Run a report in FlexNet Manager Suite which shows unauthorized software installations or those which are using outdated versions.

## Recommended Monthly Tasks

### Review asset locations

Locate assets that were moved between your physical locations and are now located in a new site. Update the asset's new location as well as current user to make sure you can track the asset when needed.

- Run a report to show all the assets at a particular location. You can then confirm the host name is correct and if you have the location as part of the host name.

### Review duplicate assets

Locate computers that were reinstalled and appear as duplicate in the system. Delete the old entry as the duplicate will take it out of your inventory.

### Disposed assets

Check old assets to determine which ones have reached the end of their lifecycle and need to be disposed of and replaced. Mark all disposed assets in your inventory to have them removed.

### Update contracts and licenses

Thoroughly review any new contracts or software license agreements or any addendums or amendments to existing ones that have been executed in the last month. Be sure they have all been captured in your repository. Include the license count for software purchases and attach any important documents such as packing slips and invoices. This will guarantee that your records are in good order and you are fully prepared in the event of an audit.

## Asset History

FlexNet Manager Suite keeps track of the changes to each device. You can review of all the changes that have been made to the asset during its time in the environment. This includes, but is not limited to, changes to IP address, assigned colleague, location, software installed/removed etc.

**Inventory Device Properties** Computer: Computer00102

History of changes to this device

154 results returned 20 rows per page

Date	Operator	Description
1/26/2018 7:39:25 am	FLEXIAD	Unlinked from Software Application - Endpoint Protection Client 12.1
1/26/2018 7:39:10 am	FLEXIAD	Deleted Software Application - Endpoint Protection Client 12.1
10/3/2017 1:18:00 pm	FLEXIAD	Cost Center was set to 1000 - Corporate
7/24/2017 11:07:02 am	FLEXIAD	Cost Center value of 8600-Contracts was cleared
7/24/2017 9:59:44 am	FLEXIAD	Corporate Unit was changed from Sales Ops to Legal
7/18/2017 4:45:50 am	FLEXIAD	Unlinked from Software Application - Reflection Suite for X 2011
7/17/2017 10:01:40 am	FLEXIAD	Serial Number was changed from Dell102715 to 7S2KZN1
7/17/2017 10:01:40 am	FLEXIAD	MAC Address was changed from 00:00:00:00 to 00:27:10:EA:06:0C
7/17/2017 10:01:40 am	FLEXIAD	IP Address was changed from 0.0.0.0 to 10.53.10.175:fe80:6096:5f8a:d6bf:f3e8
7/17/2017 10:01:40 am	FLEXIAD	Inventory device name was changed from Computer00102 to chltmallison
4/24/2017 6:35:13 am	FLEXIAD	Unlinked from Software Application - Reflection Suite for X 2011
4/24/2017 6:17:18 am	FLEXIAD	Serial Number was changed from Dell102715 to 7S2KZN1
4/24/2017 6:17:18 am	FLEXIAD	MAC Address was changed from 00:00:00:00 to 00:27:10:EA:06:0C
4/24/2017 6:17:18 am	FLEXIAD	IP Address was changed from 0.0.0.0 to 10.53.10.175:fe80:6096:5f8a:d6bf:f3e8
4/24/2017 6:17:18 am	FLEXIAD	Inventory device name was changed from Computer00102 to chltmallison
10/31/2016 2:02:05 pm	FLEXIAD	Unlinked from Software Application - Reflection Suite for X 2011
10/31/2016 1:37:06 pm	FLEXIAD	MAC Address was changed from 00:00:00:00 to 00:27:10:EA:06:0C
10/31/2016 1:37:06 pm	FLEXIAD	IP Address was changed from 0.0.0.0 to 10.53.10.175:fe80:6096:5f8a:d6bf:f3e8
10/31/2016 1:37:06 pm	FLEXIAD	Inventory device name was changed from Computer00102 to chltmallison
10/31/2016 1:37:06 pm	FLEXIAD	Serial Number was changed from Dell102715 to 7S2KZN1

**Note:** Because multiple changes occur during the asset, these status changes need to be reflected in the asset data. This will enable accurate reporting for either purchase avoidance or budgeting requirements. Remember the weekly and monthly tasks recommended above.

## Software Asset Management Implications

ITIL's defines Software Asset Management as:

*"All of the infrastructure and processes necessary for the effective management, control and protection of the software assets within an organization, throughout all stages of their lifecycle"*

But the unequivocal truth is that software cannot be installed and run without hardware. For your Software Asset Management processes to be effective, you also need to know where your hardware is, what your hardware is and who is using it. You will need a robust Hardware Asset Management process.

ISO 19770-1 is a baseline set of integrated processes for Software Asset Management, divided into tiers to allow for incremental implementation, assessment and recognition. Details can be found [here](#).

Also, more recently, the impact IT Asset Management has on IT Security has been recognized. It is no longer only about vulnerabilities through old hardware and software on the networks, but about the risks associated with the loss/theft of laptops and mobile devices.

## Hardware & User Inventory Importance

The following elements of Hardware Asset Management in Flexera's FlexNet Manager Suite can directly influence software license consumption calculated in the tool.

Some software licenses are licensed on hardware inventory attributes of the devices where software is installed or being managed, such as core counts or processor types. Changes in a devices hardware inventory attributes, such as an increase in the number of processors or cores, should be automatically collected from your inventory source (such as the FlexNet Agent or Microsoft SCCM) and updated in the FlexNet Manager Suite device inventory after an import. After a license reconciliation, this change in attributes will be acknowledged in the automated license consumption calculation.

Some software licenses are licensed on a User or Named User basis. Other license types may also allow additional use rights when being consumed by the same user. Having accurate user inventory in FlexNet Manager Suite enables the correct calculation of user license consumption. An example is Microsoft MSDN licenses. These are named user licenses which are specific to a person in your organization. These would not be counted toward your Enterprise Agreement with Microsoft for the same products. In addition, some agreements support secondary use rights. This allows one user to use one license on a second device (a desktop as well as a laptop).

Assigned users can be synchronized between assets and inventory devices or can be left to be managed separately where relevant.

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**Note:** See the FlexNet Manager Suite **System Settings** help and the online course “Managing Users in FlexNet Manager Suite” from the Flexera Learning Center for further information and examples on managing users in FlexNet Manager Suite. For software license optimization best practices we recommend reading the SLO Practice Guides also available from the Flexera Learning Center via the [Customer Community](#).

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## Complete Inventory Importance

Based on your license reconciliation project’s scope, you should always aim to have complete inventory that is regularly updated and maintained in FlexNet Manager Suite, for as many managed devices as possible. This requires you to know how many devices exist in your estate, the type of devices they are (laptop or server etc.) and where these devices are located. If parts of your estate or specific devices are missing from inventory these will not be included in automated software license calculations in FlexNet Manager Suite. Remember that any license position reported is dependent on having all hardware using those licenses identified. If any details are missing, FlexNet Manager Suite may incorrectly represent the true consumption position (depending on the licensing rules it has to implement). Missing inventory should be noted and acknowledged for any license position reported from FlexNet Manager Suite. The simple quality rule to remember is “bad data in, bad data out”. Pay special attention to inventory alerts in FlexNet Manager Suite and periodically assess your unlicensed installations due to inventory data.

Usual issues impacting complete inventory:

- Unknown or non-inventoried devices
- Non-networked devices
- High-risk environments
- Legal (confidential data)

A process is required to identify which devices are automatically inventoried by FlexNet Manager Suite and which are not. Consider the following questions:

- Which devices are automatically inventoried in FlexNet Manager Suite?
- Which devices are not automatically inventoried in FlexNet Manager Suite?

A process is required to collate inventory and calculate consumption for those devices without automatic inventory.

**Note:** We recommend working in milestones on your license reconciliation project, as defined in the SLO Practice Guide, under the “Overview of a License Reconciliation Project” chapter. This methodology will assist you in determining the first and most important assets to tackle and will help you narrow your hardware scope as well. New asset data can be included into the scope at a later stage.

If you create assets for all your devices in FlexNet Manager Suite, then you can use the **Device Assets without Inventory** page in the **Hardware Assets** section to identify devices missing inventory (software and hardware). Assets which are deemed as missing inventory are those which have not been found via your network discovery solutions.

# Retire

## Exit

Hardware assets which now are no longer needed or permitted in the environment will need to be retired. They will either need to be returned to the leasing company or disposed of in an environmentally safe manner. This is the final phase of the asset lifecycle. The asset status will also need to reflect this change. This process will remove them from a fixed asset registry and remove software license allocations as well.

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**Note:** *Assets may need to be wiped of all corporate data to move onto the next phase of their lifecycle.*

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There are many solutions out there which will remove your data to US Department of Defense (DOD) standards. In addition, the US National Institute of Standards and Technology (NIST) has developed guidelines to follow. A copy can be found [here](#). The media sanitation is a key element in assuring confidentiality. Depending on the type of hardware there may be a different method needed to fully sanitize the asset of your electronic data. Some have no way to remove the media and thus the asset must be destroyed.

If you have leased assets you can work with your vendor to ensure proper processes are in place to not only return each device on time, but with solid processes to make sure all your data is removed.

## Dispose

Hardware assets should always be disposed of in the most environmentally safe way. There are global requirements such as Waste Electronic and Electrical Equipment Directives (WEEE) from the UK. In addition, obsolete computers and electronics are valuable sources for secondary raw materials if recycled properly. If not, these devices are a source of toxins and carcinogens. The reuse of tin, silicon, iron, aluminum and a variety of plastics that are present in bulk in these devices can reduce the costs of constructing new systems. The export of these systems to countries with low environmental standards is a major concern as well. Therefore, choosing the IT asset disposal (ITAD) partner is key. The best ITAD partners will do a complete review of each asset provided to them to determine if it can be cleaned of all markers connecting it to you, if it can be then sold on the secondary market or if it must be destroyed. They will also part take in revenue sharing of the profit they get from the resale. With this profit share many ITAD programs can be very low cost to your corporation.

Once the hardware has been given to your disposal vendor, the status of that asset in your repository needs to reflect that it is no longer in organization. Many ITAD vendors can provide an API to your IT Asset Management Repository and add information linking the asset to their web portal. This can include the date of the pickup, the pickup number as well as a link to the certificate of disposal/disposition. The vendor you choose must also be willing to have you do an on-site inspection of their facilities, see all the certifications and allow you to do quarterly audits of their processes.

## Conclusion

By implementing a successful Hardware Asset Management process, you will likely start seeing a quick ROI. There may be big savings and cost cuts from the beginning and with the right processes, tools and people in place, Hardware Asset Management ROI will represent a steady and predictable reduction in the IT budget for hardware. This money can then be spent elsewhere within the organization.

Remember that Hardware Asset Management is even more effective when incorporated into your Software Asset Management process. Add other asset management areas in scope as you mature, such as Mobile Asset Management (MOM) and expand your view towards IT Service Management, Enterprise Architecture or IT Financial Management to really capture the whole Technology Asset Management space.

# Useful Resources

## Customer Community Resources

Flexera's [Customer Community](#) page offers resources such as:

- [Knowledge Base](#) articles: where articles are aimed at answering common questions such as access product FAQ, error documentation, problem resolutions and many more
- [HelpNet Documentation](#): where you can find, and download our user guides, installation guides or product release notes
- [Forums](#): where we discuss a wide variety of topics and offer expert advice

You can login to the Community to submit support cases, propose product enhancements, access our vast knowledge base and more!

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**Note:** It is a best practice to always check the Customer Community for new materials and product updates. The practice guides will not dive deep into product enhancements, FlexNet Manager Suite versioning and other configuration topics.

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## Flexera's Learning Center

Flexera's Learning Center is the place to go for product enablement & training materials, including the latest Practice Guides! You can access the Learning Center via our [Customer Community](#) available to all customers free of charge.

The screenshot displays the Flexera Learning Center interface. At the top, it says "FLEXERA LEARNING CENTER" and "A place to imagine the possibilities of your Flexera solution". Below this, there are ten learning path cards arranged in two rows of five. Each card features a small image, a title, and the number of courses included. The cards are:

- Recommended For You**: 10 Recommended Courses
- Getting Started With Flexera**: 4 Courses
- Flexera Practice Guides**: 10 Courses
- Getting Started with Flexera Data Platform**: 2 Courses
- Getting Started with FlexNet Manager for Engineering Applications**: 1 Course
- Getting Started with Software Vulnerability Manager**: 5 Courses
- Getting Started with AdminStudio**: 1 Course
- Getting the Most out of AdminStudio**: 4 Courses
- Getting Started with SaaS Manager**: 3 Courses
- Getting Started with Software Monetization**: 3 Courses



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**Note:** To find courses related to your role, you can filter by persona in the Learning Center.

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## Acronyms

Below is a list of useful acronyms:

- ASN = Advanced Shipping Notice
- CI = Configuration Items
- CMDB = Configuration Management Database
- DOD = US Department of Defense
- FNMS = FlexNet Manager Suite
- HAM = Hardware Asset Management
- ITAD = IT Asset Disposal
- ITAM = IT Asset Management
- ITIL = Information Technology Infrastructure Library
- MAM = Mobile Asset Management
- NIST = US National Institute of Standards and Technology
- RAM = Random Access Memory
- ROI = Return of Investment
- SAM = Software Asset Management
- SCCM = System Center Configuration Manager
- SLA = Service Level Agreement
- SLO = Software License Optimization
- TAM = Technology Asset Management
- UI = User Interface
- VAR = Value-added reseller
- WEEE = Waste Electronic and Electrical Equipment Directives

## About Flexera

Flexera is reimagining the way software is bought, sold, managed and secured. We view the software industry as a supply chain, and make the business of buying and selling software more transparent, secure, and effective. Our Monetization and Security solutions help software sellers transform their business models, grow recurring revenues and minimize open source risk. Our Vulnerability and Software Asset Management (SAM) solutions strip waste and unpredictability out of buying applications, helping companies purchase only the software and cloud services they need, manage what they have, and reduce license compliance and security risk. In business for 30+ years, our 1000+ employees are passionate about helping our 80,000+ customers generate millions in ROI every year. Visit us at: [www.flexera.com](http://www.flexera.com)

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**Flexera**

300 Park Blvd., Suite 500

Itasca, IL 60143

USA

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Itasca (Global Headquarters):

+1 800-374-4353

---

United Kingdom (Europe, Middle East Headquarters)

+44 370-871-1111

+44 870-873-6300

---

Japan (Asia, Pacific Headquarters)

+81 3-4360-8291

---

Australia

+61 3 9895 2000

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