Achieving IT Asset Management Success

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• Automating ITAM Operations with Workflow
• How ITAM Becomes Strategic at Your Company
PUBLISHER’S ACKNOWLEDGEMENTS

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The Gorilla is the professorial sort that enjoys helping people learn. In the School House callout, you’ll gain insight into topics that may be outside the main subject but are still important.

This is a special place where you can learn a bit more about ancillary topics presented in the book.

When we have a great thought, we express them through a series of grunts in the Bright Idea section.

Takes you into the deep, dark depths of a particular topic.

Discusses items of strategic interest to business leaders.
ICONS USED IN THIS BOOK

DEFINITION
Defines a word, phrase, or concept.

KNOWLEDGE CHECK
Tests your knowledge of what you’ve read.

PAY ATTENTION
We want to make sure you see this!

GPS
We’ll help you navigate your knowledge to the right place.

WATCH OUT!
Make sure you read this so you don’t make a critical error!
The Growing Importance of ITAM

Welcome to this Gorilla Guide To...® Achieving IT Asset Management Success. ITAM is about knowing what you’ve got, where it is, who’s using it and how much it costs. If you want a digital business to succeed, you need to know the software, hardware, and cloud infrastructure running it.

To some, ITAM is something less than an urgent need in their organization. This is a dangerous—even potentially fatal—attitude to take. How do you manage capital and operational costs if you don’t know what you have? How do you secure your organization if you aren’t sure what assets are where? How do you know if you’re out of compliance? Are you willing to wait for a government official or big-name vendor to tell you? That could be a costly conversation, if it comes attached to a massive fine.

Who is this book for? It’s for anyone involved in the ITAM chain, from the front-line admin installing equipment that needs to be tracked, to the CIO with responsibility for making sure that costs are controlled across the IT department.
It’s also harder than ever, in this day of cloud computing, ubiquitous virtualization, and the Internet of Things (IoT), to even know everything that’s running on your network. That’s where this book comes in. It will give you a solid grounding in ITAM principles, and lots of practical advice on how to use ITAM efficiently and cost effectively.

The first part of the Guide lays the ITAM foundations, including making the business case. The second part is about optimizing ITAM, including how to do a proper inventory. The third and final part is about taking ITAM further, and doing more with it. Automating ITAM with workflows will cement its strategic importance to the business.

As you can see, the coverage is comprehensive. Once you’re done, you’ll know what you need to in order to start your ITAM journey. So if you’re ready, strap on your helmet, and step into the virtual jungle of ITAM. We’ll be right beside you, navigating what used to be a complicated place.
ITAM Business Challenges

Though you’ll have a chance to explore ITAM in greater depth in subsequent chapters of this book, let’s begin with a very basic expansion and explanation of the acronym “ITAM.” IT assets include computing, networking, and related equipment, as well as software licenses, entitlements, and subscriptions. In too many organizations, IT assets are quite numerous, widely distributed, and neither fully inventoried nor documented.

In fact, a lack of a complete “big picture” understanding of IT assets lurks behind most of the challenges organizations face when it comes to managing IT assets. ITAM brings all these pieces together, and makes them accessible, visible, and subject to various controls. Let’s examine some of the elements found in a proper ITAM solution.

Reactive Mode Rules How Business (Mostly) Works

Because of widespread distribution, unclear assignments of responsibility, and even questionable ownership, organizations tend to manage their IT assets as a reaction to some event or discovery, often unplanned and perhaps even unexpected. Sometimes, it’s a response to user request for a specific software title or software subscription. Someone in IT must then determine if sufficient subscription capacity is available to accommodate the request. A certain amount of casting about may be required to confirm whether the request can be fulfilled using existing, already-purchased resources. Then, the necessary arrangements must be made to honor that request and get the user set up.
Not all such situations are benign or easily solved. A letter from a software or subscription vendor may arrive, demanding an audit of the organization’s licenses and subscriptions. Inevitably, this prompts a panic followed by an “all-IT-hands-on-deck” meeting to prepare for the big day when the auditors come to town. Records and paperwork must be rounded up from accounting, purchasing, and one or more IT repositories. Then all that data must be correlated, and a potential damage assessment undertaken.

And all the while, work as usual must go on even while extraordinary and superhuman efforts are underway. All too often, it’s a crazy mess that demands long hours, hard work, and difficult realizations and decisions. Surely, there must be a better way.

3 Big Gotchas

In trying to understand how things can get out of control, organizations must often face up to some common, almost inevitable, mistakes or missteps. Three of the most common of these serve as the focus for the following subsections: wasted spending, unnecessary and avoidable risk, and inefficient use of human resources engaged in unnecessary activities.

Wasted Spending

By far, one of the more painful issues in establishing full control over ITAM is recognizing that a certain portion of current spending is likely going to waste. This might mean paying for software or subscriptions no longer in use. It might mean paying for more licenses or subscription seats than are really necessary, based on actual usage and consumption history. Either way, the result is overspending for idle assets that produce no return on costs sunk into them.
Figure 1 shows some recent analyses of worldwide IT spending. They reveal an amazing amount of waste that includes $152 billion exhausted on enterprise software expenditures (out of $507 billion total, or nearly 30%). Another $33 billion is wasted on SaaS charges (out of $110 billion total, also nearly 30%). This totals up to $185 billion, and represents a huge drag on bottom lines everywhere. Organizations must pinpoint and stop such outlays. The first and best step toward cutting waste is proper use of ITAM.

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Unnecessary and Avoidable Risk

The other side of overspending is failure to purchase or acquire licenses or subscriptions needed to legally make use of specific software or services. Typical causes of license overuse include:

- Admins deploying software without understanding license rules—these vary by publisher, and some are quite complex
- Deploying licenses on virtual machines or in containers without understanding (or applying) license rules
- Upgrading hardware processing power without adjusting licenses (which are sometimes pegged to the number or type of processors in use)

Other instances might represent “Shadow IT” at work, where departments of branch offices stand up software or services without going through normal IT and procurement channels to comply with organization policy and meet licensing requirements. And some might simply indicate rogue individual operators active on the organization’s network without oversight, supervision, or knowledge of what’s going on.

All these activities can lead to financial penalties and fines, as well as payments to cover costs to rightful recipients for payments not made. This makes for potential legal trouble, and negatively impacts the bottom line. Worse, when legal matters get reported, they can pose opportunity costs related to damaged reputation and loss of future business. All this risk is unnecessary and entirely avoidable, given proper use of ITAM.

Manual Work Reduces Productivity, Stifles Innovation

Keeping up with software assets can be tedious, time-consuming, and labor-intensive. Organizations that have been through emergency
audits learn this painful lesson the hard way. But what also happens when such fire drills occur is that IT, finance, and other staff get drawn away from their usual work and responsibilities causing overall productivity to suffer.

Worse yet, with their bandwidth consumed in reacting to a crisis, staff members don’t have time to think about better ways to do their present jobs or about new products, services, or offerings they could provide to clients, customers, and partners to help boost earnings and further contribute to business success.

In the long run, in fact, stifling innovation often proves to be the most expensive hidden cost that old-fashioned manual record keeping and paper-based asset management incurs. Here again, proper use of ITAM eliminates such work. In fact, its use of automation can actually help foster innovation and improve response time and services that IT offers its constituents.

**Software Investment Inefficiencies**

From a different perspective, organizational processes and practices also lead to software investment inefficiencies. Often, these inefficiencies result simply from maintaining time-worn practices even when better alternatives abound and are just waiting for deployment. Let’s examine a few well-known examples in the next subsections, all depicted in Figure 2.

**Stuck in Silos: Tools and People**

Organizations too often segregate themselves into discrete and disparate sub-units. Sadly, this often leads to lack of synergy, failure to exploit potential opportunities to scale, and a painful lack of shared communication, expertise, and win-win situations. If an enterprise can leverage its people, tools, and strengths across the board, it can often achieve much more than when individual departments fail to coordinate. A single coherent and consistent view of IT across the
whole organization, along with the entire collection of assets it handles and manages, helps break things out of their silos.

**Replace Manual Processes with Automation**

It’s a truism that manual processes stifle business outcome potential. Automation on the other hand offers unparalleled benefits—namely, thorough vetting and testing before deployment, reliable and repeated results, and greatly improved response and completion times. And because automation takes over and handles repetitive and tedious tasks, IT staff can instead spend its time on more bottom-line-enhancing activities (as well as avoiding errors that manual input allows).

**Audits Cause Reactionary Fire Drills**

When a vendor requests a license audit, a panicked scramble often follows. IT, finance, and procurement staff must roll up their sleeves
and put in long, expensive overtime hours. Only then can they keep up with normal work while they also prepare records and information for an audit. This is a huge disruption of the normal routine. It can’t help but negatively impact staff productivity.

**Costs Are Opaque and Unpredictable**

Licenses and contracts come and go all the time, each with its own calendar, terms, and conditions. When not managed, vendor or service provider bills show up at irregular and unpredictable intervals. Cost increases, changes in usage terms or costs, or changes in consumption levels turn understanding and consolidating costs into a chronic headache.

Then, too, cloud or subscription services levy costs based on consumption that varies according to market and business cycles. All of these factors result in costs that don’t always make sense and ongoing outlays that are seldom the same—and never entirely predictable. Such unpredictability causes difficulties with reporting and managing budgets and turns forecasting into more guesswork than analysis.

**Users Are Unhappy and Dissatisfied**

One of the primary causes for “Shadow IT” mentioned in an earlier section comes from users who need software or services right away. No or slow response from IT has users taking things into their own hands—off the books and outside IT’s oversight. If users are unhappy and dissatisfied with what IT provides them, productivity suffers. There’s got to be a way to show users what’s available to them and to work more closely with them to get them what they need, when what’s available isn’t what they need or want.
Teaser: ITAM Offers a Way Out

Indeed, ITAM offers a solution for all the gotchas and inefficiencies discussed so far. Please read on to understand how ITAM can eliminate organizational silos, add automation benefits to reduce (or remove) manual operations, create an audit-ready organization, make costs transparent and predictable, and help improve user satisfaction and happiness. Though it may sound too good to be true, it most assuredly is not!
Understanding ITAM

At this point, readers should know that ITAM brings all assets found under the IT umbrella together. Thus, ITAM embraces software and services, licenses and entitlements, hardware and infrastructure, spares and replacement parts, and so forth. In addition, ITAM records and monitors such assets to make them accessible, visible, and subject to specific controls and policies. But of course, there’s more to ITAM than this general description, as we’ll explore in the rest of this chapter.

What ITAM Really Means

ITAM is best understood as a set of business practices built around record keeping (and maintenance). It combines and deals with contractual functions, discovery and inventory, and financial activities. On one hand, ITAM seeks to accommodate and represent all the various contracts for licenses, subscriptions, and services (such as SaaS applications) within an organization in a coherent and consistent way.

On the other hand, ITAM also looks out onto an organization’s networks to sniff out, discover, and compile as complete a list as possible of what IT assets it actually sees in use, along with who’s using them, what for, how long, and so forth. Finally, ITAM also tracks financial activities around those assets—including costs of acquisition, licensing, upgrades, maintenance, and so on. Simply by assembling, combining, and correlating these three bodies of data, ITAM helps to create a current and consistent record of IT assets within an organization.
With this information at its disposal, ITAM can do much more than simply document contracts, assets in actual use, and financial information. More importantly, ITAM seeks to create an environment to help make the most of the IT assets under its purview. Thus, ITAM provides tools to help organizations optimize their spending.

ITAM also seeks to support lifecycle management for those assets from requirements analysis and evaluation, through procurement and deployment, to ongoing maintenance and upkeep, to eventual retirement and disposal or destruction. (Of course, that lifecycle never ends because new assets keep entering the system even as old ones become obsolete or age out of the system).

Ultimately, this makes ITAM an important element in an organization’s strategic decision-making process. As alternatives are weighed, selections made, deployments undertaken, and so forth, ITAM provides valuable data to help organizations make good technology choices and improve their returns on such investments over time.

The ITAM Savings Equation

Use of ITAM also offers some interesting economics for organizations that put it to work. Though ITAM is not free, with costs for its acquisition and use and further costs for training and upskilling the people who use it, ITAM also offers scalable economics in the form of savings that come straight from the organization’s own bottom line. Please consider that in Figure 3, the savings shown apply to each element along the way, and must be adjusted to reflect an organization’s specific figures.

Savings from ITAM are greatest in the first year after deployment and usually come out around 10%. For a $10M software budget, that’s a million dollars saved. For years two and beyond, savings of 5% are typical, or half a million. Scale that up (or down) as your actual numbers dictate. That should give you a good sense of the financial
value that ITAM delivers simply by optimizing outlays. But ITAM can do more than that, as you’ll see.

**Anticipating and Preparing for Audits**

Because ITAM gathers all licensing information and correlates it with contracts, it compiles information needed for an audit in advance. As a dynamic system that tracks actual, current data, ITAM offers a snapshot for audit at that moment—thus, it’s guaranteed to be more accurate than what comes out of some IT manager’s spreadsheet and a collection of bills and invoices from finance.

In addition, ITAM shows organizations when they’re out of compliance with licensing and subscription requirements. It also provides the data needed to get things squared away ASAP.

Finally, ITAM exposes the doings and workings of “Shadow IT.” This gives the organization the chance to get rid of what’s not needed (or permitted), and to purchase licenses or subscriptions for what is needed.
Thus, when an audit comes, using ITAM should more or less eliminate the possibility of unpleasant surprises. Ditto for the risk of fines and penalties for unlicensed or under-licensed software or subscriptions.

**Avoiding Unnecessary Expense**

ITAM also tracks consumption of valid, paid-for software and subscriptions. In particular, ITAM can help organizations trim excess, unused, or unneeded elements—all of which incur specific, documented costs—from the asset inventory and avoid waste from overspending.

Early 2019 Gartner predictions asserted that billions of dollars would be overspent on cloud computing alone that year; a Business2Community article for related analysis that predicts $14.1 billion of cloud spend waste for 2019. Another Gartner press release estimates that 30% of software spend can be eliminated by implementing various best practices, including right-sizing license outlays.

**How a Single Platform Simplifies SAM**

Software asset management (SAM)—best understood as the software part of the overall ITAM practice—works best when all its elements come together under a single software umbrella. Such a platform handles record-keeping and interfaces with multiple organizational units and departments.

**Figure 4** shows how a single platform simplifies software asset management by interacting with all key constituencies and stakeholders. This single platform not only permits each party to receive

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(and provide) important information related to software assets, but also promotes communication and cooperation across an entire organization.

SAM can even present opportunities for cross-department and cross-functional innovation, since the whole is greater than the sum of its individual, no-longer-siloed parts.

The ServiceNow single platform shown in Figure 4 shows how departments such as IT, customer service, HR, and security can combine their forces and investments to get more out of IT.

IT itself makes use of ITSM (IT service management, a common discipline in management frameworks such as ITIL and COBIT), IT

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**Figure 4**: Using a single platform puts all IT elements under a single umbrella.
operations management, IT business management, and ITAM. This graphic is meant to show that many departments can benefit from use of SAM data.

IT shares a common connectivity with enterprise functions when there’s a configuration management database (CMDB) in place. IT works with customer service, in that they help support and fulfill customer trouble reports and service requests. Intelligent applications work for all parties in that they help to provide key automation and services capabilities across the ITAM spectrum. HR provides service and asset delivery to all employees, including onboarding and ongoing training and staff development.

HR also interfaces with security on matters related to acceptable use policies, security awareness training, and best security practices. Security provides a natural home for security operations and works with IT to deal with vulnerable assets, matters related to governance, risk, and compliance (all of which usually fall under policies that apply at all levels of the organization).

By investing in ITAM (especially on a platform), enterprises gain tremendous insight and information across the entire organization. Normally, they would already have 80% of SAM ingredients in place: a CMDB, an asset database, automated network discovery capability (to observe empirically all assets in use), and a service catalog (a collection of all services legally available to users within the organization). And in fact, leveraging those existing ingredients for SAM only improves their ROI as well.

For security, this might mean adding or adopting new threat intelligence and response tools. For IT, this might entail hardware support such as new platforms or devices. For DevOps or in–house developers, this could be integration such as added automation for various departmental processes or new applications. Finally, everyone benefits from routine maintenance such as updates or upgrades to one or more platform elements.
Benefits of Lifecycle Management

Overall, ITAM with a native CMDB brings with it the benefits of full lifecycle management. In working through the typical cycle: request/purchase/deploy/reconcile/service/retire (which cycles back to the beginning)—ITAM confers benefits at each step along the way.

Here are some example benefits during each phase for various organizational units:

- **Request**: IT Service Management benefits from a self-service catalog for employee access, from which they can draw on existing elements or ask for new elements to be added. ITAM benefits from transparency and clarity in software allocation. HR benefits from an onboarding sequence with intelligent applications to help get new employees equipped and oriented.

- **Purchase**: ITSM benefits from simplified vendor and spend management from a single, coherent view. ITAM benefits from accurate purchasing based on demand and actual usage.

- **Deploy**: IT Operations Management benefits from automated deployment with full orchestration. ITSM benefits from shorter fulfillment delays and fewer resulting incidents. HR benefits from increased speed in seeing employees become productive once on-boarded. ITAM benefits from accurate tracking and allocation of licenses consumed.

Using SAM in the same place you manage IT improves your overall environment’s speed to value proposition. The single platform model means that whenever capabilities might be introduced, they will be faster to deploy and use than in a more fragmented architecture.
• **Reconcile:** ITAM benefits because it can minimize true-up and audit costs while eliminating waste and overspend. Legal benefits because of vastly decreased compliance-related costs (ideally, none).

• **Service:** IT Business Management (ITBM) benefits from avoidance of risks associated with end-of-life (software) or end-of-service (subscriptions, SaaS, cloud services, and so on). ITSM benefits because it can proactively project and provide costs associated with IT change requests. Security operations benefits because it can focus and apply security vulnerability intelligence exactly where (and when) it’s needed.

• **Retire:** HR benefits from reduction in IT and manager efforts usually involved in asset reclamation. ITAM benefits from license harvesting for future re-use (or retirement to eliminate associated costs). ITBM benefits from aligning software at end-of-life with application deduplication to reduce overlap and complexity.
Starting Down the ITAM Road

Once organizations have made the commitment to invest in ITAM, there’s a definite process involved in moving toward implementation and deployment. In this chapter, we review the steps along that path and the kind of questions organizations will want to ask, along with the sorts of answers they should expect.

Examine the Current Business Environment

To start an ITAM adoption process, numerous activities will be required. You’ll first want to make sure you have support from the very pinnacle of your organization. It’s vital to secure executive sponsorship to get the right impetus and resources necessary to survive the processes of selection, adoption, implementation, and phased deployment. This usually means somebody at the C-level (typically either a Chief Information Officer or VP of IT, depending on how your particular org chart is laid out, and where responsibility for IT technology adoptions ultimately rests).

Other important people considerations include obtaining proper internal resourcing (staff, budget, and time). You’ll also need to decide if you’re going to work with an experienced business partner who’s done this for other organizations before or try to pull the ITAM adoption together in-house. An ITAM consulting organization can partner with you to bring a deep pool of software licensing knowledge, practical best practices, and technology expertise.
Given that ITAM touches everything that IT itself touches, it’s best to take a phased approach to adopting and implementing ITAM. You’ll need to understand current contracts, entitlements/licenses, and records. You’ll also want to conduct a thorough spend analysis on current IT assets with an eye to starting where changes are likely to make the biggest, most positive impact.

Here, it’s important to take stock of what’s going on in your current business environment. This means making an inventory of what’s “out there” (or examining such an inventory if you already have one). You will also want to zero in on some particular aspect of the IT environment for an initial effort. That might mean tackling user desktops, servers, or SaaS subscriptions to get going.

In getting a handle on your inventory, you will want to use automated discovery tools at your disposal. This could be ServiceNow Discovery, or it might be additional discovery resources already in use in your environment (SolarWinds, Manager Engine, Nagios, Spiceworks, or something similar).

You’ll also want to determine what kinds of SaaS integrations might already be in place, to understand how they’re being used and how

Figure 5: The ServiceNow Discovery dashboard, reporting various service-level applications in the right-hand column (MS SQL, IIS VDS, Tomcat War, and so on)
their use influences consumption patterns and levels for your existing SaaS subscriptions.

Figure 5 shows some sample applications reported by ServiceNow Discovery.

With this information and support behind you, you can begin work on an ITAM process. This means that you must make governance an operational function and obligatory part of the IT lifecycle process.

Ideally, that means ITAM governance operates on a regular cadence, with actionable items assigned for each iteration for which specific individuals are responsible and accountable. This is the best way to get the ITAM ball rolling properly and keep it rolling forward as it should.

**Establish Business Cases**

ITAM works best when you can structure your efforts around a planned event or assigned business objective that impacts your enterprise software footprint. This might include:

- Software waste reduction or cost-cutting initiatives.
- Upcoming renewals or new planned acquisitions of enterprise or volume license agreements for software. Maintenance agreements or renewals for software platforms or applications also apply.
- Data center expansions or consolidations, which usually require a thorough review of software licenses, agreements, and contracts.
- Migrating on-premises software into the cloud or switching from an on-premises application to SaaS.
- Point tool consolidation or application rationalization projects.
- Cybersecurity initiatives such as threat intelligence, planned remediations or upgrades, replacements of VPN, or remote access platforms and tools.
It’s also possible that an unplanned event might jumpstart an ITAM program, including previously discussed software audits that a vendor or industry organization might initiate. In the same vein, mergers and acquisitions, workforce restructuring, a security incident, or a mandate to comply with new or changed government regulations can set things in motion.

Once you have an impetus to move forward, bring in your stakeholders to identify clear business goals. This might be something like, “No more surprises from Shadow IT expenses,” or, “Optimize our software spend to invest in applications that we actually use and need.”

Then, each such goal needs to map into at least one measurable outcome. Thus, “optimize software spend ...” could result in an objective that reads, “Reduce software spend by 15% through eliminating redundant applications.” Such objectives make sense to everybody and offer obvious value to all players, so it’s typically easy to secure buy-in. Because they specify measurements, success or failure is also easy to determine and report. Next, it’s time to build a business case.

A business case results from a structured process to identify key challenges and quantify the potential value of improvement. A good business case offers up answers to certain key questions. These should include:

- **Why**: Conduct focused interviews to better understand challenges and corresponding improvements.

- **What**: Document challenges and develop recommendations for solution capabilities or functions.

- **How**: Select key improvement metrics and validate those metrics with key stakeholders.

- **Outcome**: Combine benefits and cost assumptions to estimate total cost of ownership (TCO) and corresponding return on investment (ROI).
Figure 6: Building a business case starts with identifying key issues and areas for business improvements. It continues on with making recommendations, assembling the case, presenting and finalizing the case, and then managing its enactment (and success).

Figure 6 shows the progression of steps involved in building a business case.

Before you present any business case to management, staff, and stakeholders, spend whatever time is necessary to make sure that it solves the right problems for those key stakeholders.

With objectives in place, the work can actually begin. As the next sections illustrate, it’s best to start with something small and build up from there. It will take time to make ITAM pervasive, and SAM
as complete and comprehensive as possible. Hurry slowly, if you must hurry at all.

**Piloting the Process**

Start small, with a single specific initiative. This might mean tracking a single software vendor and going through a software audit with them to demonstrate compliance and proper license and maintenance numbers or levels.

As you work through the process, track the small wins along the way. Show how initial internal analysis led to changes in licensing arrangements and then document how you passed the vendor audit with minimal compliance issues. Explain how those issues were remedied or overcome, along with supporting reports and data. This is how you establish and consistently demonstrate success.

Once achieved on a small scale, you can start tackling additional areas in need of improvement. This might mean centralizing data into a CMDB and ensuring that its data is accurate, complete, and trustworthy. It should also include implementing repeatable, best-practice processes to keep licensing and software or service usage information current and correct.

After reconciling deployed licenses with financial records using ITAM, you can keep license purchases aligned with actual usage (which may go up and require additional purchases, or go down and free up funds when unneeded licenses need not be renewed). Unused licenses in one part of the organization can also be reclaimed and redistributed to other parts of the organization that need them.

Finally, software and licenses can be reconciled with job or organizational roles. Certain users may no longer need specific licenses allocated to them, while others may be missing licenses they need. All this arises naturally out of ITAM, given the right business and service context in which to evaluate current allocations and project future needs.
Measuring (and Sharing) Success

Once progress is made on business objectives, the metrics they include will provide the means to report and demonstrate success. As with any program, it’s important to manage executive expectations. Material long-term savings are possible with ITAM, but be clear with management on the smaller initial goals during the first six months. If the goal was to cut unnecessary software spend by 10% and a savings of 15% is achieved, this outcome is definitely worth sharing with management, staff in the affected departments, and everybody who works in IT.

Because nothing succeeds like success, small wins should eventually lead to bigger ones. Soon, ITAM will be an established and welcome part of the way your organization does IT. And your metrics will always tell you—and the world—exactly how things are going.
CHAPTER 4

Making ITAM Work

Once the ball is rolling and ITAM has been established in your organization, it's time to put its tools and technologies to work. In the sections that follow, you’ll get a sense of SAM’s inner workings and how it leads to more optimal spending behavior and business outcomes. To begin that journey, we examine how SAM compares outlays and usage to seek the right balance.

Introducing SAM in an Organization

The SAM approach starts with paperwork on one side (purchase and license or entitlement records) and actual discovered software on the other. These two inputs go into a normalization and reconciliation process. This is where the ServiceNow Content Library really shines, because it can identify millions of software and hardware titles, including versions, releases, and levels. It can also handle discovery, procurement, and lifecycle data.

When usage gets compared to purchases, licenses, and entitlements, it’s easy to determine if there is an excess of licenses or entitlements for one or more items. It’s also simple to identify items for which no licenses or entitlements are on record or where usage outstrips supply. Once those situations are identified, SAM can define actionable workflows to correct whatever imbalances might exist. This process is depicted in Figure 7.
Following discovery and examination of financial records, users can always submit anything the library fails to recognize to ServiceNow’s research team through the automated feedback loop. Once validated, this should ultimately lead to its identification and inclusion in the ServiceNow Content Library. Out-of-box, typical normalization rates for customer instances discovered are 85% or better. After ServiceNow’s research team does its work, that rate climbs to more than 95%. With ongoing input from customers that opt in, the Content Library provides an increasingly accurate mirror of what’s in use in most enterprises, and is thus able to recognize nearly all existing software and subscriptions.
In the sections that follow, you’ll have a chance to explore key activities involved in ITAM best practices. These should enable the SAM software to do its job properly, and help your organization optimize costs, achieve compliance, and boost security and integrity.

**Inventory Hardware and Software**

The discovery process provides information about what’s present and in use on an organization’s network. This knowledge is essential for determining which applications and services an organization must have licenses for, or is entitled to use. ServiceNow Discovery can handle this, as can any number of other third-party discovery tools that pull the right attributes needed to measure licensing (some of which were mentioned in Chapter 3). This produces a massive and comprehensive list that must be compared to the financial data.

**Digging into and Rationalizing Contracts and Entitlements**

ServiceNow’s SAM solution analyzes your organization’s purchase, license and entitlement records. It uses that data to determine which licenses and entitlements have been granted to the organization, for what numbers, and over which duration they apply. This produces another massive and comprehensive list that must be compared to, and reconciled with, the discovery and usage data.

**Reconciling the Data**

On the financials side, all applicable licenses and entitlements (and their information as to numbers, durations, and other possible restrictions, terms, or conditions that may limit or control their use) must be compiled and collated. This creates a model of what the organization is legally able to do with that license or entitlement. On the usage side, all deployment and consumption data is aggregated.
Some licenses or entitlements pertain only to specific computers, some are measured in the aggregate, and some may be associated with specific users or departments. It's complicated.

Only after all this analysis is complete can ServiceNow SAM report if the organization has more specific licenses or entitlements than they actually use. It can also identify terms and conditions regarding allowable use, renewal terms and dates, and how unused resources might be recovered or reallocated to avoid incurring future costs.

In addition, ServiceNow SAM may determine that for another specific license or entitlement, the organization is using more than their holdings entitle them to put to work. In that case, the software can identify strategies and methods to achieve compliance with actual usage (and also avoid unnecessary outlays by perhaps redistributing unused licenses in one department or location to another department or location).

Another report identifies overlapping software items, so that ITAM users can focus on elements that get the most use and produce the highest returns, as shown in Figure 8.

**Figure 8**: Highest spend and highest count metrics immediately show overlapping software items most worth keeping

(Some licenses or entitlements pertain only to specific computers, some are measured in the aggregate, and some may be associated with specific users or departments. It's complicated.)
Understanding the Current Status Quo

The ultimate result of reconciliation is an “Effective License Position” report that shows where licenses and entitlements stand. This report and dashboards provide an overview of savings that could be realized by eliminating unused and underutilized licenses and entitlements.

A similar overview for costs that must be incurred to match acquisition costs for licenses or entitlements in use, but not yet paid for, is also an important part of what ITAM can provide. And finally, subject to administrative oversight and approval, the system can initiate actionable workflows to seek recovery and address deficits as circumstances may dictate.

This capability may be exercised at any time in an ITAM environment, which explains why it’s fair to say that such an environment is “audit-ready” whenever the balance it reports has been righted. If the current status quo is such that if the organization needs to correct the balance, it can take advantage of ServiceNow ITAM’s workflow capabilities to set the tasks in motion for remediation as soon as they can be completed.

Putting SAM to Work

Eighty percent of an organization’s software spend is likely to go toward a top few publishers. These are the same vendors who perform audits on their customers. Thus, SAM’s reconciliation (and remediation) capabilities represent a quick and easy way to put the technology to work to help manage costs. This also helps reduce risk of unexpected cost, penalties, and reputation damage—a definite win, no matter how you look at it.

But for the business cases put together for SAM, such as reducing waste, eliminating outlays on unused or underused software, and doing away with redundant or unneeded software, SAM can also
deliver clear and unambiguous wins. If ITAM is supporting the HR onboarding process, document the efficiencies gained by running ITAM on the same platform as the HR system. The better you define and meet your metrics for success, the better the results will be for your organization.
Managing the ITAM Process

Overall, ITAM helps deliver value across the full IT asset lifecycle. That cycle consists of six phases surrounding IT assets: request, purchase, deploy, reconcile, service, and retire. The cycle never ends because retire leads right back to request, and the circle begins anew.

Platform Benefits, Revisited

ITAM’s benefits extend across the whole IT lifecycle. A CMDB is important for powering IT lifecycle processes. This starts at the request phase, as various players request access to IT assets with an eye toward eventual use.

ITAM is not a trivial program to set up. Integrating, configuring and maintaining disparate systems can add to the complexity. However, when ITAM runs on the same platform where IT is managed, work can flow. Asset management is balanced so that purchasing reflects demand as dictated by actual use.

Deployment becomes a matter of managing the assets on hand. Operations management can use automated deployment with orchestration so that platforms, applications, and services are provisioned as (and when) they’re needed. Throughout this process, ITAM monitors and tracks license consumption, allocating it to the proper individual or role, department, and organization.

In the background, a constant process of checks balances financial records for licenses and entitlements against actual consumption and
usage. This minimizes software reconciliation costs and vastly lowers the risk of audit costs and penalties for licenses or entitlements used but not paid for. In turn, ITAM helps ensure reduced legal costs associated with compliance because it ensures there's little or no compliance failure to analyze, litigate, and remediate.

In actual service, applications and platforms are easier to manage because organizations can avoid issues associated with end-of-service or end-of-life situations. Accurate inventory and software information is essential for security operations, which use this data to filter and apply a focused set of vulnerability intelligence for software actually in use (and nothing else).

ITAM also contributes at the end of the lifecycle. As assets may now be automatically retired and taken off the books, the workload for IT and managers involved in asset reclamation is eased.

Fixing What’s Broken

Achieving the balance that reconciliation delivers helps organization steer between the dangers of overspending on idle, unused, or un-needed assets on the one hand, and underspending on licenses and entitlements already in use but not yet paid for. Both these dangers also have financial consequences.

Eliminating Waste

Eliminating waste saves outlays that need not go to third parties. For licenses and entitlements of any kind, ITAM clearly reports when more are present than are used. Most of the savings will come from the top five to seven vendors. Barring redistribution or reservations for planned additional consumption, organizations can realize savings by voiding them (and stopping related payments) as soon as applicable terms and conditions allow. As soon as the vendor lowers the count they charge for, associated costs get lowered too.
But ITAM also provides guidance and insight into the “long tail” of applications and services so often found in enterprises, where 80% of items account for 20% or less of actual costs. While there will be diminishing returns at a certain point, ITAM is an ideal program for identifying and targeting unused or little-used applications and services.

Because all of them come with associated costs, doing away with these applications and services wherever possible boosts the bottom line. And because it reduces the number of items that finance must procure and pay for—and IT deploy, maintain, and manage—it provides a welcome chance to reduce the number and complexity of software holdings as well.

**Achieving Compliance**

Avoiding risk of legal action, fines, and penalties prevents spending money on compliance that proper prior purchases make entirely moot. Because ITAM makes it easy to track license or entitlement consumption, and can immediately flag when compliance infractions occur, there’s no reason to wait for an audit to investigate and remediate.

Rather, ongoing compliance checks should be part of the governance process around ITAM described in Chapter 3. Ideally, the self-service software catalog that lets employees request licenses or entitlements should make compliance manageable.

That said, frequent checks will ensure that out-of-compliance conditions cannot persist for any longer than it takes to remediate them, as soon as they’re recognized. This should limit the organization’s risk of compliance infractions to a small number, and demonstrate a policy-driven and automated commitment to maintaining compliance at all times. **Figure 9** shows the License Workbench dashboard from ServiceNow.
Understanding Workflows and Automation

ITAM at its core is the classic blend of people, process and technology. A platform technology can underpin the automation of processes that connect people across departments. The biggest benefits from using ITAM come when the platform’s more advanced capabilities can be fully exercised. Of these capabilities, workflows and automation are undoubtedly the most valuable and important.

Workflows define and assign a sequence of tasks to specific individuals within an approval and sign-off environment that tracks progress and completion. When a workflow is defined, workers assigned tasks are informed via email or mobile alerts with links to forms, systems, services, and other elements they must access to work on and complete those tasks.

As tasks are completed, the workflow reports this information to a responsible party (usually a manager, team lead, or senior staff member responsible for the workflow as a whole). That party can then approve the completion and advance the workflow onto the next task until the entire sequence is complete.
At each step along the way, activities and input are tracked and reported. This kind of structure is invaluable in establishing policy-driven IT processes and procedures. It also provides complete visibility into, and accountability for, their enaction and completion.

Automation also provides a key ingredient in creating a modern, stable, and reliable IT lifecycle. Though trained professionals must create the process flows and approvals that make automation work—which must be thoroughly tested and vetted before going into production—automation is the linchpin for modern, virtualized, software-defined IT.

Automation enables IT to perform routine, repetitive tasks on a regular, predictable schedule. This even includes complex tasks such as infrastructure configuration, provisioning, and updates. It also includes event-triggered tasks, which might occur in response to security events, link failures, or even disaster.

Automation is what really gives ITAM its power and capability. When combined with workflows, much of the work that required human hands in the realm of IT can be turned over to management computers and resident programs.

Though it cannot do away with the need for skilled and capable human operators, this combination extends their capabilities greatly and relieves them of most of the tedium in the IT workplace. Figure 10 shows what one of ServiceNow’s customers, Community Health Systems, was able to accomplish through extensive use of automation and workflows.

**Optimizing Platform Synergies and Capabilities**

As organizations learn to take advantage of SAM’s advanced functionality and capabilities, they can move into the realm of true IT

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6 [https://www.servicenow.com/customers/community-health-systems.html](https://www.servicenow.com/customers/community-health-systems.html)
business management. They can drive strategic portfolio planning and execution, thanks to workflows and automation that lets them concentrate on innovation for new services, products, and offerings. They can align IT’s work to business priorities using business cases, specific metrics, and work toward measurably successful business outcomes. This lets organizations align their efforts to achieve business priorities and speeds their time to market in delivering what customers need (and ask for).

Now that you understand the importance of ITAM to your business, it’s time to move into the more practical aspects of using ITAM, including using discovery to find assets, license handling, and fixing issues that come up.

**Figure 10:** Working with ServiceNow and KPMG, CHS vastly improved its understanding of software assets across the entire organization. It was able to automate nearly all of its software tracking, and achieve 40% savings to minimize licensing fees.
CHAPTER 6

The Rise of ITAM

If your IT department is like most, you have a basic understanding of what hardware and software support your business applications. And while that may seem like all you need; the reality is much different. In this day and age, with virtualization and cloud computing changing the game completely, you need to know exactly what you are using, and what you are not.

Licensing, for example, is a much bigger headache than it used to be, thanks to evolving publisher license metrics, numerous virtualization technologies, and storage and compute capacity being completely flexible in the public cloud. In other words, tracking everything is no longer simple, even for smaller companies. And at the same time, it’s more important than ever to have insight into a precise inventory. Some industries like the Federal sector even require it by law.

For those and more reasons, IT Asset Management (ITAM) has become a much greater concern for not only IT, but upper management, as well. With the increasing adoption of digital transformation, it’s easy to get behind the curve—organizations can quickly fall into a permanent reactive mode, where events rather than planning shape strategic and tactical choices.

This is especially true when it comes to IT acquisition, which can result in wasted spending. Too often, thinking and purchases are siloed, so there may be tremendous duplication and inefficiencies, as well as potential exposures if licensing isn’t properly managed. All of this is often exacerbated by a reliance on error-prone and inefficient manual processes. ITAM has proven to be the answer to many of
these challenges because of its ability normalize assets and rationalize processes which lead to better outcomes and financial savings.

**ITAM Benefits, Revisited**

ITAM provides critical benefits to an organization by continually capturing asset data and helping to use that information to reduce risks and maximize value—not only through direct costs and benefits, but also through optimal deployment and operations unified with workflow. This also plays a vital role in any effort to rationally manage IT and contribute top-line and bottom-line value.

**A Clear Picture of Assets and Exposures**

There are many potential benefits to ITAM from a business standpoint, but they can be summarized in two words: visibility and optimization. ITAM processes provide the visibility needed to identify and then manage and control the long and growing list of IT assets that an organization might possess.

This, in turn, can have corollary benefits such as improved agility. When information about IT assets is unambiguous and actionable, it’s much easier to support and sustain a special project or to implement large-scale organizational change.

“Compliance is more cost effective for companies than non-compliance, according to the survey of functional IT leaders. Compliance costs, or those relating to maintaining or meeting compliance standards, cost around $5.47 million for a company, while non-compliance costs, including fines, business disruption and losses in productivity and revenue, cost around $14.82 million.”—CIO Dive
At a more basic level, ITAM insight and visibility can potentially reduce spending on hardware, software, and cloud by making it possible to deploy existing assets more effectively. That usually results in better asset utilization.

Compliance, too, is difficult without the visibility provided by ITAM. Whether working to meet regulatory requirements or some other kind of audit requirement, ITAM is your ally.

The benefits of effectively managing IT assets in a business include:

- Better accountability
- A clearer IT roadmap
- More successful compliance
- Reduced direct asset management costs
- More favorable contracts
- Improved accountability
- Reduced risks
- Better utilization of assets and funds

**Understanding the ITAM Lifecycle**

IT lifecycle management is defined as the beginning-to-end process of requesting, acquiring, installing, maintaining, tracking, and retirement of an asset. Lifecycle services provide full end-to-end management from procurement to disposal of hardware and software technology, and the requisite support of such assets (see Figure 11).

Organizations that can successfully understand and manage the entire lifecycle of their IT assets have reaped the benefits. This encompasses the whole existence of an asset, from request through disposal. At each stage of that story, the asset may provide different value to the organization and require different support,
whether that involves licensing costs, installation, maintenance, training, or something else entirely.

ITAM can help an organization make better use of its assets and implement better planning regarding capital and operational expenditures, and benefits of normalization and reconciliation for the classification and usage of assets. There is also the benefit of automation of manual processes to human resources.

Case in Point: Community Health Systems

How does this work in practice? Community Health Systems (CHS), based in Franklin, Tennessee, is a good example. Ranking among the U.S. Fortune 500, the organization operates or leases some 99 individual hospitals in 17 states, stretching from Alaska to Florida. In total, the organization supports some 17,000 patient beds offering a
A wide range of diagnostic, medical, and surgical services in inpatient and outpatient settings.

**CHS Challenges**

A major issue was that each hospital had grown accustomed to acquiring its own software, which often resulted in multiple contracts with the same vendor. Periodic audits of this sprawling system had become a huge undertaking that often required the full-time attention of five to 10 people over a period of months to achieve a “snapshot” view of the entire organization. Individual hospitals relied on manual methods and spreadsheets to track information.

For example, end users—with few if any tools to assist them—needed to seek out and discover the organization’s deployed software and then investigate licensing terms to ensure compliance. When unexpected or unauthorized software was discovered, that usually meant more time would need to be spent on investigating its source and researching associated legal issues.

This manual count, recorded either on paper, in spreadsheets, or in word-processing documents, was not easy to check, verify, or even summarize. It was also difficult to assess the overlap of licenses, the total obligations to specific vendors, or any potential opportunities for savings. Above all, the process required substantial time.

The cost of rolling up data into a corporate-wide view often topped $100,000 per audit. Even that information could change as the process was underway. Like most companies, CHS faced multiple software license compliance audits every year. This “best-guess” approach to gathering license information exposed the company to multiple risks.

**CHS SAM Outcomes**

CHS had already built a strong working relationship with ServiceNow and a consulting firm, and was working to understand its software
investments while reining in licensing fees. Its early investments with ServiceNow focused on implementing the company’s IT Service Management (ITSM) to replace older, disparate systems and tools. So, it was a natural move to give ServiceNow’s Software Asset Management (SAM) a try. SAM, a subset of ITAM, helps organizations manage their software assets. Together, they help organizations properly control Capex and Opex for their hardware and software.

ServiceNow’s SAM has enabled automatic discovery, and keeps track of some 95% of software assets across multiple CHS locations. It not only provides a comprehensive inventory and licensing status, but also illuminates the various paths by which software has been acquired. It has provided the organization with an unprecedented level of control.

In some cases, CHS had been double-counting licenses because of the different versions and deployment patterns. Nearly 20,000 machines with some overlap in licensing were discovered in the initial analysis. The direct monetary savings have been impressive—a roughly 40% reduction in licensing costs thanks to having a proper inventory. Consolidating software asset information also allowed for more useful conversations with vendors, pushback on audits, eliminated 10 months of response time per audit and set up negotiation room for volume pricing.

The CHS experience was transformative, and a great example of how ITAM can lead to substantial direct and indirect cost savings while also encouraging better management practices.
CHAPTER 7

Getting ITAM Right

Using Discovery to Identify Assets

ServiceNow’s SAM can drive your ITAM process to a successful result from initial discovery of assets to development of a hardware and software inventory—even including cloud and Software-as-a-Service (SaaS) resources. The resulting baseline will provide an accurate cost basis for understanding your organization’s investments.

Organizations generally depend on a configuration management database (CMDB) to help them understand and manage their collection of IT resources. But when CMDBs are populated by too many sources, they aren’t always as effective as IT pros would like, often presenting out-of-date, duplicate, or extraneous information. This makes it hard to track down the sources of problems, as well as impossible to create a reliable inventory. The problems are magnified by the dynamic nature of cloud elements like containers and Kubernetes, as well as serverless environments.

So, there’s a challenge to both quality of service and financial needs. All too often, organizations are paying for hardware, software, or services that are underutilized or not used at all. On the other side of the coin, licensing violations that can lead to penalties may go unnoticed.

The Software Inventory

Software, of course, is the center of the target for SAM. ServiceNow Discovery tracks down physical and virtual machines (VMs), including
switches, routers, and storage, as well as applications. Clear and information-rich asset listings are the result.

ServiceNow Discovery goes further than that, though, by showing the dependencies among the various objects. And its reach includes public and hybrid clouds, including Kubernetes clusters (on-premises or cloud). The information is provided to the ServiceNow CMDB on an ongoing basis.

Having an accurate inventory is more important than ever, given how often your software is impacted by company-wide changes. Figure 12 provides an example.

**Is Your IT footprint changing?**

What’s the impact on software?

<table>
<thead>
<tr>
<th>Planned</th>
<th>Unplanned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost-cutting initiatives (10% software spend reduction in 1st year, 5% annually)</td>
<td>Software audits</td>
</tr>
<tr>
<td>Upcoming software enterprise agreements and maintenance renewals (Microsoft, Oracle, etc.)</td>
<td>M&amp;A</td>
</tr>
<tr>
<td>Data center expansion or consolidation</td>
<td>Workforce reduction or large intern onboarding/offboarding</td>
</tr>
<tr>
<td>Point tool consolidation, app rationalization project</td>
<td>Government regulations – MEGABYTE ACT Compliance (Federal)</td>
</tr>
<tr>
<td>Security initiatives</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 12**: Organizations are undergoing constant change, which necessitates similar changes to the software undergirding it
The Hardware Inventory

The hardware is just as important as the software, even though it often gets short shrift these days. That’s a mistake, however. Just because hardware has been de-emphasized, it’s still critical to most organizations and still needs to be fully and accurately tracked. What happens, for instance, when you drop more processors in your servers? Or add another virtual cluster? Those changes need to be accounted for, including the licenses needed for the software running on top. Without proper processes in place, items can be—and often are—missed.

Dealing with Cloud and SaaS Subscriptions

It’s true, though, that hardware is generally easier to discover and inventory. Cloud and SaaS subscriptions, on the other hand, represent the other end of the spectrum for ITAM. This is in part because they’re often plagued by “shadow IT,” which typically go unreported. Needless to say, this can come as a shock when the bill comes due. ServiceNow’s SAM can help IT to root out these assets, too.

Likewise, SAM can help identify SaaS purchases, which are often made by departments or individuals; often hidden in corporate credit card charges. Aside from the worrisome security issues involved, these assets often overlap and represent significant waste.

ServiceNow’s SAM can help provide visibility into SaaS subscriptions owned or consumed within the organization through Software Spend Detection. ServiceNow’s Software Spend Detection optimizes spending by streamlining business processes and reducing costs by consolidating software products with similar functionality; viewing all software purchased in each department; and getting a handle on unmanaged software by bringing it under SAM control.
Shining a Light on Shadow IT

Shadow IT has been a problem for decades and some experts question whether it can ever be entirely eliminated. However, no one disputes the need to make it visible and bring it under management as much as possible. ITAM programs can help identify assets, but ownership can be another matter.

What you may find could be entirely unexpected, ranging from things that have strong business value to game software that has no business, literally, being on a business system. Determining ownership and cracking down can also be done through financial records. But that may require working through the finance department, which can be time consuming. Furthermore, managers are not always interested in cracking down, unless an investigation points to wider evidence of someone misusing company assets.

User-initiated shadow IT continues unabated.

It is difficult to measure shadow IT, and one vendor, 1Password, recently went outside of enterprises, surveying a representative sample of 2,119 U.S. adults who work in an office with an IT department. The survey finds 64% of respondents report they have created at least one account in the past 12 months that their IT department “doesn’t know about.” For close to one-third, 32%, this was one shadow account, while 52% report creating between two and five accounts that their IT department doesn’t know about. For 16%, the tally exceeded five accounts.” —ZDNet

The corollary activity, from which ITAM/SAM gains much of its business value, involves reviewing contract provisions for the software you’ve discovered (or rediscovered) to better understand assets, obligations, and opportunities.

Often, organizations have never had an opportunity to conduct a coherent and complete review of all their contracts at the same time—as a result, it may not have been conducted with the depth and rigor necessary. In fact, when the whole universe of contracts is finally made plain, it can be eye-opening, offering a chance to carefully examine and compare terms and conditions.

It isn’t uncommon to discover startling differences between contracts, sometimes even from the same vendor. This invites a robust review process and perhaps even renegotiation, as well as a re-evaluation of what’s really needed and on what terms.

Viewed through one big lens, it should be possible to clearly grasp discrepancies in pricing and to detect mismatches between costs and value received. When this is accomplished, it becomes possible to create an accurate and objective cost basis for the whole of IT, even the hidden parts.
License Handling and Planning

The License Manager’s Manifesto

Software license managers have a job to do. And, regardless of the size of the organization, most believe they can cut costs, if only they can get the right information. Strong software license management capability can reduce or eliminate the costs of unused software and avoid fines and legal costs. This is why software license management is an important element of a broader SAM program—it helps reduce IT costs by better monitoring and maintaining software licenses.

This is challenging, because there are so many kinds of licenses, covering everything from “freeware” and mobile device apps to huge enterprise software suites. Getting a firm grasp on the overall software licensing picture requires accessing and understanding all the relevant contracts and licenses types. These vary from device- or CPU-based to user-based, and many, many others.

A software licensing manager must ensure that all purchases are accounted for, and even more important, confirm that all software is in compliance with contracts and licensing agreements.

As too many organizations have discovered the hard way, compliance isn’t a “nice to have”—it’s a must have. Individual software vendors, along with the Business Software Alliance, have made it their business to ensure organizations around the globe follow end-user license agreements (EULAs), as well as other explicit and implicit

7 https://www.bsa.org/
agreements. Moreover, they can inspect most any organization to conduct court-approved audits. Fines and penalties for non-compliance can be enormous and painful, sometimes running into the millions of dollars.

To minimize the disruption such audits can cause, there’s been a move toward vendors adopting contract language that accomplishes much the same result, but through a less adversarial process. These contracts also permit vendor audits, but instead of fines, non-compliance triggers a “true-up.” This means assessing fees that correct for use of software beyond the original terms.

Be warned, however—the process may be just as onerous, and result in substantial costs, some of which might have been avoided had a software licensing manager been able to better monitor use and make deployment decisions proactively.

Regardless of whether an audit is imposed through legal action or conducted through a true-up, the process can consume significant time and resources.

**Meet the License Workbench**

The ServiceNow License Workbench addresses these challenges by monitoring usage trends and mapping those trends to actual license

![Figure 13: The ServiceNow License Workbench, showing compliance status](image-url)
rights. That way, it’s possible to anticipate the need for additional rights to stay in compliance (see Figure 13).

**Detailing the Current License Position**

The publisher tab of the workbench provides another means to dig down into the data to get specifics on individual software products and versions, publishers, and metrics on licenses, as well as compliance and reconciliation information.

The navigation tree (Figure 14) provides options for filtering products, toggling between views, and expanding or collapsing links.

**Establishing License Priorities and Handling**

ServiceNow SAM provide the information and the tools needed to establish license priorities and a process for handling and implementing those priorities. This can include “reclaiming” underutilized or unused software, and/or reassigning that software to better purposes. It can also include removal of unauthorized software.

In ServiceNow, software reclamation is handled with Workflow and Client Software Distribution (CSD), which can automate uninstalls and rights reclamation. This is normally done as a daily job, and

![Figure 14: Drilling down on Microsoft software compliance](image-url)
includes a process for each software installation in violation of policy—in particular, unlicensed installs or subscriptions.

Options exist for individual reclamation or for reclamation of all qualified removal candidates.

Installs used and the license status of all items can always be monitored and displayed. This provides full visibility into any unlicensed installs or subscriptions, as well as legitimate installs actually used and their license status.

**Armed for Licensing Battle**

The real costs of poor software license governance come home through the true-up process, by which an organization works with a vendor to reconcile the number of deployed instances with the number of legitimate licenses. Given that double-digit percentages of out-of-compliance instances aren’t uncommon, the costs of getting back in compliance, even with a less punitive process, can be very substantial.

On the brighter side, coming to the table armed with facts and trending data can help open the door to negotiating and/or renegotiating licenses. Although software vendors hold many of the cards, they also need to take their competitive business environment into account, and will want to maximize profit while also minimizing friction and long-term relationship damage.

Understanding that vendor mindset, along with knowing how intensely, widely, and often a given software product is being used—with or without correct licensing—can enhance a negotiating position. For instance, having a large number of instances of a particular program, but low reported usage, can indicate that said product is not as critical to operations. Thus, a vendor playing hardball will see that you have options, including product elimination or adopting an alternative.

In short, armed with ServiceNow SAM, reconciliation can present real opportunities for savings on your budget.
Putting Remediation to Work

When the information gleaned by ITAM and Service Now SAM reveals problems like unauthorized or unlicensed installs, it’s time to take action. This involves not only the obvious ones like upgrading licenses or removing software, but also working with the “offenders” who accidentally or purposely created the problem. And that means engaging management at the appropriate level.

In fact, confronting rogue users, including those who set up shadow IT, is a great opportunity to open a discussion that can produce useful feedback. Understanding the motivations of rule-breakers can clarify what methods of enforcement may work best in the future. Often an inquiry will reveal an unmet need and perhaps a chance to come up with a better approach for the future that’s less likely to lead to unauthorized actions.

However, it’s also wise to be able to reference policies that have teeth. If there are none, work to create them. If they exist, enforce them. The financial, operational, and security consequences of unauthorized IT implementations are too significant to ignore.

Managing Asset and License Removals and Additions

Removing or adding an asset means thinking about and understanding dependencies with other IT resources, as well as any specific business processes that may be impacted. SAM can help, but a thorough inquiry will pay off and avoid potentially worse problems.
Likewise, removing licenses can have big repercussions in terms of not only vendor relations, but also with regard to users, who may not understand the rationale for change. Adding licenses, while often absolutely necessary to avoid audit problems and penalties, should be addressed when possible in the context of developing the most cost-effective and efficient relationships with vendors. In other words, negotiate whenever possible, rather than simply applying a quick fix to a license problem.

**Working with Publisher Packs**

ServiceNow SAM works with publisher “packs” for software vendors of all sizes. Publisher Packs are provided for top tier vendors that typically comprise 80%+ of an organization’s software budget (e.g. Microsoft, Oracle, and so on). These packs typically provide additional or extended functionality.

The ServiceNow SAM, for instance, provides access to an extensive Content Library containing tens of thousands of software publishers, in addition to publisher packs from the major publishers. The ServiceNow Software Publisher Performance Analytics dashboard provides visibility into compliance for packs provided by Adobe, Citrix, IBM, Microsoft, Oracle, SAP (Figure 15), and VMware.

Publisher Packs are activated through a plugin request. The publisher-specific dashboards allow you to review compliance and optimization positions at a glance. Filters are also available to interact with data, help reveal meaningful insights, and provide visibility into the most complex products.

Some of those products involve virtualization, as mentioned before. Information provided through Service Now SAM can clarify the status of subscriptions and virtual instances, simplifying management tasks.
Remember, though, that virtual environments, especially in the age of the cloud, are always changing. New instances of servers and software are being constantly spun up (and down) to meet demand. Thus, your license compliance is a constantly moving target.

Trying to manage a process like this is not for the faint of heart. Trying to manage it manually is a recipe for disaster—there are simply too many things to track. And what’s in compliance this week may be out of compliance next week or next month. Simply handling this chore alone could be a full-time job for an admin, and no organization can afford to have an admin spend that kind of time on one activity. The alternative is to risk being out of compliance, which is an equally unacceptable outcome.

The answer is automated software reconciliation. Software reconciliation compares your software usage with your license entitlements. This is critical when you face an audit or other check on your compliance.
According to the ITAM Channel, “It’s usually this stage of the SAM process that organizations realize the lack of control that surrounds their software estate and if that happens when a vendor is requesting an audit, they can end up with a hefty bill.”8 (The ITAM Channel is part of ITAMOrg, an international membership organization for ITAM professionals).

ServiceNow’s software reconciliation process is fully automated and customizable, along with providing complete granularity. It can be run on demand for different groups, for example, including specific software publishers, groups, and subgroups.

“Gathering good quality data is arguably the most important aspect of your reconciliation process as the output is only as good as the information you have gathered. If there are gaps in your data you will not be aware of the software that is in use, leaving you blind to a chunk of assets your software audit could suddenly discover.” — The ITAM Channel

You can do more than just see what’s in and out of compliance, though—in addition to creating a purchase order for new software licenses, additional remediation options are available in software model results. You can use the results to automatically create and remove allocations, remove unallocated installs, and remove unlicensed installs.

Imagine the feeling of control and security you’ll get by knowing that not only are you guaranteed to be in compliance, but that you’ll likely be saving money. Once set up, it can happen with very little ongoing input by staff.

Making the Most of ITAM Synergies

ITAM is a set of proven practices that provide tremendous value to an organization. Consider, for example, how ITAM can help with deployment of software assets. The centralized vantage point it provides can help ensure the correct version of software and its matching license is installed in the right location, including a verifiable “paper trail” of documentation.

SAM on the ServiceNow Platform

To do ITAM right requires a comprehensive, holistic approach. Traditional one-off tools can’t address the enormous modern challenges of dealing with complex environments and ever-stricter licensing requirements. And integrating multiple tools is extremely challenging, from expense to management to finding staff with niche tool skill sets.

While point tools can theoretically import and export data from your ITSM system weekly or monthly, the delays and configuration maintenance can be troublesome. You’ll be left with different data sources of the truth. Data integrations are not process integrations, which means processes remain manual and teams stay siloed.

Instead, by giving up on that patchwork approach, you can achieve greater effectiveness and deliver stronger results—the kind of results delivered by SAM on the ServiceNow Platform. When SAM is run on the same platform where IT is managed, automated processes connect teams and work can flow.
For example, ServiceNow SAM can automatically distribute key data from the CMDB. This becomes your single source of truth, a valuable asset for decision making that can be shared across the enterprise. An investment in ServiceNow SAM means you have one central source, a single architecture solution, that can deliver crucial software data to the business via digital workflows.

Improved asset control also means you’re in a better position to derive value from those investments. Even SaaS can be monitored and optimized through ServiceNow SAM.

The bottom line is that ServiceNow SAM can help an organization pare back spending while optimizing usage with right-sized purchases. These real savings occur for on-premises and cloud-based services, too (see Figure 16).

Above all, ServiceNow SAM can help protect against software license risk. Know what you have, why, and how to get the most out of it. It’s designed to put you in charge of your software assets—assets that can easily constitute 20% of an annual IT budget.

You now have a solid base of knowledge about ITAM, so it’s time to go further with it. The next part is about extending ITAM and using it to help your business in ways you probably never thought of.
CHAPTER 11

Ready, Set, Elevate

As mentioned previously, ITAM brings all of an organization’s IT assets—including software and services, hardware and infrastructure, spares and replacement parts, and so forth—together under a single umbrella. In addition, ITAM records and monitors those assets to make them accessible, visible, and subject to various other functions, controls, policies, processes and workflows across the organization.

ITAM consists of a set of business practices built around recordkeeping and maintenance. ITAM helps to create a current and accurate database of IT assets within an organization by assembling, combining, and correlating the following three bodies of related data:

- **Contractual.** ITAM seeks to accommodate and represent all the various contracts for licenses, hardware maintenance, leases, and services that an organization might undertake, in a coherent and consistent way.

- **Discovery and inventory.** ITAM sniffs out, discovers, and compiles as complete a list as possible of what IT assets it sees in use on an organization’s networks (as well as IT assets that are not on the network and are not assigned to a user—such as new and spare equipment), along with who’s using them, for what purpose, for how long, and so forth.

- **Financial.** ITAM tracks all the financial activities associated with an organization’s IT assets, including their costs of acquisition, licensing, upgrades, maintenance, disposal, and more.
Recalling ITAM Benefits

ITAM helps an organization make the most of the IT assets under its purview. ITAM provides the tools to help the organization optimize its spending and support lifecycle management—from requirements analysis and evaluation, through procurement and deployment, to ongoing upkeep and maintenance, to eventual retirement and disposal or destruction.

ITAM enables valuable insights to support the organization’s strategic decision-making process. As options are evaluated, selections made, and deployments undertaken, ITAM provides the best data to help an organization make the right technology choices and maximize its return on investments over time.

Using ServiceNow SAM to Rationalize Assets and Costs

Software Asset Management (SAM) is the software component of an ITAM platform. SAM starts with normalizing and reconciling two key inputs:

- Purchase and entitlement records
- Discovered software usage

After matching usage to purchases and entitlements, you can determine where license shortages may exist, as well as if there are any entitlements that are not being used, which could be more appropriately reallocated. Once those situations are identified, SAM can define actionable workflows to correct any discrepancies that might exist.

The Managed ITAM Process

The ITAM process helps deliver value across the full IT asset lifecycle by enabling self-service requests, simplifying and streamlining
purchasing, automating and orchestrating deployments, detecting current usage, reconciling usage against licenses and entitlements, proactively managing service issues, and efficiently retiring end-of-life assets.

Automation generally refers to eliminating a manual process in a single task, such as creating a new user account, whereas orchestration refers to optimally arranging a series of automated tasks in a workflow, such as a new hire workflow. That workflow begins with an HR notification of a new hire that automatically triggers requests for a new user account and equipment, automatically creates the account and procures the equipment (after appropriate approvals), and automatically deploys the appropriate software on the new equipment.

Creating effective governance—including appropriate policies, procedures, and frameworks—helps ensure that ITAM is approached as a structured process rather than an ad hoc activity to reactively address specific use cases, such as semi-annual fixed asset disposal reviews, software audits, and one-off requests.

Meeting Current Needs, Planning for Growth and Change

In addition to effective ITAM processes, you need an ITAM platform that addresses both the current and future needs of your organization: you need a future-proof platform. While there are many options available and no technology is perfectly “future-proof,” a cloud-delivered software-as-a-service (SaaS)-based platform is
your best bet. The SaaS model provides many future-proof, or at least future-ready, advantages, including:

- **Rapid scalability.** The public cloud scales up or down dynamically and quickly to address the needs of your business.

- **Consumption-based pricing.** Teams who manage on-premises software, SaaS, and public cloud usage will all start to merge and need to address hybrid use cases from a central source of truth, a CMDB.

- **Broad ecosystem of out-of-the-box front-end and back-end integrations.** Open application programming interfaces (APIs) and a broad ecosystem of vendors and partners enables rapid discovery and consumption of new asset data from specific vendors and enables ITAM data to be shared across different business units, departments, workflows, and systems within an organization. Open APIs also make it easier to build any new and custom integrations that may not be available out of the box.
CHAPTER 12

Benefits of Sharing ITAM Data

ITAM, done properly, can be a rich source of valuable data for multiple purposes across any organization. Let’s explore some different use cases for ITAM data across organizations.

Assets Have Multiple Roles and Identities

You probably wear a lot of hats in your organization—that is, you have multiple roles. Likewise, you have many identities; at work you might be a peer, a subordinate, or a manager. You might also be both a user and an IT administrator, with two separate network accounts to identify your different roles and identities. Sharing ITAM data across your organization enables assets to be viewed through different lenses for different purposes, such as security, compliance, IT support, and much more.

Managing Security Threats and Vulnerabilities

Asset management is a category unto itself under the Identify function of the National Institute of Standards and Technologies (NIST) Cybersecurity Framework for Critical Infrastructure. This focus on asset management stresses its importance in managing security threats and vulnerabilities in your organization. The bottom line is this: You have to know what you are protecting.
IT asset management helps an organization not only know what it is protecting, but also where its assets are located, the business priority or criticality of its assets, who the business owner or custodian of specific assets is, and what specific vulnerabilities may exist within an asset (for example, a SQL vulnerability that affects a specific version of Microsoft SQL Server in the organization’s data center).

Compliance Goes Beyond Licensing

As you know, ITAM helps you ensure software licensing compliance throughout your organization. But there’s much more to compliance than just software licensing. There are all sorts of security and privacy regulations that organizations must comply with today such as the European Union (EU) General Data Protection Regulation (GDPR), California Consumer Privacy Act (CCPA), U.S. Sarbanes-Oxley (SOX) Act, U.S. Health Insurance Portability and Accountability Act (HIPAA), and Payment Card Industry (PCI) Data Security Standards (DSS).

You may be wondering how ITAM can help you with your regulatory compliance challenges. Let’s start with software. PCI DSS specifically requires businesses to run anti-virus software on systems that process, transmit, and/or store payment card information. SAM helps
you prove to auditors that you have anti-virus software running on all in-scope systems.

Many data protection regulations and standards also require you to ensure that your employees aren’t using unlicensed (or pirated) software on their laptops and PCs, as well as jailbroken or rooted mobile devices. SAM helps you identify all the software your users are running, so you can quickly identify unauthorized software.

If you don’t know how ITAM helps you ensure software licensing compliance, we recommend reading the The Gorilla Guide To...® Getting Started with ITAM and The Gorilla Guide To...® Optimizing ITAM for Success.

On the hardware side, ITAM can help your compliance efforts by identifying systems that may be storing sensitive data subject to regulatory controls, such as protected health information (PHI) subject to HIPAA, or personally identifiable information (PII) subject to GDPR, CCPA, and other regulations.

With ITAM, you can also identify personal data and create an information asset that gets tracked similar to other assets. Once you have an information asset, you can identify every place it exists, where it moves, get reports about information assets, and easily remove a specific asset when necessary. You can then embed compliance controls, such as GDPR, into your processes and identify dependencies across programs and services.

Humans Use Assets, Too

Not only do humans use assets, they tend to use them wherever they need them. This means that a laptop or mobile device, for example, may need to be tracked across different locations and users in much
the same way that dynamic application workloads need to be tracked across different IP addresses, data centers, and cloud environments.

ITAM helps ensure the right assets are available and assigned to the right humans at the right time. For example, your organization may have certain assets, such as laptops or portable projectors, available for checkout in a pool.

ITAM helps ensure that when the big marketing convention is over, your marketing team returns all the portable projectors to the pool. This means the projectors will then be available for your sales team to take onsite to prospective customers and close deals with all those leads that were generated at the convention.

**Making the Help/Service/Support Desk Connection**

ITAM data improves your help desk’s ability to assist your end users. When ITAM is integrated with your service management (or ticketing) system, IT support technicians get a complete snapshot of a user’s environment.

Armed with this information, your technicians can avoid having to ask an often already frustrated caller a bunch of questions that he or she probably doesn’t know the answers to anyway: “What model of laptop do you have?”, “When was the last time you updated your computer?”, “What version of Adobe Flash are you running?”, and so on.

When a user calls or creates a ticket in your service management system, your support technicians can quickly and easily pull up all the important information they need about any assigned assets the user may have, such as hardware make and model, installed software (and versions), latest operating system and software updates, recent configuration changes, warranty information, and service and support history.
Thus, ITAM empowers your help desk with access to important information, improves your first-call resolution rate, and repositions your help desk as the first line of service (and solutions) for your end users.

**The Software Catalog**

ITAM data also enriches your software catalog to enable a truly self-service end-user experience. Without ITAM data, your software catalog might simply present a list of all the software applications that your enterprise has available, but not every user (or even most users) can necessarily have.

ITAM data lets you create a more personalized software catalog that matches a user’s role and assets with the software options that are supported and authorized for that user and their devices. This customized experience helps your users find what they need more easily and without the frustration of repeatedly being told they can’t have software they aren’t authorized to request.

**Introducing the CMDB**

The configuration management database (CMDB) is an important source of information about an organization’s systems, and it supports critical IT service management functions such as problem management and change management. The CMDB helps IT resolve issues more effectively by answering the proverbial first question in troubleshooting: “What was the last thing you changed?”

**Sharing ITAM and CMDB data** enables organizations to create a more complete “single version of the truth” for all its IT assets, from servers and networking equipment to software and end-user devices.
SAM Data Helps Drive Operations and Planning

In 2011, the *Wall Street Journal* published Hewlett-Packard board member Marc Andreessen’s article, “Why Software Is Eating the World,” declaring that every company is a software company. Essentially, software is the cash cow of the modern digital enterprise. This helps to explain why software audits and “true-ups” have become the bane of every CIO’s reality today.

For many organizations, these audits and true-ups are a matter of running a software vendor-supplied tool to discover all the installed instances of their software, then handing them a blank check to cover the difference between what you purchased and what you have.

With ITAM, CIOs can be proactive in their operations and planning when it comes to software audits (and more). ITAM—specifically, the SAM component of ITAM—enables IT operations to match actual usage to licensing and then re-allocate software entitlements where they are needed to ensure the most efficient use of available software licenses within the organization. In this way, CIOs have more leverage to accurately report what software licenses they have and need, negotiate more favorable licensing agreements, and plan and budget accordingly.
What ITAM Does for the Business

By now, you should have a good understanding of what ITAM can do for IT. So let’s look at what ITAM can do for the business.

The IT Asset Lifecycle Mirrors the Whole Business

The IT asset lifecycle consists of six distinct stages: request, purchase, deploy, reconcile, service, and retire. These stages are enabled by different systems, such as IT service management (ITSM), IT operations management (ITOM), IT business management, and of course ITAM, as well as different teams such as HR, IT legal, SecOps, and others—all underpinned by SAM and CMDB providing a single version of the truth (see Figure 17).

However, in many organizations today, these processes, systems, and disciplines function more often as siloed, manual, error-prone, and time-consuming activities.

Understanding the IT Lifecycle

To better understand how the IT asset management lifecycle aligns with the business, let’s map it to a business process that exists in every organization: the employee lifecycle.
### Full IT Asset Lifecycle

**Only on the ServiceNow Platform**

A native CMDB is required for full lifecycle process workflows

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- Self-service software catalog for employees
- Clarity in software allocation
- HR onboarding scale
- Simplified vendor and spend management
- Accurate purchasing based on demand

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- Automated deployment with orchestration
- Reduction in fulfillment delays and resulting incidents
- Increase speed to employee productivity in onboarding
- Allocate the consumption of license
- Minimize software true up / audit costs
- Decreased legal costs associated with compliance

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- EOS / EOL risk avoidance
- Proactively surface software cost with an IT change
- Software vulnerability intelligence
- Reduction in HR and mgr. efforts in asset reclamation
- Harvest licensing for future reuse
- Align EOL software to application deduplication

**Figure 17**: The full IT asset lifecycle integrates different systems, teams, and disciplines across all stages

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**WHAT ITAM DOES FOR THE BUSINESS**    78
Request

Hiring a new employee generates a flurry of activity within an organization. HR might typically send different requests to multiple departments. For example:

- Set up payroll
- Assign an office and furniture
- Purchase IT equipment, software, and office supplies
- Create user accounts
- Schedule orientation and training

A native ITAM solution can help automate the entire onboarding process. For example, HR might simply create the new employee in the HR system. HR on a platform with ITAM would automatically generate the payroll setup, send a request to facilities management, procure the appropriate IT equipment and software (either purchase new or re-allocate existing assets), create the necessary user accounts with the correct access rights and permissions, and schedule training and orientation.

Procure

The cycle continues with the purchase of IT equipment and software for the new employee. Processes that workflow with ITAM ensure that the right equipment and software is purchased (or provisioned) for the new employee based on the new employee’s role. If existing hardware assets and/or software licenses are already available, ITAM helps the organization avoid additional costs due to unnecessary spending.
Deploy

ITOM automates the deployment of IT equipment and software (properly allocated through ITAM) with orchestration. Integration with ITSM helps to ensure everything actually gets to the new employee and reduces fulfillment delays (and associated incidents).

The combination of ITOM and ITSM helps you avoid the embarrassing situation that might otherwise occur on a new employee's first day, when there’s no computer on their desk or it doesn’t have the correct software installed. All of this helps HR make the employee productive on day one.

Reconcile

As the new employee onboarding cycle repeats itself, ITAM helps the organization be proactive in managing software audits and true-up costs, while reducing potential legal costs associated with licensing noncompliance.

On the hardware side, ITAM helps the organization integrate its hardware asset management process with stockroom, procurement, and field service activities to effectively utilize available hardware inventory and avoid unnecessary purchasing. ITAM also helps the organization maximize maintenance and leasing contract benefits.

Service

ITAM helps you manage any regular or preventive maintenance that may be required on hardware. Also, IT Business Management (ITBM) helps you avoid the costs and risks associated with trying to keep IT hardware or software running way past its end-of-life (EOL) or end-of-service (EOS) date. Similarly, ITSM helps you proactively project any associated costs with change requests.

Finally, SecOps can use ITAM information to help ensure security vulnerabilities are quickly and correctly addressed and notify the
team when an EOL or EOS version of software puts the organization at risk because the vendor is no longer providing security patches and updates.

Many organizations are increasingly leasing hardware assets such as desktops and laptops, mobile devices, copiers and printers, and servers. This approach can help organizations stay current with the latest technology (for example, enabling a desktop/laptop hardware refresh every three years instead of tying upgrades to a five-year depreciation schedule), avoid the cost of extended maintenance and support contracts, and increase productivity by giving employees access to the latest technology while avoiding the need for IT to constantly re-image and re-deploy legacy hardware assets. ITAM can help the organization manage these types of issues and processes more effectively to help maximize the value of leasing contracts.

Retire

When an employee leaves the company or is terminated, any IT assets assigned to the employee need to be returned to the company. Integrated ITAM, ITBM, and HR workflows and processes help to ensure IT assets are properly accounted for and returned. Hardware and software can then be appropriately disposed of or reclaimed and reallocated, and user accounts can be disabled or removed.
Compounding Cost Savings

ITAM can help organizations trim excess, unused, or unneeded assets from their asset inventory and thus avoid waste and overspending. ITAM also helps:

- Maximize the useful life of individual IT hardware assets by helping to identify when preventive maintenance is needed, and keep records of completed preventive and corrective maintenance.
- Track service and support contracts to ensure they don’t expire for critical hardware assets.
- Monitor EOL and EOS dates to help organizations plan and budget for hardware replacement.
- Identify unused hardware such as new inventory, parts and spares, pooled equipment, and unallocated resources that may be available for allocation or deployment.
- Ascertain total cost of ownership (TCO) for hardware assets to provide a more complete cost analysis when it’s time to retire and replace equipment.

Similarly, SAM (remember, SAM is a subset of ITAM) helps organizations effectively manage their software licenses and entitlements. Potential cost benefits of SAM include:

- Discovering unused or underutilized software licenses that can be reallocated where needed.
- Identifying siloed, one-off, or “shadow IT” purchases to centralize procurement and potentially take advantage of volume discounts from software publishers and/or vendors.
- Consolidating different applications with similar functionality used throughout the organization (for example, Asana, Mavenlink, Microsoft Project, and SmartSheet may all be used for project management in different departments or business
units) to improve productivity, collaboration, and interoperability while reducing costs associated with one-off purchases, training, and support.

- Enabling proactive licensing audit responses and stronger negotiating positions for software renewals.

**Early 2019 Gartner predictions** indicated that billions of dollars would be overspent on cloud computing alone that year; see this Business2Community article¹ for related analysis that predicted $14.1B of cloud spend waste for 2019. Another Gartner press release estimates that 30% of software spend can be eliminated by implementing various best practices, including right-sizing license outlays.


**Simplifying ITSM**

The onboarding example earlier in this chapter is just one way that ITAM automates and simplifies ITSM. ITAM can help IT deliver a superior service management experience for your users when they need it most.

By automatically pre-populating the ITSM portal or service desk dashboard with asset and user information, users and support staff can focus on describing and resolving the actual incident or problem. Anything you can do to make it easier to create a service desk ticket and get to a resolution quicker will help your users stay productive and reduce frustration.
Minimizing Risk

ITAM helps organizations minimize risk in a variety of ways. Software licensing compliance is perhaps one of the more obvious areas where ITAM can help organizations manage risk. Closely related is managing financial risk specifically due to non-compliance penalties, hold-up buying (“true-up” or else—list price, no discounts), and overspending (unused entitlements).

Organizations can also use ITAM to proactively address operations risk by ensuring that adequate replacement or spare assets are available and helping to assess the impact of change requests on new and existing assets. Finally, security risk can be mitigated by helping SecOps teams identify which assets have what software installed and any associated vulnerabilities that need to be remediated.

Introducing Business Innovation

It’s about more than just reducing risk, though: advanced ServiceNow ITAM capabilities, discussed in the following sections, can help drive innovation in several areas throughout the business.

Rules-Based License Management

Software licensing is expensive, but the most expensive license is a wasted license. Rule-based license management helps an organization identify unused or underused software licenses, based on pre-defined business rules. You can identify meaningful usage of both your installed and SaaS-delivered applications and reclaim wasted costs from stale licenses.

Proactively managing your software licenses and entitlements with deep usage analysis will help you rightsize your next renewal. For example, your marketing department may only use its Adobe Creative Cloud software when it’s preparing for an annual marketing
Software Spend Detection

Software spend detection helps you identify wasteful “shadow IT” purchases (“Why is marketing paying more for the same project management software that operations uses?”) and uncover overlapping software capabilities in different applications (“Why do we use five different file sharing apps and three different project management apps?”).

In addition to the direct costs that can be recovered by eliminating and consolidating shadow IT purchases for better buying leverage, there are also indirect cost savings, such as increasing interoperability and productivity across teams, workgroups, departments, and business units by using the same applications for the same purposes.

Finally, you can identify when users or groups are buying on credit cards or outside normal purchasing and procurement processes, thereby reducing the risk (and cost) of having unknown licenses in your organization.

Discovery and Normalization

Discovery and normalization are important capabilities in ITAM. Most ITAM tools provide manual data entry capabilities and some level of discovery, such as scanning network IP addresses for hardware and computer hard drives for installed software. Beyond these tools, ITAM needs to provide a file-based (or agent-based) discovery tool that is lightweight, nonintrusive, and vendor-agnostic.

For example, many hardware devices don’t necessarily have a network IP address (or the IP address changes dynamically), may be used remotely (not on an enterprise network), or consist of specialized equipment (such as medical devices or point-of-sale systems) that don’t have a common operating system (such as Windows or macOS).
Additionally, ITAM needs to provide the ability to normalize asset information automatically (for example, through vendor updates).

**Vendor Management and Publisher Packs**

ITAM also helps organizations more easily identify their top vendors. This information can be particularly useful when negotiating costs or contracts with a vendor. Also, if the organization has specific vendor management requirements, for example, prohibiting or limiting sole sourcing, ITAM can help the organization identify potential problems.

Publisher packs help you manage specific software licensing requirements (such as per processor, per core, named device, named user, and concurrent) and identify your top software publishers (which typically represent 80% of your spend—and your highest audit probability) and your long-tail publishers (the other 20% of your software spend that may consist of hundreds of different vendor applications).
Now let’s explore how you can take ITAM to the next level with automation. We’ll start with the benefits of automation and then look at specific use cases.

**Automation’s Basic Benefits**

As with many things today, the more you can automate, the better. Automation eliminates the need for—and cost of—human labor. While that’s certainly true, it’s not really about eliminating jobs. It’s more about letting machines do the boring, mundane, and repetitive work and allowing humans to focus on more challenging and value-added initiatives for the business.

Automation also helps increase productivity by helping humans get to work, or back to work, more quickly. Automating hardware deployments and software installs, for example, helps to ensure your users aren’t waiting for an available IT support person to pay them a visit.

Finally, automation helps to eliminate potentially costly and risky mistakes. When humans get bored or tired, they have a greater propensity to make mistakes. Such mistakes could result in higher costs (for example, purchasing the wrong hardware or installing unneeded software), more rework, and greater risk (software vulnerabilities may go unpatched, or improperly configured hardware may expose new vulnerabilities). Machines, on the other hand, don’t suffer from boredom or exhaustion, and are therefore less prone to make mistakes.
Automating HR Workflows with ITAM

You can simplify and automate the onboarding process with ITAM and sync your HR processes with SAM. For example, auto-provisioning capabilities in SAM can be used to provide your new employees with the software they need quickly and easily during the onboarding process. SAM auto-provisioning can be particularly powerful in organizations that may employ interns and a large temporary workforce, or organizations that need to provide software for partner contractors.

Similarly, SAM helps HR manage department and country transfers. Some software publishers require country- or region-specific licensing. For example, you might not be able to use a U.S. license in the United Kingdom, or an Australian license in Brazil. Re-allocating licenses appropriately and automatically, based on geography and cost center, thus becomes a critical capability.

For U.S. federal government agencies, the Making Electronic Government Accountable By Yielding Tangible Efficiencies Act of 2016 (known as the MEGABYTE Act of 2016) requires comprehensive license management, software inventory, usage analysis, and application rationalization for all software within an agency. The Application Rationalization Playbook, published in June 2019, provides prescriptive guidance for agencies to comply with the MEGABYTE Act and other relevant federal directives. Automating ITBM processes with ITAM (specifically SAM) can help federal agencies perform these functions and achieve the goals and directives set forth in these mandates.

1 https://www.cio.gov/assets/files/Application-Rationalization-Playbook.pdf
Automating ITBM processes with ITAM

ITAM records can be populated with information to automate ITBM (also known as application portfolio management) processes. For example, application lifecycle dates—such as general availability (GA), EOL, and EOS—can be tracked and provide notifications to appropriate team members so that application teams can better plan and rationalize their application portfolios, and proactively determine and budget for costs associated with change requests.
ITAM, like all digital transformation initiatives, is not a “one-and-done” deal. It’s a journey, in which organizations continue to realize benefits through ongoing improvements as they mature their ITAM practice.

**Process-Driven Management Basics**

Knowing your organization’s ITAM “maturity level” can help you plan the next steps on your journey. Consider the following maturity model and characteristics when evaluating your organization’s ITAM maturity level:

- **Level 1: Crawl.** When getting started with ITAM, many organizations make the mistake of trying to take on too much at once. This can be an impossible task with potentially hundreds (if not thousands) of different software titles and versions. Instead, use a more manageable approach by following the “80–20 rule” (also known as the Pareto principle): 80% of your software costs are likely to come from just 20 percent of your software (these are your “Tier 1” publishers). Typically it’s the software used by most of your users (such as Adobe Creative Cloud and Microsoft Office 365). If you’ve recently been audited by any of your software publishers or have an upcoming licensing review or renewal, you should also account for those software titles in this phase.
Use SAM to help identify any compliance exposure (not enough licenses to match current usage/entitlements) and cost savings opportunities (such as unused licenses that can be eliminated) in these software titles. These same principles also apply to ITAM more broadly, to include hardware, devices, and other IT assets.

- **Level 2: Walk.** Next, you need to start working through the other 80% of your IT assets (“Tier 2”) that account for the remaining 20% of your spend. Tier 2 is typically comprised of medium size spend software publishers (such as Citrix, Tableau, Dropbox, and so on) that may not be as widely used across your organization. After the quick wins identified during Level 1 (Crawl), your cost savings may not be as readily apparent, but there are still savings and efficiencies to be found. Your goal in this phase is to identify opportunities to improve (or implement) formal processes and workflows such as requisitioning, sourcing, deployment, and retirement of assets. For example, you might optimize your service catalog to streamline the ordering process for your users and re-claim unused or underused software entitlements and re-allocate them to other users.

- **Level 3: Run.** Finally, best-in-class organizations elevate ITAM by expanding SAM to include most of their software publishers (though diminishing returns will occur at a point), including one-off software and custom applications. Automation and orchestration of key business processes and workflows is implemented throughout the ITAM lifecycle and extends to other business functions, such as security, application portfolio management teams, human resources, finance, and others. Organizations that achieve Level 3 maturity have successfully elevated ITAM to the highest level.
Integrating ITAM into Change Management

Change management processes are often tightly integrated with an organization’s CMDB. The CMDB is an excellent tool for tracking changes, but it does so at a very granular level that may not always be easily consumed by humans. A CMDB tracks changes to individual configuration items (CIs), which may include servers, physical memory, processes, dynamic link libraries (DLLs), and so on.

Obviously, this level of detail isn’t always helpful when trying to explain the potential impact of a proposed change to an executive or system owner. Instead, you just want to be able to tell the CFO that the ERP server is being upgraded. By integrating ITAM, SAM, and

![IT Asset Management Diagram]

*Figure 18: ServiceNow provides comprehensive ITAM and SAM capabilities across your enterprise*
CMDB in your change management processes, you can provide the right information, at the right level, to the right people.

ServiceNow’s *Now Platform*, as shown in Figure 18, is a comprehensive ITAM solution that does all this and more.

**Configuration Items vs. Assets**

*Configuration items* and *assets* are similar in some ways, but also distinct. ITAM focuses on the financial and contractual aspect of an asset throughout its entire lifecycle, from planning to disposal.

*Configuration management* focuses only on operational usage while a configuration item (CI) is live (or being serviced) and their logical relationships. So if a virtual machine has a service dependency and has configurable attributes, it should be modeled as a virtual CI. The software licenses for the virtual machine are considered *assets*, because they pertain to the financial and contractual attributes managed throughout the full IT lifecycle.

Here’s an easy way to distinguish the two concepts:

It’s an asset if:

- You care about tracking the item’s purchase, cost, depreciation, and so on
- Documenting the service status, end-of-life and/or destruction is required
- There are associated contracts, like maintenance, warranty, licenses, and so on
- Inventory tracking is expected

It’s a configuration item if:

- You monitor and track technical specifications
• It may be associated with an Incident, Problem, or Change record
• You need to know the item's relationship to other items in production

**Figure 19** provides a Venn diagram–style graphic to further illustrate how they differ, and where they overlap.

Understanding how these two ideas overlap and differ is an important part of getting ITAM right.

Elevating ITAM is about leveraging the data available in a CMDB as your organization’s single source of truth to feed key business processes and workflows across the company. Innovative uses of ITAM extend well beyond IT to other core business areas including finance, legal and compliance, human resources, procurement, and more.

**Figure 19**: The differences and similarities between configuration items and assets—all tracked in a CMDB
Seeing Clearly Vs. Flying blind

Congratulations on making it out of the jungle! You’ve been on a long ITAM journey in these pages. You’ve learned a lot about why ITAM has increased in importance over the years, and the role it can play in helping you understand and grow your business.

The other thing you’ve learned is that you can no longer afford to ignore ITAM. The consequences are too dire, and your company too important, to not take ITAM as seriously as you need to.

IT Asset Management is not some peripheral part of IT—it’s at the very heart of your operations. Without good ITAM, you’re essentially flying blind, with no idea if you’re losing money or putting the business at risk from security or compliance violations. And flying blind inevitably leads to crashes.

But it doesn’t have to be that way. With proper ITAM in place, you’ll be confident that you’re tracking every bit of hardware and software in your organization, and can produce whatever is needed when the auditors knock on your door. Instead of flying blind, you have perfect 20/20 vision into the IT assets that keep your business running every day.

Which would you prefer?
ServiceNow makes the world of work, work better for people. Its cloud based platform and solutions deliver digital workflows that create great experiences and unlock productivity for employees and the enterprise. For more information, visit: servicenow.com/ITAM.
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