White Paper

Enterprise Technology Management Overview

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Introduction

The IT Asset Landscape is More Massive and Complex Than Ever

The life of a CIO and their IT team was simpler a decade ago. They managed IT assets consisting of laptops and desktops, servers, and software. They managed a small number of networks. Employees were either inside the perimeter (in a safe space) or outside the perimeter. Those on the outside could only connect to key systems via a VPN. Most employees only had a single endpoint from which they logged in. Developers had a single server they worked with, and that server was hosted on a piece of physical hardware.

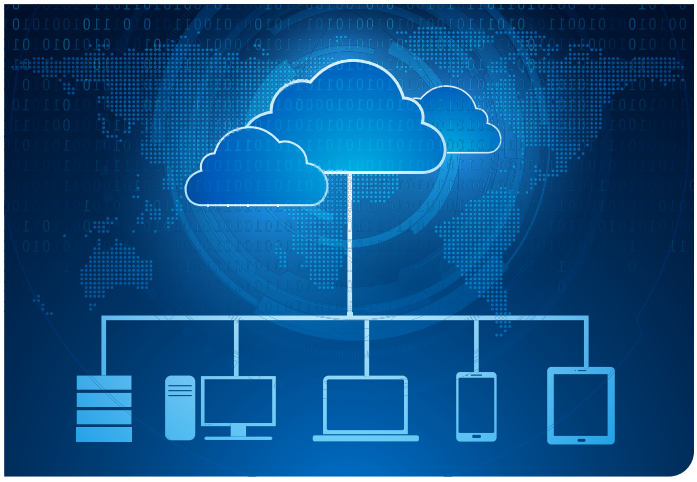
Contrast that to the life of a CIO today. The modern IT estate consists of not only all those legacy assets but also SaaS licenses, cloud infrastructure, and an exploding array of connected devices, from smart keyboards to Bluetooth headsets to a vast array of IP enabled devices across multiple industries. This IT estate is continually morphing, as employees log into systems from their smartphones, their laptops, their tablets, sometimes sharing credentials or passwords for SaaS products purchased without authorization (Shadow IT).

Much of enterprise infrastructure runs not only in a distant data center but in an ephemeral Cloud, where virtual servers and containers launch and terminate with increasing frequency. The average developer may have five or even a dozen Cloud instances running simultaneously. Newer Cloud infrastructure paradigms, like Kubernetes, are making Cloud computing even more of a moving target by constantly firing up and shutting down servers automatically with no human intervention.

To deal with this growing complexity, the world of software companies has, not surprisingly, introduced even more complexity. Each new category of IT assets has driven a new piece of software or management tools—legacy static ITAM, CMDB, SAM, CSB, UEM, and on and on. Each new management tool brings new overhead, costs, and problems. Connecting and orchestrating thes tools is challenging as they often overlap. Because they all rely on manual inputs and humans as the primary mechanism for managing data, they are error-prone and constantly out of date. As compliance, audit, and security requirements have all increased, this IT asset spaghetti of disconnected and out-of-date data has become exponentially more painful and more of a liability.

The sudden acceleration of digital transformation has created a pervasive need for a new approach to technology managememt.

CIOs and IT managers have responded in one of two ways. They have resorted to manually updated spread-sheets to create a unified view of their IT portfolio. Or they have paid large sums for customized software development to connect all these splintered ITAM sub-systems into a unified dashboard. While slightly better than nothing, these two fixes are both cumber-some and hard to manage or update. Both are also expensive, either in customization and ongoing maintenance costs or in human costs required for manual updates. Now add to the mix the rapid and profound impact of COVID-19.



In a matter of weeks, most of the working world shifted from office to home environments, rerouting all work into a land of VPNs, poorly secured home WiFi routers, and newly purchased or physically transferred monitors and hardware. This has both accelerated digital transformation and made the job of managing the IT estate still more complicated and risky.

Secondary but also important problems arise from static and disconnected asset management subsystems that impact business productivity. IT security teams cannot easily identify who owns what device or asset and where that asset is located, creating a material risk in case of breaches, audits, or ransomware attacks. HR teams and IT teams struggle to onboard employees quickly and give them the tools they need from Day 1. Finance teams must piece together procurement data from multiple systems to make purchase decisions; compliance and auditing processes are increasingly time-consuming, error-prone, and expensive. All these were real problems a decade ago. Today, IT organizations are drowning in the rising tide of asset management complexity and unable to meet the needs of security, finance, and HR teams.

To meet these demands, CIOs and their teams need a new type of technology management solution. This solution must be a clear improvement over the status quo, and it must have the following capabilities:

Out-of-the-box integration with all major sub-ITAM systems including legacy ITAM, SAM, MDM, CAM, CMBD, UEM, CSB, and other IT asset management systems

Agentless or automation-enabled data acquisition of all major IT asset categories including laptops, mobile, software, SaaS, cloud infrastructure, and smart peripherals

Quick and robust integration with related systems for finance (ERP, etc.), HR (SSO, employee directory, HRIS), and security (SIEM, SOAR, VM) systems

Easily extensible with well-documented, well-structured APIs using known scripting languages (Python, etc.)

Support bidirectional data flows to allow end-users or others to update IT asset statuses and to enable IT team actions to update external systems in HR, finance, and security

Automated data cleansing to provide a truly accurate and properly reconciled single-pane-of-glass for all consumers of IT asset information

These core capabilities of technology orchestration empower businesses to excel and drive rapid value in key areas, including:

- Improved security posture and hygiene
- Reduced employee time on repetitive tasks
- Reduced errors in IT asset inventories and databases
- Immediate answers to who owns what asset and where they are located
- Faster IT response to end-user needs
- Improved compliance enforcement and monitoring
- Streamlined compliance and audit processes (CCPA, SOC2, etc.)Reduced procurement costs
- Reduced numbers of stranded and unused assets
- Better alignment of IT consumption patterns with purchasing plans
- Faster onboarding and ramp-up of new employees
- Faster offboarding and repatriation of assets of outgoing employees

In aggregate, these benefits empower teams to work more productively and collaborate more efficiently, delivering measurable strategic business value well beyond the traditional scope of IT asset management.

Holistic Automation: Data, Workflows & Reporting

- Financials
- Network MDM
- System Management
- Cloud
- User Management
- Endpoint Security
- Ticketing
- Sensors
- CMDB
- SaaS

Definition

What is Enterprise Technology Management?

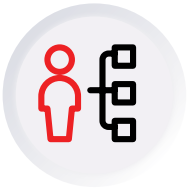
According to Gartner, *"IT asset management (ITAM) provides an accurate account of technology asset lifecycle costs and risks to maximize the business value of technology strategy, architecture, funding, contractual and sourcing decisions."*

As we explained in the introduction, various ITAM-like functions have been stovepiped into various categories like SAM, MDM, CMDB, CSB, CAM, and UEM. This decoupled the management plane into multiple point solutions, each with their own control panel, configuration conventions, API (if they have one), and data requirements. The result? An IT Tower of Babel that resists integration and blocks innovation on the orchestration of technology assets.

Enterprise Technology Management solves this problem by creating a data management and orchestration layer that resides above the subcategories of ITAM. With this privileged position in the technology management landscape—much like Kubernetes manages and integrates cloud native services—Enterprise Technology Management serves as a single-pane-of-glass for visualizing and analyzing the information from all those systems. Taking this a step further, Enterprise Technology Management empowers anyone (technical or non-technical) to build multi-step workflows that automate business logic and simplify cross-functional business tasks by treating all related systems across IT, security, finance, and HR as a unified data pipeline. Key requirement address by Enterprise Technology Management include:

Acquires and Normalizes All IT Estate Data

Enterprise Technology Management systems acquire, normalize, and validate all IT asset data. It does this by acquiring data from existing asset and device agents rather than adding another agent requirement. Being "agentless," Enterprise Technology Management systems tend to have minimal impact on device or asset performance. Enterprise Technology Management leverages Single-Sign-On and Employee Directory systems like Okta or ActiveDirectory to associate asset data with an individual, location, or business unit. A still more expansive version of Enterprise Technology Management includes accounting for the lifecycle and orchestration of cloud infrastructure and SaaS licenses and usage.



Provides an Accurate Database of All IT Asset Data

By reconciling all classes of data from across the IT estate, Enterprise Technology Management delivers a more comprehensive, accurate, and up-to-date data record of the IT inventory of any enterprise. Enterprise Technology Management also delivers automated data collection from assets to reduce human actions, which invariably inject errors and risk into IT inventory counting and management. An accurate database provides crucial value in the following ways:

- **Security:** Associate an asset with an owner, status, and location
- **Finance:** Improve IT use rates to reduce capital expenditures
- **Compliance And Audit:** Simplify compliance processes with automated inventory updates
- **HR:** Accelerate employee onboarding and offboarding
- **C-Suite:** Gain greater confidence in security, compliance, and audit processes

Has Flexible Connectors and Visual Workflows

A key element that makes Enterprise Technology Management so powerful and versatile is that it's architected for agility, flexibility, and extensibility. The core of this is a modern data schema that allows teams to use visual menus to design workflows bridging departments and functions. This is crucial because most complex workflows involve multiple steps, and many involve multiple departments.

Flexible connectors provide fast and straightforward internal connections between already integrated data sources, tools and external data sources as needed to integrate new data sources as the IT estate expands. This allows CIOs to adapt their technology management approach and capabilities as a company grows and changes. More specifically, this type of flexibility and extensibility requires a modern and flexible API that is easy to work with and can handle many types of data transactions. This API should be written in a common scripting language and does not require uncommon programming skills.

Has Bi-Directional Data Syncing and Updating

A read-only, semi-static IT asset data layer only solves half the problem. If Enterprise Technology Management is to become the database of record for the IT estate, it must also accept external fields and flags from other systems. Similarly, Enterprise Technology Management must have the ability to change fields in other business software systems to realize its full potential in informing security, finance, and HR systems. Bi-directional data and syncing allow enterprises to update in near real-time all records related to the IT estate. Bi-directional data enables technology to become a strategic part of the enterprise data ecosystem by forging a virtuous update cycle that improves data quality and empowers faster and better decision making.

Core Use Cases for Enterprise Technology Management

Integrating all the elements of the IT portfolio into a single data source and an orchestration layer enables dramatic improvements in dozens of processes and functions. Three of the most important are auditing and compliance, IT security, and employee experience.

How Enterprise Technology Management Streamlines and Automates Auditing and Compliance

Auditing and compliance processes can be cumbersome, time-consuming, and error-prone. Technology management improves these processes in several key ways. By automating the data collection process and shifting it from manual spreadsheets to push-button scripts, Enterprise Technology Management can slice weeks or even months off the data collection process by removing human error. Reducing error both saves time and improves the accuracy of audits, further reducing risks. In compliance, Enterprise Technology Management automates many attestation requirements and replaces them with automated checks of IT assets.

Enterprise Technology Management allows enterprises to run more frequent audits and compliance checks, including when they are demanded by prominent business partners or potential customers as part of detailed due diligence. Related to audit and compliance automation, Enterprise Technology Management can provide welcomed transparency during M&A processes; an accurate and automated account of all IT assets is a crucial piece of properly valuing acquisitions and assessing potential liabilities and risks, which:

- Reduces reliance on manual processes
- Reduces errors in audit and compliance checks
- Reduces required time to complete audit and compliance checks
- Provides a more accurate and timely IT asset database of record

How Enterprise Technology Management Enhances Cybersecurity and Improves Security Postures

By tapping into existing ITAM agent collections and aggregating the information, Enterprise Technology Management gives teams a holistic view of asset security by employee, office, business unit, and geography. Enterprise Technology Management lets security teams instantly answer critical questions such as:

- Who owns a compromised asset or account?
- Where is the asset located?
- When was the asset last used?

By connecting with all IT asset management sub-systems on a regular cadence, Enterprise Technology Management continuously generates and updates asset statuses such as:

- Deployed assets without an assignee
- Lost or stolen devices
- Anti-virus and EDR compliance
- Data encryption status
- Last check-in for known devices

With fresh information flowing in for all of these areas, IT security teams can more quickly and confidently respond to incidents and intercede with potential breach sources and locations. These status checks can also drive enterprise-wide patch and control validation, with added workflows to enforce remediation or removal from the network of at-risk assets. In Cloud infrastructure, Enterprise Technology Management can report on Shadow IT of unauthorized SaaS or public Cloud instances deployed on or attached to enterprise networks. With a flexible and extensible API and connection framework, Oomnitza allows security teams to write their own connectors and workflows in Python to create bi-directional reporting and updating between core ITAM systems and security management platforms like SOARs and SIEMs, which can deliver:

- Near real-time map of all enterprise assets
- Instant answers to “who owns an asset and where it’s located.”
- More frequent checks of asset status and risk

How Enterprise Technology Management Provides a Better Employee Experience

Your ITAM-related systems exert a powerful influence on employee experience. IT and HR departments that deliver unpleasant or convoluted tech onboarding experiences can sour employee sentiment. New hires may spend hours or days waiting for the tech required to do their job. In contrast, a tightly executed Enterprise Technology Management-driven onboarding program can get employees up and running quickly and on good terms. This ability is vital for dealing with remote workers, who require additional planning and coordination for proper onboarding. Similarly, a responsive Enterprise Technology Management capability can streamline ticketing and allow your IT support team to be more proactive and responsive to employee requests.

For the IT team itself, automating data capture and eliminating rote tasks can improve morale and allow them to spend more time on rewarding tasks. All of these benefits are magnified by the automated and triggered workflows in Enterprise Technology Management. A workflow can be configured to ensure that a new hire to the graphics team receives the correct Apple monitor, Adobe and Sketch licenses, and other items purchased by different parts of procurement but processed in an integrated workflow. This general reduction of time spent on repetitive tasks and automation of multi-step workflows applies across security, finance, and HR roles, all of which spend time dealing with manual and at times needlessly complicated tasks related to IT asset management. The benefits result in:

- Faster and smoother employee onboarding
- Reduction in draining, repetitive tasks
- More responsive IT support workflows and processes

Emergent Use Cases for Enterprise Technology Management

By tying multiple strands of the IT estate and asset data into a single accurate and frequently updated database, Enterprise Technology Management establishes new use cases for ITAM that elevate IT to a provider of strategic information and business value.

Actionable Data on IT Consumption Trends

Enterprise Technology Management can provide aggregated trend data on IT consumption to drive better procurement strategies and to help finance fine-tune its CapEx/OpEx mix with regard to IT. For IT departments working with procurement, consumption and usage trends can shape planning, vendor negotiations and also provide user-centric input on what IT products are most in demand and trending.

Better Financial Planning and Procurement

Related to consumption trends, Enterprise Technology Management can drive more efficient purchasing decisions by providing procurement with a clearer picture of the entire IT estate, how it's being used, how old assets are, and where there is growth in consumption. Enterprise Technology Management can also notify finance in advance of risks of license violations that can result in seven-figure payments or caveats in quarterly earnings or investor reports.

Proactive Cybersecurity Planning

By identifying coverage gaps in cybersecurity asset management, Enterprise Technology Management can help IT security teams direct compliance and remediation efforts to the areas that present the most significant business risk to an enterprise. Also, by integrating procurement planning, employee onboarding and provisioning, and security planning data, security operations teams can better coordinate efforts, even in the face of disruptions such as mass movement to remote work.

Extensible for "Zero Trust" Workplace

By providing a baseline of accurate information for who owns what asset and where the asset is located, as well as the last recorded status of assets, Enterprise Technology Management enables extensible "Zero Trust" workplaces. In this scenario, Enterprise Technology Management can help security or compliance teams deliver on the "Trust but verify" mandate of Zero Trust for remote and distributed work access of corporate networks and data.

Conclusion

Enterprise Technology Management "Future Proofs" Your IT Capabilities

Enterprise Technology Management is the evolution of ITAM that keeps your IT functions ahead of rapidly changing circumstances in enterprise IT. Digital transformation is forcing more and more tasks into the digital realm and adding more and more devices and assets into the IT management space at organizations both large and small. The rapid and likely permanent increase in remote working makes bi-directional and near-real-time IT management more important, and adds risks in connectivity and attack surface exposure that Enterprise Technology Management helps remediate. **As 5G pairs with increases in connected devices (IoT) and cloud, IT teams will need flexibility and extensibility to easily incorporate these new sources into Enterprise Technology Management platforms.** The legal and compliance requirements for IT are continuing to push towards Enterprise Technology Management Platforms that can automate and streamline processes and controls required by CCPA, GDPR, and other regulatory mandates.

In an era of detailed analysis of all data metrics, the modern CIO and IT leader wish to tightly link improvements in IT platforms and capabilities to measurable generation of business value. **Enterprise Technology Management is the glue that can finally connect all the pieces into a unified view of the complete IT estate and empower analysis and actionable insights.** With Enterprise Technology Management, CIOs can deliver more IT value and performance at a lower cost. Measurable improvements can come in CapEx and OpEx reductions, faster onboarding and offboarding times, reductions in stranded or unaccounted assets, improved security stance through better asset tracking, and improved vendor management and consolidated purchasing. Because IT is the lifeblood of the modern enterprise, IT trends can inform broader business decisions and help the C-Suite shape direction for years to come.

With Enterprise Technology Management, they can take these decisions with superior data and greater confidence.

Oomnitza is the first Enterprise Technology Management solution that provides a single source of truth for endpoints, applications, cloud, networking, and accessories. Our customers can orchestrate lifecycle processes, from purchase to end-of-life, across all IT assets, ensuring their technology is secure, compliant, and optimized, enabling their employees. Oomnitza is headquartered in San Francisco, CA.
For more information, visit www.oomnitza.com.