

# How Real-Time Asset Management Can Save Data Centers Millions of Dollars

## Executive Overview

Throughout history, technological advances have formed the foundation of many disruptive moments in the modern world. From the wheel to the rocket, technology has driven change across every aspect of society, and business is no exception. In today's global economy, information is the lever and the data center, its fulcrum.

Modern business leaders need tools that enable them to optimize in the present and prepare for the future. That means using technology to extract full value from investments, prioritize activities that differentiate your company from competitors and grow revenue. Asset lifecycle management provides the business intelligence you need to achieve these outcomes.

## Introduction

In today's fluctuating markets, business executives are finding opportunities and challenges in almost equal measure. Over 65% of the CEOs that responded to PwC's 2015 US CEO survey reported they are seeing more opportunities now compared with three

years ago, but 60% also see more threats.<sup>1</sup> One thing is certain: markets are changing more rapidly than ever, and the organizations that survive will be those that focus on value and efficiency. Those that convert their savings to opportunity will thrive.

The lean times of the last decade have brought a renewed focus on total cost of ownership (TCO), and understandably so: an accurate assessment of the direct and indirect costs of owning a data center asset throughout its lifecycle is fundamental to decision-making. But IT budgets have increased each year since 2011 and astute business leaders now view TCO through a different lens, considering not only the cost of owning an asset but also its value to the organization.<sup>2</sup> Their goal is not arbitrary cost-cutting but resource optimization to extract maximum value from every asset.

Although IT asset management encompasses all aspects of digital technology, this paper will focus on physical assets in the data center as it explains how asset lifecycle management can help you save millions in CapEx and OpEx, reduce risk and enable business growth.

<sup>1</sup> Leading in extraordinary times: the 2015 US CEO Survey essay, PwC, 2015

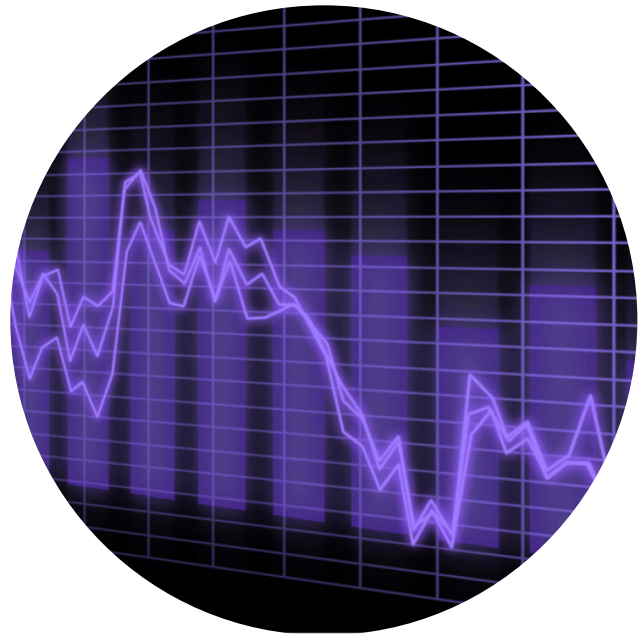
<sup>2</sup> IT Spending & Staffing Benchmarks 2014/2015, Computer Economics, 2015

# Asset Lifecycle Management Yields Both OpEx and CapEx Savings

Over the last decade, many companies have concentrated on improving the energy efficiency of their data centers and have reaped substantial rewards in the form of OpEx savings. Innovations such as free cooling, medium voltage power supplies and high-density deployments, once considered cutting edge, are now commonplace.<sup>3</sup> In today's intelligent data center, thousands of sensors throughout the facility provide real-time updates on temperature, humidity, CPU utilization and more. This workplace Internet of Things has enabled greater productivity, higher availability, and more effective financial planning not only in the data center but throughout the organization.

Recently, however, Green IT initiatives have reached the point of diminishing returns: in many companies, the low hanging fruit has been plucked and OpEx savings have plateaued.<sup>4</sup> Meanwhile the potential for far more significant CapEx savings has been overlooked.

When most people think about data center CapEx, they focus on the cost of the building and the physical plant -- the cost of IT hardware seems small in comparison. However, they fail to consider the vastly different timescales on which the two operate: the building, power and cooling components depreciate over 15-20 years, whereas the IT hardware might be refreshed as frequently as every 2-3 years. When considered over the lifespan of a data center, the capital cost of IT hardware dwarfs that of the physical infrastructure.<sup>5</sup>



## Efficiencies Realized Through Asset Lifecycle Management<sup>1,2</sup>

- Improved inventory accuracy: Both IBM and CME Group moved from ~70% to over 99% accurate
- Identified workflow gaps: IBM found that 14% of asset movements had no change ticket
- Reduced time to maintain asset database: CME Group decreased the time invested per asset by 88%
- Reduced time and money spent on audits: CME Group spent 57% less time on audits (~400 man hours/year)

1 Automated Asset Tracking in the Data Center: How IBM Reduced the Time/Cost of Tracking Data Center Assets. RF Code and IBM, September 18, 2013

2 How the CME Group Saved Time, Money and Resources by Fully Automating its IT Asset Management Process. RF Code and CME Group, 2013

That's why asset lifecycle management is fundamental to reducing the TCO of your data center. Asset management systems store detailed device information such as location, specifications, purchase and maintenance history, dependencies and much more. An active system tracks this information in real time and provides continuous visibility into the device's

<sup>3</sup> Highly energy-efficient datacenters in practice: Case studies of advanced innovations in datacenter technologies and techniques, 2012-2013. 451 Research, August 2013

<sup>4</sup> 2013 Uptime Institute Data Center Industry Survey. Uptime Institute, 2013

<sup>5</sup> Overall data center costs, by James Hamilton. Perspectives (blog), September 18, 2010

status. Asset lifecycle management improves efficiency, streamlines audits and optimizes utilization. According to Gartner, the average company's IT spend is 3.6% of its revenue. In some industries the number swells to 7.5%.<sup>6</sup> Either way, it's big business: in 2013, US companies invested over \$1.4 trillion in IT hardware and software<sup>7</sup> and last year, over \$50 billion was spent globally on servers alone.<sup>8</sup>

Is it money well spent? Well, it's complicated.

Numerous studies have demonstrated the value of short equipment refresh cycles to lower costs and improve margins.<sup>9,10,11</sup> New devices are more reliable, more energy efficient and more powerful than equipment just a few years old. New servers are more capable of supporting the increased memory and processing requirements of the latest software systems and, through virtualization, can replace several physical servers.

But this also increases complexity. If the new server goes down, that means every hosted application goes offline. Managers are essentially running multiple production shops as new equipment is constantly being deployed and old equipment is being repurposed or decommissioned.

Unfortunately, most organizations are not managing these perpetual motion machines effectively. Despite best practice recommendations for 2-3 year refresh cycles, research shows that 65% of servers stay in use for 5-10 years, even though extending the replacement timeframe from just three to five years increases the failure rate by over 100% and more than doubles the cost of IT support staff labor.<sup>12</sup>

Why the delay?

It is a lot to manage, and many IT departments are still trying to do so using Excel spreadsheets – a siloed, inefficient and error-prone practice. IDC estimates that 75% of enterprise data centers do not have

accurate records for at least 25% of their IT assets.<sup>13</sup> And this is not unusual: a survey of IATAM (International Association of IT Asset Managers) members found that an 85% accuracy rate for tracking assets is above average, and a 90-95% rate is exceptional.<sup>14</sup>

The consequences for the business are obvious. Every day a device sits in a staging area is a day of wasted investment. The asset is depreciating on the shelf, its warranty period expiring. Meanwhile, your highly trained, highly paid staff are walking the floor, searching for it.

The situation is worse if equipment is leased. While there are compelling business reasons to lease, it is usually more costly on a per-day basis than buying the equipment outright, so any impact on utilization rate is amplified. In addition, leased equipment must be returned on time and in its original condition. Without active asset management, any device that Technologies is moved without a change ticket is effectively lost, and the penalty for late returns can be significant – a lease extension can cost up to 50% more than the base rate.<sup>15</sup> Asset lifecycle management allows users to identify workflow inefficiencies and improve productivity.

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6 Gartner IT Key Metrics Data: 2012 IT Enterprise Summary Report. Gartner, 2012

7 Fact Sheet: Equipment finance in the IT/computer sector. Equipment Leasing and Finance Association 2014 State of the Equipment Finance Industry Report. Equipment Leasing and Finance Association, 2014

8 Worldwide server sales reach \$50.9 billion in 2014: Report, by C. Burt. WHIR, March 4, 2015

9 IT Metric: Align IT investment levels with strategy using Run, Grow, Transform and beyond. Gartner, March 23, 2012

10 Advantages of IBM Power Systems In-place Upgrades. Robert Frances Group, 2011

11 Driving measurable business benefits through datacenter asset life-cycle management, by J. Koppy et al. IDC Opinion White Paper #250590, September 2014

12 IDC's Server Workloads Survey, August 2013, as cited in "Driving measurable business benefits through datacenter asset life-cycle management," by J. Koppy et al. IDC Opinion White Paper #250590, September 2014

13 IDC's Server Workloads Survey, August 2013, as cited in "Driving measurable business benefits through datacenter asset life-cycle management," by J. Koppy et al. IDC Opinion White Paper #250590, September 2014

14 Striving to achieve 100% data accuracy: the challenge for next generation asset management, by T. Watson and J. Fulton, March 2009, as cited in ITAM Technical Brief 33603, CA Technologies

15 IDC's Server Workloads Survey, August 2013, as cited in "Driving measurable business benefits through datacenter asset life-cycle management," by J. Koppy et al. IDC Opinion White Paper #250590, September 2014



It also helps ensure equipment is optimally an inefficient and expensive solution. Experts estimate that server utilization in most data centers is only 12-18%, and some feel that up utilized throughout its lifespan. Most data center owners still address the problem of fluctuating demand by overprovisioning — to 20% of the servers deployed in data centers are plugged in 24/7/365 but performing little to no work.<sup>16 17</sup>

Asset lifecycle management enables data center operators to detect and exploit underutilized capacity. This is important because building new capacity is expensive: a data center can cost \$5-10 million per MW.<sup>18</sup> A company that buys new compute capacity simply because it is unable to identify that sufficient capacity already exists is making two expensive mistakes: it is wasting money to buy capacity it does not need, and it is taking funds from other initiatives that could drive business growth.



## Asset Lifecycle Management Reduces Risk

Numerous recent surveys have shown security and risk management to be the top concerns for business executives.<sup>19 20</sup> The

pace of change is increasing at a time when complexity is expanding, more companies are transforming their operational models and many are moving into unfamiliar territory. Meanwhile, the per-minute cost of downtime increased 41% between 2010 and 2013; the average cost of a data center outage in 2013 was almost \$700,000.<sup>21</sup> Executives are well-advised to focus on risk management: a recent PwC Center for Board Governance survey revealed that investors rank it as their highest priority.<sup>22</sup> Their concern is well-placed. A 2013 study by PwC and the MIT Forum for Supply Chain Innovation found that companies with sophisticated risk and supply chain management practices outperform competitors in market value, market share and sales revenue.<sup>23</sup>

Today's political landscape is volatile, and compliance with changing national and international regulations in the wake of the recent financial crisis is a significant concern for many organizations. In a recent CFO Research Services study, 92% of respondents said they are not prepared for the requirements of the new Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) lease accounting standards, which are designed to increase transparency into a company's assets and liabilities.

Accurate reporting on leased holdings requires real-time information gathering and reporting, and many companies are unprepared. Over 70% of the executives surveyed acknowledged that the new standards would require changes in their accounting and compliance processes, and over half anticipated a decline, at least initially, in their company's return on assets and debt-to-equity ratio.<sup>24</sup>

<sup>19</sup> Leading in extraordinary times: the 2015 US CEO Survey essay. PwC, 2015

<sup>20</sup> Today's enterprise – cyberthreats lurk amid major transformation: Assessing the results of Protiviti's 2015 IT Priorities Survey. Protiviti, 2015

<sup>21</sup> 2013 Cost of Data Center Outages. Ponemon Institute, 2013

<sup>22</sup> PwC 2013 Annual Corporate Directors Survey and 2013 Investor Survey Comparison. PwC, November 2013

<sup>23</sup> PwC 6th Annual Digital IQ Survey. PwC, March 2014

Companies that implement asset lifecycle management dramatically improve their inventory accuracy, decrease time spent preparing for audits and maximize their return on investment for IT assets.

Another key aspect of risk management is security. When we think about IT security we usually think about theft – hackers breaking into a database and stealing information. The reality is that some of the most damaging IT security breaches arise from a far more mundane – and completely avoidable – cause: companies simply losing the devices on which sensitive information is stored.

#### Sample HIPAA Fines for Loss of Patient Data<sup>1</sup>

- \$1.7 million – Alaska Department of Health and Human Services (June 2012), USB hard drive
- \$1.73 million – Concentra Health Services (April 2014), laptop
- \$1.5 million – Massachusetts Eye and Ear Infirmary (September 2012), laptop
- \$1.5 million – Blue Cross Blue Shield of Tennessee (March 2012), 57 hard drives

<sup>1</sup> Health Information Privacy, Case Examples and Resolution Agreements

The Health Insurance Portability and Accountability Act (HIPAA) Security Rules require that covered entities institute meaningful policies to safeguard any hardware or portable devices on which the personal information of clients is stored.<sup>25</sup> Similar rules govern the Payment Card Industry (PCI), and both the Sarbanes-Oxley Act and the Federal Information Security Management Act (FISMA) subject companies to third-party audits. The fines associated with asset lapses are often in the millions of dollars, and associated class action lawsuits can reach the billions. The cost to an organization's reputation, however, can be immeasurable.<sup>26</sup>

## Asset Lifecycle Management Improves Agility and Enables Growth

Gartner estimates that most companies spend almost 70% of their IT budget simply running existing IT systems. That leaves precious little for growth or transformation projects.<sup>27</sup> Indeed, PwC's 2015 Digital IQ study found that only 20% of the responding companies effectively leverage IT to deliver business impact -- that is, optimize operational efficiency, inform decision making and mitigate risk -- and in so doing, add value and boost company performance.<sup>28</sup>



The companies that did were twice as likely to be top performers in revenue growth, profitability and innovation.

<sup>19</sup> Leading in extraordinary times: the 2015 US CEO Survey essay. PwC, 2015 Privacy: The Security Rule

<sup>26</sup> Big data. Bigger security risks: How data centers can track, manage, and secure data with dedicated asset tracking networks. RF Code, 2013

<sup>27</sup> Four basic rules for IT spending, by A. Stein. Gartner Research, May 29, 2013

<sup>28</sup> The five behaviors that accelerate value from digital investments: PwC 6th Annual Digital IQ Survey. PwC, March 2014

Asset lifecycle management improves accountability and allows managers to fully understand the costs associated with meeting the data requirements of each business unit. In other words, it allows them to quantify the true cost of providing a service. This business intelligence is nothing short of transformative: workloads can be prioritized and costs allocated based on demand and availability. Managers can develop industry-specific productivity metrics that give users visibility into the efficiency of their operations. Leaders will be able to prioritize and accurately plan for investments that will revolutionize their business and ensure success in volatile markets.

As corporations grow, they need comprehensive, coordinated data collection and analysis from all business units to inform their decision-making. Vodafone provides a good case in point: the international mobile communications giant recently deployed an active monitoring and asset management system and integrated it with the organization's enterprise resource planning (ERP) software. The improved business intelligence so effectively streamlined its financial accountability and strategic planning that Vodafone now plans to implement asset lifecycle management across its global portfolio.<sup>29</sup>

Today many development plans incorporate restructuring, mergers and acquisitions. PwC found that over half of the US executives in their 2015 CEO survey expect to complete a domestic acquisition this year, and globally over half of the executives plan to enter a new strategic alliance or joint venture. Almost a quarter plan to sell a majority interest in a business.<sup>30</sup> Being prepared for such opportunities requires accurate, real-time asset management because any potential partner or M&A participant will require detailed information on IT assets, workload efficiency and utilization rates.

The ability to leverage technology to make your business faster, smarter and more agile is a key differentiator. Gartner's top ten strategic technology trends for 2015 focus on

the intersection of the real and virtual world and the rise of the Internet of Things. One of its top recommendations is to automate infrastructure discovery to facilitate the use of advanced analytics and trend analysis. This simplifies risk management, enables real-time optimization and streamlines strategic planning.<sup>31</sup>

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29 Vodafone driving down costs, eliminating over-provisioning, and delivering savings to the bottom line with RF Code. RF Code Case Study, 2015

30 PwC's 18th Annual Global CEO Survey. PwC, 2015

31 Research Guide: The Top 10 Strategic Technology Trends for 2015. Gartner, 2015

## Conclusion

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To meet the challenges of the global market, organizations need to adopt a holistic, business-oriented approach to IT management. Asset lifecycle management provides comprehensive, coordinated and context-rich business intelligence. Armed with this workplace Internet of Things, leaders have the information they need to meet sustainability targets, boost productivity, improve customer satisfaction/retention rates and increase investor confidence. Asset lifecycle management delivers measurable returns quickly and consistently, allowing you to fully understand and exploit your technology investments to further business growth.

## About RF Code

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Founded in 1997, RF Code is based in Austin, Texas, with offices and partners around the world. Our automated, real-time asset management and environmental monitoring software platform eliminates the need for costly and error-prone manual processes. With our patented, wire-free sensors, open APIs, and real-time reporting capabilities, RF Code is easily integrated with existing IT, facilities, and business systems, creating mission critical value throughout the asset lifecycle, so you can save time and money and keep track of what really matters.