CXO FOCUS

# IT'S PRIME TIME FOR
# INTELLIGENT OPERATIONAL
# IT AUTOMATION

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Automation is being seen in more industries and applications than ever, from autonomous cars to virtual assistants, computer vision, fraud prevention and detection, and millions of other applications, robots, and processes. For IT organizations, intelligent operational automation is here—and it deserves close consideration by CIOs based on ROI and an array of compelling reasons.

## Accelerating Adoption of Automation

Since the first automated loom was invented in the mid-18th Century, the world has been sold on automation. Today, artificial intelligence techniques like machine learning and deep learning have given automation greater and more sophisticated capabilities. The race is on to create new software and to augment existing systems to use automated A.I. to deliver new features and analytical insights everywhere.

In healthcare, automated point-of-care decision support systems help determine what tests to order and interpret test results, imaging, and patient histories. One study at a Texas hospital found that automated A.I. systems used for medical record review, order entry, and decision support actually reduced deaths, unnecessary complications, and costs. Digital automation in smart cities is helping billions of people by optimizing transportation, government services, use of resources, policing, and emergency response.

The automated technique Digital Twin uses A.I. and machine learning systems to provide a real-time look at what's happening with physical assets either in design, manufacturing, or maintenance environments. These virtual, automated systems can continuously ingest and transform enormous quantities of data into actionable insights. With Digital Twin, businesses can quickly and continuously test scenarios, uncover quality and productivity issues, shorten time to market, and dramatically reduce their costs.

A report by McKinsey covering 46 countries that represent 80% of the global workforce estimated that half of activities that people are paid almost $15 trillion to do in the global economy can be automated using existing technology. If utilized, automation could raise global productivity 0.8% to 1.4% annually.

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## Increasing Automation in IT

Most IT environments have not yet taken advantage of the automation benefits made possible, affordable, and accessible through automated cloud and A.I. solutions. Manual processes are still the norm. Getting storage systems configured requires updates to storage, compute, and network infrastructure. It can take months of planning to verify interoperability and deploy and integrate new components. Setting up a database takes days, sometimes weeks.

Meanwhile, in the cloud these and other IT resources can be automatically configured and made operational with a few clicks. Automation eliminates all of the lengthy, complex, error-prone, costly, and manual IT processes. Entire IT environments can be automated across hybrid cloud solutions using hyperconverged infrastructure technology to provide a complete, software-defined stack. Such solutions can integrate everything — compute, virtualization, storage, networking, and security — while A.I.-driven automation handles numerous IT operational tasks that were previously manual, expensive, and time-consuming.
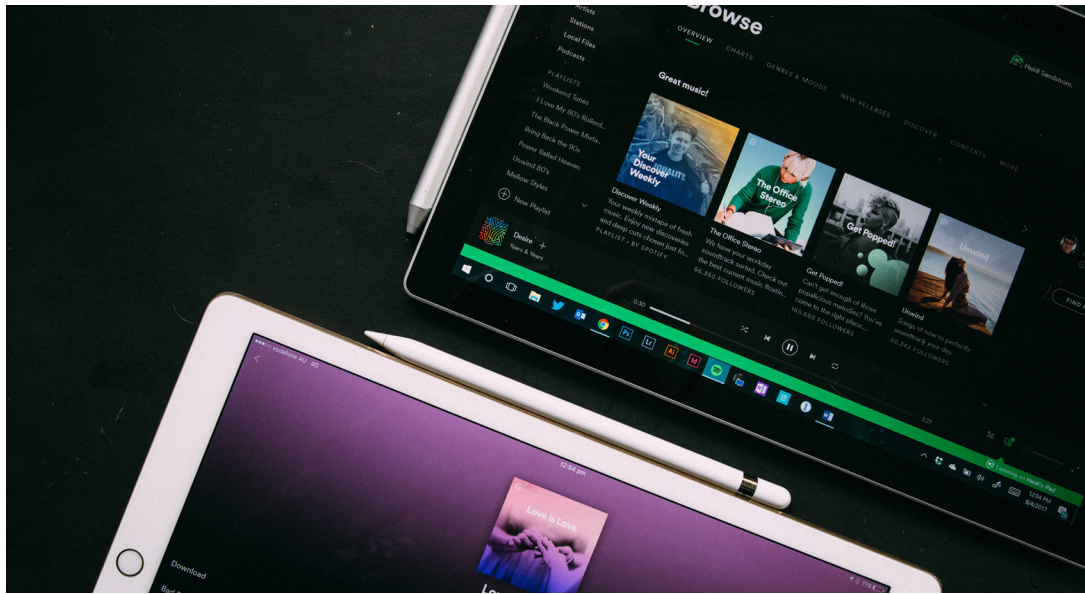
Autonomous systems are being used in IT departments to automate hardware and software lifecycles and reduce manual processes. Connecting a new employee laptop to the network and provisioning storage and apps can be fully automated. Processes can be abstracted and simplified. No more racking and stacking datacenter infrastructure and configuring apps and requiring three to six months for fully functional compute stacks.

Everything can be represented in virtualized software in the cloud, including legacy hardware. Automated systems make such an environment simpler and more cost-effective to manage. Fewer manual processes mean fewer chances for errors and downtime.

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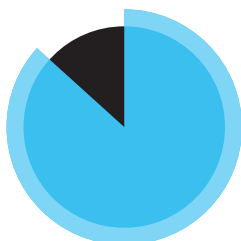of all IT infrastructure and ops teams."

## Why care?

Automation is being used in IT for an impressive list of tasks: provisioning, configuration management, orchestration, application deployment, security, and compliance. It is being used across enterprise, cloud, and hybrid cloud environments and is eliminating mundane, manual tasks as well as other jobs of such complexity and scale that they are not humanly possible. With the newest automation solutions and services, IT departments can reduce their manual workload while monitoring their environments on a single screen at a high level of abstraction.

A recent report by Accenture portrays intelligent automation as "the newest recruits to the workforce." The report highlights various examples that show how automation is transforming IT departments. Automation of data analytics is being used to personalize ad experiences and predict what customers will buy. It's enabling people with no programming experience to deploy complex workflows. Automated A.I. algorithms assisted by machine learning tools are being used to help identify operational issues that could cause applications to go down. Cloud service providers, for example, have deployed features that can be set to trigger an alert if a customer's server reaches 80% capacity. If this occurs, the system automatically deploys other servers to avoid any downtime.

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## Addressing FUD & the Challenges of IT Recruiting

The lingering fear, uncertainty, and doubt (FUD) over all of the jobs that automation and A.I. are forecast to replace is real. But greatly expanding automated operations in IT could have tremendous benefits for individuals within IT organizations along with enhancing cost efficiency for the organizations. Administrators, DBAs, and analysts could spend more time doing more strategic, creative work.  Instead of being seen as a cost center, IT can now be a source of revenue generation.

More meaningful work among staff freed up from manual tasks by automation includes seeing patterns and opportunities in data and working with other departments to take advantage of them. At a time when finding skilled IT talent is getting to be more of a challenge, automating IT functions is both a welcome way to offload some of the work and also a potential opportunity to broaden the horizons of skilled IT professionals. As one CIO put it: "Our IT staff were perceived as mechanics; now they're seen as business analysts."

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