NEW REPORTING REQUIREMENTS SPUR A RUSH TO

CLOUD SUSTAINABILITY

Measurable actions can make a big impact on energy usage

Sustainable IT is the backbone to a greener future, but it is not a priority for most companies. A **Capgemini Research Institute report** found only 43 percent of executives were aware of their organization's IT carbon footprint and only 18 percent have a comprehensive sustainability strategy with well-defined goals and target timelines. Nearly half said they lack the tools to adopt and deploy solutions, and 53 percent said they lack the expertise. Even though enterprise IT contributes significantly to the world's carbon footprint, the plan for reaching sustainability goals is still unclear.

While companies have the best intentions, they may need the right incentive to get them to move forward with a sustainability plan. Enter the Securities Exchange Commission to provide a push. The **Commission's new rules and reporting guidelines** mean measuring sustainability across the enterprise has become even more important. With the SEC requiring tangible results and commitments for investors, companies need a plan.

AN IT SUSTAINABILITY MINDSET

Sustainability can no longer be an afterthought for IT. It needs to be a core tenet of all activities, and that requires a shift in thinking across the organization. While the new SEC regulations are an incentive, the move towards sustainability needs to permeate the company culture. Teams need to adapt to a new way of thinking about energy and goals to achieve tangible results.

This is where measurement can play a key role. Dashboards and reports that calculate and display carbon footprints are powerful tools, and they can operate on-premises or be cloud based. With these, the team can see progress and identify areas of improvement.

MOVING BEYOND THE CLOUD

Increasing energy efficiency starts with understanding the current baseline and developing a roadmap to realize strategic objectives. The challenge for companies is setting a baseline for their current state and then taking actions that show they are improving. One of the core ways to do this is by looking at IT maturity and overall environmental footprint. It also involves a business assessment to review current applications and looking at CO_2 emissions to simulate how they can be reduced. And the strategy must be measurable, so it can be reported.

Based on the current challenge areas and corporate objectives, a number of alternative paths can be pursued by companies to improve their IT landscape sustainability. One effective transformation approach is implementing a sustainable platform. These consume less energy by moving workloads and storage to the cloud. On-premises facilities or data centers typically deliver worse power usage effectiveness (PUE) than do comparable cloud options due to economies of scale and the strategic locating of cloud centers to take advantage of more sustainable energy sources.

Business applications can also become more sustainable. The design of the software architecture determines how much hardware and electrical energy is required. Building in green-coding standards means enabling teams to develop and produce code with minimal, more efficient energy consumption. For example, this could include scheduling workloads when solar or wind energy resources are more available. Incorporating DevOps principles provides another opportunity to improve energy management by continually optimizing software processes and automation and simplifying and accelerating the introduction of new code.

Networking and communications can also have a significant energy impact. Reducing network transfers and being more efficient with data-movement mechanisms can reduce the carbon footprint.

A SUSTAINABLE APPLICATION LANDSCAPE

One company, with several deployments on Linux and a mainframe, found the energy consumption of its legacy stack was significant. Moving from an on-premises data center to the AWS public cloud and deploying AWS-EKS led to big sustainability gains. The infrastructure was cut in half and is more cost-effective in the cloud. The AWS platform set-up and the modernization of the large back-end applications leads to annual savings of 15.398 kWh and a 57 percent reduction in CO_2 emissions.

In addition, the company only needs one operations team instead of three and deployments happen during ongoing operations, instead of on weekends. And if the load increases, autoscaling of application containers are available to align power consumption with business demand.

CREATING A CIRCULAR ECONOMY

The strategic use of technology can reap sustainability benefits beyond the IT landscape. An aircraft manufacturer needed to maximize the value of its assets. It created a SaaS collaborative platform that brought together fragmented data into digital assets to increase the reuse rate of aircraft components. Most airline manufacturers have problems with managing spare parts, especially when equipment is dismantled. The question becomes how to sustainably transform aviation assets to increase the reuse rate of components.

The solution created a workflow for aircraft maintenance versus dismantling. By evaluating the aircraft and its parts, the manufacturer reduced transaction costs by 50 percent and remarketed approximately a quarter of the parts. For each dismantled aircraft, about 200 tons of CO_2 emissions and 70 tons of raw materials were saved by avoiding overproduction. And now the system can be used for predictive maintenance to streamline even more processes.

MEANINGFUL SUSTAINABILITY MEASUREMENT

While the SEC may be spurring more movement on sustainability, reducing a company's carbon footprint should be a business objective. But rather than viewing it as a regulatory burden, sustainability measurement is an opportunity for driving business value and future growth. Companies can build a cleaner, more profitable future through operations, technology, and culture change. The value of driving sustainability to the core of IT operations extends beyond carbon reduction; it also reduces operating costs through lower energy consumption, material re-use, and accelerated time to market.

Sustainable IT processes and policies achieve positive outcomes across the enterprise, and cloud plays a major role.

IT tools deliver more sustainable technology. Incorporating the carbon impact of applications into decision-making optimizes the IT portfolio, reduces energy consumption, and increases user device efficiency. Companies can leverage digital technologies such as artificial intelligence and IoT to monitor environmental impact and implement changes that drive sustainability.

But the biggest change for many companies will be the mindset. A sustainable IT culture needs to impact its people and the ways of working. A remotely-enabled workforce can reduce CO_2 emissions as well as coordinating a geographically-dispersed team to deliver client service without heavy travel or resource consumption. Every cloud migration has a positive sustainability impact, but using cloud-based productivity tools to reduce energy needs can create more positive change.

Capgemini has a framework to help clients find the path to measurable sustainability. It can help a company go from discussions to action. Every piece of the IT ecosystem needs to be impacted by the changes, so sustainability is at the forefront of all decisions. We can help you achieve and accelerate sustainability to support carbon reduction and climate-change goals to get the future you want.

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