

Virtualization: A Rapid, Flexible and Cost-Effective Path to Transformation



Herb Thompson, VMware state and local education strategist, discusses how organizations can modernize application development and digitally transform to meet their mission and serve citizens, regardless of the situation.

How can emerging technologies help organizations improve health outcomes while reducing costs?

Technologies like artificial intelligence (AI), machine learning (ML) and medical Internet of Things (IoT) sensors drive improvements in patient care, business outcomes and operational costs. When used with smart IoT devices – to monitor cardiac rhythms, diabetic conditions and daily activity, for example – AI helps physicians monitor, diagnose and deliver patient care remotely to drive down costs while improving health outcomes. Agency call centers are using AI and ML for chatbots and natural language processing (NLP) to help citizens navigate government services; improve accuracy and call resolution; and reduce time spent on case notes, diagnostics and testing. AI is also being used to reduce staff costs – for example, by helping healthcare payers adjudicate claims – and identify fraud.

How can organizations use virtualization to fully leverage emerging technologies?

These new technologies can strain existing networks, storage, compute power and security. Networks must be able to rapidly transmit the huge amounts of data generated by IoT devices, sensors and monitors; and storage infrastructure must scale to store these

large datasets. AI and ML algorithms require sufficient compute power for processing. Emerging cloud-based technology services require organizations to connect to and manage cloud services across multiple, disparate cloud environments and deliver those services to any device. In addition, organizations must meet security and compliance requirements. Virtualization solutions provide a digital foundation with the flexibility and scalability to meet these challenges and incorporate emerging technology services while still running day-to-day operations.

How can organizations modernize and expedite application development?

Organizations that are most effective in modernizing their application portfolios do three things well: 1) developing an application modernization strategy to identify what to modernize and how to do it; 2) crafting a cloud strategy to determine how to integrate cloud services into their modernization strategy; and 3) standardizing on a single platform to build, run, manage and secure applications in a multi-cloud environment. This platform provides a single pane of glass through which organizations can develop and deploy modern container-based applications across a multi-cloud environment. Virtualization technologies for things like cloud load-balancing, firewalls and software-defined networking further enable organizations to integrate cloud services with their on-premises workloads while providing robust end-to-end security.

How can virtualization help with pandemic-related challenges?

The mission of government has not changed with the pandemic, but the way citizen services are delivered has. Virtualization

provides a quick, flexible, cost-effective and secure path to the digital delivery of citizen services. Using virtualization, organizations can implement solutions that give remote workers secure, single sign-on access to critical applications in the cloud and data centers. These solutions also save time and money by streamlining device management processes such as provisioning, patching and lifecycle management. In addition, virtualization helps our customers rapidly implement pop-up healthcare clinics and satellite unemployment call centers. They can implement a software-defined network solution in days, not weeks or months.

As organizations turn to telehealth and digital communications to manage patient care and other services, how are digital transformation strategies changing?

Our customers have not necessarily changed their digital transformation strategies, but they want to accelerate them to deal with this new normal. To accelerate digital transformation, organizations are taking a modular approach to modernizing legacy applications; digitizing older processes to provide online access to critical data for citizens and remote workers; implementing technologies such as digital signatures and using video and audio notes in case files to streamline processes; and integrating cloud services for things like AI, chatbot and analytics instead of building them.

How can HHS organizations turn this moment into an opportunity?

They can use this crisis as an opportunity to do things they could not do before. The pandemic highlighted how quickly IT needs to respond to emergencies and how much organizations rely on technology to achieve their mission. CIOs have a great opportunity to bring real value to their organizations through strategy development and creation of a digital foundation that enables organizational agility and scale. They are well-positioned to invest in platforms and solutions that future-proof their organization's ability to respond to the next emergency that requires business resiliency.