

DATA AT THE CENTER

The growth in data, which is expected to reach 163 zettabytes by 2025 is one of the factors driving the need for data centers to modernize.

■ BY ANUSHREE DIXIT <ANUSHREE@GECMEDIAGROUP.COM> ■ PHOTO: SHUTTERSTOCK

While we still are a few steps away to reach and realize the future data center, we are today at a very amazing time in the history of technology. If we look back at the dot-cum bubble of 1997-2000 when data centers were booming, companies started to build huge brick and mortar infrastructures and named them IDCs – Internet Data Center. Within a short frame of ten to fifteen years, these brick and mortar infrastructure evolved to become CDCs – Cloud Data Centers.

Data center modernization, that started with upgrading aging equipment and gradually aging staffs, has gone through various stages.

AGILE DATA INFRASTRUCTURE – MOVE WITHOUT BEING CONSTRAINED

International Data Corporation puts the average age of a data center at nine years old. Gartner says data centers older than seven years are obsolete. The growth in data, which is expected to reach 163 zettabytes by 2025 is one factor driving the need for data centers to modernize.

Today, data centers are moving and localizing as per the business needs rather than the IT needs. The digital transformation agenda of the CIOs are giving a new perspective to redefining data centers. From a business perspective, the traditional data center is economically inefficient – most data centers overprovision capacity to support growth and as a hedge against downtime.

Ossama El Samadoni, Regional Sales Director, Modern Data Center, META, Dell Technologies says, “Today, I am thrilled to see that most CIOs are preparing a solid digital

transformation agenda. Customers do feel that the emerging new breed of applications along with traditional applications like ERP, SCM, Core banking and others must be maintained and served, while increasing investments in technologies that can also accommodate cloud native applications. On the other hand, dealing with containers, microservices and dockers, making application development agile rather than going through the traditional waterfall methodologies is adding to the challenge.”

“Virtualization is having a high impact on the look and feel of the infrastructure as well as the extent of management, automation and provisioning of the compute, storage and network elements to serve diverse set of applications,” he adds.

GOING THE AI ROUTE

Analysts are recommending AI as a feasible tool for running a highly efficient data-driven data center. Gartner has claimed that more than 30% of data centers that don't deploy AI and machine learning won't be operationally and economically feasible by 2020.

Azz-Eddine Mansouri, General Manager of Sales at Ciena Middle East says, “To meet the demands of the data-driven and always-on society, enterprises are deploying technology that enables them to generate meaningful insights and actionable information from volumes of raw data. Artificial intelligence and machine learning allow enterprises to integrate intelligent data into all facets of customer interaction. However, these technologies are also creating vast quantities of data that are putting data centre interconnect (DCI) networks under strain.”

The implementation of AI is also considered as a good solution for enhancing security in data centers. According to reports, AI can



“BEING ABLE TO CONNECT AND GAIN ACCESS TO INFORMATION QUICKLY IS STILL A NECESSITY AND AS SUCH THE ADOPTION OF A DCI-OPTIMISED NETWORK WILL SOON BECOME THE METHOD OF CHOICE.”

AZZ-EDDINE MANSOURI,
GENERAL MANAGER OF SALES AT
CIENA MIDDLE EAST



“THE CHANGES WITHIN THE DATA CENTER ENVIRONMENT ARE SO FREQUENT AND RAPID THAT DATA CENTER MANAGERS OFTEN FIND THEMSELVES REACTING TO EVENTS AND CRISES INSTEAD OF IMPLEMENTING A PROACTIVE STRATEGY.”

EHAB KANARY,
VICE PRESIDENT OF ENTERPRISE, MIDDLE EAST
AND AFRICA AT COMMSCOPE



“ORGANIZATIONS THAT ADOPT CONVERGED SYSTEMS DELIVER APPLICATIONS ABOUT FIVE TIMES FASTER, PROVIDE NEW SERVICES FOUR TIMES FASTER AND REDUCE DOWNTIME BY ABOUT 96%.”

OSSAMA EL SAMADONI,
REGIONAL SALES DIRECTOR,
MODERN DATA CENTER, META, DELL
TECHNOLOGIES

learn normal network behaviour and detect cyber threats based on deviation from that behaviour. Experts also suggest that the implementation can detect malwares upto a certain extent and help detect loopholes in DC systems. Additionally, AI-based cybersecurity can screen and analyze incoming and outgoing data for security threats thoroughly.

INTELLIGENT OPERATIONS – PREDICTS, PRESCRIBES AND ACTS

According to Dell Technologies, the emergence of IoT and analytics has added another dimension of complexity to the Datacenter infrastructure. “This makes it necessary to adopt technologies like Hadoop, Splunk and other specific purpose built analytics engines. In addition, this has also increased the demand to leverage immersive computing and the need to merge compute and storage with massive requirements for performance,” says Osama.

All the above challenges and drivers have put the technology community to respond with a proper approach that must provide agility, scaling, performance and management; these are the most important aspects of data center modernization.

CommScope has identified three key areas that a successful strategy to address the above challenges: Migration to higher speed that defines the need for data centers to support increasingly faster speeds throughout the network; Infrastructure management which includes managing both the physical aspects of the cabling as well as the operational connectivity of the network; and Cloud performance that considers the ability to effectively migrate on-premise applications to either a private or public cloud will depend in large part on your physical layer infrastructure. But be careful how you plan.

“Resilience and redundancy are major concerns to data center managers, whether they oversee private or public, cloud or colocation facilities. The changes within the data center environment are

so frequent and rapid that data center managers often find themselves reacting to events and crises instead of implementing a proactive strategy,” says Ehab Kanary, Vice President of Enterprise, Middle East and Africa at CommScope.

ENERGIZED, EFFICIENT, EFFECTIVE

Data centers are increasingly powered by renewable resources like solar, wind, geothermal, and hydroelectricity. Add to that some innovative cooling solutions and you have a new generation of data centers on the rise that are some of the greenest facilities in the world.

The data centre’s energy efficiency will remain a focus for most data centre managers. Taking steps to be more energy efficient and to have a more sustainable data centre -- does not necessarily mean massive changes to the facility and the equipment housed within it.

Ehab says, “According to the blog post, “Energy-Efficient Data Center Design,” energy efficiency



“LAST YEAR, WE INVESTED MORE THAN AED 20 MILLION ON INFRASTRUCTURE UPGRADES ON OUR TIER 3 DATA CENTRES IN DUBAI INTERNET CITY. THE UPGRADES WERE INTENDED TO ENSURE THAT WHILE EHDF IS THE MOST EXPERIENCED AND MATURE DATA CENTRE OPERATOR IN THE REGION WITH AN UNPARALLELED TRACK RECORD OF UPTIME AND AVAILABILITY.”

YASSER ZEINELDIN,
CEO, EHOSTING DATAFORT



“THE NETAPP DATA FABRIC CONCEPT ENABLES IT TEAMS TO MANAGE DATA BETWEEN ON-PREMISES, PUBLIC CLOUD AND HYBRID MULTICLOUD ENVIRONMENTS TO DELIVER MORE INTEGRATION VALUE TO THE NETAPP HCI SOLUTION.”

FADI KANAFANI,
SENIOR DIRECTOR MIDDLE EAST, NETAPP



“POWER DISTRIBUTION UNITS (PDUS) CAN PLAY A VITAL ROLE IN ANALYSING HOW POWER IS BEING CONSUMED AND THE MORE DETAILED INFORMATION ON POWER USAGE A PDU CAN PROVIDE, THE BETTER DATA CENTRE MANAGERS WILL BE ABLE TO IMPROVE THE ENERGY EFFICIENCY OF THE FACILITY.”

PREM RODRIGUES,
SALES AND MARKETING DIRECTOR FOR MIDDLE EAST, INDIA AND SAARC, SIEMON

is the holy grail for data center owners and operators seeking low operational expense and minimal environmental impact. Proximity to renewable energy resources place data centers in prime position to take advantage of “free” cooling techniques.”

Adding yet another dynamic to the data center energy and workload efficiency, Prem Rodrigues, Sales and Marketing Director for Middle East, India and SAARC at Siemon says, “Compared to Basic PDUs (which simply distribute power to IT devices) and Metered PDUs (that display the total amount of power used by all the devices connected to the PDU), Smart PDUs offer a greater level of functionality in that they monitor power usage right down to the outlet level. They enable the user to find out how much power exactly is being consumed by each connected device and also help determine if individual equipment operates within the intended ranges for energy use and help detect the highest power consumers.”

THE HYPE OF HYPER

Fadi Kanafani, Senior Director Middle East, NetApp says, “We have brought our own experience from building the FlexPod converged infrastructure solutions to the HCI market. NetApp HCI is an enterprise-scale hyper converged infrastructure that delivers predictable performance on a highly flexible and efficient architecture and is simple to deploy and manage. The NetApp Data Fabric concept enables IT teams to manage data between on-premises, public cloud and hybrid multicloud environments to deliver more integration value to the NetApp HCI solution. After all, modernization of data centers comes down to a seamless delivery of a hybrid multicloud experience.”

A hyperconverged infrastructure essentially brings together everything that makes a data center into a functioning complete solution. All components work together perfectly and can be easily managed from a central console. That’s

exactly what companies need to move their digitization forward.

Yasser Zeineldin, CEO of eHosting DataFort says, “In recent years there is an increasing need to adhere to governmental rules and regulations which highlight and focus on data protection. Compliance is critical both within the home country as well as the laws of the country in which the data centre is situated. While it is not only applicable to specific industries such as oil and gas, finance and healthcare, it has now extended into regional requirements such as the European Union’s GDPR to protect the data and privacy of individuals.”

FINALLY

As data centers and its operative models become more and more sophisticated, the industry is finding it increasingly difficult to cope up with equally skilled professionals. Experts are predicting escalating costs and higher operational complexities owing to the lack of required skills. ↩