The Data Center in 2018: New Technologies & Trends

165 HALSEY STREET

Contents

Introduction

In 2018, companies across the globe are pushing towards digital transformation. When it comes to the data center industry, and what trends are shaping it today, most experts would agree that the trends all point to technologies that are enabling this digital revolution and shaping the landscape of the data center. IoT...rising volume of digital traffic...ongoing rapid adoption of cloud-based applications. Additionally, data center mergers and acquisitions, which had a record year in 2017, will continue to take off in 2018.

In this ebook, we will take a look at the top technology trends rising to the top for data centers in 2018.

DataOps

An IDC study predicts that by 2020, we'll have 44 zetabytes of data worldwide, as compared to just three exabytes in 1986. Data is the leverage point for competitive advantage across industries, and is used to enhance customer experience, increase operational efficiencies, and/or generate new sources of revenue.

A big trend for 2018 that is gaining traction, especially within large enterprises, is DataOps. A play on the name, DevOps, the practice refers to the integration of software development ("dev") and operations ("ops"). But, while sharing some of the goals of DevOps, DataOps is distinct and indicative of some of the major shifts we are observing today.

Tamr, a data unification company's blogger, Andy Palmer defines DataOps as: *a data management method that emphasizes communication, collaboration, integration, automation and measurement of cooperation between data engineers, data scientists and other data professionals.*

In 2018, DataOps serves to address the needs of modern-day data professionals by acknowledging the interconnected nature of data engineering, data integration, data quality and data security/privacy. DataOps also helps a business rapidly deliver data that accelerates analytics and enables previously impossible analytics. DataOps wraps itself around the need to manage multiple data sources and multiple data pipelines with a wide variety of transformations. While people have been managing data for quite some time, quantity, velocity and variety of data available to a modern enterprise can no longer be managed without a critical change in the fundamental infrastructure in 2018 and beyond.

Interested? Talk to a 165 Halsey expert about DataOps and how it can benefit your organization.

Digitizing Financial Services

Blockchain: A digital ledger in which transactions made in bitcoin or another cryptocurrency are recorded chronologically and publicly.

In 2018, we are starting to see blockchain going mainstream. With the CBOE and CME launching Bitcoin futures in December 2017, the currency continues to spark many conversations as Bitcoin continues its path as a potentially credible currency. Awareness and interest in blockchain's other applications is increasing across the globe.
With the blockchain surge comes faster digitization of the financial services industry.

Typically among the slowest to adopt new technologies and processes due to rising data security concerns and regulatory issues, the financial services industry is now faced with having to innovate through digital automation and enhanced customer experience because of blockchain technology, the rise of cryptocurrencies and new regulations. Banks, even with the help of artificial intelligence and other innovations, continue to cite siloed data and confusion on ownership of the emerging technologies as deterrents.

Financial Services and the Data Center
Financial companies benefit from data centers that are PCI compliant, FISMA High compliant, and provide optimal uptime levels, predictable expansion capacity, transparency, and energy efficiency. Financial services require ample security and support of their highly complex and sensitive data information, as well as strict adherence of privacy and security regulations. 165 Halsey Street data center services are audited on a regular basis for FISMA High, SOC 2 Type II, and PCI-DSS compliance to provide secure, reliable and cost-effective options for financial organizations of all types.

As digitization disrupts the financial services industry, it puts unprecedented demand on your network, and our specialists at 165 Halsey Street can help you keep pace.

Serverless Cloud

The ‘serverless cloud’ is not an obvious a name as it seems, as servers will still be required, but it’s the cloud computing execution model that makes it stand out from the traditional model. Serverless computing can adapt dynamically and manage the allocation of machine resources based only on what is being used. The significant difference here is that all management, capacity planning, resource allocation and delivery is done transparently, hidden from the user, developer or oeprator. The serverless cloud provides a prime opportunity for efficiency and flexibility, yielding a 5-10x efficiency gain, according to CIO. Also, according to a report by Cloudability, in the fourth quarter of 2017, serverless adoption grew by 667 percent among the sites tracked in the report, which is up from 321 percent just the quarter before.

In 2018, serverless cloud adoption is predicted to rise for several reasons, including:

- Growth of smart applications – Serverless cloud lends itself to the deployment of smart applications and analysis of the Internet of Things (IoT) data, as these tasks only utilize resources when they are requested. The responsiveness of the serverless cloud will help drive further adoption.

- Impact on business costs – Serverless clouds mean less overhead and individuals needed to manage a cloud infrastructure. Such an efficiency allows companies to repurpose headcount and focus on areas such as business growth and innovation rather than infrastructure maintenance.

For data center professionals specifically, it is important to understand the importance and benefits of serverless cloud computing and that it is aimed at the new generation of applications requiring dynamic resource controls and simplified management.

Multi-Access Edge Computing

To support the ever growing number of web connected devices, we have multi-access edge computing (MEC). MEC transforms the topology and architecture of mobile networks from communication networks to actual application platforms for services. By using an edge server, processing tasks can be performed closer to the end user versus having to be forwarded to the cloud. MEC is seen as a great enabler for the type of service environment that will define 5G. 5G will enable working in the cloud, remote control of robots, VR gaming, and automation.

Data centers such as 165 Halsey Street recognize the role MEC will play in supporting IoT devices. According to Ian Hood (IH), chief architect, global service providers at Red Hat, the MEC revolution will expand the number of places where data center technologies are deployed. As such, data center operators focus on developing their infrastructure/environments as code, to enable them to operationalize hybrid cloud. These types of approaches help data center operators to offer “always-on” services and applications for on-demand usage by customers.

Converged Infrastructure

In 2018, converged infrastructure (CI) remains an effective way to minimize data center complexities and provide companies with more agility. According to a report published by MarketsandMarkets, the converged infrastructure market is expected to be worth $33.89 billion by 2019.

Additionally, a report from Network World, supported by IDC Reearch, states that HCI is the “largest segment of software-defined storage.” And software-defined storage (SDS) is the type of fast storage used in HCI, boasting a five-year compound annual growth rate (CAGR) of 26.6% and revenues that are forecast to hit $7.15 billion in 2021.

Hyper-converged infrastructure (HCI) has been around for quite some time. HCI systems consolidate the separate functions of compute (server) and storage into a single scale-out hardware platform. Software and hardware disaggregation are driving new product categories for next-generation data centers that include converged appliances, high density servers, and software-defined storage and networking equipment.

Because of their remarkable advantages compared to traditional servers, in 2018, both CI and HCI are hot new platforms, and have major relevance to enterprise, cloud and service provider data centers. CI and HCI will play important roles in 5G, IoT and Multi-access Edge Computing. CI and HI offers benefits such as: easy purchasing, quick deployment and management, and possibly lower operating and capital costs.

Green Initiatives

Climate Change News Reports: Failure to Source Renewable Energy in Data Centers Will Contribute to Excess Pollution in Just Seven Years

In 2018, the growth of data-hungry machines and services continues to drive the need for more power to run the global data center market. With an estimated 50 billion devices to be connected by 2020, according to Cisco, data centers will be one of the most significant energy consumers in the world. In fact, data centers are observed to be using 20% of all available electricity across the globe by 2025, followed by smart devices and wireless networks, as data is created at a faster speed than ever seen before.

The carbon footprint of data centers will also comprise 5.5% of the global value, IF adoption of more efficient energy sources are not evolving at full speed.

Because of their large environmental impact on the world, more and more data centers are seeking to transform outdated, fossil fuel-dependent business models to the latest green technologies and sourcing clean, renewable energy, such as wind, solar and even underwater data centers.

Data Center Modernization

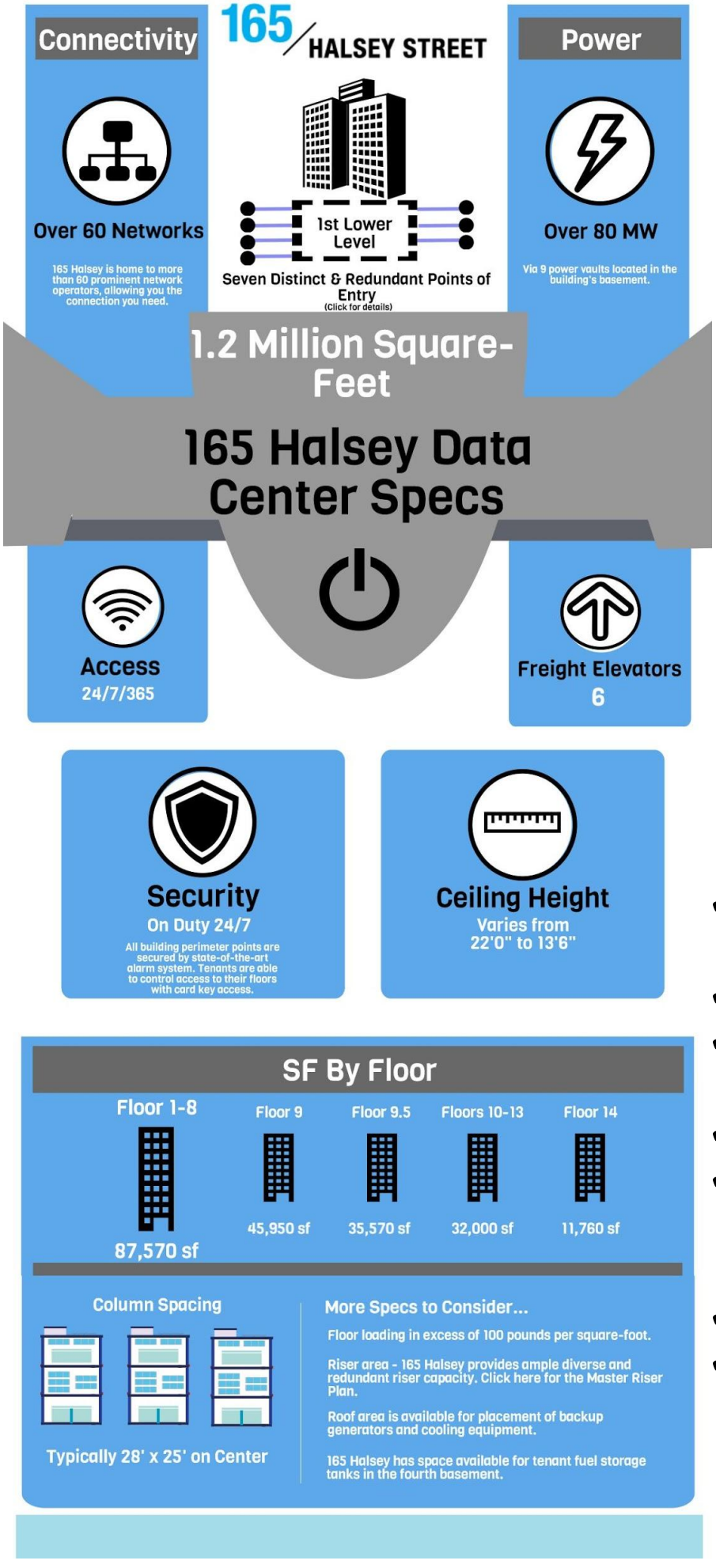
Workload demands of next-generation applications and new IT architectures in critical business facilities are forcing enterprises to modernize their data center assets via updates to existing facilities and/or the deployment of new facilities. By 2020, more than 55% of enterprises will be forced to modernize. What does this mean for your business?

Data center modernization and agility initiatives are the foundation for hybrid cloud architectures. In 2018, technical professionals focused on IT infrastructure will adopt disruptive technologies to enable hybrid cloud architectures that meet the demands of digital business and IoT.

IT professionals concur, in a recent report by Avanade, that ignoring trends in IT modernization could lead to negative consequences when it comes to growth. IDC also forecasts that about 30 percent of companies will include data center planning and processes as part of their plans to speed digital transformational efforts.

When analyzing various opportunities for data center modernization or consolidation, at least three areas should be considered: Business data applications, increased mobility and reliability and security. With any modernization project, make sure your team is ready to make the commitment to studying the impact, including savings and potential for growth while assessing any potential setbacks and budget limitations.

Why 165 Halsey Street?



165 Halsey Street is a dedicated 1.2M sf data center/colocation/telecom carrier hotel with over 80 MW of power. The building has been operating a carrier neutral colocation business for more than 15 years, and presently spans over 180, 000 square feet with **no MRC cross connect fees** and direct access to over 60 networks.

Located just 13 miles from Manhattan, 165 Halsey Street is independently owned and operated and SSAE 16-certified. With **165 Halsey Colocation**, there are no monthly recurring cross connect fees between customers, allowing safe, convenient and affordable interconnection.

If looking to colocate or build out in 2017 or the year ahead, look no further than 165 Halsey Street.

- ✓ **Prime Location – 13 mi from Manhattan**
- ✓ **80 MW Power**
- ✓ **Affordable Colocation; No Cross Connect Fees**
- ✓ **Disaster Recovery Planning**
- ✓ **Solid Communications Infrastructure: Access to Over 60 Networks**
- ✓ **Built Data Center Space**
- ✓ **Vacant Space**

CONTACT US

Telecom and Data Center Building
165 Halsey Street, Newark, NJ 07102
http://www.165halsey.com

Leasing & Licensing
Joseph Simone
212-399-3633
simone@tishman.com

James Fitzgerald
212-708-6741
jfitzgerald@tishman.com

Colocation
Joe Panella, Manager
973-951-2358
jpanella@165halsey.com

 @165Halsey

 165 Halsey

ONLINE SOURCES

BetaNews
https://betanews.com/2017/04/04/it-modernization-benefits/

CIO
https://www.cio.com/article/3244644/cloud-computing/serverless-the-future-of-cloud-computing.html

Datacenter Dynamics
http://www.datacenterdynamics.com/content-tracks/security-risk/the-future-of-security-blockchain-in-the-data-center/99068.fullarticle

Data Center Frontier
https://datacenterfrontier.com/serverless-101-why-it-matters-for-data-center-professionals/

Data Center Journal
http://www.datacenterjournal.com/29617-2/

Data Economy
https://data-economy.com/data-centres-world-will-consume-1-5-earths-power-2025/

Get Cloudability
http://get.cloudability.com/ebook-state-of-cloud-2018.html

Network World
https://www.networkworld.com/article/3242807/data-center/top-10-data-center-predictions-idc.html

RCR Wireless
https://www.rcrwireless.com/20180228/data-center-trends-to-watch-out-for-in-2018-tag99-tag27

Tamr
https://www.tamr.com/from-devops-to-dataops-by-andy-palmer/