LEVEL OF CLOUD NETWORKING & COMPUTING IN TERMS OF SOFTWARE USAGE AND COORDINATE TO MEET GLOBAL REQUIREMENTS

Rohit Bajaj

Ph D Scholar (Computer Science)
Sai Nath Universiy, Jharkhand, India,

Abstract - Today, IT leaders are embracing cloud-based services. What initially began as software as a service (SaaS), cloud services grew to include more types of services, such as applications, servers, software, data center space, storage, and network equipment. Some of the significant benefits to using virtualized infrastructure are reduced capital costs and less IT support to administer, compared to traditional approaches.

Keywords: Price model Software, VPN, Cloud Technology, media Entertainment.

I. INTRODUCTION

In 2020, it's predicted that business processes and functions will decouple from their technology components. The underlying technical architecture will be invisible to users and, just like electricity, users will "just turn it on" and not worry about how it works. Standards will continue to progress to allow different technologies to operate seamlessly. Security will remain a concern but will evolve with more security approaches built into the network service components, reducing the burden on both companies and end users.[1]

Over the next several years, most software applications will become cloud-based. This will be true for both consumer and enterprise applications. End-user computers will resemble more of today's netbooks or tablets, and will be used as a device to connect to cloud services—public or private. No longer will users need to download and install software applications, as they will be accessed and managed by the cloud provider. While companies and individuals will still be involved in planning for their needs, in the way they might plan for the electricity capacity needed for a new office or factory, communications service providers will handle the execution on a day-to-day basis.

The pricing model for software and applications will also change by 2020. Today, most software is priced based on the number of servers or users. But pricing will evolve to a true usage-based model, reflecting actual usage and offering easier scalability. This type of pricing gives IT and business leaders more visibility and control over budgets and spending, tying expenses directly to the business value.

Extending the cloud model beyond the typical software as a service and computing as a service paradigms, Verizon Business recently began offering a direct connection option functionality to content-delivery network providers (CDNs) as part of its Partner Port Program. CDNs deposit consumer-focused content directly to the Verizon Internet backbone network at regional carrier "hotels" without the need for connections that use longer, less direct, and often costly middlemen architectures that involve multiple connections, or "hops," among multiple carriers.[2]

II. REVIEW ON LITERATURE

A trend in the next decade will be purpose-built networks that solve particular business requirements. By separating the network functions or services from the technology, businesses can specify a custom network to suit particular business needs. In the past, a physical network would have been built to accomplish this. Virtualization of these services will make it possible to create a logical network without building a physical network.

The industry is moving away from the slow and awkward methods of adding point-to-point links that result in a tangle of lines and excess equipment. Many are choosing VPNs that run over the public Internet or private clouds based on Multi-Protocol Label Switching (MPLS) network technologies. VPNs and private clouds let organizations customize their network solution by specifying the type and level of security required to meet the business and regulatory needs, the bandwidth required, and the data storage features.

Through 2020, the VPN and private cloud trends will continue. While lingering concerns about availability and security will encourage many enterprises to participate in private cloud-based interconnections for key relationships, the flexibility of Internet-based connections have enormous and growing appeal. However, even in industries like financial services, where the largest players tend to be late adopters of many technologies, a marked shift away from physical private networks and toward MPLS-based private cloud networks exists.

It's not too difficult to imagine different types of virtual industry markets and exchanges developing as a result of the expected changes. On the energy horizon is smart grid. By providing two-way communication between the user and the utility company, and between utility companies, an energy market is taking shape that allows more fluid pricing, encouraging high value conservation at times of peak demand, and will let users sell electricity to other users. In the healthcare field, health information exchanges are forming as a way to securely share patient information across different medical facilities. These exchanges help doctors avoid repeat patient tests, reduce missing patient data, and increase the quality of care.

Early in 2009, Nasdaq OMX selected to move to an open connectivity model for its Nordic markets by replacing its proprietary participant network with the Verizon Financial Network (VFN). The VFN is a dedicated and purpose-built business infrastructure specifically designed to share market data and execute timely trades. VFN offers financial services customers a fully end-to-end managed and supported, highly scalable and low latency interface to the financial services ecosystem. [3]

III. METHODOLOGY

By the year 2020, communications networks will be an even more integral part of everyday life than they are today, both at home and in the workplace. Network-driven technology will be a key enabler of daily activities, yet it will become more transparent to the user. No longer will the user care about how it works—just that it works.

The network of tomorrow will produce a hyper-connected environment. Intelligence will be built into the fabric of everything imaginable—and some things not yet imagined—all enabled by pervasive communications technologies. While many of the advancements that will be commonplace in 2020 are already taking shape, a few advancements seem to be straight out of a science fiction novel. These innovations will impact everyone and everything. For example:

- Apparel. Various wearable devices such as glasses or visors with built-in cameras and video displays will both record and transmit information. Inconspicuous displays will send streaming information to the user, such as a restaurant menu as a diner walks by a restaurant or tech support through a virtual reality demonstration. Gaming vests will provide forced feedback as part of an augmented reality experience.

- Home. The fiber-enabled smart home will be a platform for managing every function of the digital ecosystem, from home security and energy management to medical monitoring, telework and distance learning. Refrigerators will have a touch surface that displays grocery lists and coupons, and the ability to track contents for real time "inventory" control. Even carpets will be smarter, tracking the health of the elderly by sensing erratic movements that may predict a fall.

- Energy. Household appliances can already be remotely controlled to run at off-peak times. San Diego Gas and Electric found that if 80 percent of its customers used their washers and dryers at off-peak times, it could eliminate two power plants.iv Energy pricing will become dynamic, changing in real-time, motivating users to be more energy efficient.

- Healthcare. A patient's wireless device will receive reminders about medication and therapy, in-home devices will provide daily monitoring of vital statistics for preventative care, and patients will consult with out-of-town doctors and specialists over high-definition 3-D video connections. Many people will have body sensors, tiny wireless devices intended to track their vital signs.

- Government. City-centric applications will report traffic and parking conditions using GPS-enabled sensors that provide real-time notifications for public transit, and even monitor the city's air and water quality. Crime detection will be aided with context-aware video surveillance that reports unusual activity. Civil services will be tailored to the individual, supported by the full integration of government systems.

- Enterprise. Using the cloud model, traditional businesses will sell their internal capabilities as services that are separate and distinct from their regular business offering, just as Amazon does today with their Web-store infrastructure. RFID tags will become multifunctional sensors that not only provide item location but also item health, which is useful for tracking food shipment. The percentage of teleworkers and "digital nomads" with no fixed regular work location will grow significantly, with the ability to work and video conference on one device that can connect anywhere.

The combination of increasingly powerful and intelligent networks and innovative applications and devices will create a whole new way to run a home, an enterprise, a community, or an economy.[4]

IV. FINDINGS AND SOLUTION

Without massively and dynamically scalable commodity infrastructure, streaming music, video, rich, interactive games and other such on-demand diversions may be possible, but rendered infeasible at the scale and scope we're witnessing today.

Cloud has made media and entertainment a fundamentally engrained, pervasive part of our daily experience and it's shaping new generations of users who expect rich content on demand from the cloud to whatever device they're using whether it's their iPad via iCloud/iTunes or their TV via Roku and Netflix or their Mobile Phone via Spotify

V. CONCLUSION

Users already have high expectations of their communication technology. This will continue to the point of dependence. Users will come to expect always-on access to the Internet that supports their lifestyles in every way. None of this would be possible without the foundation of solid and advanced communication networks.

In the future, network providers will continue to drive open, IP-based technical standards that allow new technologies to work together. Favorable regulatory structures will encourage continued investment and innovation. To drive the solutions and services of 2020, network providers will form alliances with other providers and partnerships with application developers and device makers.

Now is the time for business leaders to take inventory of how the rapid evolution of networking technology and the new expectations of employees and business partners will affect day-to-day business. Unprecedented access to real-time data, combined with communication platforms that are available anywhere and anytime, will not only increase the rate of change for existing business models, but will substantially increase the pressures of global competition. At regular intervals, IT leaders should sit down with key business leaders and third-party experts and discuss how these trends impact their business models.

Together, the team should identify opportunities to foster innovative experiments, capitalizing on new capabilities to deliver new products and services. Also, the team should evaluate where functions might move to the utility model, and resources could be reinvested. Having identified potential opportunities, the team should then conduct forward-looking pilot projects. While some opportunities may not prove fruitful, the ones that do will create a new competitive advantage.

Broadband, wireless, and global IP technologies will be the heart of coming economic growth. The evolution of the network over the next decade will not only enable new products and services, but also create a number of new jobs. A study last year by the Information Technology & Innovation Foundation (ITIF) found that an investment of $30 billion in America's digital infrastructure would create or retain 949,000 U.S. jobs, plus spur creation of an additional 500,000 small business jobs.[5]

US Federal Communications Commission chairman Julius Genachowski recently unveiled a national broadband plan to push greater broadband capabilities by 2020. Genachowski says, "It's so important because broadband is essential to fostering 21st century jobs, investment, and economic growth. It's also so important because of the vital role broadband must play in advancing key societal goals in areas like education, health care, energy, public safety, democracy, and small-business opportunity."vi

The next decade brings exciting new innovations and changes, powered by unlimited, instantaneous access and the expansive reach of converged global connectivity. Intelligent devices of every size, shape, and function will seamlessly interconnect users, businesses, and governments to create new connections that enable smarter people and a more intelligent world.

Just think of the possibilities!

Verizon Business looks forward to helping unleash every sector of the economy to reinvent itself to produce real growth, real innovation, and real change for our customers globally.

REFERENCES

[1] Boloix, PN. "Objective of software technology", IEEE Computer, pp17-26, December 1995.
[2] O. Gerstel, B. Li, A. McGuire, G. N. Rouskas, K. Sivalingam, and Z. Zhang (Eds.). Special issue on protocols and architectures for next generation optical WDM networks. IEEE Journal Selected Areas in Communications, 18(10), October 2000.
[3] G.-K. Chung, K.-I. Sato and D. K. Hunter (Eds.). Special issue on optical networks. Journal of Lightwave Technology, 18(12), December 2000.
[4] Richard C. Dorf, "The handbook of optical communication networks", Mohammad Ilyas, Hussein T. Mouftah [editors], © 2003 by CRC Press LLC.
[5] H. Zang, J. P. Jue, and B. Mukherjee. A review of routing and wavelength assignment approaches for wavelength-routed optical WDM networks. Optical Networks, 1(1):47{60, January 2000.Software Tools", Hewlett- Packard Journal, V41, #3, June 1990.