



Redefining Network Optimization for an **“Anywhere Workforce”**

Many organizations had already begun transitioning and updating their network optimization journey when the COVID-19 pandemic struck, creating fundamental changes in when, where and how employees worked. Now, armed with new, unexpected insights, enterprises are accelerating their network optimization transformations with greater scale and speed than anticipated. This paper looks at the key role network optimization will play to support new workforce location business plans.

The 2020 COVID-19 global pandemic upended all organizations' workforce deployment strategies. Overnight, organizations had to transition their workforces to a remote work model, putting unprecedented pressure on their IT organizations, digital infrastructure and the internet to adjust to new, heightened demands for improved performance and uptime, easier management, more robust security and extreme scalability.

This has dramatically raised the bar on organizations' network optimization, due to the greater impact disaster recovery and business continuity plans demanded so suddenly. At the same time, network architects and IT executives have transitioned away from their pre-COVID “must be private” networking model to a “can very well be internet” approach for important traffic.



Even when the pandemic’s impact eases, enterprise work life will likely never go back to the traditional office workforce model. Instead, organizations must be able to support a more hybrid office-and-home workforce strategy, with employees and contractors able to work efficiently and seamlessly from literally any location and at any time. A typical example is Facebook, which is offering its employees the option of working from a location other than a traditional office-based setting for the foreseeable future.

Smart, agile organizations undoubtedly will leverage this trend in order to save money and become a more flexible employer. This also means that enterprises need to make sure their networks are optimized for a wider range of demands for performance, management and security. In fact, the very nature of network optimization is being redefined to meet the growing challenges of an increasingly remote workforce.

What will that workforce environment look like? Undoubtedly, there will be fewer offices; some employees will work from home or another remote location at least part time; and many employees will make their home their main workplace, only coming into a traditional office setting as needed.

The network now is widely acknowledged as the digital foundation for more and more work activities, including business ecosystem functions such as interacting with suppliers and customers. Therefore, it is vital that organizations find new ways to optimize the value of their network in all ways for the benefit of their employees as well as for their customers, suppliers and trading partners.

THE CHANGING NATURE OF NETWORK OPTIMIZATION

Network architects have always been concerned with performance-related issues, such as maximizing bandwidth, eliminating bottlenecks, ensuring reliable applications performance (whether accessed on-premises or over the internet), increasing security, and allowing for scalability.

Obviously those issues still remain very important. However, the dramatic swing toward remote access and “work-from-anywhere” scenarios has redefined the very meaning of network optimization—and with it, the technology requirements.

Think about what happened in the early days of the COVID-19 pandemic, when so many enterprises told their employees to work from home or other remote locations. With employees looking to access applications, data and services over the internet, virtual private network (VPN) performance was often compromised. This led to latency-driven delays, lost productivity, user frustration and more.

At the same time, having employees (and often supply chain partners, trading partners and customers) accessing network-based services remotely—often using personal devices—also raised the stakes on cybersecurity with new endpoint vulnerabilities threatening the network. Many threat intelligence services saw a noticeable uptick of bad actors trying to exploit the COVID-19 situation, causing enterprises to improvise their plans to at least some degree.

This, in turn, meant that network optimization strategy had to synchronize with global, enterprise-wide business continuity and disaster recovery strategy in order to avoid landmines from data loss and financial impact due to regulatory and legal problems.

Today's network optimization framework is far more complex and needs to be much more inclusive than in the past, including embracing such trends as network functions virtualization, hybrid clouds, consumer-class endpoints, software-defined networking and a wide range of as-a-service offerings.

ADDRESSING THE NEW NEEDS FOR NETWORK OPTIMIZATION SOLUTIONS

In the new “work-from-anywhere” model, organizations need to re-architect the networks to provide for a seamless, frictionless user experience for anyone accessing data, applications and services over the enterprise network.

Among the key requirements of this new face of network optimization are:

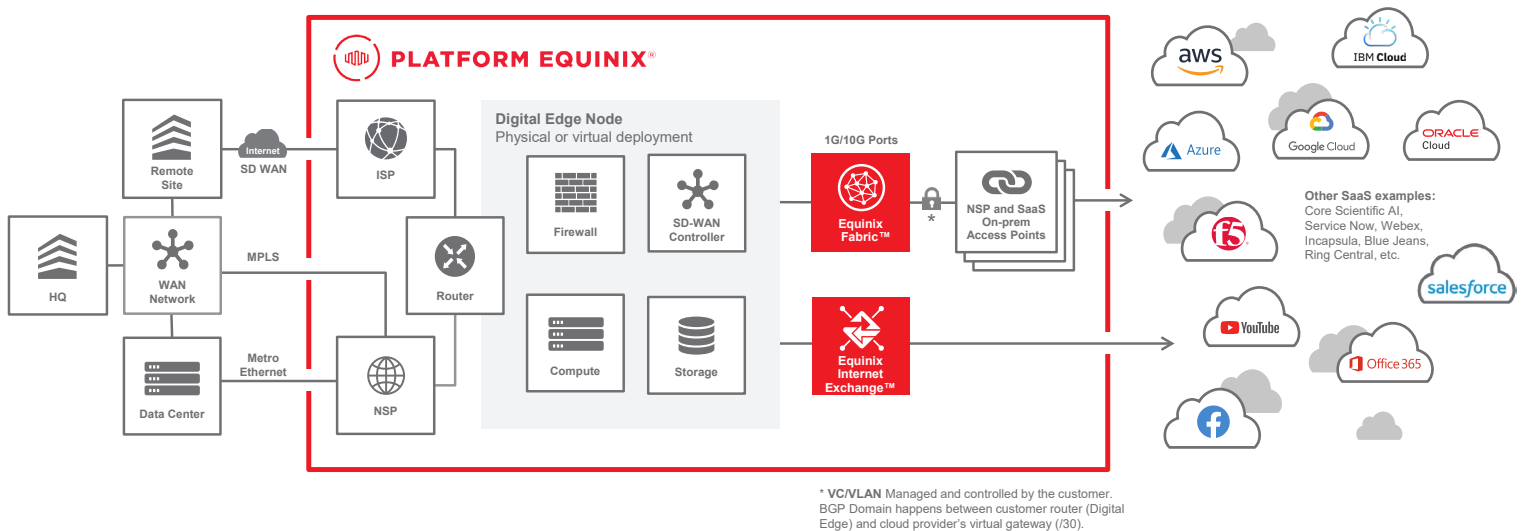
- Achieve technology and architectural flexibility as conditions warrant, such as the ability to scale seamlessly and reliably commensurate with business peaks.
- Need to drive down network latency as much as possible, while ensuring easy scalability of capacity and bandwidth as interconnections become more complex and more geographically dispersed.
- Gain a new understanding of how today's applications leverage the network more intelligently. For instance, Voice over IP is a network-resident application, but it often has unique requirements in order to function ideally. Today's new breed of network-optimized applications are all designed similarly, and the network must account for that architecture.
- Support any service provider (internet, cloud, platforms, applications) to maximize economic value, eliminate vendor lock-in and achieve the greatest agility to quickly add other providers to the mix.
- Provide truly global coverage in order to seamlessly, reliably and securely share data, applications, services and work products with teams around the world, without impacting performance or user experience.
- Move away from monolithic, rigid architectures based on an on-premises data center to a more hybrid, distributed, flexible and agile architecture that uses the best of both cloud and legacy environments.
- Tightly align physical and virtual networks with an enterprise-wide framework for disaster recovery and business continuity to achieve critical recovery time objectives (RTOs) and recovery point objectives (RPOs).

At the end of the day, network optimization must align with the harsh reality of exacting, uncompromising applications. In today's digital economy, where every organization is a digital business, “slow is the new down.”

HOW EQUINIX HELPS MODERNIZE NETWORK OPTIMIZATION FOR A NEW ERA

Organizations looking for a technology partner that does more than develop and deliver network modernization tools should consider Equinix, the world's digital infrastructure company. Equinix's award-winning portfolio of physical and virtual connectivity services enable interconnection to the most dynamic ecosystem of almost 10,000 companies, with the most direct on-ramps to the public cloud, across the broadest global footprint of locations.

Equinix begins many of its engagements with a Digital Edge Strategy Briefing, where experienced consultants and architects engage clients' business and technical teams in discussions about goals, challenges and technology landscapes in order to identify the right network optimization solution for each scenario.



Equinix also offers an array of tools that are invaluable for network optimization. These include:

- **Equinix Fabric™**, which connects distributed infrastructure globally via software-defined interconnection. With scalable, flexible connectivity, faster provisioning and better performance, Equinix Fabric is connectivity built for digital infrastructure.
- **Equinix Cross Connect**, enabling direct access to thousands of networks, service providers and content providers using enhanced performance techniques that also increase resiliency, reliability and security.
- **Equinix Internet Exchange™**, which aggregates thousands of peering sessions, reduces costs and improves network control, performance, speed and reliability.

- **Performance Hub®**, available in both physical and virtual formats. Performance Hub improves resource deployment at the network's edge, enhancing network performance by moving key functions closer to the end users consuming data, applications and services.
- **Network Edge**, an automated solution for virtual network services at the edge. Network Edge helps organizations to more quickly deploy and more easily scale their networks to support new services and applications.

A key element to Equinix's network optimization strategy is Interconnection Oriented Architecture® (IOA®), which acts as a common, integrated fabric across all relevant Equinix solutions. IOA enables seamless, flexible collaboration on a global level, connecting people, locations, clouds and data.

CONCLUSION

For many organizations and their employees, the fundamental issue of where, when and how work takes place has been changed irrevocably. Being able to work from anyplace at any time is now a core requirement, and that means that the very nature of networking has now changed with it.

Network optimization has been redefined from ensuring that data traffic moves swiftly, reliably and securely to a much more expansive, flexible and agile approach that correlates closely with this changing definition of “workplace.” This means that network architects, applications developers, cloud architects and data center professionals now need to ensure their networks can support an entirely new breed of remote work requirements while ensuring a seamless, frictionless and secure application performance and user experience.

Organizations looking for a trusted partner with a proven track record for state-of-the-art networking, connectivity and interconnection solutions should consider Equinix. The unique mix of technology, services and industry expertise allows the company to act as a trusted advisor for organizations that need to ensure that their enterprise networks provide even greater economic and operational value under dramatically changing work conditions. Equinix solutions allow organizations to achieve network optimization that reduces operating costs, improves the user experience and aligns with this new model of the virtual, extended, remote workplace.

Read the [Network Optimization Digital Transformation Playbook](#) to learn how to improve enterprise network performance and drive value and opportunity for consumers, providers and managed services.