INCREASE AGILITY, PERFORMANCE, AND PRODUCTIVITY

5 Step Network Innovation Model

Read this white paper and learn how you can:

- Seize the operational, commercial and competitive benefits of immediate deployment of new applications
- Protect productivity and profitability by eliminating downtime
- Increase agility and reduce operational cost and resource by fully leveraging cloud and virtualization
- Build the best foundation for IT-as-a-Service (ITaaS) adoption and digital transformation

Why should you care about the network?

Whatever your organization wants to do, achieving its goals (and your own) is at least partially dependent on technology. Without the right networks, that technology will at best be ineffective, at worst redundant, and you may fail to reach those goals.

It's time to talk about the network

Is it usual for IT to explain that it's not possible to provide a solution to a business need in the required timescales —or even not at all—because of the network?

If you need to deploy and access applications faster, support them better, eliminate downtime and ensure connectivity to cloud services, you need a New IP network.
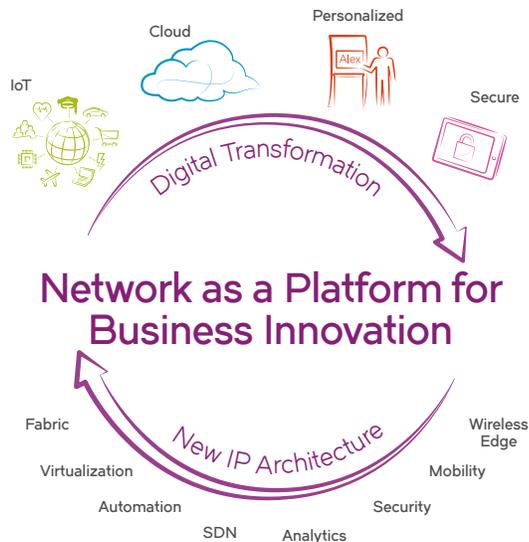
New business models equate to new demands on an old network

75 percent of CIOs state that the network is an issue that impacts their organization's ability to achieve its business goals. For almost a quarter, it is a 'significant' issue

All applications and solutions are accessed via a network; but the network has fallen behind the apps and services it delivers.

The changes of the past decade— software, social networks, mobility, and cloud—demand a fundamentally new type of network. That's true, even if digital transformation or leveraging these new paradigms as part of your business strategy aren't your top priorities today.

The New IP Accelerates Service Delivery, Data Access, and Innovation

Cloud
Personalized
IoT
Secure

Digital Transformation

Network as a Platform for Business Innovation

New IP Architecture

Fabric
Virtualization
Automation
SDN
Analytics
Wireless Edge
Mobility
Security

Consider these statistics:

- In 2013, two-thirds of all the data in the digital universe was created or captured by consumers and workers, yet enterprises had liability or responsibility for 85% of that digital universe (EMC/IDC 2014)

- The number of ecommerce transactions made in a year is around 38.5 billion

- Every day 205 billion emails, 3.5 billion Google searches and 500 million tweets traverse across networks— including yours

- Companies with greater digital capabilities can convert sales at a rate 2.5 times greater than those without those capabilities (McKinsey)

At the same time customers, be they consumers or other businesses, are demanding and expecting more. They want faster, more personalized, more tailored, more digital customer selection, purchase and engagement experiences.

They no longer compare competing offers on location or brand, or even price. Today, they give their business based on value, and the ability to access information, transactions and communications how and when they want to, on the platform of their choice.

Your business needs to stay on top of these trends, and create the application-enabled environment required to support its goals. At the same time, you must ensure that access to critical applications is guaranteed, by eliminating downtime and adopting solutions to protect and accelerate application performance.

Simply adding more of the same devices to your network is not the answer. Nor is sticking with a rigid, physical, legacy approach to design while trying to deploy new flexible, application-centric technologies.

No organization should be held to ransom by its failing network.

You need to move forward from old approaches to IP networking, and embrace the New IP; a flexible, future-proof network, tailored to you.

We believe there are five stages of New IP adoption.

These are aligned to the already-happening business evolution towards digital services and solutions, and IT's evolution towards IT-as-a-Service:

- Audit, align with the business and plan your New IP network

- Increase ability to compete with automation, application acceleration and cloud connectivity

- Increase agility to stay ahead and innovate with virtualized solutions

- Increase margins and market share through differentiated services with anywhere, anytime, immediate insight

- Lead through constant innovation adoption with elastic IT services delivery

Learn how these five stages can help you align your network and business; find out why Fabric networks create the best cornerstone for your New IP solution; and understand how network automation and intelligence can increase business agility, performance and productivity.

1

TRANSFORMATION TIPPING POINT

The good news?
You've already taken your first step by reading this paper.
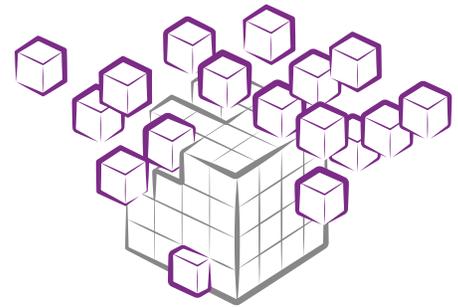
Remember, the New IP is not a "one-size-fits-all" approach; rather, it's about combining the networking innovations that are best for your organization.

To create your New IP network, you need to recognize what your key challenges are today. And you need to understand how elements of the New IP work and interact with each other to support your organization's immediate and longer-term strategy.

Understanding where you are and where you need to be should incorporate not just the solutions and technology elements, but also the processes, resources and dependencies involved.

Take action now

- **Audit what you already have installed. You may be surprised; IDC has estimated that companies underestimate how many devices they have in their data center by up to 50%! (IDC: 10 Key Trends Driving the Future for Datacenters (April 2014))**

- **Consider what you need from your IT services providers. Are they as committed to supporting the business strategy as you are, or more focused on selling certain solutions to you? The New IP champions customer choice, but with a wealth of choices available to you the right IT services partner is vital to developing the best overall solution**

- **Plan your New IP network journey, aligned to your business strategy and goals**

Learn more about the New IP and your options: www.thenewip.net

Look at a new way of creating networks— the New IP

A New IP? A New Network
Optimized today for:

- Immediate application and cloud deployment and use

- Super-fast performance

- Zero downtime

- Virtual machine mobility and hypervisor management

- Complete cost-efficiency

- Reduced management burden

Future-proof innovation to:

- Support software-defined solutions

- Scale up significantly and adapt, simply, at speed

- Optimize open standards for customer choice, speed of change and security

- Be SDN-ready

- Enable advanced analytics

- Underpin IT-as-a-Service

2 AUTOMATED NETWORK

Getting down to business:
Application acceleration and optimized cloud

- Secure competitive advantage and productivity improvement with immediate deployment of new applications

- Eliminate network downtime and ensure connectivity to cloud solutions

- Build the best foundation for future investments in ITaaS and digital transformation

Almost two thirds of CIOs rate providing fast deployment of new applications as an 'extreme' or 'significant' concern, while 65 percent say the same about delivering fast access to applications from multiple devices

Applications enable our world, and are the primary method we use to interact in a digital environment. Applications help us access, engage with, use and understand data and information. They are what we use to communicate across platforms, devices, businesses and continents.

Inability to access applications, even for a short period, can have a huge impact on productivity and profit. Failure to deploy new applications quickly can irretrievably hurt an organization's capacity to compete and operate efficiently, and reduce its ability to meet its goals.

Can you deploy applications at the speed demanded by your business units, while guaranteeing secure connectivity to cloud services?

The variety and number of applications we use has exploded, and the way they are developed has changed enormously.

From Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) platforms to mobile apps, managing the selection, deployment, management and protection of applications is a primary objective for every IT department and CIO.

And the impact of increased adoption of Software-as-a-Service (SaaS)—applications accessed via cloud services—cannot be ignored.

Legacy networks require a very high degree of manual management and maintenance. Not an issue a couple of decades ago, the physical and highly complex nature of these networks now means that a 'small tweak' to the network can take days, weeks or even months. And the risk of error is high.

IT departments are often unable to meet demands for immediate deployment and access to new applications. This, plus the cost and scale-at-speed advantages, has driven massive growth in cloud-delivered application models.

However, cloud access is usually still dependent on corporate network connectivity.

What you need is a highly automated, operationally-aligned infrastructure that delivers application acceleration and secure cloud connectivity, while eliminating network downtime.

The New IP begins with increasing automation and intelligence within the network to reduce the margin of error, substantially increasing speed.

More than 70% of downtime is estimated to be caused by human error

Network Automation with Fabrics

Programmable IP Fabric networks create connections between network and data center devices, and thus create networks, very differently to the 'three-tier' models of network design developed in the mid 1990's.

They are networks in the truest sense of the term, creating a web of connections that eliminates the single-point-of-failure synonymous with so many network failures.

In a fabric every device is aware of every other device, enabling self-forming, self-healing networks. Intelligence across the infrastructure automates the vast majority of network management and maintenance tasks, creating a simpler, more secure, one-to-many command and control system. All services are kept up and available, at all times, eliminating downtime and accelerating performance.

Adopting a Brocade Fabric network has enabled customers to deploy applications up to 90% faster and reduce operational expense by as much as 50%

Whatever happens in the wider environment, traffic flows on the network are protected and maintained as the network self-regulates to optimize and maximize performance. Applications can be deployed more easily, and far more quickly, with significantly reduced margins of error.

Fabric Networks

- 10 x faster to deploy than tiered-network designs

- Automated load balancing to maximize application availability, performance and speed

- The best network platform for virtual solutions (virtual machine mobility and virtual network functions), software-defined network solutions and multi-domain integration

- Better utilization of devices ensures a lower cost, massively scalable network

- Supports a vendor agnostic environment, supporting customer choice of best-in-class solutions

Take action now

- **Learn more about the benefits of** fabrics

- **See** what our customers say **about the difference fabric deployment has made**

- **Understand** how automation across domain silos can drive agility

Protect and maximize application performance

You need to deploy applications quickly and ensure connectivity to external cloud services via the corporate network, to secure competitive advantage and improve productivity. Maximizing the use of those applications and ensuring they are fully protected is also vital. Virtual Application Delivery solutions bolster the benefits of fabric network automation by providing additional levels of agility, targeted acceleration, and

intelligent protection. This is achieved at significantly lower total cost of ownership (TCO) compared to hardware alternatives.

By deploying Virtual Application Delivery Solutions Brocade customers have been able to reduce the number of servers required and application response times by 50%, while supporting twice the number of concurrent users

These solutions build on the traditional functionality of load balancers, which ensures specific applications are not overloaded and fail at peak times or because of malicious attacks.

Virtual application delivery solutions are more flexible, adaptable and scalable, delivering support and automation where it is needed. They also provide additional services to ensure that access and security are optimized.

Automatic HTML optimization provides additional performance uplift for web based services and transactional platforms. It reduces page load times to drive efficiency, increase productivity, and (for external facing services), prevent customers going elsewhere online.

Application-aware virtual firewalls apply business logic to determine which requests should be processed or further analyzed, reducing data "leakage", and further optimizing productivity and performance.

Lastly, automated management of the deployment and licensing of application delivery services across virtual and cloud environments extends this security and intelligence. It protects corporate applications and data no matter where they reside.

Take action now
- **Read more about** Brocade Application Delivery as a Service

- Hear how customers have benefited from virtual Application Delivery solutions

Enabling employees to optimize productivity: Extending automation and intelligence

If all customers and employees sat next to the servers hosting the applications they needed, life would be considerably simpler.
The reality is, applications that can't be accessed from across the business are a wasted investment. They might even create greater challenges than they were deployed to address. Extending network automation and intelligence across multiple networks is the final step to delivering application acceleration and optimizing investments into cloud services and SaaS.

Task automation, better device utilization and an ability to scale quickly and at low-cost ensures the infrastructure adapts in real-time to changing commercial and user requirements. Solutions that support software-defined networking and can operate on Power-over-Ethernet (PoE), to create an agile, adaptable wireless LAN infrastructure. This can quickly adopt and support increased machine-to-machine traffic, as the Internet-of-Things takes hold, while ensuring that application access and performance remains unaffected.

Take action now
- **Take a look at** Brocade campus network solutions

- **Get the** customer perspective **on our campus solutions**

3 AGILE INFRASTRUCTURE

Increase agility and embrace innovation

- Increase agility to respond to market change and reduce risks in real-time
- Continue to differentiate against old and new competitors with fast innovation adoption
- Create the environment for a more services-orientated, software-enabled IT environment

It is estimated that 80% of IT budgets on average are spent servicing technology buying decisions made five to 10 years ago. Imagine what you could do if you could refocus just 10 percent of your budget onto innovation and new services development?

Agility, the ability to change direction or adopt new strategies quickly as market and customer trends evolve at speed, is increasingly a critical commercial requirement.

Unfortunately, that requirement is not always supported by the IT infrastructure. Adopting physical devices that automate and accelerate the IT environment is a necessary first step, but to drive agility the next step is to extend that automation across multiple domain silo's. This supports a virtualized environment for the performance, speed and cost benefits required.

Virtual Network Functions

By selecting virtual network functions (VNF) over traditional hardware devices, the network itself can provide flexibility and scale at the speed of business.

Virtual functions and devices can be easily repositioned and refocused in minutes, as business needs change. They are also far more cost-effective, as they do not have the space, power, or cooling requirements of physical devices.

This enables investment and resource to be refocused on innovation, which provides the digital differentiation required to compete effectively.

Significantly reduced network TCO, and improved ability to fully leverage cloud investments through a more flexible approach to network management, allows IT to take a more proactive approach to innovation.

Adoption of new services, internally and externally, can be accelerated as resource is refocused from maintenance to development.
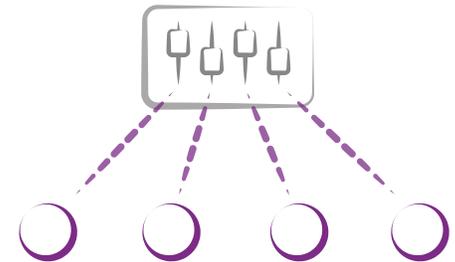
IP Storage networks

For the foreseeable future storage area networks built on Fibre Channel will remain the best option given the technical requirements of most data storage environments.

However, additional agility and cost savings can be secured by converging storage networks and data networks by extending the automation capabilities introduced in Step 2. This reduces the number of hardware devices required, and accelerates delivery of data into analytics and management platforms for real-time reporting and insight.

By taking an evolutionary approach towards convergence, critical services remain available and supported. Moreover, cost and risks are reduced, while the technical benefits of both network technologies are retained.

Take action now

- **Understand how NFV (Network Functions Virtualization) solutions deliver real-time results now, while creating a first step to a fully software-defined environment**

- **Get up to speed on IP storage**

4 INTELLIGENT SERVICES

Maintaining growth in an uncertain world with insight, analytics and continuous innovation

- Maintain growth with continuous innovation leadership
- Adapt ahead of market change armed with reliable insight and analytics
- Adopt IT as a business enabler

Where will your business be in three to five years' time?

What will the strategy be?

Who will be your most dangerous competitors?

How confident are you the answers you give today will still be true then?

The rate of change, the rate of data growth, and the rate at which devices and services are being connected to networks is not slowing anytime soon. The ability to respond quickly and efficiently, to be able to adapt to and embrace change, is a critical element in any organization.

Ensuring you can do so when you don't know what the changes are, when they'll happen, or how they might impact your business, is challenging.

While your focus is rightly on resolving the issues and challenges of today, the IT investments you make need to be decided with one eye on that uncertain future.

Opting now for solutions that support or are designed on open standards and software will help you make more changes faster. They will also reduce complexity and total cost of ownership, as well as improve performance and efficiency today.

As the business request for real-time insight increases, Software-Defined Networks (SDN) and advanced network analytics will support investments in big data analysis platforms, while maximizing the value of your IT investments.

You need the ability to change faster. You need to reduce risk while delivering innovations to boost customer traction. What you really need is better intelligence.

For many the ultimate goal is to support this by providing an internal IT-as-a-Service model. Software will play a central role in achieving this.

Take action now

- Learn about software-defined solutions and the pro's and con's of different approaches of adopting SDN
- Consider how analytics could improve performance and support ITaaS models of IT delivery
- Understand how open standards based solutions can help speed up adoption of innovation and protect customer choice

5

INNOVATIVE BUSINESS

Deciding right now what investments you'll need to make in three to five years is a long bet.

Ensuring you can make those choices without significant additional investments that may delay your ability to adapt to business needs makes perfect sense.

The '5 steps' focus on creating a reliable, scalable, affordable network that can evolve and embrace the decisions you'll make later. Understanding how to continue that evolutionary journey is key to the success of your overall strategy.

The evolution is happening. Embrace it now

Whether your business wants to improve productivity and efficiency internally, to expand, to improve supply chain management, or to deliver new differentiated services externally—your network will make or break its chances of success.

The New IP is a model for business-centric networks that address both immediate challenges and those still to come. Start building your New IP today; the future may be closer than you think.

Brocade

Brocade® networking solutions empower the world's leading organizations to transition smoothly to a world where applications and information reside anywhere. By delivering agility and innovation for cloud-based environments, Brocade helps organizations modernize their networks and accelerate their journey to the New IP.
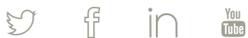www.brocade.com
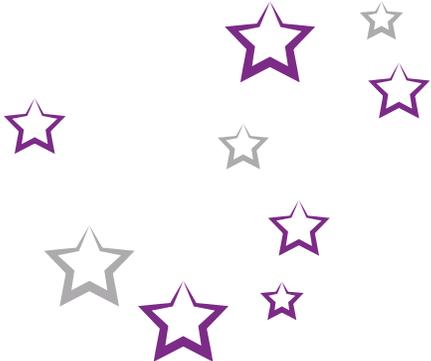
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