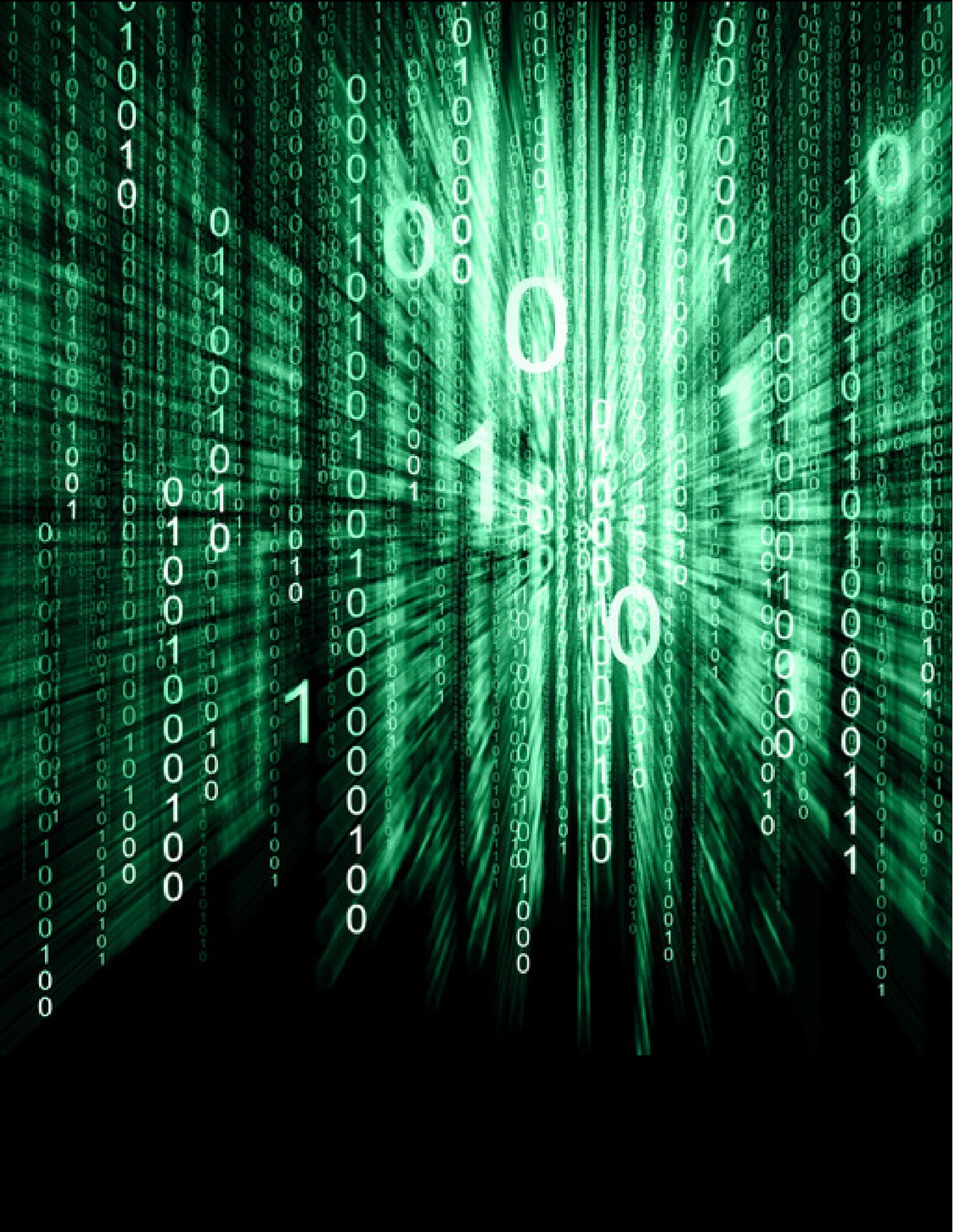

VIRTUAL NETWORKS
THE POWER OF THE INTANGILE

Andreas Hipp
Founder and CEO, Incipio
Member of the Advisory Team, HOT TELECOM

VIRTUALISATION OF THE HOMO SAPIENS, BY THE HOMO SAPIENS

Almost from the beginning of human time (or humanity), virtual things have been part of our day to day life, evolving at a fast pace during the Homo Sapiens era around 30,000 year BC. From then on, our cognitive abilities allowed us to invent art and music, amongst many other things, beyond the basic needs for the human race's survival.

During the following millennia, we aggressively pursued the creation of things we cannot touch, or feel, but that we still believe in. For example, music can't be touched, but touches you. This process changed a large part of our life and reality, from the tangible to the intangible.

The world we live in has therefore been transformed into a virtual one over and over again, and continues to be so at an accelerating speed. Bringing us to a point where never before in the history of mankind have we lived such a virtual existence.

We are surrounded by things we can't touch, purely created by our fertile imaginations and increasingly by technology. Religion, an obvious one, but what about a "company", a "country" or the "law", ever touched any of that those? These virtual institutions or beliefs are creations of our minds and yet they exist and function.

More recently, we even invented virtual realities, parallel worlds, reminiscent of the movie "Matrix", and use Google glasses to transport ourselves somewhere virtual of our liking. People, some decades ago, would probably have had a slightly disturbed look on their faces if confronted with these creations or even just the holistic idea of them.

TELECOM INDUSTRY VIRTUALISATION WHAT DOES IT MEAN?

The communications and IT sector is largely responsible for the latest virtualisation evolutions, as is the internet, as it plays a central part in its distribution and consumption.

Therefore, how can there be so many concerns still about the virtualisation of the technology sector itself, if it already enables all these "new realities" in our day to day lives?

But what are virtualization and automation in the telecom sense of the words? Network function virtualization (NFV) and software-defined networks (SDN) are two closely related technologies that often exist together, but not always.

SDN can be considered a series of network objects (such as switches, routers, firewalls) that deploy in a highly automated manner. The automation may be achieved by using commercial or open source tools, customized according to the administrator's requirements.

NFV, on the other hand, is the process of moving services, such as load balancing, firewalls and IPS, away from dedicated hardware into a virtualized environment. This is, of course, part of a wider movement toward the virtualization of applications and services.

TELECOM INDUSTRY VIRTUALISATION PROS AND CONS

Since SDN and NFV became prominent topics in the telecom industry, vendors and customers (operators and enterprises) have expressed both worries and excitement, but each for different reasons.

For example, vendors have spent considerable time and money in R&D to develop proprietary hardware and software which, through specific design and capabilities, enabled them to differentiate from competitors.

Once deployed in operators' core network, these to some degree, had to stick to the vendor they chose for most of their needs, to allow for smooth operation, interworking and a well trained workforce. This was a very good place for vendors.

However, to satisfy the never ending hunger for data, driven by smart devices and end-users' need for constant and immediate access to content, operators were forced to change their network deployment strategy. They had to find a way to enable a rapid, simple and cost effective deployment of all IP networks.

To achieve this, SDN and NFV presented themselves as the ideal paths to follow, in theory. These virtualization solutions offer vendor-independent networking in a software driven environment across network elements, as well as across different networks.

By definition, NFV provides the scalability of activating and creating new services fast and cost effectively, without massive specific hardware deployment. So in one strike you win independency, flexibility and savings.

In a very competitive industry, such as the one we operate in today, these are essential attributes for success. Exactly what operators are looking for.

However, for operators, this also means the need to reinvent themselves to some extent, as people's skills, processes, product life cycle expectations and many other components of their business will not be appropriate or suitable anymore. For example, field engineering, router and switch provisioning will go away in the traditional way, and a far more IT-centric mode to operate and run networks will be required.

Conceptually, virtualization is as if your organs are turned inside out and are the only things that are left. Your body (chassis) is irrelevant and can be anybody's body and can be anything the software tells it to be.

Of course, vendors don't like this concept at all, as it essentially means they will become easily replaceable. It also opens the door to new start-up companies, as the market entry barriers of owning large manufacturing plants and hardware R&D teams no longer exist.

To stay in the game, they now therefore have to become software and orchestration providers, rather than hardware network equipment vendors. A complete philosophical shift.

This forced change is the most uncomfortable situation any industry can be in. As I mentioned in my recent article, the wholesale sector is already suffering from its own inaction. In the vendors' case, the situation is maybe even more discomforting. Here again, complacency may be at work as well.

Recently, the CEO of Huawei made a strong statement to that effect saying that:

'in the next few years the company will fully cloudify all our products and solutions....

The move toward an all cloud environment involves "the full reconstruction of infrastructure networks" in four areas – equipment, network, services and operations. This is intended to create "systematic strengths" in pooled hardware resources, fully distributed software architecture, and full automation.'

A transition not easy to manage, as there are people involved, and this is always a challenge. But to realize the potential benefits of virtualization, and to make sure the business has relevance in years to come, pursuing it is not an option, but is a must.

OUR FEARS MIGHT BE VIRTUAL AS WELL

In addition, both vendors and operators have concerns in regards to moving from a trusted legacy vendor-customer relationship, innovation and operation model, to an unknown, more fluid and less linked or interdependent one.

Losing the physical state or condition of the network is scary in many ways – can't see the router anymore, can't see the switch anymore, all one can see are the similar looking black boxes with everything inside, virtually.

I think most of these concerns are largely unfounded and may be no more than just alien feelings we have towards the new or the unknown.

The benefits of software defined networking and function virtualisation are so manifold and significant that we cannot simply ignore them.

To start with, instant activation, scalability, service creation and operation across multiple networks. From there, operators will require limited physical intervention at far less capital and operational expenditure.

This will ultimately enable them to support

the ever increasing demands of consumers and enterprises, whilst maintaining a healthy business and happy customers.

Except for the basic hardware, everything else will be software and remember software has never been tangible and yet made some and runs many of the biggest corporations.

As with the “company”, the same will happen in the case of “virtualization”. Alienation and doubts will pass in time, as they did in the past.

The “unimaginable” to exist will become one day the “unimaginable” we cannot exist without. (internet)

Now the question you need to ask yourself is: Do you want to lead and drive the new paradigm – i.e. be one of the facilitators of the unimaginable, or do you want to be the late adopters and followers, unable to shape the future, if you are still around that is?

Andreas

ABOUT ANDREAS HIPP

Andreas was the Founder and Group CEO of Epsilon Global Communications, which includes Epsilon service provider and Cataleya technology businesses.

During his 18 years in the global telecoms community he has contributed to the evolution of the international markets and technologies, creating innovative businesses, and disruptive business models. He loves technology but people even more and what technology can or must do for them.

He is now continuing to accelerate the industry’s evolution through his start-up accelerator (Incipio) and his position on the board of Cirrus Core Networks, which offers an all NFV-based Infrastructure as a Service (IaaS) proposition for Mobile Network Operators.

He is also part of HOT TELECOM’s Special Forces, a group of leading industry experts who help guide our customers’ strategic evolution and new business vision.

ABOUT HOT TELECOM

HOT TELECOM is one of the most innovative and creative research and consulting companies, which has been providing International operators and carriers with specialized intelligence and advice for the past 13 years.

We understand the challenges faced by international carriers better than anyone, and have therefore developed a number of research and advisory tools and expertise to mirror these needs, and provide the support any wholesaler requires to survive and thrive in the current environment.

To find out more about what we can do for you and how we can make the difference in your success, contact us and it will be our pleasure to provide you with tailored, real-life solutions that will meet your needs, challenges and objectives.

For more information, please visit: www.hottelecom.com

REPORTS & ANALYSIS

- Market research
- Competitive analysis
- Market watch
- Executive Surveys

MARKET INSIGHTS

- White papers
- 360 market visions
- Articles and interviews Executive
- Mini-magazines

ADVISORY

- Stategic workshops
- Business and portfolio review
- Roadmaps and business plans
- Collaborative creative thinking

EVENTS

- Webinars
- Moderating and conference chairing
- Roundtables
- Executive conferences and events