

# Keeping NFV on track

Why it's important – and how STL Partners can help

12/12/2017

# About this document

- This document is a collection of slides presented by webinar in December 2017.
- A full recording of the webinar is available [online](#).
- Further information about STL Partners' NFV Deployment Tracker can be found [on our website](#).
- If you have any questions about this topic, or would like to learn more about STL Partners, please [get in touch](#).

# Today's panel



**Amy Cameron**  
Senior Analyst



**David Martin**  
Associate Analyst



**Matt Pooley**  
Consultant

**‘NFV is like a satnav where the road network itself is in constant flux, and the coordinates for the end destination are constantly changing.’**

NFV Deployment Tracker, September 2017



# What is SDN/NFV?

**Today's assumption:** attendees know what these acronyms mean, and that they represent important technological trends

**Recap:**

## Software Defined Networking

centralisation of the control plane function previously fulfilled by routers within the network, allowing data flows to be optimised and programmed more flexibly and intelligently



## Network Functions Virtualisation

separating out networking functions (e.g. routing, firewalls, packet and IP cores, etc.) and associated management functions from dedicated hardware, and running them instead on commodity computing hardware

# And why does it matter?

- Sea change in **scalability, performance and agility** of comms networks
- **Fundamental enabler** for other emerging tech: IoT, AI, 5G, Multi-Access Edge Computing (MEC), etc.
- Telcos will not be successful in *any* of these areas without implementing some form of SDN / NFV



- **SDN / NFV is for the network what the evolution from hardware to software was for the computer:** network of the future will need to operate and flex at software speeds

# STL Partners: considerable subject-matter expertise

12+ Executive Briefing reports

NFV  
Deployment  
Tracker

Consulting engagements

What should happen?

What's already happening?

How do we get there?

# What is the NFV Deployment Tracker?



- Quarterly-updated service
- Tracking verified, live commercial deployments of NFV & SDN
- Data sourced from operators, vendors & reliable industry media
- Mostly public-domain but includes information supplied direct to STL Partners by telcos (added to an aggregate data set)
- **Goal:** industry's most comprehensive, reliable source of market intelligence on NFV and SDN in live telco networks



# How is the data provided?

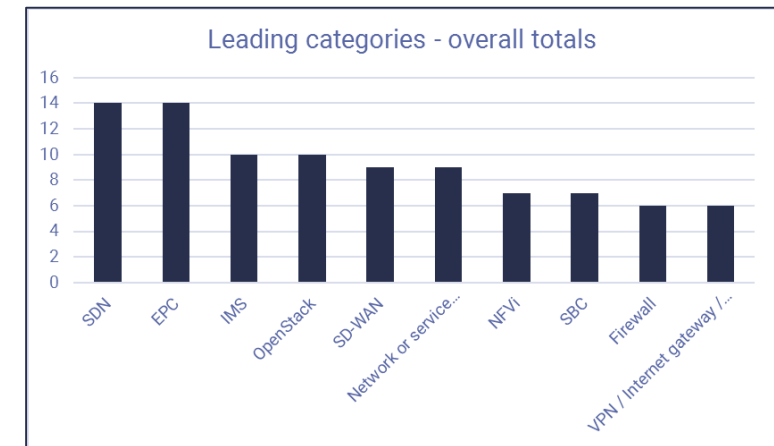
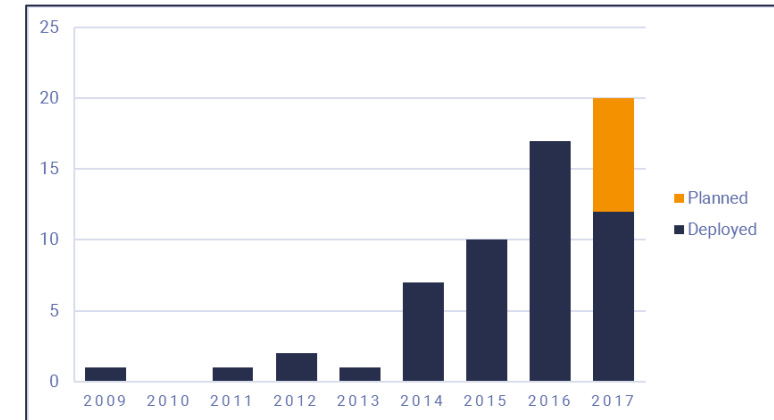
- Growing Excel database charting live deployments by:
  - Operator
  - Region / country
  - Technology type
  - Date
  - Vendor(s)
- Quarterly releases:
  - September 2017: Europe
  - December 2017: Europe + North America
  - March 2018: worldwide
- Supplemented by an analytical report, discussing trends observed in the context of global industry developments

Operator name	Country where based	Country where deployed	Global or Pan-European deployment	Local or other operating company name (if different)	Category of NFV / SDN technology deployed	Date of implementation or launch (month/year)
Altice	Netherlands	France		SFR	Compute	Di
Altice	Netherlands	France		SFR	Evolved Packet Core (EPC)	Di
Altice	Netherlands	France		SFR	OpenStack	Di
Altice	Netherlands	France		SFR	Software-defined network (SDN)	Di
Altice	Netherlands	France		SFR	VNF Manager (VNFM)	Di
BT	UK	Germany			Firewall	Ja
BT	UK	UK			Session Border Controller / Session Border Gateway (SBC / SBG)	Al
BT	UK		Global	BT Global Services	Big Data, analytics	Di
BT	UK		Global	BT Global Services	SD-WAN	Ja
BT	UK		Global	BT Global Services	Application delivery controller (ADC)	Di
BT	UK		Global	BT Global Services	Firewall	Di
BT	UK		Global	BT Global Services	SD-WAN	Di
COLT	UK		P-E		Internet / VPN gateway	Ni
COLT	UK		P-E		Service orchestrator	Di
COLT	UK		P-E		IP-VPN / IP-MPLS VPN	Di
COLT	UK		P-E		SD-WAN	0
COLT	UK		P-E		Service orchestrator	Not known
Deutsche	Germany	Croatia		Hrvatski	IP-VPN / IP-MPLS VPN	M

# Highlights from September 2017 (Europe) update

## Key data points

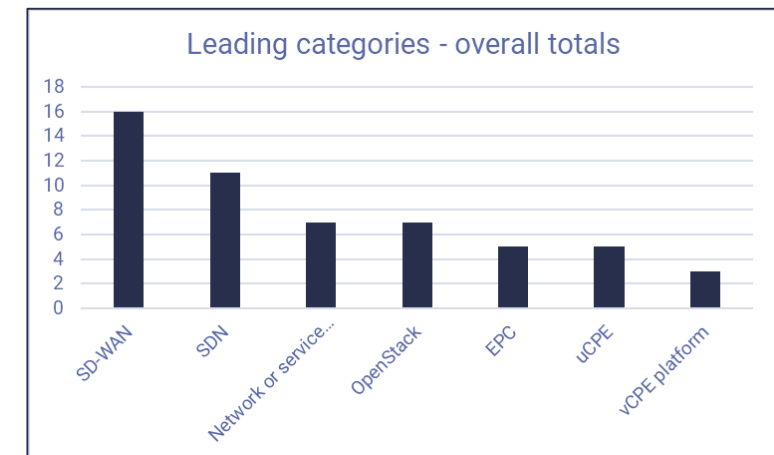
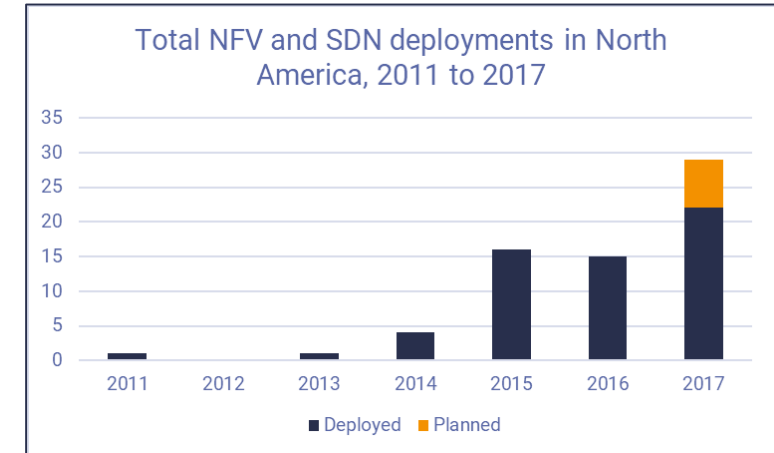
- Data on **59 completed and planned deployments** by 21 operators, including:
  - **Country-specific** deployments in 23 European markets
  - **24 Pan-European or global** deployments by Europe-based operators
  - 130 known Virtual Network Functions (VNFs), functional sub-components and supporting infrastructure elements
- **Much less growth than expected:** 70% in 2016; but no exponential increase in 2017 as some expected



# Highlights from December 2017 (N. America) update

## Key data points

- Data on **66 completed and planned deployments** by 16 operators, including:
  - 11 US-based players, three Canadian and one Caribbean
  - 119 known Virtual Network Functions (VNFs), functional sub-components and supporting infrastructure elements
- Initial impetus in 2015/6 was provided by **ambitious roll-outs by AT&T and Verizon**
- The surge in 2017 reflects catch-up by other leading players and **generalised deployment of SD-WAN**



# Three pathways to NFV/SDN adoption are emerging...



## 1. Technology Evolution

Focus on scaled virtualisation of a few core functions/subsystems in a way that minimises risks, dependencies & org change



## 2. Service-led Innovation

Focus initially on the customer and the services themselves, as opposed to the underlying technology



## 3. Organisational Transformation

Focus on wider organisational transformation – NFV/SDN as a catalyst from both technological & cultural perspective



# Three pathways to NFV/SDN adoption are emerging...

## Software-enabled network

### 1. Technology Evolution

Focus on scaled virtualisation of a few core functions/subsystems in a way that minimises risks, dependencies & org change



## Network as a software service

### 2. Service-led Innovation

Focus initially on the customer and the services themselves, as opposed to the underlying technology



## Software as a networked service

### 3. Organisational Transformation

Focus on wider organisational transformation – NFV/SDN as a catalyst from both technological & cultural perspective



# Three pathways to NFV/SDN adoption are emerging...



## 1. Technology Evolution

Focus on scaled virtualisation of a few core functions/subsystems in a way that minimises risks, dependencies & org change



- **Virtualisation of core network functions (e.g. EPC, IMS and SBC)** in relative isolation from each other and from network management systems
- **Most NFV deployments in Europe** to date (alongside a growing volume of SDN and SD-WAN)

# Three pathways to NFV/SDN adoption are emerging...



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- **Evolving enterprise managed services** to more address hybrid networking needs
- Has led to **North American emphasis on SDN and SD-WAN**, enabling software control of data flows across the WAN, the public Internet and the cloud

# Three pathways to NFV/SDN adoption are emerging...

- Associated with the **more transformational impact** of SDN / NFV on the telco network, business model and organisation
- Moving towards the vision of the future telco: operating **software-based networks** and delivering software-based (i.e. digital) services

### 3. Organisational Transformation

Focus on wider organisational transformation – NFV/SDN as a catalyst from both technological & cultural perspective





# ... with different challenges associated



## 1. Technology Evolution

Focus on scaled virtualisation of a few core functions/subsystems in a way that minimises risks, dependencies & org change

Unclear business case  
Risk of silos  
Technical skillset



## 2. Service-led Innovation

Focus initially on the customer and the services themselves, as opposed to the underlying technology

Developing compelling propositions  
Operational skillset  
Orchestration across functions



## 3. Organisational Transformation

Focus on wider organisational transformation – NFV/SDN as a catalyst from both technological & cultural perspective

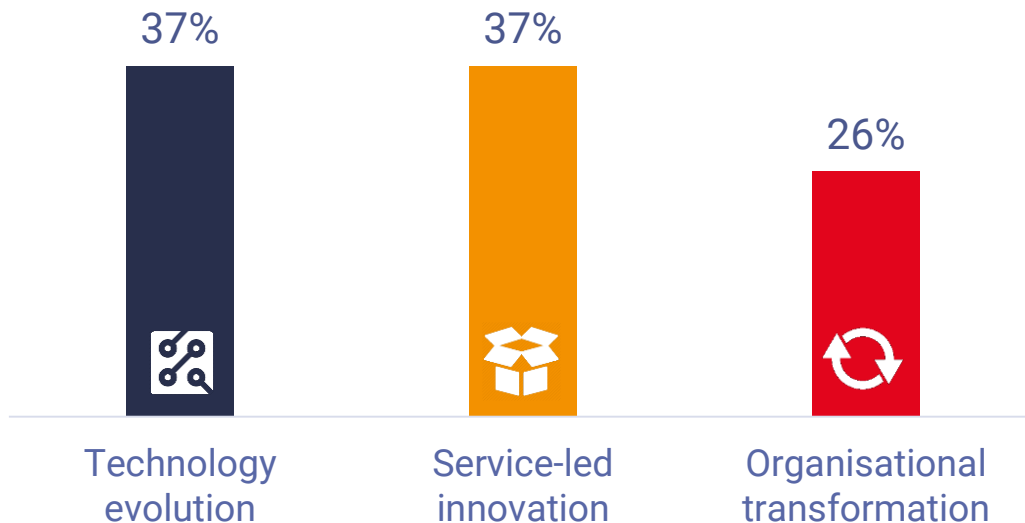
Changing traditionalist mindsets  
Building common understanding  
Need for software skills

# How to stay on track?

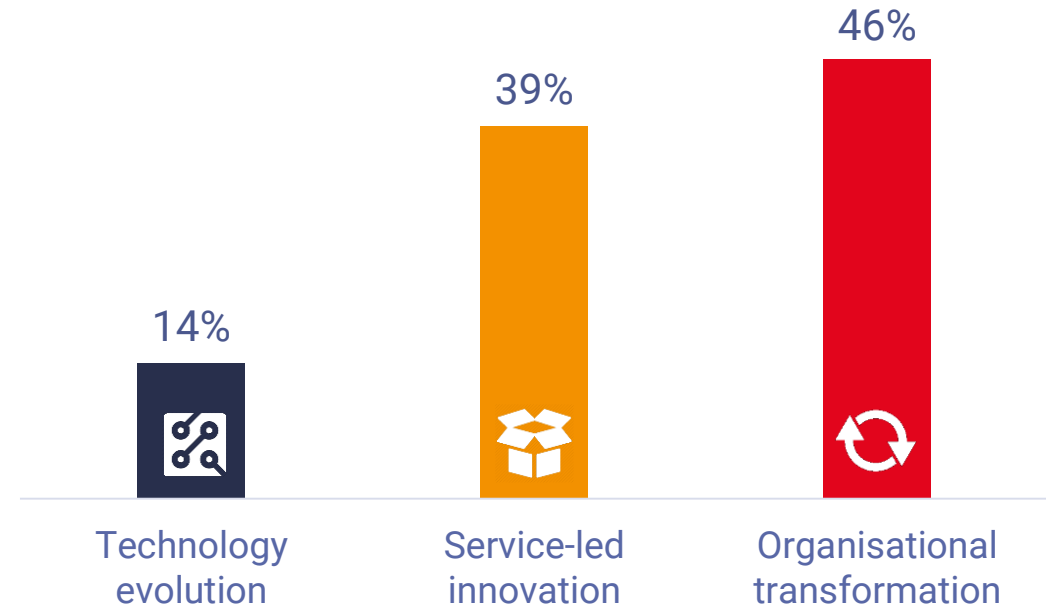


# Audience vote: which approach to NFV?

Which approach to NFV implementation is your organisation adopting?



Which approach to NFV implementation is the best way forwards?



**Any questions?**

# Want to know more?

Connect with us

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