

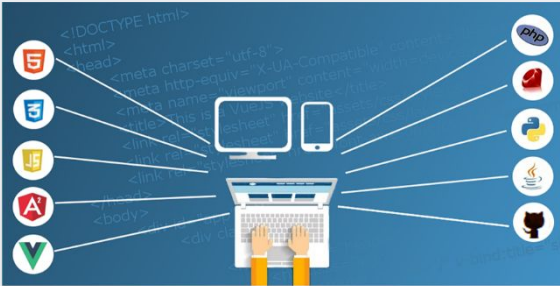


IT/network trainings and consulting

for service providers, data centres and
enterprises

Where is your revenue coming from?

Your great services



Your happy customers

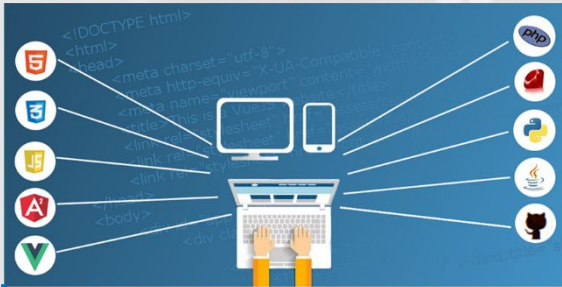


Your deserved revenue



What else contributes to that?

Your great services



Your happy customers



Your deserved revenue



Your DC/Campus infrastructure



Your SP WAN
infrastructure

IT/network infrastructure
contributes to the **customer
happiness** as much
as your great services do

What is happening in IT/networks today? What should?

Networks as-is



Vendor lock-in

- Proprietary HW/SW
- Closed system/APIs
- Difficult to change specific components



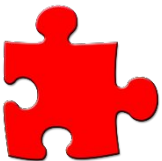
Long time-to-market

- Could take days to weeks to implement change
- Even standard changes are done manually



Manual Operations

- Little to zero automation
- Long troubleshooting process based on experience



Dedicated boxes

- per-vendor/technology silo
- Scale up approach for a lot of Systems
- little/zero e2e visibility

Networks to-be



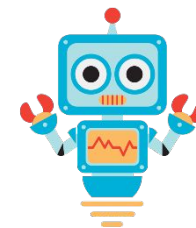
Open source

- Open-source SW everywhere
- Disaggregated HW/SW
- Easy to update/replace
- Open APIs (REST, NETCONF)



Very short time-to-market

- Template-based config
- Automated tests
- Quick introduction of new technologies



Automated Operations

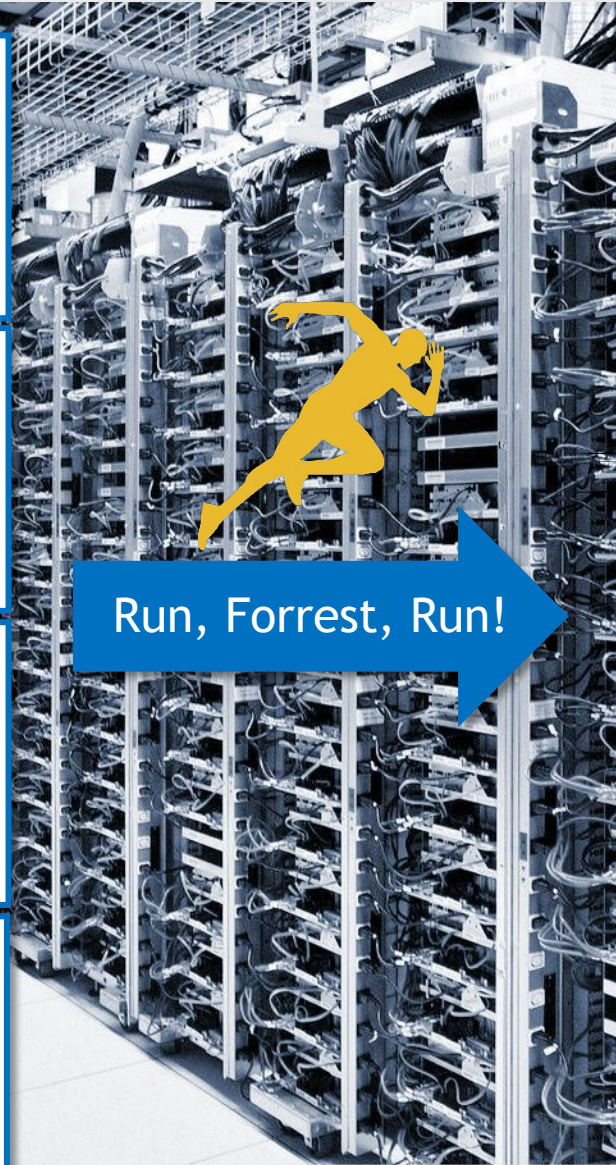
- High/Full automation
- Quick troubleshooting based on predefined steps and real-time analytics



Holistic distributed system

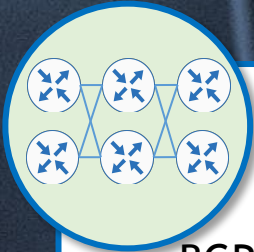
- Infrastructure as a code
- e2e programmable service provisioning
- Scale out approach for infra

Run, Forrest, Run!



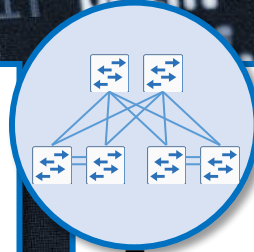
What are the areas we help you with your IT/networks?

Full cycle package for network management or trainings: planning, design, implementation, operation, optimization



SP WAN networks

- Routing optimization (IGP, BGP)
- MPLS Optimization (LDP, RSVP, BGP-LU, SR)
- Segment Routing (inc. SR-TE) design and introduction
- Mobile/fixed services e2e optimization
- SP SDN introduction (PCEP, BGP-LS/BGP-SR-TE, SR/SR-TE, RSVP)



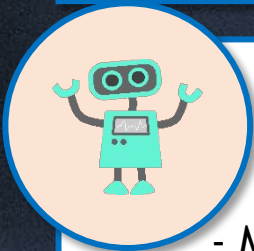
Data Centre networks

- Implementation/migration to BGP-EVPN/IGP-EVPN IP fabrics
- Zero touch provisioning for DC infrastructure
- Disaggregation and white box switches
- Introduction of Intent-based networking
- Introduction/migration to open-source DC management



Technical marketing

- Blogs
- Whitepapers
- HLD/LLD
- Presentations, slides
- Technical press-releases



Network automation and NetDevOps

- Introduction of template-based configuration
- Ansible for NetOps: deployment and trainings
- Model-driven network device configuration based on YANG (with NETCONF/RESTCONF)
- Complex pipelines (CLI/SNMP/NETCONF) + Bash/Ansible
- Test automation (acceptance of new HW/SW before going live)
- Infrastructure as code for service providers



Agile network management

- Development/migration of the NMS stack to micro services architecture using Docker
- Flexible/programmable/secure network monitoring and real-time analytics
- Closed-loop automation for network-wide events
- Development/integration service YANG models
- Integration of NMS/SDN-C over REST API to ext. DB, service portal, etc.

What exactly do we propose for Service Providers?

Technology-specific trainings



- Internet: Peering, transit, DDoS protection
- Core: IP/MPLS backbone, Segment Routing
- Backhaul: IP/MPLS services (VPWS, VPLS, EVPN)
- QoS: Shaping/policing, Queueing
- Network capacity and resilience planning
- Multicasting and MVPN



Device-specific trainings

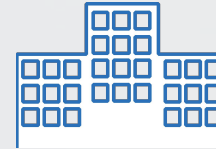
- Configuration and commissioning of Nokia devices: 7705/7210/7250/7750/7950 SR
- Configuration and commissioning of Cisco devices: NCS 550/5x00, ASR 1000/9000

Major vendors

NOKIA



Delivery options



On-site trainings



Online instructor-led

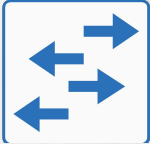
What questions would you solve?



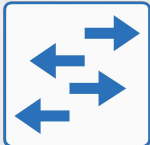
- How to create initial configuration and bring devices to the network?
- How to create configuration of the advanced services such as Segment Routing (including Traffic Engineering) or EVPN?
- How to optimize the configuration in the network to improve latency or increase the utilization?
- How to design resilient network for high-demanding services such as 5G?

What exactly do we propose for Data Centres?

Technology-specific trainings



- Architecture: leaf/spine and hyper-scale
- Fabric: building IP fabric with BGP or OSPF
- Overlay: BGP-EVPN with VXLAN
- Data Centre Interconnects: IP/MPLS and IP VPN or VPN service
- Scaling: capacity management and dimensioning



Device-specific trainings

- Configuration and commissioning of Mellanox SN2010/2410/2700 with Cumulus
- Configuration and commissioning of Arista devices: 7500R/7300X/7280R/7050X

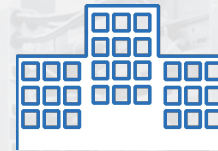
Major vendors

ARISTA



CUMULUS

Delivery options



On-site trainings



Online instructor-led

What questions would you solve?



- How to create initial configuration and bring devices to the network?
- How to highly-resilient design and configure modern fabrics with OSPF or BGP?
- How to implement and troubleshoot EVPN/VXLAN?
- How to migrate from legacy STP/HSRP fabric?
- How to connect your data centres worldwide in a single network?
- How to use in-band and out-of-band mgmt?

What exactly do we propose for Network Automation?

Technology-specific trainings



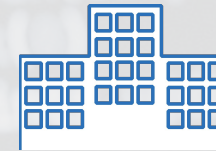
- Basics of the programming for the network engineers using Ansible, Bash and Python
- Configuration and information collection using SSH/CLI and NETCONF/YANG
- Configuration and information collection using REST API



Product-specific trainings

- Installation and usage of automation tools: Ansible, Python, Bash, Salt
- Installation and usage of infrastructure: Linux, Docker, KVM, NetBox, InfluxDB

Delivery options



On-site trainings



Online instructor-led

What questions would you solve?



- How to find a use case for the network automation and decompose it to the building blocks to improve company efficiency?
- How to create a working program in Ansible, Bash or Python to configure network elements to make configuration less error-prone and time-consuming?
- How to collect information from the network elements and perform analyse for troubleshooting to reduce outage times and increase security?

Major vendors



python



docker

What exactly do we propose as Consulting?

Provided services



- Analyse/audit of your network
- Business justification for the introduction of the technologies/projects



- Solution design (HLD/LLD)



- Solution verification in your/own lab



- Detailed configuration guidelines

- Integration in your network

- Writing technical marketing documents

- Development of network automation, analytics and integration it in the network



- ... Working on any request within expertise

Working hours



Flexible to your needs

Prices/Availability



[Contact us](#)

Available resources



- Laptop



- All necessary SW



- Own high-capacity lab to test the design before deployment and for trainings

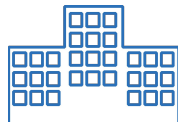


- Direct contact with all major vendors based on blog activities



- Desire to make your projects successful

Delivery options



On-site (Your premises)

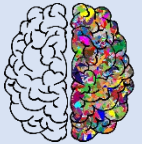


Remotely (Home office)

What is your ultimate benefit of working with us?



What? Top technical expertise and understanding of the customer requirements
Why? We always delivered projects at customers' side, for the customers' benefit



What? Technology-first and vendor neutrality approach
Why? We focus on the technologies, and can adapt them to the vendor you choose



What? Dedication to your success
Why? We want to be invited in many your projects, so we delivery each at our best

About karneliuk.com

Brief description

In industry: since 2007

Education: MSc. Telecommunication

Certificates: 2x CCIE #49412 (RS, SP), NRS1, CAPM, ITIL-F

Industry-recognized blog about a multivendor interop, SDN, automation and programmability: <https://karneliuk.com>

GitHub repo with multivendor SDN and network automation: <https://github.com/akarneliuk>

Speaker: Cisco Live 2019, SReXperts 2019, UKNOF 45

Author: Network Programmability and Automation, Volume 1, Cisco Press

Awards: #CiscoChampion 2019 and 2020 as one of the top tech influencers world-wide

Anton Karneliuk



Delivered projects in



Expertise with





Thank you very much for your
attention!

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