

# Telco needs of IPDK, Cloud, HW and SW suppliers



Observations from Tomas Fredberg  
Senior Expert Cloud Infrastructure @Ericsson



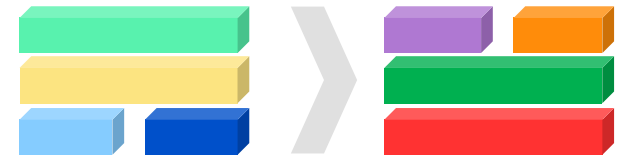
# Why Telco requirement initially differ from enterprise, clouds and other market areas

- Requirements on a stable, always available, cost-efficient solution
  - Basic connectivity with continuously increasing capacity and improved characteristics
  - Mobility with availability everywhere and all the time at a massive scale
- Few competing operators in each country yielding about 800 different operators worldwide
  - All must follow respective country's laws and regulatory frameworks
- This puts many Telco requirements at the technology forefront that enable large scale operations
  - But limits the use of technology to mature and “standardized” technologies

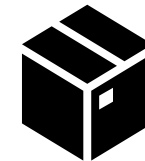
# What Telco Operators ask for



- Stability – Quality, Backwards compatibility, long support times
- Portability in a modular stack
  - No vendor lock-in at any level with choices for each layer and function
  - This require a lot of standardization of different sorts



- Predictability
  - Supply chains, deliverables and solution functionality at large scale
  - Characteristics like reliability, availability, performance, latency, etc.



- Evolutionary change with gradual in-service migration from existing solutions
- Rapid Telco feature development and deployment
- Alignment with other industries, but not at any cost

# Whereabouts are the Operators now



- but beware there is a large span of where each operator are in their journey

- Transitioning into usage of Cloud Native technologies for at least the coming 5 years
- Usage of Cloud technologies with learnings of how to manage and orchestrate that at scale
- Early trial usage of large Cloud Providers initially for IT-like applications
- Understanding that HW accelerators will be required for a small set of critical applications
- Each combination of HW and SW components are thoroughly tested before deployment at scale
- Every technology shift is always driven as a slow and gradual migration

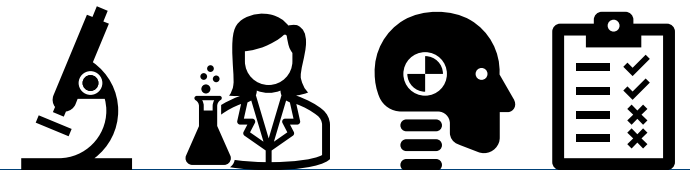


Technology adoption take time for Telco and a smooth gradual migration must be supported

# What does it take for Telcos to use IPU/DPU and Programmable Switches



- Industry alignment without HW, SW or Cloud vendor lock-in
- Telco Network Functions application portability is a must
  - Easy migration from current SR-IOV based applications
  - Transparent/invisible Infrastructure acceleration
  - Standardized/aligned NF application interfaces for NF acceleration/offload
- Supported Software and Solutions
- Improved TCO

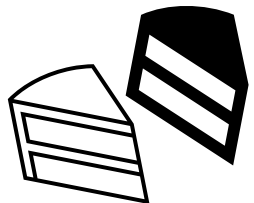
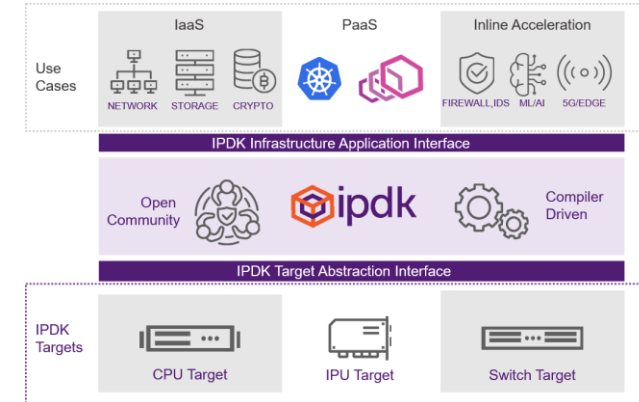


Without these elements fulfilled, there will mostly be sporadic trials and niche products

# Could IPDK support Telcos requirements



- IPDK should
  - Allow multi-vendor IPU/DPU for Telco Operator
  - Allow mix of IPU/DPU and CPU based networking stack for Telco Operator
  - Enable IPU/DPU SW stacks with large portability for Telco Vendors
    - Enable CPU usage for deployment without IPU/DPU
    - Enable functional portability over CPU, IPU/DPU and Programmable switches where deployed
  - Enable SW application portability with low need for re-verification
    - Over different IPU/DPU, CPU and Cloud providers
  - Fit the Cloud Native paradigm and be seamlessly exposed through K8s Infrastructure
    - Must support the Telco functional extensions e.g. for secondary networking

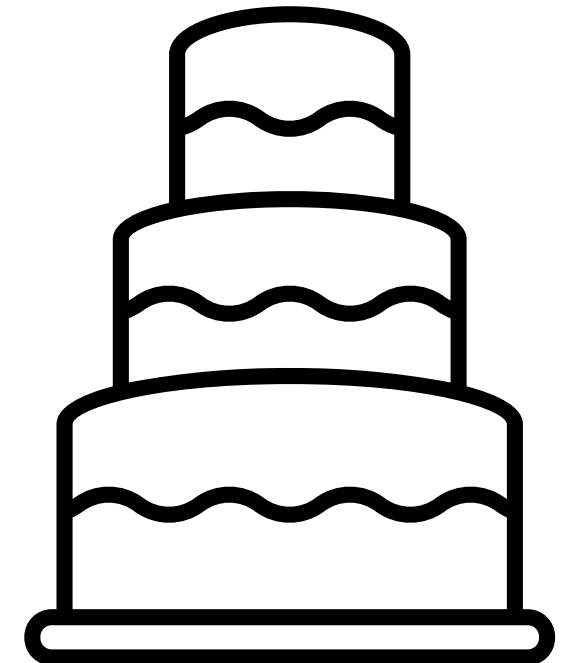


Work together to grow the shared cake instead of chasing growth of each small slice or crumble

# Call for action



- Drive IPDK to enable portability for Infrastructure, Application and Devices
  - Supported by IPU/DPU developers
  - Supported by HW OEM suppliers
  - Supported by OSV distributors
  - Supported by Cloud Service Providers
  - Included and referenced by Telco, IT and NW related standards
- Enable IPU/DPU TCO to be a positive step for all deployment cases
  - Broad acceptance is required to start the initial SW development
  - Enable interaction with other HW accelerators



Let's engage together and grow the cake for all Telco deployments

