Welcome!

Code of Conduct

- Respectful, harassment-free environment
- Recognize every person and group
- Professional behavior
- Encourage the open exchange of ideas and expression
- Be nice to each other
- https://events.linuxfoundation.org/dpdk-summit-north-america/attend/code-of-conduct/

DPDK Summit North America is a LIVE event with LIVE presentations! Some patience may be required.
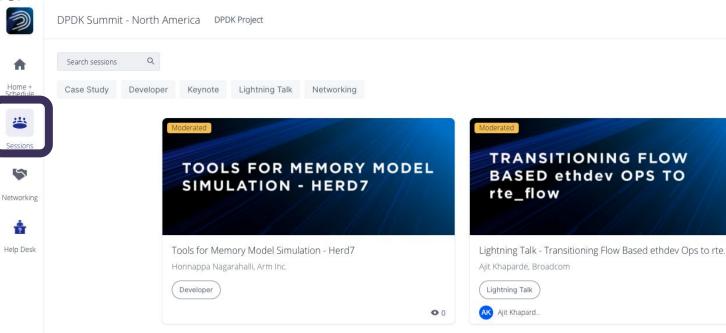
Hopin Event Platform

Session Rooms

Each talk will take place in an individual session room.

When a talk concludes, move to the next session room by clicking the Sessions tab.

Session rooms will appear 5 minutes before their scheduled start time.

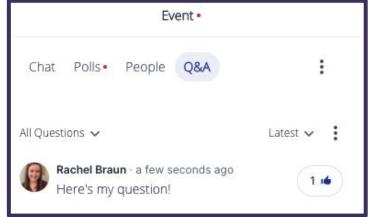# Event Interaction: Chat + Q&A

Chat

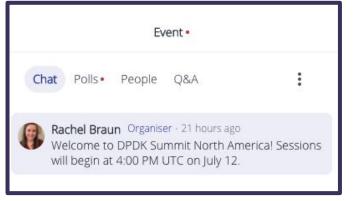Each space within the platform has a dedicated Chat tab; Overall Event and Session. Communicate with other attendees here!

Q&A

Ask questions of speakers here.

Have a similar question as one that's already been asked? Upvote it!

Networking

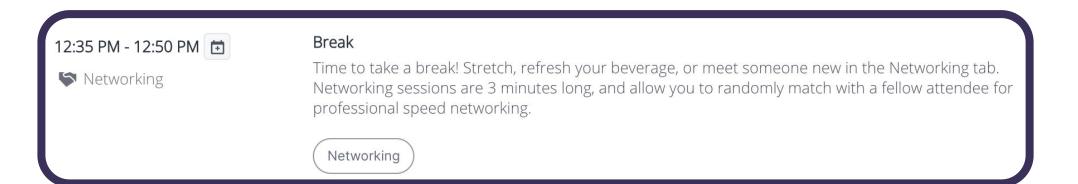Expand your network and make new professional connections during the breaks!

Common Troubleshooting Solutions

- Hopin works best in Google Chrome

- Disconnect from your VPN if you're unable to see live sessions

- Lost audio, video is frozen? Refresh your browser

- Have a question on something else? Stop in to the Help Desk for live support!

Home + Schedule

Sessions

Networking

Help Desk

DPDK Ecosystem

Distributions

DPDK is available across multiple Linux distributions, and now includes experimental support for Microsoft Windows.

dpdk.org/ecosystem/

Supported Hardware & Drivers

DPDK supports all major CPU architectures and NICs from multiple vendors. Currently, DPDK supports devices that can either be Physical for Real Devices, or Virtual for Emulated Devices

core.dpdk.org/supported/

Other Open Source Projects Consume DPDK

A growing list of other open source projects consume DPDK, both up and down-stream. This includes FD.io/VPP-Fast Data Project, OPNFV, Open vSwitch, Lagopus, SPDK and many others.

dpdk.org/ecosystem/

Support Services and Training

The DPDK ecosystem includes organizations that provide services, support and instructor led training courses for DPDK environments.

core.dpdk.org/training/

Members

Member organizations committed to enabling accessible fast packet processing to help move the networking industry forward are the backbone of DPDK
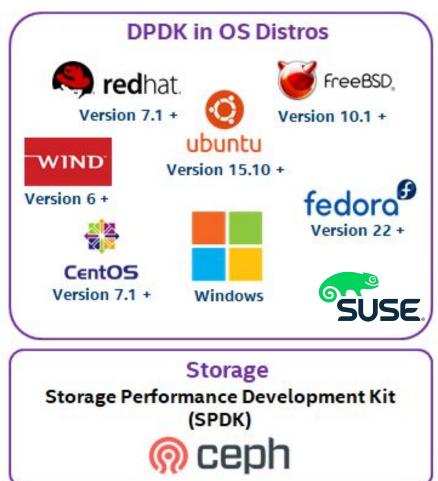
dpdk.org/ecosystem/#members

Examples of Software Projects Consuming DPDK

vSwitches/vRouters

OvS Open vSwitch

FD.io VPP

BESS

Lagopus

tungstenfabric

CloudRouter

vmware

DPDK in OS Distros

redhat. Version 7.1 +

ubuntu Version 15.10 +

freeBSD. Version 10.1 +

WIND Version 6 +

CentOS Version 7.1 +

Windows

fedora Version 22 +

SUSE

Storage

Storage Performance Development Kit (SPDK)

ceph

Packet Generators

TRex

Pktgen

MoonGen

Ostinato

TCP/IP Stacks

mTCP

FD.io TLDK & VPP

F-Stack

Seastar LWIP DPDK

USE CASES: Load balancing, Routing & Switching, Security, SDN / Virtual Switch, VNFs and CNFs, Software acceleration for other projects (FD.io, SPDK), Test equipment

Vertical Market Adoption of End to End Open Source Software

OPEN NETWORKING, EDGE AND IOT MARKET ADOPTION

Industrial Manufacturing	Energy (Oil, Gas Utilities)	Commerce & Retail	Home	Automotive	Fleet & Transportation	Logistics	Building Automation	Cities & Government	Healthcare

ENTERPRISE NETWORKING

1. Private Networks 5G/LTE
2. Workloads across Multi-clouds
3. End to end visibility and monitoring

SERVICE PROVIDERS

1. Built on end to end open source 5G & edge
2. Developing countries with 5G and edge
3. Global connectivity

END USERS, GOVERNMENTS

1. Built on Open Source projects
2. Open Solutions and Blueprints
3. Unified Cloud, Enterprise, Telco

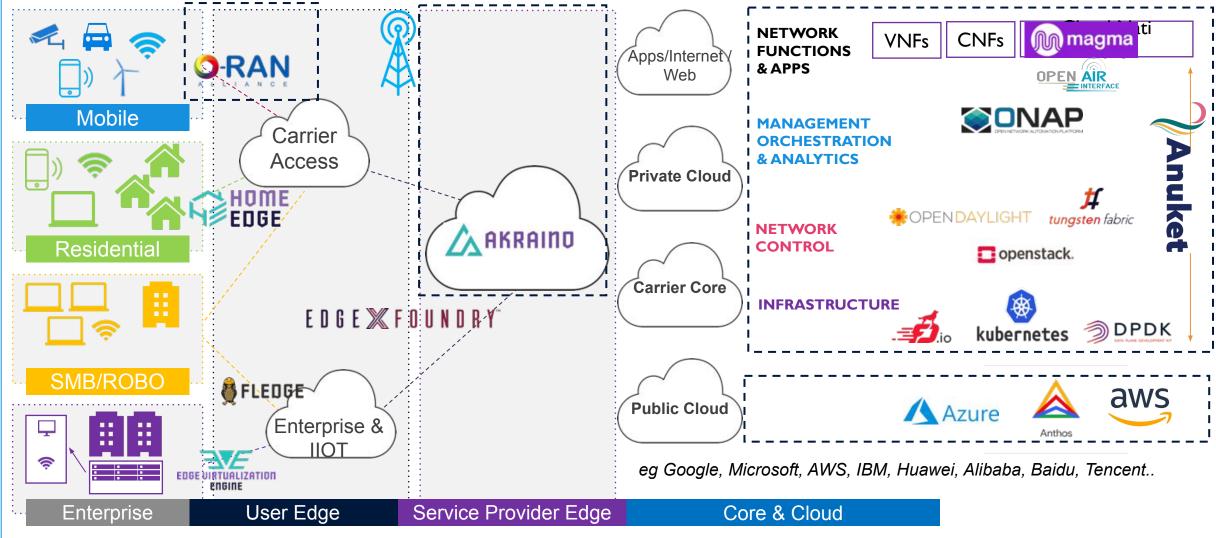## 5G SUPER BLUEPRINTS BUILT ON END TO END OPEN SOURCE PROJECTS

O-RAN ALLIANCE · EVE · HOME EDGE · AKRAINO · EDGE X FOUNDRY · FLEDGE · Anuket

fd.io · ONAP · OPEN DAYLIGHT · kubernetes · DPDK DATA PLANE DEVELOPMENT KIT · tungsten fabric · magma

End to End Open Source Software Collaboration

DPDK SUMMIT NORTH AMERICA

Mobile

Residential

SMB/ROBO

Enterprise

Carrier Access

O-RAN ALLIANCE

HOME EDGE

EDGE X FOUNDRY

FLEDGE

Enterprise & IIOT

EDGE VIRTUALIZATION ENGINE

AKRAINO

Apps/Internet Web

Private Cloud

Carrier Core

Public Cloud

NETWORK FUNCTIONS & APPS

VNFs | CNFs | magma

OPEN AIR INTERFACE

MANAGEMENT ORCHESTRATION & ANALYTICS

ONAP

NETWORK CONTROL

OPENDAYLIGHT | tungsten fabric

openstack.

INFRASTRUCTURE

.io | kubernetes | DPDK

Anuket

Azure | Anthos | aws

eg Google, Microsoft, AWS, IBM, Huawei, Alibaba, Baidu, Tencent..

| Enterprise | User Edge | Service Provider Edge | Core & Cloud |

THE LINUX FOUNDATION

* Sample projects only

LFN Hosted E2E 5G Super Blueprint

DPDK SUMMIT
NORTH AMERICA

LFNETWORKING ⟶

LFEDGE ⟶

magma ⟶

CLOUD NATIVE
COMPUTING FOUNDATION ⟶

O-RAN **SOFTWARE** ⟶
ALLIANCE **COMMUNITY**

End to End Super 5G Blueprint

⟵ Cloud Native 5G Demo

⟵ Private LTE/5G ICN Akraino

⟵ ONAP 5G Use Case

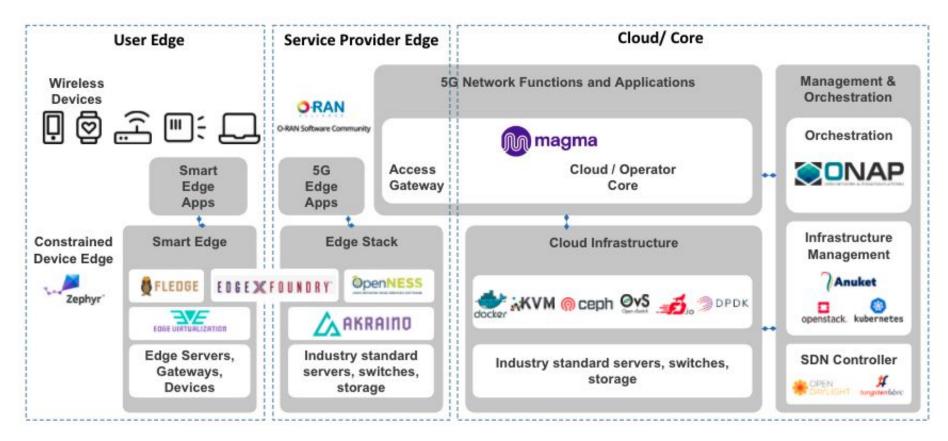**THIS NEW BLUEPRINT is the community vehicle to collaborate and create end to end 5G solutions**

THE LINUX FOUNDATION

5G Super Blueprint

LF Open Source Component Projects for 5G

Learn more: https://www.lfnetworking.org/5g-super-blueprint/

Read the FAQ: https://wiki.lfnetworking.org/display/LN/5G+Super+Blueprint+FAQ

5G Super Blueprint
Overall Roadmap, building on production ready projects

Calendar Q2'21 ——— **Calendar Q3'21** ——— **Calendar Q4'21**

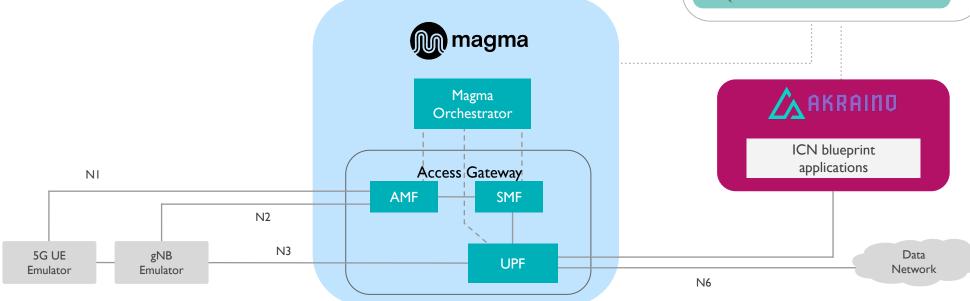|	5G Core + MEC	5G E2E + Slicing + MEC	5GC + Slicing + O-RAN + MEC
Components	Kubernetes + ONAP + Anuket + Magma + local breakout to MEC	5G Core demo + commercial 5G RAN	5G Core demo + O-RAN-SC + E2E network slicing
Value	Fully disaggregated open source 5G core stack with edge computing	E2E 5G network with fully disaggregated open source 5G core with edge computing	Fully disaggregated open source 5G with edge computing with O-RAN
Use Cases	5G FWA, Private 5G, Multi-Access Edge Computing, IoT	5G FWA, Private 5G, Network Slicing, Multi-Access Edge Computing, IoT, 5G Voice Services	Mobile Networks, 5G FWA, Private 5G, Network Slicing, Multi-Access Edge Computing, IoT, 5G Voice Services

5G Core+MEC Phase

Orchestration, LCM, Closed Loop Automation

Magma
Magma Orchestrator

Access Gateway
AMF   SMF
UPF

AKRAINO
ICN blueprint applications

5G UE Emulator
gNB Emulator

N1
N2
N3
N6

Data Network

NFVI (Edge/Cloud Layer)
kubernetes
Open vSwitch
tungstenfabric
OPEN DAYLIGHT
ceph
DPDK DATA PLANE DEVELOPMENT KIT
Anuket

16

5G E2E+MEC Phase

5G+Slicing+O-RAN-SC+MEC Phase

DPDK SUMMIT — NORTH AMERICA

O1,A1

ONAP OPEN NETWORK AUTOMATION PLATFORM **openNESS** OPEN NETWORK EDGE SERVICES SOFTWARE

Anuket **kubernetes**
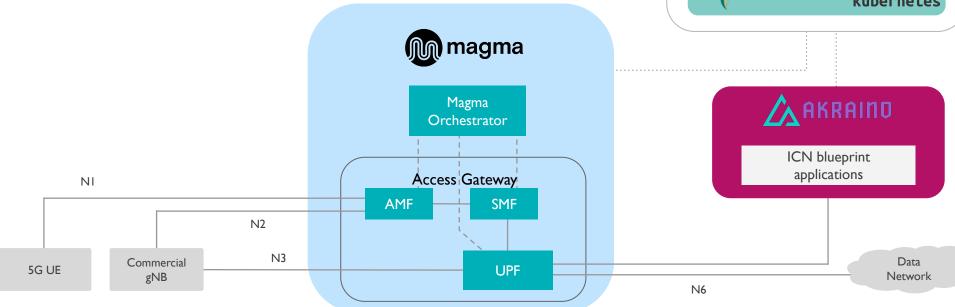
Orchestration, LCM, Closed Loop Automation, Network Slicing, NONRTRIC

O-RAN ALLIANCE
O-RAN Software Community

nRTRIC

O-RU — O-DU

O-CU-C P

O-CU-U P

magma

Magma Orchestrator

Access Gateway

AMF — SMF

UPF

AKRAINO

ICN blueprint applications

Data Network

N1
N2
N3
N6

5GUE

5G Radio

Anuket
kubernetes

tungstenfabric

DPDK DATA PLANE DEVELOPMENT KIT

.io

OvS Open vSwitch

ceph

OPEN DAYLIGHT

NFVI (Edge/Cloud Layer)

Open Networking Priorities 2021
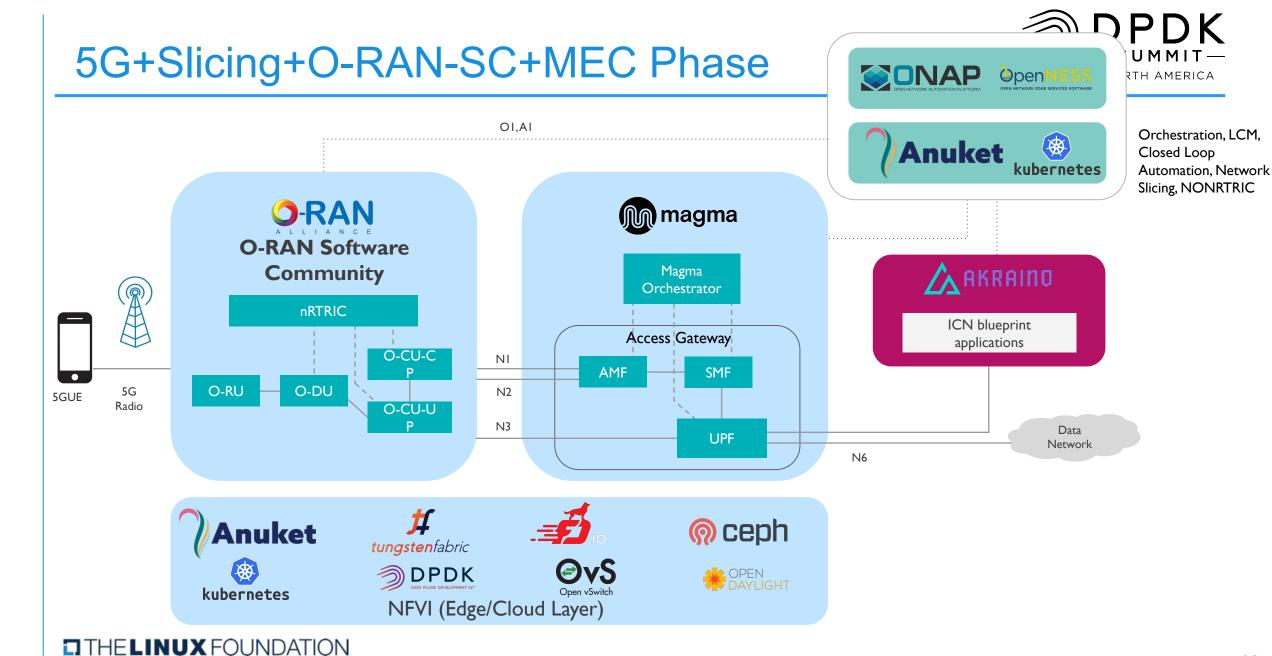
1. Completing the solution stacks to Integrate a fully open networking & edge stack

2. Speeding up "backend interop and deployment process" with Open Compliance

3. Integrated Deployment in Vertical Markets to start embracing, utilizing and building on Networking+Cloud+Edge stacks

DPDK Summit China

- 274 unique registrations
- 205 active attendees on platform
  - 34% from China
  - 18% from India
  - 16% from US

Diversity & Inclusion Badging

The CHAOSS projects awards badges to events in the open source community that foster healthy Diversity and Inclusion practices.
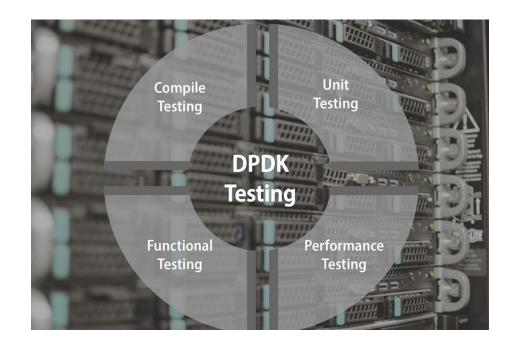
- *The DPDK Summit APAC earned a Gold D&I badge in March 2021*

- *DPDK has been awarded another Gold D&I badge for this North America event!*

Community Lab

- Serves as a neutral testing/benchmarking platform for DPDK developer community.

- Can be used by DPDK members and maintainers for testing, training or demonstrations.

- Gold Members of the project will be able to submit hardware, tests and applications to be run in the community lab, on a priority basis.

Thank you for making this happen !

DPDK 21.02 & 21.05 Releases

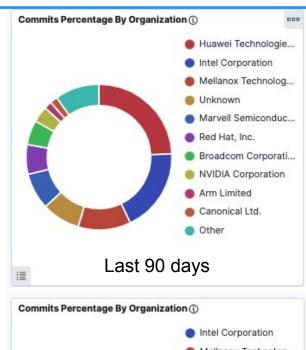**Community Diversity, key value of a successful Open Source Project**
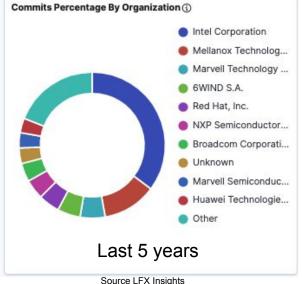
21.05 (21 May 2021)

21.02 (14 February 2021)

Continuously expanding supported set of drivers and enriching features with every iterative release.

Recently:
- Windows support and networking support
- Security enhancements in cryptography and compression capabilities
- Expanded breadth of network drivers
- Continuous upgrades on silicon support

Commits Percentage By Organization

- Huawei Technologie...
- Intel Corporation
- Mellanox Technolog...
- Unknown
- Marvell Semiconduc...
- Red Hat, Inc.
- Broadcom Corporati...
- NVIDIA Corporation
- Arm Limited
- Canonical Ltd.
- Other

Last 90 days

Commits Percentage By Organization

- Intel Corporation
- Mellanox Technolog...
- Marvell Technology ...
- 6WIND S.A.
- Red Hat, Inc.
- NXP Semiconductor...
- Broadcom Corporati...
- Unknown
- Marvell Semiconduc...
- Huawei Technologie...
- Other

Last 5 years

Source LFX Insights

Talking About DPDK

StorageReview

SmartNICs Will Radically Change the Data Center

written by Tom Fenton | March 19, 2021

ZDNet

Google and Intel partner up to speed up 5G application rollout

To deploy 5G software successfully requires fast open-source technology on the cloud, and Intel and Google are teaming up to make that happen.

WikiChip Fuse Chips & Semi News

Data Processing Unit

Marvell Launches 5nm Octeon 10 DPUs with Neoverse N2 cores, AI Acceleration

🗓 June 28, 2021　👤 David Schor　🏷 5 nm, ARM, ARMv9, Data Processing Unit (DPU), Marvell, Neoverse N2, Octeon

ib DAILY

Virtual Switch Offloading Maximizes Data-Center Utilization

Jun 30th, 2021

Find out why virtual switches are being used to support IoT devices, and how leveraging a SmartNIC streamlines the switching process.

Charlie Ashton

BROADPEAK DELIVERS CDN BENCHMARKING TOOL WITH INTEL XEON AND DPDK

By Jo Ruddock | 11 May 2021

Today's agenda

Monday, July 12

4:00pm UTC	Welcome: DPDK Summit NA 2021
4:25pm UTC	DPDK on RISC-V - Stanislaw Kardach, Semihalf
5:00pm UTC	Getting Past Incubation: DPDK for Windows Platform Goes Mainstream - Harini Ramakrishnan, Microsoft; Pallavi Kadam, Intel; Tal Shnaiderman & Dmitry Kozlyuk, NVIDIA
5:35pm UTC	Break
5:55pm UTC	Using Virtual Functions with DPDK in OpenShift 4 - Ip Sam & Wuxin Zeng, Red Hat
6:30pm UTC	High Density Scalable Cloud Gateway for Cloud Networking - Hongjun Ni & Pan Zhang, Intel
7:05pm UTC	Closing Remarks - Day 1