



# Radisys

connect open  
BROADBAND

ONF Broadband Meetup,  
Istanbul

Francisco de Carvalho

October 19<sup>th</sup>, 2023

## Enabling Service Providers to Become Digital Experience Providers

US-based with global sales and operations

Leading contributor to open standards organizations and initiatives

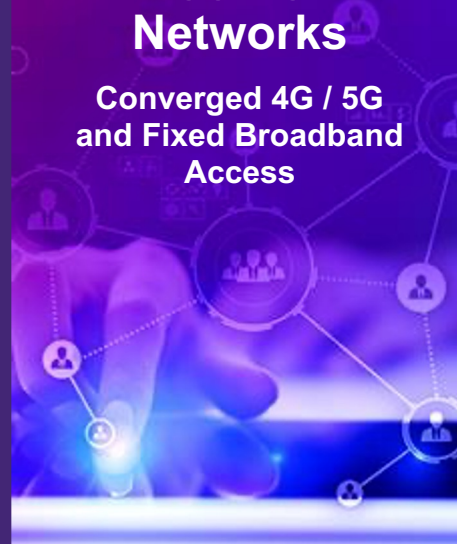
### Digital End Points

Smart feature phone, CPEs, Smart home, IoT Sensors and Gateways, Embedded Platforms for DPI, Security, and Medical Imaging



### Open & Disaggregated Networks

Converged 4G / 5G and Fixed Broadband Access



### Rich Applications

Real time Communication and Digital Engagement, Fixed and Wireless Core



### Network Services

End to End Lifecycle – Consulting, Planning & Designing, Deployment, Integration, Optimization



Enable

Integrate

Manage

**Headquarters:** Hillsboro, OR United States

**Founded:** 1987

**Wholly owned subsidiary of** Jio Platforms Limited (JPL)

# Open: Our Vision for the Networks of Tomorrow

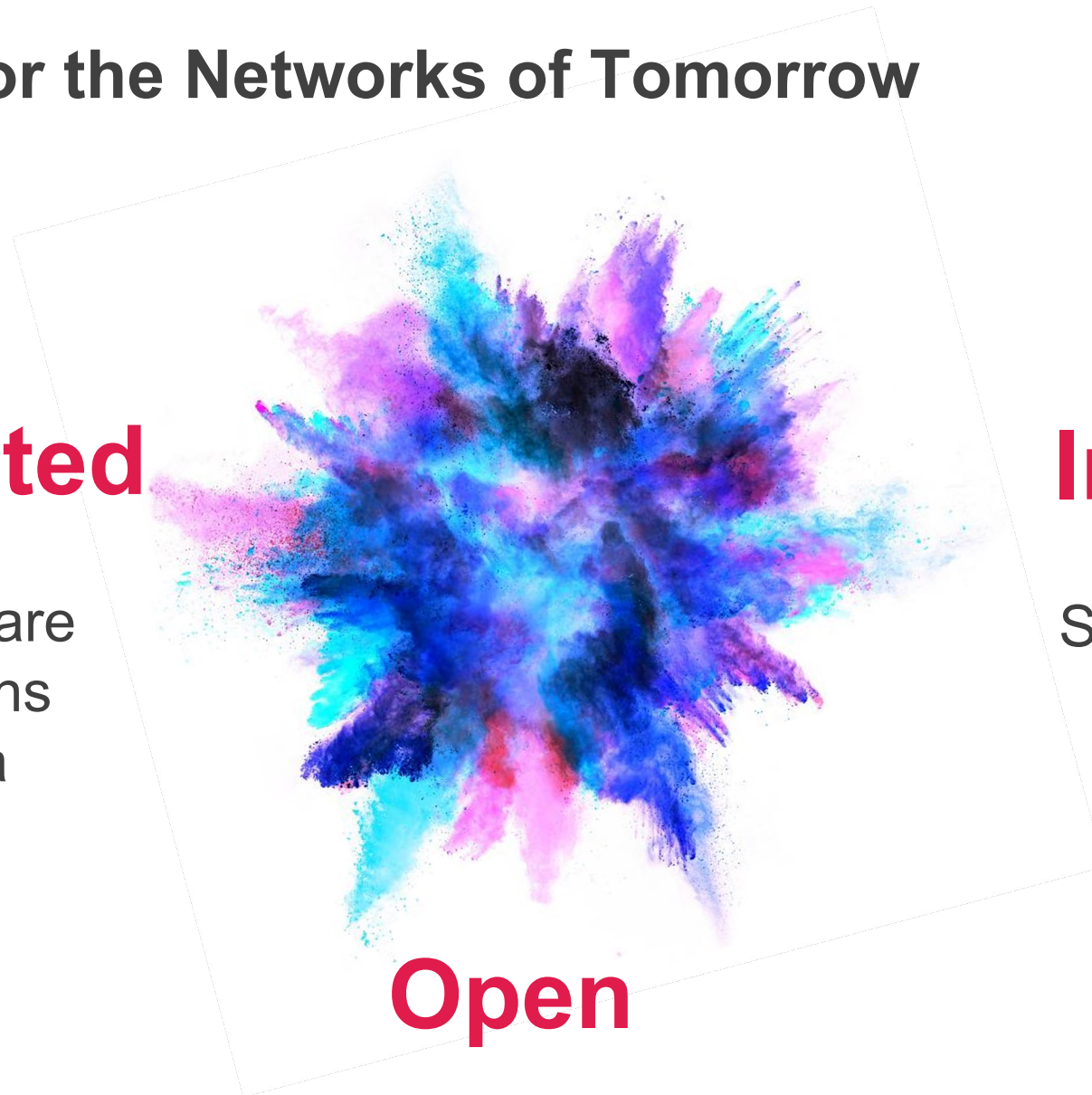
*Creating new digital experiences*

## Disaggregated

Software / Hardware  
Network Functions  
Control / Media

## Intelligent

Software Defined  
Programmable  
AI/ML

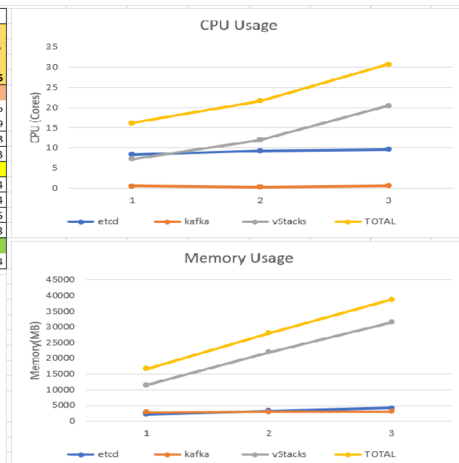


## Open

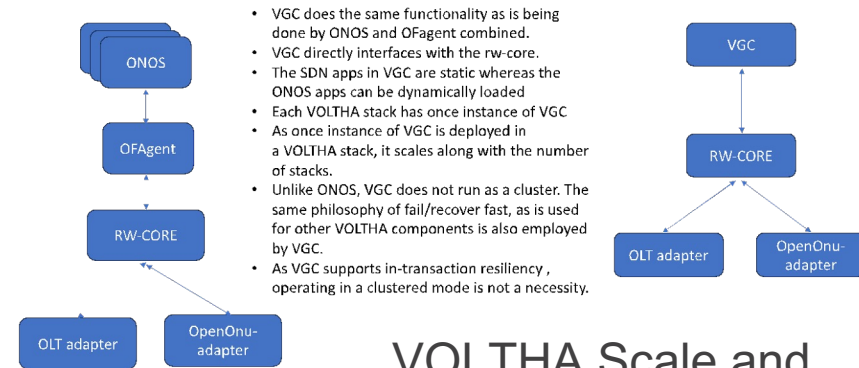
Software , Hardware, Interfaces

CPU AND MEMORY CONSUMPTION AT 25K SUBS

Setup Config	Berlin 141 setup		
	vStacks: 2 OLTs per vStack: 8 ONUs per OLT: 512	vStacks: 3 OLTs per vStack: 11 ONUs per OLT: 512	vStacks: 3 OLTs per vStack: 16 ONUs per OLT: 512
#ONUs	8192	16896	24576
CPU(Cores)			
etcd	8.35	9.26	9.66
kafka	0.53	0.32	0.59
vStacks	7.78	17.04	20.48
TOTAL	16.16	21.62	30.73
MEMORY(MB)			
etcd	2225.01	3210	4140.44
kafka	2904.44	2912.58	3024.44
vStacks	11487.56	21809.95	31506.15
TOTAL	16617.01	28022.53	38671.03
Time-taken(seconds)			
ONUs PORT-UP	144	295	484



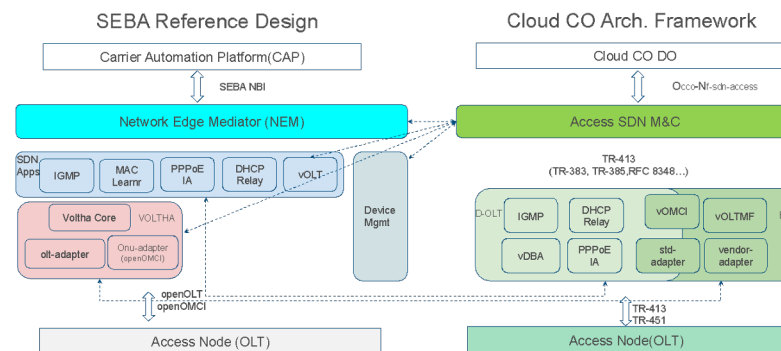
## ONOS vs VGC Deployment



- VGC does the same functionality as is being done by ONOS and OFAgent combined.
- VGC directly interfaces with the rw-core.
- The SDN apps in VGC are static whereas the ONOS apps can be dynamically loaded
- Each VOLTHA stack has once instance of VGC
- As once instance of VGC is deployed in a VOLTHA stack, it scales along with the number of stacks.
- Unlike ONOS, VGC does not run as a cluster. The same philosophy of fail/recover fast, as is used for other VOLTHA components is also employed by VGC.
- As VGC supports in-transaction resiliency, operating in a clustered mode is not a necessity.

## VOLTHA Scale and Performance

Mapping: ONF Reference Design and Cloud-CO Technical Report(s)



## VOLTHA Scale and Performance

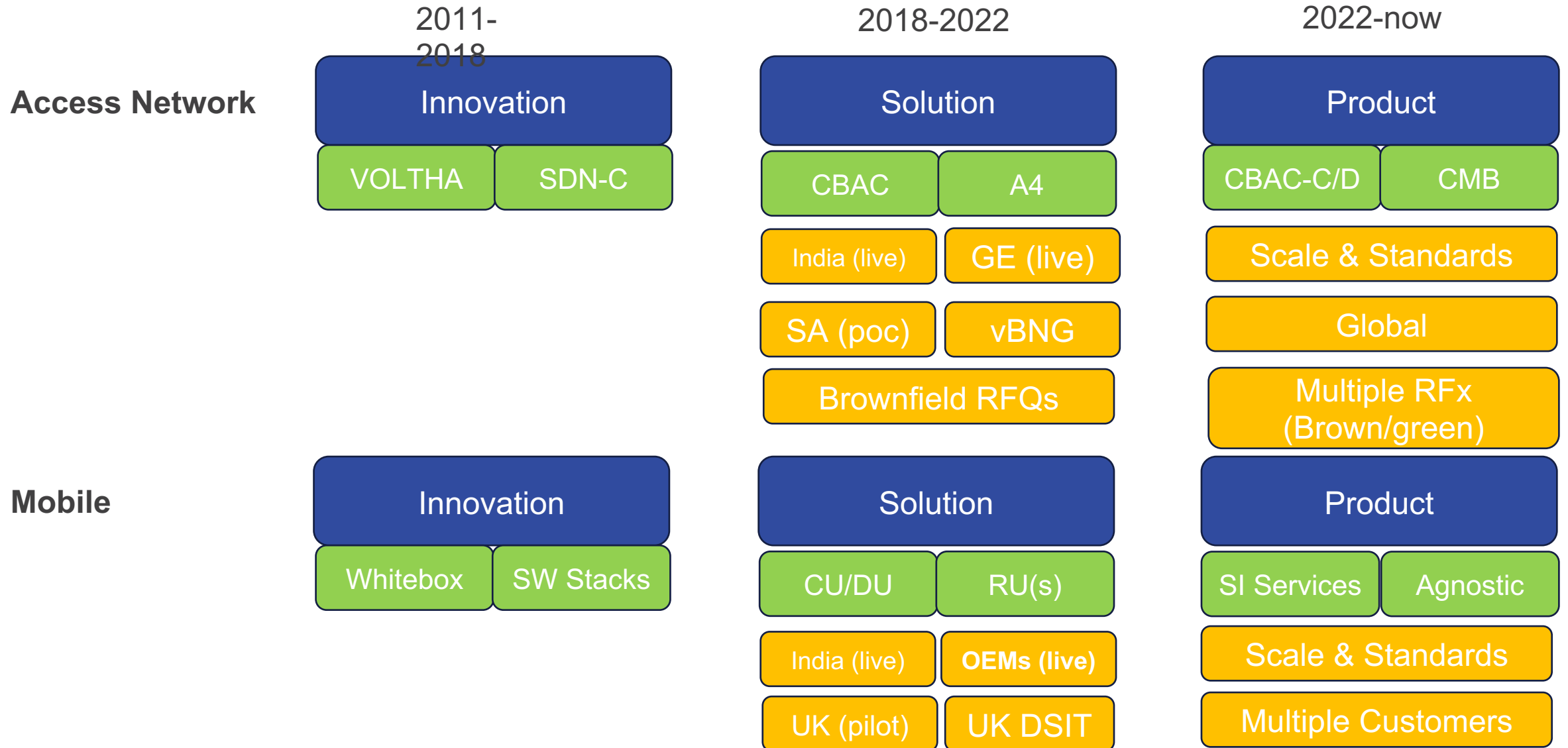


## Alignment & Liaison

- ONF TST and BBA Board members, BBF-ONF Tiger Team
- BBF BoD and project Authors
  - Subscriber Sessions Steering (BNG), WT-474
  - Access Node Disaggregation, WT-477

Repo	Contributor	No commits, Lines added/removed
device-management-interface	Abhilash Laxmeshwar	1 commit, 1,273 ++ /408 --
	Amit ghosh	9 commits, 4,838 ++/1,778 --
voltha-protos	Abhilash Laxmeshwar	4 commits , 3,773 ++/2,796 --
voltha-openonu-adapter-go	Praneeth kumar Nalmas	3 commits, 645++ /330-
	Nikesh krishnan	4 commits, 720++/124--
voltctl	Praneeth kumar Nalmas	2 commits, 745++/244—
Voltha-go	Nikesh krishnan	4 commits, 739++/170—
openolt-adapter	Praneeth kumar Nalmas	1 commit, 133++/35--
	Nikesh Krishnan	7 commits, 870++/38--
Voltha-lib-go	Abhilash laxmeshwar	2 commits 50 ++/2 --
	Amith ghosh	1 commit 3,969 ++/2 --
	Vinod kumar	1 commit 204 ++/0 --
	Nikesh krishnan	2 commits, 21++/14-
Openolt	Nikesh krishnan	1 commit 210 ++/18 --
VGC	Shridhar Ravindra Akash Soni	All of he VGC code contribution is from Rladisys. There are lot of commits and fixes here.

# The last 18 months – disaggregation has taken off



# Software Defined Access and IP Solutions

OSS / BSS integration

**connect**modular  
BROADBAND

**E2E Automation, Observability and Changeability**

**ONT**

- Lifecycle management
- Telemetry

**Access Node**

- Lifecycle management
- Session management
- Telemetry
- Capacity management

**Aggregation / A10NSP**

- Lifecycle management
- Load balancing
- Redundancy management
- Session management
- Telemetry
- Capacity management

**BNG**

- Lifecycle management
- Session steering
- Observability / Network telemetry also on session level
- High availability
- Capacity management

**P-Router / Peering**

- Lifecycle management
- Observability / Network telemetry
- Traffic management
- Capacity management

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Thank You