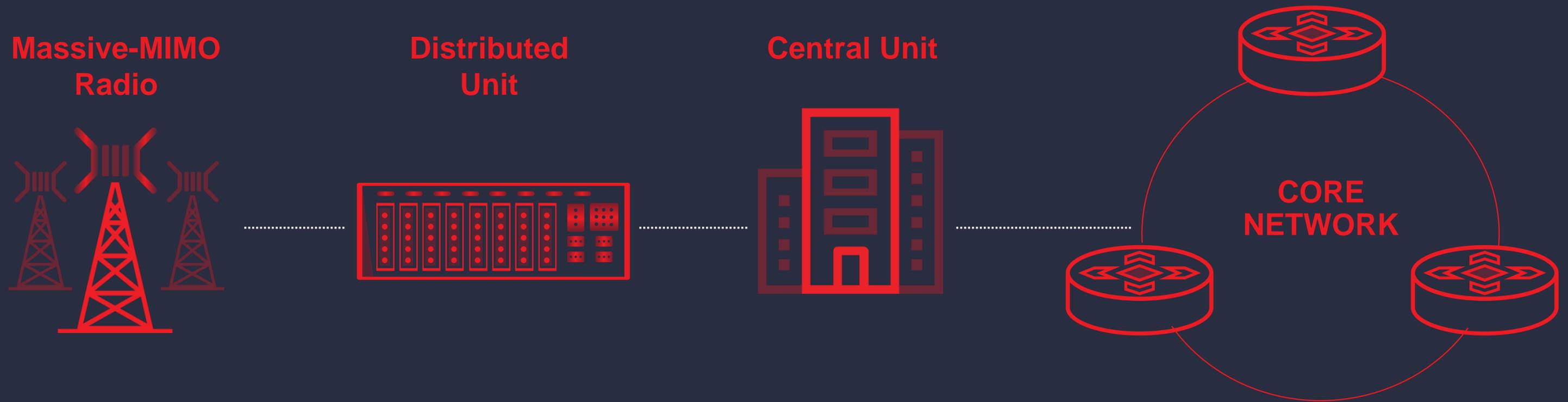


# Xilinx Disruptive Technology in 5G



# 5G Radio's Start With RF

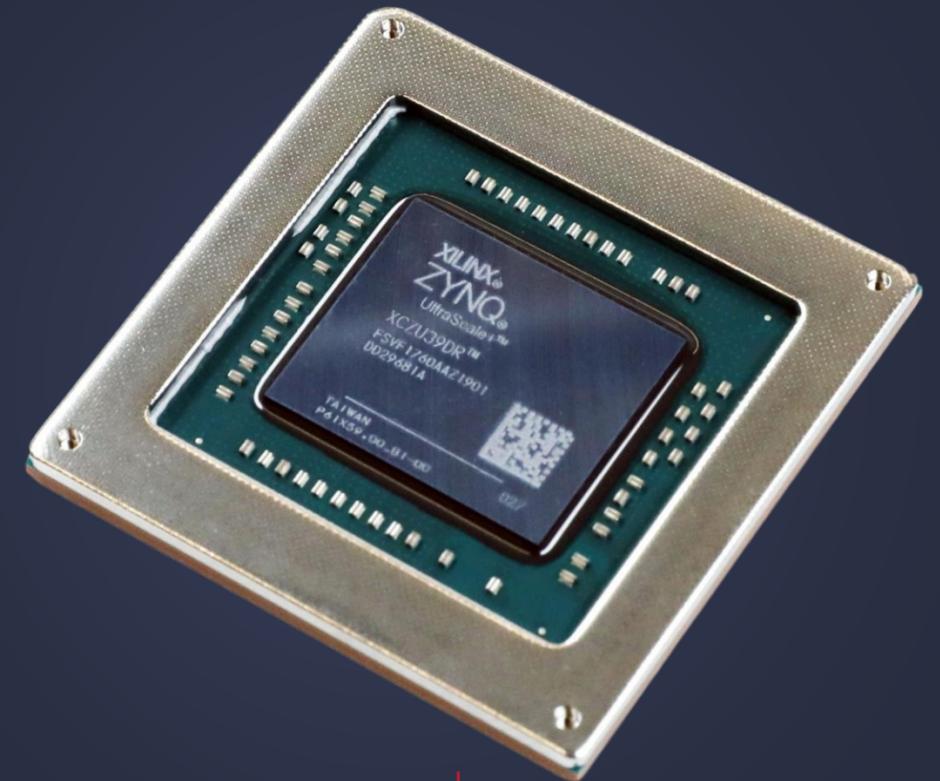
## Xilinx RF Integration History

**2012**  
First RF Test  
Chips

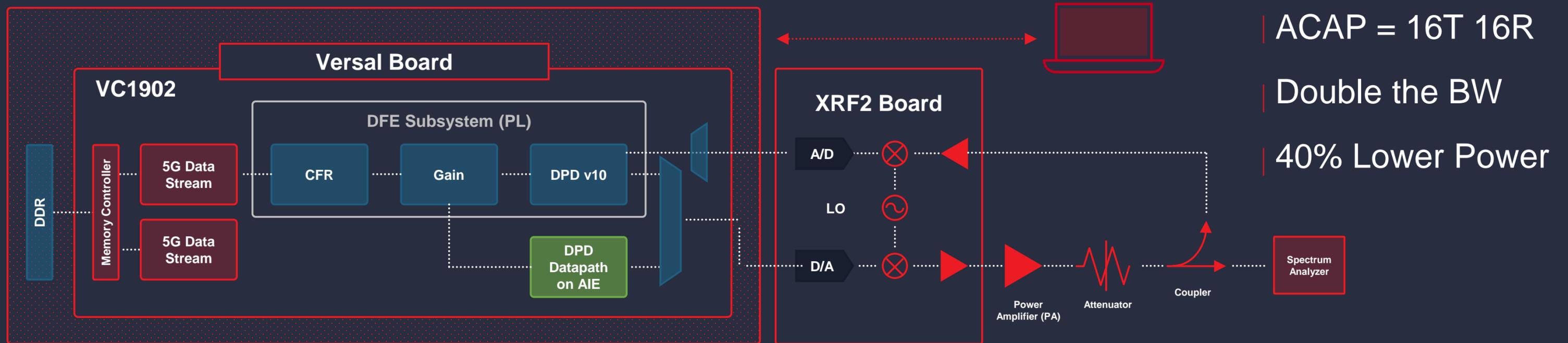
**2017**  
First ZU+  
RFSoc Shipped

**2018**  
First 5G Radio  
Deployment with  
RFSoc

Multiple 5G Radio  
Deployments Underway with  
Xilinx Zynq US+ RFSoc



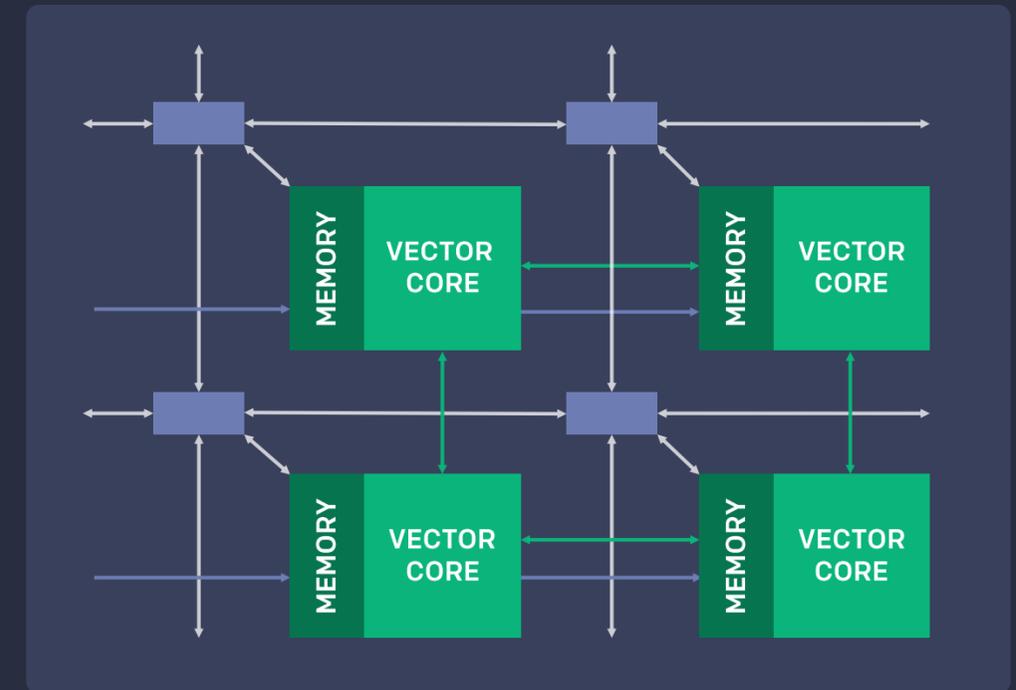
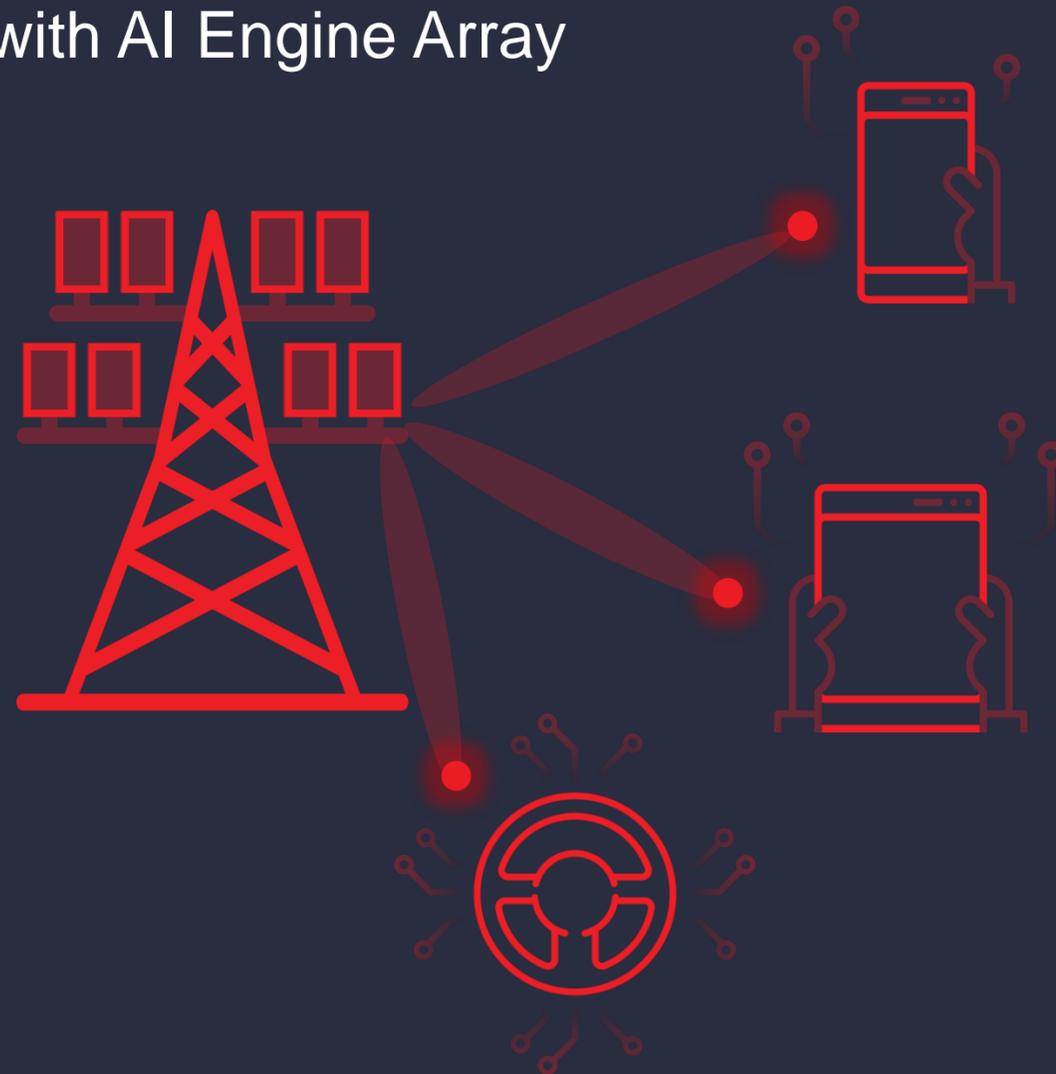
# 5G Digital Front End Evolution in 7nm



# Spectral Re-Use with Beamforming

- | Beamforming is Computationally Expensive
- | High-Density Vector Math Needed
- | Versal Devices with AI Engine Array

Massive-MIMO  
Antenna

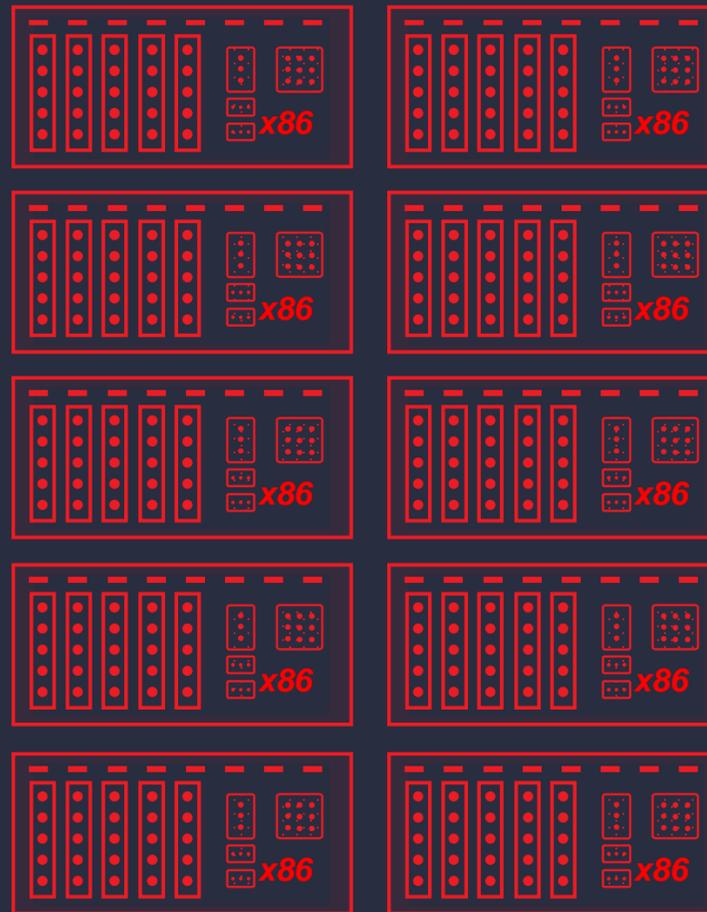


AI Engines = 4x Vector Compute for 5G vs. FPGA

# Telco Virtual BBU Acceleration Cards

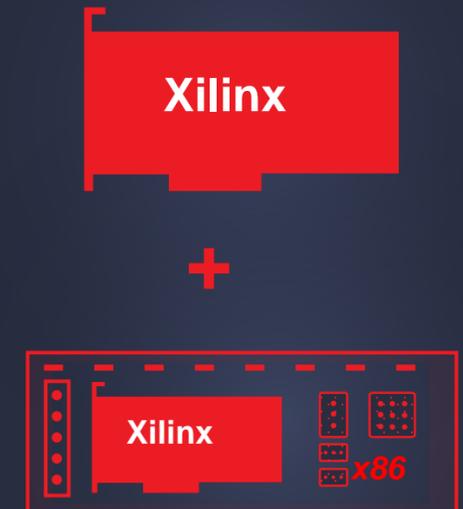
10

Xeon Servers



1

Xilinx Accelerated Server



10x CPU Efficiency With L1 Offload

Reference Design Today:

- LDPC = 4x faster with FPGA
- HARQ = 3x faster with FPGA
- 2–3x more users per cell

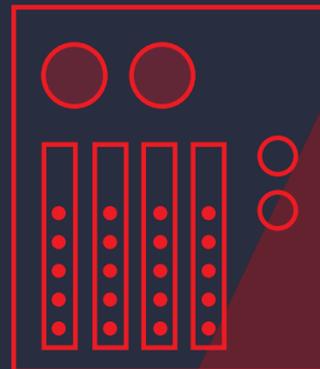
Single Server with Xilinx Accelerator Card replaces 10 XEON Commodity Servers!

# Core Networks are our Core Strength



## Converged Access

- | DOCSIS
- | PON
- | Ethernet



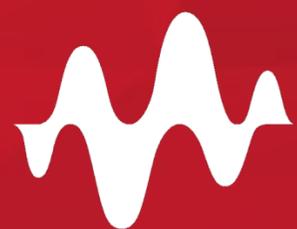
## Edge

- | Traffic Management
- | Flex-Ethernet
- | AI-based Security



## Core

- | Flex-OTN
- | Integrated Crypto
- | 112G PAM4
- | 600G MAC



**KEYSIGHT**  
TECHNOLOGIES

**Nathan Jachimiec**  
Keysight Labs



Versal is here!

Vitis is here!

...Now It's Your Turn

XDF 2019

