QUALCOMM®

Perform

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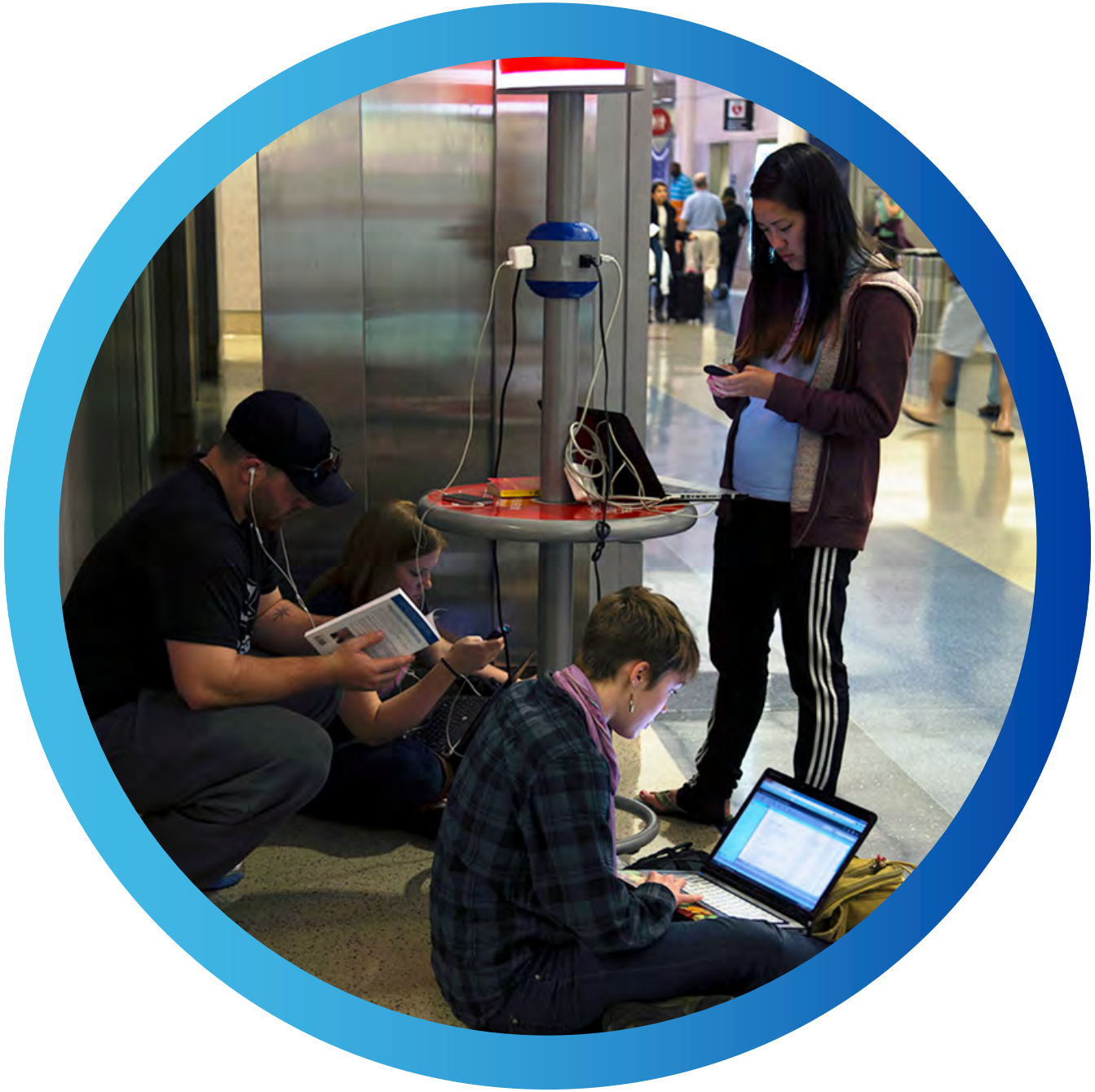
Qualcomm Technologies, Inc.
@qualcomm

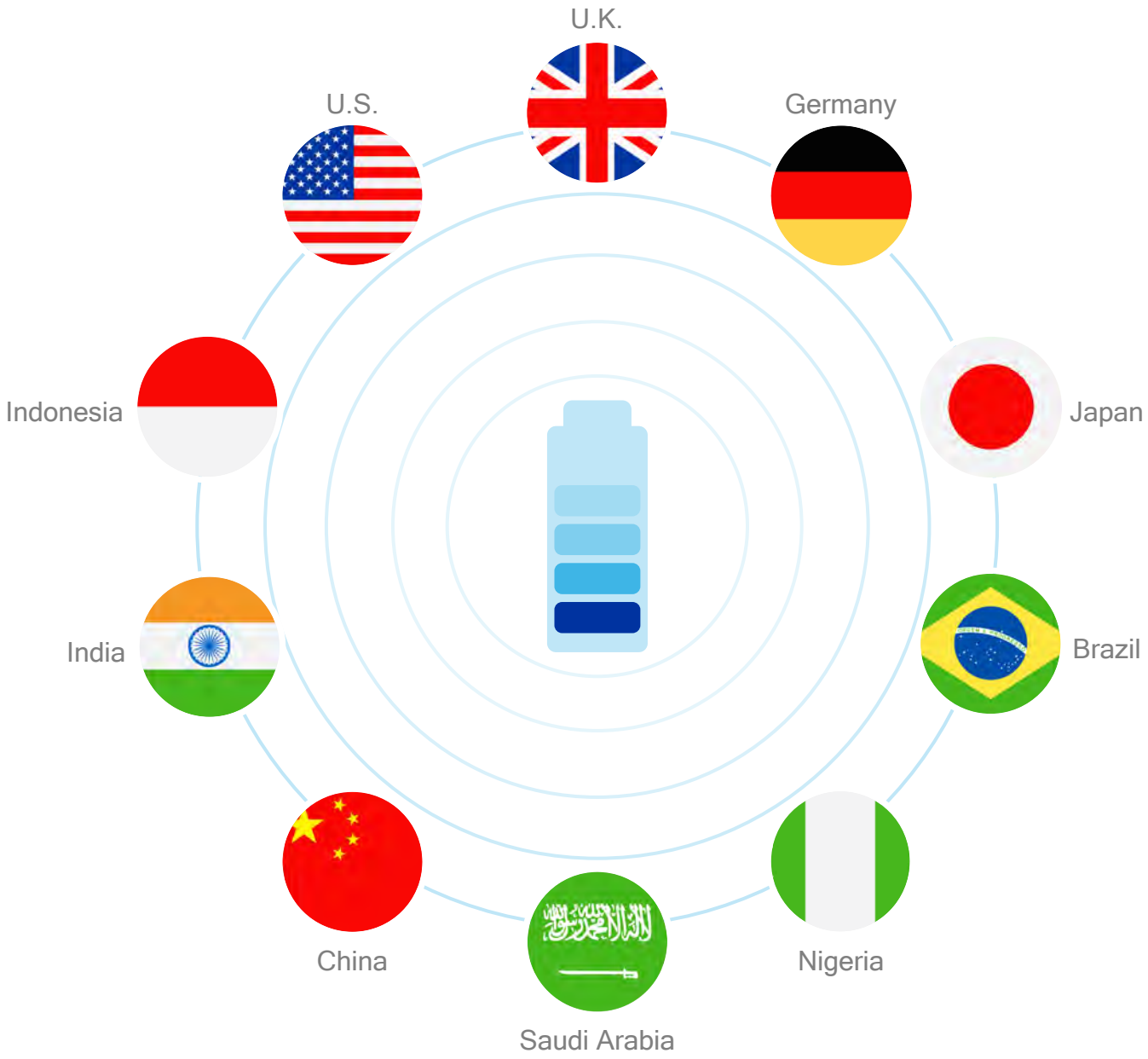
More powerful and longer lasting mobile experiences

Because nobody wants to be this person



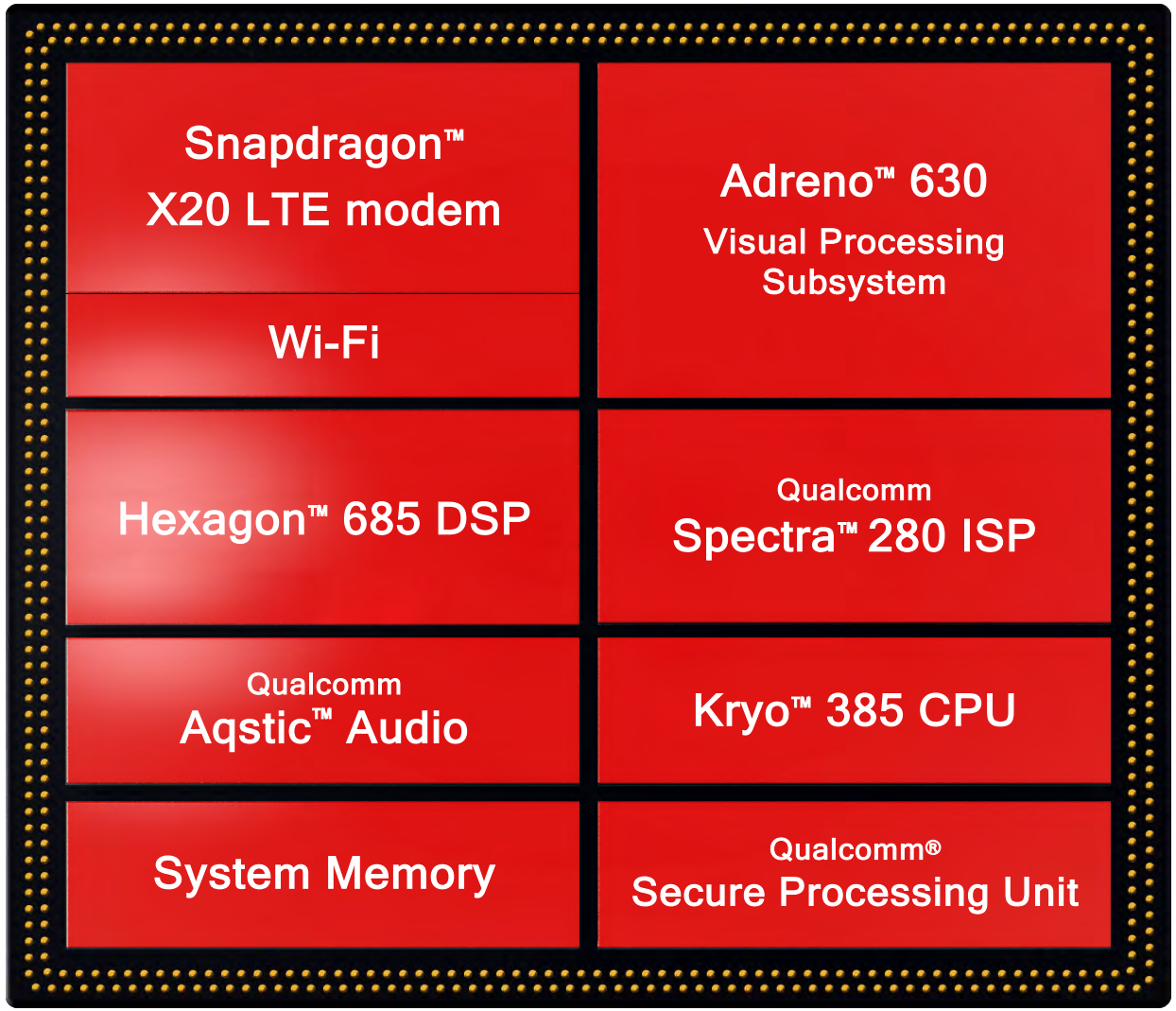
Battery life

The #1 smartphone purchase criteria worldwide

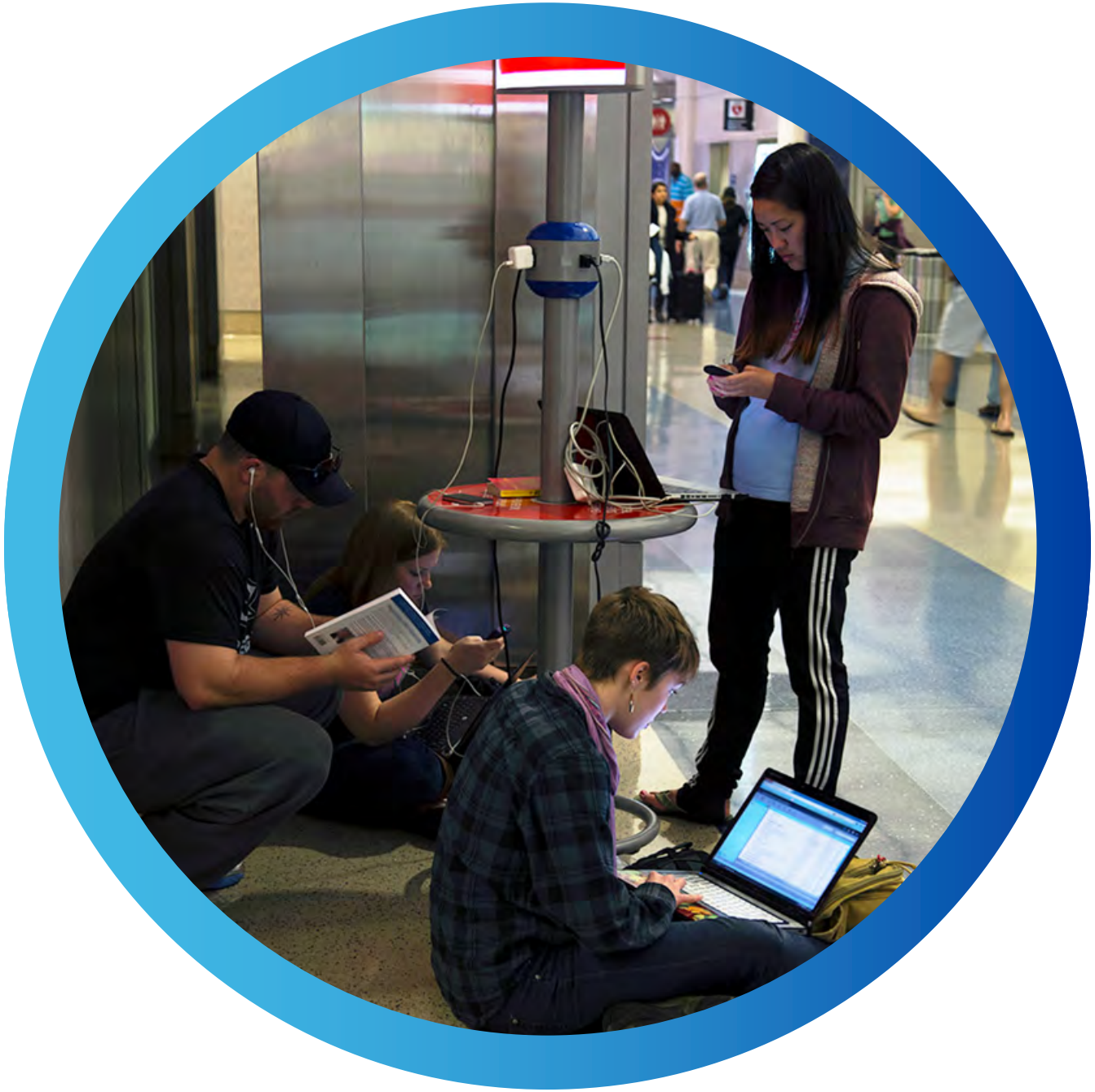


New Architectures throughout SDM845

For entirely new levels of performance and battery life



Because nobody wants to be this person



Power #1 purchase criteria for laptops, too

All-Day Battery Life

20+ Hours of Video Playback

Ultra HD
(4k)

ULTRA HD™ PREMIUM

Continuous 4K UHD Premium capture: The demand for a more brilliant life

4+
hours

Continuous VR gameplay: The demand for new realities

3+
hours

Ultra HD Voice:
The demand for louder, clearer, longer voice

2+
days

Qualcomm Quick Charge 4

0 to 50% in 15 minutes

Industry Leading Charging Method

160+ Mobile Devices

Compatible Superset of USB-PD

One charger for everything

"*Quick Charge is designed to increase the battery charge of a device by up to 50% in 15 minutes. Actual results may vary depending on device design."

Higher performance experiences through power efficient architectures

KRYO 385

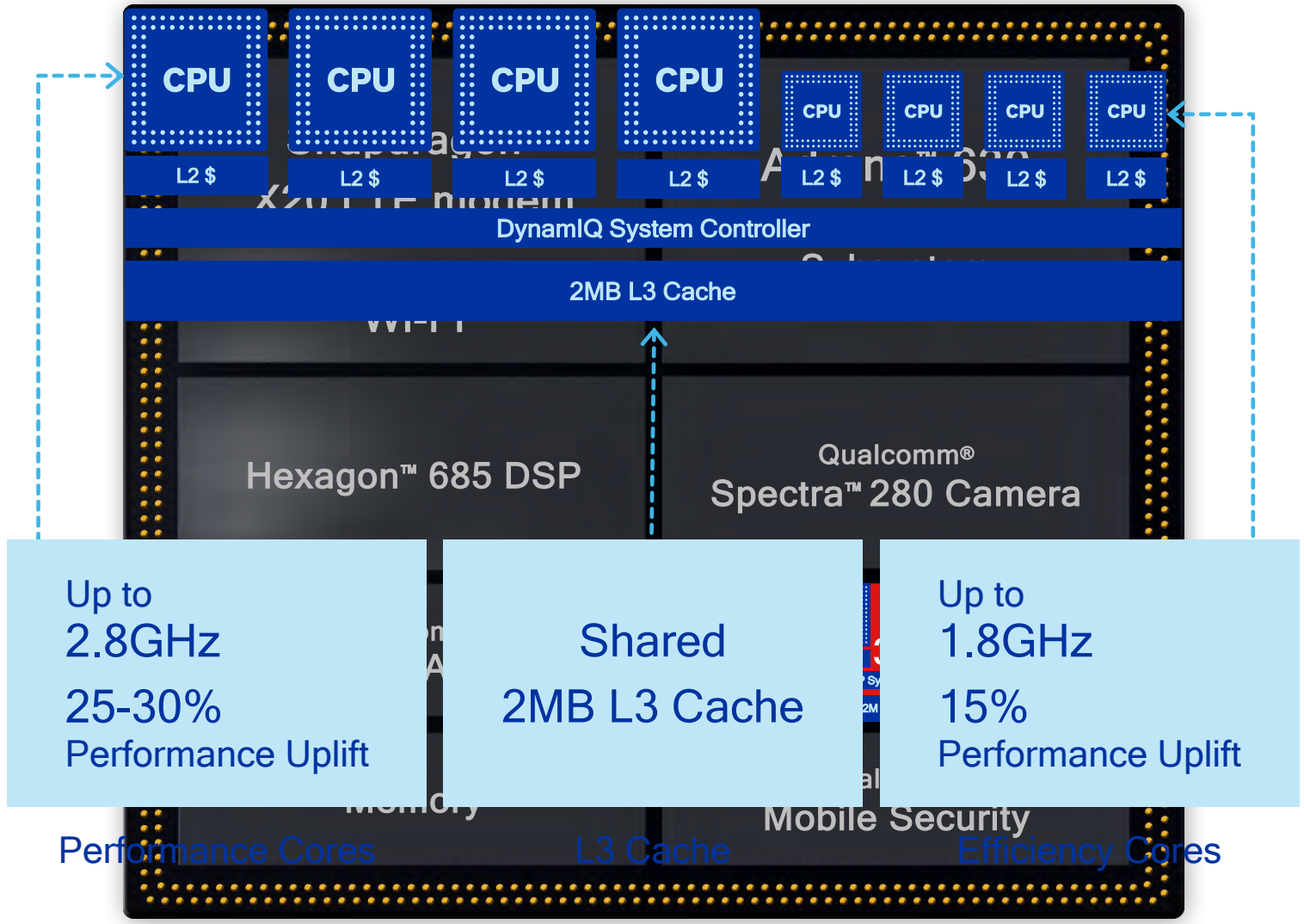
Built on Arm Cortex™ Technology
Latest 2nd Generation 10LPP FINFET

Microarchitecture

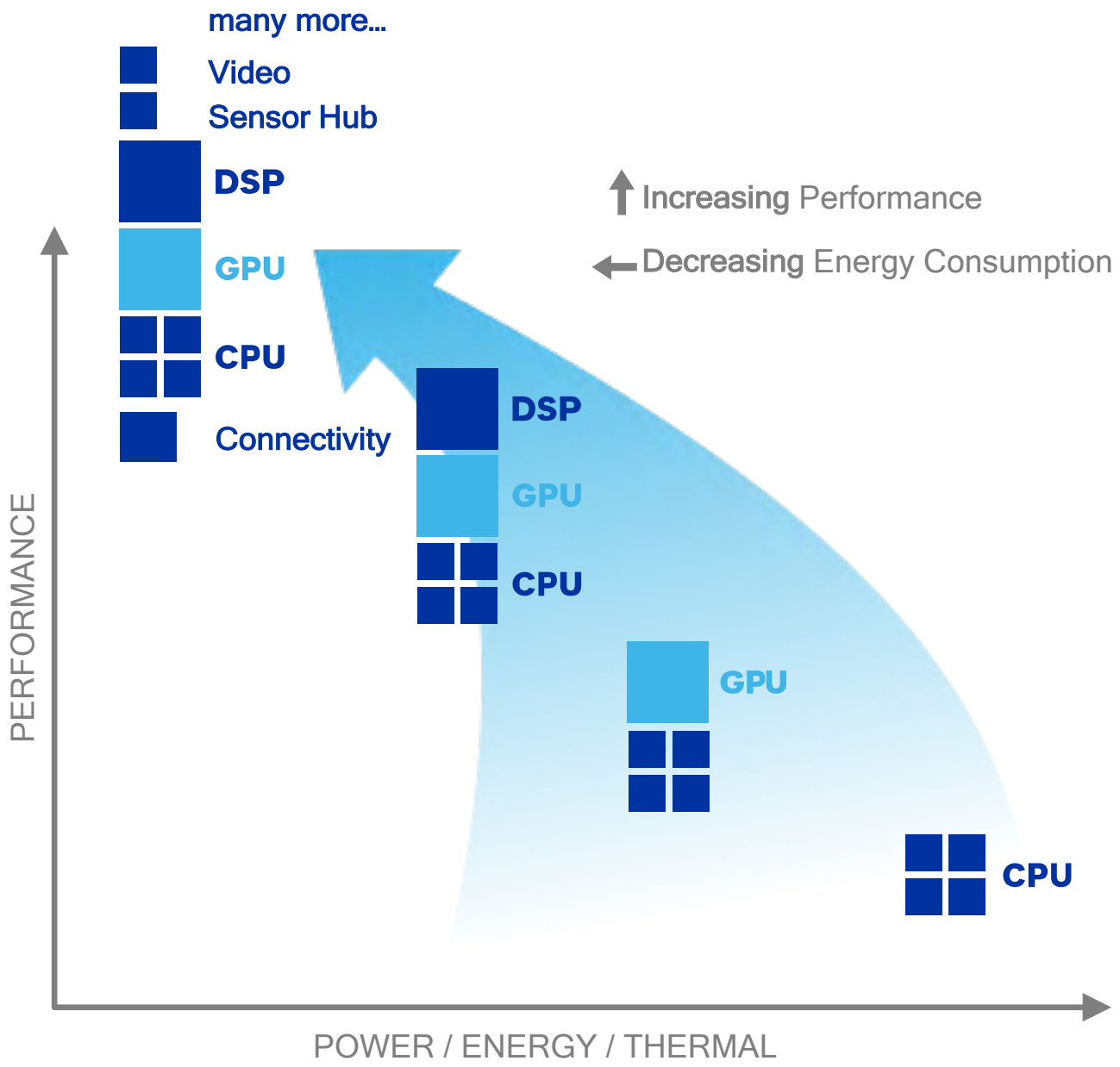
- Private per core L2 cache
- Arm DynamIQ technology
- 3 separate clock and voltage domains

Customizations for system integration

- Bus QoS service for memory throughput
- Page table additions for security



Heterogeneous compute for All-Day battery life



AR

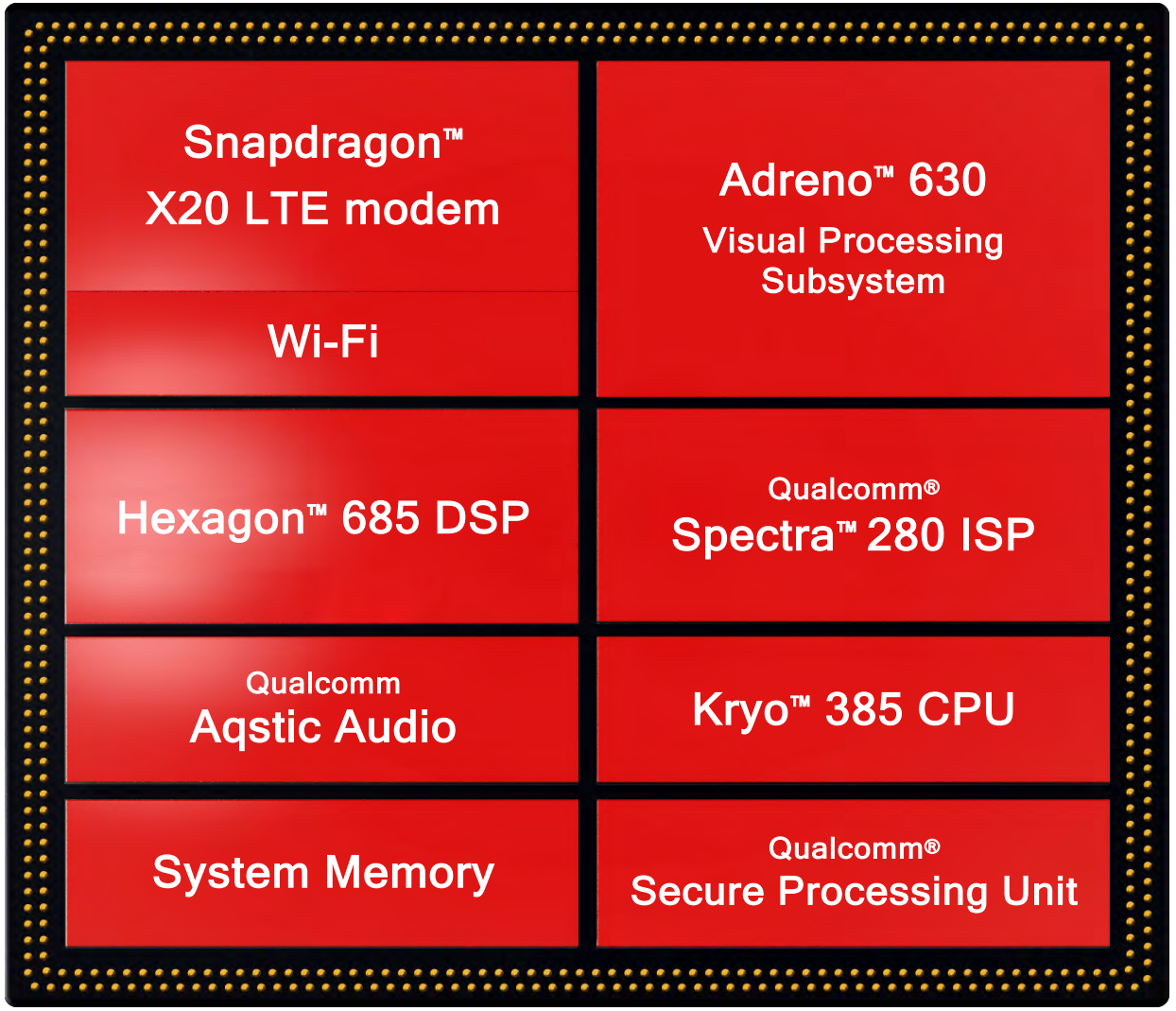
Truly heterogenous approach

Adreno 630
Visual Processing Subsystem: Significant upgrades in power and performance

30%
Better graphics performance

30%
power reductions

2.5x
faster display throughput



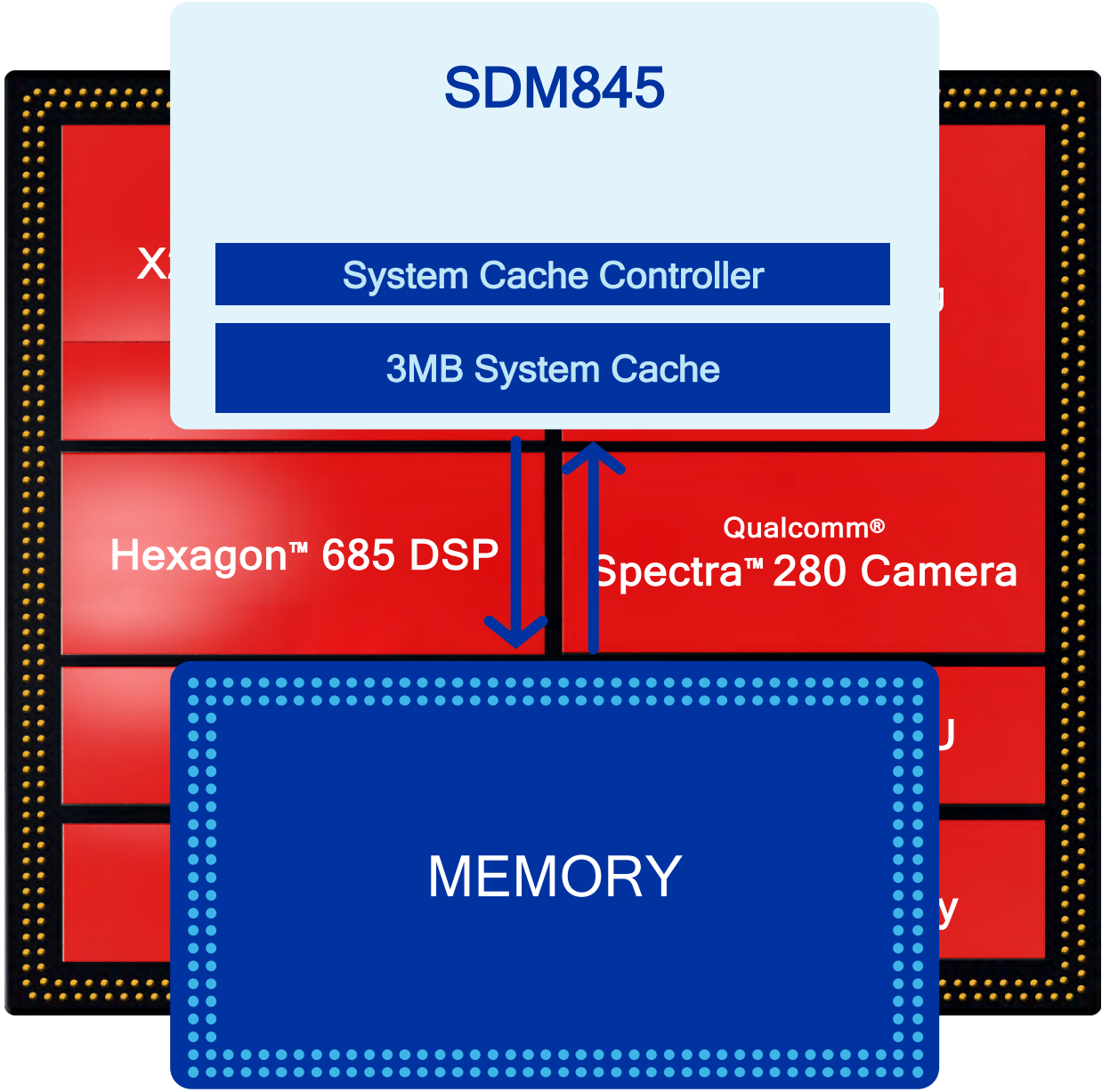
Compared to Snapdragon 835

System Cache

3MB

Reduces power by limiting memory access bandwidth 40-75%

System performance uplift



Vector Math

Sudoku?

5	3			7				
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1
7				2				6
	6					2	8	
			4	1	9			5
				8			7	9

Tensors, Matrices, and Vectors, oh my!

Scalar

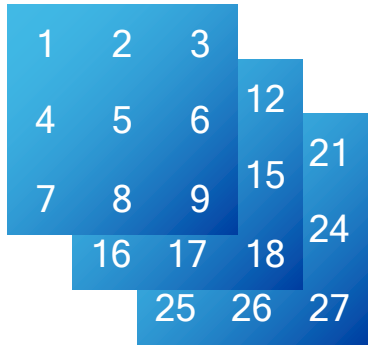
0th order Tensor

Vector

1st order Tensor

Matrix

2nd order Tensor



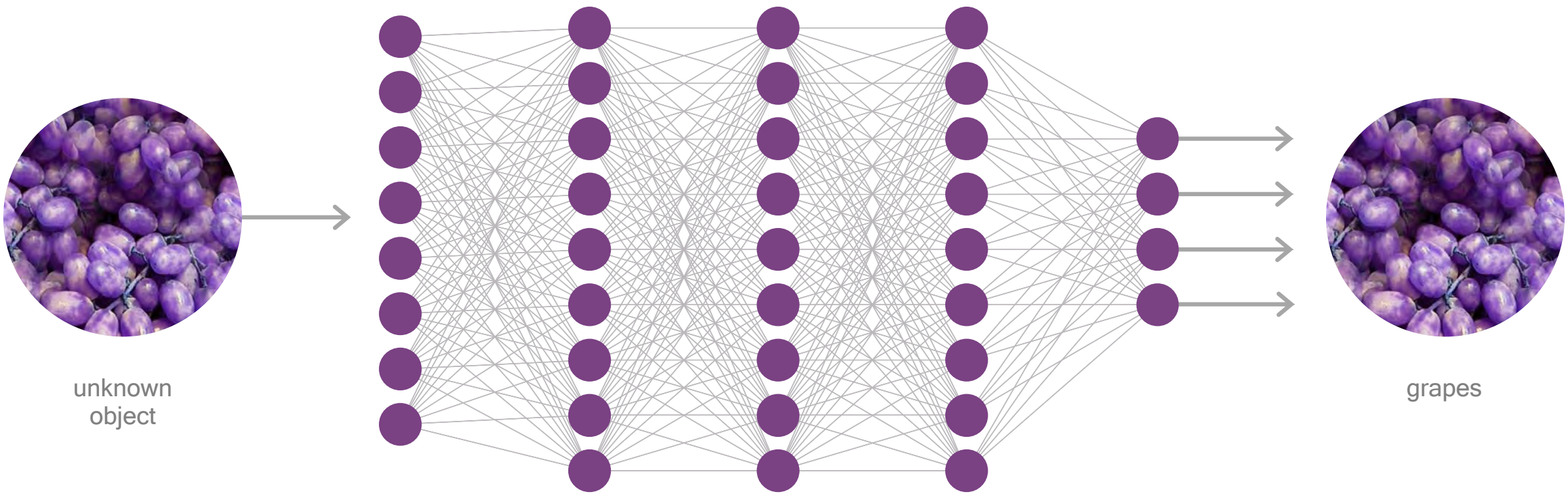
Tensor

3rd order Tensor

Tensor

4th order Tensor

Vector Math is the foundation of deep learning

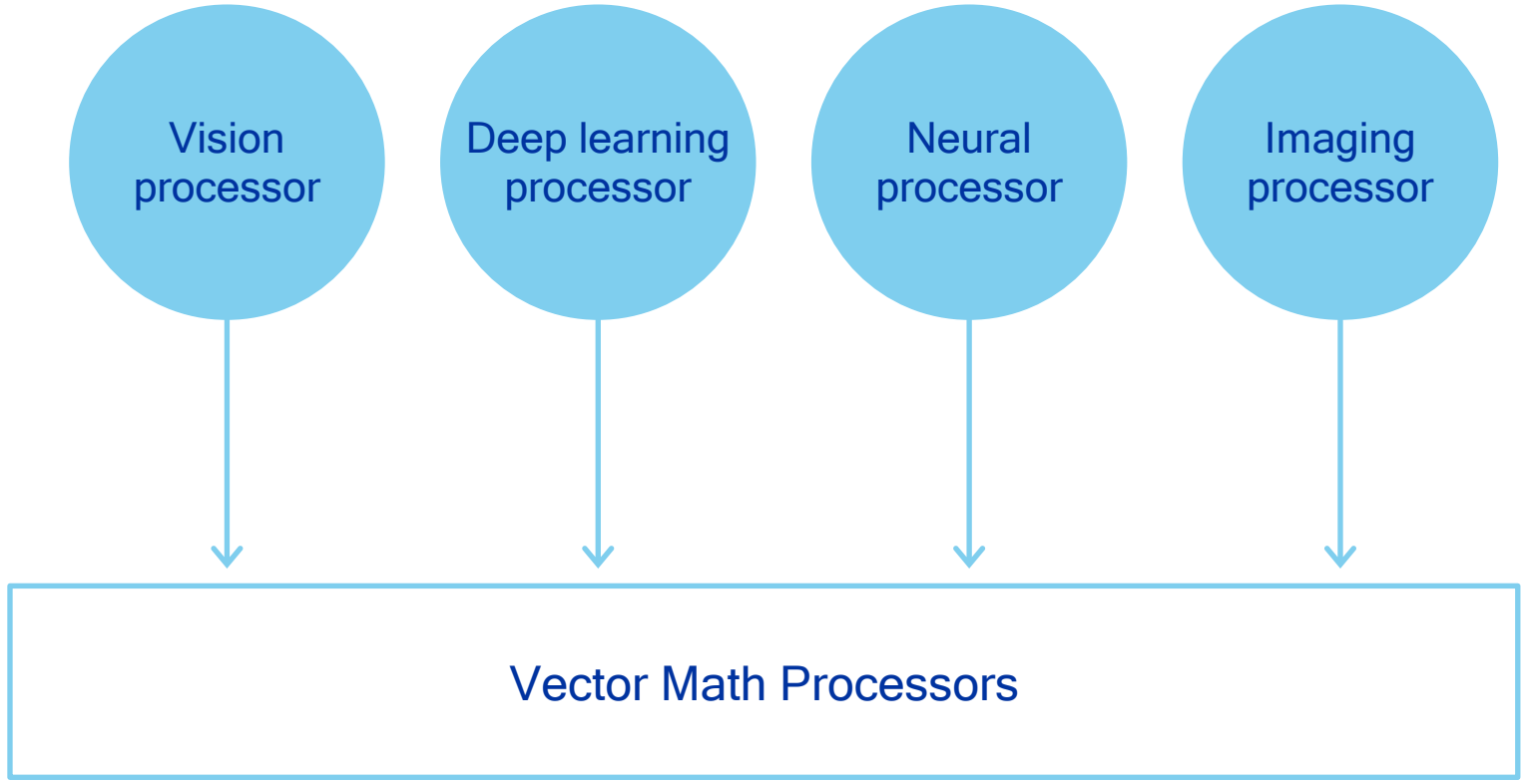


Hexagon 685: 3rd Generation Vector DSP: Optimizing power and performance for AI & Imaging

2015
SDM820
Hexagon 680

2016
SDM835
Hexagon 682

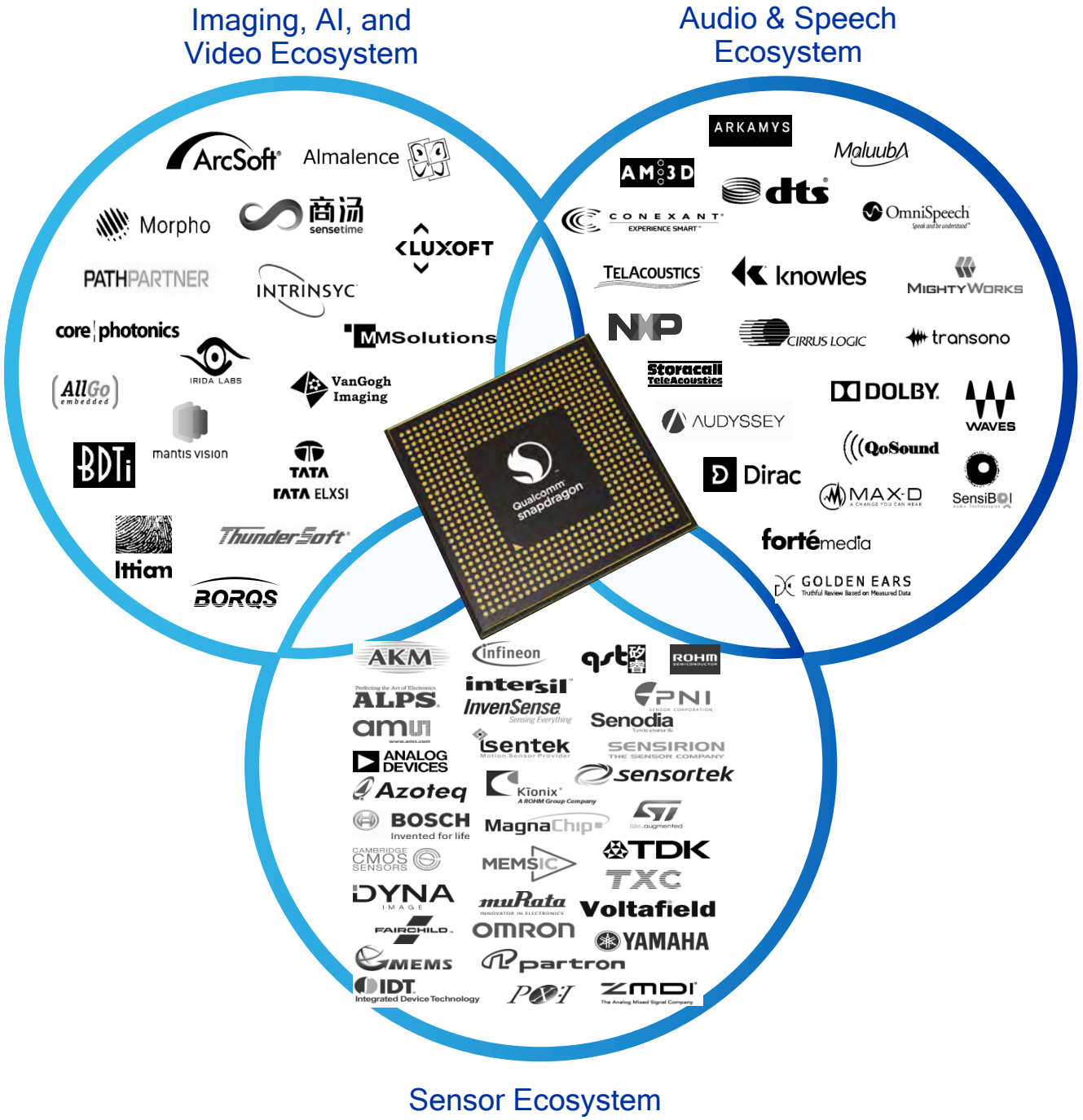
2017
SDM845
Hexagon 685



The Hexagon Ecosystem

Power efficient software differentiation

Hexagon Vector DSP (HVX)
Hexagon Scalar DSP (Audio)
Hexagon All-Ways Aware Hub (Sensor)



Developing for Hexagon

Qualcomm® Snapdragon™ Neural Processing Engine

Software Development Kit

Halide

Language for high performance image processing

TensorFlow

Open-source library for machine intelligence

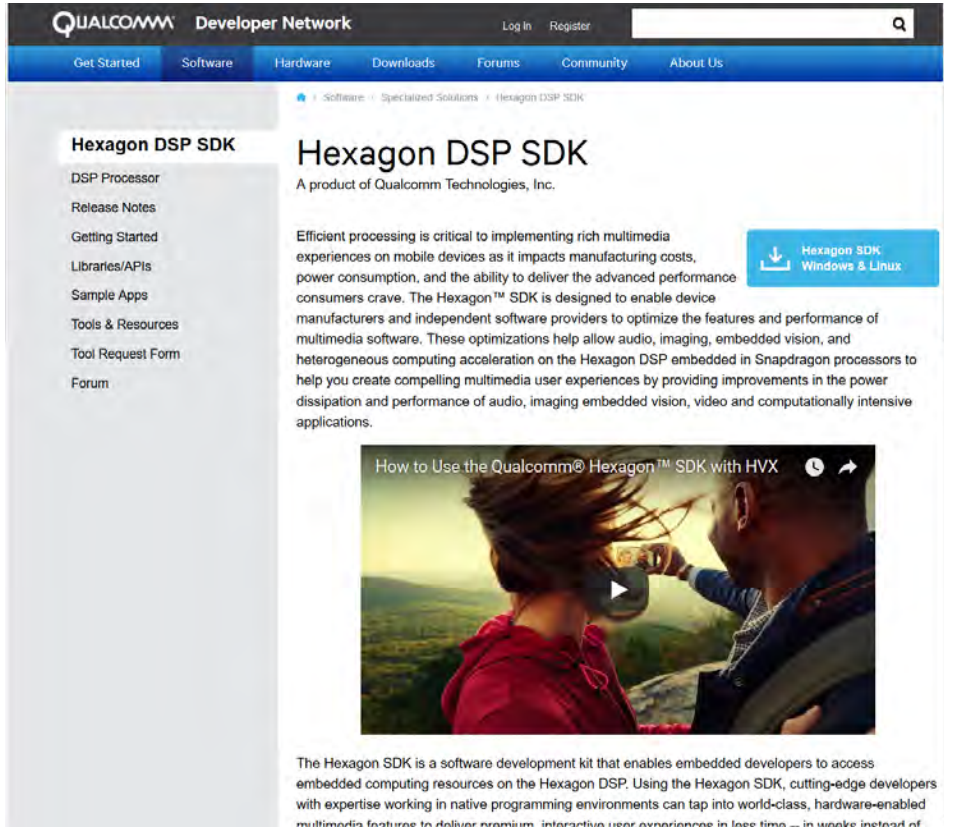
Qualcomm Developer Network

Hexagon DSP SDK

https://developer.qualcomm.com/software/hexagon-dsp-sdk

Forum for development questions:

https://developer.qualcomm.com/forums/software/hexagon-dsp-sdk



The true test of performance:

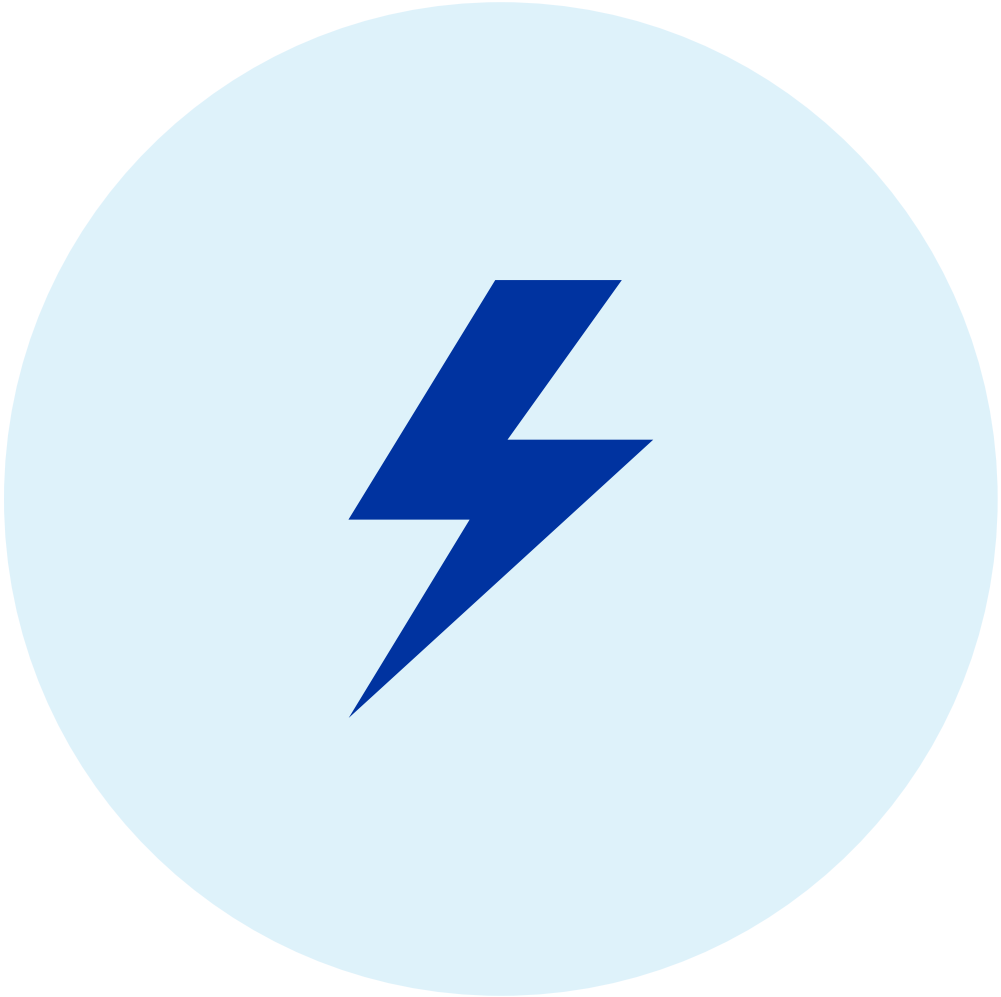
Fastest connections,
in the most demanding places

Performance highlights

Multi-hour and multi-day battery life across key experiences

New architectures featuring 3rd gen Hexagon Vector DSP for AI

Connected by the fastest modem



Thank you

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