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This presentation contains forward-looking statements concerning Advanced Micro Devices, Inc. (AMD) including, but not limited to, the features, functionality, availability, timing, expectations and expected benefits of AMD's products including AMD's 2nd Generation Threadripper™, which are made pursuant to the Safe Harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are commonly identified by words such as "would," "may," "expects," "believes," "plans," "intends," "projects" and other terms with similar meaning. Investors are cautioned that the forward-looking statements in this presentation are based on current beliefs, assumptions and expectations, speak only as of the date of this presentation and involve risks and uncertainties that could cause actual results to differ materially from current expectations. Such statements are subject to certain known and unknown risks and uncertainties, many of which are difficult to predict and generally beyond AMD's control, that could cause actual results and other future events to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. Investors are urged to review in detail the risks and uncertainties in AMD's Securities and Exchange Commission filings, including but not limited to AMD's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018.

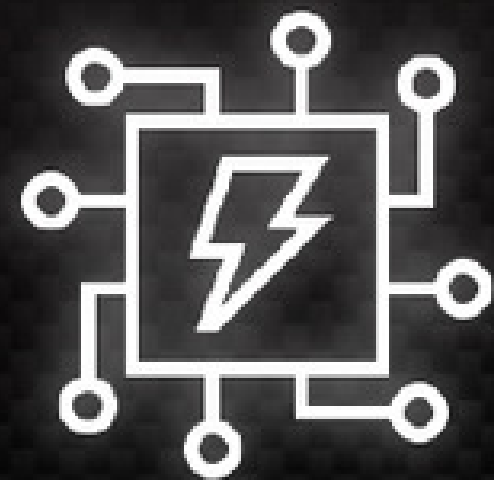


BUILDING 2nd GEN AMD RYZEN™ THREADRIPPER™ CPU

TECH DAY

JOE MACRI

CORPORATE FELLOW AND CTO, COMPUTING AND GRAPHICS BUSINESS GROUP



POWERFUL MULTI-THREAD
PERFORMANCE



MASSIVE I/O
FOR ENTHUSIASTS



OUR MOST PREMIUM
PROCESSOR DIES



HIGHLY SCALABLE
SOC DESIGN

THE “ZEN+” ARCHITECTURE

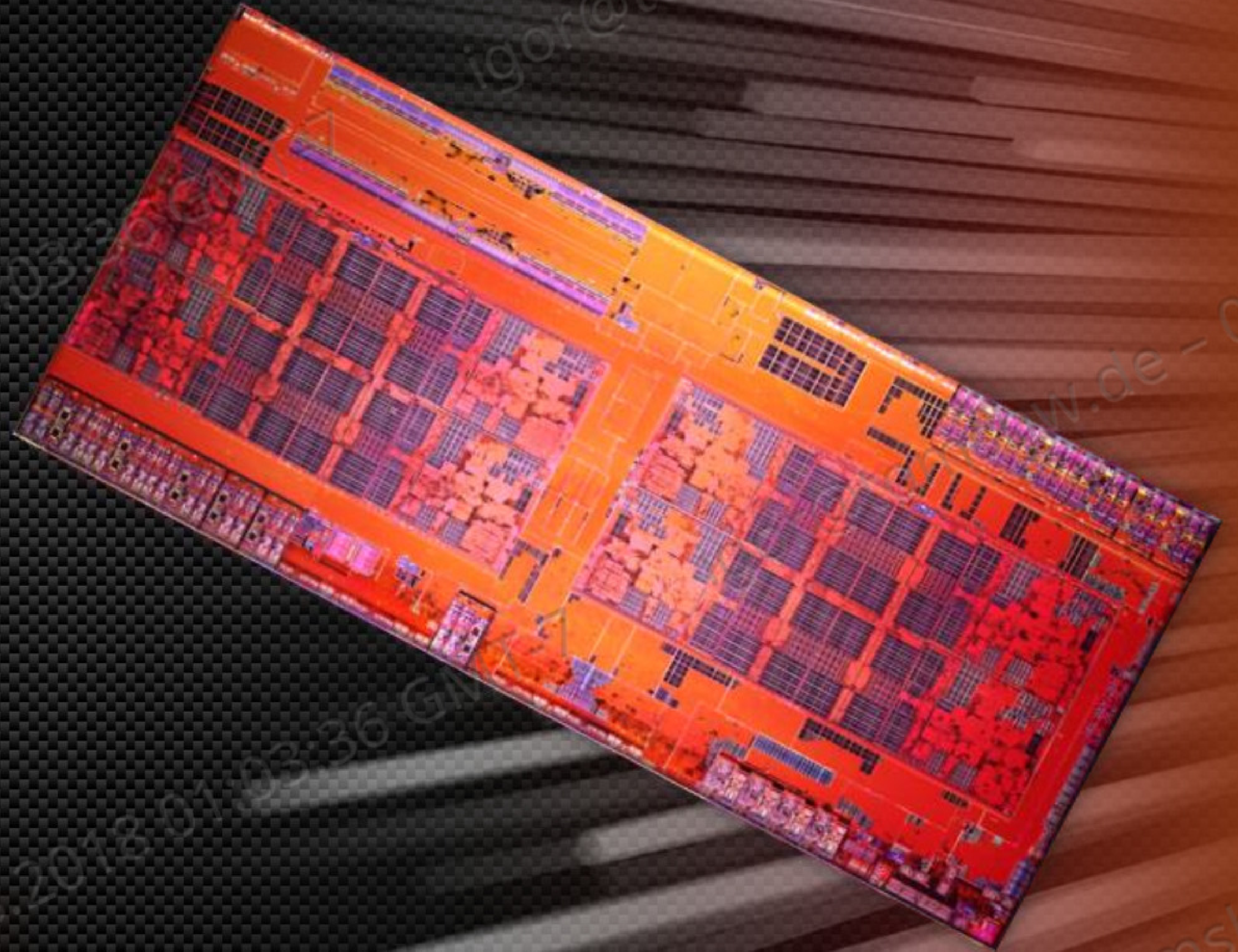
Up to 15% Better L3 Cache Latency

Up to 9% Better L2 Cache Latency

Up to 8% Better L1 Cache Latency

Up to 2% Better Memory Latency

Versus AMD “Zen” architecture in 1st Gen AMD Ryzen™ Threadripper™*



12nm PROCESS

In 2nd Gen AMD Ryzen™
Threadripper™ CPUs

IMPROVED TRANSISTOR PERFORMANCE

Top clocks speeds raised from 4.2 → 4.4GHz

~80-120mV vcore reduction at any clock



AMD SENSEMI TECHNOLOGY

Intuitive Optimization Designed for Highest Performance at Lowest Power



Precision Boost 2

Fine-grain frequency control for maximum app performance



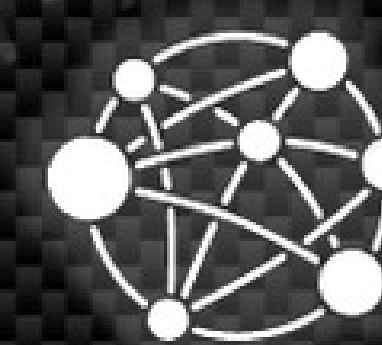
XFR 2

Improve performance by leveraging thermal headroom



Pure Power

Smart sensors work in concert for cool and quiet computing



Neural Net Prediction

A neural net-based branch predictor optimizes app performance



Smart Prefetch

Fast cache prefetchers keep the system fed

NEW

PRECISION BOOST 2

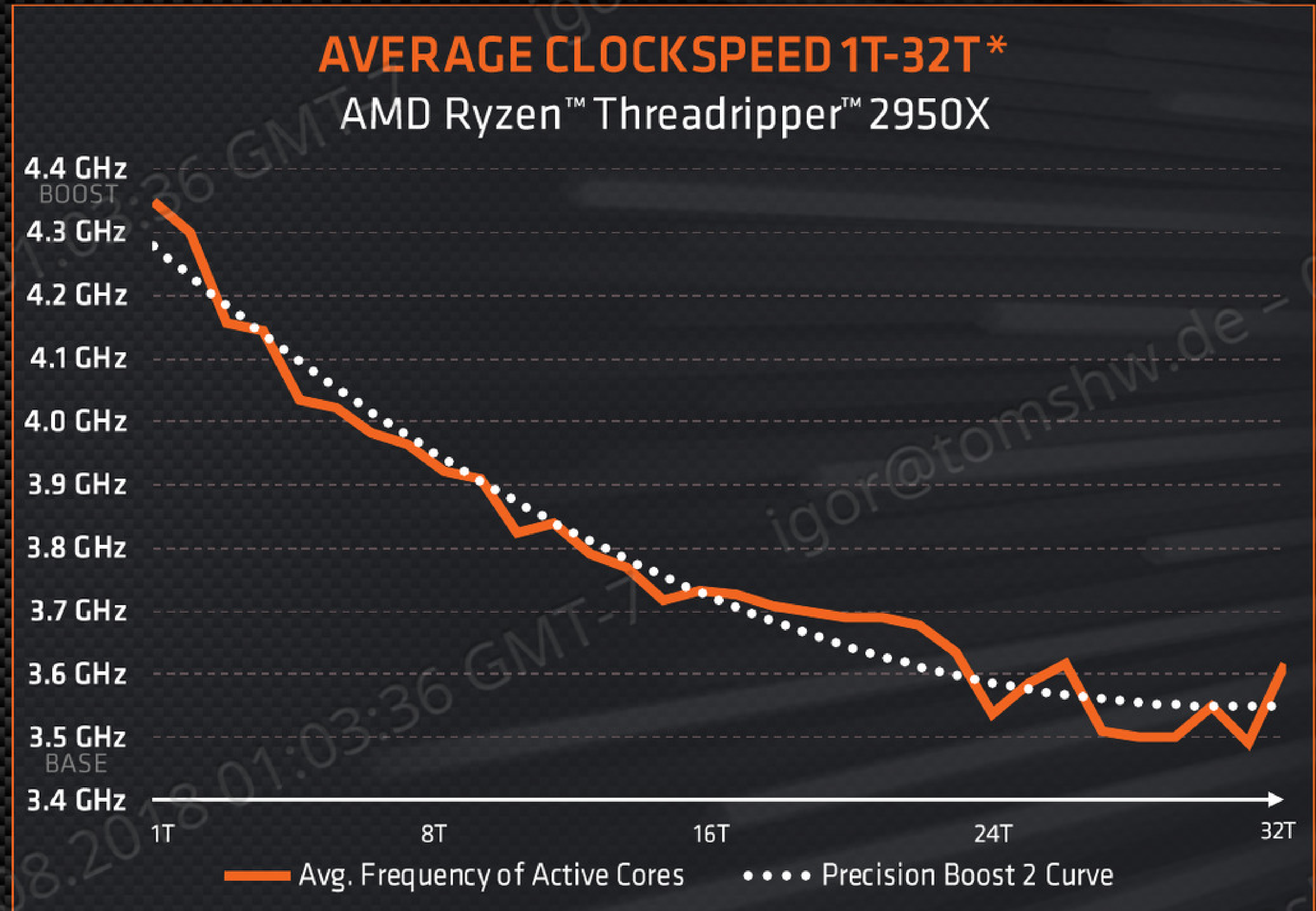
In AMD SenseMI Technology

Substantial clockspeed increases for real multithreaded workloads

Retires “4-core” v. “all-core” boost for a linear/graceful model

Governed by core temp, VRM current, SoC power

Still 25MHz granularity for optimal clock selection



* Per-core average clockspeed measured with AMD internal toolsets using the “OCCT” application to spawn 1 to *n* threads pinned sequentially to each available thread in the processor. System configuration: AMD Ryzen™ Threadripper™ 2950X, Corsair H100i CLC, 20C ambient temperature, 4x8GB DDR4-3200 (14-14-14-28-1T), Asus Zenith X399 Extreme (BIOS 0008), GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD.

NEW

PRECISION BOOST 2

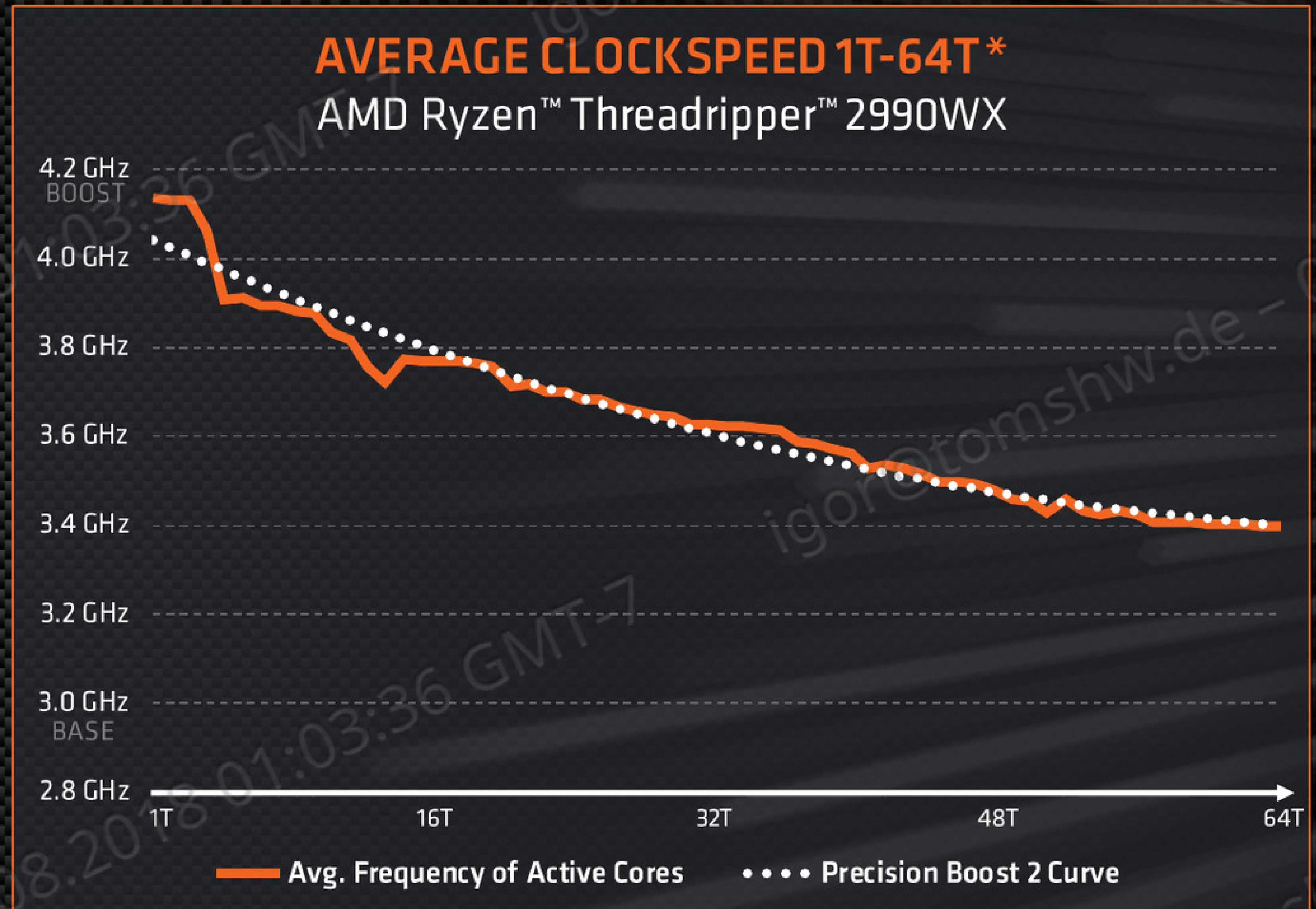
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* Per-core average clockspeed captured with AMD internal toolsets using the “OCCT” application to spawn 1 to *n* threads pinned sequentially to each available thread in the processor. System configuration: AMD Ryzen™ Threadripper™ 2990WX, Enermax Liqtech TR4 360 CLC, 20C ambient temperature, 4x16GB DDR4-2667 (16-18-18), Asus Zenith X399 Extreme (BIOS 0008), GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD.

EXTENDED FREQUENCY RANGE 2

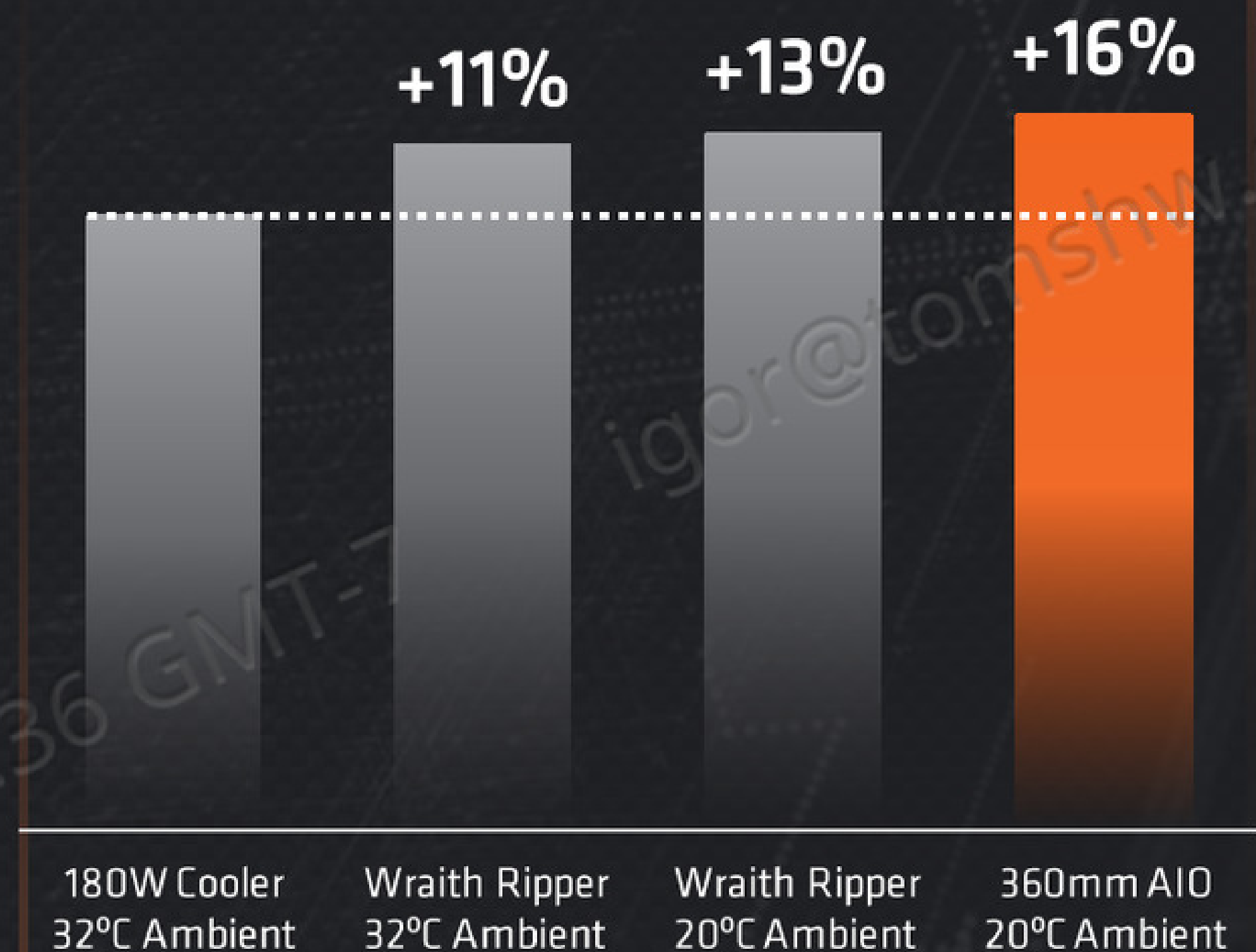
NOW ON ALL CPU CORES

REWARDING ENTHUSIASTS WITH UP TO **16% HIGHER**
MULTITHREAD PERFORMANCE FROM PREMIUM COOLING*



Cinebench R15 nT

(AMD Ryzen™ Threadripper™ 2990WX)



AMD defines premium processor cooling as a combination of ambient temperature and thermal solution that results in processor temperatures below 60 degrees Celsius while the CPU is processing the system workload. GD-118 / * See end note RP2-20.

SELECT OUR VERY BEST DIES



TOP 5%

Become AMD Ryzen™ Threadripper™ CPUs

INFINITY FABRIC

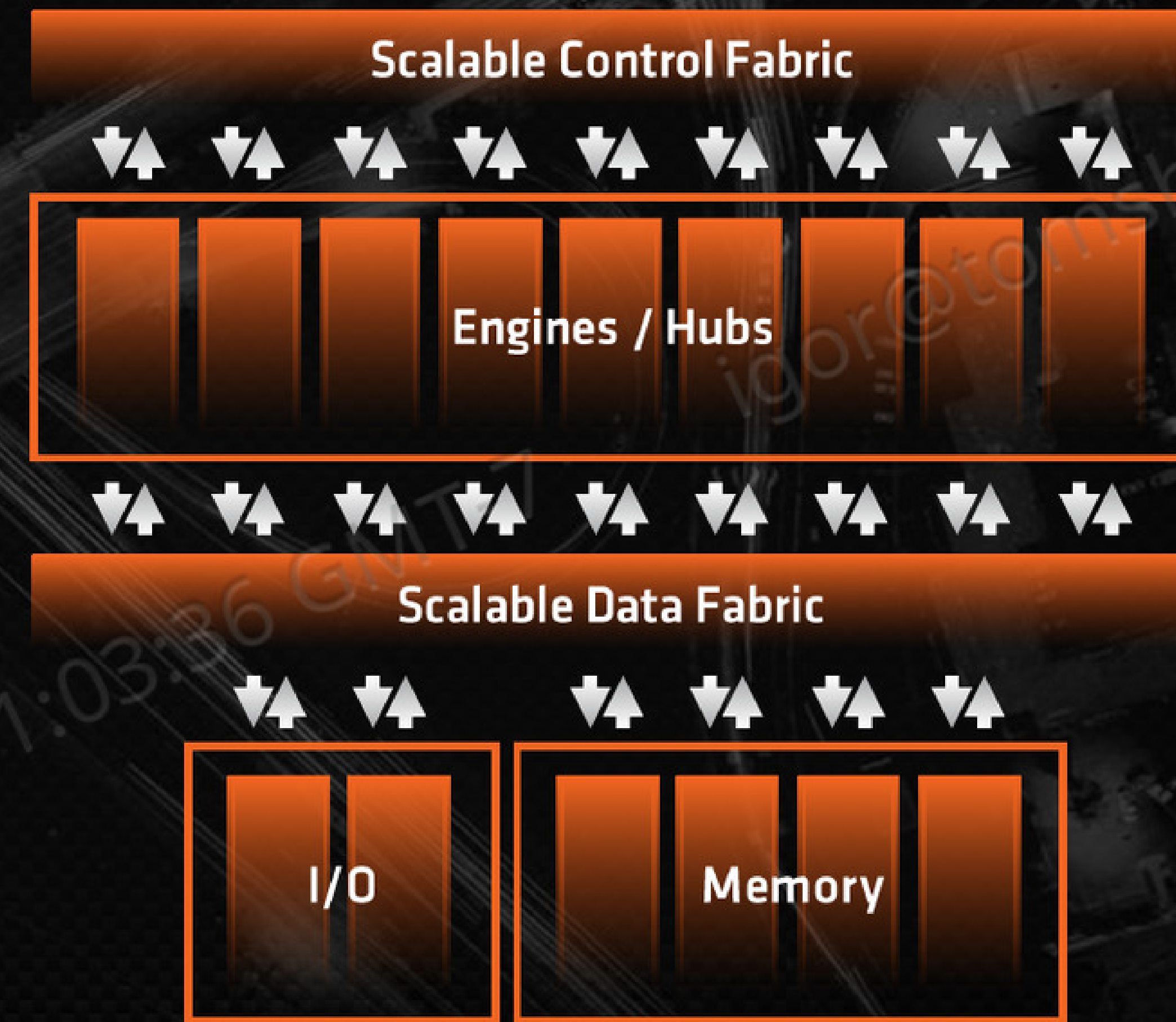
CUSTOMIZABLE DNA CONNECTS AMD CORES TO VIRTUALLY ANY IP

 **Scalable Bandwidth**
 **Low Latency, QoS Capabilities**

 **Optimized for
Efficient Performance**

 **Security
Authentication**

 **Flexible, Coherent Interfaces
Across CPU & GPU Cores**



SCALABLE CONTROL FABRIC

GROUND BREAKING CHIP INTELLIGENCE



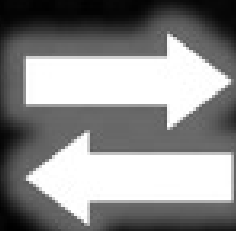
Power Management



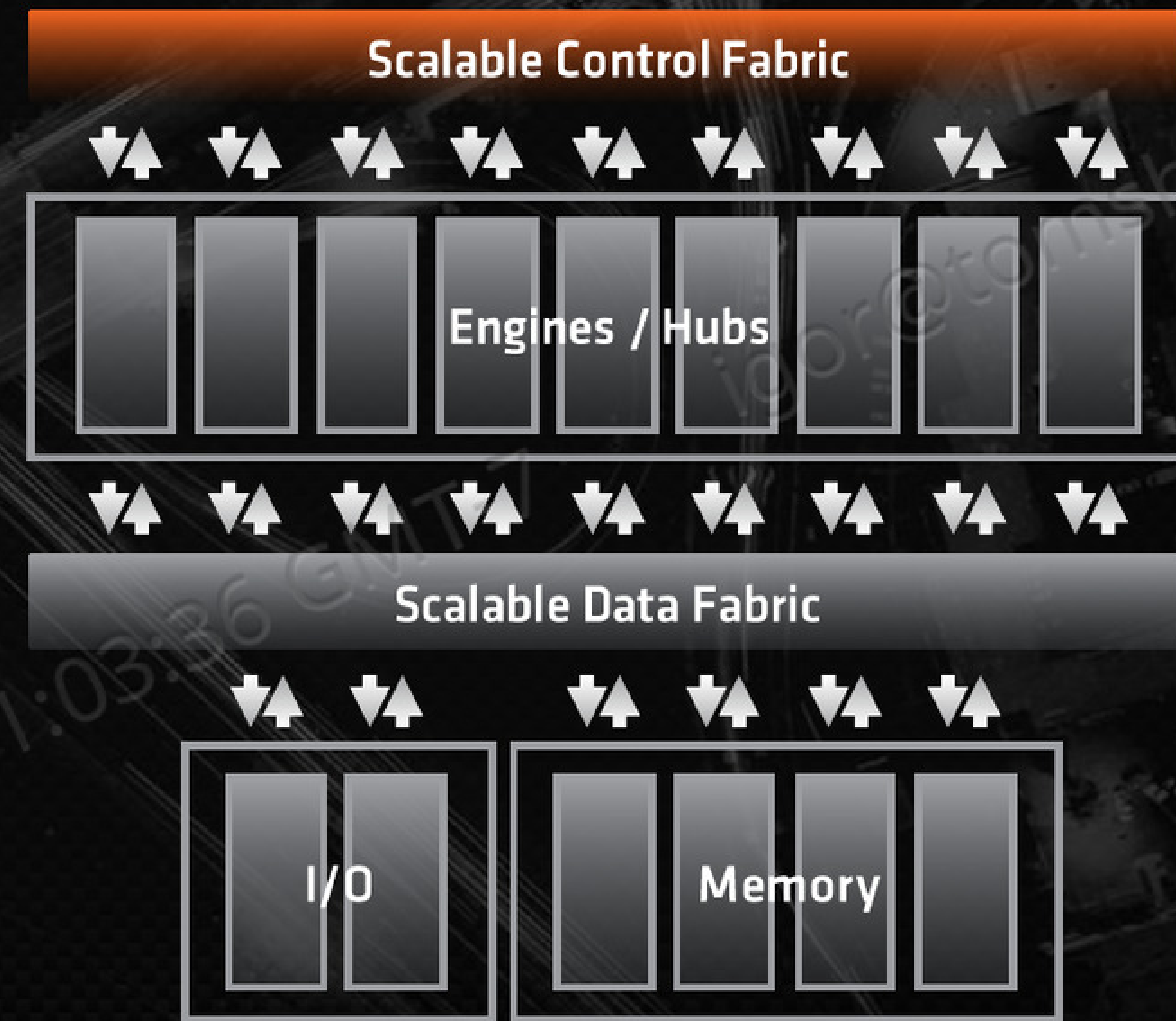
Security



Test & Initialization

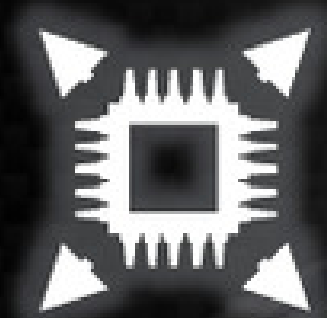


Integrate 3rd Party IP



SCALABLE DATA FABRIC

HIGH PERFORMANCE NETWORK PATHWAY



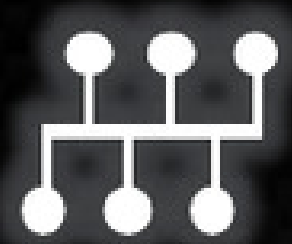
**Coherent HyperTransport™
Plus Enhancements**



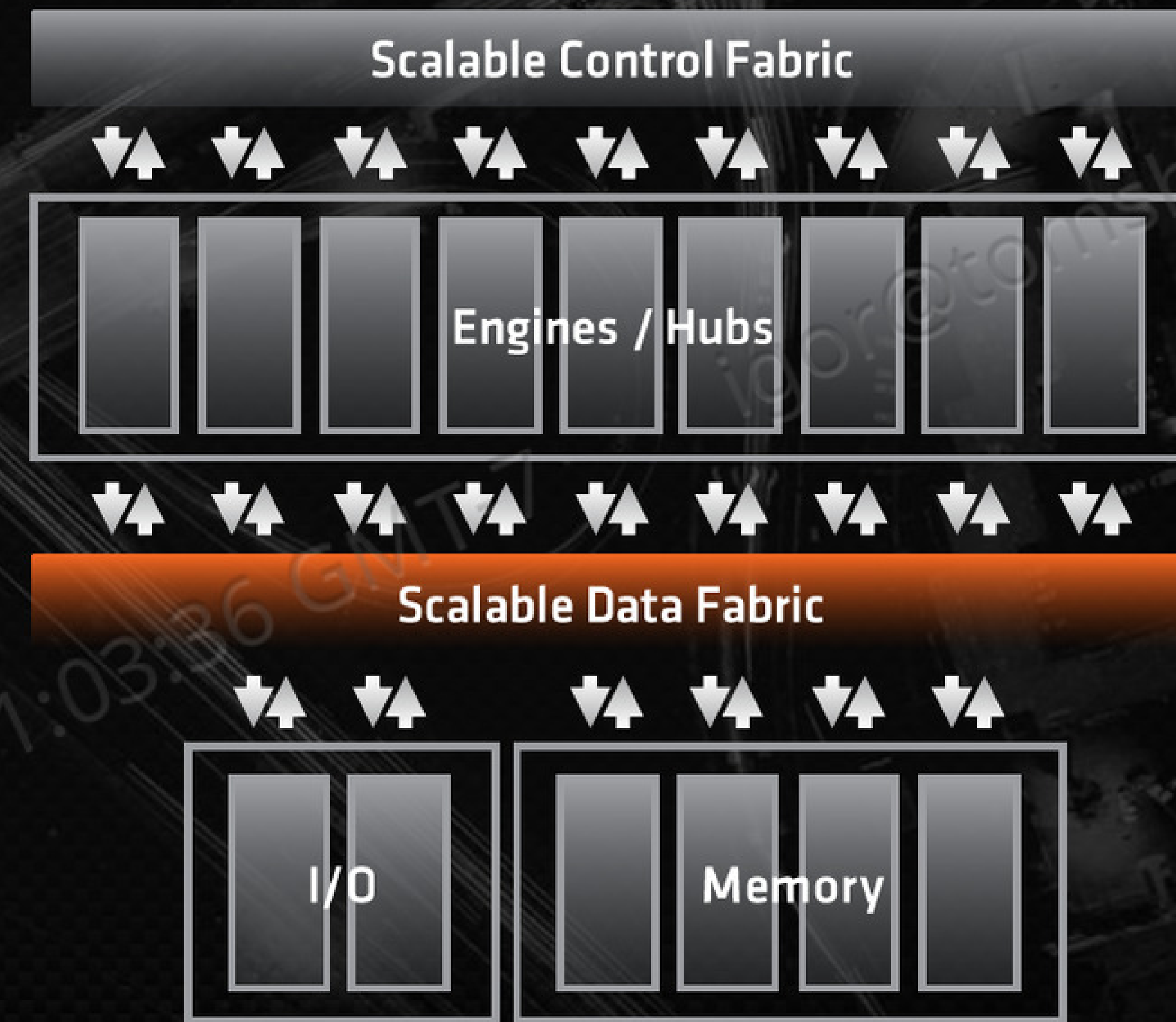
**Multi-Socket & Multi-
Die Ready**



**Low
Latency**



**High Performance
Common Bus**

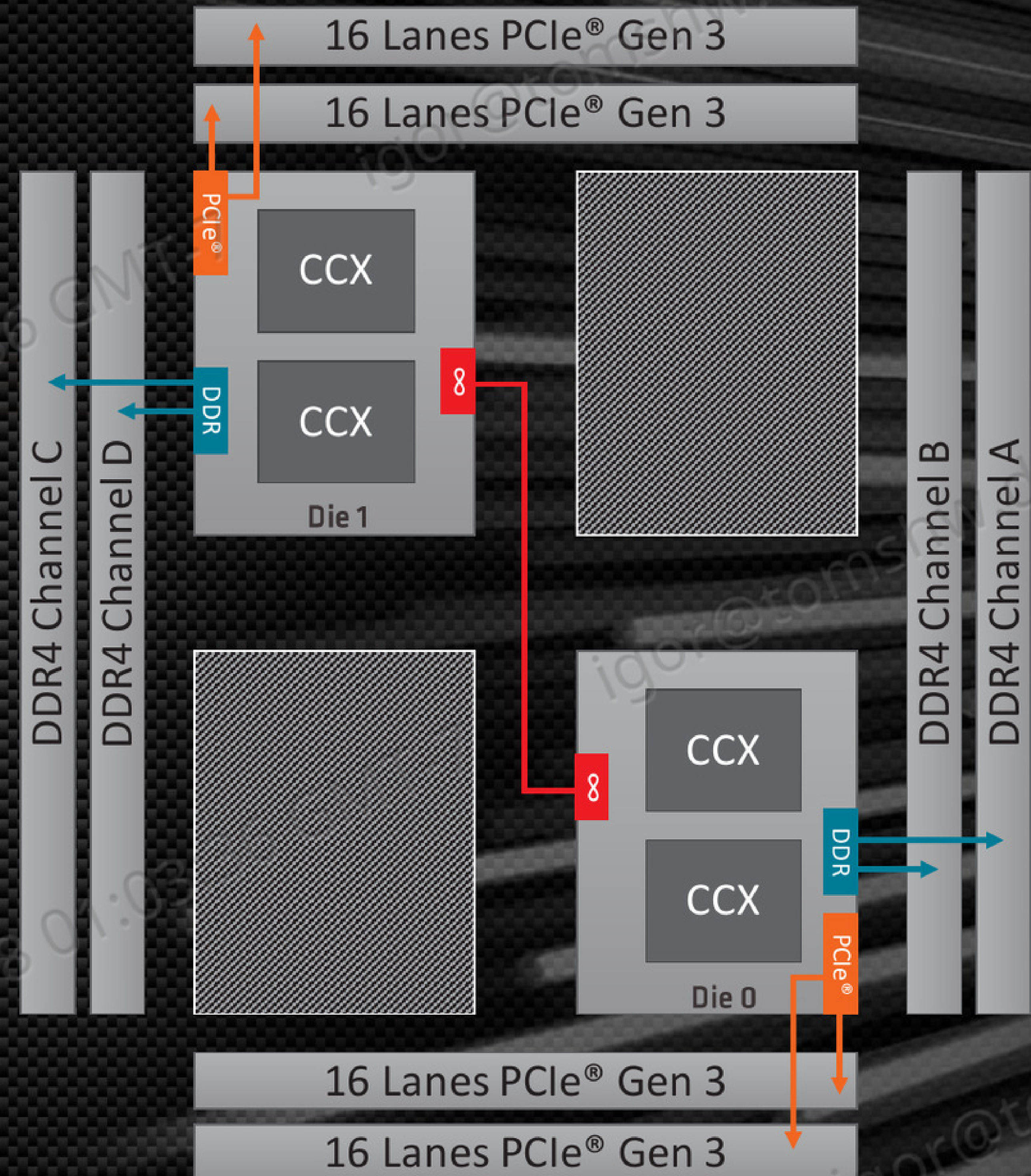


DEPLOYING INFINITY FABRIC IN RYZEN™ THREADRIPPER™ 2950X CPU

~64ns near memory*
~105ns far memory*

Low power die-to-die
interconnect at 2pJ per bit

50GB/s die-to-die bandwidth
(bi-directional)*

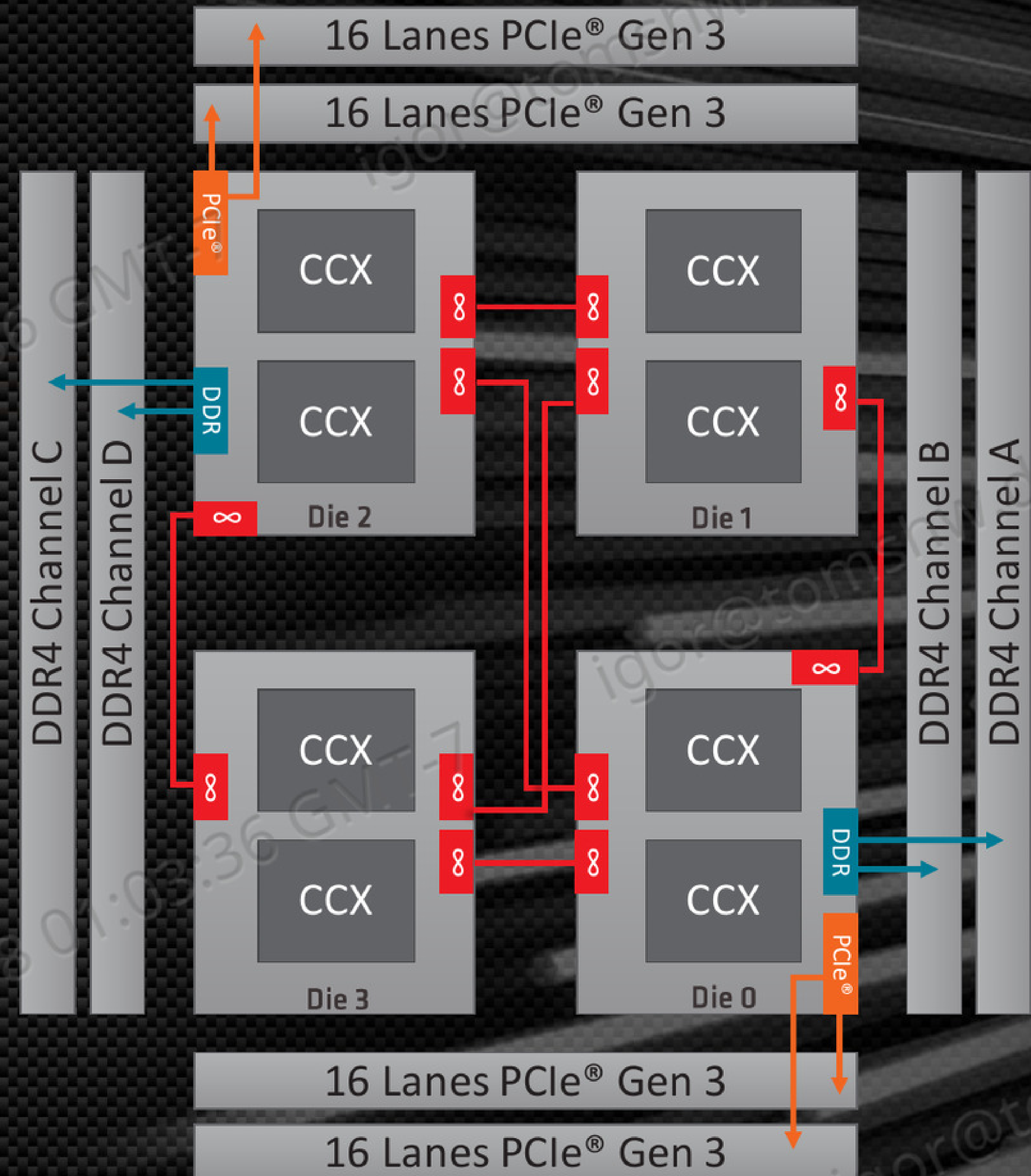


DEPLOYING INFINITY FABRIC IN RYZEN™ THREADRIPPER™ 2990WX CPU

~64ns near memory*
~105ns far memory*

Low power die-to-die
interconnect at 2pJ per bit

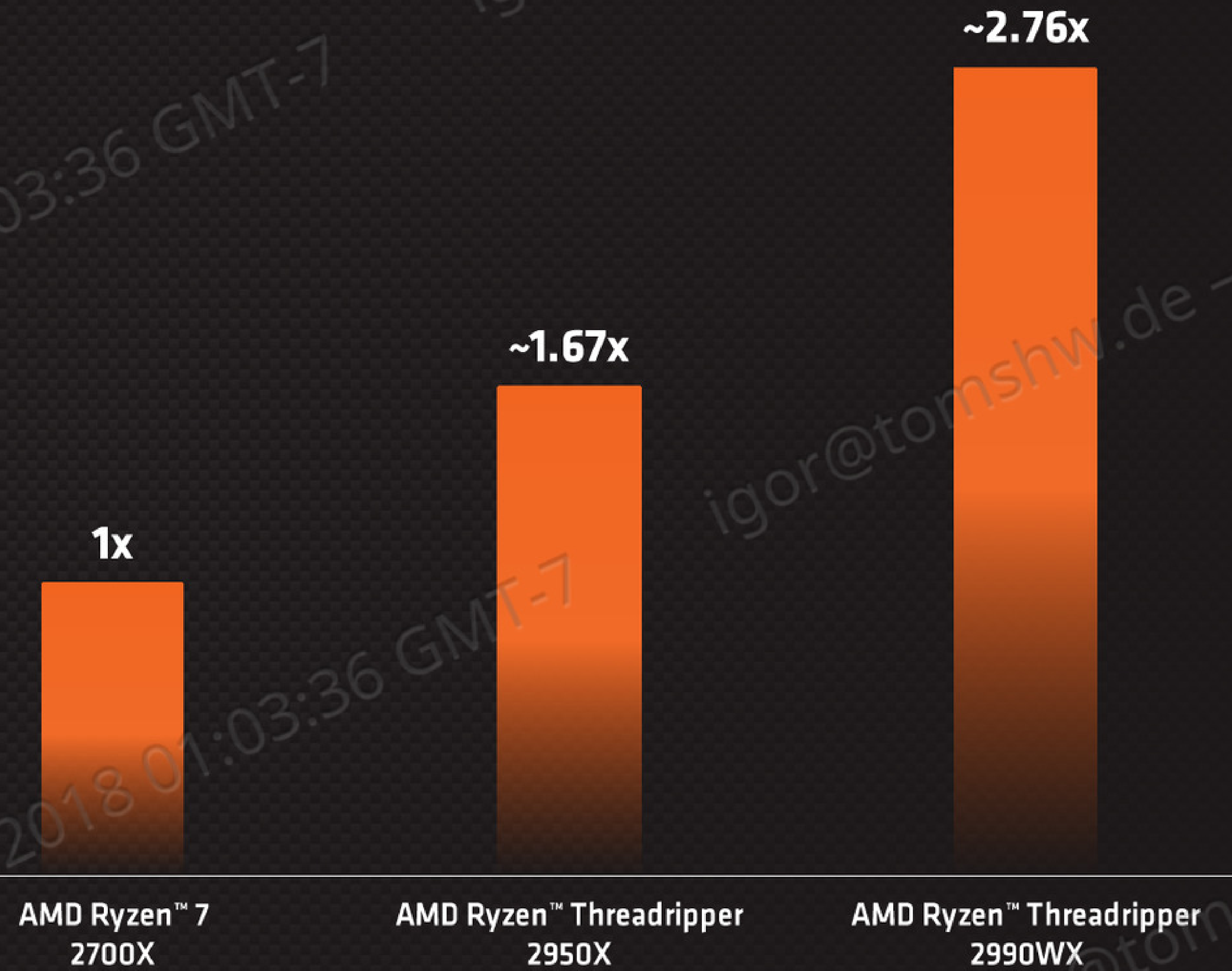
25GB/s die-to-die bandwidth
(bi-directional)*





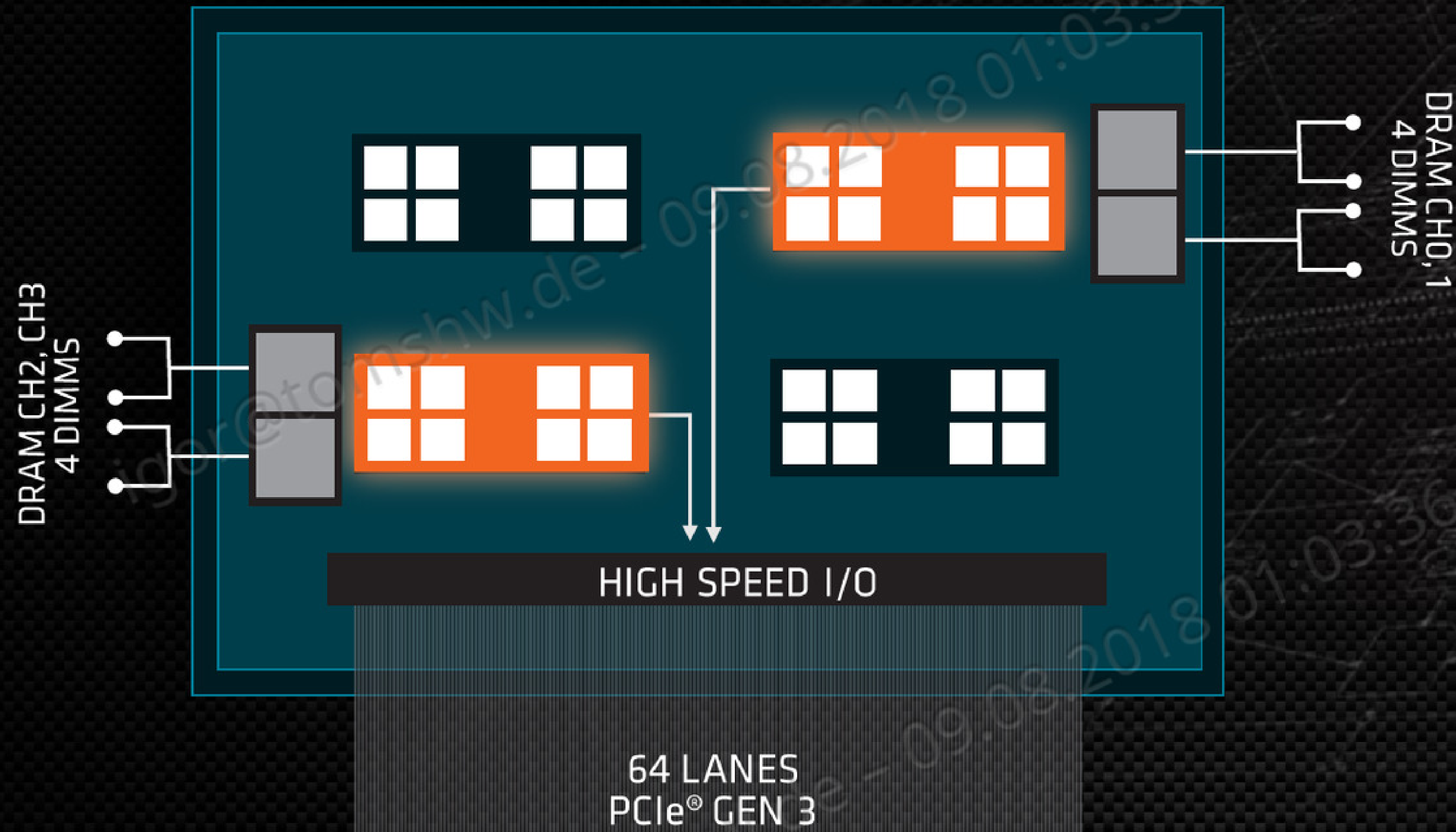
HIGHLY SCALABLE SOC DESIGN

Cinebench R15 nT



BUILT FOR PROFESSIONAL I/O

RYZEN™ THREADRIPPER™ 2990WX CPU

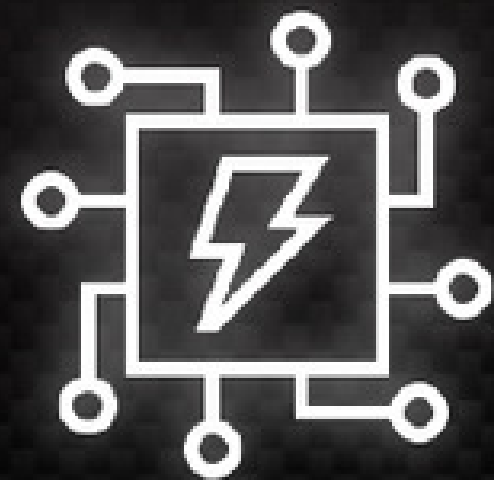


RYZEN
THREADRIPPER

LEVERAGING MASSIVE PCIe® CONNECTIVITY

Up to **SEVEN** PCIe® devices for desktide ML, hybrid raytracing, 8K video mastering, and more





POWERFUL MULTI-THREAD
PERFORMANCE



MASSIVE I/O
FOR ENTHUSIASTS



OUR MOST PREMIUM
PROCESSOR DIES



HIGHLY SCALABLE
SOC DESIGN

FOOTNOTES (RP2-19,20,21,22,23)

- Performance testing conducted by AMD Performance Labs as of 7/16/2018. Cache latency evaluated with AIDA64. Results presented in nanoseconds in the order of 1950X vs. 2950X (%diff), where lower is better. L1 Cache Latency: 0.996 vs 0.92 (8.2% faster); L2 Cache Latency: 3.011 vs. 2.754 (9.2% faster); L3 Cache Latency: 9.970 vs. 8.640 (15% faster); DRAM Latency: 87 vs. 85 (2% faster). AMD System configuration: AMD Ryzen™ Threadripper™ 2950X and 1950X, Corsair H100i CLC, 4x8GB DDR4-3200 (14-14-14-28-1T), Asus Zenith X399 Extreme (BIOS 0008), GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD. Results may vary with configuration and drivers. RP2-19
- Performance testing conducted by AMD Performance Labs as of 7/16/2018. “Multithreaded performance” evaluated with Cinebench R15 nT. “180W heatsink” defined as Noctua NH-U9 TR4-SP3. 360mm AIO water cooler designed as Enermax Liqtech TR4 360. 180W Cooler + 32°C Ambient score: 4396 (100% baseline). Wraith Ripper + 32°C Ambient score: 4880 (+11% faster than base). Wraith Ripper + 20°C Ambient score: 5004 (+13% faster than base). 360mm AIO + 20°C Ambient score: 5096 (+16% faster than base). AMD System configuration: AMD Ryzen™ Threadripper™ 2990WX and 1950X, 4x16GB DDR4-3200 (16-18-18), Asus Zenith X399 Extreme (BIOS 0008), GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD. Results may vary with configuration. AMD defines premium processor cooling as a combination of ambient temperature and thermal solution that results in processor temperatures below 60 degrees Celsius while the CPU is processing the system workload. Results may vary with configuration and drivers. RP2-20
- Testing conducted by AMD Performance Labs as of 7/17/2018. Latency and bandwidth measured with AMD internal microbenchmarks. DRAM latency for Die0 or Die1 communicating with their respective local memory pool(s): approximately 64ns with DDR4-3200. DRAM Latency for Die0 or Die1 communicating with the other die’s memory pool: approximately 105ns with DDR4-3200. Die-to-die bandwidth of the Infinity Fabric with DDR4-3200 measured at approximately 50GBps. AMD System configuration: AMD Ryzen™ Threadripper™ 2950X and 1950X, Corsair H100i CLC, 4x8GB DDR4-3200 (14-14-14-28-1T), Asus Zenith X399 Extreme (BIOS 0008), GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD. Results may vary with configuration and drivers. RP2-21
- Testing conducted by AMD Performance Labs as of 7/17/2018. Latency and bandwidth measured with AMD internal microbenchmarks. DRAM latency for Die0 or Die2 communicating with their respective local memory pool(s): approximately 64ns with DDR4-3200. DRAM Latency for Die0 or Die2 communicating with the other die’s memory pool: approximately 105ns with DDR4-3200. Die-to-die bandwidth of the Infinity Fabric with DDR4-3200 measured at approximately 25GBps. AMD System configuration: AMD Ryzen™ Threadripper™ 2990WX and 1950X, Corsair H100i CLC, 4x8GB DDR4-3200 (16-18-18), Asus Zenith X399 Extreme (BIOS 0008), GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD. Results may vary with configuration and drivers. RP2-22
- Testing conducted by AMD Performance Labs as of 7/19/2018. “Creative performance” and multi-threaded performance defined by Cinebench R15 nT Cinema4D rendering benchmark. AMD Ryzen™ 7 2700X: 1846 (100% baseline); AMD Ryzen™ Threadripper™ 2950X: 3092 (67% faster or 1.67X); AMD Ryzen™ Threadripper™ 2990WX: 5089 (176% faster or 2.76X). AMD Ryzen™ Processor System Config: AMD Reference Motherboard, AMD Ryzen™ 7 2700X, 2x8GB DDR4-3200 (14-14-14-28-1T), Noctua NH-D15S, GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD. AMD Ryzen™ Threadripper™ 2950X System Config: AMD Ryzen™ Threadripper™ 2950X and 1950X, Corsair H100i CLC, 4x8GB DDR4-3200 (14-14-14-28-1T), Asus Zenith X399 Extreme (BIOS 0008), GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD. AMD Ryzen™ Threadripper™ 2990WX System Config: AMD Ryzen™ Threadripper™ 2990WX and 1950X, Corsair H100i CLC, 4x8GB DDR4-3200 (16-18-18), Asus Zenith X399 Extreme (BIOS 0008), GeForce GTX 1080 Ti (driver 398.36), Windows® 10 x64 1803, Samsung 850 Pro SSD, Western Digital Black 2TB HDD. Results may vary with configuration. Results may vary with configuration and drivers. RP2-23

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