

# IT C O M P A S S

## IBM Power 10 Respond Faster to Business Demands

## History Lesson – Let's Go Back to the 1990s







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### Agenda

Market Challenges Why IBM Power is the Right Platform to Address Business Demands Introducing Power 10... and onward What does this mean for your IT spending





Challenge: Modernizing critical workloads and existing IT infrastructure

Being ready for

Unpredictable	Cyber	AI-driven	Anywhere
demand	risk	applications	workplace
Requires			
Dynamic and	Pervasive,	Data access	IT flexibility
efficient scaling	layered security	and privacy	

Enhanced operational agility and flexibility is the clear top priority for the next 2-3 years

IBM Institute for Business Value C-Suite Series: The 2021 CEO Study



Q12. Which of the following will you most aggressively pursue over the next 2–3 years?

Across all respondents, operational agility and flexibility is identified as a priority at least

37%

more than any other factor

Today's environment of constant, rapid change is driving greater alignment between business and IT priorities

Increase flexibility

#### Improve security and resiliency





Derive more value

from data

Ensure continuous operations



## How to Address These Challenges?

## There's a Cloud For That!™







Why IBM Power is a Viable Alternative?

- Three simple reasons:
- Reliability
- Security Resilience
- Sustainability





#### Reliability – How Much Unplanned Downtime Can You Afford?

IBM Power Systems ranks #1 in every major reliability category by ITIC. Most reliable in its class for 12 consecutive years - 2020 Global Server Hardware, Server OS Reliability Report



Dell PowerEdge RHEL Inspur RHEL

Enterprise Server OS System Availability & Unplanned Downtime





## Addressing Cyber Security Bottom to Top





## IT COMPASS

## Sustainability - Same work, fewer resources, smaller carbon footprint *Real Customer example*



#### Benefits achieved with consolidation

Energy Usage (KW)







## Introducing IBM Power 10 and Power E1080



#### Socket Composability: SCM & DCM



16 SCM Single-Chip Module Focus - 602mm<sup>2</sup> 7nm (18B devices) **Core/thread Strength** - Up to 15 SMT8 Cores (4+ GHz) Capacity & Bandwidth / Compute - Memory: x128 @ 32 GT/s - SMP/Cluster/Accel: x128 @ 32 GT/s - I/O: x32 PCIe G5 System Scale (Broad Range) - 1 to 16 sockets



Sockets



(Multi-socket configurations show processor capability only, and do not imply system / POWER10 Preview / August 2020



- Power 10 Announced Aug'20 @ Hotchips  $\bullet$
- Power E1080 Announced Sep'21 and Available to Sell
- Roadmap Enterprise Systems in 2021, (scale-<del>out)</del>, <del>(4-socket)</del> – 2022

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- Focus
  - **Enterprise High-Performance Core**
  - End-to-End Security
  - **Energy Efficiency**
  - Data-plane Bandwidth \_



## **POWER10** Processor Chip

#### Technology and Packaging

- 602mm<sup>2</sup> 7nm Samsung (18B devices)
- 18 layer metal stack, enhanced device
- Single-chip or Dual-chip sockets

#### **Computational Capabilities**

- Up to 15 SMT8 Cores (2 MB L2 Cache / core) (Up to 120 simultaneous hardware threads)
- Up to 120 MB L3 cache (low latency NUCA mgmt)
- 3x energy efficiency relative to POWER9
- Enterprise thread strength optimizations
- AI and security focused ISA additions
- 2x general, 4x matrix SIMD relative to POWER9
- EA-tagged L1 cache, 4x MMU relative to POWER9

#### **Open Memory Interface**

- 16 x8 at up to 32 GT/s (1 TB/s)
- Technology agnostic support: near/main/storage tiers
- Minimal (< 10ns latency) add vs DDR direct attach

#### **PowerAXON Interface**

- 16 x8 at up to 32 GT/s (1 TB/s)
- SMP interconnect for up to 16 sockets
- OpenCAPI attach for memory, accelerators, I/O
- Integrated clustering (memory semantics)

#### PCIe Gen 5 Interface

x64 / DCM at up to 32 GT/s



PCIe Gen 5

Signaling (x16)

PCle Gen 5

Signaling (x16)

PowerAXON

PowerAXON

X

Signaling (8x8 OMI)

### Introducing: IBM Power E1080 First of the Power10 family

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## Why Does IBM Power Matter for your IT Spending?



#### TCA= ~80% Software + ~20% Infrastructure (\*)

- World record 8-socket two-tier SAP SD standard application benchmark <sup>1</sup>
- 4.1X more containerized throughput per core than x86<sup>2</sup> running Red Hat OpenShift
- 2.5X per core vs x86 SPECint rate<sup>3</sup>
- 50% more capacity, same energy consumption<sup>7</sup>
- Instant scaling, pay per use consumption





## Reach for the Clouds, One Container at a Time!



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#### MAKING YOUR DAY

- AIX, IBM Power, PowerVM Certified Specialists
- Decades of Unix/Linux, RedHat OpenShift Expertise
- Proven Hybrid Cloud/ Digital Transformation Record



