Selling New Dell EMC PowerEdge Servers with 2\textsuperscript{nd} Gen AMD EPYC Processor

Where to Go

**Module 1**
Establish AMD as an innovation leader

**Module 2**
Communicate the key value of Dell EMC PowerEdge

**Module 3**
Introduce the 2\textsuperscript{nd} Gen AMD EPYC Processor

**Module 4**
Sell new one- and two-socket Dell EMC PowerEdge Servers powered by 2\textsuperscript{nd} Gen AMD EPYC
Build trust by establishing AMD as an innovation leader

Your customers should feel confident choosing Dell EMC PowerEdge servers based on leading-edge AMD processors. This year, AMD celebrates its 50 years of innovation with a long list of industry firsts.

With 2\textsuperscript{nd} Gen EPYC Processors, AMD has introduced the world’s highest performing x86 processor. Today, the world’s most demanding cloud environments run AMD EPYC Processor with more than 50 AMD EPYC cloud instances:

Today’s AMD EPYC Processor is the second generation of the world’s first high-performance x86 7nm CPU, based on AMD “Zen” architecture. Future processors based on AMD “Zen 3” and “Zen 4” architectures are planned by AMD and on the Dell EMC roadmap through 2022.
Communicate the key benefits of Dell EMC PowerEdge

New Dell EMC PowerEdge servers powered by 2nd Gen AMD EPYC Processors continue to deliver the scalable business architecture, intelligent automation, and integrated security of previous and current PowerEdge systems.

Dell EMC OpenManage advancements simplify infrastructure management and automation across the PowerEdge portfolio with leading software and public cloud technology partners:

- **Simple**
  Intuitive and easy-to-use tools that drive out complexity of infrastructure management

- **Efficient**
  Accelerating infrastructure management while providing Infrastructure as Code (IaC) support for orchestration

- **Available**
  Creating “always on” environments that are highly resilient
Introduce the 2\textsuperscript{nd} Gen AMD EPYC Processor

**Performance Leadership**
Groundbreaking core counts, memory bandwidth, and I/O throughput deliver the best performance, performance/dollar, and performance/watt for the most demanding workloads.
- 61% more virtual machines on SPECVIRT\textsuperscript{®}_SC2013\textsuperscript{1}
- World record performance on VMMARK\textsuperscript{®} w/VSAN\textsuperscript{™}2
- World record performance on SPECPOWER\textsuperscript{®}3

**Security Leadership**
Advanced security features with a silicon-embedded secure processor that helps organizations take control while minimizing risks to critical assets.
- **Secure root of trust technology**: monitors whether the initial BIOS software is booted without corruption
- **Secure Memory Encryption (SME)**: makes it possible to encrypt the contents of main memory with only a change in BIOS settings
- **Secure Encrypted Virtualization (SEV)**: helps protect confidentiality by encrypting each virtual machine with a unique key that is known only to the processor

**Exceptional Value**
One-socket 2\textsuperscript{nd} Gen AMD EPYC Processor-powered servers outperform many two-socket servers, transforming data center economics. Improved TCO is a direct result of:
- Fewer processors
- Fewer servers
- Less power consumption
- Lower licensing costs
- More VMs in a 1U

**Architecture Leadership**
New AMD Infinity Architecture delivers performance, scale, efficiency, and enhanced security features.
- **Efficiency**: First 7nm server processors with energy and NUMA enhancements
- **Throughput**: First PCIe\textsuperscript{®} 4 x86 server processors offer leading I/O and memory bandwidth\textsuperscript{4}, enabling enterprise applications to more rapidly transfer processed data from CPU to storage or network
- **Performance**: ~2x performance increase\textsuperscript{5} and up to 4x theoretical floating-point operations (FLOPS)\textsuperscript{6} compared to previous generations, further enhancing performance of compute-intensive applications like HPC
## Sell new one- and two-socket Dell EMC PowerEdge servers powered by 2nd Gen AMD EPYC

<table>
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<th>Model</th>
<th>Features</th>
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<td>R6515</td>
<td>Single-socket 1U rack server offers peak performance and excellent TCO</td>
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<tr>
<td>R7515</td>
<td>Highly scalable 2U rack server delivers performance and outstanding TCO</td>
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<td>R6525</td>
<td>Highly configurable 1U rack server delivers outstanding balanced performance for dense compute</td>
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<td>R7525</td>
<td>Highly adaptable 2U rack server brings powerful performance and flexible configuration</td>
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<td>Compute-dense server sled accelerates data center performance to tackle diverse HPC applications</td>
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### Accelerated Performance
New Dell EMC PowerEdge servers take full advantage of 2nd Gen AMD EPYC capabilities to address compute and bandwidth-intensive applications. These new servers:
- Set world records for virtualized database performance and SAP SD benchmark
- Offer substantial performance improvements for a variety of workloads, including HPC, databases, and VDI

### Effortless Management
Dell EMC OpenManage Enterprise and the iDRAC enable users to easily manage servers, OS, and hypervisors from a single screen, anywhere in the world, significantly reducing deployment and update times.

### Integrated Security
The integrated security protects the infrastructure and delivers investment protection with these innovative features:
- **OpenManage Secure Enterprise Key Manager** and **AMD Secure Memory Encryption (SME)** secure data at rest
- **iDRAC** and **OpenManage Enterprise** maintain enterprise-wide security with automated firmware and compliance drift detection
- 509 unique keys - **Secure Encrypted Virtualization (SEV)**

### Efficient TCO
Powerful, 2nd Gen AMD EPYC single-socket designs are capable of workloads that otherwise require two sockets, resulting in significant hardware and software cost savings.

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4. EPYC™ 7002 series has 8 memory channels, supporting 3200 MHz DIMMs yielding 204.8 GB/s of bandwidth vs. the same class of Intel Scalable Gen 2 processors with only 6 memory channels and supporting 2933 MHz DIMMs yielding 140.8 GB/s of bandwidth. 204.8 / 140.8 = 1.454545 - 1.0 = .45 or 45% more. AMD EPYC has 45% more bandwidth. Class based on industry-standard pin-based (LGA) X86 processors.


6. Based on standard calculation method for determining FLOPS.

7. 1P TPCx-V is a single-socket performance world record on Dell EMC PowerEdge 7515 with AMD EPYC™ 7742 CPU. Benchmark tested and validated with www.tpc.org as of Sept. 17, 2019.