x86-64

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Discussion

x86-64 identifies the 64-bit extension of the x86 instruction set architecture. AMD introduced the architecture as AMD64. Other common labels include x86_64 and amd64.

Operating systems, package managers, build tools, virtualization platforms, and infrastructure providers use different labels for this architecture. A controlled architecture model should normalize these labels while preserving the source-specific label required by each implementation.

Image format does not determine processor architecture. Converting a Machine Image among raw, QCOW2, VMDK, VHD, or another representation does not convert the executable content from one processor architecture to another.

Definition

A 64-bit instruction set architecture that extends the x86 architecture with 64-bit general-purpose registers, 64-bit addressing, and execution of compatible 64-bit and legacy x86 software.

Source

- AMD, *AMD64 Architecture Programmer's Manual*, Volumes 1–5
- References

Note

The terms **AMD64**, **x86-64**, **x86_64**, and **amd64** commonly identify the same processor architecture. Individual operating systems, tools, and providers select different labels.

The term does not identify a processor manufacturer, Machine Image format, operating system, virtualization technology, or specific processor implementation.

Example

A Crucible Image Record identifies `x86-64` as the normalized processor architecture while retaining `amd64` as the architecture label used by an Ubuntu package repository.