



# Teamwork builds achievement

AMD Infinity Fabric™ Link for workload sharing



## The foundation of success

While the GPU is traditionally known for rendering graphics, modern-day GPUs can also act as powerful general purpose compute accelerators. Today's modern software is well-poised to take advantage of hardware performance advancements in a workstation, as leveraging the compute power of GPUs is an excellent way to accelerate time-consuming tasks and functions.

## Overcome common bottlenecks

Modern workloads and projects keep increasing in complexity. Whilst greater PCIe® bandwidth offers an answer to most system challenges, PCIe® may still be a bottleneck for some high-end GPU challenges. In addition to raw data transfer throughput, 'latency' is also an important consideration, as this reduces the 'delay' of info between the hardware.

## Building a bridge to the solution

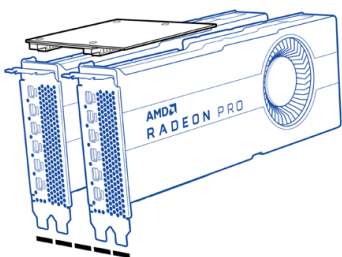
Building on the legacy of AMD innovation, Infinity Fabric™ Link<sup>1</sup> brings the ability to directly connect two GPUs together via an ultra-high speed interconnect, effectively forming a combined pool of GPU memory, which can increase performance and reduce latency. This helps ensure larger project workloads that may typically run out of memory, can be addressed with ease.

## The architecture of supercomputers

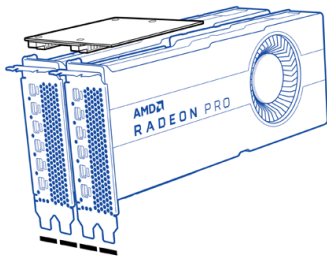
The Infinity Fabric™ Link provides a high-bandwidth, low latency direct connection between the local AMD GPUs. This proven architecture originated during AMD's research and development into creating the world's fastest supercomputers designed for solving some of the world's toughest problems.

## Bridging a performance gap

The Infinity Fabric™ Link works by using a 'bridge connector' that directly attaches to two compatible graphics cards, creating a dedicated high-speed peer-to-peer connection between the two cards, which can increase performance and reduce latency compared to traditional multi-GPU configurations via the system's PCIe® bus. Two versions of the bridge connector exist, offering compatibility for major system motherboard slot layouts.



Three slot bridge configuration



Two slot bridge configuration

## The secret of conquering larger workloads

Your chosen hardware often dictates the overall software performance. Keep in mind, that a common problem is ensuring applications don't run out of memory. Please consult your software vendor to find their recommended hardware specifications, helping ensure optimal performance and compatibility. For additional updates on certified ISV applications visit:

[amd.com/certified](https://amd.com/certified)

**AMD**  
**RADEON PRO**  
INFINITY FABRIC™ LINK

## Multiple GPU vs Infinity Fabric™ Link configurations

Adding a second GPU into your workstation can bring performance benefits, but one major limitation is applications can only utilize the available memory on one of the GPUs. With AMD's Infinity Fabric™ Link, the total available graphics memory for compatible applications becomes the sum of interconnected GPUs. For example, if two Infinity Fabric™ Link connected GPUs each have 16GB of graphics memory, then compatible applications can utilize all 32GB.



UP TO  
**168 GB/s<sup>2</sup>**  
BIDIRECTIONAL BANDWIDTH FOR  
MEMORY-INTENSIVE WORKLOADS.

INFINITY FABRIC™  
LINK AVAILABLE IN  
**2x Configurations**  
FOR GREATER MOTHERBOARD  
COMPATIBILITY

SUPPORT FOR  
**2x Radeon™ Pro VII**  
GPUS.

UP TO  
**42 GB/s faster<sup>3</sup>**  
THAN COMPARABLE COMPETITIVE  
BRIDGE SOLUTIONS.

**AMD**  
**RADEON PRO VII**

Features 16GB HBM2 memory, 6x miniDP UHD outputs, PCIe® 4.0 interface support and blazing-fast 1TB/s memory bandwidth.

## Which AMD GPUs support Infinity Fabric™ Link?

The Infinity Fabric™ Link connector is currently supported by the AMD Radeon™ Pro VII graphics card. This advanced professional GPU is built on high compute performance, extreme memory bandwidth and enhanced double-precision processing technologies.

[amd.com/RadeonProVII](https://amd.com/RadeonProVII)

## Why AMD:

AMD is proud to power the graphics behind many world-class workstations and mobile solutions, be at the heart of major games consoles beloved for gameplay and streaming video entertainment, to powering some of the worlds fastest supercomputers for research, to driving business laptop performance. AMD already touches many areas of your life.

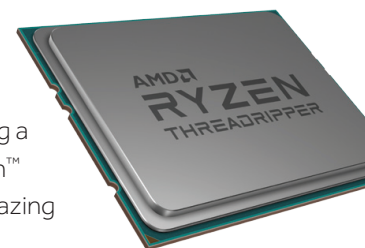
[amd.com](https://amd.com)

To learn more about AMD professional graphics visit:

[amd.com/RadeonPro](https://amd.com/RadeonPro)

## Looking for a CPU too?

AMD processors are an excellent choice for workstations or HPC data centres. EPYC™ processors are driving a new era in the data centre, with Ryzen™ Threadripper™ processors offering blazing fast workstation performance.



<sup>1</sup> GD-169: AMD Infinity Fabric™ Link requires two Radeon Pro VII GPUs, a compatible bridge connector (either a two- or a three-slot bridge connector, both sold separately.), and Radeon Software for Enterprise driver 20.Q2 or later. Compatible software is currently limited to Radeon™ ProRender, but additional application compatibility is expected in future 3rd party software releases and are required to use the combined graphics memory of both cards. GD-169

<sup>2</sup> Radeon Pro VII has two Infinity Fabric Links per GPU, each capable of 84 GB/s, for an aggregate of 168 GB/s when two GPUs are connected via the Infinity Fabric Link bridge

<sup>3</sup> Source for NVIDIA NVLink specifications <https://www.nvidia.com/en-gb/design-visualization/nvlink-bridges/> viewed on 07 April 2020. NVLink for Quadro RTX™ 5000 speed of 50 GB/s versus AMD Radeon™ Pro VII of 168GB/s (168-50=118)

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