



## Acceleration

Accelerated systems have the performance capabilities to tackle the largest of problems.

Acceleration technology can be described as add-on coprocessors or boards that are integrated into systems and bring significant additional performance to that system.

## Acceleration Benefits

Today, HPC organizations require substantially more floating point performance to solve real-world problems. ClearSpeed acceleration technology can improve the overall performance of standard x86 systems by inserting add-on accelerator cards to run the most computationally-intensive code.

Good candidates for acceleration have the following characteristics:

- Fortran loops that can be auto-parallelized by the compiler
- CPU time is high while bus usage moderate; number of flops per byte are high
- Floating point codes that could clearly exploit SIMD parallelism
- Large, dense linear algebra operations, for example DGEMM
- 64- or 32-bit floating point

## ClearSpeed Acceleration

ClearSpeed accelerators add to the overall performance of a system:

- **Ability to run more jobs simultaneously.** By running the dense compute data on the ClearSpeed Advance accelerator

cards, other jobs can run on the host simultaneously.

- **Address larger problems with the same resources** or increase the ability to complete a large problem faster.

ClearSpeed products are specifically designed to meet the requirements of HPC which include full reliability, IEEE 754 accuracy, 64-bit double precision, low energy consumption and familiar programming environment.

## ClearSpeed Developer Program

The ClearSpeed Developer Program provides leading edge developers with the information and tools they need to accelerate their applications.

Membership includes access to:

- Developer website
- Forums
- Technical updates
- Advantageous pricing
- Early access to new software releases
- User group meetings and events

The developer website is home to technical resources and a forum where developers and ClearSpeed gurus can share coding techniques, tips and sample codes; plus developers have the opportunity to provide feedback and ideas for new features.

Join a growing community of software developers who are creating accelerated applications.

Visit [developer.clearspeed.com](http://developer.clearspeed.com) to see the resources available and register to get access to even greater resources and tools.

# CLEARSPPEED DEVELOPER PROGRAM

## Member Benefits

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**Developer Forums** Participate in community forums where developers exchange coding tips and tricks, sample codes and ideas about software challenges, as well as receive technical updates from ClearSpeed.

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**Discounts** Program members have opportunities to receive advantageous developer discounts when available.

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**Early Access** Developers may be invited to participate in Early Access programs where they would receive privileged access to preview software releases.

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**Events and Training** Events provide opportunities for developers to keep current on technology and to network with colleagues. Receive online training via our training presentations, podcasts and webinars.

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**Feedback** Developer feedback is valued and will be considered for future features of the ClearSpeed Developer Program and product line. Developer's can send in feedback via the Contact Us page on [developer.clearspeed.com](http://developer.clearspeed.com).

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**Reference Library** The reference library includes resources such as: Frequently Asked Questions, User Guides, Performance and White Papers, and Reference Manuals.

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**Support** The Developer forums offer a great deal of support, but if you need more, technical support may be purchased.

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**Register now at [developer.clearspeed.com](http://developer.clearspeed.com)!**