



Remote Service Maximizes Availability

“We see RAPID as an insurance policy that makes FEI’s senior engineers available to us wherever they reside. It guarantees us the best possible response.”

– Michael Campin, AMD



Advanced Micro Devices, Inc. (NYSE: AMD) is an innovative technology company dedicated to collaborating with customers and technology partners to ignite the next generation of computing and graphics solutions at work, home, and play. AMD’s research and lab facilities are key components of its ongoing ability to innovate and stay ahead of the competition. In Austin, Texas, engineers at AMD’s Device Analysis Lab rely on several FEI instruments for their R&D efforts – a Helios NanoLab™ 400S DualBeam™, a Strata™ 400 DualBeam™, and a Titan™ 80-300ST STEM. By enrolling all these systems in FEI’s Remote Access Program for Interactive Diagnostics (RAPID), AMD helps ensure maximum productivity and effectiveness of their staff by ensuring maximum system uptimes. With RAPID, AMD has:

- Boosted productivity by being able to diagnose and address instrument issues sooner
- Collaborated with FEI engineers around the world to identify and resolve problems
- Improved the operation and availability of these critical tools

The Challenge: Quick Response Times

The Austin Device Analysis Lab plays a critical role in getting chips to market. During prototype testing phases and initial manufacturing line qualification, AMD relies on the lab to perform quick failure analysis of test parts to determine problem causes and potential resolutions. Two critical steps in this process involve using the DualBeam systems to properly prepare the chip, and then using the extra magnification of the Titan TEM to view the images to determine the source of the defects. It’s a very time-critical process, and an unavailable or malfunctioning microscope at the wrong time could mean a delay in getting a new chip to market.

The Solution: Augment Local Service With Remote Access

To ensure maximum availability during these critical periods, AMD became an early RAPID user. Although AMD typically has on-site FEI service engineers (FSEs) to tend to their systems, adding RAPID enhanced their service options. If a problem arises and AMD's local FSE is not immediately available, the lab can call FEI's technical support line and gain immediate access to an experienced service engineer who can help identify the problem and help with a work-around or outright resolution.

"I'm quite knowledgeable about the operation and maintenance of these instruments," states Michael Campin, AMD's primary Titan user. "Being able to get an experienced engineer on the phone to help me identify and work through the problem has been invaluable."

"AMD is extremely security conscious. Our IT department had to fully check out RAPID's architecture and implementation before it would allow the VPN connections."

– Patrick Stallings, AMD

Even more important, RAPID gives AMD direct access to second-line, third-line, and factory resources when a service problem requires escalation. AMD pushes these complex instruments to their limits, and it sometimes requires multiple FEI engineers to assess and resolve a problem. "When I'm working at the customer site, RAPID gives me a way to involve other people directly in the service call without waiting for them to get on a plane and fly to Austin," states John Fredette, FEI field service engineer. "It's been a huge time saver over the last couple of years."

Many of the factory and advanced technical support personnel on these particular systems are located in FEI's facility in Eindhoven, The Netherlands. With RAPID, AMD can report a problem during its US work day and establish a RAPID connection. When FEI Eindhoven comes to work during its European business day, experts can connect to the AMD system and perform multiple diagnostic tests even though they are 5,000 miles away. By the time AMD comes back to work, the problem can be fully assessed and a proposed solution identified.

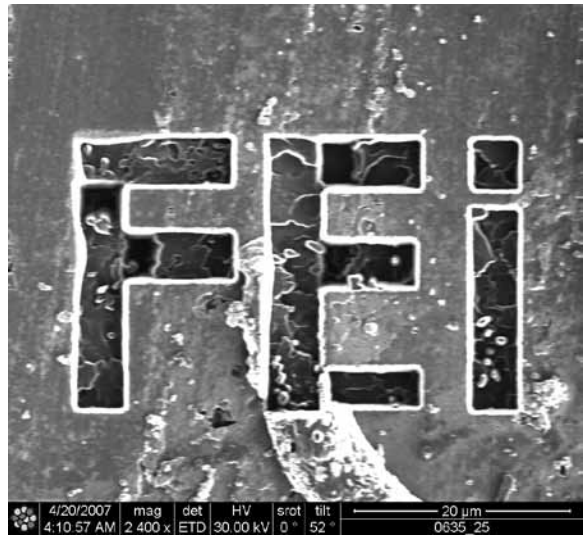
When AMD first heard about RAPID, the company immediately saw the advantages. But it took some convincing of their IT department before AMD was allowed to make RAPID remote connections.

"AMD is extremely security conscious," states Patrick Stallings, who is responsible for the Helios and Strata instruments. "Our IT department had to fully check out RAPID's architecture and implementation before it was willing to open up the firewall port and allow the VPN connections."

The Result: Higher Availability

AMD is pleased with the technology partnership it has established with FEI, and RAPID plays a key part in ensuring FEI can achieve maximum availability of its systems. For example, when FEI experts encountered complex stage and controller issues on their Helios microscope last year, teams in the US and The Netherlands used RAPID to collaborate on their analysis of the problem and made a quick determination of the proper next steps.

AMD's Michael Campin summarized the benefits of RAPID: "Although we don't need it often, we see RAPID as an insurance policy that makes FEI's senior engineers available to us wherever they reside. It guarantees us the best possible response, and – in the end – helps ensure we have our FEI systems available when we need them."



FEI letters milled in a sample in Austin by the FEI team controlling the Helios NanoLab 400S from Eindhoven using RAPID.

Learn more about the RAPID program at www.fei.com/rapid

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