

# *hedge fund improves risk management and returns with grid processing*



When III Offshore Advisors began looking for better ways to measure the risk in their credit derivatives portfolio, they looked at everything on the market.

"As a hedge fund, we had a pretty sizable budget for investing in this," said Paul Algreen, CIO at the \$4 billion fixed income firm based in Boca Raton, FL. The firm looked at high end SMP servers, Data Synapse, open-source Alchemi and other options before concluding that Digipede met its requirements.

III Offshore Advisors initially looked for a more powerful computing system to meet the computational requirements for credit derivatives which are significantly more complex than vanilla interest rate derivatives, said Algreen. It chose Digipede because the system was less expensive, flexible enough to incorporate dedicated machines and idle cycles and as a Microsoft-based solution offered fast time to value.

Digipede, a leading grid software provider built entirely on Microsoft .NET, dramatically improves the speed and performance of demanding real-world business applications. Integrated with Microsoft SQL Server, Visual Studio, Windows Compute Cluster Server, and other Windows Server products, the Digipede Network is easier

to buy, install and use than other grid-computing solutions, said John Powers, Digipede CEO.

For III Offshore Advisors, a Microsoft-based grid solution enabled the firm to install the system and start using it quickly.

*"Modeling outlying behavior accurately is critical to understanding risk"*

John Powers  
CEO  
Digipede

"Our models are purely Microsoft .NET, so dropping them right onto the Digipede grid was really straightforward," said Algreen. "We're an all-Windows shop, and our developers all use Visual Studio to develop our applications -- primarily in .NET, although we also use some third-party COM libraries. Other solutions in the market would have required a considerable investment in retraining our developers, followed by some major application re-engineering. The broad range of programming models supported by the Digipede Network allowed us to move forward im-

mediately, often adapting applications to the grid with just a few lines of code. This kind of productivity is critical for getting us into the market faster with new algorithms for pricing, trading, and risk management." The firm had Digipede running in less than a day.

The Digipede grid at III Off Shore Advisors runs on three dedicated HP computers and, especially during the night, on a range of idle PCs. III Off Shore Advisors trades nondollar instruments in Japan and Europe, so it operates 24 hours a day, although with only a handful of people overnight. Traders and analysts can use it to run "what if" analysis of their portfolios and get results fast enough to make the data useful in trading decisions.

"During the night we can take advantage of unused hardware, so that is when we do the bulk of our work," said Algreen. Although it installed Digipede in February for credit derivatives, the company has expanded its use of grid computing as it has become more familiar with what the technology can do.

"Having a grid allows us to do a whole suite of simulations and analysis that we never were able to tap into before. It has been a really nice way to extend our models and scale them out in a way that allows

us to do risk analysis. It has allowed us to be more intelligent about our capital allocation.”

A specialist in fixed income, the firm has a relatively long-term focus, holding positions for weeks, months, or until maturity.

“So it is important to understand how the trades will carry over time. With Digipede running our analytics, we can get approximation on models on short-term. Long term portfolio analysis takes a lot of iterations over the models. The Digipede grid gives us a better sense over the horizon.”

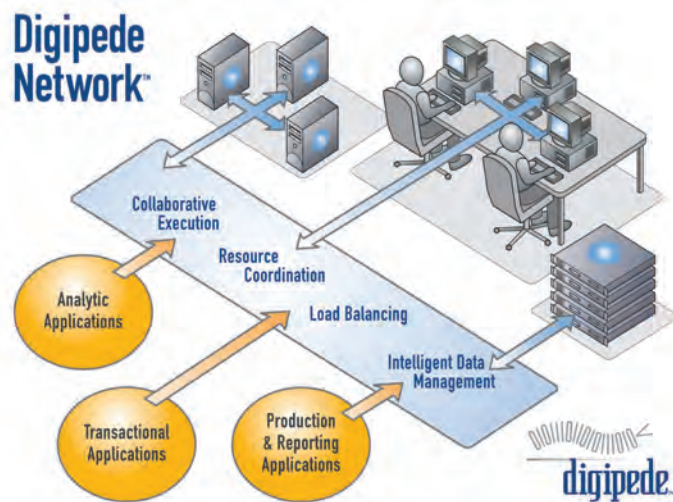
Using the power of the grid computing, Ill Off Shore Advisors has been able to identify arbitrage opportunities.

“With regression analysis we have been able to identify places where the market has mis-priced instruments. A lot of it we were already doing back of the napkin, but the ability to extend it systematically has give us a lot of capability and new plans, new capacity. I can’t say enough good things about the capabilities it has given us.”

Digipede’s capacity for running analytics promises to keep Algreen and his staff busy.

“Our CEO, our risk manager and the partners are all coming up with great ideas. We have half a dozen Digipede projects in the queue.”

John Powers, president of Digipede Technologies, said that grid computing empowers buy-side customers to identify and exploit new trading opportunities, and to free up more capital through more timely and accurate risk assessment.



*Digipede can run on dedicated machines and tap idle computers when they are available to speed processing.*

“We’ve seen rapid uptake of the Digipede Network among asset managers in general and hedge funds in particular, as they seek ever-greater accuracy and performance in asset pricing and risk management applications,” said Powers. “Digipede’s hedge fund customers are completing in just a few days grid computing projects that used to take big banks years. Ill, for example, took their grid from proof-of-concept to production in less than two weeks. That’s only possible with a grid solution specifically designed to fit with existing IT and development tools and practices.”

Powers said that several asset managers, both traditional and alternative funds, are using Digipede grid computing for the accurate pricing of exotic derivatives.

“In the same time that a single machine can run a simulation that looks forward a period of months, a distributed process can model the entire lifetime of the asset,” explained Powers. “Models that price such assets more accurately and faster give a

significant trading advantage, and can result in new, profitable trading opportunities.”

Cost-effective and powerful, Microsoft-based grid computing allows firms to significantly expand the number of trials they run in Monte Carlo simulations.

“While using thousands of trials to simulate an entire distribution was once considered sufficient, many studies now require many tens of thousands of trials to model behavior in the tails of the distribution accurately,” said Powers. “Modeling outlying behavior accurately is critical in gaining a better understanding of the risks taken in a particular portfolio or trading strategy.”

*Digipede is a Microsoft Gold Certified Partner.*

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