



**The Penguin and the Processor:
Enabling Plaxo to Keep Customers Connected**

"The AMD-based platform has been amazing. The systems have great performance, are very reliable and the AMD platform offers us room to grow—it's hard to ask for much more than that."

—Ethan Erchinger, Operations Engineer at Plaxo

Challenge

- Plaxo started as a different kind of address book, leveraging the power of the Internet to connect and stay connected with friends and family.
- In 2006, Plaxo took the notion of staying connected a step further and partnered with America Online (AOL) to integrate Plaxo's services with AOL Instant Messenger, essentially doubling its user base almost instantaneously.
- Because of the partnership, Plaxo realized it would need to overhaul its IT infrastructure to support a major influx of users, and their data, on a tight timeframe—it had just four months to complete the upgrade.

Solution

- After researching a variety of systems, Plaxo decided to implement 161 Penguin Computing servers running Apache and MySQL, powered by AMD Opteron™ processors.

Impact

- With the AMD Opteron processor-based Penguin systems in place, Plaxo has reported an increase in server performance, without a corresponding increase in energy costs. Plaxo attributes this to the low power consumption of the AMD Opteron processor.
- Prior to implementing an AMD Opteron processor-based solution, Plaxo received ongoing complaints from users on both the East Coast and West Coast about overall site slowness when accessing their information in the morning hours. Now armed with a data center full of AMD Opteron processors, Plaxo reports something significant: the complaints have dramatically decreased.
- Lastly, Plaxo found the Penguin systems simple to implement across its entire data center while delivering unparalleled performance at a reasonable price point.

Organization Profile

Plaxo helps millions around the world enrich their connections with the people they know and care about. The company operates a large and fast growing network of networked address books—hosting over 50 million accounts—and is bringing those address books to life with its next-generation social network, Pulse. Pulse creates an easy way for users to share content with fine-grained control—sharing information with just those you know. For more information about Plaxo, please visit www.plaxo.com.

Challenge

Plaxo started as a different kind of address book, leveraging the power of the Internet to help customers connect and stay connected with friends and family, but it has quickly grown into a leading online address destination for millions of people. In 2006, Plaxo took the notion of staying “connected” a step further and partnered with America Online (AOL) to integrate Plaxo’s services with AOL Instant Messenger, essentially doubling its user base almost instantaneously. At that point, Plaxo realized it would need to overhaul its IT infrastructure to support a major influx of users and their data on a tight timeframe—it had just four months to complete the upgrade.

With the understanding that the demands placed on databases and web-hosting environments are continually increasing, Ethan Erchinger, Operations Engineer at Plaxo set out to find a solution that would not only handle the users Plaxo was acquiring with the AOL deal but also those who would join the Plaxo community over the next few years. Additionally—as Plaxo is based in Mountain View, CA—the soaring cost of energy and rolling blackouts during the summer months made the need for a power efficient solution even

more critical. Originally running systems based on a non-AMD processor, Erchinger was ready to upgrade Plaxo's data center to systems that could handle the new influx of users, offer excellent performance and perhaps most importantly, reduce the amount of power its data center was consuming.

Solution

After researching a variety of systems, Plaxo decided to implement 161 Penguin Computing servers running Apache and MySQL, powered by AMD Opteron™ processors. "The low power feature and the overall architecture of the AMD Opteron processor line sold me," said Erchinger.

"I really think an integrated memory controller makes a lot of sense and I knew it would enable us to handle processing large volumes of data very efficiently, ensuring our new and existing customers would never face a delay in accessing their information," commented Erchinger. Further, the fact that Penguin Computing "has a great track record" supporting Linux was also a great advantage for Plaxo since it operates a Linux and Sun Microsystems' Solaris-based data center.

Impact

With the AMD Opteron™ processor-based Penguin systems in place, Plaxo immediately noticed an increase in performance. "Gaining performance at the database layer was unbelievably helpful. In fact, we were planning on replacing our storage infrastructure after the upgrade and we ended up not going through with it because the increase in performance from the new systems was so apparent," Erchinger noted. Not only did the AMD Opteron processor's Direct Connect Architecture enable low latency in the database transactions, thereby helping to improve performance, but Erchinger reports that the energy efficient AMD Opteron processor-based systems also helped reduce Plaxo's monthly energy costs. "In the end, we believe that the energy-efficient AMD-based systems contributed towards our capital assets without increasing our environmental footprint or monthly expenditures, which is extremely important when you are a growing company," said Erchinger.

Since the new system was put into place, Erchinger experienced another important benefit: the amount of time it took to implement development system upgrades to its servers was reduced from 4 hours to 2 hours which is an incredible time savings for Erchinger and his

team. "We are a small team so we appreciate anything that can decrease the amount of time we're spending on activities like system upgrades."

Highlighting the significance of the upgrade, Erchinger recalled that before the implementation of AMD-based Penguin systems, Plaxo received ongoing complaints from users on both the East Coast and West Coast about overall site slowness when accessing their information in the morning. Now armed with a data center full of AMD Opteron processors, Plaxo reported something significant: the complaints dramatically decreased. Erchinger commented, "There was a definite lack of noise that speaks much louder than you might think. When you don't hear complaints from your customers, it feels really good!"

Overall Erchinger was happy to find a simple solution that not only helped meet the demands of its new users from the AOL partnership but also one that addressed Plaxo's need for an energy-efficient and great performing data center that scales to meet the demands of ever-growing workloads. "The AMD-based platform has been amazing," said Erchinger. "The systems have great performance, are very reliable and the AMD platform offers us room to grow—it's hard to ask for much more than that."

About AMD

Advanced Micro Devices (NYSE: AMD) is an innovative technology company dedicated to collaborating with customers and partners to ignite the next generation of computing and graphics solutions at work, home and play. For more information, visit www.amd.com.

About Penguin Computing

Penguin Computing, headquartered in San Francisco, California, specializes in complete, integrated HPC clustering solutions. Penguin has been a successful innovator for over a decade, providing Linux HPC solutions to a variety of industries. Penguin's staff, including the originator of the Beowulf Cluster architecture, has unsurpassed experience in delivering a powerful combination of fully integrated HPC clusters, comprehensive cluster management software, and services. For more information about Penguin Computing and Penguin products, or to download Scyld ClusterWare 4.2 for the free 45-day evaluation, please go to www.penguincomputing.com.

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