



Case Study

Predictive Enterprise
Quad-Core Intel® Xeon®
Processor 7300 Series
Service Provider & Media
Content/Service Delivery
Infrastructure



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Sean Kaye
Managing Director
Infoplex Pty. Ltd.

Hard-Core Computing made easier with Quad-Core Processors

Infoplex turns to Quad-Core Intel® Xeon® processor 7300 series for mainframe-type performance and transformation to a Predictive Enterprise

Rapid business growth can bring challenges. For Australian company Infoplex, this meant keeping pace with their customers' growing demands for increased capability in their data centres. The company provides application and storage hosting services to some of the biggest companies in Asia Pacific. To further develop Infoplex's leadership in the managed services industry, the company recently invested in Quad-Core Intel® Xeon® processor 7300 series-based servers to power its data centres and meet its customers' burgeoning needs.

Challenge

- **Increase data centre processing power.** Deliver double the processing power of Infoplex's existing data centres to handle customers' growing computing needs.
- **Enable a cost-effective solution.** Deliver a cost-effective solution that will support a growing customer base, yet reduce power consumption, electricity bills and cooling costs.

Solution

- **Deploy Intel® architecture.** Utilize Quad-Core Intel® Xeon® processor 7300 series platform for data centre server infrastructure.
- **Utilize Intel technical expertise.** Enable optimization of server performance applications for quad-core processors.

Assessing the Situation

Infoplex delivers value to its clients by providing high-quality, hosted IT services to improve collaboration. By delivering IT services such as hosted applications to its customers, Infoplex takes away the cost and effort required to maintain these systems and enables customers to focus 100 percent of their attention on the business.

Nexus Point Solutions is one of Infoplex's major customers, hosting its INCITE* applications at Infoplex's data centres. INCITE is one of the largest "software as a service" platforms in the world, with more than 25,000 users and engineering projects worth over AUD 25 billion. Incite data crunching needs are doubling every year according to Infoplex's managing director, Sean Kaye.

"With our clients' needs growing exponentially, we began to hit processor capacity bottlenecks in two of our data centres," says Kaye. "So we investigated alternatives, including mainframes. We were also trying to contain, if not reduce, our energy bill, which was well into six figures."



Intel provided Infoplex with results-oriented, strategic server infrastructure, resulting in increasing operational efficiency without raising running costs.

Key Challenges

The Incite platform enables hundreds of simultaneous users to access the applications. With Incite user base growing exponentially and its computing needs increasing, Infoplex's data centres began experiencing processor capacity bottlenecks. The company needed to enable more concurrent users to access the platform without issue.

"It was not uncommon for large queues of information to occur," says Kaye. "Queries were being sent, but not all the relevant information was being returned to the end user. There was far too much information being asked of the database."

Infoplex's key challenges included increasing the processing capacity of its two data centres while reducing the costs normally associated with more processing power—higher power bills from the costs of cooling and electricity and more data centre space required from the added capacity. These issues could affect the company's growth potential and, ultimately, its bottom line.

Quad-core computing helps develop predictive enterprise

Infoplex turned to Intel's quad-core processor technology to overcome these issues and to begin taking steps toward becoming a Predictive Enterprise that can use technology to make its business proactive instead of reactive by reducing the gap between knowledge and execution. As a Predictive Enterprise, Infoplex would be more agile,

maximizing its return on investment (ROI). The key to becoming a Predictive Enterprise is learning how to develop business processes and infrastructure that are connected and adaptive.

Incorporating quad-core technology would increase Infoplex's ability to provide performance and reliability—the company's greatest strengths. Its greatest challenges included addressing customer and market segment needs, allocating IT resources and maximizing system usage.

Delivering the Solution

Infoplex already had a strong relationship with Intel, and after explaining its challenge, Infoplex was invited to beta test the Quad-Core Intel Xeon processor 7300 series. This involved several weeks of testing, including query performance testing and internal load testing, to ensure that the Incite platform worked correctly with the new solution.

"We saw an immediate increase in server performance," says Kaye. "The 64-bit performance and 32-bit application support enabled us to easily support multiple customers using the same application, and we were able to provide equal performance to each client."

Quad-core-based systems provide the capability to increase compute power three to five times over single-core-based systems while controlling both energy and space requirements.¹

Infoplex's performance increase met its immediate needs to support their customer's Incite platform and was also ideal for increasing the performance capacity of the company's data centres.

"Managing data centre energy usage and space is very complicated. However, some of the smart architecture built into Intel® chipsets contributes to a reduction in power consumption and costs."

Sean Kaye
Managing Director
Infoplex Pty. Ltd.

Spotlight: Infoplex Pty Ltd.

- Infoplex, a wholly-owned subsidiary of The Leighton Group, has evolved significantly from its origins over 50 years ago as a construction company.
- Today, Infoplex is a diversified service provider to a range of private and public sector clients, providing integrated solutions to clients's infrastructure and project requirements.

Scalability means flexibility

Data centres typically house hundreds of servers. For a managed services provider like Infoplex, different customers have different server requirements, depending on types of applications, size of the user base, scope of usage, and many other factors. Some require just one server, while major customers may require hundreds. The flexibility of Intel® architecture would enable Infoplex to deploy servers according to real-time workloads.



“We choose and create effective technology platforms and support the delivery of high-tech solutions. Intel supports this through the relationship we share with them and us receiving access to new technology and strong solutions.”

Sean Kaye
Managing Director
Infoplex Pty. Ltd.

With the architecture of the Quad-Core Intel Xeon processor 7300 series, servers can be scaled up or down to accurately match customer growth rates.

Infoplex recognized the value of scalable technology. “Through being able to handle high-end and high throughput databases, it gives a strong foundation for not only this version of the technology platform, but also for the next generation,” notes Kaye.

Intel’s quad-core processor technology enables Infoplex to respond quickly and cost effectively to new and changing requirements, and is central to the viability of the company’s business.

Efficient energy usage lowers cost

Another pleasant surprise for Infoplex was the energy efficiency of Intel’s quad-core processors. “Managing data centre energy usage and space is very complicated,” says

Kaye. “We spend a lot of time trying to reduce the processor thermals in order to reduce our power costs. In most cases, it takes more energy to keep the processors cool than it does to run them.

“However, some of the smart architecture built into Intel chipsets enables us to automatically turn the processor off when they’re not being used, ramp them up as they are needed, and then return them to low power mode when not in use. All of this contributes to a reduction in power consumption and costs.”

Meeting the challenge

Translating into greater performance with fewer cooling challenges, deploying servers based on Intel’s quad-core processors would allow Infoplex to run more applications with a smaller footprint, enabling the managed services provider with revolutionary ways to achieve more with less.

Key Technologies

- Data centre servers based on the Quad-Core Intel® Xeon® processor 7300 series
- Energy efficient performance of Intel’s quad-core processor technology including:
 - Hardware features that provide unique information sensing and capture capabilities
 - Information that can be stored and analyzed, along with associated processing usage and workload consumption, to inform active systems about the run time state of the infrastructure
- These unique features can be harnessed to reduce the likelihood of firmware failures and improve the reliability of IT systems. They can also produce savings by allowing unused systems to be switched off, to transfer processing capacity to another service, or to just be closed down.

Integral Answers

- The scalability of Intel® architecture and cost-versus-performance ratio of the Quad-Core Intel Xeon processor were integral to Infoplex’s need to respond quickly to customers’ growth rates and increasing computing workloads.
- The advanced sensing capabilities of Intel’s quad-core processor technology enable Infoplex to predict its needs and act to produce both energy and cost savings. These are the key steps to becoming a Predictive Enterprise.
 - **Sense:** Infoplex wanted to overhaul its data centre strategy to respond to space, energy and cooling problems before they became a real problem.
 - **Predict:** Hardware-assisted virtualisation allows Infoplex to increase efficiency and streamline data centre management—getting a higher level of performance for less money and taking the first steps toward becoming a Predictive Enterprise.
 - **Act:** Dynamic resource management increases efficiency and simplifies business processes, enabling Infoplex to stay one step ahead of the competition.

Furthermore, by deploying quad-core processors, Infoplex has the potential to use the technology behind the Predictive Enterprise computing vision—allowing the system to sense failures before they occur and take preemptive action where necessary. Infoplex is indeed ready for the future.

Infoplex has deployed a dozen servers with Intel's quad-core processors and plans to deploy from 50 to 100 servers over the coming year. "Infoplex has been moving to a 64-bit environment, and this processor and platform combination are the one of choice," says Kaye.

The increase in computing capacity and elimination of processing queues has not gone unnoticed by Infoplex's customers. "We are already receiving positive feedback from our customers about our ability to continually be on the cutting edge of technology," says Kaye. "We choose and create effective technology platforms and support the delivery of high-tech solutions."

Service quality is critical for Infoplex. When the user base for the company's managed IT services grows, the company must expand to accommodate more concurrent users online and eliminate queues. At the same time, this expansion must be cost-efficient and deliver energy and space savings. By adopting Intel's quad-core processor technology, Infoplex has achieved this competitive and cost-effective advantage.

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Return on Investment

- Infoplex can easily expand on its customer base, increasing the number of concurrent users for managed IT services through more efficient utilization of the Quad-Core Intel® Xeon® processor 7300 series without a corresponding increase in the number of servers.
- Infoplex reported a performance increase of approximately 155 percent with the Quad-Core Intel Xeon processor 7300 series-based server systems, helping it keep up with customer demand.
- Scalability of the Intel architecture allows Infoplex to be more flexible in its server allocation, maximize its IT investment, and easily and accurately estimate costs.
- By investing in Intel architecture and quad-core processors, Infoplex is building the groundwork for the Predictive Enterprise, providing the computational capacity to meet its business demands by collecting customer data, analyzing trends, predicting needs, and acting upon them. The solution stack serves as a catalyst for business innovation for Infoplex, both today and the future.
- Using Intel's quad-core processor technology allows Infoplex to sense key metrics, predict its needs and act to produce both energy and cost savings. These are the key steps to becoming a Predictive Enterprise.



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¹Matthew Eastwood and Kenneth Cayton, Quad-Core Processors Bring Higher Performance and Lower Cost to Mainstream Computing (IDC April 2007) p. 6.

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