

Computer Systems-Distributing the Intelligence

AMD Catching Up on Speed Performance...

AMD has caught up with Intel by releasing Athlon XP 3000+ (as of 1/6/03) based on a new core called Barton. This CPU has more cache than P4: 128KB L1 cache versus 64KB for P4 and 512KB L2 (same for P4 Northwood, previous P4 version has 256KB only). Within the AMD camp, the current core (to be phased out) is called Thoroughbred and it has 256KB L2 only. This Barton CPU has an improved FSB speed for memory transfer: 333MHz (166 DDR) versus 400/533MHz (100/133 QDR) for P4 Northwood. AMD will continue to raise the performance of Barton by increasing the FSB from 333 to 400MHz (200 DDR) while Intel is improving it to 800MHz (200 QDR). P4 processors appear to have a higher bandwidth for memory transfer than AMD on the condition that dual channel DDR memory transfer is enabled and implemented. For single channel DDR, AMD Barton would have a higher memory transfer capability.

DDR 333 Lifting Desktop System Performance...

Compucon adopted DDR 333 as the memory standard for desktop systems in April. This decision of migrating from DDR 266 (PC2100) to 333 (PC2700) was based on the establishment of a business relationship with a memory manufacturer in Taiwan who was the first supplier to produce DDR 333 modules that passed all Compucon testing recently. Our tests include populating partially and fully the DIMM slots on the motherboard, mixing DDR 333 with 266, stability testing on Intel 845G and AMD KT400 platforms. In terms of performance, Compucon used PC Mark 2002 for benchmarking. It is a system level measurement tool and tends to give a truer picture than component level measurement as far as end users are concerned. The tests showed DDR 333 achieved 17% improvement over DDR 266 for Intel 845/P4 533FSB platform and 9% for AMD KT400/Athlon 266FSB (Thoroughbred, not Barton) platform. The figures do not mean that P4 has a higher memory transfer than AMD. They mean that P4 responded more to this memory upgrade. While the figures are subject to a margin of error and interpretation, we are confident that DDR 333 does help system performance. In fact, we are surprised that the figures are so significant (though lower than 25% mathematically from 266 to 333). As of July, DDR 333 cost has gone down so much that it is the same as DDR 266. 1GB module stays on DDR 266 due to extra timing requirement. Server systems also stay on DDR 266 Registered ECC for stability reasons in the meantime.

Compucon Optical Replaced Scroll Mouse as Standard...

The Compucon Scroll Mouse has been phased out and replaced by the Compucon Optical Mouse. The new model uses tiny light sources to track motion or movements whereas the old model uses a rubber ball to translate movements via 3 rollers to X-Y coordinates. It is just another case of technology migration from mechanical to optical for better response and higher reliability.

The Scroll Mouse has been in fact very reliable and our recorded statistics show well under 0.5% defect rate for 24 months of use although we realise that some customers may have thrown away blind or lamed mice without claiming warranty replacement. Most mouse casualties came from heavy-duty use. Since the new model uses optics, we expect it to last longer. It has PS2 interface and 5 buttons of which 2 are user-programmable. Its price is slightly higher than ball type but is insignificant in the system context.

Jasper Lifting in System Performance...

Jasper is Compucon's entry level desktop for average office productivity use. Its pricing is kept low by using lower performance platform and components such as SDRAM instead of DDR. Now the tide has turned. SDRAM is more expensive than DDR. We have therefore upgraded the motherboard from KLE133 chipset based for SDRAM to KM266 for DDR-266. Owing to us treating 256MB as entry level for DDR, Jasper will have 256MB DDR same as Diamond Workstation and the new Jasper will be called Jasper DDR. A bonus is that this motherboard has a spare AGP 4x slot as well as integrated S3 Pro-Savage VGA. The extra AGP slot is a feature not available for Diamond.

Compucon System Technology Advances Update...

Over the last 3 months, most technological advances happened in the desktop space. Examples are Hyper-threading, Serial ATA and Dual Channel DDR. Hyper-threading is an existing feature of Intel Xeon server processors. It is the use of un-used resources within the processor for the second application. This allows one processor to appear like two logically. Fine, but the processor running at full load may have a shorter life. Serial ATA has a small round cable and does introduce less obstruction than ATA100 with a wide ribbon cable inside the computer box. For end-users, there is no performance improvement for the present state of hard disk technology. Dual Channel DDR increases data transfer for the main memory and thus computational performance. We just need to balance it with the higher price of this function. Compucon does not necessarily implement any of these new technologies because it is talked about by the press. The criteria for new technology introduction are the effect on system stability and compatibility, genuine performance gain at end-user level, component supply consistency and backward compatibility. As of 1 July 2003, Compucon was evaluating i865/875 that includes all these 3 features mentioned above. See the next newsletter for the progress.

Email editor@cnz.co.nz if you need any explanation or information on these system platform developments or performance.



COMPUTERS NEW ZEALAND

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CNZ Corporate Newsletters

July, August & September 2003

■ Keeping You Informed of the Latest Developments in Information Technologies

Editorial

Fortune Magazine that is widely read by venture capitalists and business communities strongly criticised a recent long piece in the Harvard Business Review labelled "IT Doesn't Matter". The Harvard article said that information technology is nothing more than the infrastructure of modern business, similar to railroads, electricity or the internal combustion engine. It is one of the advances that have become too commonplace for any company to wrangle a strategic advantage from. Today's risk is not under-using IT but over-spending on it. Many well known people associated with IT have responded including Microsoft, Pricewaterhouse and NASA. CIO of FEDEX objected and said that "everything strategic in the company has IT inputs into it". CIO of General Motors also objected and pointed out that companies are deploying information systems at only the 5th grade level. As an example, many companies have not put their entire sales force on one system, blocking management from gaining an integrated view of the sales cycle. Another CIO echoed by saying that "my company is drowning in data but starved for information". The overall response is that "IT does matter". The real threat to IT practitioners like us is that many executives either feel intimidated by technology or see some technology as commodity. We have to address this issue and to think harder how to use IT to improve the strategic competitiveness of our businesses.

On the pages following, you will read about the latest developments. Enjoy your reading.

- Software and Applications
- Hardware
- Computer Systems
- Windows XP Usage Tips

Compucon 7-Year Itch Without A Glitch...

Michael Dörner of Technologywise in Tauranga wrote us this note in June 2003: We recently switched off a Compucon PC (S/N: DX5100-PM-17014) which must have been working for a long, long time. As far as I know, it originally was running as the customer's Netware file server. At a later stage somebody had converted it to run Windows 95 as a workstation and once that was getting too slow, we used it as the customer's e-mail server (Linux of course) for more than 2 years without any problem. You might be able to judge its age from the serial number. We think it has done a great job! (editor: The Compucon PC was made in July 1996. Michael Dörner and Stephen Vincent are the system consultants looking after the PC and its owner's IT requirements)

Radio Network, Kamo High and St John Ambulance Midland Endorse Compucon

If you tune into Radio Sport, you will hear Radio Network endorsing the quality of Compucon publicly. In the same advertisement, two other Compucon sites have joined the endorsement. They are Kamo High School in Whangarei (reputably the largest school in Northland) and St John Ambulance in Midland Region. This endorsement is on a nationwide program and runs for a few months during breakfast and a few other time slots.

1st Class Honours for CNZ Research and Development Division

The University of Auckland has conferred Bachelor of Technology (IT) with 1st Class Honours on Edmond and Jimmy and 2nd Class Upper Honours on Michael and Ahmed in May 2003. These 4 persons worked in CNZ R&D Division in 2002 on a LAMP project (Linux, Apache, MySQL and PHP) that was rated as two papers for their 4th year BTECH curriculum. The group has completed the prototype for a LAMP knowledge base and has incurred zero cash cost for the use and configuration of the open source software. Their product would have a commercial value of \$100,000 in market terms. The research is on-going by one MSC and three BTECH students in 2003. The objective is to turn the LAMP into an operating knowledge base. TN Chan, head of the CNZ R&D Division, is the University's Industrial Project Supervisor for these students.

Quality Assurance System Upgraded for Communication

The International Standards Organisation (ISO) published a new set of standards for quality management in year 2000 and gave companies 3 years to implement the upgrade from the 1994 edition to the latest one. This 2000 edition changes the emphasis of the scheme from being an internal operating system to one with external visibility. It imposes new requirements for companies to communicate with customers on a wider scope than just on business transactions. It also requires staff members to correlate daily activities with business objectives and customer satisfaction, and prescribes how customer-focussed processes should be organised. Compucon achieved this milestone in May 2003. Telarc, the accreditation agent, has invited CNZ to join the QA scheme as well. In the meantime, you can expect us to be reliable, doing business with us to be easy and a pleasure.

Introducing CNZ Partner in Hamilton

Steve Reader is a CNZ Technical Services Partner for the Hamilton region and is the managing director of Adena Scientific Ltd. Adena is an IT and theatre services company founded in 1988 to service the needs of small businesses, schools, churches and theatre groups. Steve has a good understanding of how IT systems can help improve business process, planning, and documentation. Steve's qualifications include NZ Trade Certificate in Radio Electronics, Registered Electrical Service Technician, A+ Service Technician Certification, and Digital Multi-vendor Server Technology Accreditation. Steve's experience includes consultancy, local area networks, data acquisition software development, design and construction of electronic equipment, and intelligent lighting control systems. Contact steve@cnz.co.nz



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■ Keeping You Informed of the Latest Developments in Information Technologies

Software-Supplying the Intelligence

An Insight into Linux Crossroad in New Zealand...

After nearly 9 months of studying the practicality of pre-installing Linux on the desktop, we have decided the next step and will move forward under the codename CNZ-DO-Linux. Many IT supply companies have attempted to jump onto this Linux bandwagon before and failed. The reason is the lack of a support infrastructure. The same would apply to us if we rushed the scheme out at the beginning of the year. By now, we have held 3 training sessions for resellers, and will continue to do further training before our official launch. We will cover the server (file and print, domain control and user authentication), desktop (with email clients, Office productivity software, and an emulator for running Windows applications) and Internet gateway (mail processor and web proxy etc). The first Linux focus group reseller will be endorsed in September. We will give you, the business community, some recommendations in our next newsletter.

Windows 2000 Server Discontinued But No Panic...

You may have received notice from the official Microsoft channel that Windows 2000 Server, Windows 2000 CAL, Windows 2000 Terminal Services CAL and Windows 2000 Internet Connector were to be discontinued as of 1 April 2003. If you still require Windows 2000 Server/CAL, you can purchase Windows Server 2003 with your Compucon system order and request a downgrade to 2000. You can do this without relinquishing the rights to Windows Server 2003 so you can install this version whenever you like.

Windows 2003 Server New Licensing Arrangement...

The new User CAL (client access licence) option will allow you to purchase a CAL for an individual user that accesses server products from any number of devices. This User CAL option benefits organisation with more devices than users. A Device CAL is still available. The Device CAL is licensed to an individual device that accesses Microsoft server products. Generally Device CAL benefits organisations with more users than devices. This is optional and mixed environments are allowed.

New External Connector License Option: External Connector licenses allow an unlimited number of external users to access an organisation's licensed Microsoft server products. External Connector users include partners and end-customers but not hosted services users. The External Connector Licence supersedes the Internet Connector License.

Terminal Server Licensing: The option to license by User or by Device applies also when you purchase Terminal Server CAL. Additionally if you use the Terminal Server functionality under

Windows Server 2003 then you will require the Terminal Server CAL - irrelevant of what you have on your desktop. This is a key change you must be aware of.

Latest Versions & Service Packs

Service packs are the means by which product updates are distributed. Service packs may contain updates for system reliability, program compatibility, security, and new features. This information was compiled by Andrew Hunt who is a CNZ partner and the managing director of Kinetics Group on 10 June unless stated otherwise.

Internet Explorer 6 SP1, Windows NT4.0 SP7
Windows 2000 SP4 as of 1/7/03
Windows XP SP1a, Office 2000 SP3
Office XP SP2, SQL 7 SP4
SQL 2000 SP3A, Exchange 5.5 SP4
Exchange 2000 SP3 + Hot fixes
Netware 5.1 SP6, Netware 6.5
Groupwise 6 SP3, Groupwise v6.5
Netware Client for Win2000 / XP v4.83+SP2
Zenworks for Desktops V3.2 +SP2
Zenworks for Desktops v4 +SP1b
Zenworks for Servers v3 +SP2
Border Manager v3.7 +SP2

Beware of Windows Background Activities Without User Notice...

After the fiasco surrounding the End User Licence Agreement (EULA) for Windows 2000 SP3, it seems Microsoft has backed down a bit with the upcoming release of SP4. A reference copy of the SP4 EULA may be found here.

<http://crob.net/eula/w2ksp4eula.txt>. The section on automatic updates now states simply "You consent to the operation of these features, unless you choose to switch them off or not use them." The EULA then proceeds to list the 5 services liable to connect to the Internet without explicit confirmation. See below. For example, if you connect a device to your Computer and the correct device driver is not available on your Computer, then Windows Update features on your Computer will by default attempt to check Microsoft websites via the Internet for the correct device driver. You may switch off Windows Update's automatic driver checking feature.

- Windows Update Features.
- Web Content Features.
- Digital Certificates
- Windows Media Digital Rights Management
- Windows Media Player

New Zealand AZUL Accounting and Business Operation...

Please email editor@crz.co.nz for more information and a demo CD that will be supplied free of charge.

■ Keeping You Informed of the Latest Developments in Information Technologies

Hardware-IT Infrastructure

Do Not Plan LAN Upgrade Without Considering GbE!

Gigabit Ethernet standard for copper wire (cat5e) is established and the price performance ratio is extremely attractive. Just like 6 years ago when we migrated 10Base to 100Base, the industry is ready to support the migration from 100Base to GbE. Products available include 10/100 switches with GbE uplink and entire GbE for down and uplinks, managed and unmanaged (for a small price difference), port segmentation and segregation, Layer 2 and 3, desktop and 19" rack mounted. Prices have dropped substantially to the level for 100BaseTX 3 years ago and are now within the reach of even small businesses. Do not plan implementation or maintenance of client networks without considering GbE.

Should We Defer Deployment of Wireless LAN (Wi-Fi)?

Wireless LAN based on IEEE 802.11 standards is an area that has been talked about for 2 years. Its performance standards 802.11a, b and g have been ratified but others (such as on QoS, roaming, security) have NOT been at this stage. In the meantime, the supply channel is already flooded with products from various manufacturers. We have also seen the upgrade of 802.11b to 22Mbps and the release of access points encompassing 802.11a, b and g. We have the opinion that we can start to build wireless networks. It is because Wireless LAN depends very much on individual site conditions and successful implementations require more practical experience than standards offer. On top of interface cards (PCI for desktop and PCMCIA for notebook) and access points, outdoor wireless access points require antenna, cable and accessories.

An Update on the Great Fujitsu HDD Fiasco...

The news in brackets was posted on the Internet on 2/6/03: "Gateway has been named a defendant in the class action launched by a US legal firm over allegedly dodgy hard drives produced by Fujitsu and sold by HP and others. The action centres on Fujitsu's MPG3xx family of drives. The complaint alleges that the defendants knew of defects on the MPG3xx drives but continued to sell them in PCs to the public. It also claims they failed to remedy the situation by only replacing faulty drives still under guarantee with similar drives." The same article indicates that 4.9 million HDD were involved and Fujitsu continued to deny any problem with this MPG3 series. The Compucon channel here was affected but we should take consolation that we cut off the use of Fujitsu sooner than any other PC vendors due to the effectiveness of our defect statistics monitoring scheme. Seagate could become another Fujitsu therefore every failure has been given due attention. There is no issue with Seagate quality at the moment.

Fortigate Beating Sonic Wall, Symantec, Check Point etc...

There were 2 types of products for protecting a company's local area network to threats from the Internet such as hacker, virus, denial of service, spam, forbidden content etc. These 2 types are software based and hardware based respectively. Software tends to be more flexible in order to allow virus patterns to be updated all the time. Hardware has better performance but limited functionality and flexibility. Now Fortigate has introduced the 3rd type of product that is neither hardware or software. It is a combination of product and service made possible with the use of Forti-OS (software) and Forti-ASIC (firmware) in a black box (hardware). Fortigate is a very new technology. Its products appeared in March 2002 in US, then in September in Australia. CNZ members are the first and only party in New Zealand to have a relationship with it. Owing to its specific innovative architecture, we believe that it is more cost effective than all products with big or small names in this sector. Fortigate is a firewall, mail processor, anti-virus filter, denial-of-service detector, spam filter, content filter, traffic shaper etc in one. Some of us would have invested a lot in firewall or anti-virus solutions already. We can deploy Fortigate in conjunction with them to provide an integrated protection. Sounds unreal. We have been and will continue to provide training for supporting this new product.

3G Cellular Phone Service in Australia Our Neighbour...

The average mobile phone user continues to seek a new handset regularly, upgrading to more featured or fashionable models. However, it is unlikely that the cost of 3G devices and services are going to be within the reach of the average user. With a relatively small population and consequently a small addressable market, getting the pricing right will be crucial in Australia not to mention New Zealand. All going to plan, Hutchison is expected to release their Australian pricing this quarter. Will consumers be willing to pay? Hutchison's UK 3G website might give some hints. The basic package starts at 60 pounds (more than A\$160). This price would exceed the combined spend on fixed, mobile and Internet services by the average British user in any given month. Despite Hutchison's intention to create new markets, for the most part, it is still a challenger in an existing mobile communications market.

Low Cost Storage Network is On the Horizon via iSCSI

iSCSI is a new standard based on the well-proven SCSI hard disk technology to connect a PC, server, workstation, etc to other peripheral devices like printer, scanner, database, etc by using the TCP/IP protocol. iSCSI uses relatively cheap gigabit Ethernet links between servers and storage devices, providing the benefits of consolidated storage without the cost of Fibre Channel. This technology is being developed. More information in our next newsletter.