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20 Years of Discomp

Rutronik subsidiary well and truly grown up

In 1988, Discomp's first product range was comprised of memory extensions of less than 1 MB. The company was oriented towards the consumer market, especially in the EDP peripherals sector. Today, Discomp as a 100% subsidiary of Rutronik, looks towards the industrial market with its memory products in the GB range.



Rutronik took over the memory specialist in 1996. At that time, the broadliner could not satisfy the needs of many industrial customers for memory products as it lacked the right franchise partner. Discomp closed this gap perfectly with its product range. *"The memory market has changed completely since then. Today, the products have a volume in the GB range. Extensions are practically no longer required at all"*, reflects Frank Bittigkoffer, who has managed Discomp since 1997. This Rutronik subsidiary has also basically changed in line with the market requirements. Today,

Discomp is set up as a distributor of hard disks, optical drives, memory modules, flash memories and mother boards for the industrial market. It thereby concentrates on leading integrators from the automation and control technology markets, such as instrumentation, weighing, medical and system technology. This distributor plays an indispensable role here as the interface between manufacturers and industrial companies: the memory components are developed almost exclusively for the consumer area and cannot be used without further ado in industrial applications. → p15

Agent software from Asentics with multicore industrial servers from Kontron

A successful symbiosis for industrial image processing



The new agent-based software architecture from Asentics for industrial image processing on surface inspection applications, such as PCB inspection, takes full advantage of the performance offered by Kontron industrial servers equipped with x86-based multicore processors. At the same time, the highly flexible agent-based software architecture accelerates the application-specific configuration of Asentics' image processing systems. The combined solution is a successful symbiosis of the latest hardware technology and the related software.

After much speculation over the last two years about the possibilities offered by embedded systems based on multicore processor technology, we are now starting to see the first applications that fully realize the promised potential. Asentics uses Kontron's multicore industrial ser-

vers to get the maximum out of its multicore capable software agents. These agents constitute the Pulsoft Director software tool that is part of the company's Videolab image processing system. What are software agents and what are the advantages for users? → p26

can also be quickly removed for convenient access. The physical design of the servers is far removed from the design of less robust office servers. Just by turning the lock on the front you realize that the system is robustly designed for highly reliable operation in

long life. They might need to be replaced due to damage incurred under violent conditions (e.g. lightning), inappropriate use, or inappropriate maintenance in extremely dusty conditions. For OEMs the decisive factor, however, is validation of the entire system that usually only needs to

physically identical components. Since Kontron develops its own boards, these completely identical configurations (with customer specific BIOS and API libraries if desired) provide a high degree of investment security. The mini-ITX, Flex-ATX, ATX and PICMG 1.x boards are available from Kontron without KISS housings. The same long-term availability applies. This makes investment in Kontron KISS servers extremely secure and (compared with boards designed especially for special server configurations from other manufacturers or third party suppliers) cost effective thanks to economies of scale. Central production in Eching, near Munich, is another advantage for European customers since it ensures a level of service that Asian companies cannot match, even if they have small offices in Europe. Similar production facilities in the San Diego, California area ensure that North American customers receive rapid deliveries and service excellence. Kontron's Premier Membership in the Intel® Embedded and Communications Alliance (Kontron is the only European & American-based company with this membership status) ensures that the KISS servers are always available with the latest embedded processors and chipsets. For example, Kontron was able to launch its latest PICMG 1.3 board simultaneously with the launch of the Intel® Q35 GMCH embedded chipset. This board offers Intel® Core™2 Quad processors and advanced



Thanks to the configuration flexibility of the KISS server system that is based on modular, standard components and scalable CPU boards, individual hardware configurations are available within just a few days.

demanding environments. What is true for the mechanics is also true for the electronics and storage media.

High reliability

The high reliability of the KISS servers under continuous operation is a decisive factor for Asentics: If the image processing system goes down, the machines and conveyors stop running or even worse there are batches of finished goods that have not passed through the image processing quality control. This is why Asentics took great care to choose the right system components such as, for example, the industrial servers: **"The Kontron KISS servers are working reliably in continuous operation at our customers' sites"**, declares Dr. Horst G. Heinol-Heikkinen, CEO of Asentics.

Long-term availability

A further critical factor in favor of the KISS server is long-term availability, which to a large extent is due to the Kontron boards that are available in the same configuration for up to 5-7 years. This enables systems that have been in operation for years to be easily and cost-effectively expanded using the same components without the need for expensive re-qualification testing and re-certification. It is also a big advantage when it comes to carrying out maintenance on industrial systems. In most cases, however, there is no need to replace the boards since they are already robustly designed for a



1, 2 and 4U KISS PCI 760 with advanced remote management features

The KISS server PCI 760 supports Intel® VPro™ technology for remote out-of-band system administration. Out-of-band administration provides access to the server via a client computer, even when the server is not running. It enables users to resolve software or boot failures and grants access when software-based management agents are not available.

be performed once during the whole life cycle of the OEM solution. This simplifies not only documentation but also long-term customer support due to the supply of functionally and

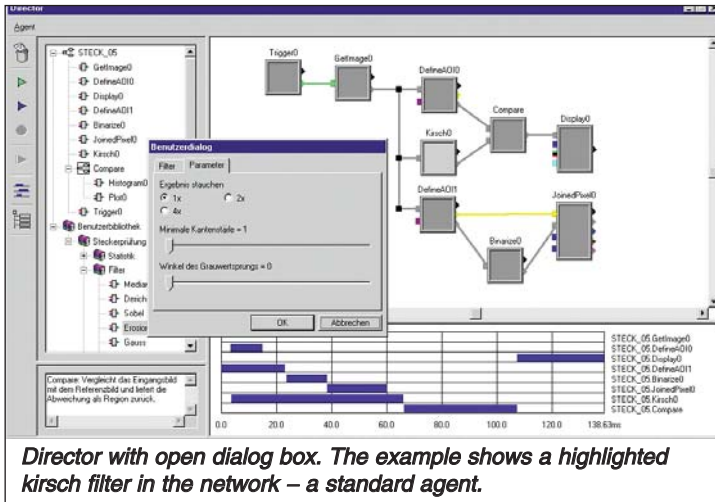
remote management functions for the 1U, 2U and 4U versions and is currently available in Europe. North American availability is expected in late 2008. →



North American KISS servers are available with black chassis and are pre-certified for NA use.

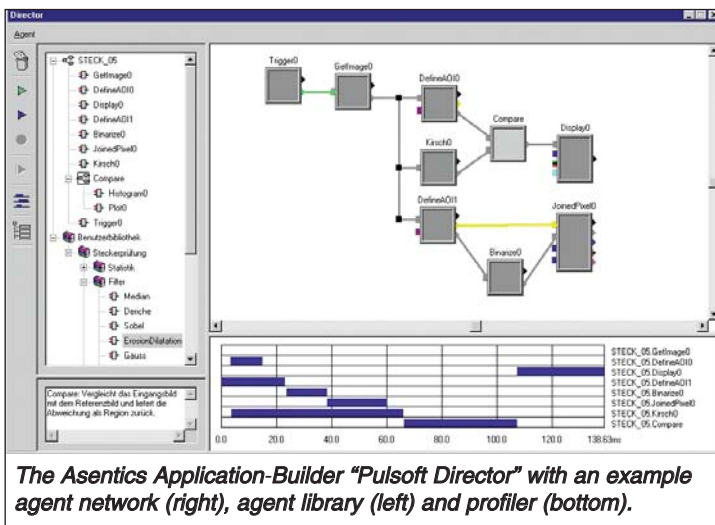
➔ High-end industrial servers with remote management functions

The new ultra quiet (<35 dB) Kontron KISS PCI 760 industrial servers offer scalable CPU performance ranging from single core and dual core Intel® processors up to the Intel® Core™2 Quad processor Q6700 running at 2.66 GHz. Performance is boosted even further by a front side bus of up to 1333 MHz and up to 8 Gigabytes of DDR2 Dual-Channel RAM. In addition to outstanding performance, these latest members of Kontron's KISS family of industrial servers also come with built-in, comprehensive Intel® Active Management Technology (Intel® AMT) 3.0 remote management engine that offers enhanced security and remote management for easier maintenance, higher system availability and, therefore, reduced total costs of ownership.



Director with open dialog box. The example shows a highlighted kirsch filter in the network – a standard agent.

System managers benefit from Intel® AMT 3.0 because they can remotely carry out tasks such as installation of a new OS or setting BIOS parameters without the need for additional remote management hardware or an on-site presence.



The Asentics Application-Builder "Pulsoft Director" with an example agent network (right), agent library (left) and profiler (bottom).

If there is an operating system failure, managers can run diagnostics, update patches and reboot the system via the network from a central service system within a few minutes. State-of-the-art system security is provided by Intel® Trusted Execution Technology and there is an on-board trusted platform module - TPM 1.2 - for software and data protection. These features make the Kontron KISS 1U, 2U and 4U servers ideal for companies that use distributed rack servers in comparatively harsh and difficult to reach environments.

For example, railway operators and facility

companies (gas, water, electricity), as well as operators of traffic lights, toll collection systems and weather stations, all confront challenging environmental conditions. Large companies with distributed shop floor systems will also benefit from these remote management features. Interface flexibility for the Kontron KISS PCI 760 industrial servers is provided by up to 1 x PEG, 4 x PCIe x1 and up to 7 x PCI, 12 x USB 2.0, one parallel and two serial interfaces (16550 UART-compatible) and

3 x 10/100/1000 base-T Ethernet. Data storage media are connected via 300Mbps SATA II interfaces and offer RAID 0, 1, 5 and 10 functionalities. If high-end PEG graphics are not needed, the integrated Intel® Graphics Media Accelerator 3100 (Intel® GMA 3100) supports DirectX 9.0c for full Windows Vista Aero compliance and resolutions of up to QXGA (2048 x 1536) at 75 Hz via a VGA connector. With a MTBF of 50,000 hours (approx. 5.7 years of continuous use) the extremely robust

and shock resistant systems ensure high availability and minimum maintenance. Moreover, the temperature-controlled and ultra quiet fans are hot swappable for easier servicing. The KISS systems come with either a desktop housing or a housing for mounting in a 19 inch cabinet. The lockable front panel, on the European KISS systems, offers IP2x protection and optional IP 5x. Designed for continuous operation, the KISS systems are CE certified and UL suitable.

The high-availability Kontron KISS-4U and KISS 2U servers support Windows 2000, Windows XP, Windows 2003 Server and Vista. European KISS systems are available as preconfigured standard systems or can be customized as needed and delivered as tested and independently certified solutions. All North American KISS systems are pre-certified to meet US and Canadian standards and are configured with processor, memory, drives and accessories to meet each customer's needs. North American availability of the PCI-760 KISS system is expected in late 2008.

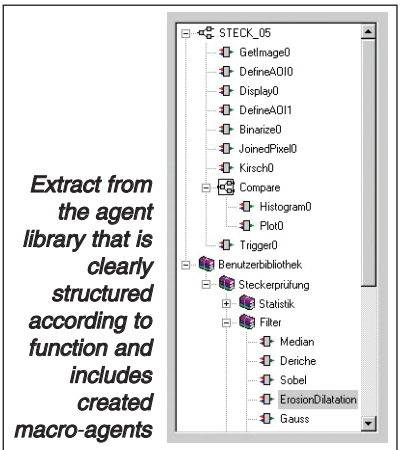
Why do you need the fastest multicore industrial servers for surface inspection?

The test speed is getting faster and faster. This increases the throughput of machines and systems. Asentics image processing solutions with multicore processors currently reach a speed of 150 ms for two dimensional texture recognition. For the production of electronic circuit boards, for example, this enables boards to be tested at a production speed of up to 400 boards per minute.

- In addition, the collected data on surface features is becoming increasingly complex: as well as two dimensional textures, it is now possible to capture three dimensional textures with nano resolution. Other tasks include complex color analyses and capturing the characteristics of complex patterns.
- Demands on documentation are also rising: With demands for maximum 100 DPM (Defects Per Million) in the electronic and automotive industries everything needs to be documented, including pictures. This requires sufficient and secure storage capacity.
- Complex systems with comparatively lower performance can be integrated into a single system for simplified administration and data security.

Simple operation with system technology

With the Pulsoft Director's graphical editor, users get a library that contains a clear and logically arranged overview of all the image analysis processes that are relevant to them. Each analysis is represented by an agent that is specially designed for that particular process. The agent has inputs and outputs for exchanging data with other agents. Using drag and drop in the graphical editor, the agents are connected to form a network. This creates a clear overview of complex analyses that is easy to edit and expand. To simplify a network, different complex networks can be united in a simple macro-agent. These macro-agents can be given names and stored in the library for later use. This method enables complex image analysis processes to be collected according to the steps that are important for the user. Each agent can be easily adjusted to suit the respective application by double clicking on the configuration dialog box. This is also true for macro-agents. Information on the agents nested within a macro-agent can also be displayed in a clearly arranged dialog box. ■



Extract from the agent library that is clearly structured according to function and includes created macro-agents



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