PROFINEWS

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PROFIBUS PROCESS FIELD BUS

in this issue

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PROFInet GAINS INTERBUS SUPPORT FOR UNIFIED ETHERNET SOLUTION

Roland Bent of Phoenix Contact

In a statement at the recent SPS/IPC/ DRIVES show in Nuremberg, November, Roland Bent of Phoenix Contact announced that the company will support PROFInet as its preferred Ethernet solution. Interbus technology will now be adapted to fit in with the PROFInet environment.

Bent said that Phoenix Contact has "decided to direct its efforts consistently towards PROFInet technologies and to work in close cooperation with PNO and its member companies to further develop this technology.

"This not only concerns the products of Phoenix Contact," he continued, "but also necessitates the integration of Interbus technology into PROFInet. In this way the two standard fieldbus systems will be consolidated into one Ethernet platform."

This responds to the demands of large user groups such as the automotive industry, said Bent, referring to a recent call from the German automotive industry association - VDA - asking manufacturers to develop a standardized Ethernet-based solution since "only in this way do we see a real advantage to the end user."

Phoenix Contact will now 'extrapolate' the advantages of Interbus to the PROFInet world. Product implementation will be seen in gateways and proxies, as well as control systems and I/O modules coupling directly with PROFInet. Engineering tools will also be developed.

PROFIBUS International Chairman Edgar Kuester commented: "This vindicates our original decision to make PROFInet an open technical solution able to embrace any fieldbus technology and its underlying philosophies. PROFInet also recognizes the de-centralized nature of today's automation structures and the critical need to integrate easily and securely with standard IT systems. We are delighted to have the support of Phoenix Contact and Interbus and it's clear that PROFInet is now poised for a major leap forward. I eagerly await the next Hanover Fair in April 2004!"

HIGH PERFORMANCE REAL TIME ETHERNET "ON TRACK"

PI Chairman Edgar Kuester

PROFInet IRT, the Isochronous Real Time enhancement for PROFInet that is aimed at very high-performance motion control applications, is exactly on track, PI Chairman Edgar Kuester told journalists at a PROFIBUS press breakfast at SPS/IPC/DRIVES.

Beckhoff, Bosch-Rexroth, Danfoss, ifak, SEW and Siemens prepared a joint white paper on the requirements and the PROFIBUS International Technical Committee 3 has started work based on that. By mid-2004, PROFIdrive V3.1 profile will be adopted and engineering and test/certification items will be finalized. Pilot devices will be shown at SPS/IPC/DRIVES in 2004, with products expected by mid-2005.

PROFInet IRT will deliver 1u sec synchronization for over 100 axes of control. It requires an on-board ASIC switch (see Page 2) and is fully compatible with TCP/ IP protocols and Ethernet PHY layers, so it will work with any Ethernet TCP/IP network without restriction or limitation.

2-PORT REAL TIME ASIC ETHERNET SWITCH

See page 2 for details

TECHNOLOGY UPDATE

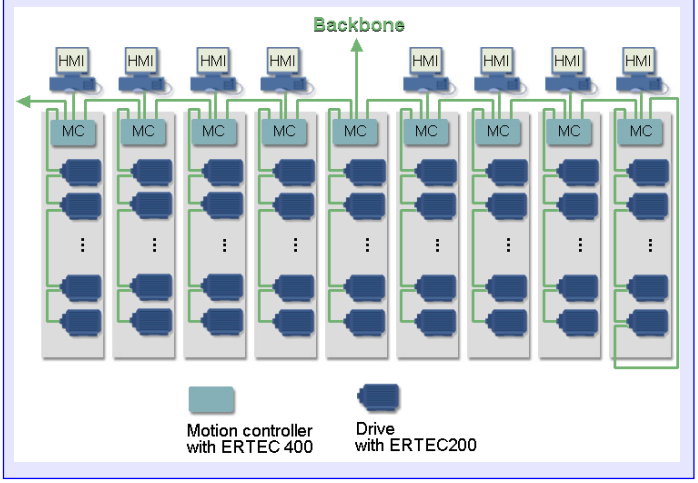
TWO ASICs PROVIDE GREATER CHOICE IN 'HARD' REAL TIME ETHERNET APPLICATIONS

At the PROFIBUS press breakfast at SPS/IPC/DRIVES it was announced that PROFInet IRT will be able to utilize either of two switch options. With the role of PROFInet IRT now clearly defined, the decision has been taken to develop not one but two hardware ASIC Ethernet switches.

Designed to be embedded in field devices such as drives, the ASICs provide either 2 port or 4 port Ethernet switching capability. This increases design and cost flexibility and will provide greater choice for implementers and end users. The chips are called ERTEC200 and ERTEC400. See below for specification.

	ERTEC 200	ERTEC 400
Functionality	2 PORT SWITCH with PHY SRT + IRT IEEE588	4 PORT SWITCH PCI Interface SRT + IRT IEEE588
Application	Single Drives and similar devices	High performance MC and real time switches
Technology	ARM 9; 0.15u	ARM 9; 0.15u
Delivery	Samples - mid-2005 Volume - end 2005	Samples - Sept 2004 Volume - end 2004
Price	Approx 19 Euro (in volume)	Approx 38 Euro (in volume)

Typical configurations for PROFInet ERTEC switches

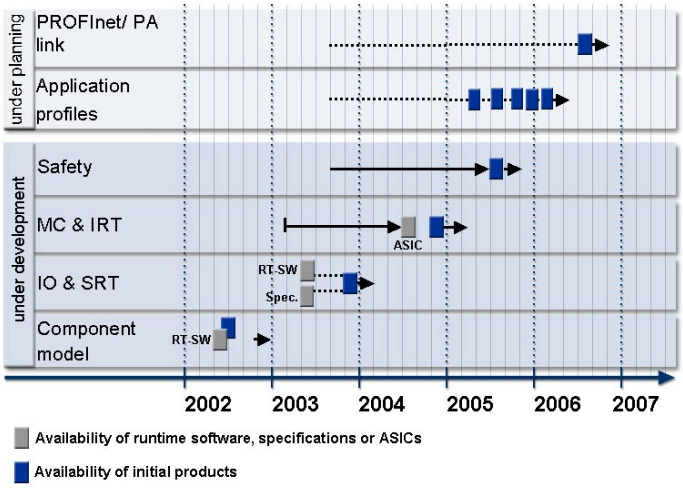


PROFInet ON THE RISE IN JAPAN

Following the successful start of the PROFInet Japanese initiative in 2001, efforts have continued to see how PROFInet technology can benefit Japanese companies. Intensive talks have led to the establishment of a separate Japanese core team for PROFInet which has focused on how Japanese companies can gain the correct understanding in Japan to allow product developments in that country. First PROFInet products have now emerged and have been shown at the System Control Fair 2003 in Tokyo, SEMICON japan 2003 in Chiba and at SPS/IPC/DRIVES in Nuremberg. They include a PROFInet/Ethernet link from Japan NOVEL, a serial interface from M-System and a communications processor from Yokogawa for their PLC system.

WHAT NEXT FOR PROFInet?

The intention for PROFInet is that the successful application profiles and high quality of the PROFIBUS standard is transferred into PROFInet, if possible without modification. This will ensure long term compatibility in all areas covered by existing PROFIBUS automation technology and allow a step by step expansion of the PROFInet solution. Over 70 experts from about 50 member companies are currently engaged in the development and expansion of the PROFInet architecture, in areas such as web integration, network management and Safety. Mission critical aspects such as security - which tend to be overlooked - are being given close attention, with localised firewalls inside the company firewall and tailored for easy use by the field engineer one possible way forward. Close liaison with relevant Standards committees is maintained to ensure that, internationally, PROFInet can meet the market's needs. Process Automation will come into focus at a later stage once major application profiles are migrated.



PROFInet USED GLOBALLY ACROSS INDUSTRIES

Six major applications for PROFInet were described at SPS/IPC/DRIVES. They include a Paint Shop, a Tobacco Mixing Plant, a Primary Tobacco factory, Baggage Handling systems, a Container Terminal and a Filling and Packaging system in a Pharma plant. In each case massive savings in engineering costs are easily apparent. The applications are in Germany, Switzerland, UK and China.

APPLICATIONS

FRANCE/ SKI LIFT

The company SEMER located at Passy in Haute-Savoie is an expert in electric engineering and automation, particularly in the field of transport by cable. It now regularly uses the PROFIsafe profile for transmitting safety signals over PROFIBUS. The chair lift 'Princess' in Megève is brand new as regards ski lift technology: it has a capacity of 2800 people per hour, thanks to 118 cabins which can hold 8 seated people each. PROFIBUS DP connects the 3 levels of optical fibre via several optical link modules and the whole network covers more than 3 km, operating at 3 Mbit/s distributed out of 3 levels. The system consists of one failsafe S7-400F PLC, ten distributed ET200M I/O Stations with Failsafe I/O Modules, managing 416 standard I/O, 100 SIL3 Failsafe I/O and 216 SIL2 Inputs. In addition there are four touch panels providing operator control and monitoring services. **france@profibus.com**

UK/ TOOTHPASTE

Colgate Palmolive, one of the world's leading manufacturers of hygiene and healthcare products, produces millions of tubes of toothpaste at its plant near Manchester, including famous brands such as Total and Ultrabrite. The company recently installed a PROFIBUS-controlled dedicated ring main to deliver purified water to six toothpaste batch mixing vessels. The water needs to be maintained at a constant 75ºC and a constant velocity to meet Colgate's hygiene standards. Modulating globe valves and zero dead leg (ZDL) diaphragm valves are fitted as part of the control system for the ring main, which includes six loops to deliver purified water to each of the batch mixing vessels as well as the main process vessel. The modulating valves control the flow in each loop in order to maintain the velocity and volume. The ZDL diaphragm valves are used to shut off the flow to the loops and direct water into the process vessel. **Bürkert Fluid Control Systems, 01453 733020 OR www.burkert.co.uk or marketing.uk@burkert.com**

PI NEWS

FRIENDSHIP AWARD

The Chinese government has awarded Mr Burghard von Glasow the Chinese Friendship Award 2003 for his activities and personal involvement in establishing the close relationship between PROFIBUS International and the P.R. China. This is the highest award that the Chinese government makes to foreign experts.

PRODUCT GALLERY

DIAGNOSTIC D-SUB

The Brad Harrison Diagnostic D-sub connector reduces installation time and makes for more effective connection and troubleshooting.It has dual cable inputs and its LCD helps pinpoint power, bus, device and termination errors. It's fully shielded for high noise immunity. An integrated port feeds diagnostic data to monitors or analyzers. **Woodhead: +49 711 782374 or mschock@woodhead.de**

I.S. MODULE

This single board solution is designed to add fieldbus functionality to devices used in intrinsically safe applications. Combined with an analog front-end (e.g. transducers), a complete bus-powered I.S. product may be realized. A powerful CPU and plenty of resources allow for complex signal conditioning or the integration of PROFIBUS PA profiles. Custom designs are available. **MESCO: +49-07621-89031-0 or hans-rainer.gansewig@mesco-engineering.com**

M12 CONNECTOR

Harting has announced a shielded M12 connector for PROFIBUS based on HARAX technology. It has a robust metal body and the HARAX technique eliminates soldering or screw terminations. Installation time is typically one third of what was previously required. **Harting: +44 1604 766686 or sales@harting.com**

POSITION CONTROLLER

The new DriveControl 683EC positioning device features a PROFIBUS port for communication with a wide range of masters. It supports all relevant encoder systems and can handle a large number of preset operating modes. An absolute, incremental or analogue encoder detects position. Units can be operated in reference, positioning, speed, torque or synchronous control modes. **Kuhnke: +49 45 23 4 02 0 or www.kuhnke.com**

COUPLER

The FD-10 coupler is able to transfer PROFIBUS data between networks using serial links, without the need for special drivers or cards. Point-to-point and multi-drop options are possible. Modules are fully compatible with PROFIBUS DP and can facilitate transfer of up to 65 words per cycle. **Westermo: +44 1489 580585 or sales@westermo.co.uk**

DP-V1 MASTER MODULE

A new master module for PROFIBUS DP and DP-V1 is available for the Anybus plug-in modular communications solution. The embedded plug-in module is optimized for complex automation devices such as PLC, CNC, HMI or Robot controllers. It supports up to 125 slaves and all cyclic and acyclic PROFIBUS services including alarms are implemented. The Windows-based NetTool-PB software is used to configure the module. **HMS: Tel: +49-721-96472–11 or miv@hms-networks.de or www.hms-networks.de**

AROUND THE WORLD

JAPAN

The System Control Fair 2003 in November featured products from 25 member companies. There was also an active multi-vendor PROFInet demo, including the integration of DeviceNet. The easy graphical engineering approach and the simple data access method via OPC from IT levels computers were also demonstrated. PROFIsafe and the Tokyo test lab were featured on the booth, too. On November 12th at the Fair, a PROFInet workshop was held, at which the Chinese

PROFIBUS Organization gave a presentation (pictured). Many people were surprized to hear about the big market share of PROFIBUS around the Beijing area. The Japan Fluid power organization selected fieldbus as the theme of its Young Engineer meeting on October 22nd and invited JPO to give a presentation to about 17 engineers from 12 companies. JPO was also present at SPS/IPC/DRIVES in Germany where they showed a PROFInet panel, and at the December SEMICON fair in Chiba. JPO will give a PROFInet presentation at the Manufacturing Science and Technology Center in Tokyo on December 10 and is planning a seminar for February in Kyushi. Later, this will be taken on tour.

USA

Following the PTO's success at the ISA EXPO, activities are currently subsiding in the run up to Christmas. During 2004 PTO is planning numerous workshops, seminars and training sessions. mike.aldridge@profibus.com

IRELAND

Automation Research Centre (ARC) based at the University of Limerick is expected to be officially confirmed as the Irish PROFIBUS Competence Center after the completion of an official accreditation visit by PROFIBUS International experts in February 2004. Simultaneously, ARC, in co-operation with Siemens, will host a one-day seminar on fieldbus technologies, including PROFIBUS, PROFInet, PROFIsafe and FDT/DTM. The main presenter is Manfred Popp, a well-known authority on PROFIBUS. www.ul.ie/~arc or hassan.kaghazchi@ul.ie

UK

A PROFInet workshop was held in November in Manchester. A process seminar was also held addressing key issues such as Asset Management with PROFIBUS and the intelligent use of PROFIBUS data from the field. A demonstration of open standard engineering tools was given, along with an overview of PROFIsafe in the process industries. The Ragley Hall conference planned for 2004 is taking shape - details from www.profibus.co.uk

SWITZERLAND

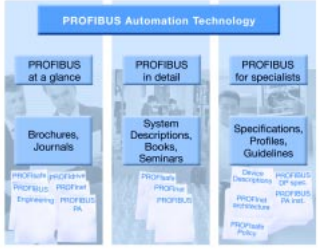
More than 180 people attended the third PROFIBUS day in Basel. Highlights included demonstrations of multi-vendor PROFInet and

PROFIsafe equipment, the first practical demo of PROFIdrive V3 devices and an FDT/DTM seminar at which every visitor received a free copy of an FDT framework.

Presentations of practical experiences were made by several end users. All documentation can be read on www.profibus.ch

PI NEWS

FULL INFORMATION ... AND A WEB SITE UPDATE



PROFIBUS International makes it very easy to find out more about PROFIBUS specifications and profiles via www.profibus.com. You'll find extensive information about PROFIBUS and PROFInet to suit every knowledge level, as follows:

PROFIBUS at a glance

For those who want to get a first impression there is a range of journals and brochures

PROFIBUS in detail

There are System Descriptions of PROFIBUS and PROFInet for those who need more detailed information

PROFIBUS for specialists

Finally, if you use PROFIBUS or PROFInet in your plant or want to build a device, you can read the PROFIBUS and PROFInet specifications, profiles and guidelines.

Product Guide

This is the definitive source of product information, incorporating around 2500 products at present. It has been updated recently and now has new product groups, optimized search functions and GSD files for download.

Other site updates include new pages for the Regional PROFIBUS Associations.

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