



The official email newsletter of the PTO in North America

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DEBUNKING THE MYTHS



Myth: An ongoing, lengthy discussion in a [Control.com](#) blog has highlighted the question of what's 'open' and what's 'free'. Michael Griffin wrote about Ethernet/IP on 6 April, 2008: "It's not just that you have to pay for the spec. It's that the specs are available only to 'qualified vendors'. In other words, Rockwell's marketing department decides case by case whether it is to their advantage for you to be able to talk to their equipment. It is a very closed, very proprietary protocol just like PROFINET."

Response: For the Ethernet/IP response, you'll have to look elsewhere. Here we want to debunk the idea that PROFINET is a "very closed, very proprietary protocol." The PROFINET spec is published as an International Standard by IEC so it is 'open' and can be used by anyone. There is a cost, but that's normal for international specs. In our case, the wide choice of development tools shields you from having to actually own the PROFINET spec. Become a member of our organization (only \$550 for developers with fewer than 10 employees) and you get lots of additional help too. For example, the PROFIBUS Interface Center in Johnson City provides free consulting support to developers of products. Other benefits include the chance to certify your product - mandatory in the case of PROFINET because of the critical importance of interoperability - and then you can use the logo on products to prove you are compliant. Finally, you get to be a member of the largest fieldbus community in the world and have your products promoted on-line, in this newsletter and elsewhere. All of which is a low-cost, excellent-value way to get on board with PROFINET ... and surely a small price to pay for the best Industrial Ethernet technology in the world?

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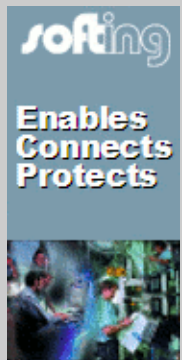
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GENERAL NEWS

PROFINET PASSES 1 MILLION - AND IT'S CONFIRMED INDEPENDENTLY!:

In a significant press conference at [Hannover Fair](#) in April, new PNO Chairman and PI Chairman-designate Joerg Freitag (right) announced that by the end of 2007 the number of installed PROFINET nodes had reached 1.14 million. He told journalists that the numbers had been collected by an independent 'notary' (a lawyer mandated to do this kind of work) and that vendors taking part had submitted their individual numbers in confidence. "Only the total is known to PI," he said.



Freitag: Asked: 'How do other organizations count their numbers?' Freitag replied: 'We don't know. You'll have to ask them!'

These are the first 'official' numbers to have emerged from our marketplace, he added. Furthermore only automation devices such as PLCs, remote IO stations, HMLs, robots, proxies, drives, and sensors were included. Devices like switches, hubs and peripherals (e.g. printers) were omitted. At the press conference a journalist asked: "How do other organizations count their numbers?" "We don't know," Freitag replied, "you'll have to ask them!"

PI will update the numbers at regular intervals to show the ongoing success of PROFINET. It is expected that 3 million nodes will be reached by 2010.

Freitag also announced that PROFIBUS sold 4.5 million nodes in 2007, bringing the total to 23 million. "We're well past 24 million today and expect to reach our next target of 30 million before 2010," he said.

These latest numbers, he commented, send out a very strong message to the market about the reality of PROFIBUS and PROFINET solutions. "PROFIBUS is the most successful fieldbus of all time - in all industries - and PROFINET is on its way to replicating that success!" The growth curves are almost identical, he added, so we feel confident that PROFINET will prove to be the most successful Industrial Ethernet of all time!

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IO-Link INTEGRATION WITH PROFIBUS AND PROFINET: PI has published the specification for integrating IO-Link into PROFIBUS and PROFINET systems. IO-Link is a fieldbus-independent connectivity method for intelligent sensors, designed to bridge the last meter between an IO block and the device, using conventional wiring but superimposing digital communications. Aimed at new generations of intelligent sensors - but retaining full compatibility with older types - IO-Link allows configuration and diagnostics to be performed from an engineering station instead of at the sensor. Almost all sensor manufacturers, and a host of manufacturers of I/O modules, have introduced IO-Link products. The new documentation facilitates the integration of IO-Link in PROFIBUS and PROFINET systems. The physical layer and protocol specification of IO-Link is independent of PROFIBUS and PROFINET so IO-Link can be subordinated to all fieldbuses and Ethernet-based systems. Work to integrate IO-Link into additional fieldbus systems is already underway. An independent device description for IO-Link, (IO Device Description, or IODD), is also under review. [IO-Link Integration Part 1.](#)

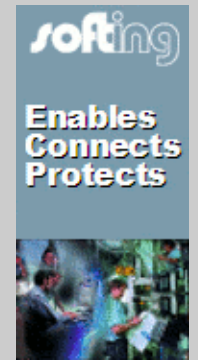


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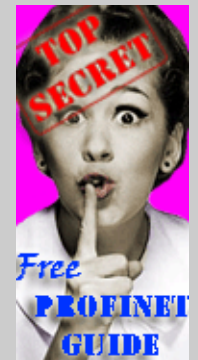
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ONE DAY TRAINING EVENTS: The PTO and PROFi Interface Center training classes continue apace. Classes center on PROFIBUS, PROFIBUS in the process industry and PROFINET. Attendees receive a certificate for 5.5 Professional Development Hours (PDH) and PTO raffles a week-long Certified Network Engineer Class (a \$2695 value) at each PROFINET event! The table below summarizes upcoming classes. There's more on the web [here](#).

UPCOMING VENUES		
PROFIBUS	Process	PROFINET
Richmond, VA May 13th	Calgary, AB May 1st Anchorage, AK May 29th	Raleigh, NC May 15th
Tulsa, OK June 17th		Anaheim, CA June 11th
Atlanta, GA July 16th		
	Joliet, IL	Scottsdale AZ Aug. 4th Dev Workshop Aug. 5th

PROCESS WEBINARS: If we're not coming to a city near you with our training then join us for our brand new webinar series. PROFIBUS in the Process Industries will be the theme of our first four events. [More information here](#). Previous Industrial Ethernet and PROFINET webinars are [archived here](#) to be viewed at your convenience.

PROFINET DEVELOPER WORKSHOPS: PTO also sponsors a series of PROFINET Developer Workshops at no charge. Targeted at developers and marketers of control devices each **free** half-day workshop provides an explanation of the PROFINET development tools available. Prior attendance of one of the Training Classes (the next one is in Scottsdale AZ, see above) is mandatory. **Topics covered:** Following a brief overview of tool types, nine development tools are introduced. Development tool providers Altera Corporation, Grid Connect, Inc., Hilscher North America, Inc., HMS Industrial Networks, Inc., IXXAT, Siemens Energy & Automation, Real Time Automation, Softing North America and Molex are available for consultation. Each has a unique approach. The workshop will help determine which tools suit your needs.

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HANNOVER FAIR - FROM A PROFINET-TER'S POINT OF VIEW: [PROFIblog](#), the PTO's center of gravity in cyberspace, has focused a lot on Hannover Fair of late. Carl Henning, PTO's Deputy Director (that's him, left) spent a lot of time tracking down PROFIBUS and PROFINET stories. In the Blog he presented his own take on many items of interest at Hannover, including IO Link (it's finally come of age, says Carl), news about *two more* PROFINET masters (does any other IE technology have more than one? he asks), and even a video of the Wednesday night booth party (a Hannover tradition, with nice beer and music). To follow Carl's comments [start here](#). Don't forget to subscribe to the [RSS feed](#) that will deliver PROFiBlog to your PC screen free of charge each time it's updated, with hardly any involvement from you.



Above - PROFINET 'wall' at Hannover Fair, featuring 109 products from 19 vendors and, below, one of the daily PROFIsafe presentations.



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STRATEGY WHITE PAPER: At an International meeting held during Hannover Fair, PTO Executive Director and PI Acting Chairman Mike Bryant met with Regional PROFIBUS Association Chairman and personnel from Italy, Brazil, Switzerland, Belgium, France, Germany, UK and North America to discuss key topics. He unveiled two important White Papers, the first about PROFIBUS and PROFINET and their very close strategic relationship. Many observers believed that Industrial Ethernets like PROFINET would supplant fieldbuses, such as PROFIBUS, years ago. Not so, said PTO, PI and PNO in unison, though few people listened. (If you are a skeptic, take a look again at the [figures quoted above](#) for evidence that it is just not true.) PROFINET was designed to be fieldbus-friendly (not just for PROFIBUS, but also all the other fieldbuses you'll likely come across) and, further, to utilize as many common features with PROFIBUS as possible - for example common engineering concepts, and common PROFIsafe and PROFIdrive profiles. The result, says the White Paper, is a powerful automation combination offering the modularity and flexibility needed to automate, evolve and update all kinds of manufacturing plant easily. Not all features have to be used at once, enabling users to choose what to deploy, and when. The next full meeting of RPA Chairman takes place in Tokyo on May 27th/28th. [Download the paper here.](#)



PTO Executive Director Mike Bryant shows two new White Papers to a PI meeting at Hannover Fair.

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ENHANCING THE PERFORMANCE OF PROFINET: The second White Paper unveiled at Hannover Fair explains how PROFINET's performance in simple line structures with small data messages can be enhanced. By minor changes to the way PROFINET handles Ethernet telegrams it's possible to improve the performance substantially. A demonstration system was shown at Hannover Fair. [Download the paper here.](#)



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ROUND TABLE FOR PRODUCTION SECURITY: Leading representatives of German industry, including PNO, PTO's sister organization in Germany, represented the 'Security in Automation' steering committee in February for an exclusive 'round table' talk at the premises of the German TV station ZDF in Berlin. The committee is a panel of leading industrial associations, of which PNO is a member along with ZVEI, VDMA, NAMUR, SecIE and VDI/VDE.



The importance of IT security for manufacturing industries and OEMs was the main topic. Companies taking part included BMW, Bayer and Nestle from the consumer goods industry, Lenze and Siemens from automation and Victoria, an insurance company. Valuable feedback about insurance and liability was shared. The damage caused (both self-inflicted and from third parties) is difficult to estimate and obtaining adequate insurance cover is particularly difficult.

All participants agreed that Ethernet in the production arena will require additional measures to guarantee IT security. These have to cover both the automation and the IT level, as the management level of the enterprise is now functionally linked with automation. Measures related to production staff are of importance because lack of knowledge amongst personnel is very often the cause for security-related failures. This means that both technical and organizational measures need to be defined and communicated to everyone in a manufacturing enterprise in the form of strict company policies that are rigidly policed.

PI has always considered security to be critical and has published a document

called the 'PROFINET Security Guideline' - to help. The PROFINET security concept meets the requirements of network security for Ethernet-based automation systems in manufacturing. The concept fulfills the demands for access control, data encryption, authentication and the logging of security relevant events. Find the Security Guideline [here](#).

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FOUR NEW PROFILES: Four new profiles have been published to suit specific application domains for PROFIBUS and PROFINET. These are:

- [Profile for Encoder devices](#), related to PROFIdrive V4.1.
- [Profile for Intelligent Pumps](#).
- [Physical Layer Medium Dependent Sublayer](#) on 650 nm Fiber Optics.
- [IO-Link Integration Part 1](#).

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GENERAL ASSEMBLY MEETING UPCOMING: PTO's annual General Assembly Meeting (GAM) is scheduled for August 5-7 at the Marriot at McDowell Mountains in Scottsdale, AZ. PTO invites all members to attend what is an informal but highly educational and valuable networking event. End users are particularly invited to present their stories - [email Carl](#) if you're a user and would like to take part. A PROFINET Training event and a PROFINET Developer Workshop take place on the two days preceding the GAM - Training on August 4th and the Workshop on the 5th. You must attend the Training day to qualify for the Workshop. [Details of the GAM here](#).

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NEW BOARD MEMBER: The PTO has appointed Victor Wolowec (right), Vice-president, Solutions Business at Endress+Hauser, to its Board. Mr. Wolowec will be replacing Todd Hubbell, who was recently promoted to Vice-President of Logistics at Endress+Hauser.



New PTO Board Member Wolowec of E+H.

"We are genuinely sad to see Todd leave the PTO Board of Directors," said Michael Bryant, Executive Director of the PTO. "He has been an ardent supporter of the PTO for many years and has contributed greatly to our success during his tenure. We are extremely happy about his Endress+Hauser promotion and will surely miss him." Bryant adds: "We welcome Victor to the PTO Board and look forward to many successful years' of his participation."

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WORLD NEWS



JAPAN: The Japanese PROFIBUS Organization (JPO) held two further PROFINET seminars for developers in March, attended by 65 engineers. PROFINET seems to be one of the most powerful candidates for future plants, so there is great interest among Japanese engineers. JPO members - among them Hilscher, HMS, Softing, Siemens and Woodhead - made presentations about their development tools. **UK:** The program for the PROFIBUS and PROFINET User Conference 2008 has been published. In May, PNO UK members are helping users learn how to simplify their PROFIBUS automation application with a one-day seminar called 'Practical Aspects of PROFIBUS in Factory Automation'. **IRELAND:** PROFIBUS Ireland, in cooperation with ISA

Ireland, held a technical talk on PROFIBUS technology in February. ISA Ireland has invited PROFIBUS Ireland to hold a similar presentation at their annual exhibition and seminar. **SOUTHERN AFRICA:** At the recent Annual General Meeting, outgoing Chairman Dieter Dilchert reported on the organization's achievements in the past months. The newly-established Automation Training Council has now trained more than 60 students. Edwin Bauer of ABB follows Dieter as Chairman. **SOUTH EAST ASIA:** For the first time, PROFIBUS South East Asia has visited Vietnam, at the Processing Instrumentation and Analysis & Lab event in Ho Chi Minh City. **GERMANY:** The first PROFINET workshop of this year took place in February at Würzburg with more than 40 participants. HMS, Hilscher, Siemens, TMG TE, Gleichmann Electronics, KW Software and Softing presented their support products.



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NEW PRODUCTS

GIGABIT SWITCHES: The SMCS 6GT/2SFP Smart Managed Switches from Phoenix Contact have Gigabit Ethernet ports and also fiber interfaces. Gigabit performance leads to excellent real-time properties for use in PROFINET RT networks. At the same time, IT real-time services such as video or Voice-over-IP can be implemented with high levels of data throughput. The switches have two optical interfaces for which segment lengths can be up to 70 km. The switches are compatible with PROFINET engineering tools. A pluggable configuration memory with M12 connectors lets you easily exchange devices. [PHOENIX CONTACT](#).



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ASSET MANAGEMENT WITH FDT: AssetView is an asset management system supporting PROFIBUS, using simultaneously EDDL and FDT/DTM. From a list of configured PROFIBUS field devices it's possible to access directly the DTM for the chosen equipment, making parameterization, uploads, downloads, etc. very simple and fast. Operators can perform maintenance through scheduled programming routines, including notifications by e-mail, without needing specific software. AssetView also allows the inclusion of the equipment in a library that contains datasheets, manuals, maintenance procedures, notes, pictures and internet links for their vendors. [SMAR](#).



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MASTER API: PROCENTEC has a master API for its ProfiCore product which makes it possible to personalize applications for PROFIBUS DP. Anyone with C++ or Visual Basic knowledge can now control their processes exactly as they want. It uses technology from ProfiCaptain to exchange data with nodes in the DP network. Now, for example, it is possible to periodically control the I/O of the nodes and view it on-screen. Automated maintenance tasks can be easily performed from the control room: the 'Scan Network' or 'Steal slave' concept can be part of the application. This provides enormous flexibility in any PROFIBUS DP network. The API supports DP-V1 and is free of charge for ProfiCaptain users. [GRID CONNECT](#).



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ANALYZERS AND TESTERS: Softing has new firmware versions of its PROFIBUS Protocol

Analyzer V1.20 and its PROFIBUS Electrical Tester PB-T3 V1.50. The new versions are available as a free download from Softing's web page. They enhance the Analyzer to concurrently analyze and cross-check PROFIBUS DP and PROFIBUS PA networks. Softing's Electrical Tester PB-T3 is designed to automatically analyze communication problems based on electrical issues. It is also the only tool able to determine a PROFIBUS DP topology. The PB-T3 also displays the average signal level for each device and, more importantly, the minimum and maximum deviation from this signal level. Many puzzling communication problems can be traced back to sporadic changes in signal levels. [SOFTING](#).

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PROFINET GATEWAYS: TURCK has a new BL67 Ethernet gateway for PROFINET. I/O modules are configured independently of the fieldbus, and up to 32 I/O modules may be connected to a gateway. This means systems may include up to 512 digital I/O or 128 analog channels. All BL67 systems use TURCK's free I/Oassistant software package to perform the initial configuration, parameterization, documentation, commissioning and diagnostic functions. It is recommended to use I/Oassistant to verify that all restrictions regarding power and size are met. I/Oassistant can be downloaded for free. The PROFINET BL67 gateway is compatible with TURCK's RFID system. [TURCK](#).

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