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Introduction

Like the universe itself, interest in, and support of, the PMBus microcosm continues to expand. We are adding new members each quarter, as you will read in the *Membership Updates* section of the newsletter.



The portfolio of PMBus-compliant products is growing every quarter. The number of technical questions related to implementation from system designers is increasing.

In support of our growth, it is nearing the time to refresh the PMBus website www.pmbus.org. In addition to a new “look and feel”, there are also several internal functionality improvements that have been identified. The board has engaged website design consultants and are working to refine the requirements. If you have suggestions,

members are encouraged to send their input to us at admin@smiforum.org.

SMBus Update.

The SMBus council continues its work on version 3.1 of the SMBus specification. In addition to correcting various typos and adding clarification that users have identified, a change request will be implemented to the ARP definition (Address Resolution Protocol). In order to ensure the change does not affect existing devices which are compliant to the SMBus 3.0 specification, the council recently solicited feedback from almost 300 persons on our PMBus contacts mailing list. As no objections were received, the change request will be implemented in version 3.1 which is due to be released before next March’s APEC Exhibition.

For reference, a summary of the change is as follows:

SMBus 3.0 section 6.6.3.5 states that “Assign Address” command must reprogram the Persistent Slave Address and this represents problem to NVMe-MI. If an address is modified and the NVMe-MI device is moved from a system with ARP to one without ARP then the second system will not be able to find the device at some random-like address provided by the initial system. For this reason the system designers that do not use ARP put the hard requirement in that the NVMe-MI device always returns to a default address when power cycled. The minor disadvantage is that ARP systems must always reconfigure drives on hot swap.

Should there be concerns or comments, please send a detailed email to the SMBus council at techquestions@smiforum.org. and priorities.

Membership Updates

During the last quarter two new members joined the PMBus ranks. A warm welcome goes out to AcBel Polytech Inc. and NXP Semiconductors, both of whom already offer an impressive slate of PMBus-compliant products. The PMBus consortium now has 43 'Full Members' plus one additional 'Tools Member'.

AcBel Polytech, established in 1981, has R&D headquarters in Taiwan with design centers in China, United States and Malaysia. AcBel addresses environmental responsibility issues through commitment to products and services that improve energy efficiency and reduce potential harm to the environment. Standard and custom power solutions span the range from 3W to 10kW.

NXP Semiconductors, based in The Netherlands with operations in more than 33 countries, creates solutions that enable secure connections for a smarter world. Building on its expertise in high-performance mixed-signal electronics, NXP is driving innovation in the areas of connected cars, cyber security, portables & wearables, and the Internet of Things.

Interested in joining PMBus? Get a detailed description of the System Management Interface Forum and membership benefits by clicking [PMBus Organization Overview](#). Or, just send an email to admin@smiforum.org

to get immediate answers to specific questions.

New Product Announcements

TDK-Lambda introduced the QM7 series 1500W AC/DC modular medical power supplies with optional PMBus communications. The BF-rated power supplies can be configured with up to 16 outputs from 2.8V to 52.8V. Featured are low acoustic noise, full MoPP isolation and a seven-year warranty.

Ericsson Power Modules announced the BMR458 advanced bus converter with power rating up to 650W. The industry standard quarter-brick converter offers active- or droop-current sharing. Other features include dynamic load compensation, snapshot parameter capture and a PMBus v1.3 interface.

If your company has new products that you would like to be included in our next newsletter, just send an email with the subject line "new product(s)" and the details to admin@smiforum.org. Then watch this space for updates.

Website Updates

More and more of our members are taking advantage of their dedicated *Products* page by adding their company's PMBus-compliant products and support material. No less than 23 companies are now showing 354 total items. That's an increase of 39 additions since last quarter. We encourage you to contact us when you are ready to include or update your company's product listings.

You can click here to see an example of the new [Monolithic Power Products](#) page. And, be sure to utilize the “Featured Product”, option which includes graphics on your company’s page. Please send any request for changes to admin@simforum.org.

Promotional Activities

We have received several suggestions recently for paper presentations at various industry events, and are pursuing. We also continue to solicit articles for publication and other avenues for publicity. If you have ideas on how to increase the visibility of PMBus, then please feel free to contribute by contacting us.

Upcoming Events

APEC 2018. PMBus will be exhibiting in next year’s APEC Conference being held in San Antonio, Texas on March 4-8. The Board would like to focus the events on the use of application profiles in point-of-load modules and supporting development tools. Several member companies have already expressed interest in demonstrating the PMBus capabilities of their products.

If your company is a PMBus member and would like to be considered, then please contact us at admin@smiforum.org. You should identify the product(s) that you would like to demo in the booth, and also give a brief description for a 20-minute presentation that could be made during the technical sessions.

FAQ

The newsletter’s *Frequently Asked Question* section includes two selected questions which have been received, along with the detailed answer.

Question: *What are the optional signals for a PMBus system?*

Answer: Optional PMBus signals include the CONTROL signal, which acts as a hardwired on/off signal, and SMBALERT#, which is a signal for a PMBus device to notify the master or system host that it has information or needs attention, such as in the cause of a fault condition.

Another optional signal is WP (write protect), an input to a PMBus device that can control write access to a PMBus device.

Question: *What are Manufacturer Specific PMBus commands?*

Answer: When developing the PMBus specification the Specification Working Group recognized the need for device manufacturers to add their own unique value, albeit at the cost of interoperability with devices from other manufacturers. To accomplish this goal, the PMBus specification designates several command codes as Manufacturer Specific.

Possible uses of the Manufacturer Specific commands are:

- A command to download firmware updates,



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- A command that reads back of all of the device status in one command,
- Commands for calibrating additional parameters, or
- A command to download coefficients for a digital compensator.

If a manufacturer does use one or more Manufacturer Specific commands, they must provide a full description of the command, including transaction type and data formats, in their product literature.

Have a question about the PMBus or SMBus specifications? The System Management Forum provides free support. Send your question to techquestions@smiforum.org and a PMBus or SMBus consultant will respond.

Other Items

The PMBus logo is a registered trademark of SMIF. PMBus adopters who are SMIF

members in good standing are allowed free, unlimited commercial use of the PMBus name and logo. Proper usage of the name and logo is important in order to retain our rights. Please encourage your company's marketing communications department to collaborate with SMIF whenever there are publications or questions.

Please remember to use the TM symbol when referencing PMBus and AVSBus in data sheets, press releases or other written material. It does not have to be done for every occurrence, but should be included in any title or blurb and with the first usage in the main text for articles. The logo graphics for web postings and hi-res print can be downloaded from the [resources](#) section of the PMBus website.

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