

THE REPORTER

Journal of the Central-Indiana Section • IEEE

CIS-IEEE Announces Officers for 2011

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Director(1st Year)	Steve Shen	317.706.9215	sshen@itt-tech.edu
Director(2nd Year)	Will Kassebaum	317.225.4126	will.kassebaum@IEEE.org

The CIS-IEEE welcomes any and all members who wish to serve the membership by becoming section officers. If you are interested in participating, please contact Mr. Earl Hill at eshill@loma-consulting.com or 317-726-1236 for more information.

In addition to officers, the CIS-IEEE is looking for volunteers for a number of other roles. These include the following positions:

- Chair, Communications Society
- Chair or member, Finance Committee

Is There an SSD in Your Future?

by Duane Mattern
Sampled Systems, LLC

Solid state drives (SSD) are a replacement for hard disk drives (HDD) and they have become more common as their price continues to fall. They tout better mechanical reliability, (no moving parts), and better performance due to faster response. I could go into deep detail about these issues, but there are already a lot of websites with detailed performance comparisons. Instead I'll talk about my experience with an SSD conversion. I recently added an SSD to a laptop in hope of improving performance. The laptop is a Dell Precision M4400 running Windows XP.



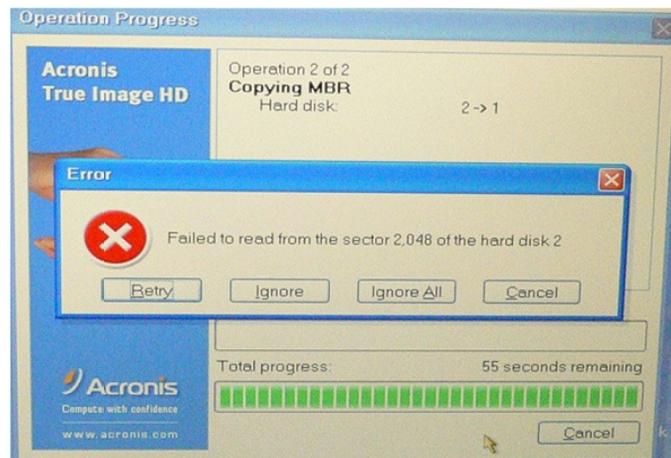
I purchased a Kingston SSDNow V+ Series 64-GB SATA, 3GB/s, 2.5-inch SSD with the notebook upgrade kit from Amazon for about \$160. The kit comes with a 2.5-inch, 64-GB SSD, a USB external hard disk drive (HDD) enclosure and cable, and a CD-ROM that includes the Acronis disk cloning software. The kit also comes with a 3.5-inch mounting kit for desktop computers which I didn't need.

The laptop has an existing 160-GB HDD, but I managed to back up enough files so that I could get the used space under 60 GB so that it would all fit on the SSD.

The kit is pretty easy to use: yank the hard disk and install it in the external USB hard disk enclosure; install the SSD in place of the hard disk, plug in the external USB hard disk and reboot from the SSDNow CD-ROM to run the Acronis True Image cloning software to

copy the original HDD to the SSD. After the cloning process is complete, reboot to SSD with a copy of your original setup. Simple right? Well, I encountered two issues, both of which should be done prior to installing the SSD.

First, it's a good idea to check the original HDD for disk errors so that the cloning software doesn't have to deal with the errors. Under the Windows operating systems, this implies running a program like CHKDSK prior to removing the HDD.



are better for large file access than small file random access. What of other performance criteria? It is somewhat subjective, but in my opinion the boot up and shutdown times are much faster. Also, starting up applications like Word, Excel, or MatrixX is much snappier. No longer am I drumming my fingers, growling, "Why do I have to wait for this stupid machine!!".

What did I do with the original HDD? Well, with the availability of 16-GB USB flash drives, I rarely use a CD-ROM/DVD player/recorder any more. So I yanked the DVD player, and replaced it with a second HDD caddy from NewModeUS.com for about \$50. I now use the SSD for all Windows applications programs for improved response time and I store all application data to the HDD.

Is it worth the plunge? I think so. The update provides enough performance improvement that it'll prolong the useable life of the laptop by at least 18-24 months and as SSD prices continue to drop, it will become an easier decision.

* * * * *

This isn't a major issue, but running CHKDSK prior to cloning makes the cloning process easier.

The second problem was with support for SSDs in the laptop's BIOS. When I re-booted with the Acronis cloning disk after installing the SSD, the SSD was visible from the Acronis program. But after the cloning process I rebooted to the SSD and the SSD was not visible to the laptop. The reason for this wasn't apparent, so I had to do some research on the internet with another computer to find out that the problem was likely due to an old BIOS. I proceeded to the Dell website; entered the Dell laptop service tag number; found the latest BIOS=A24 for M4400, and installed the BIOS update. The main hassle with all of this is that the Dell BIOS upgrade program is a Windows program, which meant that I had to remove the SSD, reinstall the HDD, boot to Windows; run the BIOS upgrade program; shut down windows; remove the HDD; and reinstall the SSD. After updating the M4400 to the A24 BIOS, the SSD booted properly and I was then off and running.

So, what about performance? After the SSD installation, I ran an embedded software build script that involves a number of Perl scripts, makefiles, code generation, and C file compilation. Surprisingly there was no difference in the build times, 25 minutes both before and after. This was a little bit of a letdown, but according to some websites, this is because the Kingston SSDs

PES-IAS 2010 News

The PES-IAS recently completed the Fall Short Course – “Electric Vehicles and Their Impact”. These four sessions dealt with various aspects of electric and hybrid vehicles, and how they are a “game-changer” in the energy business. Indiana is well positioned to grow in this area, and luckily for us, has a number of speakers available for short courses. The four sessions for the short course are listed below:

- Mr. Robert Campbell, Delphi –Introduction to Electric Vehicles and Power Electronics
- Dr. Sohel Anwar, IUPUI – Electric Vehicle Power Fundamentals
- Dr. George Gross, University of Illinois – Impact of Electric Vehicles on the Electric Power Grid
- Wrap Up / Panel Discussion – Robert Congsdon, Eaton, Ray Hoffman, Indianapolis Power & Light, Robert Campbell, Delphi

Twenty-four members attended the course. This course also demonstrated the value in working with other societies – the first meeting was a joint effort with the Electric League of Indiana (ELI), an industry group, and held at the ELI Exposition at the State Fairgrounds. Happily, the IEEE short course was among the best-attended meetings held.

The PES-IAS recently received an award from Region 4 for being the most active section in the region. Thanks to all the members who attended and participated in our meetings. We plan to stay active throughout 2011 (see below for details)

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2011 PES-IAS Meeting Announcements

The CIS-IEEE Power & Energy / Industrial Applications Societies are pleased to announce their January 2011 Meeting. The meeting details are:

- Mr. Glen Bertini, Novinium – “Solutions to Aging Underground Cable”
January 11, 2011, 6: 30 pm – 8:30 pm
Safety Room, Indianapolis Power & Light, 1230 Morris St. Indianapolis, IN

Mr. Bertini is a well-known expert on cable degradation. Every utility in the country is facing cable degradation problems, and this lecture will provide an excellent learning opportunity.

Future meetings include the following:

February 8, 2011

"High Voltage Direct Current Transmission"

Dr. Maryam Saeedifard, Purdue

April 12, 2011

Student Awards Banquet

March 1, 2011 --- March 22, 2011

Spring Short Course - "Power Quality"

Mr. Larry Conrad, Duke Energy (emeritus)

May 10, 2011

Advances in Transformer Diagnostics

Mr. Charles Sweetser, Omicron

2011 IEEE Computer Society Simulator Design Competition

IEEE Computer Society is presenting the 2011 Simulator Design Competition for students worldwide with a top prize of 8,000 USD and a second place prize of 2,000 USD. Student teams will be invited to design a CPU simulator, a program used in many architecture courses to illustrate how computers work.

The competition requires that students have taken a course in architecture and have both programming and software engineering skills. Student teams will submit both a report and a working program at the end of the competition.

The competition is open to student members of the IEEE Computer Society organized into teams consisting of three to five students enrolled at the same institution of higher learning.

The competition is conducted through online submission of reports and simulators to the panel of international judges (chosen by the IEEE Computer Society). This year's judges include Bob Colwell, one of the world's leading experts on computer design and Intel's former chief architect on the Pentium 4 processor.

To register and for more information visit the competition web site at:

<http://www.computer.org/portal/web/competition>

Registration deadline is 18 January 2011

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NEW SENIOR MEMBERS IN CIS-IEEE

Please congratulate the following members who were recently elevated to Senior Member status.

Yao-Bin Chen

Afshin Izadian

Robert Throne

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LETTER OF APPRECIATION FROM A TEACHER WHO USED OUR TISP GRANT

Dear Mrs. Brodgrass and Cdb-IEEE,
 Thank you all for funding my class's engineering lesson! We really enjoyed it and were surprised that a small bag could hold so many rocks! Our top bag held 60 small stones, and my prediction about the most successful design was totally off. I was impressed, however, that my class of 23 4th/5th graders came up with so many varied designs.
 I had intended to do this before our Challenger Center mission, but it still

Your kindness is most appreciated was effective even after our "Mission to the Moon."
 The piece of the lesson plan that was most unlike what I normally do was the redesign and retreat piece. I usually just debrief and move on, but the redesign really helped the kids process and think.

Gina used the "Mission Bag" version of "Build a Better Candy Bag" to prepare her students for a mission at Challenger Center.

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Central Indiana Section Announces K-12 Educational Outreach Mailing List

Want to keep abreast of all the educational activities in Central Indiana? Need help with or an idea for a project? Want to share ideas with educators, administrators, and engineers? You need to join the CIS K-12 Outreach Mailing List.

You need not be an IEEE member to join the list. In fact, we would like to have as many educators and administrators as possible on the list.

The only requirement is an interest in improving technological literacy in Central Indiana.

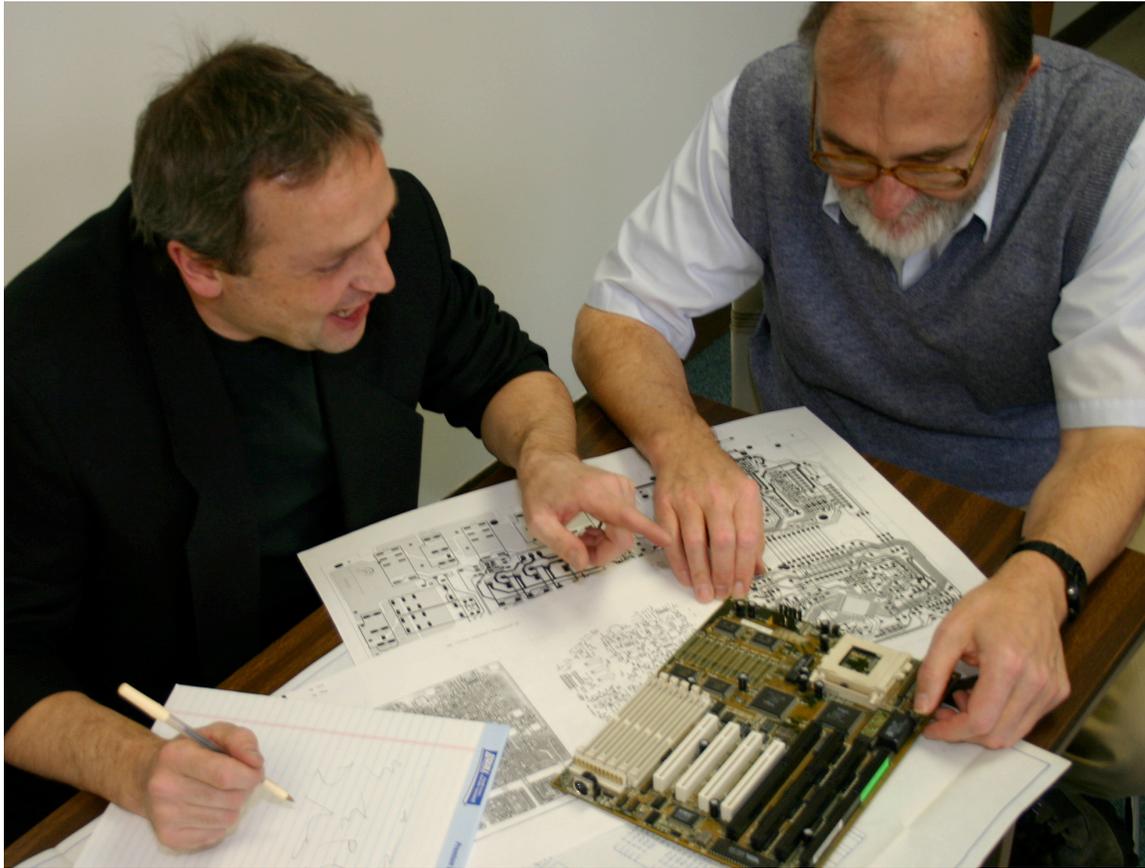
To Join, send an email message to LISTSERV@LISTSERV.IEEE.ORG with the following in the **body** of the message SUBSCRIBE CIS-K12-OUTREACH <full name>. (Example: SUBSCRIBE CIS-K12-OUTREACH Brad Snodgrass) Your email needs to originate from the email address at which you wish to receive messages.

For more information, you can contact Brad Snodgrass at bsnodgrass@ieee.org.

See you there.

PRESS RELEASE

Learn to design EMC for your product



EMC by Your Design

An EMC Practical Applications Seminar and Workshop
By Donald L. Sweeney and Roger Swanberg

Applies to multiple industries including:
medical, appliance, laboratory,
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Now offered in 3-day format

Tues. April 12 – Thurs. April 14, 2011

Hilton Hotel, Northbrook, IL

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How Do You Communicate??

Want to know what is happening in Central Indiana Section? Don't know where to look? Already inundated with E-Notices? Need to ask a question? Want to find an expert? Get a meeting idea?

Here are some of many communication channels available in Central Indiana Section



Find the Central Indiana Engineering Consultants' Network and the Central Indiana Section Communications Society, as well as several other IEEE related organizations on LinkedIn.



Student Branch members are encouraged to join "CIS-IEEE Student Branches" group on Facebook. Several opportunities for students and student branches have been posted there. The Facebook group also provides an opportunity for CIS student members to interact or to make contact with student members outside of Central Indiana. There is no substitute for a good network, but be aware that some hiring managers are also checking these sites.

Communications Society members can find "COMSOC – Central Indiana Section" on Facebook.

CIS Home Pages

Start with the main site. (www.cis-ieee.org) Check out the calendar of events, or link to the many IEEE groups in Central Indiana Section, including all of the Student Branches.

E-Notices

Not getting E-Notices? E-Notices are not only a resource for keeping in touch with the activities throughout CIS, but you will also receive information on topics of interest throughout IEEE

Login to myIEEE from the IEEE Home Page (www.ieee.org) and sign-up! with the main site. (www.cis-ieee.org) Check out the calendar of events,

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Announcement: EIT Conference – Indianapolis 2012

The Central Indiana Section of the IEEE is pleased to announce that the 2012 IEEE International Conference on Electro/Information will be held in Indianapolis in May 2012.

In the past, the conference has focused on basic/applied research results in the fields of electrical and computer engineering as they relate to IT and its applications. The purpose of the conference is to provide a forum for researchers and industrial investigators to share principles, practices, concepts, and experiences and exchange ideas and discuss developments. The interplay between academy and industry results in a better understanding of the impact of this growing field. There will be exhibits where the latest technology tools and products will be showcased. This is also an opportunity for professional development, workshops and tutorials.

This conference is a major IEEE event and the CIS-IEEE is proud to have an opportunity to host it. Planning has already begun, and the CIS is looking for volunteers in a number of areas to support the conference. If you are interested, kindly consult our website, or contact Mr. Phil Walters, Phil.Walter@IEEE.org, CIS-IEEE Chair, for more details.



CIS-IEEE Continues Teacher Grants for 2011

Teachers Reimbursed for up to \$100 of Classroom Expenses

The Central Indiana Section of the IEEE (pronounced Eye-triple-E) is encouraging area teachers to utilize the large selection of free lesson plans available at [TryEngineering.org](http://www.tryengineering.org). Lessons focus on Science, Technology, Engineering, and Math and are designed for classroom presentation for under \$100.

Eligibility

- School must be located within the CIS-IEEE geographical area
- A lesson from www.tryengineering.org must be chosen
- The lesson must be presented by the classroom teacher. (Not by an IEEE Volunteer)

Teachers may determine geographic eligibility by reviewing Article I, Section 2 of the CIS Bylaws at:
<http://www.cis-ieee.org/bylaws.asp>

Applying for a Grant

Central Indiana Section (CIS) will reimburse costs for presentation of an eligible lesson up to the \$100 limit. Teachers should first get a pre-approval for the reimbursement by supplying the information requested below. Pre-approved lessons will be given an address for submittal of related lesson expenses, up to the \$100 limit.

To apply, send an email with the following information to Brad Snodgrass at bsnodgrass@ieee.org

- Name and address of the School
- Teacher sponsoring the lesson
- Grade level(s) targeted for the lesson
- Name of person who will be presenting the lesson
- Date lesson will be presented
- Name of the lesson that will be presented.

Questions

Send questions or requests to Brad Snodgrass at bsnodgrass@ieee.org. Brad coordinates Pre-University Activities for the Central Indiana Section of IEEE.

About the IEEE

The IEEE is the world's leading professional association for the advancement of technology. With more than 350,000 members worldwide, IEEE is the largest technical society in the world. The IEEE is a leading authority on a broad range of topics including aerospace systems, computers, telecommunications, robotics, nanotechnology, biomedical engineering, electric power, consumer electronics, and many others.

Central Indiana Section (CIS) of the IEEE is the local organization supporting the nearly 2000 IEEE members in central Indiana.

About the Teacher In-Service Program

The Teacher In-Service Program (TISP) features IEEE Section volunteers developing and presenting technologically oriented subject matter to local K-12 educators in an in-service or professional development setting. TISP allows IEEE volunteers to share their technical expertise and to demonstrate the application of engineering concepts to support the teaching and learning of science, mathematics and technology disciplines.

To schedule a TISP Presentation for your school, contact Brad Snodgrass at bsnodgrass@ieee.org.

IEEE Resources for Students and Teachers

<http://www.cis-ieee.org/>

<http://www.ieee.org/web/aboutus/home/index.html>

<http://www.ieee.org/web/education/home/index.html>

<http://www.ieee.org/web/education/preuniversity/tispt/index.html>

CIS MEMBER WINS iPad IN IEEE ANNUAL MEMBERSHIP RENEWAL SWEEPSTAKES

Congratulations to Khalid Tahboub, one of five winners throughout the world!

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REMINDER: Don't let your membership lapse and risk losing out on valuable benefits.

VOLUNTEER OPPORTUNITIES

The Central Indiana Section still needs help in a few areas. This is your opportunity to give back to an organization that has helped you in your career and a chance to network with your peers and gain recognition. The following positions are currently open:

- Fund Raising Chair
- Communications Society Chair
- Communications and Information Officer
- PACE Chair

Becoming an IEEE volunteer can be a gratifying and memorable experience. Whether your skills are suited for organizing conferences and meetings, fund raising, financial reporting, communicating or maintaining web sites, CIS can use your skills.

Additional opportunities for involvement include awards, educational activities and the development of new programs.

As an IEEE volunteer, you can take pride in participating in activities that interest you, while expanding your knowledge of the IEEE, gaining valuable management and leadership skills, and connecting with others in your profession.

If you are interested in serving in any of the above listed positions please contact any of the CIS officers listed near the end of this newsletter.

2011 Meeting Calendar

Date	Host	Subject	Location
Tuesday, January 11, 6:00 pm	PES/IAS	“Solutions to Aging Underground Cable”	IPL, Safety Room, 1230 Morris St., Indy
Thursday, January 20, 6:00 pm or Saturday January 22, TBD	CIS	Executive Committee Meeting	IUPUI – ET 201S
Tuesday, February 8, 6:00 pm	PES/IAS	High Voltage Direct Current Transmission	IPL, Safety Room, 1230 Morris St., Indy
Thursday, February 17, 6:00 pm	CIS	Executive Committee Meeting	IUPUI – ET 201S
Tuesday, March 1, through March 22, 6:00 pm	PES/IAS	Spring Short Course "Power Quality"	IPL, Safety Room, 1230 Morris St., Indy
Thursday, March 17, 6:00 pm	CIS	Executive Committee Meeting	IUPUI – ET 201S
Tuesday, April 12, 6:00 pm	PES/IAS	Student Awards Banquet	IPL, Safety Room, 1230 Morris St., Indy

... Check the [Section web page](#) for details and current information. 

ADVERTISER EVENT

Tuesday, April 12 – Thursday, April 14	DLS www.dlsemc.com/1001	EMC by Your Design Seminar	Hilton Hotel, Northbrook, IL
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Vacant

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Representative**
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**Rose - Hulman Institute of Technology Student
Branch – Faculty Advisor**
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Purdue University Student Branch
Tom Talavage tmt@purdue.edu

Editorial Policies

Each issue of The Reporter typically references three months - the month in which it is published and the following two months. The Reporter is typically published in March, June, September, and December.

Material to be included should be submitted mid-month prior to the month it is to be published. For example, material intended for the September issue should be submitted to the Editor by August 15. The Editor will send a reminder to all IEEE Central Indiana Section entities by the 15th of the month to submit their updates.

Copy should be submitted electronically. Photographs are desirable. Advertisements are welcome. Contact the editor for layout sizes and rates.

Central Indiana Engineering Web Links

ACEC	American Council of Engineering Companies, Indiana	acecindiana.org
ASCE	American Society of Civil Engineers	sections.asce.org/indiana
ASME	American Society of Mechanical Engineers	http://sections.asme.org/central_indiana/
ASM-INDY	American Society for Metals - Indianapolis	asm-indy.org
CIECN	Central Indiana Engineering Consultants' Network	Indy-Engineer.net
CINLUG	Central Indiana Linux Users Group	cinlug.org
IBEN	Indiana Biomedical Entrepreneur Network	indianabionetwork.org
ICES	Indiana Council of Engineering Societies	in-ces.org
IHIF	Indiana Health Industry Forum	ihif.org
INCOSE	International Council on Systems Engineering	www.incose.org
INDSPE	Indiana Society of Professional Engineers	indspe.org
INDYASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers	indyashrae.org
NSBE-IAE	National Society of Black Engineers - Indianapolis Alumni Extension	nsbe-iae.org
PIMCIC	Project Management Institute - Central Indiana Chapter	pmicic.org
SAE	Society of Automotive Engineers, Indianapolis	http://www.saesections.org/indiana/
Sciencetech	Sciencetech Club in Indianapolis	scientechclub.org
SIM	Indianapolis Chapter of Society for Information Management (SIM)	SimNet.org
SWE-CI	Society of Women Engineers - Central Indiana Section	swe-ci.com
Techpoint	A diverse collection of technology-based Indiana industries.	Techpoint.org

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Distribution: The Reporter is made available electronically to the approximately 1800 IEEE members within the Central Indiana Section including student members and faculty of Purdue, IUPUI, Rose-Hulman Institute of Technology and ITT Technical Institute.