



# Worcester County IEEE

## Newsletter

November

1998

Worcester Section - Computer Society

### **Distributed Application Development and the Inprise VisiBroker Object Request Broker**

**Inprise Corp.**

**Monday, November 16th, 7:00 PM, Kronos, Inc., Waltham**

Cross platform application development; the issues and technologies application developers will need to understand, and the Inprise VisiBroker products.

Worcester County Section

### **Embedded Microprocessors**

**John Day, Microchip Technology, Inc.**

**Tuesday, November 17, 1998, 6:30 PM, Compaq, Shrewsbury**

The vast world of embedded control, overview of typical microcontroller applications, overview of PICmicro product solutions, and embedded control development tools.

## **Embedded Microprocessors**

### **John Day of Microchip Technology, Inc.**

On Nov. 17 1998 the Worcester County Section of the IEEE will be hosting a meeting at Compaq Corp. in Shrewsbury, Massachusetts. The guest speaker will be John Day of Microchip Technology, Inc. and he will be talking about embedded microprocessors

John is a Principal Applications Engineer with over 10 years of embedded microprocessor applications experience. The meeting is scheduled to start at 6:30 p.m. in the amphitheater. The following is the planned agenda for the meeting. After the lecture and demonstrations, John will be available to answer questions from the attendees.

- 1) The vast world of embedded control
  - Size of the embedded control market
  - Direction of embedded control market
  - Embedded processor manufactures market share

- 2) Overview of typical microcontroller applications
  - Examples of typical applications
  - Low cost embedded processor product examples
- 3) Overview PICmicro product solutions
  - PICmicro instruction set overview
  - PICmicro product family and Peripherals
- 4) Embedded control development tools
  - Overview of (free) MPLAB Integrated Development Environment
  - Demo of Embedded system simulation
  - Debug a typical embedded system using the free MPLAB simulator

The meeting will be held Tuesday, November 17, 1998, 6:30 PM at Compaq, 334 South Street, Shrewsbury, MA. This use to be a Digital site, and the Digital sign is still out front. In case of emergency, people can call the Compaq

facility at either (508) 841-6806 for the Lobby or (508) 841-2000 for the Security Desk. The Lobby telephone should be forwarded to the Security desk for after hours support.

**Directions to Compaq from the East:** Take Rt 9 West from Rt. 495, go several miles on Rt 9 (through Westboro, Northboro, to Shrewsbury). After passing the Rt. 20 interchange, make a left at the next traffic light onto South Street. The Ragsdale Superstore is on the south east corner, what used to be Fretter's that used to be Grossmans. Compaq is located up the hill on the right (it has a Digital sign out front).

**Directions to Compaq from the West:** Take Rt 9 East (Worcester, to Shrewsbury). After passing the Rt. 140 interchange, make a right at the next traffic light onto South Street. The Ragsdale Superstore is on the south east corner, what used to be Fretter's that used to be Grossmans. Compaq is located up the hill on the right (it has a Digital sign out front).

Hope to see you there ... Larry G. Nelson Sr.,  
L.Nelson@ieee.org, <http://www.ultranet.com/~nr>

## Distributed Application Development and the Inprise VisiBroker Object Request Broker Inprise Corp.

Distributed application development is evolving into the standard application architecture of the future. Application developers are being asked to build and deploy distributed applications that are component based, open, flexible, and interoperable across a wide range of platforms. At this months meeting we will look into cross platform, application development; the issues and technologies application developers will need to understand, and the Inprise VisiBroker products.

The Inprise VisiBroker set of solutions includes the following:

VisiBroker, a CORBA 2.0 Object Request Broker (ORB) written completely in Java with native support for CORBA's Internet Inter-ORB protocol (IIOP), enables developers to build and deploy distributed applications that are open, flexible, and interoperable across a wide range of platforms. VisiBroker allows developers to take advantage of Web, Internet and Intranet based technologies while leveraging the component re-use fostered by object-oriented computing.

VisiBroker Integrated Transaction Service (VisiBroker ITS), a transaction-management solution, delivers the features of a traditional TP monitor while meeting the requirements of distributed object applications. VisiBroker

ITS simplifies the complexity of distributed transactions by providing an essential set of services: -an integrated product set that includes the VisiBroker ORB, naming and event services;

- an implementation of the CORBA Transaction Service, recovery and logging;
- integration with databases and legacy systems; and
- administration facilities-within a single, integrated architecture.

VisiBroker Naming Service is a mechanism to associate meaningful names to individual object implementations. VisiBroker Naming Service reduces the complexity of locating and retrieving objects from the thousands of objects available. An implementation of OMG's CORBA Naming Service specification, VisiBroker Naming Service provides a CORBA 2.0-compliant solution ensuring flexible, heterogeneous interoperability.

VisiBroker Event Service, an implementation of the OMG's CORBA Event Service specification, extends the capabilities of the VisiBroker ORB to include alternative communication mechanisms needed by event-based tasks. Through support for asynchronous invocations, VisiBroker Event Service allows the de-coupling of the traditional "clients" and "servers" and transforms applications into information "suppliers" and information "consumers". This supplier-consumer model reduces server traffic and improves scalability without impacting development efforts. VisiBroker Event Service is a CORBA 2.0-compliant, high-performance solution, guaranteeing interoperability within heterogeneous environments.

VisiBroker Manager supports and enhances the development, deployment and management of VisiBroker applications. By providing visual access to ORB information, developers can efficiently and effectively manage an applications operating characteristics.

This meeting of the Worcester Section - Computer Society, held in conjunction with the Delphi Developers Group of Greater Boston, will be held on Monday, November 16th, from 7:00 to 9:00 at Kronos, Inc., 400 Fifth Avenue, Waltham, MA. For additional information visit [www.DisCom.com/Delphi](http://www.DisCom.com/Delphi) or contact Al Reinhart, DisCom Systems at 508-869-6417 or [reinhart@DisCom.com](mailto:reinhart@DisCom.com).

# THE PACE PAGE

## Technological Literacy Counts Workshop

### Executive Summary

On October 9 and 10 in Baltimore MD, over 100 educators and engineers met to launch a collaborative effort to promote universal technological literacy. In a hands-on, highly participative workshop, breakout groups, comprised of equal numbers of engineers and educators, met to propose specific strategies and develop action plans.

With the growing influence of technology on everyday life, the general public must have a certain level of technological understanding to attain a reasonable quality of life. The TLC workshop was held to help ensure that teachers have the resources, knowledge and community support to empower our students to become productive citizens, consumers and employees in the next century.

The Institute of Electrical and Electronics Engineers (IEEE) led other engineering professional societies in this effort to focus more strategically on how engineers and educators can best leverage each others' resources to this end. While IEEE has had a pre-college education initiative since 1984, technological change has picked up such momentum that organizations can no longer afford to work alone, but must align with each other and with the grass roots educators to effect significant change.

### Leaders Agree

Workshop participants came from all parts of the country as well as India, United Kingdom and South Africa. They all agreed that communicating an appreciation and understanding of technology was a very challenging task, and that a multi-pronged approach was called for.

Presentations by notables such as Dr. Joseph Bordogna, IEEE President, Dr. William Wulf, President, the National Academy of Engineers, and Dr. Eleanor Baum, President of the Accreditation Board of Engineering and Technology (ABET) demonstrated the support of engineering leadership. Attendees like Kendall Starkweather, Executive Director, International Association of Technology Education and Robert Gabrys, Chief Education Officer, NASA Goddard Space Flight Center echoed this sentiment.

### Strategies Agreed Upon

The attendees, though from two very diverse groups, quickly built rapport and united in their agreement that change is needed in several key areas: These are:

- There is a need for professional development for both

groups to maximize their collaborative efforts.

- An increase in public awareness of the problem in necessary.
- Policy changes are necessary to enlist support of government and public leaders.
- Support for educational reform/standards development should be promoted.
- Measurable outcomes should be established and assessed.

### Action Plan Created

The workshop participants agreed that the momentum gained at the event should not be slowed - that while together they should create a plan which they could start implementing as soon as they return to their schools or companies. Some of these activities can be started immediately and others are for the long term, but all are aimed at collaborating and sharing responsibility and success.

The following activities will be initiated immediately:

- A TLC Network will be formed - the entire group from the workshop will remain connected and will share ideas and plans, as well as spread the word to more educators and engineers.
- A training program for engineers will be developed - to teach them more about curriculum development, educational standards, teaching methodology and how they can serve the educational community.
- Committees were formed to link sub-groups for further activity planning.
- A meeting of the deans of schools of engineering and schools of education is planned to open up channels of communication so that teacher training can better prepare educators to teach and promote technology.
- Collaborations between engineering societies will begin.
- Spokespeople from the TLC Network will be provided with a speaker's kit to spread the word about TLC.
- Engineers from TLC will present at national and state education conferences on the need for technological literacy and how to attain it.

Barbara Coburn, Manager, Career Development and Outreach, IEEE Educational Activities  
b.coburn@ieee.org, 732-562-5498, Look for us on the Web:  
<http://www.ieee.org/eab/>

# Worcester County IEEE Survey, 1998

1. Please indicate the number of years that you have been working as an engineer (in years):  
 0-5     6-10     11-15     16-20     over 20

2. What is the field of study of your highest degree?  
 Electrical Eng.     Computer Eng.     Computer Science  
 Control Systems Eng.     Physics     Math  
 Other: \_\_\_\_\_

3. Have you been out of work in the past year?  
 Yes     No    If so, how long? \_\_\_\_\_

4. Are you aware of the reduced IEEE dues if unemployed?  
 Yes     No

5. How many years have you been a member of the IEEE (in years)?  
 0-5     6-10     11-15     16-20     over 20

6. What is your current grade of membership ?  
 Student     Associate     Member     Senior     Fellow

7. Are you a registered Professional Engineer?  
 Yes, \_\_\_ yrs     No  
Are you interested in becoming registered?     Yes     No

8. How often do you attend IEEE meetings (per year)?  
 Never (Why: \_\_\_\_\_)  
 1-2     3-4     5 or more

9. What general topics are of interest to you?  
 Hardware     Software     Control Systems  
 Communications     Power     Prof. Concerns  
 Consultant/Entrepreneurial Development  
 Other: \_\_\_\_\_

10. When should the meetings be held (check day(s) and time(s))?  
 Monday     Tuesday     Wednesday  
 Thursday     Friday  
  
 6:00pm     6:30pm     7:00pm     7:30pm     8:00pm  
 Lunch (11:30-1:00)

11. Where should the meetings be held?  
 Between Rt. 128 and Rt. 495     West of Rt. 495  
 In Worcester     Other: \_\_\_\_\_

12. What specific topics are of interest for future meetings?

13. Are you interested in giving a talk on a specific topic?  
 Yes - Topic: \_\_\_\_\_  
 No     No, but know someone who would -  
Topic: \_\_\_\_\_

14. What other services/activities should the Worcester Section provide?

15. What should the Worcester Section offer in the way of short courses?

16. Are you interested in helping the Section Officers set up meetings or other activities?     Yes     No

17. Are you interested in being a member of the Section Board?     Yes     No

18. The Section Awards Committee is actively looking for individuals that are deserving of an "IEEE Region 1" Award. These awards are given to publicly recognize professional and technical excellence and major accomplishments and contributions made by Region 1 members. The six award categories are:

1. New Technical Concepts in Electrical Engineering
2. Electrical Engineering Professionalism
3. Promotion of Self-Development for Practicing Electrical Engineers
4. Enhancement of IEEE, Industry, or Community Service
5. Electrical Engineering Management
6. Electrical Engineering Student Activities

Do you know and are willing to sponsor a Worcester County Section Member (if yes, please fill in the optional information so that a Awards Committee Member will be able to contact you:)     Yes     No

Name: \_\_\_\_\_

Catagory: \_\_\_\_\_

19. Do you have electronic mail (have an e-mail address)?  
 Yes     No

## 20. OPTIONAL

Name:

Address:

Telephone:

E-Mail Address:

Company: