Troy State University
Montgomery

Presents The Fifth Annual
Colloquium on Information Technology

Dr. Raymond Paul
Office of the Assistant Secretary of Defense
Networks and Information and Integration, Technical Director

Monday, February 2, 2004

"The Future of Computer Software Systems: Educational Outlook"
5:30 - 6:30 p.m.
(Student Audience)

Web Services (WS) received significant attention recently by government agencies and computer industries. WS provides a new architecture/paradigm for building distributed computing applications based on XML. It provides a uniform and widely accessible interface to glue the services implemented by the other middleware platform over the Internet by utilizing standard Internet protocols such as WSDL, SOAP, and UDDL.

While WS is still early in its maturing processes, many issues still need to be addressed, e.g., finalizing draft specifications, runtime verification and validation, and quality assurance by the UDDI servers. Many keen observers agree that WS represents a new significant trend for software systems integration that will be developed, structured, acquired, and maintained. For example, instead of buying and maintaining software, software can be leased and downloaded when needed. In this way, software upgrades will be automated because the latest version will be used when the service is called at runtime.

WS implementation also requires a loosely coupled architecture where new services can be added at runtime and old services can be replaced. Furthermore, vendors will compete to supply most dependable and/or marketable services on the web, and this will also change the way software industries earn their revenue.
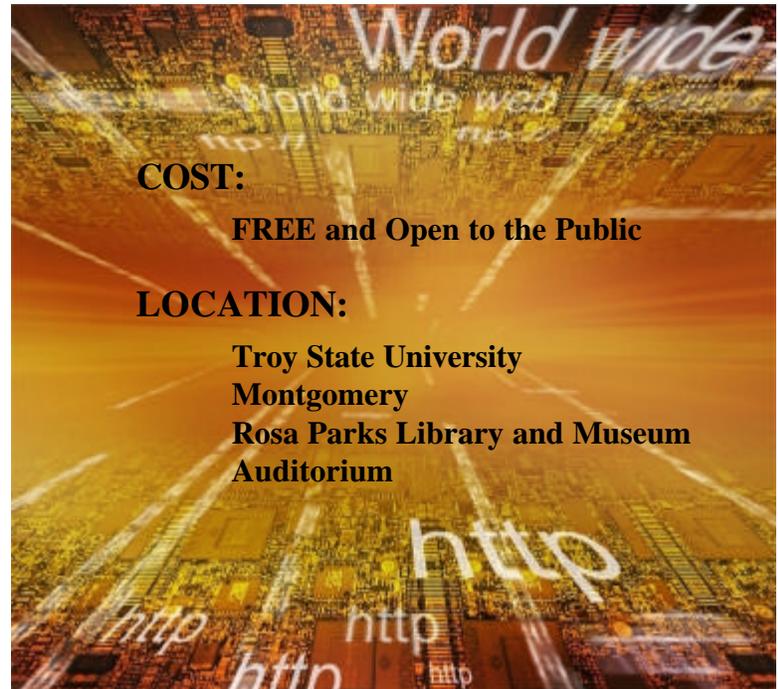
Tuesday, February 3, 2004
11:00 - 11:40 a.m.

"The Future of Computer Software Systems: Commodity or Service?"
(Local IT Industry, Community Audience and Montgomery Area Chamber of Commerce)

The concepts of Web Services (WS) is far beyond software. In the future, hardware will also have a corresponding service where hardware vendors will supply new components to fit into existing well-published architecture for specific applications. Quality assurance, as well as security and privacy, will be important for both service clients and providers, including those serving as intermediate agents such as UDDI servers.

WS provides a new way for globalization where companies, regardless of their background, such as nationalities, languages and culture, must now compete in a global market, where the only rule is interoperability via architecture and interfaces. It is no longer possible to have local or national markets where local companies can do well, due to market segmentation. If a company does not compete in the service market global1y, it will wither as soon as new replacement services are published on the web. This will increase the pace of global competition and the companies that have the great software technology will win, instead of the one that has the great financial resources only.

COST:

FREE and Open to the Public

LOCATION:

Troy State University Montgomery Rosa Parks Library and Museum Auditorium

As a professional electronics engineer, software architect, developer, tester and evaluator for the past 24 years, **Dr. Raymond Paul,** has held many positions in the field of software engineering. Currently, Dr. Paul serves as the technical director for command and control (C2) policy in the Office of the Assistant Secretary of Defense Networks and Information and Integration. In this position, Dr. Paul supervises command and control systems engineering development and capabilities for objective, quantitative and qualitative measurements concerning the status of software/systems engineering resources and evaluates project outcomes to support major investment decisions. This measurement data is required to meet various Congressional mandates, most notably the Clinger-Cohen Act.

Dr. Paul holds a doctorate in software engineering and is an active member of the IEEE Computer Society. He has published more than 59 articles on software engineering in various technical journals and symposia proceedings, primarily under DoD and IEEE sponsorship. IEEE awarded Dr. Paul with the Fellow grade in December 2003 for his contributions to metric-guided testing and evaluation of software systems.