



Distributed Simulation Environment



by: Dr. Dennis Moen, GMU

Joint Meeting: ASQ Software SIG and IEEE Communications Society

Tuesday, November 22, 2005

American Society for Quality (ASQ) — Section 509 — Software Special Interest Group (SSIG)
Institute of Electrical and Electronics Engineers (IEEE) Communications Society

The topic of his discussion will be on the investigation of overlay multicast services in support of distributed real-time virtual simulations over an open network environment and how overlay multicasting can provide message relay services to support many-to-many communications in the very dynamic environment of distributed real-time virtual simulation.

He will present results of studies used to characterize message flow in distributed simulations operating in the laboratory and over the Defense Research and Engineering Network (DREN). He will describe a proposed analytical model to represent the message flow characteristics observed in the live studies and how the model can be used to determine the regions of feasibility for performance for overlay multicasting to support the target application environment.

The discussion will include how the analytical model was validated in laboratory measurements of a prototype overlay multicast protocol and how the results were used to influence the design of the target overlay protocol architecture. The proposed protocol is called the Extensible Modeling and Simulation Framework Overlay Multicast Protocol (XOM).

Presenter: Dennis M. Moen graduated from the United States Military Academy in 1969 and



subsequently serviced 26 years in the US Army Signal Corps in various positions including research and development in communications electronics and operational command of Army tactical signal units in many places around the world. During this period he received a Master of Science Electrical Engineering from the University of Arizona in 1976. In 1987 he was honored with the award of a Space Science Fellowship at the National Aeronautical and Space Administration where he participated in the formulation of National space policy and supported studies and planning of space science experiments for Space Shuttle missions and the International Space Station. Since retiring from the United States Army in 1995, he has held many positions in industry as a senior

consultant focused on use of Internet technologies and design and implementation of public and private networking services and recently completed his Ph.D at George Mason University in Information Technology. His area of research was in performance modeling of adaptive Internet Protocols. He is currently employed at Lockheed Martin Information Technology Services as a senior network Architect developing survivable networks in support of the Department of Defense. He has been an IEEE Communications and Computer Society member more than 30 years and is the current Chair of the Northern Virginia IEEE Communications Society as well as a member of the IEEE GLOBCOM 2007 planning committee.

This Meeting Will Be Held at 3 Locations!

The MITRE Corporation
7515 Colshire Drive
McLean, VA

FDA Tech. Center
16071-B Industrial Drive
Gaithersburg, Maryland

The MITRE Corporation
260 Industrial Way West
Eatontown, NJ 07724

Driving directions and maps for all three facilities are provided below. There will be two-way video-audio conferencing between the locations. All locations will have food. Please indicate which location you will be attending when you register.

Sponsored By: The American Society for Quality (ASQ) Section 509 (Washington, DC), Software Special Interest Group (SSIG), and the IEEE Communications Society, Northern Virginia and the Washington, DC/Maryland chapters. Members of the ASQ SSIG include software quality professionals, software engineers, and others interested in applying quality principles to the field of software development. See our web page: http://www.asq509.org/Committee_Software.htm We meet every other month, alternating locations between the FDA Tech Center, in Rockville, Maryland and MITRE facility in Tysons Corner, Virginia.

Registration:

Please register for the meeting by COB Friday, November 18, 2005 by contacting Scott Ankrum at ankrums@mitre.org or 703-983-6127; or Fred Seelig at fseelig@mitre.org or 703-983-3223. Please include your company affiliation, your citizenship, and at which location you plan to attend. You do not need to be an ASQ member to attend. **There is no cost to attend. Pizza and soda will be served.**

The Meeting Is Scheduled For:

Tuesday, November 22, 2005
6:30 - 7:30 Pizza and Sodas
7:30 - 8:30 Program

Will Be Held At:

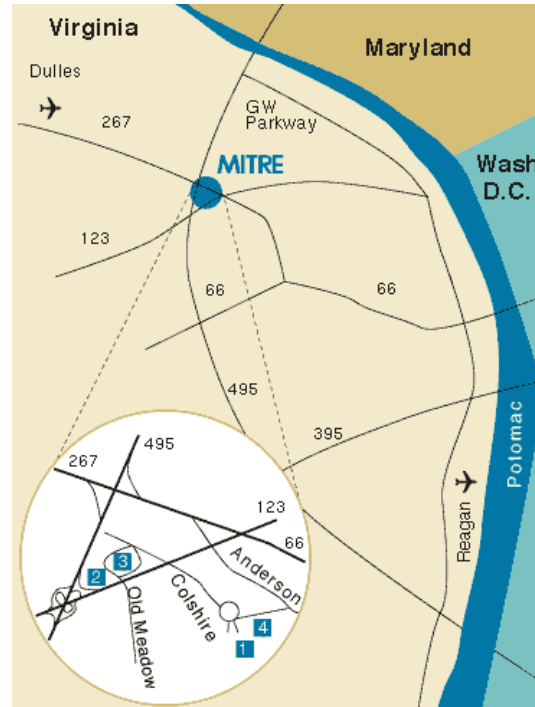
MITRE Corp.
7515 Colshire Dr, McLean, VA
room 1N100 in MITRE-2 bld

Also at:

FDA Tech. Center
16071-B Industrial Drive
Gaithersburg, Maryland

Directions to the MITRE Facility in McLean, Virginia:

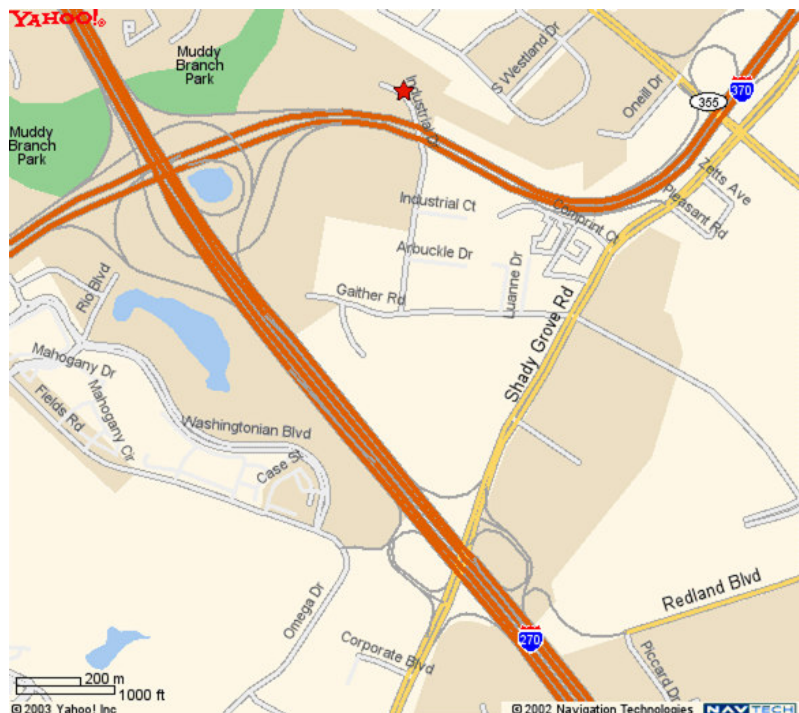
Take the Beltway, I-495 to Virginia. Take Exit 46B (McLean, Route 123). Take Route 123 North, (also called Dolley Madison Blvd.) and go to the second traffic light at Colshire Drive. Turn right on Colshire Drive and continue through circle on Colshire. Drive around the back of the building to the East (left) parking lot. The entrance is past the fountain, on the left. Additional directions can be found at: http://www.mitre.org/about/locations/mitre1_map.html



Directions to the FDA Tech Center in Gaithersburg, Maryland:

From I-270 N or S, take Shady Grove exit east and proceed to Gaither Road. Turn LEFT on Gaither and proceed to first stop sign. Turn Right on Industrial Drive. You will cross over I-370. Go to the large Industrial building at the end of Industrial Drive and bear left to the end of the building. The meeting will be at the FDA Tech Center, 16071-B Industrial Drive, Gaithersburg, MD.

From Route 355 (Frederick Rd), take Shady Grove West and proceed to Gaither Road. Turn RIGHT on Gaither Road and proceed to first stop sign. Turn Right on Industrial Drive. You will cross over I-370. Go to the large Industrial building at the END of Industrial Drive and bear left to the far end of the building. The meeting will be at the FDA Tech Center, 16071-B Industrial Drive.



Directions to the MITRE Facility in Eatonton, New Jersey:

From the New Jersey Turnpike

If traveling from the **SOUTH**, get off the Turnpike at Exit 7A (195 toward Shore Points). Take 195 East towards the ocean and shortly after 195 turns into Route 138 (approximately 35 miles) watch for Route 18 North (Eatontown). Take Route 18 North to Exit 13A (Wayside West/Wyckoff Road). At end of ramp, bear left. At first traffic light (Hope Road) make a left turn. Make second left turn onto Industrial Way. The MITRE Corporation is next to the First Atlantic Credit Union on the left hand side of Industrial Way. There is a MITRE sign out front. There are two buildings on the left side of Industrial Way. The first building is MITRE, the second building is TYCO. Take a left turn into the parking lot of the first building (which is MITRE) and head around to the back of the building. Our main entrance is there. There is a MITRE sign above the door.

If traveling from the **NORTH**, get off the Turnpike at Exit 11 (Garden State parkway exit). Follow the Garden State Parkway until Exit 105 (Eatontown). Follow the directions from the Garden State Parkway below.

From the Garden State Parkway

Follow the Garden State Parkway from the North or from the South to Exit 105 (the exit numbers increase going from south to north). After paying the toll at Exit 105, make first right turn onto Hope Road. Follow Hope Road to Industrial Way (second left turn after crossing Wyckoff/Shafto Road). Make second left turn onto Industrial Way. The MITRE Corporation is next to the First Atlantic Credit Union on the left hand side of Industrial Way. There is a MITRE sign out front. There are two white buildings on the left side of Industrial Way. The first building is MITRE, the second building is TYCO. Take a left turn into the parking lot of the first building (which is MITRE) and head around to the back of the building. Our main entrance is there. There is a MITRE sign above the door.

