



Enterprise Computing Community

User Experience: **West Texas A&M** and **IBM** Collaboration with Results



Professor H. Paul Haiduk
Engineering and Computer Science

Paul Newton
IBM Consulting IT Specialist

Objective of this session

Present a recipe to strengthen university and industry relationship using enterprise computing exposure and skills

Agenda

- Establishing the relationship between WTAMU and IBM
- WTAMU introduces System z technology to students
- WTAMU expands existing curriculum to include System z technology
- WTAMU Students + Industry = Success

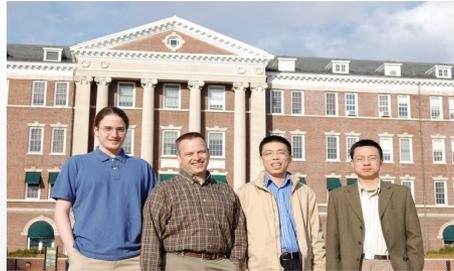
Establishing the relationship between WTAMU and IBM

- 2006 – IBM Sales contacts West Texas A&M to encourage them to include System z technology in curriculum to fill z skills pipeline at a large financial institution
- H. Paul Haiduk from West Texas A&M believes in the opportunity, however, the faculty was without System z skills
- H. Paul Haiduk engages in discussions with IBM System z AI team, Don Resnik, Kathleen Pfeiffer, Michael Todd, and Jennifer Ash
- IBM System z AI team requests Paul Newton to provide technical consultation and support to West Texas A&M
- System z AI, Don Resnik, hosted a round table at IBM Innovation Center in Dallas which included large System z customers and university faculty including WTAMU

Collaborating across ecosystem to provide key offerings to solve z skills shortage problem



Universities



Students



Faculty



**IBM System z
Academic Initiative
Team**



Local Community



IBM Academic Initiative



Industry

WTAMU introduces System z technology to students

- Special studies course
 - Master the Mainframe Contest
- Access to Marist College z/OS hub
 - Not ready to include JCL, TSO, ISPF, and SDSF
 - COBOL and Assembler programming using ftp to submit source compile, link and execution, then retrieve output

WTAMU expands existing curriculum to include System z technology

- H. Paul Haiduk becomes increasingly familiar with System z technology
- H. Paul Haiduk convinces department head to move forward with Enterprise Computing specific curriculum
- H. Paul Haiduk recruits some of his top students to assist him with development of Enterprise Computing curriculum
- WTAMU begins using a dedicated z/OS from IBM Innovation Center in Dallas and Rational Developer for System z as a primary interface.

Computer Science

Available On Campus

[Computer Science Program Details and Information](#)

CAREER OPPORTUNITIES

- Fortune 500 Companies
- Local and Regional Software Development Firms
- Government agencies
- Banks
- Research
- Paid Internships with Local, Regional, and National Firms

CAREER CLOSE-UP

Computer Software Engineers - Applications

Median wage (TX) -

\$91,520

Median wage (US) -

\$90,170

Bachelor of Science Degree BS.CS (307)

CS 3310* Programming Languages	3	
CS 3315* (315) Scripting Languages	3	
CS 3352* Operating Systems and Networking	3	
CS 3372* Net-Centric Computing	3	
CS 4325* (425) Computer Architecture	3	
CS 4340* Database Systems	3	
CS 4385* (485) Concurrency and Distributed Systems	3	
CS 4390* Software Development & Systems Prog.	3	
CS 4391* Software Development & Prof. Practice	3	

ENTERPRISE SYSTEMS TRACK: 15 HOURS

CS 3303* Object-Oriented Software Development	3	
CS 3321* Introduction to Enterprise Systems	3	
CS 3322* Enterprise Systems Application	3	
CS 4321* Enterprise Systems Assembler Programming	3	
CS 4322* Advanced Topics in Enterprise Systems	3	

ELECTIVES: 5 HOURS

ELECTIVES	2	
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West Texas A&M
UNIVERSITY



Large Enterprise Computing

IP Address = 173.74.147.41
VTAM Terminal = TCP00009

W e s t T e x a s A & M U n i v e r s i t y

```

                // 0000000  SSSSSSS
                // 00      00  SS
zzzzzz // 00      00  SS
      zz // 00      00  SSSS
      zz // 00      00      SS
      zz // 00      00      SS
zzzzzz // 0000000  SSSSSSS

```

IBM System z Operating System - z/OS

B u f f a l o T h u n d e r

==> Enter "logon" followed by the TSO userid. Example "logon userid" or
 ==> Enter TSO

WTAMU Students + Industry = Success



***Patricio
Reynaga***

Students from Princeton University and the Massachusetts Institute of Technology competed in IBM's international Master the Mainframe contest, but only one university fielded three top finishers, including the winner: West Texas A&M.

"It's a great feeling," said Patricio Reynaga, a WT senior studying computer science. "The mainframe is not something you learn in your usual computer class."

Reynaga won IBM's 2010 Master the Mainframe Contest, a three-month international competition that pitted roughly 3,500 computer science students against each other.

The students used an online network to access an IBM mainframe. Top finishers were determined by the number of points they earned completing a set of tasks. Reynaga said he earned his victory by completing more tasks than the other students.

He won an Apple iPad and visited IBM's New York headquarters in March, 2011.

The two other WT students who finished in the 2010 contest's top 30 were ***Vance Morris*** and ***Navdeep Upal***.

VANCE MORRIS

Systems Administrator for the Department of Engineering and Computer Science

School—

West Texas A&M University

Years in IT—

11

My first mainframe course—

In the summer of 2009, I took a special topics course offered by my university. We learned COBOL and JCL.

My favorite mainframe attribute—

It's the inherent structure. Everyone involved in the operation and maintenance has a specific role to play. The distributed world, at least in small and medium operations, never gets to experience this separation of powers, and so those distributed environments can be quite chaotic.



After a semester of hard work and dedication, the winners of Part 3 of the 2011 IBM Master the Mainframe Contest are:

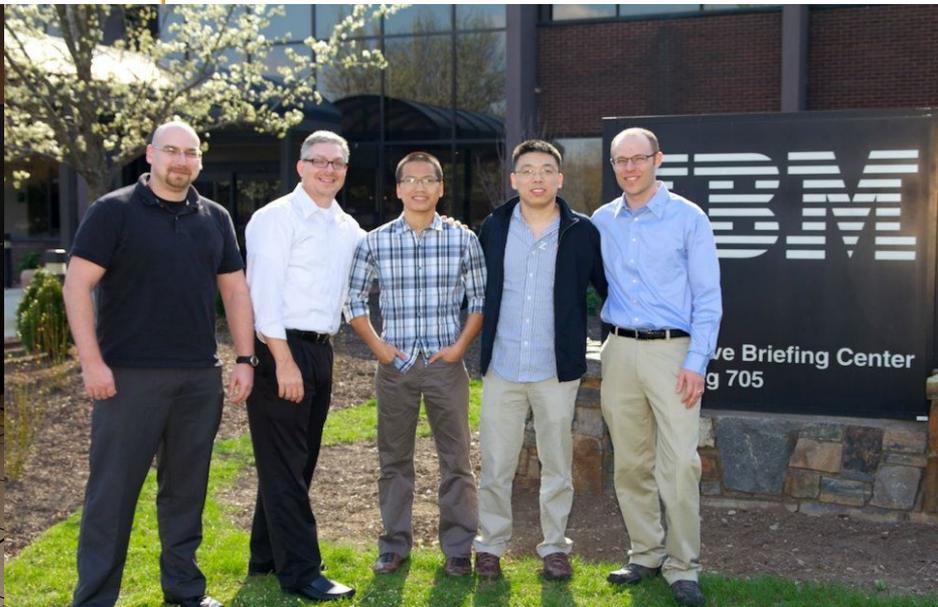
1st place: Yeming Hu, Dalhousie University

2nd place: Nathan Voth, Georgian College

3rd place: Vance Morris, West Texas A&M University

4th place: Reno Alvarado, Marist College

5th place: Tri Nguyen, University of Texas at Austin



WTAMU Students + Industry = Success

2011 Most Part 2 winners (college or university):

1st place: West Texas A&M University (Canyon, TX), 6

2nd place: Northern Illinois University, 4

3rd place (3-way tie, each with 3 winners): Dalhousie University (Halifax, NS), Florida International University, Marist College (Poughkeepsie, NY)

WTAMU Students + Industry = Success

West Texas A&M has developed a reputation known by many large enterprises needing students with exposure to System z

Large enterprises have been hiring students from West Texas A&M during the past 5 years . . . WTAMU graduates performing exceptionally well in their jobs

H. Paul Haiduk believed introducing Enterprise Computing into existing curriculum would develop students needed by large enterprises . . . that has been affirmed by large enterprise recruitment of WTAMU graduates

Haiduk convinced that breadth and depth of IBM support has been critical to success of the WTAMU effort