17935: Breakfast & Learn: Is there really a mainframe skills issue?

Andy Bates – CICS TS Product Manager
And Featuring...

- Will Yates
- CICS TS Test Architect
And Featuring...

- Ian Burnett
- CICS Performance Team Leader
And Featuring…

• Dr. Chris Poole
• CICS TS Software Engineer
What Does IBM think?

Enabling the tech stars of the future

70 countries

1,400 universities

180,000 students

The 2016 z Systems IBM Master the Mainframe World Championship

Online z courses available to anyone, anywhere, anytime

IBM z Systems Job Connector

zjobconnector.com

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8/11/15
What Does IBM think?

Mainframe Modernization and Skills: The Myth and the Reality

Is the mainframe a modern platform?

In April 2014, IBM® celebrated the 50th anniversary of the first mainframe computer, the System/360 (see Figure 1). Growth over that time has been such that today, much of the world’s

Figure 2  By the numbers: Mainframe skills will be needed

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What Does SHARE think?

<table>
<thead>
<tr>
<th>None</th>
<th>1-10%</th>
<th>11-15%</th>
<th>16-25%</th>
<th>26% or more</th>
<th>Don't know/Can't say</th>
</tr>
</thead>
<tbody>
<tr>
<td>7%</td>
<td>22%</td>
<td>16%</td>
<td>21%</td>
<td>11%</td>
<td>24%</td>
</tr>
</tbody>
</table>

U.S. Census Bureau, the percentage...by 2050.

Fig. 1: Percentage of individuals in organizations currently working on or maintaining IBM mainframe applications who will be retiring over the next 5 years.
What do the Vendors say?

Based on BMC Software’s annual survey of our mainframe customers, 81 percent of those surveyed in 2011 said they were somewhat or very concerned about staffing, up from 73 percent in 2008. A shortage of mainframe training, combined with retirement and attrition, has made filling mainframe support positions a challenge. Meanwhile, global business growth and dramatic increases in transaction volumes are leading companies to rely more on the mainframe than previously projected. Fortunately, mainframe management technologies, combined with other approaches, can help IT organizations meet this challenge.
What do the Vendors say?

February 18, 2014

Two-Thirds of CIOs Believe Looming Mainframe Skills Shortage Will Hurt Their Business

Global Survey Shows Limited Progress is Being Made on Preparing for Skills Shortage Risks

About the Compuware Mainframe Solutions

Compuware's Mainframe solutions help the world's leading organizations maximize development, deliver better service. The Solutions are available within the Compuware Workbench, an easy-to-use graphical user interface. The Workbench makes common tasks simpler to perform for both experienced mainframers as well as those new to the mainframe. New services can be faster, more efficiently and with higher quality utilizing existing resources.
What do the Vendors say?

2014 Predictions: CA Technologies sees skills issue driving problems
We cover the predictions from major service and technology vendors as they come in
Date: 9 Dec 2013

The World Needs More Mainframers
MAINFRAME ACADEMY COURSE CATALOG

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
What does Google say?

CIOs frustrated by mainframe app conversion expense
IT mainframe skills shortage getting worse.

Blog-post by John Dodge, Wed, 03/12/2014 - 12:15
What does Google say?

Shortage of mainframe skills looms but companies remain in denial

Like the rabbit caught the a car’s headlights the IT industry does not know which way to jump to sort skills shortage.

By Colin Barker | February 18, 2014 -- 10:49 GMT (10:49 GMT) | Topic: Big Data
What does Google say?

CIOs scared mainframe skills shortage will hurt their business

Global survey shows limited progress is being made on preparing for skills shortage risks

Posted by Ben Rossi on 18 February 2014

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So where are all the IT skills? Doing Java??

Software developer shortage transcends international boundaries

The need for qualified software developers is going global, making STEM education an international priority

By Fred O'Connor | Follow
IDG News Service | Oct 22, 2014 1:48 PM PT

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Then they must be doing Mobile, right??
Maybe Cloud??

Tackling the Cloud Skills Shortage

By Himanshu Sharma | Jan 16, 2015

FILED UNDER: Information Manag
Windows then. It must be Windows.

Migration skills shortage looms as Server 2003 DEATH DATE approaches
179 days to escape Microsoft's day of doom

19 Jan 2015 at 11:15, Paul Kunert
Something smells fishy here…

Skills shortage threatens Territory fishing industry

Updated 1 Jul 2014, 12:05pm

The development of the Northern Territory’s fishing industry is being held back by a labour and skills shortage.

The Shortage in the Number of Individuals with Post-Baccalaureate Degrees in Subjects Related to Fishery Science

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

U.S. DEPARTMENT OF EDUCATION
September 2008

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OK, A light bulb is beginning to come on....

Massive Shortage of Electricians Predicted for U.S.
NECA, IBEW Act Today to Ensure Tomorrow's Skilled Electrical Workforce

America's Skilled Trades Dilemma: Shortages Loom As Most-In-Demand Group Of Workers Ages

For the last three years, according to ManpowerGroup, the hardest segment of the workforce for employers to staff with skilled talent hasn’t been registered nurses or engineers or even web developers. It’s been the skilled trades – the welders, electricians, machinists, etc. that are so prevalent in manufacturing and construction.

New electrical classifications made to address skills shortage

Complete your session evaluations online at www.SHARE.org/Orlando-Eval
Maybe people should retrain....
This looks serious! This is a political Issue!

No results found for "political skills shortage".
Some articles are sympathetic….

Every year, the Manpower Group, a human resources consultancy, conducts a worldwide “Talent Shortage Survey.” Last year, 35% of 38,000 employers reported difficulty filling jobs.

Consider, for example, graphic designers. Until recently, almost all graphic designers designed for print. Then came the Internet and demand grew for web designers. Then came smartphones and demand grew for mobile designers. Designers had to keep up with new technologies and new standards that are still changing rapidly. A few years ago they needed to know Flash; now they need to know HTML5 instead. New specialties emerged such as user-interaction specialists.
Some articles are pragmatic...

Mainframe skills shortage: tackling a crisis
By Désiré Athow  May 09, 2014  Computing

How to overcome the lack of mainframe skills and maintain strategic legacy systems?

April 2015  Mainframe & web technologies, Mainframe skills & training  human resources, mainframe, skills, training
Some are dismissive...

The Fake Skills Shortage

NOVEMBER 25, 2012 9:02 AM

IT Skills: Crisis? What Crisis?

Posted on 20. Jul, 2015 by Derek Britton in News, Skills

Mind the Gap

BIG IDEAS IN BIG IRON

By Bryan Smith  Follow

OPINION

The skills myth: Do complex mainframe computers really make it hard to find programmers?

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Some are deferring…

More than 90% of 300 companies that have mainframe staffs said in a recent Meta Group Inc. survey that they have "zero strategy" for dealing with the diminishing pool of skilled mainframe workers. Stamford, Conn.-based Meta estimates that 55% of IT workers with mainframe experience are over 50 years old.
Wait… this article is from 2002!!

**FEATURE**
Mainframe Skills Shortage Five Years Off
Skills shortage 5 years out; firms unprepared

By Julia King
Computerworld | Apr 22, 2002 1:00 AM PT

old.
17935: Breakfast & Learn:
Is there really a mainframe skills
PLANNING issue?

The IBM CICS Team’s Story....
#1 – Hire Good Young People

And help them become great!

- Hire people with the expectation they will be great in a few years
  - Requires planning – can’t just use immediately on the toughest problems
  - But equally – don’t just use on easy, tedious problems – give them a challenge
- Learn from them at least as much as you teach them!
  - New graduates look at the world in new ways – use this!
  - Many CICS innovations have come from new hires saying “I wonder if…”

https://www.youtube.com/watch?v=pKNJ-KC3vvo
#2 – Give them modern tools and processes

*With tools that help them innovate*

- **Rational Requirements Composer**
  - Customers & Stakeholders

- **Rational Developer for Z**
  - Product Engineering

- **Rational Quality Manager**
  - Quality Assurance

- **Rational Team Concert**
  - Project Management

**CICS TS Development** make extensive use of modern tooling
- We are experimenting with IBM Watson for PMR analysis
- We also use a good amount of open source, where it makes sense

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#2 – Give them modern tools and processes

Processes that smooth the way and don’t get in the way

- **Rational Team Concert**
  - Project planning, tracking, dashboards, RFE’s
  - Source code development via EPICS and stories

- **Stories**
  - Sized in story points by whole team
  - Planned into 4 week iterations
  - Tracked by story point burn-down charts
  - Closed when defects fixed, tests automated and 100% successful

- **Testing**
  - Based on Agile Test Quadrants (Unit, FV, User, ST)
  - Collaborative test planning
  - Automated tests run daily on continuous delivery of code
  - Customer scenario testing (CiP) - product integration and multi release

- **Continuous delivery**
  - Daily builds, weekly iterations (increments), monthly betas
#3 – Empower them to make a difference

*Design Thinking practices fuel creativity and enthusiasm*

**Hills**
- Focus on problems and outcomes for users, not feature lists
- Cross-functional teams define, deliver and promote solutions

**Sponsor Users**
- Provide real domain expertise
- Ensure design for real target users, not imagined needs

**Playbacks**
- Communicate hills, focusing on user value to be delivered
- Regular playbacks internally to wider team and externally to clients

**Technical Foundation**
- Separate team addresses RFEs, serviceability enhancements, infrastructure maintenance, etc
There is NO mainframe skills issue

• But there is a mainframe skills PLANNING issue

• Some tips that have helped us in CICS TS:
  #1 – Hire good young people
  #2 – Give them modern tools and processes
  #3 – Empower them to make a difference
Gen z Welcome to the Mainframe

From Desk to D-block to Denmark…
Generation what?
Gen z Welcome to the Mainframe

The Mission
Increase clients' retention of 0-5yr hires working on z Systems

Tactics
- Enlighten
  Understanding the global impact of mainframe tech
- Excite
  Awesome case studies & interactive ideation
- Empower
  Forging connections to create a next gen network

The Workshop
One day exploring the amazing possibilities of working on z Systems

Agenda
- Morning
  Introductions
  Why z Matters
  Real-life Mainframe Stories
- Afternoon
  Innovation Challenge
  Careers & Community
  Wrap up and Q&A
- Evening
  Networking social

The Community
A virtual Gen z network reinforced by meetups at key conferences

Foundations
- Social Media
  Facebook group
  In-geo LinkedIn groups
- Events
  Webcasts
  Conferences
- Learning Support
  Resource lists and links
  Peer support network
To Denmark!

1 day
1 deck
25 customers
What did we learn?
DENMARK IS A MONSOON REGION
THE BEER IS GOOD
(and this guy can ruin a photo)
"Mainframe has a lot of things to offer that I wasn't aware of."

"Mainframe is much broader than I thought."

"Yes! I believe in it now!"

"I am very new to the mainframe, and as expected, I learned a lot."

"That was really fun and I learned a lot."

"Great to get together with other mainframers from other companies."

"I will recommend this workshop to my colleagues."
Be part of it

Tell customers about Gen z

0-10yrs experience?
Join the Gen z team

Ask us for more info!

ibm.biz/ibmgenz