The Mainframe Brain Drain
Posted by searley - 2008/10/17 00:01

In a recent, informal survey from a CICS Listserver the average age of CICS System Programmer Respondents was 52 with a median age of 56. 60% of repondents stated that they would NOT recommend information systems as a carreer path for candidates in career develpoment programs regardless of platform. With 90% of Fortune 500 companies and a large unmeasurable part of national and state governmeants dependent on IBM Mainframe systems - How does IT Management plan to deal with the shortgae in Mainframe workers going forward.

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Re:The Mainframe Brain Drain
Posted by sxn179 - 2008/10/17 17:32

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http://www-304.ibm.com/jct09002c/university/scholars/academicinitiative/

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Re:The Mainframe Brain Drain
Posted by Bill Gerneglia - 2008/10/17 19:15

I agree it is difficult to recommend information systems as a career path for someone heading off to college. While the passion for computer programming, systems administration, database management, networking, etc. may present unique opportunities as given points throughout ones career, the competitive corporate pressure to reduce IS costs ultimately
may lead the IS pro to a dead end. There are not too many professions I can think of where the more senior and experienced the individual the more the employee is viewed as overhead and costly. Tough call for someone starting out today, I would suggest a PHD needed for a good career in research or academia. Seems like IT management will have to depend more on Outsourced Mainframe services companies to run their critical applications and systems.

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Re:The Mainframe Brain Drain
Posted by Bill Wilson - 2008/10/20 15:45

Fortune magazine just wrote a piece on how to jump start a career change. It seems that 40% of financial services employees surveyed would consider a career change if they thought they could, and as many as 9% of IT workers in their 20s want to change jobs to switch out of their present IT careers. I think large tech giants like IBM need to do a better job of promoting the industry opportunities available such as in a CICS mainframe role. Many IT workers are not exposed to these opportunities and therefore do not seeking training in these areas.. or perhaps there are no domestic opportunities here as these positions are ripe for outsourcing?

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Re:The Mainframe Brain Drain
Posted by DKaden - 2008/10/23 06:12

The best part of a career in IT is that it is filled with challenges. As we see technology grow and change we see distributed systems moving back to centralized data centers and being clustered in such a way it sometimes feels like the architects are striving to reinvent the mainframe. Through it all we see mainframes falling into a growing continuum of processing solutions in world of opportunity.

Yes, it is disappointing that American universities eliminated once ubiquitous mainframe based degrees and certifications, leaving a greying population of experience US trained mainframe expertise. No, it is far from a perfect world, but careers in IT are still an action packed source of personal satifaction. It's still the kind of career that can reach out and choose you.

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Re:The Mainframe Brain Drain

Posted by Bill Gerneglia - 2008/10/24 16:12

Well put, I do agree with you that overcoming the presented challenges can be very rewarding..many of us recall writing our first program that was released into production on a real system used to solve real problems for organizations and the accompanying sense of accomplishment. It did as you say reach out and choose me. The question is however can the career you choose continue to afford the lifestyle and standard of living you desire in the years to come. For many I am sure the answer is yes, but for others depending on their situation and where they live and thier specific skillsets the answer is no.

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Re:The Mainframe Brain Drain

Posted by DKaden - 2008/10/24 23:28

Yes it is tiresome to see IT budgets consistently being the first place most companies look for cuts in a downturn and the last place they look when it comes to career development and training. Talented people are out of work in this industry at least in part because of a well identified set of misguided management strategies. Many of those people are my friends and valued former colleagues.

IT is a tough field. People who can live the art of the managed risk and those requiring little in the way of external reinforcement will do better in this field than their counterparts who do not. I like to think of it as experiential surfing.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/01/17 17:05

It's interesting how each respondent on this thread seems to take both sides to the IT Career Choice. IT as it presents unending challenges and opportunities to look at complex problems in diverse ways is the reason most of us were drawn to IT in the first place. The knowledge growth and experience accumulated over an IT carrer is extremely rewarding. Where the fallout occurs is in the value placed by corporations on IT talent. The respect garnered by corporate IT professionals in the 80's has long disappeared. It is dealing with the constant degredation and disrespect as individuals that causes IT professionals to rethink there career choices.

The brain drain issue however, as I see it anyway, is insidious. While corporations continue to leverage major mainframe investments from all corners of the distributed universe, the perception becomes that the mainframe simply runs legacy code that can and will be replaced in the near future. The truth is that most mainframe systems were designed to solve the early processing requirements of different businesses. Whether it is trade settlement, underwriting, DMV record retention, etc - these systems are not likely to be rewritten anytime in the near future.

The talent that is supporting these complex systems are in their twilight years. Rather than move from job to job as they may have done in their early carreer, they are more likely to ride out there carrer with the company they currently work for. This creates a false sense of the manpower that will be needed in the next 10 years as these baby boomer retiries seek greener pastures. At some point they will retire whether the company they work for wants them to or not.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/01/26 14:50

Nothing regarding the Mainframe Brain Drain can be more poignant or relevant than the news that is currently circulatinbg the mainframe CICS community. Bob Yelavich, the "goidfather" of CICS passed away on January 18th. To anyone involved in CICS over the last 40 years or more (I haven't been involved long enough to cover 40 years - but Bob was a well established icon when I started 25 years ago) - Bob was the consumate CICS intermals guru. He had a true passion for his profession as a CICS software expert. He was a true problem solver - and I don't think that monetary compensation played much of a role in his work ethic. He was part of a generation of employees, and more importantly companies, that had their heads to the grindstone. Smart human beings coming up with real solutions rather than financial gimmicks. That is the real brain drain in America - hopefully we will find our way again.
For those of us who wish to have that passion for what we do in IT - there was no better role model than Bob Yelavich - a life well lived.

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Re:The Mainframe Brain Drain
Posted by searley - 2009/01/28 09:22

Nothing regarding the Mainframe Brain Drain can be more poignant or relevant than the news that is currently circulatinbg the mainframe CICS community. Bob Yelavich, the "goidfather" of CICS passed away on January 18th. To anyone involved in CICS over the last 40 years or more (I haven't been involved long enough to cover 40 years - but Bob was a well established icon when I started 25 years ago) - Bob was the consumate CICS intermals guru. He had a true passion for his profession as a CICS software expert. He was a true problem solver - and I don't think that monetary compensation played much of a role in his work ethic. He was part of a generation of employees, and more importantly companies, that had their heads to the grindstone. Smart human beings coming up with real solutions rather than financial gimmicks. That is the real brain drain in America - hopefully we will find our way again.
For those of us who wish to have that passion for what we do in IT - there was no better role model than Bob Yelavich - a life well lived.

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Re:The Mainframe Brain Drain
Posted by jimfinnan97 - 2009/02/03 11:20

I think the issue you raise about IBM IT Pros retiring and taking with them their knowledge is true for baby boomers in general. There will be a severe shortage of experienced workers in many fields not just the IBM technology field. I suppose there may be legions of IBM skilled workers who will continue to work well beyond the normal retirement age... Supply and demand wages will apply.

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Re:The Mainframe Brain Drain
Posted by searley - 2009/02/23 11:36

I believe that boomers will work well into there 60's. In fact the recent hit to all of our 401K's might necessitate it. In fact I look forward to working in retirement. I see myself possibly working a 6-9month gig and playing golf the rest of the year. The thing that I find disturbing is the lack of wage growth in our industry.

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Re:The Mainframe Brain Drain
Posted by Bill Gerneglia - 2009/02/26 08:36

The lack of wage growth for IT workers is disturbing as you mention. It is one of the only professions I know where the more knowledge you acquire the more you become an expensive line item in some managers budget. But I guess that may be true in many industries.

I heard someone say their 401K is now a 104K.. with that big
hit to our retirement nest eggs your number of golf rounds may be limited..

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Re:The Mainframe Brain Drain
Posted by Bill Wilson - 2009/03/03 11:31

Bill at this point with the economy in its current state I believe most workers are just trying to hold on to their jobs rather than look for any real wage growth.

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Re:The Mainframe Brain Drain
Posted by DKaden - 2009/03/03 12:11

Anyone else come across the blog where a couple was describing how they are working with their employers to downsize their jobs? They were suprised to learn that in spite of their ability to afford only a modest 3 bedroom split on a 180 * 100 lot in a marginal neighborhood of one of the nation's most expensive geographical areas, they are now officially rich. After working the numbers they determined they could save money by earning less.

Only 2% of the population is exposed to this issue at this time but you are probably talking about couples comprised of educated experienced engineers, teachers, and IT professionals in the mix. If that really becomes a trend it would certainly change the landscape a bit.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/03/05 10:15

One of the bright points is that although IT appears to most companies as an expense, any business manager knows that IT is a critical part of their business. It provides competitive advantage and fantastic return on investment. In addition, IT provides critical business function. So IT is a cost to be contained - which can also contain wage growth, but there will always be IT jobs that business simply can't do without.
Since IT is generally a high skill job and pays relatively well, you could say it is a safe choice for a career path.

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Re:The Mainframe Brain Drain

Posted by Bill Gerneglia - 2009/03/26 17:31

Unfortunately since the dot com bust the wage growth for the typical IT worker has slowed dramatically. There is also the pressure to reduce costs and consider outsourcing IT services.

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Re:The Mainframe Brain Drain

Posted by DKaden - 2009/03/27 10:57

The current administration SEEMS to be pushing hard to stem the offshoring trend. Hard to tell where that will actually go.

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Re:The Mainframe Brain Drain

Posted by jimfinnan97 - 2009/03/27 11:21

Well anything we can do to keep more engineering jobs here in the US can only help the economy. International offshoring wages are also increasing significantly, this will help stem some of the tide.

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Re:The Mainframe Brain Drain

Posted by TimCowan57 - 2009/03/31 11:06

I don't think that you can take a response on CICS programmers and take that as a general trend in IT. CICS / mainframe programming is a set of old skills that are no longer taught in college. Most programmers feel comfortable in the first languages and environments that they learn in. I can still code in IBM assembler. However over the years I had to add in J2EE, .net and others. You will not find schools teaching CICS or mainframe technologies.
I do not feel there is a general brain drain from IT particularly if you consider offshore resources. I recently converted a client from IMS to DB2. One of the drivers was the lack of IMS DBAs available. IMS programmers / DBAs are rare because CICS pushed IMS aside. This is the continual adaptation that happens in technology. It is more on point to say that new graduates do not learn older skill sets and graduate with knowledge of distributed web technologies as opposed to older mainframe skills.

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Re:The Mainframe Brain Drain
Posted by Bill Wilson - 2009/04/02 09:31

Perhaps it is not a general trend in IT as you suggest but it is definitely a trend in the IBM environments and last time I looked >50% of the worlds important transactional data is stored and managed in an IBM mainframe or server system.

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Re:The Mainframe Brain Drain
Posted by searley - 2009/04/03 10:15

Yes and that is sort of the original point to this thread.
The older technologies are still running a vast majority of the critical workload and it remains to be seen who will carry that workload 10 years from now and or what will be the cost to replace it. I agree that it is not only difficult to get a college aged student to even consider the mainframe as a career path, in fact I'm not sure I would recommend it. But by the same token, call me ambivalent because I think there is an evolution going on in the mainframe that can cause it to remain a key part of any large enterprise for years to come. For example CICS is not an old technology. Today's CICS runs programs written in JAVA and C on top of the old mainstays like Cobol, Assembler and PL/I. It fully supports any XML standard including SOAP and does so across TCP/IP. With newer development tools like RADz there is real transformation in what a mainframe application looks like today. Not to mention your workload runs under the most robust and efficient operating system available anywhere.

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Re:The Mainframe Brain Drain
Posted by searley - 2009/04/03 10:50

Funny how this thread has morphed into a dicussion of the problems with IT Talent in general. But I want to use some of your points to emphasize the Mainframe Brain Drain Problem. You say you can still code assembler language so I feel pretty comfortable that I'm dealing with a competent mainframe expert. First thing is that you said you did an IMS to DB2 conversion basically over a perceived risk of a limited number of IMS DBAs. That right there tells you about a MBD (Mainframe Brain Drain) - and I can say from experience that the perception is real in that we have inherited several IMS systems through mergers and have a hard time finding that skill set. Also moving from a hierarchical DB like IMS to relational DB like DB2 has its pitfalls. The Hierarchical structure is very efficient for most financial applications and although conversion to relational has many positives, performance is not one of them. So even in this case you have that larger CPU cost. I totally agree with the idea to go relational, I just guess I'm trying to point out that any attempt to move some of these perceived older technologies to newer ones - even off the mainframe - can cause a much larger cost footprint on the newer systems than expected. And finally, you said the conversion was from IMS to DB2. You didn't mention what platform DB2 was on but I'll assume its on the same zOS platform the IMS was running on - even if not so in your case - it represents most of the IMS to DB2 conversions going on these days. So the new DB2 version still requires the good ol' skill sets like zOS, TSO, JCL, DB2 and probably Cobol and CICS. I'm sure when your lucky enough to retire they will be able to replace you J2EE and .net skills but they'll sorely miss the ol' Assembler Language programmer they counted on.

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Re:The Mainframe Brain Drain
Posted by Bill Gerneglia - 2009/04/07 08:19

I agree, it is an often overlooked fact that many conversions from the hierarchical to the relational database model were conducted to move an organizations data assets to a more contemporary database management system so they can be steered into a safe harbor.

When one organization acquires another, these conversion costs should be discovered during due diligence and built into the price of the expected ROI for the purchase. The fact that there is a Mainframe Brain Drain can only accelerate and weigh on an organizations IT strategic decision making process. Is is possible that selling a business unit which depends heavily on Mainframe IT workers to another organization that may have excess human resources in this area

makes good business sense for both the buyer and seller?

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Re:The Mainframe Brain Drain

Posted by jimfinnan97 - 2009/04/09 08:54

I miss the good old days, RMS under DEC VMS, IMS, ingres, unify. Now your choices are basically DB2, Oracle, possibly Sybase or MySQL.
Granted the older hierarchical DBMS were more efficient at insert, update, delete, and record fetch, but on the output side reporting was more difficult - SQL has made things much easier.

==========

Re:The Mainframe Brain Drain

Posted by searley - 2009/04/14 10:16

I can tell you that in large merger and aquisition deals - almost no technical due diligence is done. We have inherited many technical nightmare that have taken years to integrate. Generally speaking the initial phase of migrating new workload to hardware owned by the aquiring company is usually branded a "succesfull integration". After which countless dollars are wasted on redundant systems and failed integration projects.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/04/14 10:27

I know that I mentioned the passing of CICS icon Bob Yelavich in an earleir post. Well the Mainframe Brain Drain continues with the passing of Vern Watts, the distinguished architect and inventor of IMS. In a 2002 article about Vern it was stated that more than 90% of Fortune 1000 companies use IMS to process over 50MM transactions a day and manage over 15 billion giga bytes of critical data. Not sure if the numbers are wholly acurate today but I would not imagine they have diminished by much. Vern passed away suddenly on 4/4/2009 just 3 days after his 77 birthday and was still working 2 days a week for IBM.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/04/14 10:33

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100 % agree on RDBMs over Hierarchical for increased productivity and rapid application development - you really have to be there. Just wanted to point out that the increased ability comes at a performance price. I can actually attest to a case where upper "(mis)management" had a developer revert back to VSAM because her application using DB2 was using to many CPU cycles. Talk about backward thinking.

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Re:The Mainframe Brain Drain

Posted by Bill Gerneglia - 2009/04/20 07:13

There is certainly a trade off between a higher level 4 or 5GL language like SQL and CPU cycles. We trade simplicity of data access through normalization for speed of access via
flat file keyed index retrieval. Larger and larger solid state drives are reducing access times.

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Re:The Mainframe Brain Drain

Posted by jimfinnan97 - 2009/05/26 09:03

Good old Vern.. may he RIP..

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Re:The Mainframe Brain Drain

Posted by Bill Wilson - 2009/06/05 12:01

Some have suggested the quickest way to create mainframe talent is for IT universities around the world to recommit to mainframe education by reinstating the appropriate curricula.

If this were to happen there will still be a 4 year delay in the first graduates hitting the job market..

Mainframe revenue continues to grow, even in this economy this initiative may be more important than ever.

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Re:The Mainframe Brain Drain

Posted by msneubarth@gmail.com - 2009/06/08 17:23

IBM has teams of Mainframe Evangelists who are traveling and successfully promoting the virtues of extending the mainframe, including movement of distributed computers like Linux boxes onto mainframes.

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Re:The Mainframe Brain Drain

Posted by JohnSane - 2009/06/11 09:13

To Mr. Neubarth's point, I happened to see this section of CA Inc.'s site after visiting both IBM's VendorZone and then CA Inc.'s VendorZone here on this site. After reading a few White papers, I happened to go into CA's site and low and behold, they are sponsoring seminars on mainframe careers and webcssts. For more information please see... http://www.ca.com/us/content/campaign.aspx?cid=200004 .

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Re:The Mainframe Brain Drain

Posted by Bill Gerneglia - 2009/06/11 09:55

It is reassuring to know that several organizations like IBM and CA are taking this pending talent shortage seriously. I suppose it will serve them well to do so.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/06/11 11:14

No doubt both CA and IBM derive much of their revenue from the mainframe market and are strategically placed to leverage that market in the future. Both rely on mainframe expertise to develop, market, sell and support Zos software. However, I come in contact with mainframers everyday. I have not run into a 20 something in probably 15 years and even 30 somethings are hard to find. I still think the problem, at least domestically, of finding young talent interested in learning the mainframe, will not be solved in the near future.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/07/09 09:43

Congratulations to CICS on its 40th anniversary of delivering high end transaction processing to over 90% of Fortune 500 Companies. With this much enterprise wide, mission critical application running on CICS, let alone the entire Zos

platform, large corporations in all industry categories should pay more attention to the aging of Zos technical staff.

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Re:The Mainframe Brain Drain

Posted by Bill Gerneglia - 2009/07/11 07:09

More news on the pending shortage of Mainframe talent. This is an example of misinformed management at so companies.

"Businesses that cut experienced mainframe administrators in an effort to cut costs inadvertently created a skills shortage that is coming back to bite them. Chris O'Malley, CA's mainframe business executive VP, says that mainframe workers were let go because 'it had no immediate effect and the organizations didn't expect to keep mainframes around.'

But businesses have kept mainframes around and now they are struggling to find engineers. Prycroft Six managing director Greg Price, a mainframe veteran of some 45 years, put it this way: 'Mainframes are expensive, ergo businesses want to go to cheaper platforms, but have a lot of packaged overheads. If you do a total cost of ownership, the mainframe comes out cheaper, but since the costs of a mainframe are immediately obvious, it is hard to get it past the bean-counters of an organization.'"

I believe this last statement to be true. Just because you distribute applications to less expensive platforms than mainframes does not mean the overhead and TCO charges go away. In many cases they are reduced, and certainly more reliable a secure.

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Re:The Mainframe Brain Drain

Posted by DKaden - 2009/07/12 04:28

Good point. Mainframe architecture also centralizes many risk mitigation features such as access control security, system software migration, and event logging. It is still a much more controlled environment than the server that lives under the IT guy's desk and still has its place in the overall scheme of data processing toolsets.

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Re:The Mainframe Brain Drain

Posted by JohnSane - 2009/07/13 09:42

Ms. Kaden and Mr. Gerneglia raise valid points above. Security issues and risk mitigation issues are more easily addressed in a centralized and secure environment than say up floating in a cloud somewhere, or as she points out sitting under some IT guys desk.

IBM not too long ago (April 2007) published a book about Mainframe Security...
http://www.redbooks.ibm.com/abstracts/sg246776.html

Also, in an article written by Stu Henderson - June 2008,

The Mainframe vs. Distributed Platforms: 10 Key Security Questions to Help Determine the Most Secure Platform

He suggest the following to consider when looking at Mainframe architecture and Security issues:
Most of these security advantages result from issues of:

â€¢ Size, since a larger operation can afford more functions and features, due to economies of scale
â€¢ Architecture, since a solid foundation makes it easier to build a secure structure
â€¢ Standards, since shortly after Lou Gerstner took over as CEO of IBM, IBM started abiding by all the common standards for security and interconnectivity.

http://www.mainframe-exec.com/articles/?p=36

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Re:The Mainframe Brain Drain
Posted by searley - 2009/07/28 12:32

Security has always been the hallmark of the mainframe. One of the greatest strengths of mainframe computers has also been a very robust and mature infrastructure environment. A typical zOS system programmer has years of experience making software changes and upgrades with basically 0 impact to the end user. I fear in the distributed world that this has become a lost art. I often hear from upper management that service levels are not being met with quite often an exception made for the mainframe. "if our others systems ran like the mainframe, I wouldn't have to worry". Unfortunately this attitude has become an excuse for neglect rather than a call to exploit this powerful platform further.

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Re:The Mainframe Brain Drain
Posted by John Lloyd - 2009/08/12 09:37

We have similar problems here in the UK. I was recently involved in advising a client on the future of a core PL/I IMS DB mainframe application where it was very difficult to work out whether the application would be more cost-effective if it was moved to mid-range servers or kept on the mainframe. I felt the main issues were:

- senior management's perception of mainframe computing;
- costs;
- application development skills and tools; and
- responsiveness to changing business requirements.

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Re:The Mainframe Brain Drain
Posted by ronkost - 2009/09/01 12:32

John, thanks for adding that bit of insight, the main issue also seems like perception vs. reality. As Mr. Early just pointed out in his comment before yours, you have an attitude ranging from benign neglect to outright misconceptions of cost and suitability to task when it comes to mainframe based applications. The perception may be one direction, but the reality is completely the other direction.

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Re:The Mainframe Brain Drain
Posted by searley - 2009/09/09 10:49

Hi Ronk - seems we are of similar ilk - I enjoyed the blogs on your website. One issue we face in telling the story of the mainframe is that we are simply out-manned. As the title of this thread indicates - there are simply less and less of a percentage of IT folk that understand this platform. We diligently try to make sure that we convey the strengths of this platform as well as pilot any new technology. However many of today's architects - and there is a small army of them in the distributed world - know next to nothing about what is running on these platforms. They prefer the "throw it over the fence and wait for an answer" approach - which actually has some merits in and of itself.

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Re:The Mainframe Brain Drain
Posted by Bill Gerneglia - 2009/09/22 10:08

COBOL Turns 50!! And it is alive and well.

Not only is there a potential for a brain drain in the mainframe area, but who will maintain all of that COBOL Code?

The language used to power most of the world's ATMs, COBOL, is turning 50. COBOL runs about 75 per cent of the world's business applications. That is pretty remarkable for a single language among the more than 100 available.

Apparently, COBOL's fate was decided during a meeting of the Short Range Committee, the organization responsible for submitting the first version of the language in 1959. The meeting was convened after the Pentagon first laid down the guidelines for the language.

50 Years later, Micro Focus (A COBOL Language implementation for the PC and other platforms) published research which showed people still use COBOL at least 10 times throughout the course of an average working day in Australia. Only 18 per cent of those surveyed, however, had ever actually heard of COBOL.

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Re:The Mainframe Brain Drain

Posted by msneubarth@gmail.com - 2009/09/29 13:04

Dave Rhoderick, IBM mainframe evangelist, addresses the brain drain issue in his interview on CIOZone at http://www.ciozone.com/index.php/Server-Technology-Zone/How-Has-the-Mainframe-Survivedu-Ask-IBM-s-Dave-Rhoderick.html

Rhoderick says the mainframe workforce situation is not that serious and that there are U.S. training programs and programmers available in India, China, and Russia to help companies resolve the problem. Also, he says, mainframe programming is getting easier with higher level languages and new tools.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/10/01 09:18

Certainly much of the Cobol code at large cap companies is in maintenance mode and requires little new development. New development is usually limited to architectural changes and/or the piecing together of current multiple processes into a single answer set. The maintenance and even some new development has certainly moved to low-cost consulting. However, as demand increases for Indian and Chinese workers, the pool becomes a bit watered down as the very talented are already committed and corporations have to draw from a slightly less capable talent pool. This will only increase as the Indian and Chinese economies grow and their population starts to work on growing domestic opportunities. Anecdotally, I am starting to see an increasing amount of bad code find its way into production environments.

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Re:The Mainframe Brain Drain

Posted by Bill Gerneglia - 2009/10/01 12:40

Steve,

You are correct, as demand for experienced talent increases the cost of outsourcing continues to rises as the top talent gets poached for more $$. I first started outsourcing applications development to China in 1995. Back then I would pay $2.50 per hour per programmer. That quickly doubled and increased 10 fold within 3 years. Quality comes at a premium price - no matter where the work is performed.

Another real problem was the cultural differences - sometimes the programmers would just get up and walk away from a project and would not even tell you that they have moved on to another organization or project. Can you imagine running development that way?

==========

Re:The Mainframe Brain Drain

Posted by searley - 2009/10/02 09:49

Sounds like you were hiring them individually as contractors.
For larger corporations they would be contracted through an outsourcer that would hopefully manage them better. Still it seems that you were getting s developer for about on third an american worker, and there lies the issue. The only way that America can compete is by lowering it's standard of living, which given our national debt, could plunge us into 2nd

world status.

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Re:The Mainframe Brain Drain

Posted by JohnSane - 2009/10/23 14:37

Wow, perhaps a statement of the times by Mr. Earley -
"The only way that America can compete is by lowering its standard of living...."

Kind of funny to think a Brain Drain discussion has lead us down the path of "Barbarians knocking at the gates" of the USA and threatening its status as the power behind mainframe computing. Still, given what Dave Rhoderick said in his interview to Mr. Neubarth... http://www.ciozone.com/index.php/Server-Technology-Zone/How-Has-the-Mainframe-Survivedu-Ask-IBM-s-Dave-Rhoderick.html perhaps Mr. Earley is not far off?

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Re:The Mainframe Brain Drain

Posted by msneubarth@gmail.com - 2009/10/31 17:47

On the mainframe drain:

A Network World report on September 15, 2009, said:

Still all is by no means rosy in mainframeland. Another recent study raised an ever-increasing issue: retiring mainframers. One study by system vendor Shoden found that 96 percent of respondents working for financial businesses said that they are concerned to some degree that with cloud computing and SaaS they will not be able to retain the necessary skills to operate and maintain legacy environments such as IBM mainframe or AS/400.

The study said in the manufacturing sector, 88 percent of IT decision makers admitting to being concerned, while across all the markets polled, the average comes in at a staggering 83 percent. The retail, distribution and transport sectors come in just a little lower at 80 percent.

The study went on to state that mainframe technology is as old as the Boeing 747 and, like the iconic aircraft, it is still the default workhorse for many of its original adopters. However, while today individuals still train to become commercial pilots, the number of IT professionals going into the mainframe arena is fast disappearing.

A similar study funded by CA found that financial services organizations are leading the drive to tackle the shortage of mainframe skills in Europe where 60 percent of financial service firms use the mainframe for administering their critical data. In the CA study it found 57 percent of financial services organizations said an easy-to-use Web-enabled GUI would help close the skills gap.

An IDC study, released on September 15, 2009, of 300 IBM mainframe users, found that about one-half said they planned to increase annual spending on mainframe hardware and software over the next five years.

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Re:The Mainframe Brain Drain

Posted by scarr - 2009/11/09 14:35

I will be increasing my spending on Mainframe computing next year as well. Where else can I find the performance and security I need in a reliable and scalable platform.

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Re:The Mainframe Brain Drain

Posted by searley - 2009/11/18 11:15

Over 80% of S&P 500 companies rely on the mainframe for critical business applications and data. The median age of a mainframe programmer or system programmer is estimated at 50+ years. This doesn't even include the vast number of

government systems around the globe that also rely on mainframes. I am not very experienced on the AS/400 platform but I am aware that it is fairly similar to the skill set requires on system Z. - ie DB2 Cobol RPG. AS/400 is also extremely pervasive in the middle and small cap markets. Given this investment, it is virtually impossible that increased investment in the mainframe and AS/400 can be avoided.

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Re:The Mainframe Brain Drain

Posted by ronkost - 2009/12/30 16:51

To Mr. Early's point...
CA released a survey this past June that site growing use of mainframe units running Linux.
CA, which released the results of the survey June 17, found that of the 100 IT professionals at global enterprises contacted, 93 percent said they plan to either increase the use of IBMâ€™s Linux specialty processing engine on their System z mainframes over the next two years or maintain the current level of investment.

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Re:The Mainframe Brain Drain

Posted by searley - 2010/02/25 11:41

Resurrecting this great thread. When we talk about the Mainframe. There are really 2 IBM Mainframes. One runs the MVS; now call Zos; operating system which runs a large portion S&P 500 critical code. The other is what IBM sees as the future market - which is running some form of the UNIX operating system (pick your poison) and very efficiently running it under what is a resurrection or partial resurrection of the VM operating system. Ressurections all around - what's old is new again !

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Re:The Mainframe Brain Drain

Posted by JohnSane - 2010/02/26 16:37

To Searley's point on the previous page... this thread is a great thread and I just finished reading another item on this site that would be of interest to anyone reading this thread...
The Mainframe: Up, Down, In or Out?
26 February 2010
By Michael Neubarth
http://www.ciozone.com/index.php/Server-Technology-Zone/The-Mainframe-Up-Down-In-or-Outu.html

If you have not read this piece, it is a really good round up of some of the points made in this thread! I highly recommend it.

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Re:The Mainframe Brain Drain

Posted by msneubarth@gmail.com - 2010/02/26 18:30

Thanks, John...

As my article relates, recent surveys and reports are consistent in showing that the supply of mainframe workers is dwindling and having and having an effect on customers.

The most recent BMC survey found that in 2009 "concerns about staff skills (applications, operations and programming) increased."

A report by Darren Pauli on techworld.com on October 7, 2009, describes how retired mainframe administrators are being lured back into the workforce. The retired mainframe workers, he says, are being "offered lucrative deals and better work conditions by businesses unable to replace the experienced workers."

The report says that businesses "that have made redundancies across mainframe areas and cut-back on hires are

struggling to replace engineers, according to industry experts."

Moreover, says the report, "organizations needing to replace aging senior staff are also struggling to recruit young workers who many say are not attracted to the highly technical nature of mainframe administration."

Union Pacific railroad said it was phasing out its mainframe in part it was "having difficulty recruiting IT workers with macro assembler skills to maintain and enhance the older system." Many IT workers who are familiar with the mainframe-based system are nearing retirement age, and "most colleges and universities don't even teach assembler."

One reason the U.S. House of Representatives decided not to buy another mainframe is because of the mainframe staffing issue. The current IT staff has more expertise running x86 and Unix boxes, according to Rich Zanatta, director of facilities for the House, who s quoted as saying, "We really don't have those skill sets in house anymore. We try not to maintain architecture that we can't support ourselves."

IBM, BMC, and CA are trying to fix the problem with educational programs and tools. But the brain drain seems to persist in being a problem. Time will tell...

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Re:The Mainframe Brain Drain

Posted by searley - 2010/03/03 13:40

Anecdotally, I have seen 6 retirements by colleagues and peers in other companies in one month. While I do not see impending doom, the problem is compounded by the outsourcing of maintenance type mainframe work to offshore resources. The offshore resources tend to be weak in systems understanding and experience - compounding issues with mainframe code.

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Re:The Mainframe Brain Drain

Posted by scarr - 2010/03/18 16:11

Weak - how so - are these not IT professionals? Are they not well rounded. Isn't outsourcing as easy and sending work to India and realizing an immediate ROI by reduced payroll expense?? All IT workers are the same - no?

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Re:The Mainframe Brain Drain

Posted by searley - 2010/04/13 14:32

That's right, I forgot. . . . Of course I am interpreting your post as tongue in cheek, as is mine. I really do feel there will be a price to be paid for all this offshore development and support. It may just be my perspective, but it seems my personal banking system is down much more often than it used to be. In addition I find much more business websites behaving badly.

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Re:The Mainframe Brain Drain

Posted by searley - 2010/04/23 11:50

I will be attending a technical workshop in May that explores PHP within CICS. With the SOA capabilities and the Webservices provided in CICS, combined with the powerful RDz development platform, it is interesting to see how IBM is trying to attract the next generation of developers to mainframe computing. The platform has been challenged in the development arena for sometime, but the reliability, security and on demand resource expandability are so far in front of the ,that the future of the mainframe may be much better that even I had anticipated.

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Re:The Mainframe Brain Drain

Posted by jimfinnan97 - 2010/05/11 08:10

A recent report on walletpop I just read listed the Ten most profitable majors for undergraduates. I have listed them below in summary. I find it amazing that Computer Science still comes in at #4, yet with all of that demand for CS majors and IT skills we still can not overcome the brain drain in Mainframe computing. I am not sure I would recommend CS at a major to a college freshman - would you?

1. Engineering.
2. Economics.
3. Physics.
4. Computer Science.
5. Statistics.
6. Biochemistry.
7. Mathematics.
8. Construction Management.
9. Information Systems.
10. Geology.

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Re:The Mainframe Brain Drain

Posted by ciony - 2010/05/12 08:15

The mainframe was still dead way back in 1989 when I started my career as a mainframe assembly language programmer at IBM; funny how long a dead platform has managed to stay relevant. ;)

Mainframe programming is an excellent introduction to a career in computing, but frankly was only possible given IBM's substantial training of raw college Comp Sci graduates.
IBM was relatively unique at that time in terms of its educational investments, and I think that approach has largely gone by the wayside across the board now. The lack of such training eliminates US entry level jobs, relegating these jobs to the veterans and to offshore resources (though who is training them?). Thankfully there are many other technology platforms that are far more accessible today for IT professionals starting their career, but that doesn't help the mainframe brain drain. If companies want to build these skills onshore they are going to have to invest in training their workforce.

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Re:The Mainframe Brain Drain

Posted by srw134 - 2010/05/14 23:20

As a person who also had to take COBOL and RPG programing through school I tend to think that these areas really should be dead but probably will not be for some time. There are still a number of different large scale companies that use these systems and they need the programmers. I for one made sure to take the C classes when I was in school as they are considerably more relevant now then COBOL or RPG in normal everyday programing. But unless something has changes since I went to school the CS programs probably still suck.

-sean

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Re:The Mainframe Brain Drain

Posted by searley - 2010/05/21 15:49

Computer Associates completed a market survey in August 2009 that indicated that 70% of companies interviewed see their aging mainframe workforce as a "critical pain point" in their future. Yet only 40% indicated they were doing anything about it. In fact, from my experience, with the recent recession, many companies have taken the opportunity to actively retire aging mainframers in an effort to downsize.

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Re:The Mainframe Brain Drain

Posted by srw134 - 2010/05/21 18:25

The one thing I can say for most of the old school mainframe folks I know is that they know their stuff. If you are still going to be using these systems you really need to have them around. I have seen a couple of different companies which laid these people off in an effort to save money but required the newer people to manage these systems. That did not go over so well...

-sean

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Re:The Mainframe Brain Drain

Posted by searley - 2010/05/24 09:29

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true enough. Although the lines are being blurred by software like RDz and CICS explorer as well as unix system services, the mainframe is a rather unique skill set. While a college student could easily learn the basics in a year or two, a senior programmer would need a minimum of 5-8 years experience.

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Re:The Mainframe Brain Drain

Posted by srw134 - 2010/05/30 00:31

Well as we all know it is only a matter of time before these types of systems will be almost completely gone. Of course this was also said 20 years ago. How long exactly all depends on management and the ability to support the systems, as well as money. As the people able to manage these systems get fewer the systems themselves will be fewer.

-sean

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Re:The Mainframe Brain Drain

Posted by searley - 2010/06/25 10:57

That is one of the major issues here. To replace these systems is almost cost prohibitive. I find that a lot of senior management, particularly on the business side, actually thinks these systems have been replaced. More often they are leveraged with a front end GUI that "appears" like a brand new system. I don't think these systems will be replaced in the near future if ever. Also even if you don't need experienced Cobol programmers to build a new system, their knowledge of the business function and processing is critical.

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Re:The Mainframe Brain Drain

Posted by ronkost - 2010/07/06 14:09

I agree, I think these systems will be around for some time to come. Problem is senior managers are only placing bandaids on the over all structure in place of doing the right thing, which would be to reinvest in the structure of these systems. Like so much these days everything is only done with a short term pespective in mind.

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Re:The Mainframe Brain Drain

Posted by searley - 2010/07/14 09:19

Well the truth is most of these systems are critical to the business, but they solve problems that were solved 30 years ago. They do not generally provide competitive advantage. They are however highly complex and handle volumes that are not readily migrated to distributed platforms. Mean while new development dollars are being spent on newer technology built on top of these robust back office processes and data.

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Re:The Mainframe Brain Drain

Posted by sgarrowitz - 2011/04/19 11:54

Over on the Dice.com site they had an interesting discussion of the way new time mainframers are asking for help and fixes from the old timers...

Mainframe Forum interestinâ€‹g reading between oldtimers and newtimers (from the Dice site forum)...
03-06-2011 05:55 PM

"Being a ex mainframer I found the following forum hilarious due to many newtimers ask about a problem they are having and asking for help but many of them want the oldtimers to figure out the problem for them, provide the fix, and even provide the code. Such as:

http://ibmmainframes.com/post-247343.html

Any of you old mainframers that know JCL read the following:

http://ibmmainframes.com/about53585.html

http://ibmmainframes.com/about53694.html

This is how the Best and Brightest works!

At the top of forum article there is a annoucement for a MASTER MAINFRAMES Ver 6.0 - CD 10 cds available which can be bought but the catch is they are not available in the US only India unless you have a friend in India (to ship to you)you are out of luck. For the Training that I went thru it would have be nice but I was trained correctly as oppose to reviewing these CDs and saying I am Qualified!!"

I think the problem runs pretty deep right now. Not enough dollars are flowing to building solutions to the back end. And the solutions right now are not ready for prime time with the newer distributed platforms. That said there does seem to be a general lack of talent in this area of technology.

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Re:The Mainframe Brain Drain

Posted by danjarvis - 2011/05/02 12:48

The quote "most colleges and universities don't even teach assembler" is astounding to me and it would definitely explain the talent drain. Although much programming is now done using high-level programming languages, it is still necessary to at least understand assembler as that is the foundation upon which all programming languages are built. At this point I wonder how many programmers even understand memory management!

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Re:The Mainframe Brain Drain

Posted by searley - 2011/05/03 09:06

Great point Dan. Understanding the instruction set and how the computer really uses adressability via registers and manipulates memory via arithmatic and logic instructions using base and diplacement within memory are key to understanding how a computer actually works. They need to be core to any computer science or engineering degree.

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Re:The Mainframe Brain Drain

Posted by tsheehan - 2011/06/01 12:38

The brain drain will continue in other areas of IT as well. The hangover effect of H1B visa workers on US tech firms will

be significant as U.S. companies face a serious case of brain drain as the majority of technology professionals from India plan to return home, according to a recent survey from Corp-Corp.com, a tech-job portal. Even some workers who have earned U.S. citizenship are ready to leave, taking their skills and reputation for work ethic with them. Why? Some reasons are predictable, such as longing to reunite with family members and loved ones. But other motivating factors may surprise â€“ including the impression that career opportunities are brighter in the homeland.

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Re:The Mainframe Brain Drain

Posted by JohnSane - 2011/06/02 11:25

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When India starts to represent better opportunities to highly skilled, well trained individuals than the USA; I have to wonder if anyone believes we are moving in the right direction as a country. Further, if IT is being drained to far off locations, one has to wonder how long it will be before we produce nothing in this country?

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