



March 2008

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**Dear Pete,**

Welcome to Spring. Tired of the winter? Looking for that rebirth that Spring always seems to bring along, well this should be an amazing Spring in the System i community. Hopefully this newsletter will make it the start of a great spring for you. Are you getting the most from your System i (AS/400, iSeries, and/or i5)? Let us help you with any of your System i needs. This issue of our newsletter has four articles. In the first, i5/OS V6R1 is now available as of March 21 and issues that you will face with the upgrades. As performance is always an issue in most shops, our second article covers what the Index Advisor is and now it will show you logical files you should have on your machine. The third article is i5 Education and where in the New England area you can find the premier i5 education in April. Our fourth article is about a future i5 announcement that IBM plans to make on April 2nd at COMMON.

iTech Solutions can help you improve performance, upgrade OS/400, perform security audits, implement a High Availability solution, VoIP, Systems Management, PTF management, upgrade an existing machine, or upgrade to a new machine. If you are thinking of LPAR or HMC, then think iTech Solutions.

We have the skills to help you get the most out of your System i. For more information on any of the articles below, please contact us at [info@itechsol.com](mailto:info@itechsol.com). We would also like to know what you think of this newsletter and any items you would like us to discuss in future issues.



## i5/OS V6R1 available today March 21

IBM announced on January 29th, that the next version of i5/OS, V6R1, will be available on March 21st. We listed many of the exciting new features in previous articles, if you would like to read the previous newsletters, you can go to our newsletter archive [Prior Newsletters](#) .

Having already done some installs and upgrades of V6R1, I can tell you that planning is the key to this upgrade. Perhaps more so than previous upgrades. If you have been working with us over the years, you know what we say about upgrades - "The actual upgrade is a piece of cake, it's the preparation and planning that determines success". This is even truer when you upgrade to V6R1. We have been running the ANZOBJCVN command at customers and finding that they have programs that will NOT convert to V6R1. This is usually because someone has removed observability from these programs. Remember, if the program was compiled before V5R1 and the observability has been removed, you can not convert this program to run on V6R1. You will have to recompile the program from the source. We have spent the last few months at customer's sites identifying these issues as they prepare to go to V6R1 and take advantage of the new features.

We have been doing the analysis for V6R1 on many systems these past few months, and there are quite a few packages, some very popular packages, that do not pass ANZOBJCVN. Now is the time to make sure you won't run into problems by ensuring that all of your programs can be converted to V6R1. We can help you analyze your system so that you know which programs will cause you problems, and contact the vendors to get new copies of the programs.

iTech Solutions has been performing analyses for our customers' systems over the past few months, showing them which programs are problems, and giving them ample time to figure out how to resolve this. Let us come in and analyze your system and

provide a report for you on exactly which programs have issues. This way, you can start to get these resolved before you need to upgrade to V6R1. Remember, if you don't have creation data for the program to be recreated at V6R1, it will not run. Let's make sure these are not your mission critical programs that will have problems.

## Index Advisor

Sometimes features go into a new release of i5/OS and people just don't take advantage of them. The Index Advisor is a great example of something in V5R4 that not many people have taken advantage of. In fact, if you are not on V5R4, this alone is worth the upgrade. Last month we got a call from a customer that their response time on their 520 machine was suffering. Could we come in and find out what the problem was. Out goes the iTech Solutions Performance Investigation team to solve the problem. While they didn't have cool yellow trench coats and big magnifying glasses, they had a tool called Index Advisor, which comes free with i5/OS as part of iSeries Operations Navigator.

Now, we knew this customer quite well as they are on our PTF Quarterly Maintenance program, so they were up to the latest and greatest Cumulative PTFs, Database PTFs, Hiper PTFs, and about 5 or 6 other groups of PTFs. First thing we looked at was Disk I/O which the utilization was in the teens so that was great (that's arm utilization and not disk capacity). We then looked at memory paging, no problems there and Expert Cache had already been turned on by us a few years back, and CPU was in the 40 to 50% range most hours. This machine looked fine. Yet, they said "things" were slow. So, we asked if can we get a little more technical and what did they mean "things" were slow. They uttered the 5 letter word that frightens the most savage performance gurus, "Q-U-E-R-Y". You could feel the tension in the air, and hear the gasp of the investigators. We were about to call home for more

clothes as we might be here a few days, when one of the performance detectives said "lets see what the Index Advisor says".

If you never used the Index Advisor it is part of iSeries Navigator, and it basically displays the information that V5R4 collects in the system table SYSIXADV and presents it to you in an easy to understand display. The Index Advisor provides a list of indexes (logical files) that it recommends that you create over specific physical files with a certain key structure to improve performance. There were 1,407 entries in the Index Advisor for this machine, and we certainly did not want to create them all. We needed to sort through this information and determine where the real problems were and what was just "noise". The first index it displayed had been created 128,000 times for each of the queries ran over it. This means every time a certain query had been run the system had to create a temporary index each and every time. But the index only took 1 second to build. So, it probably wasn't a real problem. Perhaps something we could come back to afterwards, but we needed to keep digging. We then found about ten indexes which the advisor was telling us they were being built, some a few times every day, and it was taking between 7 and 12 minutes each time to build the temporary indexes. We looked at the keys it recommended, and it made a lot of sense to build these permanent indexes. You can think of a permanent index as creating a logical file, but it is so much more powerful. This is due to some of the enhancements of SQL. I will write about that in a future article if people are interested. We also found another temporary index which was getting created everyday and that was taking 52 minutes. Think about this, before the query could start reporting on the data, it would build a temporary index which would take 52 minutes and then when the query was done, delete that temporary index.

We created these 11 indexes, cleared the data on the index advisor so we could watch for new problems and we waited for the results. The

customer called us a few days later to tell us that the system was flying, and that his users were extremely happy that their "queries were coming right out of the machine". This is another good example of the powerful tools that are part of i5/OS. If you would like for us to come in and do this analysis for you or with you, just give us a call, and see how simple having iTech Solutions do the work for you can be.  
Contact iTech Solutions

## ➔ i5 Education

If you are in the New England area you should plan to be in Framingham, MA on April 14 - 16th to attend the Northeast User Groups Conference. There will be over 100 sessions over these 2 days with Labs and seminars. You will learn all there is to know about V6R1 and some other announcements from IBM.



We will be presenting the following sessions there:

[Hardware Management Console \(HMC\) Lab](#)

[How to clean-up your System i](#)

[How to do Successful i5/OS upgrades - Updated for V6R1](#)

[Understanding the HMC, FSP, and Firmware](#)

[What to do to make your System i perform better](#)

**Visit the website to read about all the**

sessions <http://www.neugc.org>

Do you know there will be more System i knowledge in Framingham Mass than any other place on the planet other than Rochester MN on April 15th and 16th. Why would you be anywhere else but at NEUGC. We hope to see you there, so stop by the

[iTech Solutions booth which will be locate just inside the vendor ballroom.](#)

Let iTech Solutions provide you with additional education for your staff, or provide detailed technical knowledge transfer. [Contact iTech Solutions](#)

## More i5 Announcements

Everyone in the industry has been whispering about what IBM plans to announce at COMMON on April 2nd. While we know what it is, and it is very exciting, big, and interesting we cannot comment due to our non-disclosure agreements. But iTech Solutions will provide updates to our customers right after IBM makes the announcement.

One of the advantages of working with iTech Solutions in this market is we work closely with IBM, and know and understand both the current technology and what is coming out in the future. This close relationship allows our customers to make the most of their investments in the System i as they are guided by iTech Solutions. Are you currently working with another IBM BP, consider switching to iTech Solutions and let iTech Solutions become a part of your team so that you are able to make the best decisions for your company.

Stay tuned.

[Contact iTech Solutions](#) and see how easy it is to have us working for you, and leverage our extensive System i knowledge.

Our staff of Certified i5/OS professionals can help you get more out of your machines. Remember, i want everything to work.

i want control.

i want an i

i need iTech Solutions.

**Sincerely,**

Pete Massiello  
iTech Solutions



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