



January 2011

iTech Solutions because IBM i (AS/400, iSeries) didn't come with a System Administrator.

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#### Greetings!

Happy New Year, and everyone at iTech Solutions hopes you had a very happy holiday season.

The new year is always filled with hopes, dreams, new goals, and great expectations for the upcoming year. What are your plans for the year? Like bringing in a new computer or performing an upgrade, these hopes, dreams, and goals need a plan to make them happen. They just don't happen. So the questions I always ask everyone are: What are you going to do this year to improve your IBM i knowledge? Get up to the latest release of IBM i? What are you going to learn this year to improve your career? What skills do you need to acquire? Challenge yourself to at least learn one new thing.

If you are still on an older release of the operating system, or on older hardware, then it is really time you started to think about moving forward. Contact iTech Solutions, and allow them to work with you to get you on the latest operating system and/or the latest hardware. You will be happy you did.

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[Common Connect  
Article on V6R1](#)

[How to make your  
Transition to IBM i  
6.1 easier](#)

See the event in the next paragraph on who IBM relies on for practical know how in upgrading to the latest release of IBM i.

On Tuesday February 8, 2011 from 10:30 to noon Eastern time IBM is having a webcast on "[Upgrading your IBM i](#)". You can register for the [presentation at this link](#). Guy Paradise, World Wide IBM i Marketing Manager will highlight and summarize all the IBM i offerings delivered in 2010 and their value. Mark Olson, IBM Power Systems World Wide Product Manager will cover some of the technical details of moving up to the latest hardware. Steve Will Chief Architect: IBM i Operating System will cover the value of IBM i and new features & functions of 7.1. Pete Massiello of iTech Solutions will cover real world experiences in moving clients up to the latest Hardware & Operating System levels (6.1 & 7.1). **IBM knows who has the most knowledge and experience in the field on IBM i operating system upgrades. When you need to upgrade to IBM i 6.1 or 7.1, shouldn't you also be contacting iTech Solutions.**

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We have packed a lot of information into this newsletter, and I hope that you find this useful. This issue of our newsletter has seven articles. In the first, I want to show you how easily you can build a routine to track what libraries are getting backed up, when they are backed up, and the tape volumes they are being backed up to. The second article is proving a solution for your tape drives on machines that IPL too quickly. The third article is about recent price increases for SWMA for V5R4. Of course, if you are still

on V5R4, send [Pete an email](#) and he can help you upgrade to V6R1 or V7R1, with over 300 V6R1 upgrades done to date you know iTech Solutions has the expertise and know how. The fourth article is on how iTech Solutions can help you get a free printer with what you will save in yearly maintenance. The fifth article is about a new RPG newsletter being written by Bob Cozzi. The sixth article is on WATSON and the Jeopardy challenge which is running on IBM POWER 7 systems, the same machines you run IBM i on. The last article is for your reference with updated PTF information.

iTech Solutions can help you improve performance, upgrade i5/OS, perform security audits, implement a High Availability solution, Health Checks, Systems Management, Remote Administration, PTF management, Blade installations, iSCSI Configurations, Backup/Recovery, 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.

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## → Easy way to validate your backup.



We probably recover about one customer a week on one of our servers, as we test out the customer's recovery. Most recoveries are pretty successful; there are a few recoveries that are a struggle but successful; and then there are those where there is not a snowballs chance in hell they are going to be able to recover their system. Without testing your recovery, you will never know how good your backup actually is. Yet before we get to the recovery, it is very, Very, VERY important to understand your backup process. Yes, we need to understand the backup process so we can figure out how the recovery works. The few customers who have the luxury of doing a full system save each night always have a successful recovery, as well as those people who use BRMS. Wait a minute, what about the other 85% of customers out there? You should have hard copies of your backup CLs stored off-site, preferably with your Disaster Recovery manual, or with your tapes. That will help

someone understand what, when, and how your backups are running.

Let's get back to the 85%. Do you know what you backup each night? Below are a few steps to show you, for each library, when was the last time you backed that library up, and the tape to which it was backed up. This is a great starting point to figuring out whether you are backing up every library, and when you are backing up those libraries. First, I hope you don't initialize your tapes every day with the same exact name, and that you have multiple sets of tapes. I have some customers who use unique numbers on the tapes (I think this is the best), other customers who use the day of the week followed by the set number. For instance, the first Monday of the month is Monday1, the second Monday is Monday2, etc. Then they also have names like FulBU1 for when they do a full system backup. I think the minimum number of tapes you should have is 30 tapes, no exceptions. I have gone into accounts with 7 tapes, and that is it. This is a bad practice. You wear out the tapes, and you can't ever go back more than a few days before the tape is overwritten. Tapes are relatively cheap, compared to the cost of not being able to recover your system. One thing we see at some accounts is they initialize every tape with the same name, like companyname or IBMIRD. If you are doing that you need to change that right now.

In this article, I am only going to address libraries. Please be aware that for a full restore, you will need the System License Internal code (from a SAVSYS or I\_BASE\_01 CD), the Operating System (from SAVSYS or installation DVDs), User profiles (from

SAVSYS or SAVSECDTA), configuration objects (from SAVSYS or SAVCFG), all the libraries on your system (both system and user), Document library objects (from SAVDLO), and the IFS (from a SAV command).

The first thing we are going to do is create an output file with the names of the libraries in them. I will create this file in QGPL, and call it LIBBACKUP.

```
DSPOBJD OBJ(QSYS/*ALL)
OBJTYPE(*LIB) OUTPUT(*OUTFILE)
        OUTFILE(QGPL/LIBBACKUP)
```

Next we are going to create a query using the WRKQRY command. I will select the file QGPL/LIBBACKUP as input. Then under select and sequence fields, I will select in this order: ODOBNM, ODSDAT, ODSV01, ODSSQN, ODOBTX. Now I have library name, library save date in MMDDYY format, volume library saved to, sequence number on the tape, and text of the library respectively. I want you to now run this query and look at the results. I hope there aren't any surprises in there? This will also let you know what volumes are needed for the restoration of your libraries. Look at the dates, and look at the volume names. You might see some libraries with blanks in the date and volume columns. If it is one of these libraries, you are fine : QTEMP, QSPL, QRECOVERY, QRPLOBJ, QSRV, or QSYS. If it is one of your libraries it could mean that you aren't backing that library up, and you will need to look at your backup plan. Also, when you are looking at this report, keep an eye on the save date of the library. This is the last time you backed this library up, and if you believe it should have been closer to today's date than what is being displayed, it is time to

look at your backup CL program.

Printing out a copy of this library report, and keeping it with your Disaster Recovery plan, or with your tapes, will also help in the recovery of your system. You might want to automate this process, so that every week you run the collection (using the DSPOBJD command above) and print out an updated report so you know what is being backed up and to where.

So many times I run this process on a customer's system when we are doing an iTech Solutions Health Check, and I find that they believe they are doing a full backup every week, but they are only backing up their data libraries and nothing else each night. Or I look and I see they haven't done a full system backup in years. Whatever the case, this is a great start in understanding what is being backed up on your system, so that you can recover your system in the event of a disaster.

If you are interested in an iTech Solutions Health Check, or in scheduling a test of your recovery using your backups, please send an [email to Pete](#). You won't know how good your backup is until you have to recover it. Don't wait until it's too late. Test your recovery before you need to rely on it for a real recovery.



## Machines are IPLing too fast for the tape drives?



Installing new Power6 and Power7 machines over the past few months, I have come across an issue where these machines are IPLing too fast. Well, perhaps not too fast for us, but the IBM i IPL times are becoming shorter and shorter. As a result of this, some tape drive resources have not reported in to Hardware Service Manager by the time the system is ready to vary the tape or tape library device description on, even though the device description has Online at IPL set to \*YES.

This may result in CPD26D6 and CPD27EF messages being issued during the IPL. Yet when you attempt to vary the tape or tape library on after the IPL completes, the device will vary on without errors.

If after an IPL you are noticing that your tape drives are varied off, you will need to change the tape or tape library device description to set Online at IPL to \*NO.

```
CHGDEVTAP DEVD(TAP01) ONLINE(*NO)  
or CHGDEVMLB DEVD(TAPMLB01)  
ONLINE(*NO)
```

Then change your startup program (WRKSYSVAL QSTRUPPGM to get the name of the startup program) to vary the tape device on during the startup program. For stand-alone tape devices use:

```
VRYCFG CFGOBJ(TAPxx) CFGTYPE(*DEV)  
STATUS(*ON)
```

For Tape media libraries:

```
VRYCFG CFGOBJ(TAPMLBxx)  
CFGTYPE(*DEV) STATUS(*ON)
```

and

```
VRYCFG CFGOBJ(TAPMLBxx)  
CFGTYPE(*MLBRSC) STATUS(*ALLOCATE)
```

```
RSRCNAME(TAPxx)
```

where TAPxx and TAPMLBxx are the names of your devices. These steps have fixed the issue at a few customers who were seeing their tape drives varied off after the IPL on their new machines. If you need help with this, please [contact John](#).

## → V5R4 is now more expensive.



I have been preaching for years about why you should upgrade to 6.1, and also to 7.1. You can read them in many of our [previous iTech Solutions newsletters](#). Now there is yet another reason to upgrade from V5R4 to 6.1 or 7.1. IBM has made it more expensive

to stay on that release. About 25% more expensive. The details are in announcement letter [311-005](#), on January 4, 2011, IBM® announces increases in one-time charges (OTC) on selected IBM System i® software product features and software maintenance features. You can see the chart in the link.

In addition, IBM has extended marketing support for V5R4 from January 2011 to May 27, 2011. While IBM hasn't stated when support will be withdrawn for V5R4, you can estimate based upon previous releases that support for V5R4 might be withdrawn around November, 2012. You don't want to be running an unsupported release, so you should be looking at upgrading. If you are currently on V5R2 or V5R3, you are already on an unsupported release and need to upgrade.

If you have any questions or problems, would like us to perform a V6R1 readiness assessment, or have us do the entire upgrade for you, contact [Pete Massiello](#). We have the knowledge, the skills, the know-how, and the experience to make your upgrade successful.

→ **Your Printers Value clock is Ticking & your yearly printer maintenance is increasing.**

Do you have old printers that cost a ton of money for their yearly



maintenance?

"The clock is ticking. Act now to get cash back and more when you trade up to



an InfoPrint 6500 before March 18th 2011". You will also reduce your yearly maintenance, which can pay for these printers in about a year.

The maintenance on the old printers is through the roof, while a new printer will come with a warranty and has much cheaper yearly maintenance. Your old impact printer was a good investment - reliable, low cost and easy to use. But the time may be right to upgrade to the InfoPrint 6500. For lots of reasons:

- Cash back - up to \$750 trade-in, depending on the InfoPrint 6500 model
- Better ribbon value - lower cost, higher character yield and fewer ribbon changes

### **What more reasons to consider the InfoPrint 6500?**

- Reduce IT costs with the Printer Management Utility, which provides remote monitoring and management capabilities.
- Gain the functionality you need to move away from preprinted forms.
- Save time with the intelligent ribbon system.
- Simplify use with the newly designed, multi-lingual operator interface.
- Minimize disruption with options such as wireless and legacy application and printer migration.
- Implement centralized document design, control and archiving with MAPPING Suite software.

### **The clock is ticking - act now**

Step up your line printing capabilities for inventory, distribution, transportation and logistics. Boost business agility. Above all, make your accountant happy. Save money with a new printer, [contact Glenn](#).

## **→ A must have for every RPG programmer.**



You will want to pass this along to all the programmers in your organization.

February marks the launch of RPG Report, Bob Cozzi's twice-monthly technical tips and announcements newsletter. Beginning February 1st, 2011, RPG Report will be delivered twice each month. Those who subscribe receive the newsletter and discounts on other materials, such as online seminars, RPG IV training on DVD, and links to free downloads/code examples. So be sure to subscribe!

Here's the best part, you can receive this great content delivered to your home or office email inbox for just \$2/month and you may cancel anytime. Cozzi is accepting individual subscriptions beginning February 1, 2011. Most of the time RPG Report will be written content similar to the preview issue available at this [link](#).

But occasionally Bob will produce a video or audio edition and embed a link to that content into the newsletter. This should be similar to the hugely popular Tuesday Tips vidcast. However unlike Tuesday Tips, you will be able to watch these videos online or download them directly to your PC or Mac and watch them on your local PC. Rather than spend more time describing RPG Report, how about showing it to you? Read the [free preview](#) (2 week before its published) online today.

## → This is Jeopardy..... POWER Systems Style.

Watson, named after IBM founder Thomas J.

Watson, was developed by a team of IBM

Research scientists who set out to accomplish a grand challenge - build a

computing system that rivals a human's ability to answer questions posed in natural language with speed, accuracy and confidence.



Watson will challenge Jeopardy world champions Ken Jennings and Brad Rutter in a two-match contest to be aired on February 14 - 16. Jeopardy covers a broad range of topics, such as history, literature, politics, arts and entertainment, and science. Jeopardy poses a grand challenge for a computing system:

- Broad range of subject matter

- Speed of accurate responses and confidence
- Requires analyzing subtle meaning, irony, riddles, etc.



So, why am I telling you about this in the newsletter? Well, Watson runs on the same POWER7 hardware that runs your IBM i. Yes, the exact same hardware. How does Watson use POWER7?

- The IBM POWER7 processor behind Watson is specifically designed to meet the demands of workloads, like IBM's DeepQA natural language processing technology.
- POWER7 is an ideal system for running thousands of analytical tasks at once, which is what the Watson DeepQA software requires. In order to answer a Jeopardy question in under three seconds, the system runs thousands of breakthrough analytical tasks at once.
- Watson uses POWER7 (same system you run your IBM i software on) to deliver massive parallelism of multiple complex tasks that execute simultaneously on individual processor threads. Watson relies on multiple IBM Power 750 servers clustered together, each with four processor sockets with eight POWER7 cores per socket, and four threads per core. Combined, they make a workload optimized system that

can answer questions posed in natural language in seconds. No other system in the world can do this.

- While the Power 750 server provides excellent capabilities to support the IBM Watson Deep QA software, the Power 750 server was not specially designed for Watson. In fact, the same Power 750 servers are ideal for running many types of analytical tasks and available today to help answer practical business challenges across many industries, such as healthcare, financial services, and call center environments. All on IBM i.

What makes this match different than playing against an Internet search engine?

- A web search engine has access to an immense source of information and is designed to return a ranked list of web pages containing the data the user may be trying to find. Rather than provide an answer, search engines return possible sources for the answer, based on popularity and page ranking. The user must still analyze these recommendations and determine for themselves what the best answer is.
- Watson by comparison, uses QA technology to analyze the structure and wording of the question being asked, and in a matter of seconds formulates an answer that it has the highest level of 'confidence' is correct. Watson answers 'natural language' questions, which can contain puns, slang, jargon and acronyms that must all be evaluated as part of Watson's confidence in returning an answer.

If you want to have a new Power7 server for your IBM i, the same machine that is being used by WATSON in the Jeopardy match, please contact [Glenn](#) for more information.

## → Release levels and PTFs



People are always asking me how often they should be performing PTF maintenance, and when is the right time to upgrade their operating system. I updated this article from last month with the current levels of PTFs. Let's look at PTFs. First, PTFs are Program Temporary Fixes that are created by IBM to fix a problem that has occurred or to possibly prevent a problem from occurring. In addition, some times PTFs add new functionality, security, or improve performance. Therefore, I am always dumbfounded as to why customers do not perform PTF maintenance on their machine at least quarterly. If IBM has come out with a fix for your disk drives, why do you want to wait for your disk drive to fail with that problem, only to be told that there is a fix for that problem, and if you had applied the PTF beforehand, you would have averted the problem. Therefore, I think a quarterly PTF maintenance strategy is a smart move. Many of our customers are on our quarterly PTF maintenance program, and that provides them with the peace of mind of knowing their system is up to date on PTFs. Below is a table of the major group PTFs for the last few releases. This is what we are installing for our

## customers on iTech Solutions Quarterly Maintenance program.

	Releases			
	7.1	6.1	V5R4	V5R3
Cumul. Pack	10229	10215	10292	8267
Tech. Refresh	1			
Grp Hipers	21	80	145	169
DB Group	4	17	29	24
Java Group	4	14	25	23
Print Group	2	20	43	20
Backup/Recov.	5	19	37	33
Security Group	3	19	15	7
Blade/IXA/IXS	4	18	14	-
Http	3	15	24	17

The easiest way to check your levels is to issue the command `WRKPTFGRP`. They should all have a status of installed, and you should be up to the latest for all the above, based upon your release. Now there are more groups than the ones listed above, but these are the general ones that most people require. We can help you know which group PTFs you should be installing on your machine based upon your licensed programs. Here is a nice tidbit. The Cumulative PTF package number is broken down as YDDD, where Y is the year and DDD is the day it was released. Therefore, if we look at the cumulative package for V5R4, the ID is 9104. We can determine that it was created on the 104th day of 2009, which is April 14, 2009. Look at your machine and this

will give you a quick indication of just how far out of date in PTFs you may be. I left V5R1 off the list, because if you are on V5R1, you don't need to be worrying about PTFs, you really need to be upgrading your operating system. The same can be said for V5R2 and V5R3, but there are still customers who are on those releases.

If you have an HMC, you should be running V7R7.2M0. If your HMC is a C03, then it should stay at V7R3.5 SP2.

For your Flexible Service Processor (FSP) that is inside your Power 5 or Power5+ (520, 515, 525, 550, 570), the code level of the FSP should be 01\_SF240\_403. Power 6 (940x M15, M25, & M50 machines, and 8203-E4A & 8204-E4A) customers should be running EL350\_085. For Power6 (MMA, 560, and 570 machines) your FSP should be at EM350\_085. If you have a Power6 595 (9119-FMA) then you should be on EH350\_071. POWER7 the firmware level is AL720\_066 or AM710\_097 depending on your model.

If you need help with upgrading your HMC or FSP just give us a call. We will be happy to perform the function for you or assist you in doing it. Contact [Pete Massiello](#).

We have the skills to help you get the most out of your IBM i. For more information on any of the articles 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.

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 **i**Tech Solutions.

Sincerely,

Pete Massiello  
iTech Solutions



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