

IBM i 7.3 TR4 Announcement Letter



Cognitive Systems

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TBM 11.3. = Simplifying Insights and Intelligent Socurity

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IBM i 30th Anniversary



## **Happy 30th Anniversary!**

At IBM, we value and appreciate your trust in running your business on IBM i. We are inspired by how IBM i clients in 117 countries are creating innovative solutions and extending the reach of the system.

It is an honor to have you as our clients, our partners, and in many cases, our friends. Please enjoy some of the amazing stories of our customers, who are pushing the IBM i platform in new and innovative ways.

Thank you,

Alison Butterill

IBM i Offering Manager

Steve Will **IBM** i Chief Architect



# https://ibmi30.mybluemix.net/public/





#### **Ibnsina Pharma:**

Handling rapid growth and increased transactional volume with IBM i

Read the customer story ->



#### **Deknudt Frames:**

Building the framework for a thriving e-commerce operation with IBM i

Read the customer story ->



#### Slaturfelag Suourlands:

Reducing food waste and much more with web services built on IBM i

Read the customer story →



#### **Computer Merchants:**

Driving automation, machine learning and analytics with IBM i

Read the customer story ->



#### JORI:

Giving customers design power with IBM i and Watson

Read the customer story →



#### **Umoe Restaurants:**

Serving up smarter systems

Read the customer story →



# Agenda

#### IBM i 7.3 TR4 Wiki

☐ General OS & Roadmap New Installation Process for LIC Using USB ☐ Hardware **Platform** I/O **Functional Enhancements ☐** Application Development Rational Development Studio for i IBM i Integrated Web Services Server IBM i Integrated Web Services Client Compile CL from IFS Source ARCAD Converter for i ARCAD Observer for i ■ Systems Management IBM i Access Client Solutions **IBM Products** IBM Domino 9.0.1 FP10





# IBM i 7.3 TR 4 Highlights\*

#### **Support for POWER9 Scale-Out Servers**

- Support for native and VIOS configurations for new IBM S914 and IBM S924 servers with POWER9 technology
- Support for native and VIOS configurations for new IBM H924 server with POWER9 technology
- Support for VIOS configurations for new IBM S922 server with POWER9 technology
- Support for VIOS configurations for new IBM H922 server with POWER9 technology

#### **Install Options Expanded**

Extensions to the new installation process for LIC using USB 3.0 media

#### **Expanding the Secure-ability of IBM i**

IBM i Integrated Web Services adds advanced features to help administrators and programmers leverage APIs in a more secure environment

#### **Increasing Productivity of Developers & Administrators**

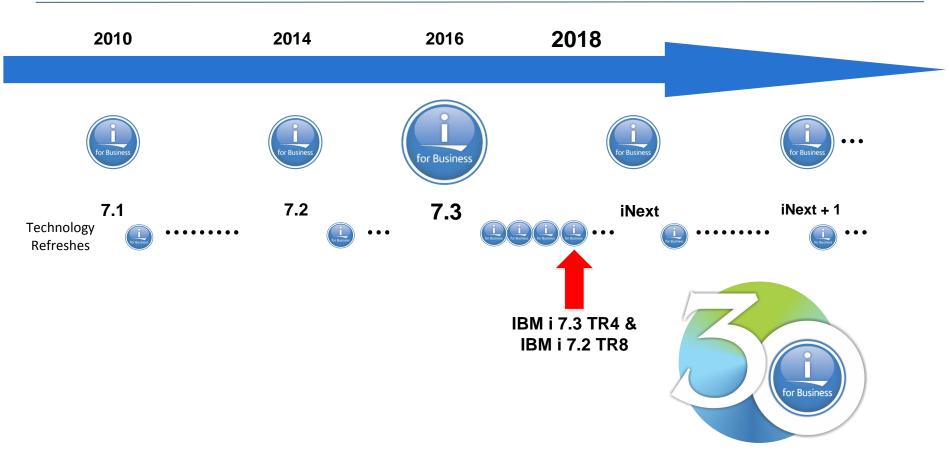
- CL commands can be stored in the IFS with full edit and compile capability
- New RPG IV Operation (DATA-INTO) allows programmers to parse structured data in most formats into an RPG variable.
- IBM i Access Client Solutions continues to be enhanced to meet the needs of our IBM i user community

#### **IBM Software Currency**

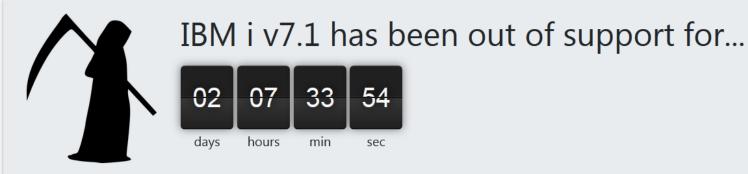
IBM Notes/Domino 901 Feature pack 10 (including IBM Traveler) providing security enhancements delivered for IBM i



# IBM i Roadmap







What to Do Reasons to Upgrade

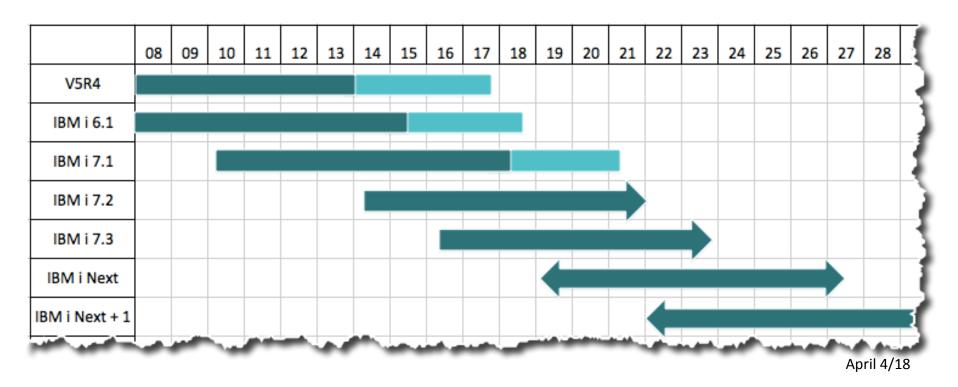
More Reasons

#### Don't worry, you can still upgrade to IBM i 7.2 or better yet IBM i 7.3!

- Download a new, supported version of IBM i from the IBM ESS website.
- Check out what's new for IBM i 7.3 here.
- Read the IBM i 7.3 Memo To Users.
- Read the official 7.1 withdrawal announcement from IBM.



# IBM i Support Roadmap



<sup>\*\*</sup> All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

<sup>\*\*</sup> Arrows indicate "ongoing status and do not imply any specific dates.



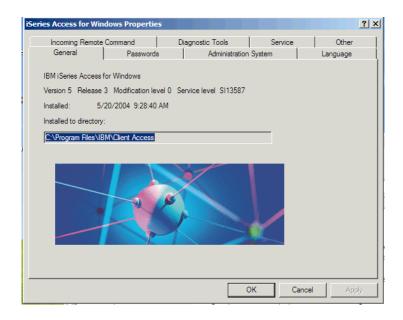
# Reminder – EoS Dates for Older Hardware Models

Туре	Model		EOS date	SW tier
9408	M25	POWER6 - 520	12/31/16	P10
9407	515	POWER5 - 515	12/31/19	P05
8203	E4A	POWER6 - 520	3/31/19	P10
9409	M50	POWER6 - 550	3/31/19	P20
8231	E1C/D	POWER7 - 710	9/30/19	P05
8202	E4B/C	POWER7 - 720	9/30/19	P10
8205	E6B/C	POWER7 - 740	9/30/19	P20
9406	525	POWER5 - 520	12/31/21	P10
9405	520	POWER5 - 520	12/31/21	P10
9406	520	POWER5 - 520	12/31/21	P10
9406	550	POWER5 - 550	12/31/21	P20



#### IBM i Access for Windows

- Latest Windows OS supported is Windows 8
- Imbeds old technology
  - PCOMM for 5250 emulation
- Plans for withdrawal: April 2018
  - Withdraw from service, effective April 30, 2019
  - Strategic Direction
    - IBM i Access Client Solutions (ACS)
    - Runs on multiple environments



I encourage you to move to ACS!



#### IBM Advanced Function Printing (AFP) Utilities for i (5770-AF1) Adjusted Plan

- Advanced Function Printing Utilities for i (5770-AF1) 7.1 and 7.2 were withdrawn from marketing (effective July 11, 2016) and withdrawn from service (effective September 30, 2017). 5770-AF1 was not announced with IBM i 7.3.
- For clients who need 5770-AF1 on IBM i 7.2 and/or 7.3 and are not yet able to migrate to a third party product, **5770-AF1 7.2 is available on an unsupported, non-warranted basis for IBM i 7.2 and 7.3**. 5770-AF1 7.2 installs on either IBM i 7.2 or 7.3.
- IBM delivered **5770-AF1 7.2 PTF SI66476** to turn off the license/key checking for 5770-AF1 7.2. Install PTF on IBM i 7.2 or 7.3.
- How to acquire 5770-AF1 7.2:
  - Download from the Entitled Systems Support (ESS) web site
     (<a href="http://www.ibm.com/servers/eserver/ess">http://www.ibm.com/servers/eserver/ess</a>) under the menu "IBM i evaluation and NLV download":
     5770-AF1 is located under IBM i 5770-SS1 7.2 on the image B\_GROUPx\_04. (5770-AF1 7.2 is not available to download under IBM i 7.3, only under IBM i 7.2.)
  - Clients with physical media for IBM i 7.2 will still find 5770-AF1 on the 5770-SS1 keyed stamped media set B\_GROUPx\_04.





# IBM i Firmware Updates





# IBM i System Support

http://www-01.ibm.com/support/docview.wss?uid=ssm1platformibmi

Systems	IBM i 7.2	IBM i 7.3
POWER9 (7.2 TR8 & 7.3 TR4)	<b>√</b>	<b>√</b>
<b>POWER8</b> S812, S814, S822 (VIOS only), S824, E870, E870C, E880, E880C	✓	✓
<b>POWER7/7+ Servers</b> Power 710, 720, 730, 740, 750, 760, 770, 780, 795	<b>✓</b>	<b>✓</b>
POWER7/7+ Blades and Compute Nodes PS700/701/702/730/704, PureFlex p260/460	✓	
POWER6+ 520, 550, 560, JS23/43 POWER6 520, 550, 570, 595, JS12/22	<b>√</b> 1	

## Hardware

- IBM Power S914 model 9009-41A IBM i native and VIOS configurations
- IBM Power S922 model 9009-22A IBM i configurations only with VIOS
- IBM Power S924 model 9009-42A IBM i native and VIOS configurations
- IBM Power H922 model 9009-22H IBM i configurations only with VIOS
- IBM Power H924 model 9223-42H IBM i native and VIOS configurations
- Simplified D-mode IPL for systems with POWER9 technology
- IBM PowerVM 2.2.6
- IBM HMC Virtual Appliance Version 9



# POWER9 Scale Out family













<b>L922</b> 9008-22L	<b>S922</b> 9009-22A	<b>S914</b> 9009-41A	<b>S924</b> 9009-42A	<b>H922</b> 9223-22H	<b>H924</b> 9223-42H			
<ul><li>1,2-socket, 2U</li><li>8,10,12 cores/skt</li><li>32 IS DIMM slots</li><li>4TB memory</li><li>4 CAPI 2.0 Slots</li></ul>	<ul><li>1,2-socket, 2U</li><li>4, 8,10 cores/skt</li><li>32 IS DIMM slots</li><li>4TB memory</li><li>4 CAPI 2.0 Slots</li></ul>	<ul> <li>1-socket, 4U &amp; Tower</li> <li>4,6,8 cores/skt</li> <li>16 IS DIMM slots</li> <li>1TB memory</li> <li>2 CAPI 2.0 Slots</li> <li>Internal RDX Media</li> </ul>	<ul> <li>2-socket, 4U</li> <li>8,10,12 cores/skt</li> <li>32 IS DIMM slots</li> <li>4TB memory</li> <li>4 CAPI 2.0 slots</li> <li>Internal RDX Media</li> </ul>	<ul><li>1,2-socket, 2U</li><li>4, 8,10 cores/skt</li><li>32 IS DIMM slots</li><li>4TB memory</li><li>4 CAPI 2.0 Slots</li></ul>	<ul> <li>2-socket, 4U</li> <li>8,10,12 cores/skt</li> <li>32 IS DIMM slots</li> <li>4TB memory</li> <li>4 CAPI 2.0 slots</li> <li>Internal RDX Media</li> </ul>			
<ul><li>Linux only</li><li>PowerVM</li><li>KVM (GA2)</li></ul>	AIX, IBM i, & Linux     PowerVM	AIX, IBM i, Linux     PowerVM	<ul><li>AIX, IBM i, Linux</li><li>PowerVM</li></ul>	<ul><li>AIX, IBM i up to 25%</li><li>Linux</li><li>PowerVM</li></ul>	<ul><li>AIX, IBM i up to 25%</li><li>Linux</li><li>PowerVM</li></ul>			
Technology Leadership	<ul> <li>Cloud enabled - Embedded virtualization capabilities with PowerVM</li> <li>Up to 4TB in 2 socket - DDR4 Industry Standard memory RDIMMs</li> <li>High Speed 25Gb/s external ports – one per socket</li> <li>2 Internal NVMe Flash boot adapters</li> <li>Embedded Analytics and Algorithms on the chip help run POWER9 at an always optimized frequency</li> </ul>							

# IBM Power Systems Performance Report

#### IBM POWER SYSTEM CPW PERFORMANCE DATA: POWER8 vs. POWER9 ScaleOut Models

Data Comparison done by @Richie\_Palma

Descri	ption	POWER8					POWE	R9		Net Increase					
						CPW/					CPW/	CPW	CPW/	%	
Model	Cores	Model	Cores	GHz	CPW	Core	Model	Cores	GHz	CPW	Core	Total	Core	Increase	
S_14	4	S814	4	3.02	37,440	9,360	S914	4	2.3 – 3.8	52,500	13,125	15,060	3,765	40.2%	
S_14	6	S814	6	3.02	56,400	9,400	S914	6	2.3 – 3.8	78,500	13,083	22,100	3,683	39.2%	
S_14	8	S814	8	3.72	81,050	10,131	S914	8	2.8 – 3.8	122,500	15,313	41,450	5,181	51.1%	
S_22	4	S822	4	4.15	49,960	12,490	S922	4	3.4 – 3.9	68,000	17,000	18,040	4,510	36.1%	+36%
S_22	4	S822	4	3.42	42,470	10,618	S922	4	2.9 – 3.8	60,000	15,000	17,530	4,383	41.3%	
S_24	6	S824	6	3.89	68,250	11,375		No Comparable Make/Model No Comparab			arable Mak	e/Model			
S_24	8	S824	8	4.15	89,580	11,198	S924	8	3.8 – 4.0	145,500	18,188	55,920	6,990	62.4%	
S_24	10		No Cor	nparable	Make/Mode	I	S924 10 3.5 – 3.9 174,500 17,450			No Comp					
S_24	12	S824	12	3.89	123,240	10,270	No Comparable Make/Model No Comparable Make/Model			e/Model					
S_24	16	S824	16	4.15	164,470	10,279	S924	16	3.8 – 4.0	268,500	16,781	104,030	6,502	63.3%	
S_24	20	No Comparable Make/Model			S924	20	3.5 – 3.9	318,000	15,900	No Comp	arable Mak	e/Model			
S_24	24	S824	24	3.52	218,510	9,105	S924	24	3.4 – 3.9	370,700	15,446	152,190	6,341	69.6%	+70%

Performance data pulled from "IBM Power Systems Performance Report" released on 2/27/2018.

https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=PM&subtype=RG&appname=STGE\_PO\_PO\_USEN&htmlfid=POO03017USEN&attachment=POO03017USEN.PDF



# POWER8 CPW before & after Spectre vulnerability patch

IBM PSIRT blog for Security Information: <a href="https://www.ibm.com/security/secure-engineering/process.html">https://www.ibm.com/security/secure-engineering/process.html</a>

#### **IBM i Support** Website :

Security Bulletin: IBM i has released PTFs in response to the vulnerabilities known as Spectre and Meltdown

		POWER8						
		CPW	CPW					
Model	no of cores	before Spectre	after Spectre	% <b>+/</b> -				
	4	39500	-	-5%				
S814	6	59500	56400	-5%				
	8	85500	81050	-5%				
	6	72000	68250	-5%				
S824	8	94500	89580	-5%				
	12	130000	123240	-5%				
	16	173500	164470	-5%				
	24	230500	218510	-5%				





## New Installation Process for IBM i

IBM i 7.3 TR3 & IBM i 7.2 TR7

#### Current installation process using USB (introduced Oct 2017):

- ESS has LIC media image (I\_BASE\_01.IMG) for use with POWER8 USB 3.0 adapter and USB Removable Mass Storage
- Also has IBM-supplied program which can be downloaded to a PC
  - Use it to copy bootable LIC media image to USB Flash Drive
  - On a managed system, point to USB adapter and do D-mode IPL to use USB Flash drive to install LIC
  - On an unmanaged system, use DVD image to D-mode IPL to DST, then use "Define alternate installation device" option to select the USB device to install LIC
    - Note: The D-mode device and alternate install device must have the same LIC version/modification level when installing Licensed Internal Code.
  - Can also stack OS and any desired LPPs that fit on the USB Flash Drive

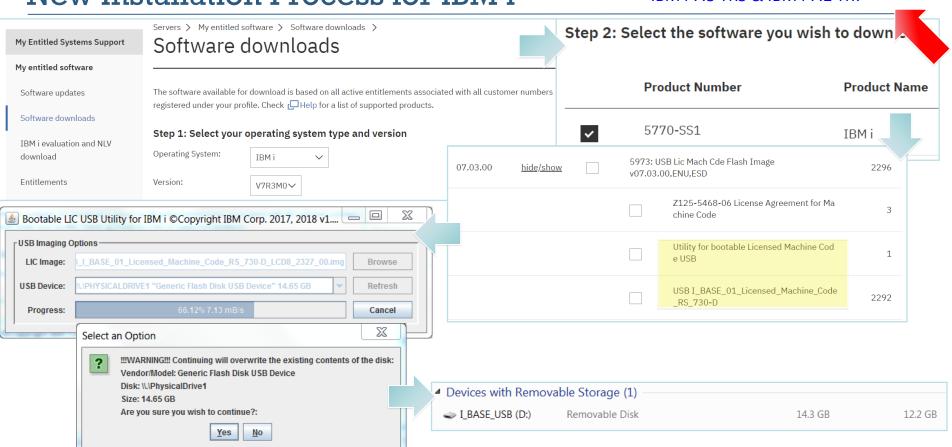
#### Future enhancements:

- Can copy image to RDX media, stack OS and desired LPPs, and use it for D-mode IPL
- IBM-supplied program for copying image will have a GUI
- Requires new copy of IBM-supplied program, but can use previous Tech Refresh levels



## New Installation Process for IBM i

#### IBM i 7.3 TR3 & IBM i 7.2 TR7





- PCle3 2-port 24/10 GbE IOA
- PCle3 2-port 10 GbE IOA
- PCle3 2-port 100 GbE IOA adds Native and Native SR-IOV
- PCle3 32Gb 2-port Fibre Channel Adapter
- PCle3 16Gb 4-port Fibre Channel Adapter
- 387 GB / 775 GB / 1.55 TB SAS 5xx and 4k SFF-2 and SFF-3 Enterprise SAS SSDs

#### IBM i 7.3 TR4 only

## **Previously:**

- #EC3M, #EC3L PCle3 2-port 100 GbE QSFP28 Adapter x16
  - Provided 100 Gb/s Ethernet connectivity
  - Supported only in IBM i configurations with VIOS

#### "Now":

- **#EC3M**, **#EC3L** Adds Native dedicated NIC support
  - Permanent restriction: No support for network boot & network install
  - POWER8 only

# IBM FlashSystems Performance Benefit

IBM i 7.3 TR4 & IBM i 7.2 TR8

Potential performance benefit for some configurations with FlashSystems



- IBM i now uses Unmap function in FlashSystem

- Can particularly be beneficial at disk initialization time





# Application Development Updates



# RPG IV - A Modern Business Language

- Interoperability
  - XML
  - SQL
  - JSON
- Readability
  - Free form
  - No 8-80 restriction
- Functionality
  - New Built In Functions
  - Integrates with GIT
  - Source in IFS
- Modern Tools
  - RD i, RTC, ARCAD Power Pack

```
ctl-opt bnddir('ACCRCV');
dcl-f custfile usage(*update);
dcl-ds custDs likerec(custRec);
dcl-f report printer;
read custfile custDs;
dow not %eof;
   if dueDate > %date(); // overdue?
      sendOverdueNotice();
      write reportFmt;
      exec sql insert :name, :duedate into
             mylib/myfile;
   endif:
   read custfile custDs;
enddo:
*inlr = '1':
dcl-proc sendOverdueNotice;
   sendInvoice (custDs : %date());
end-proc;
```



# Parsing Data – Before

#### **RPG**

- XML-INTO
  - Take an XML document and parse it into an RPG Variable

#### **Database**

- XML\_Table
  - Take a XML document and parse it into a relational DB table
- JSON\_Table
  - Take a JSON document and parse it into a relational DB Table



# Parsing Data – Today

#### **RPG**

- XML-INTO
  - Take an XML document and parse it into an RPG Variable
- Data-INTO
  - Parse a '<u>Data document</u>' into an RPG Variable
    - JSON
    - Property file
    - CSV, Others ??

#### Database

- XML\_Table
  - Take a XML document and parse it into a relational DB table
- JSON\_Table
  - Take a JSON document and parse it into a relational DB Table



## 7.2 & 7.3 PTF: New opcode DATA-INTO

```
7.2 and 7.3
```

Combines the ideas of XML-INTO and Open Access....



## 7.2 & 7.3 PTF: DATA-INTO

#### The DATA-INTO operation is similar to the XML-INTO operation

It imports the data from a document into a data structure

It is different from XML-INTO in the following important ways:

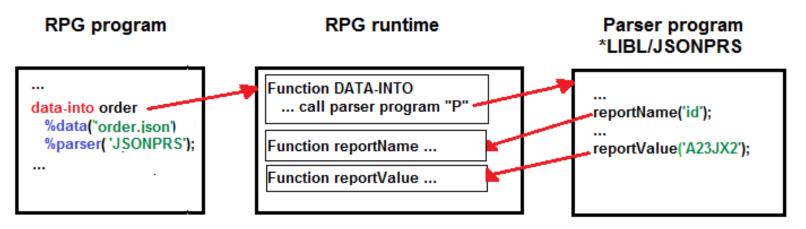
- It can process any type of hierarchical information
  - A JSON document
  - A properties file
  - A comma-separated file
  - ...
- Customers, ISV, and others can provide their own parsing program



## 7.2 & 7.3 PTF: DATA-INTO

# RPG program calls the RPG runtime function that processes the DATA-INTO operation

- DATA-INTO passes the document to the parser program or procedure
  - The parser gradually reports the data in the document
- DATA-INTO uses the information from the parser to assign the data to the target variable





# 7.2 & 7.3 PTF: The DATA-INTO parser

To use DATA-INTO, you must have a *parser* that can parse the information in the document.

The parser calls special functions to report the names and values in the document.

#### Here is what the parser reports:

- Name: "order"
- Start a structure
- Name: "id"
- Value: "A23JX2"
- Name: "quantity"
- Value: "4"
- Name: "price"
- Value: "9.75"
- End the structure



# 7.2 & 7.3 PTF: The DATA-INTO parser

The DATA-INTO operation takes the information reported by the parser and assigns it to the target variable.

#### Parser:

- Name: "order"
- Start a structure
- Name: "id"
- Value: "A23JX2"
- Name: "quantity"
- Value: "4"
- Name: "price"
- Value: "9.75"
- End the structure

#### DATA-INTO:

- Work with DS "order"
- Put "A23JX2" into subf "id"
- Put "4" into subf "quantity"
- Put "9.75" into subf "price"



## 7.2 & 7.3 PTF: DATA-INTO

 IBM will supply the source for a sample JSON parser which you can use as-is or modify

IBM will also supply some simple parsers for "properties" documents

to illustrate aspects of writing a parser

- A "properties" document looks like this:

country=Canada city=Toronto Company=ABC Electronics

Web Exclusive XML-INTO meets Open Access With **RPG's New DATA-INTO** February 2018 | by Jon and Susan Great article on this can be found at IBM Systems Mag. This article is to introduce you to the latest addition to the RPG 📑 💟 🔁 Print 🖴



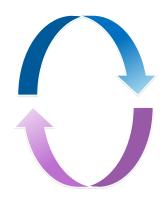
# First Step to Modern RPG



## How Do I Convert to Modern RPG??

New Updates!!!

ARCAD Converter for i - 5733-AC1



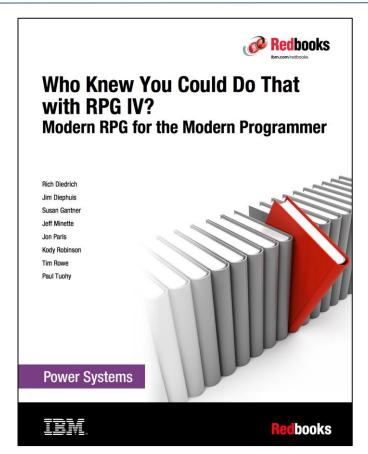
- Plugs into RDi
- Identification of truncation issues Warnings or Auto

https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=AN&subtype=CA&htmlfid=897/ENUS217-151&appname=lenovous&language=en

## New RPG Redbook

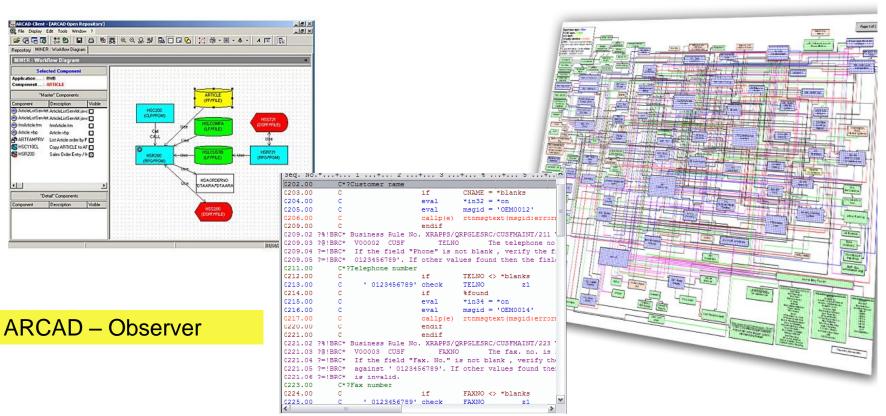
- Modern RPG
- New in Dec 2016
- Updated from the original book from 2000
- Many of the same expert Authors, plus a few New ones!

10300+ Downloads!!!!





# **Tools for Program Understanding**



http://arcadsoftware.com/products/arcad-observer-application-analysis/



## Why a Tool for Analysis?

- Rapid analysis for hot fixes
- Application Change Studies (cost estimation)
- Redesign/re-architecting/SOA
- Extraction of business rules
- Application modernization
- Skill transfer
  - Help new people learn the application
- Generation of documentation required by regulatory constraints





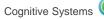


## Time to start understanding your code

## ARCAD Observer V1.1.0 is now included in ESS ARCAD Observer for i - 5733-AO1

- Plugs into RDi
  - Requires RDi 9.6
- Multi-job compile
- Many updates, fixes and enhancements





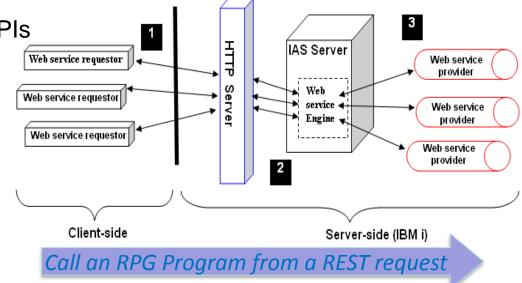
#### **Rest & SOAP APIs**

Easily create REST or SOAP APIs

- RPG
- COBOL

#### **API** Definition

- REST Swagger
- SOAP WSLD



#### Multi IBM i Node

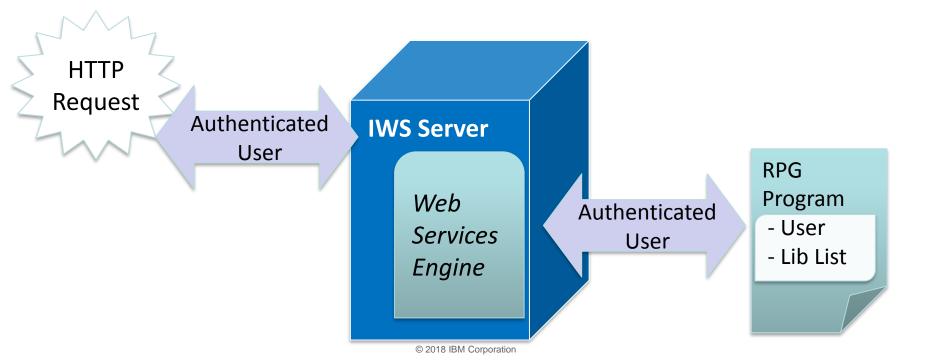
 Run your Web server on one machine and the backend on a different one

https://www-03.ibm.com/systems/power/software/i/iws/

#### **IWS New Features**

#### Run as the Authenticated User

The RPG Program or Service Program job runs as the Authenticated user
 Includes leveraging User Library List



#### **IWS New Features**

## VARCHAR support – varying length character variables

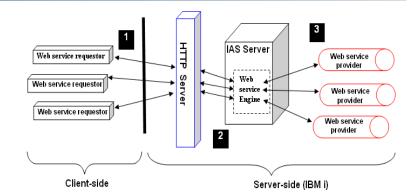
PCML version 7 now supports variable length fields (varchar)

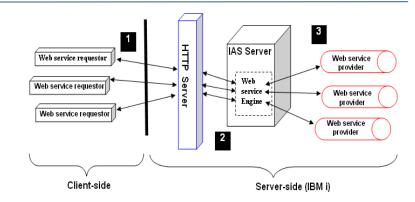
- User can now define a field of type Varchar
- Eliminates the need for an extra field to detect field lengths

#### Web Service – Re-Deploy

#### Redeploy a web service without having to first remove and then re-install

- Simplified maintenance





#### Access SOAP Faults from RPG stub PGMs

Call Web Services From an RPG pgm

- Determine what error occurred during the SOAP services call
- SOAP infrastructure provides a documented error return structure
  - This will now be accessible from your RPG program
  - Improved error response



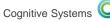
## Compile CL from IFS Source

IBM i 7.3 TR4 only

- ILE CL source stored in an IFS stream file can now be compiled
- Following Commands have been updated:
  - CRTCLMOD
  - CRTBNDCL
- Both the SRCSTMF and INCDIR parameters have been added to allow IFS source
- SRCSTMF parameter has been added to the INCLUDE command so users can embed another source file stored in IFS stream files

Both RPG and CL Source can now be managed by

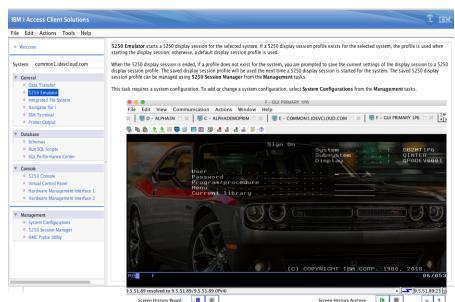




## Access Client Solutions (ACS)

- IBM Access Client Solutions
  - Strategic solution for Accessing and Managing your IBM i
  - Supports
    - Windows, including Windows 10
    - Mac
    - Linux All distributions
  - Database tools
    - Run SQL Scripts
    - Index Advisor
    - Schemas
    - Visual Explain
    - Plan Cache
    - Lots more...

**NOTE:** This is the last planned release of ACS to support Java 6 and Java 7 as a minimal level. Future releases of Access Client Solutions will require an minimal level of Java 8.

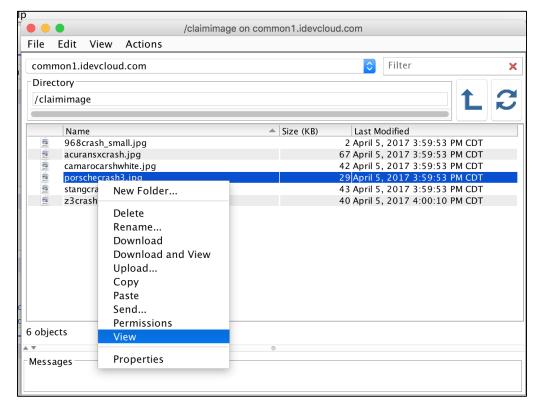


#### **Access Client Solutions**

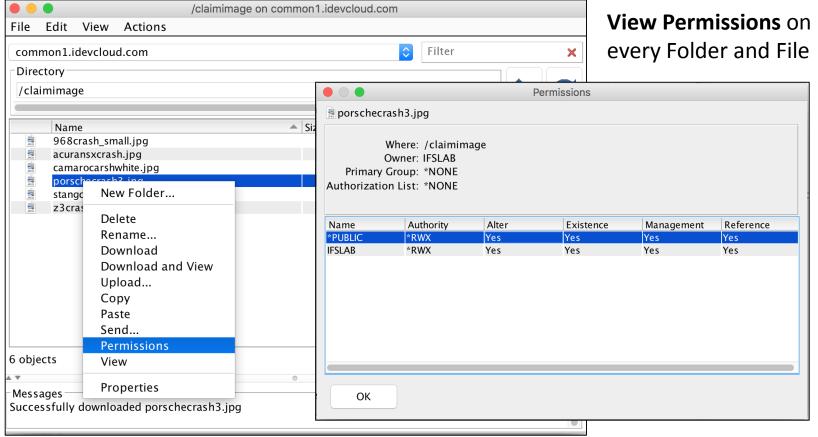
Integrated File System

Directly View select Files

 Downloads to your device and uses local view tools



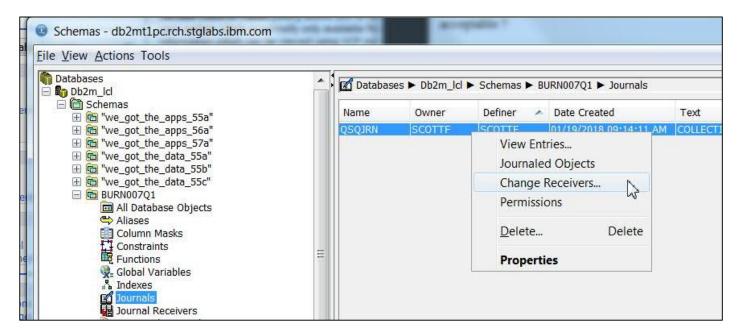
#### **Access Client Solutions**

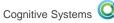




## ACS – Database Tools update

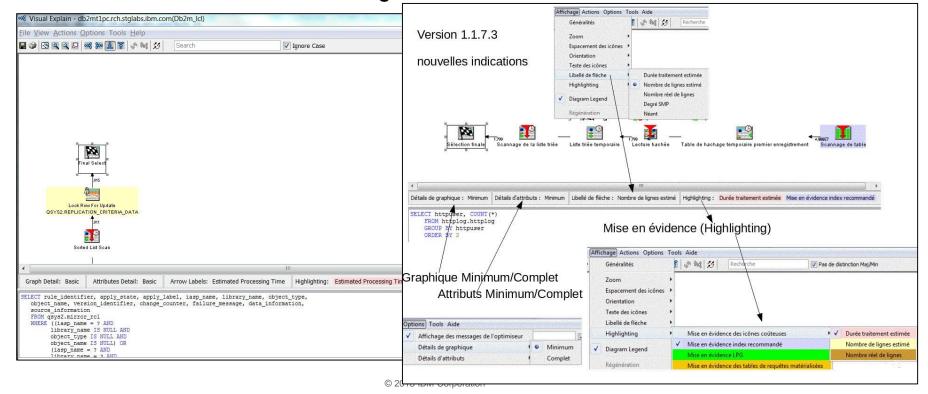
 Support for Properties and Change Receivers actions are added to Journal objects



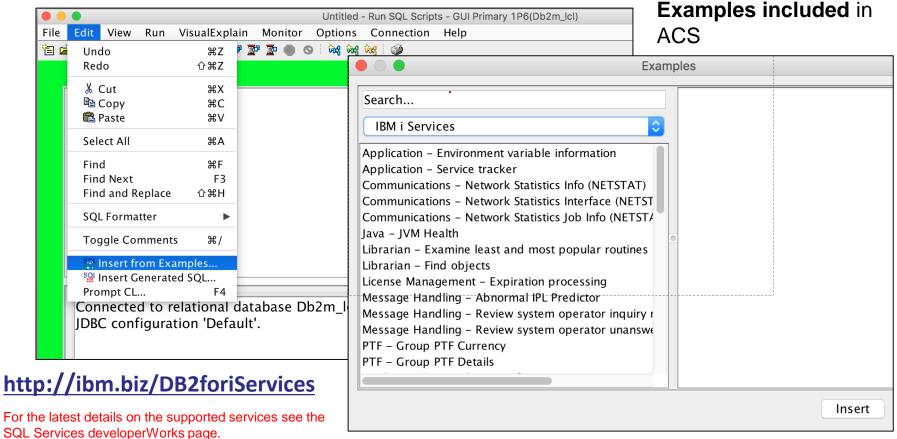


## ACS – Database Tools update

 Within Visual Explain a new legend has been included to help the user better understand what is being viewed

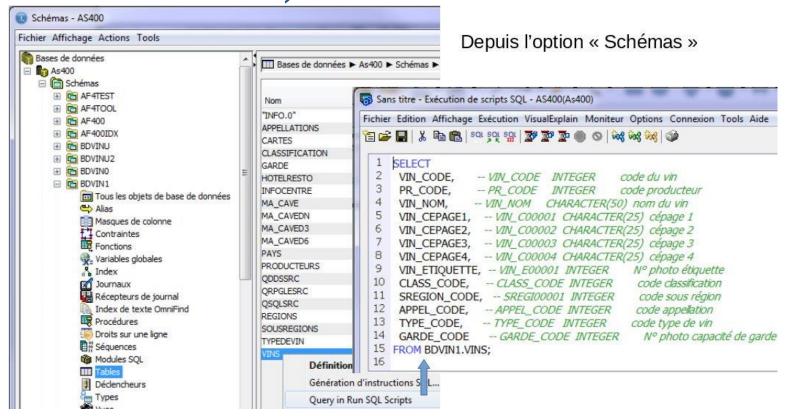


## ACS - Database Tools update - SQL Services





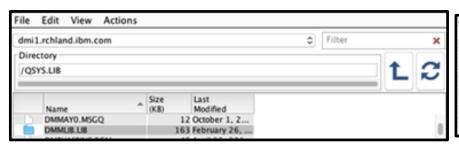
# Have you seen this option? (handy, when you do not know the list of columns in a table)



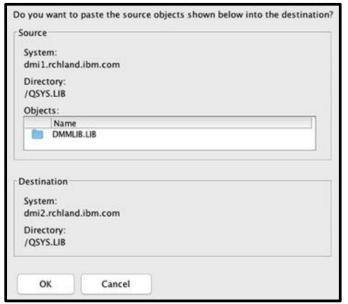




## Copy & Paste of a LIBRARY from one system to another



Messages
Preparing to paste
Saving selected objects
Transferring from dmi1.rchland.ibm.com to dmi2.rchland.ibm.com
Successfully pasted 1 of 1 objects







#### IBM Notes and Domino

#### IBM Domino 9.0.1 <u>FP10</u>

- Upgrade Eclipse to 4.6.2
- Upgrade embedded Sametime to 9.0.1x
- Upgrade to JVM 1.8
- Java 1.6 going out of service
- Add on installer for CCM
- Many updates and fixes



https://ibm.biz/BdZBZm









## Db2 Web Query 2.2.1

### IBM i, Db2 for i and Db2 Web Query

**Data Discovery** Data **Db2 Web Query** Query/400 Warehousing **Modernization** for i Connections to Metadata **DataMigrator** Watson/IBM FTI Cloud Show **Database** Visual Explain Index Advice Plan Cache **Statements Monitors EVI Index Only Encoded Vector Aggregations** Maintained Access Indexing in EVIs **Temp Indexes** Star Schema **Optimization (Look-Result Set Adaptive Query** Materialized **Symmetric Multi-BI/DW Tooling** ahead Predicate Caching **Processing Query Tables Processing Generation**) **DbE Tooling SQL** Aggregate SQL OLAP **Query Accelerators Functions** Rank, Dense SQL Set at a Extensions Rank Time **Grouping Sets, SQL Stats SQL Language** Rollup **Functions IBM i Architecture** Multi-core Parallel I/O Single Level **Large Memory** POWER8/9 **SMT Scaling Subsystems** Model Store

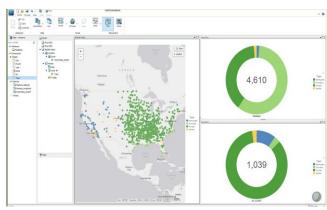
## Db2 Web Query Version 2.2.1

- Steps beyond traditional Business Intelligence into Data Discovery
  - New data driven Visualization empowers:
    - → Users, Analysts, and Data scientists
  - Data layers (e.g., demographics) for geographic maps
    - → What is the average income in this zip code?



- Even augment existing data with data from Watson
- Install or upgrade in 15 minutes with the "EZ-Install" Package
  - → Includes 100's of sample reports, for the business and I/T

Video Demonstrations at ibm.biz/db2wq-221-videos db2webqueryi.blogspot.com



#### GA 12/08/2017

No Charge Upgrade from previous versions\*\*

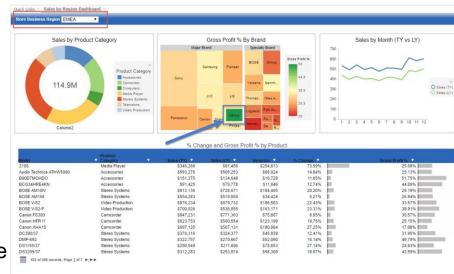
<sup>\*</sup> QRY/400 owners entitled to Web Query Express w/ limited # of user licenses for no charge

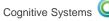
<sup>\*\*</sup> Assumes currency on SW Maintenance



### **Enhanced "In-Document Analytics"**

- Think "Active Reports" for current Db2 Web Query users
  - New default donut charts.
  - Tree map providing visual information
    - Size and color of box represent different measurements
      - Ex: Sanyo (green) has high gross profit% but lower revenue (smaller box)
  - Automate bursting of the report to mobile device users
    - Based on some key field like **REGION ID**





#### **New Visualizations**

- Build with new InfoAssist+
  - Empower End Users
    - Visualize Data
    - Interact with the Data
  - Marquis filtering across associated views
    - Simplified focus of interest
  - Can work as Run Time user or InfoAssist+ User.
- New Sample Reports with "how-to" build video demonstrations







# Db2 Web Query Installation and Setup With the 2.2.1 **EZ-Install Package**



Up and Running in 15 Minutes
100's of Sample Reports
Ready to Learn with Guided Tutorials
Query/400 Discovery Tool
70 Day Trial

Ready to go DEMOs

Request by sending email to QU2@us.ibm.com Include name, company name, and server s/n





# Geographically Dispersed Resiliency (GDR)



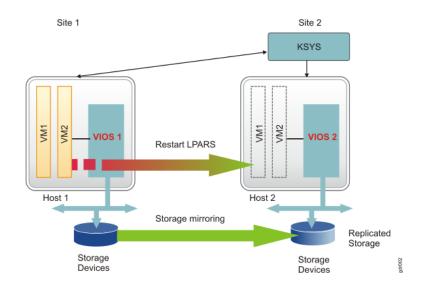
## Geographically Dispersed Resiliency (GDR) V1.2

#### Availability and Disaster Recovery Made Simple

- Announced Oct 10, 2017
- GA'd Dec 15, 2017
- Supports: AIX, **IBM i**, Linux, DS8000, Storwize, EMC, Hitachi
  - Easy install
  - Inexpensive to acquire
  - Operationally simple including non disruptive disaster recovery rehearsal
- Who's it for
  - Everyone: DRaaS MSPs and end customer users

## GDR V1.2 for Power Systems

- GDR provides high availability and disaster recovery solutions based on virtual machine restart technology
- KSYS is the orchestration controller
  - manages the real-time replication of the VMs between storage servers
  - manages the VM restart operations between source and target systems
  - installed on an AIX partition
- GDR is deployed via VIOS and PowerVM
  - Supports AIX, IBM i and Linux
  - DS8000, Storwize, EMC and Hitachi



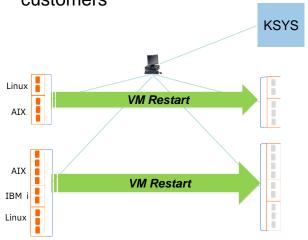
- VMs are replicated real-time via SAN storage
  - synchronous mode replication: RPO of 0
  - asynchronous mode: RPO seconds/minutes
- GDR licenses reside in Ksys partition



## GDR V1.2 for Power Systems

 Virtual Machine replication & restart solution for disaster recovery

- AIX, **IBM i** and Linux Power System customers



Production Site 14 managed cores

Recovery Site
0 managed cores

- Offering construct
  - Storage based VM replication
  - Ksys (orchestrator partition) manages replication and VM restart
  - GDR licenses reside in Ksys partition

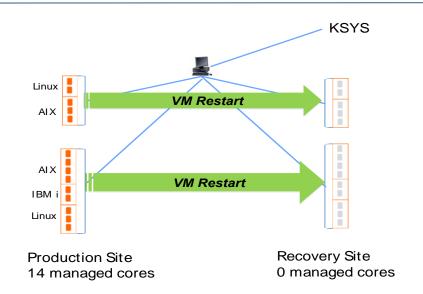
GDR for Power Systems – 5765-DRG (orderable via AAS on Aug 11)			
Software tier	small processor group/core	medium processor group price/core	
List price for managed cores (US pricing example)	\$1020	\$1575	

U.S. prices

Priced per managed production core
No license required on recovery system
First year SWMA included

## **GDR Pricing Example**

- Using our example of 14 managed cores on the production servers
  - Production servers in this example are in the small processor group therefore \$1020/core
  - 14 managed cores = 14 GDR entitlements to be installed on the KSYS partition
  - Total price; \$15,300 (U.S. prices)
  - DRaaS hosted customers can conduct disaster recovery testing 4 times a year for 72 hours per test



GDR for Power Systems – 5765-DRG (orderable via AAS on Aug 11)			
Software tier	small processor group/core	medium processor group price/core	
List price for managed cores (US pricing example)	\$1020	\$1575	

#### PowerHA for AIX + GDR

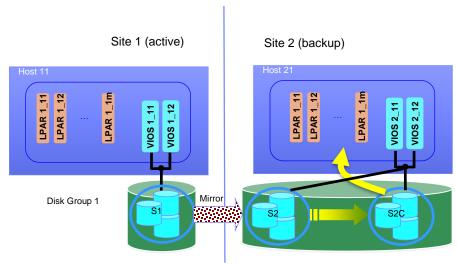
#### automated disaster recovery operations with a PowerHA AIX standard edition cluster



Host level VM restart of production PowerHA cluster in Madison to the Chicago disaster recovery center



## DR Failover Rehearsal: non disruptive disaster recovery testing



K-sys enables non-disruptive DR testing

Copy storage on recovery site and use that to start VMs on back up system

Network isolation needs to be established by the administrator

If site specific VM network config is supported: Test related network config could also be supported



#### Want to see easy? watch this live demonstration



## IBM Geographically Dispersed Resiliency (GDR) for IBM Power Systems Demo



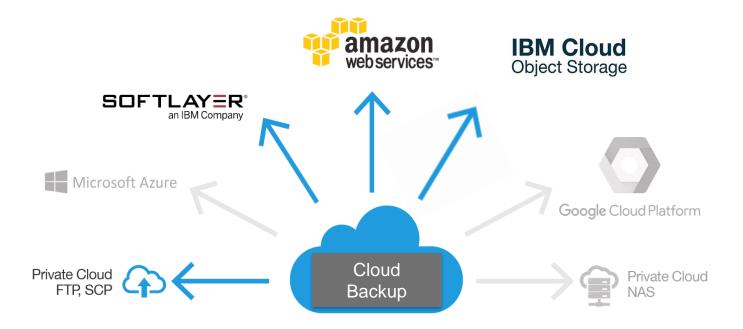
Shawn Bodily
Senior IT Consultant
sbodily@cleartechnologies.net





# Connect for Infrastructure: Cloud Storage Solutions for i (ICC)







## Cloud Storage Solutions for i offering price/licensing

PID: 5733 ICC V1R2	Description	Price
Option 1	Cloud storage API, BRMS enabled	\$2400/VM
Option 2	Compression and Encryption	Option 1 + \$1000/VM

U.S. list prices, prices are subject to change at any time

- Priced per LPAR (VM)
- Cloud storage: Amazon, Softlayer, or BP cloud providers supporting SWIFT or S3
- BRMS will automatically create media class, storage location, move policy, control groups, etc.y
- <u>developerworks wiki</u>
- knowledgecenter ICC

#### New VTL solution for IBM i

The small VTL- Appliance (DSI 425) is designed for efficiency in small and medium environments and includes security and deduplication functions. Customers can set up a high availability environment by pairing two small appliances, each of which can scale up to 24 TB physical storage space. This model includes disk storage to store deduplicated data.

The large VTL – Gateway (DSI 400-EV0/400-EVD) is designed for efficiency in medium to large environments to help keep pace with rapidly expanding data by utilizing state-of-the-art deduplication for data storage. As data grows, there is no need to remove old storage. New storage modules can be added to existing large Gateway VTL systems to scale data storage environments. This model acts as a gateway and requires external disk storage arrays to store the deduplicated data. It can scale up to multi petabytes of physical capacity. External storage is required, such as IBM Storwize V5000, V7000, or IBM SAN Volume Controller.

A migration feature is provided to simplify the migration path from ProtecTIER to the small and large VTLs. Software is required for each of the VTL appliances, it is pre-installed on the nodes before shipment.

#### LINK:

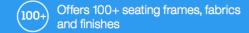
http://www.dynamicsolutions.com/products-solutions/ibm/brva-vtl/deduplication/#fndtn-nav-137

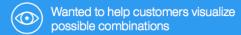


## Ready for AI: Connecting your business to the future



#### The art of fine seating







Inspires customers to create their ideal designs

50% faster deliveries, as configurator accelerates manufacturing

Will use IBM Watson® cognitive technology to help consumers find their preferred fabric



- Integrated Database (Db2 for i)
- Integrated Web Services

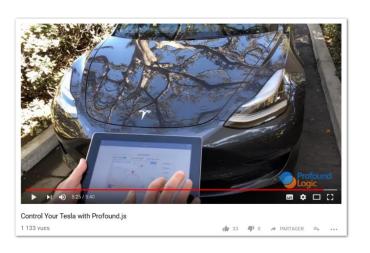
## Modern, Open Source applications development

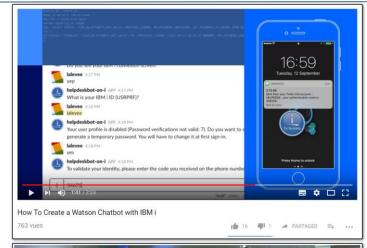
- Python, Node.JS, Ruby
- PHP
- Mobile Application Development

- Data Connect for Db2 for i
- SQL
- Python, Node.JS
- Free form RPG

#### How to create a Watson Chatbot with IBM i

Automate and simplify processing for recurring help desk tickets with Watson and IBM i.









# IBM PowerAI Belgium Inaugural Meetup event - Tue May 8 at 6:00 PM





#### YOUR NEXT MEETUP Tue May 8 at 6:00 PM IBM PowerAl Belgium - Inaugural **Bronks Theatre** Meetup event Rue du Marché aux Porcs 15-17 IBM PowerAl Belgium · 56 Members

#### Agenda:

17:30 - 18:00 - Welcome

18:00 - Introduction

18:10 - What is PowerAI, what does it run on and how will it speed up my ML/DL workload?

19:00 - Nvidia : Deep Learning Demystified

19.45 - PowerAl Vision - A demo of Al Vision showing how you can build an image recognition **model in minutes**, without writing any line of code

20:15 - Wrap Up and Close, followed by refreshments

#### Université IBM i 2018 in Paris



#### Université IBM i 2018

Mercredi 16 et jeudi 17 mai 2018 IBM Client Center Paris

Exposition/Sponsors En savoir plus Accueil Agenda Sessions

Madame, Monsieur,

Nous avons le plaisir de vous inviter à la 8ème édition de la conférence annuelle dédiée à l'IBM i.

2018, c'est l'année du processeur POWER9 et des 30 ans de l'IBM i, avec au programme :

- 2 sessions plénières pour faire le point sur les roadmaps, les dernières évolutions et comment l'IBM i s'inscrit dans l'informatique coanitive
- 56 sessions à la carte autour de 7 thématiques : DB2-Analytique. DevOps-Modernisation, IA-Watson, Sécurité-GDPR, Système-Performances, Infra-HW-Stockage et Cloud
- 3 sommités IBM Worldwide : Stefanie Chiras (Vice-Présidente des offres IBM Power Systems), Alison Butterill (Directrice des offres IBM i) et Stacy Benfield (Spécialiste des performances IBM i). Elles interviendront pendant les plénières et animeront des sessions à forte valeur ajoutée
- 1 village "CSP/MSP" (Cloud Services Managés) qui regroupera les principaux acteurs du marché pouvant vous proposer des solutions d'externalisation de secours et de sauvegarde IBM i dans le Cloud
- 1 espace dédié au nouveau club COMMON France
- Des animations autour des 30 ans de l'IBM i

Consultez <u>l'agenda</u>, les <u>descriptifs</u> des sessions et <u>inscrivez-vous</u>.

Merci à nos partenaires sponsors : ACMI, ARCAD Software, CHEOPS Technology, CLARANET, D.FI, DRP Software, EUREKA Solutions, EVEA Technology, EXPERIA Europe, GID, HARDIS Group, Groupe HISI, ID Info, IPLS, ITHEIS, RAZ-LEE, ROCKET Software, SCC, SMA Solutions et SYNCSORT



#### Mercredi 16 et jeudi 17 mai 2018

IBM Client Center Paris 17 avenue de l'Europe 92275 Bois Colombes

Plan d'accès

Inscrivez-vous

 Retrouvez les présentations de l'Université IBM i 2017





# IBM i 7.3 – Simplifying Insights and Intelligent Security

- DB2 for i Temporal Support allows clients to conduct accurate analysis of data within a specific historical time period and contrast that against current data sets
  - New **OLAP capability** added to the SQL language on IBM i allows clients to perform more advanced analytics on their data
  - Security Authority Collection provides guidance for establishing security levels based on usage of data and
  - Planned and unplanned downtime from hours to minutes with PowerHA V7.2 for IBM i HyperSwap Cluster.
  - New version of **DB2 WebQuery for IBM i** expands options for data sources including some Open Source data environments such as Postgres and Maria DB







Steve Will's You and i blog on IBM i 7.3 announcement

IBM DeveloperWorks Wiki: IBM i 7.3 - Base Enhancements

- Git and Orion application environments are being added to the **IBM** i **Open Source** suite of products, providing clients with more choice for their business solutions on IBM i.
- New enhancements to **RPG** streamline and simplify development allowing developers to innovative more easily and manage their applications more efficiently.
- The more modern GUI interface of **IBM i Navigator** improves ease of use for system management tools and for monitoring performance.
- Much, much more



### IBM i 7.3 **TR1** Summary

- Optical Containers Adding value for USB
- Rational Developer for i: Mac OS X support and more
- IBM i ACS: Smart Card support and more
- Open Source offerings: perl, node.js v6 and more
- Db2: JSON\_Table and more
- IBM Cloud Storage Solutions for i: BRMS Backup to Softlayer

Steve Will's You and i blog on IBM i 7.3 TR1 announcement

IBM DeveloperWorks Wiki: IBM i 7.3 - TR1 Enhancements

## IBM i 7.3 **TR2** Summary

- S812
- Db2
  - More JSON
  - SQL Services
- Access Client Solutions Version 1.1.7.0
  - Schemas
- Open Source
  - rsync, wget, curl, SQLite
  - git enhancement
  - GO LICPGM list
- Db2 WebQuery
  - "Easy Button" install
  - Sample Admin Graphical Reports
  - New Redbook

Steve Will's You and i blog on IBM i 7.3 TR2 announcement

IBM DeveloperWorks Wiki : IBM i 7.3 - TR2 Enhancements



### IBM i 7.3 **TR3** Summary

- Db2
  - JSON Publishing & Scalar functions
- USB Installation process
  - Copy image for **D-mode IPL onto USB** drive
- 4767 Cryptographic Co-Processor support
  - Performance & Most Secure Key Storage
- Open Source
  - Announcement of various features added recently including: **nginx**, **Orion**
- And More...

Steve Will's You and i blog on IBM i 7.3 TR3 announcement

IBM DeveloperWorks Wiki : IBM i 7.3 - TR3 Enhancements



## IBM i 7.3 **TR4** Summary

- POWER9 Scale Out servers support
- RPG DATA-INTO:
  - Support for **JSON**
  - and More
- IWS
- CL in IFS
- ACS
- IBM i and Al Watson Connectivity
- And More...

Steve Will's You and i blog on IBM i 7.3 TR4 announcement

IBM DeveloperWorks Wiki: IBM i 7.3 - TR4 Enhancements



# IBM i 7.3 **TR5** teasing ;-)

#### IBM i 7.3 - TR5 Enhancements

| Updated Apr 14, 2018 at 11:53 AM by ScottForstie | Tags: None

Page Actions \*

coming attraction...

#### You and i – Steve Will's Blog

Blog date	Blog link
April 12, 2018	Celebrating IBM i at COMMON POWERUp18
April 02, 2018	IBM i 30th Anniversary Celebration Begins
February 20, 2018	The IBM i 30th Anniversary is Here and We Need Your Photos
March 13, 2018	POWER9 for IBM i and the Announcement of 7.3 TR 4
February 05, 2018	Four User Questions, and Expert Answers That Prove RPG is Strategic
January 11, 2018	Teaching RPG to IBM i Developers
October 27, 2017	Deep Thinking in IBM Rochester With Watson Analytics
October 03, 2017	Announcing IBM i 7.3 TR3 and IBM i 7.2 TR7
September 20, 2017	Promoting IBM i—TCO, TCA, Reliability and Strategy
September 05, 2017	IBM i and Watson
August 22, 2017	Educating Fresh Faces—Boot Camp, Summit and More
July 11, 2017	Promoting IBM i – Fresh Faces!
	Promoting IBM i—Buzzwords & Hot Buttons
June 13, 2017	Promoting IBM i—Triggering Events
May 30, 2017	IBM i Strategy: The Cooperative Game
	IBM i Thoughts: COMMON Conference
	IBM i & RFE – Improving Future Business Value
	Announcing IBM i 7.3 TR2 & 7.2 TR6
	IBM i Open Source Directions
January 16, 2017	IBM i Future – 2017 Update



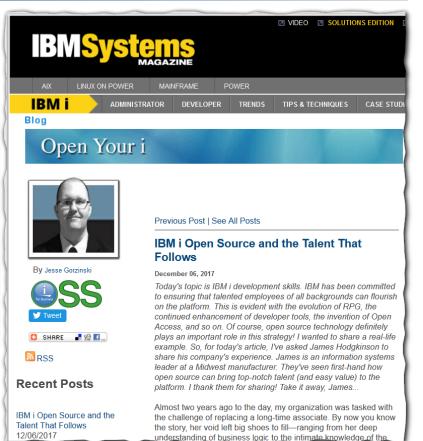
## i Can – Technical Tips for i

Blog date	Blog link	
April 18, 2018	Copy Performance Data using ACS IFS Tasks	
April 10, 2018	Editing a File in the IFS with Navigator for i	
	Working with the IFS: Access Client Solutions vs. Navigator for i	
March 12, 2018	low to Save 5250 Configurations as Default Profile	
February 21, 2018	Workload Groups and Performance Considerations	
	IBM i 7.2 Improved Temporary Storage Tracking (Part 8)	
January 30, 2018	Subsystem Management with Navigator for i, Part 2	
December 21, 2017	Active Memory Pools with Navigator for i	
	How to Identify Your Active 5250 Session	
November 28, 2017	i Can use IBM DVD Images with my USB 3.0 Adapter	
	IBM i Embraces Syslog	
	Meet the PowerHA Family	
	PowerVM LPM/SRR Automation Tool	
	STACK_INFO IBM i Service	
	PowerVM Live Partition Mobility and Simplified Remote Restart	
	System Monitoring for HTTP	
	End Subsystem Options—Optimize Ending Your Subsystems	
August 22, 2017	Manage Trigger Programs in Productions	
	Trace Output Formatted for PCAP	
	Route FTP and SMTP Workloads to Their Own Subsystem	
	Integration Between Navigator and Access Client Solutions	
	Client Advisory Council Meetings in June 2017	
	Graph History – Stacked Charts	
	COMMON Americas Advisory Council (CAAC) and RFEs	
	Subsystem Configuration Documentation	
	IBM i Monitors: Automatic Notification and Replacement Variables	
	PowerVM LinkedIn Group	
	Copy an Open Spooled File	
	Subsystem Management with Navigator for i	
	Determining the Size of QTEMP	
	SNMPv3 Auditing and Other Enhancements	
	Here's to the Women in IT!	
	February 2017 IBM i Announcements	
	Application Administration with Access Client Solutions	
	Application Administration with Navigator for i	
	Optical Containers	
	Latest Navigator for i Enhancements	
January 03, 2017	USON TABLE Function	



## Open your i – J. Gorzinski's Blog

Blog date	Blog link	
February 28, 2018	The Top 3 Reasons System Admins Should Care about Open Source on IBM i	
December 06, 2017	IBM i Open Source and the Talent That Follows	
	Cleared for Takeoff With Node.js on IBM i	
	IBM Cloud, Watson and Web Services Help Applications Fly	
	Java Goes Open Source! (IBM i edition)	
	Eight Reasons to Embrace SSH	
	Tech Tip: Be Like a Turtle!	
	Level Up With PTF Group Level 4!	
	Let's Learn About Ublu	
	A Tale of Two Web Servers	
	Why Contribute Code to the Open-Source Community?	
	One Small Program, Two Powerful Messages	



# iDevelop – Susan & Jon

Blog date	Blog link
April 16, 2018	Thirty Years: Time Flies When You're Having Fun
February 14, 2018	
January 16, 2018	New Year, New RDi
November 02, 2017	Susan's Turn: My First Job in IT
September 24, 2017	
August 16, 2017	IBM i News You May Have Missed
June 23, 2017	Need Another Reason to Convert to RPG IV?
June 06, 2017	The IT Skills Gap
April 11, 2017	SEU was holding me back.
March 01, 2017	Check Out the Latest in RDi
	Valentines for RPGers
February 02, 2017	The Year Ahead
January 22, 2017	Our Top 5 Highlights of 2016

### i Develop Application Development for IBM i



By Jon and Susan







#### **Recent Posts**

Thirty Years: Time Flies When You're Having Fun 04/16/2018

IBM i Loves RPG 02/14/2018

New Year, New RDi

Previous Post | Next Post | See All Posts

#### IBM i Loves RPG

February 14, 2018



Happy Valentines's Dayl With everyone declaring their undying love for one another today, we thought we'd investigate the ongoing and still vibrant relationship between RPG and IBM i.

Just yesterday, IBM announced the latest round of Technology Refreshes for IBM i: TR 4 for 7.3 and TR 8 for 7.2.

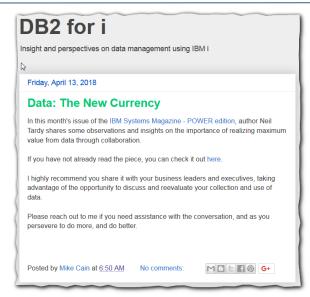
The big hype is likely to be surrounding the support for Power9 servers, which is definitely cool and exciting—if you're into hardware. In many shops, RPGers do a bit of everything and we're sure many of you will want to read up on all the latest news about Power9. But not here.



#### DB2 for i & Web Query – Mike Cain

Blog date	Blog link
April 13, 2018	Data: The New Currency
December 05, 2017	Making the Case for a Database Engineer - Again
	Interesting Db2 items in the latest TR!
	Are You Open to Open Source Databases?
	Using SAP on IBM i?
	A Few More Tools
	Want to be a Hero?

Blog date	og date Blog link	
February 19, 2018	To SQL or not to SQL - with Db2 Web Query	
	New Db2 Web Query Version 2.2.1 Announced!	
	DB2 Web Query: BI on a Budget Webinar	





#### To Learn More on DB2 Web Query

- Db2 Web Query for i Website
  - <u>lbm.biz/db2webqueryi</u>
- Db2 Web Query for i Wiki
  - <u>Ibm.co/db2wqwiki</u>
- Db2 Web Query Getting Started Enablement:
  - https://ibm.biz/db2wqconsulting
- Db2 Web Query Version 2.2.1
  - http://ibm.biz/db2wqv221blog
- EZ-Install
  - http://lbm.biz/db2wqezinstall-info
- Follow Db2 Web Query guy Doug Mack on twitter at @mckdrmoly or check out his blog at <a href="http://db2webqueryi.blogspot.com/">http://db2webqueryi.blogspot.com/</a> for the latest info





# For More Information:

Some Links You Need	Twitter	#Hashtags
IBM i Home Page: www.ibm.com/systems/i	@IBMSystems @COMMONug	#PowerSystems #IBMi #IBMAIX
IBM Systems Magazine IBM i Edition: <a href="http://ibmsystemsmag.com/ibmi/">http://ibmsystemsmag.com/ibmi/</a>	@IBMChampions @IBMSystemsISVs	#POWER8 #LinuxonPower #OpenPOWER
Support Life Cycle:  https://www-01.ibm.com/software/support/ibmi/lifecycle/  @IBMiMag @ITJungleNews @SAPonIBMi	@ITJungleNews @SAPonIBMi	#HANAonPower #ITinfrastructure #OpenSource
License Topics: <a href="https://www-01.ibm.com/support/docview.wss?uid=nas8N1022087">https://www-01.ibm.com/support/docview.wss?uid=nas8N1022087</a>	@SiDforIBMi	#HybridCloud #BigData

# For More Information:

Blogs	
IBM Blogs:	
IBM Systems Magazine You and i (Steve Will)	http://ibmsystemsmag.com/blogs/you-and-i/
IBM Systems Magazine i-Can (Dawn May)	http://ibmsystemsmag.com/blogs/i-can/
IBM Systems Magazine: Open your i (Jesse Gorzinski)	http://ibmsystemsmag.com/blogs/open-your-i/
IBM DB2 for i (Mike Cain)	http://db2fori.blogspot.co.uk/
IBM DB2 Web Query for i (Doug Mack)	http://db2webqueryi.blogspot.co.uk/
IBM Champion's Blogs:	
IBM Systems Magazine: iDevelop (Jon Paris and Susan Gantner)	http://ibmsystemsmag.com/blogs/idevelop/
IBM Systems Magazine: iTalk with Tuoy	http://ibmsystesmag.com/ibmi/trends/italk-with-tuohy/

# Volubis Pause-café

Consultez la liste des archives :	
Pause-café n° 78 / Mars 2018	TR4, Web services et Watson
Pause-café n° 77 / Janvier 2018 ( <u>Vidéo</u> )	TR3, et protection des données (GDPR)
Pause-café n° 76 / Octobre 2017 (Vidéo)	TR2, Produits open source et ACS
En Mai 2017, nous participions aux journées IBM : <u>Université du i 2017</u>	<ul> <li>17 Mai, 14h <u>API REST, retour d'expérience</u>- S2</li> <li>18 Mai, 13h30 <u>XML vs JSON</u> - S34</li> <li>18 Mai 15h15 <u>Git et Orion</u> - S42</li> </ul>
Pause-café n° 75 / Mars 2017 ( <u>Vidéo</u> )	TR1, RDI 9.5.1.1 ,Projet OSSILE
Pause-café n° 74 / Octobre 2016	Suite version 7.3, Git et Orion Nouvelles versions : ACS &WQX.
pause-café n° 73/ Mai 2016	TR4 et version 7.3

#### http://www.volubis.fr/pausecafe.html