IBM i Latest Announcements

7.4 and so much more!

Tim Rowe
IBM i Roadmap

2014  2016  2019

7.2  7.3  7.4  i Next  i Next+1

Technology Refreshes

7.3 TR6

** All statements regarding IBM’s future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.
** Arrows indicate “ongoing status” and do not imply any specific dates.
Strong Foundation for Continuing Innovation

• Db2 – Integrated Analytics, Security & Service Orientation

• Solution Development Innovation – Modern RPG plus Open options

• Intuitive Management & Access on any platform

• Reliable, Securable, Auditable, Scalable on site or in a cloud
IBM i 7.4 & More
Cornerstone Announcements
IBM i 7.4 Suite – Addressing the Needs of the Community

**Continuous Availability**
- IBM Db2 Mirror for i

**Continuous Innovation**
- From Db2 to RPG and COBOL
- Open Source and REST

**Continuous Security**
- Authority collection - object based control
- Latest industry standards

**Continuous Access**
- Access Client Solutions (ACS)
- Services

**Cloud options and More!**
Continuous Availability
Db2 Mirror for i
Anytime, Anywhere
Anytime, Anywhere
What is your Availability Tolerance?

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Platinum</th>
<th>Gold</th>
<th>Silver</th>
<th>Bronze</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Continuous Availability(^1)</td>
<td>High Availability</td>
<td>Moderate Availability</td>
<td>Standard Availability</td>
</tr>
<tr>
<td>Availability Objective</td>
<td>99.999%</td>
<td>99.99%</td>
<td>99.9%</td>
<td>99.5%</td>
</tr>
<tr>
<td>(Uptime)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned Downtime</td>
<td>Near 0</td>
<td>Outage Required</td>
<td>Outage Required</td>
<td>Outage Required</td>
</tr>
<tr>
<td>Availability</td>
<td>Always On</td>
<td>Almost Always On</td>
<td>Usually On</td>
<td></td>
</tr>
<tr>
<td>Solution</td>
<td>Db2 Mirror for i</td>
<td>Logical or Physical Replication</td>
<td>Disaster Recovery Reboot Required</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Continuous Availability (CA) is HA around the clock (24x7) and does not mean 100% availability; DR may or may not be included.
IBM Db2 Mirror for i

Operating System Synchronous Replication

Continuous Availability

24 x 7 Up Time

Rolling Upgrades

RTO/RPO Near Zero

5770 DBM

POWER8 or later & IBM i 7.4
Db2 Mirror – Active Active

Node 1
- App
- Database

Node 2
- App
- Database

Operating System
Synchronous Replication

RoCE

Synchronous Database Update on both nodes
SYSBASE or IASP
Db2 Mirror – Database Supported Objects

Database replication eligible objects

**Native:**
- Database Physical & Logical File

**SQL:**
- Alias
- Function
- Index
- Procedure
- Schema
- Sequence
- SQL Package
- Table
- Trigger
- User Defined Type
- Global Variable
- View
- XML Schema Repository

Included with File support:
- Row Permission
- Column Mask
- Temporal Table
- Constraint
- Etc...

☑ DDS / Record Level Access
☑ SQL / Set Based Access

Application running separate on each node

Node 1
- Database
- App

Node 2
- Database
- App

RoCE
Db2 Mirror – Other Supported Objects

Other Objects
- User profile
- Authority
- Ownership
- Security
- PGM/SRVPGM
- Data Area
- Data Queue (DDL Only)
- System Values
- Environment Variable LEVEL(*SYS)
- Library
- Job Description
- Journal

Special Handling
  - Output Queue & Spool
  - Job Queue

Exceptions
- User Space
- User Index
- User Queue
- Journal Receiver

SYSBAS
Database IASPs

Node 1
- App
- Database
- IASP

Node 2
- App
- Database
- IASP

RoCE
Db2 Mirror – Active Active, Green Screen Application

Application need to be restarted on Node 2

RoCE
Db2 Mirror – Active Active, Active Passive

Application layer connects with either JDBC or Load Balancer

Node 1

RoCE

Node 2

Run Production Workloads

Node 1

RoCE

Node 2

Run Queries and reports

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Db2 Mirror – What makes it different

- IBM i Operating System synchronization technology
- Does not leverage any previous Availability technology to provide continuous availability
  - But does work with existing technology
Db2 Mirror – Where to get more information

Start of Db2 Mirror documentation.

- **PDF file for Db2 Mirror**
  Use this to view and print a PDF of this information.

- **Intro and architecture**
  chapter 1 placeholder

- **Db2 Mirror concepts**
  This section describes the basic concepts you need to understand when working with Db2 Mirror.

- **Application considerations**
  chapter 3 placeholder

- **Planning and setup**
  There are many decisions that need to be made as you prepare and step through the Db2 Mirror setup process. Db2 Mirror configuration should be understood before starting in order to make the right decisions for your business.
Continuous Innovation

Application Development Topics
Application Development Enhancements

Traditional Language Updates

- RPG IV
  - Varying dimension arrays
  - Similar position subfields

- COBOL
  - COPY Enhance
  - Conditional Compilation
  - FREE and ALLOCATE statement
  - INITIALIZE statement
  - EXIT statement
  - Inline comments
Node.js version 10

- Long-term-support (LTS) release
  - Performance improvements
  - New version of node package manager (NPM)
  - JavaScript language enhancements

- Buildable from community source
  - Anyone can use a tool like nvm to manage their own versions, including feature releases

- Expecting version 12 soon!
R: a new programming language on IBM i!

- Great for:
  - Data analysis
  - Statistical computing
  - Data mining
  - Big Data

- Ranked #7 by IEEE
Tools
Rational Developer for i - 9.6.06

- **Modern**
- Supports RPG, COBOL, CL, C, C++, SQL, DDM
- **What’s New:**
  - New PDM View
  - Refactoring Updates – extract constants
  - Improved SQL Formatting
  - 7.4 RPG & COBOL updates
  - ILE Parser finds anomalies
  - Quick Zoom with command keys
  - Code Coverage updates
Open Source RPMs

• 5733-OPS is sunset, and no longer needed!

• Now delivered with RPMs

• To get started:
  – http://ibm.biz/ibmi-rpms
ACS – Open Source Package Manager

View and Update packages easily

Easily update packages in a CHROOT
ActiveMQ

• Open source message broker (Java-based)
• Supported protocols:
  – OpenWire
  – STOMP
  – MQTT
  – AMQP
  – REST
  – WebSockets
Python Machine Learning and Data Science

- Either available via RPM or buildable with Python “pip3” command
  - NumPy, Pandas
    - data processing
  - Scipy, Scikit-Learn
    - Machine Learning (ML) and scientific analysis
- ipython
  - interactive python language support
- nltk,
  - natural language toolkit for ML
- matplotlib, jupyter notebook
  - visual/interactive ML/data analysis
ODBC Driver

• IBM i Access ODBC driver now supported on:
  – Windows
  – Linux
  – IBM i

• Why ODBC on IBM i?
  1. Develop on Windows/Linux, deploy on IBM i
  2. Use standard ODBC libraries from various languages (PHP, Python, Node.js, Ruby, R, etc)
IBM i Application Connectivity Improvements

- JTOpen JDBC
  - Previously - when connection lost, a new connection had to be re-established with the backup server
  - IBM i 7.4 – Connection is NOT lost in the application, the ‘backup’ server just takes over
  - Also can choose to delay and retry to the same IBM i
Loopback support

- Easily create REST APIs with a popular Node.js framework
IWS before 7.4

Built in REST APIs connection for program calls

- RPG PGM / SRVPGM
- COBOL PGM / SRVPGM
- Java / C / C++
IWS and Db2 before 7.4

From Web need to use Db connection to access DB directly

Need to connect with
- JDBC
- ODBC

RPG PGM / SRVPGM
COBOL PGM / SRVPGM
Java / C / C++

Db2 for i
IWS & Db2 Connections – 7.4

IWS server handles the connection to the database. Use SQL directly from a REST connection.

Use 1 connection from Web to IBM i – All HTTP based

- RPG PGM / SRVPGM
- COBOL PGM / SRVPGM
- Java / C / C++

Db2 for i
IWS Wizard Updated

**Deploy New Service**

Specify Web service type - Step 1 of 8

Welcome to the Deploy New Service wizard. This wizard helps you that are accessible over the Internet and exchange XML messages exchanged is defined by the resource itself.

Specify Web service type: REST

Specify Web service implementation: *SQL
Database
Enhancements delivered via Db2 PTF Groups

Enhancements timed with TR5 & TR9
- RPG Embedded SQL Enhancements
- New and Enhanced SQL built-in functions
- New and Enhanced IBM i Services
- Additional Database features in ACS
- SQL Language Improvements
- OmniFind Text Search enhancement
- And more...

Enhancements timed with IBM i 7.4 GA & TR6
- IBM Db2 Mirror for i
- Authority Collection for objects
- RPG Embedded SQL Enhancements
- New and Enhanced IBM i Services
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- And more...

www.ibm.com/developerworks/ibmi/techupdates/db2/groupptf
IBM i Services – A Brief History

• **What:** Use SQL, SQL DDL and SQE to provide alternatives to IBM i APIs and CL Commands

• **Dawn of the 1\textsuperscript{st} IBM i Service (2013) – QSYS2.PTF_INFO**
  o Alternative to the DISPLAY PTF (DSPPTF) command
  o Proof of concept that SQL Views paired with SQL UDTFs provide significant value, for low cost

• **IBM i Services take root (2015)**
  o Enhancements delivered with every Technology Refresh
  o Examples shift from IBM presentations into ACS’s Insert from Examples

• **IBM i Services begin to be used as a modernization technology (2017)**

• **IBM i Services consist of 13 topical categories (2019)**
  o Significant ISV adoption
  o RFEs too numerous to count
IBM i Services – Timeline

Services in 4Q/2017:
- Syslog detail returned from DISPLAY_JOURNAL & HISTORY_LOG_INFO
- ASP_INFO
- ASP_VARY_INFO
- JOB_QUEUE_INFO
- STACK_INFO
- And more...

http://ibm.biz/Db2foriServices

Services in 3Q/2018:
- JOB_DESCRIPTION_INFO
- ACTIVE_JOB_INFO enhancements
- NETSTAT_INFO & NETSTAT_JOB_INFO enhancements
- And more...

Services in 2Q/2019:
- DATA_AREA_INFO
- ASP_JOB_INFO
- MESSAGE_FILE_DATA
- SYSTOOLS.FIRMWARE_CURRENCY
- SYSTOOLS.SPLIT
- SYSTOOLS.SPOOLED_FILE_DATA
- IBM i 7.4 only services
- And many enhanced services

SF99702 Level 1
SF99703 Level 4
SF99704 Level 1
SYSTOOLS – A trifecta of enhancements

- **SYSTOOLS** – Home of Db2 for i provided tools and examples
  - **SPOOLED_FILE_DATA()** – Query spooled files
  - **SPLIT**() – LISTAGG() builds a list of values, SPLIT() deconstructs the list into single values
  - **FIRMWARE_CURRENCY** – Fix Level Recommendation Tool (FLRT) consumable with SQL

```sql
select * from table(systools.spooled_file_data(
    job_name => '083866/QSYS/SCPF',
    spooled_file_name => 'QPJOBLOG',
    spooled_file_number => '*LAST'));
```
SYSTOOLS – A trifecta of enhancements

with my_spooled_files (job, file, file_number, user_data, create_timestamp) as (  
  select job_name, spooled_file_name, file_number, user_data, create_timestamp  
  from qsys2.output_queue_entries_basic  
  where user_data = 'QZDASOINIT' and spooled_file_name = 'QPJOBLOG' and  
  create_timestamp > current_timestamp - 24 hours  
  order by create_timestamp desc),  
all_my_spooled_file_data (job, file, file_number, spool_data) as (  
  select job, file, file_number, spooled_data  
  from my_spooled_files, table (  
    systools.spooled_file_data(  
      job_name => job, spooled_file_name => file,  
      spooled_file_number => file_number)))  
select * from all_my_spooled_file_data  
  where upper(spool_data) like upper('client 9.80.229.177 connected to server%');
SYSTOOLS – A trifecta of enhancements

- **SYSTOOLS** – Home of Db2 for i provided tools and examples
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  - SPLIT() – LISTAGG() builds a list of values, SPLIT() deconstructs the list into single values
  - FIRMWARE_CURRENCY – Fix Level Recommendation Tool (FLRT) consumable with SQL

```sql
SELECT ordinal_position, LTRIM(element) AS special_authority
FROM qsys2.user_info u,
     TABLE (systools.split(input_list => special_authorities,
                          delimiter => '   '))
WHERE u.authorization_name = 'SCOTTF';
```

<table>
<thead>
<tr>
<th>ORDINAL_POSITION</th>
<th>SPECIAL_AUTHORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*ALLOBJ</td>
</tr>
<tr>
<td>2</td>
<td>*SECADM</td>
</tr>
<tr>
<td>3</td>
<td>*JOBCTL</td>
</tr>
<tr>
<td>4</td>
<td>*SPLCTL</td>
</tr>
</tbody>
</table>
SYSTOOLS – A trifecta of enhancements

• SYSTOOLS – Home of Db2 for i provided tools and examples
  o SPOOLED_FILE_DATA() – Query spooled files
  o SPLIT() – LISTAGG() builds a list of values, SPLIT() deconstructs the list into single values
  o FIRMWARE_CURRENCY – Fix Level Recommendation Tool (FLRT) consumable with SQL

```sql
select * from systools.firmware_currency;
```

<table>
<thead>
<tr>
<th>FW_CURRENCY</th>
<th>FW_CURRENTFIXPACK</th>
<th>FW_MACHINE_TYPE_MODEL</th>
<th>FW_RECOMMENDED_UPGRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPGRADE</td>
<td>AVAILABLE</td>
<td>AM760_089</td>
<td>9179-MHD</td>
</tr>
</tbody>
</table>
DATA_AREA_INFO

- Alternative to the Retrieve Data Area (RTVDTAARA) command
- Logical and Character types, Decimal types, QTEMP, and more...

```sql
select * from qsys2.data_area_info
where data_area_library = 'GONZ0333';
```

<table>
<thead>
<tr>
<th>DATA_AREA_LIBRARY</th>
<th>DATA_AREA_NAME</th>
<th>DATA_AREA_TYPE</th>
<th>LENGTH</th>
<th>DECIMAL_POSITIONS</th>
<th>DATA_AREA_VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GONZ0333</td>
<td>MYBOOLEAN</td>
<td>*LGL</td>
<td>1</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>GONZ0333</td>
<td>MYPLACE</td>
<td>*CHAR</td>
<td>100</td>
<td></td>
<td>Place holder: 555</td>
</tr>
</tbody>
</table>
MESSAGE_FILE_DATA

- Returns one row for each message in a message file
- SQL Alternative to the Display Message Description (DSPMSGD) CL command and the Retrieve Message (QMHRTVM) API

```
select * from qsys2.MESSAGE_FILE_DATA
where message_file_library = 'QSYS' and
    message_file = 'QSQLMSG' and
    message_id like 'SQ20%';
```
IBM® i Services

Security Services

QSYS2.AUTHORITY_COLLECTION – VIEW
QSYS2.AUTHORITY_COLLECTION_DLO – VIEW
QSYS2.AUTHORITY_COLLECTION_FSOBJ – VIEW
QSYS2.AUTHORITY_COLLECTION_LIBRARIES – VIEW
QSYS2.AUTHORITY_COLLECTION_OBJECT – VIEW
QSYS2.AUTHORIZATION_LIST_INFO – VIEW
QSYS2.AUTHORIZATION_LIST_USER_INFO – VIEW
QSYS2.DRDA_AUTHENTICATION_ENTRY_INFO – VIEW
QSYS2.FUNCTION_INFO – VIEW
QSYS2.FUNCTION_USAGE – VIEW
QSYS2.GROUP_PROFILE_ENTRIES – VIEW
QSYS2.OBJECT_PRIVILEGES – VIEW
QSYS2.SQL_CHECK_AUTHORITY – UDF
QSYS2.USER_INFO – VIEW
SYSPROC.SET_COLUMN_ATTRIBUTE – PROCEDURE

Storage Services

QSYS2.ASP_INFO – VIEW
QSYS2.ASP_JOB_INFO – VIEW
QSYS2.ASP_VARY_INFO – VIEW
QSYS2.MEDIA_LIBRARY_INFO – VIEW
QSYS2.SYS_DISKSTAT – VIEW
QSYS2.SYSTMPSTG – VIEW
QSYS2.USER_STORAGE – VIEW

Journal Services

QSYS2.DISPLAY_JOURNAL – UDTF
QSYS2.JOURNAL_INFO – VIEW

Java Services

QSYS2.JVM_INFO – VIEW
QSYS2.SET_JVM – PROCEDURE

Librarian Services

QSYS2.LIBRARY_LIST_INFO – VIEW
QSYS2.OBJECT_STATISTICS – UDTF

Spool Services

QSYS2.OUTPUT_QUEUE_ENTRIES – VIEW
QSYS2.OUTPUT_QUEUE_ENTRIES_BASIC – VIEW
QSYS2.OUTPUT_QUEUE_ENTRIES – UDTF
QSYS2.OUTPUT_QUEUE_INFO – VIEW
SYSTOOLS.SPOOLED_FILE_DATA – UDTF

System Health Services

QSYS2.SYSLIMITS – VIEW
QSYS2.SYSLIMITBL – TABLE

Added in IBM i 7.4

Added or Enhanced @ IBM i 7.3 TR6

http://ibm.biz/Db2forIServices

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Continuous Security with IBM i 7.4
Continuous Security - Topics

• Authority Collection – Objects

• TLS

• SMB3
Authority Collection by User Profile

• **Concept**
  • Capture detail related to authority checks for a specific user

• **Benefits**
  ❖ **Safely reduce** excess authorization
  ❖ **Review** authorization model prior to deploying new solutions
  ❖ **Train** your IBM i security officers
  ❖ **Diagnose** authorization failures

• **Acquisition Cost**
  • **None** - included in IBM i 7.3
Authority Collection by Object

• Concept
  Capture detail related to authority checks for a specific object

• Benefits
  ❖ Safely reduce excess authorization
  ❖ Review authorization model prior to deploying new solutions
  ❖ Train your IBM i security officers
  ❖ Diagnose authorization failures

• Acquisition Cost
  • None - included in IBM i 7.4
Authority Collection by Object

- As of IBM i 7.4 authority collection support allows the collection of authority information for **specific objects** when accessed by **any user**

- The authority collection value for an object set with the new **Change Authority Collection (CHGAUTCOL) command**

- Object types:
  - QSYS file system
  - "root" (/)
  - QOpenSys
  - user-defined file system
  - document library objects
Authority Collection - Usage

- **Start Authority Collection**
  - Point to a specific user profile
    - To monitor for multiple profiles at the same time, issue multiple commands
    - To monitor objects, this is the ON / OFF switch

- **End Authority Collection**
  - Point to a specific user profile or end all object collection

- **Change Authority Collection**
  - Point to a specific object to opt IN or OUT
  - Optionally include dependent objects

- **Explore the data**
  - SQL (ACS Insert from Examples) & Navigator

- **Delete Authority Collection**
  - Point to a specific user profile
Authority Collection Updated Interfaces

- **Configure Authority Collection:**
  - Start Authority Collection (STRAUTCOL)
  - End Authority Collection (ENDAUTCOL)
  - Delete Authority Collection (DLTAUTCOL)
  - Navigator

- Interfaces that show whether collection is on-going:
  - Display Security Attributes (DSPSECA) command
  - Retrieve Security Attributes (QSYRTVSA) API

- Interfaces that show whether a specific object is included:
  - Display Object Description (DSPOBJD)
  - Display Attributes (DSPATR)
  - QSYS2.OBJECT_STATISTICS()
  - ACS Insert from Examples
  - Navigator
Authority Collection by Object – All activity

```sql
-- Show all activity over TOYSTORE/EMPLOYEE *FILE
with emp_activity ( username, cur_auth, req_auth ) as (
    select "CURRENT_USER", DTLCURAUTH, DTLREQAUTH
    from qsys2.authority_collection_object
    where system_object_schema = 'TOYSTORE' and
    system_object_name = 'EMPLOYEE'
)
select * from emp_activity;
```

<table>
<thead>
<tr>
<th>USERNAME</th>
<th>CUR_AUTH</th>
<th>REQ_AUTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOTTF</td>
<td>*OWNER *OBJEXIST *OBJMGT *OBJALTER *OBJREF *OBJOPR *READ *ADD *DLT *UPD *EXECUTE *READ</td>
<td></td>
</tr>
<tr>
<td>SCOTTF</td>
<td>*OWNER *OBJEXIST *OBJMGT *OBJALTER *OBJREF *OBJOPR *READ *ADD *DLT *UPD *EXECUTE *OBJOPR</td>
<td></td>
</tr>
<tr>
<td>SCOTTF</td>
<td>*OWNER *OBJEXIST *OBJMGT *OBJALTER *OBJREF *OBJOPR *READ *ADD *DLT *UPD *EXECUTE *OBJOPR</td>
<td></td>
</tr>
<tr>
<td>FRANKDBA</td>
<td>*OBJEXIST *OBJMGT *OBJALTER *OBJREF *OBJOPR *READ *ADD *DLT *UPD *EXECUTE *DLT</td>
<td></td>
</tr>
<tr>
<td>FRANKDBA</td>
<td>*OBJEXIST *OBJMGT *OBJALTER *OBJREF *OBJOPR *READ *ADD *DLT *UPD *EXECUTE *ADD</td>
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<td>FRANKDBA</td>
<td>*OBJEXIST *OBJMGT *OBJALTER *OBJREF *OBJOPR *READ *ADD *DLT *UPD *EXECUTE *OBJOPR</td>
<td></td>
</tr>
<tr>
<td>MARYSEC</td>
<td>*OBJEXIST *OBJMGT *OBJALTER *OBJREF *OBJOPR *READ *ADD *DLT *UPD *EXECUTE *READ</td>
<td></td>
</tr>
<tr>
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<td>*OBJEXIST *OBJMGT *OBJALTER *OBJREF *OBJOPR *READ *ADD *DLT *UPD *EXECUTE *OBJOPR</td>
<td></td>
</tr>
</tbody>
</table>

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Authority Collection by Object – All activity

Change your included columns
TLS - Transport Layer Security v1.3

- Newest and most secure version of the TLS/SSL protocols replacing TLSv1.2
  - All key negotiation protected by elliptical curve algorithms
  - Majority of handshake messages are encrypted
  - Fixed or removed features susceptible to existing named vulnerabilities
- Support part of base IBM i environment now
  - TLS 1.3 also available with IBM i Open Source
Server Message Block Version 3 - SMB 3

- **Supported by both NetServer and QNDC**

- Support for larger read and write sizes (512 Kb, in our case) to improve performance in high latency networks
- End to end data encryption for entire client/server conversations or just on access to specific shares
Continuous Access
Access Client Solutions – Strategic Interface

WHO?
- Users
- System Management
- Database Engineer

WHAT?
- 5250
- IFS
- Spool
- Run SQL Scripts
- Create Excel Spreadsheets
- Schemas
- Console

WHERE?
- http://ibm.biz/IBMi_ACS

End of Life – April 2019

Gone...

IBM i Access for Windows (5733XE1)

R.I.P
1995 - 2019
Access Client Solutions – What's New

- New Formatter! 😊
  - It works

- Syntax Validation
  - No extra charge

- IASP and DB Connections
  - Remembered
IBM® i Services – ACS Run SQL Scripts!

All in ACS!
No more posters required
Include - Only bring into the IFS interface the files & directories that match the include value

Filter – Contextual filter of displayed content
ACS Version 1.1.8.2

- Updated several times per year (stay current)
- Something for every user
- Database continues to be a focal point

Download site:

http://ibm.biz/IBMi_ACS
Db2 Web Query for i

- Integrated IBM i Business Intelligence and Data Warehousing family of products
  - IBM i Licensed Program Products (5733-WQX)
- From Basic Reports to Powerful Interactive Dashboards
- Updated EZ-Install Package for Fast Start
  - **NEW** reports for the IBM i Systems Administrator
    - System Limits; Track File/Temp Storage Size Growth; Display Journal Info;
    - Cross System Reports: PTF Currency, CPU Utilization; System Status
  - GA May 2019 - To Request EZ-Install:
    - Send email to QU2@us.ibm.com and include name, company name, and serial number of your system

Learn more at ibm.biz/db2webqueryi & db2webqueryi.blogspot.com
## db2 web query for i - system and security management

### PTF Group - Currency Report

<table>
<thead>
<tr>
<th>Status</th>
<th>PTF Group ID</th>
<th>PTF Group Name</th>
<th>Installed Level</th>
<th>Level Available</th>
<th>Date of Last IBM Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPDATE</td>
<td>SF99277</td>
<td>Technology Refresh</td>
<td>4</td>
<td>5</td>
<td>2018/05/13</td>
</tr>
<tr>
<td>AVAILABLE</td>
<td>SF99730</td>
<td>Current Cumulative PTF Media Documentation</td>
<td>16599</td>
<td>18242</td>
<td>2018/05/14</td>
</tr>
<tr>
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<td>SF99859</td>
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**13 January, 2019 at 10:08:56**
Cloud Options
IBM i & IBM Cloud

IBM POWER9 on IBM Cloud: More Choice and Flexibility, On-Premise and Off

https://www.ibm.com/blogs/bluemix/2019/02/ibm-power9-on-ibm-cloud/
IBM i & IBM Cloud

With IBM i access in the IBM Cloud:

1) **Reach** new markets with the global IBM Cloud data center footprint
2) **Enable** their core applications in the cloud without migration disruption
3) **Leverage** our leadership in cloud-native services
4) **Rely** on our built-in security for highly sensitive, compliance-heavy data

https://www.ibm.com/blogs/bluemix/2019/02/ibm-power9-on-ibm-cloud/
IBM Cloud Storage Solutions (5733ICC)

• Today
  – Tape Drives
  – Tapes are then shipped to offsite location
  – Disaster Recovery
  – Tapes need to be shipped back

• Why not remove the tape drive from the equation

• Send the backup ‘directly’ to an off site location
IBM Cloud Storage Solutions for i (5733ICC)

Save your IBM i data into a Cloud or FTP Server

- Two modes
  1. BRMS to Cloud for backup operations
  2. GUI dashboard for storing files in the Cloud (think of BOX-like usage cases)

http://www.ibm.com/support/knowledgecenter/ssw_ibm_i_73/icc/topics/iccuoverview.htm
... and More!
... and More Innovations!

- PowerHA
- IFS
- Domino 10
- Apache 2.4.36
- SMTP
- Service Tools
- System Limits
- More Cores & Threads per partition
- LUN Sizes
- ...
Important Dates and Links

• **IBM i 7.3 TR6 and IBM i 7.4 – Announce: April 23, 2019**
  – Books updated in IBM Knowledge Center
  – Enhancement fact pages added to the IBM i Technology Updates wiki

• **IBM i 7.3 TR6 – GA: May 10, 2019**

• **IBM i 7.4 – GA: June 21, 2019**

• **Enhancement Landing pages...**
  [http://www.ibm.com/developerworks/ibmi/techupdates/i73-TR6](http://www.ibm.com/developerworks/ibmi/techupdates/i73-TR6) and

• **IBM i 7.2 → No further enhancements**
# IBM i System Support

<table>
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<tr>
<th>Servers</th>
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1 – no IOP or HSL support

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

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IBM i Customer Stories

For over thirty years, IBM i has supported thousands of customers worldwide and continues to be the backbone of their infrastructure into the future. Read why customers are continuing to choose IBM i as their platform of choice.

See innovation at work in the IBM i community

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Client Stories

YOUR TRAVEL GUIDE TO IT TRANSFORMATION

48 Hours in POWER


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Thank You!