

IBM i & Power Recent Announcements

for COMMON Luxembourg
May 21, 2024

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 [fabianmichel](#)



IBM i

continuous innovation
continuous integration

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font with horizontal stripes.

IBM i May 7 TR Announcement

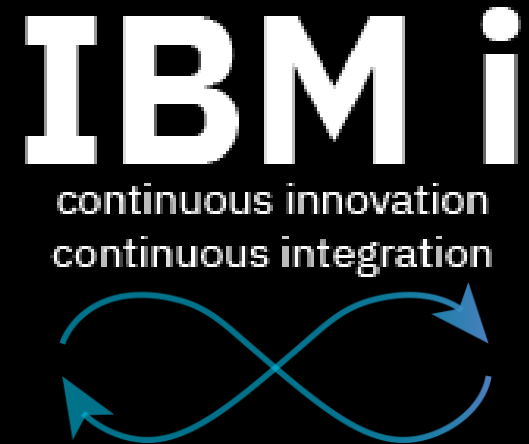
<https://techchannel.com/you-and-i-blog/ibm-i-7-5-tr4-7-4-tr10/>

<https://www.ibm.com/support/pages/ibm-i-75-tr4-enhancements>

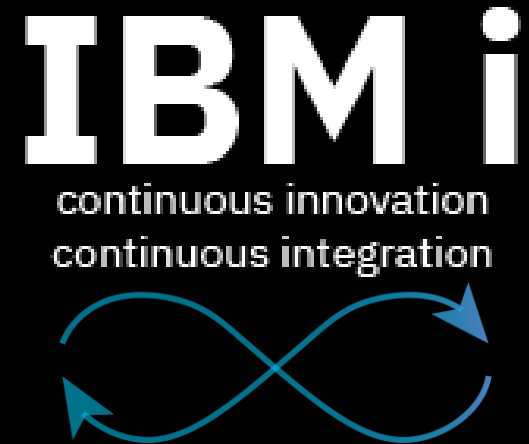
<https://www.ibm.com/support/pages/ibm-i-74-tr10-enhancements>

<https://www.ibm.com/products/power-s1012>

<https://www.ibm.com/downloads/cas/K34GVY1B>

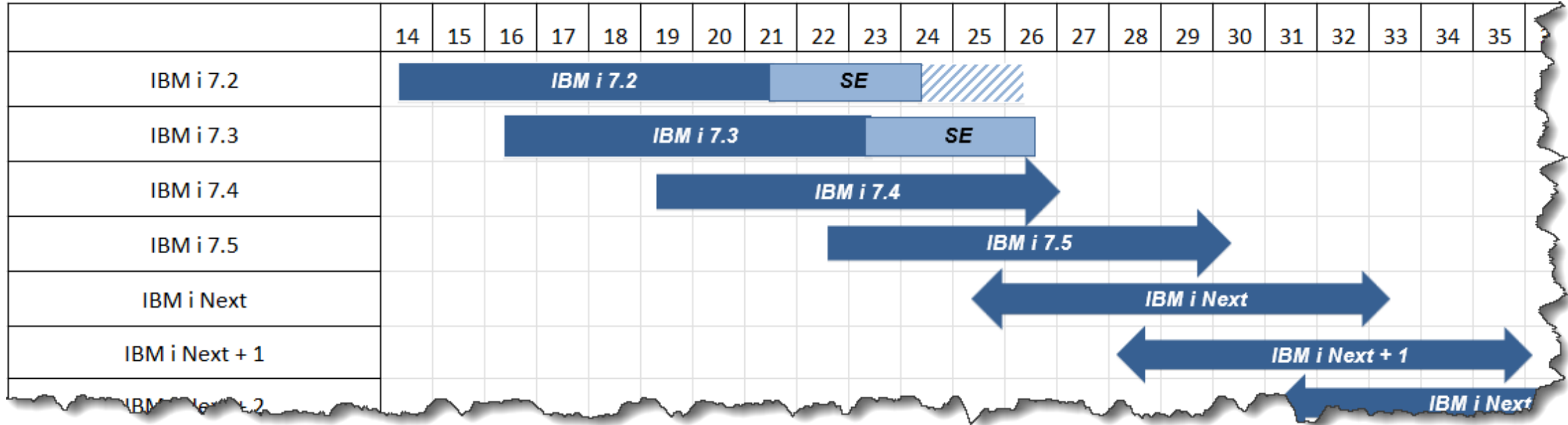
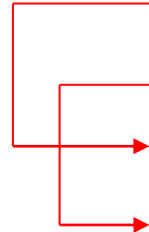


IBM i Lifecycle and What is Announcing



IBM i Support Roadmap

Supported Upgrade paths (n-2)



IBM i 7.1/ 7.2 Service Extensions end 4/30/2024

** 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.

IBM i Roadmap & Strategy Foundation

2016

2019

2022



IBM i

IBM i

IBM i

IBM i

...

7.3

7.4

7.5

i Next

i Next+1

**& Db2 Mirror
Continuous Availability
2-node Cluster**

**& IBM i Merlin
OpenShift-based
Application
Modernization**

TRs

IBM i

.....

IBM i

.....

IBM i

.....

IBM i

.....

Power Solutions

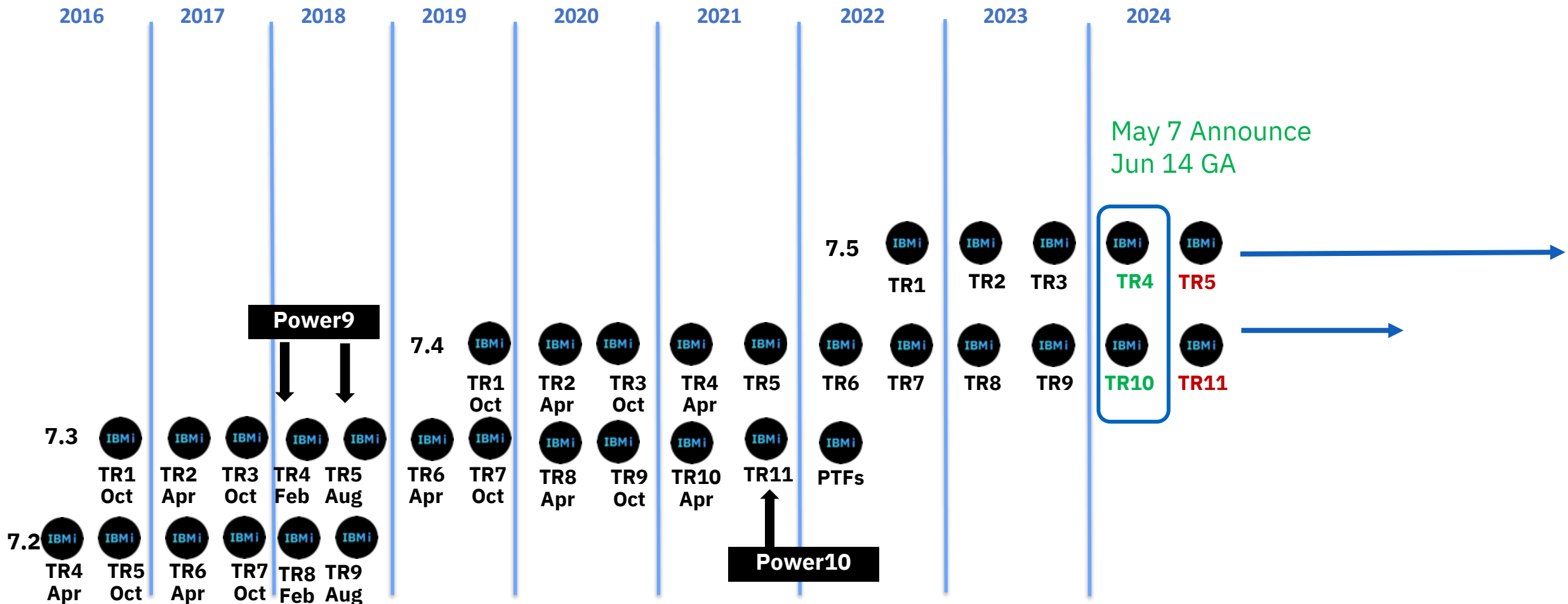
Options

Integration

** 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.

IBM i Release Roadmap – Announcement Dates



** 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."

IBM i 7.5 TR4, IBM i 7.4 TR10 – Announce 05/07/2024



IBM i Operating System

- Security
 - The IBM i CCA CSP updated to support CHIM release 3.3.8
- Cluster administrative domain
 - Support for adopted authority

Db2 for i

- Db2 for i enhancements
 - The ANY_VALUE built-in aggregate function is added
 - CREATE ALIAS (SQL) statement includes support for the keyword *LAST
- IBM i Services
 - A variety of new table functions and procedures to access IBM i objects

HA/DR

- PowerHA
 - IBM FlashSystem Asynchronous Policy-based Replication
 - Enhanced Administrative Domain Integration
 - PowerHA Modern Web Interface
 - PowerHA SQL Services
- BRMS
 - Support for 3592-70F tape drives and media
 - Support software data compression for tape and virtual tape

Hardware Features for IBM i

- Support for IBM Power offerings
 - Support for new IBM Power S1012 server
 - Support for #EN2Y and #EN2Z: PCIe 4-port 1 GbE Adapter
- BMC-based ASMI adds IBM i functions to support multiple console function and new support for D-mode IPL tasks without an HMC

Application Modernization & Open Source

- Code for IBM i
 - RPG Programmer
 - Database Extension
- IWS
 - New APIs for managing digital certificates on the system
 - APIs to retrieve TLS system information.
- Rational Development Studio for i– RPG Specific
 - The CONST keyword is now allowed for data structure & standalone fields
 - SND-MSG is enhanced to allow the specification of additional message types
- Rational Developer for i
 - ILE Docs and TAG support include
 - Introduction of a new @LINK{hyperlink} tag
 - Addition of F1 help for tag support
 - Quick filters and Object table view improvements

System Management

- Navigator for i
 - Style changes for a simplified and modernized GUI appearance
 - Improved sign-on prompt for GUI node authorization
 - Networking improvements or multiple TCP/IP services
 - Monitor Jobs now leverage Java 11 or 17
 - Performance Data Investigator (PDI) Enhancements
 - Advanced Job Scheduler support for iASP
 - Console support for ARE is now included in Navigator
- ACS
 - Visual Explain enhancements to RUNSQL Scripts
 - Enhancements to the actions to generate SQL DML statements for tables and views

IBM i May 7 TR Announcement

Scott Forstie - forstie@us.ibm.com

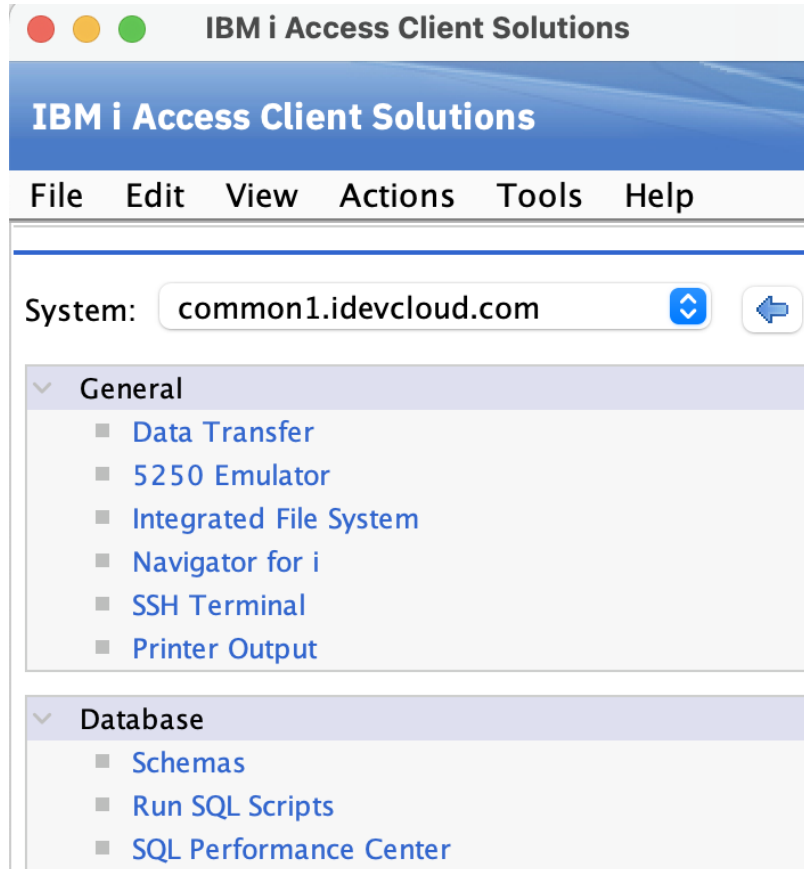
Db2 for i Business Architect

IBM i

continuous innovation
continuous integration



IBM



https://ibm.biz/IBMi_ACS

ACS – Version 1.1.9.5

DELIVERED!

Run SQL Scripts (RSS):

- Content Assist performance improvements
- Copying text from Job Log viewer
- When selecting files from a PC, the List or Details is saved
- Insert from Examples extended

Visual Explain:

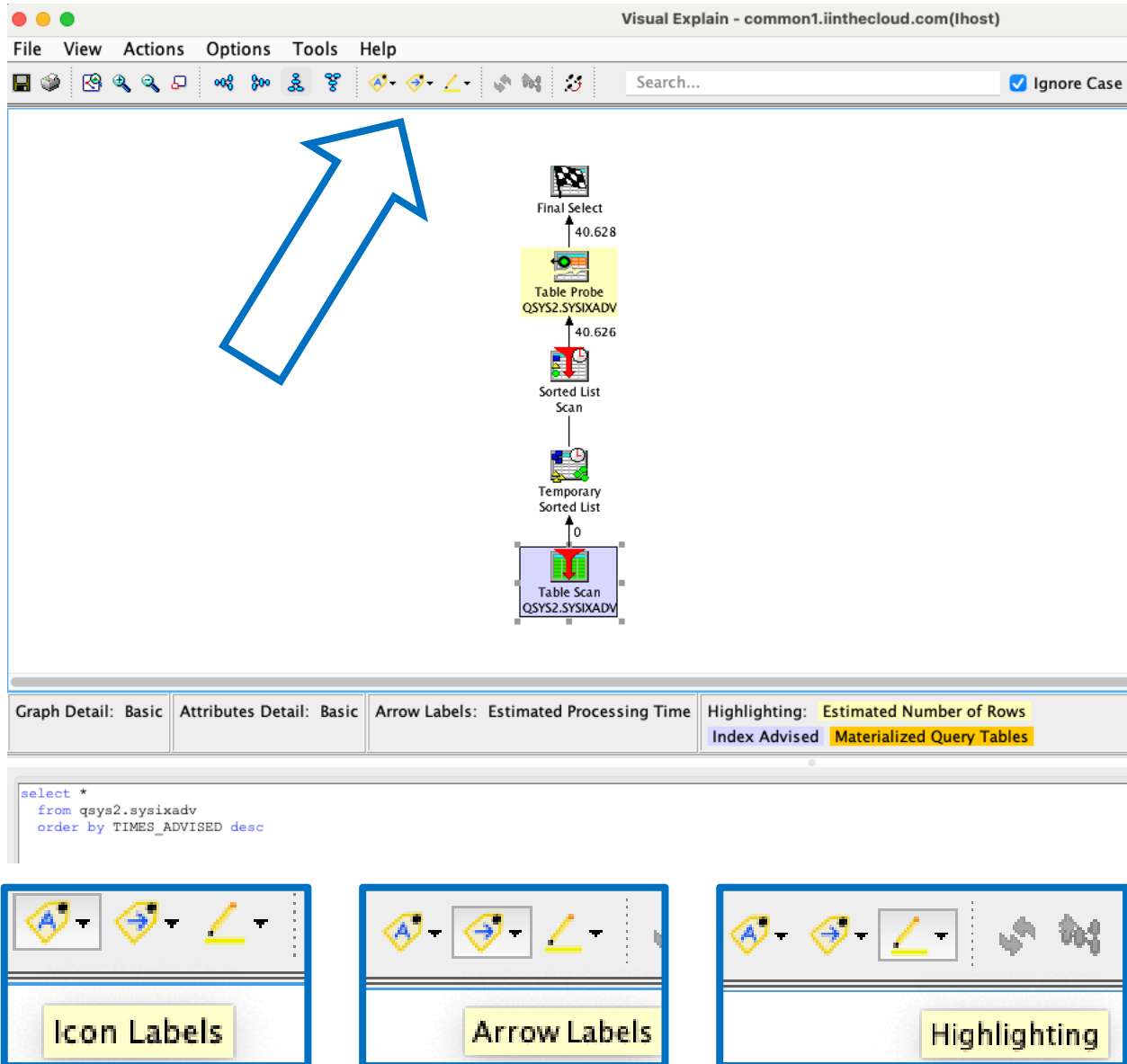
- Many usability enhancements

Schemas:

- Improved SQL Data Manipulation Language (DML) generation for tables and views

<https://www.ibm.com/support/pages/ibm-i-access-acs-updates>

ACS – Visual Explain enhancements



Visual Explain - common1.iinthecloud.com(lhost)

File View Actions Options Tools Help

Search... Ignore Case

Final Select 40.628
Table Probe QSYS2.SYSIXADV 40.626
Sorted List Scan
Temporary Sorted List
Table Scan QSYS2.SYSIXADV 0

Graph Detail: Basic Attributes Detail: Basic Arrow Labels: Estimated Processing Time Highlighting: Estimated Number of Rows
Index Advised Materialized Query Tables

```
select *  
from qsys2.sysixadv  
order by TIMES_ADVISED desc
```

Icon Labels Arrow Labels Highlighting

Ideas:

- [Visual Explain Buttons for Actuals and Estimates](#)

IBM “Ideas”:

- Visual Explain provide ability to change settings via the diagram legend
- Visual Explain Actions menu - differentiate between graph and icon actions
- Visual Explain new arrow label option to show estimated and actual rows
- Visual Explain add tool tip hover text to graph links
- Visual Explain save icon spacing as a persistent setting
- Visual Explain – Improved zoom in and out
- And others...

SQE:

- Active_Query_Info extended with another filter (Job User)
- Dump_Plan_Cache extended with another filter (IASP)

Catalogs:

- Addition of SYSMEMBERSTAT, which returns more data than SYSPARTITIONSTAT
- Addition of SYSTEM_OBJECT_TYPES, one row for every IBM i object type

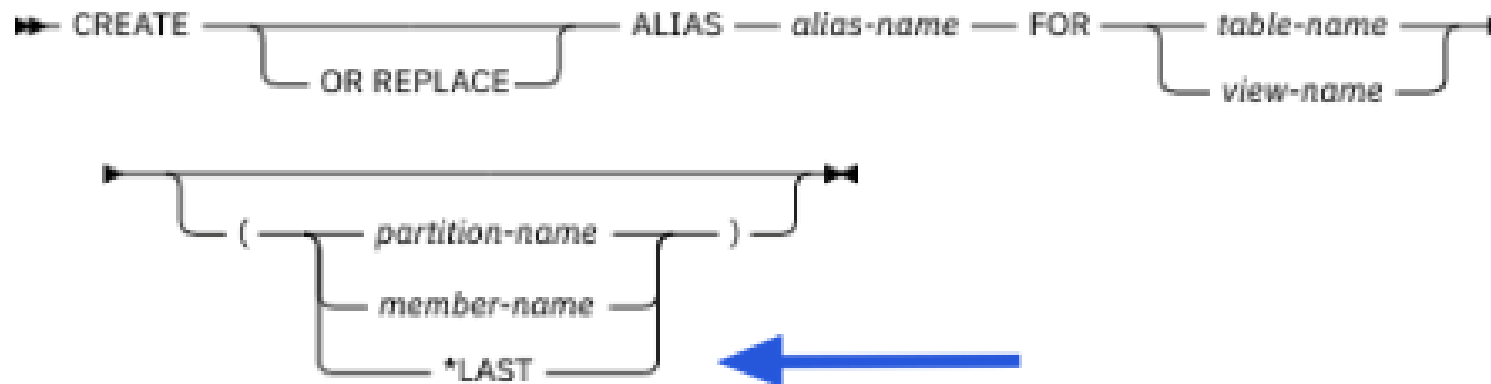
Multi-member files and source physical files:

- CREATE ALIAS (SQL) support for *LAST



Create Alias with *LAST

The CREATE ALIAS statement defines an alias on a table, partition of a table, view, or member of a database file at the current or remote server.



- ***LAST** corresponds to the most recently created member
- The resolution of which member to use occurs at the time of use, not the time of alias creation
- **Generate SQL** on the **ALIAS** returns ***LAST**
- **Save and Restore** of the **ALIAS** retains the ***LAST** behavior

Create Alias with *LAST

```
--  
-- Access TODAY's CS data for SQL PLAN CACHE PERFORMANCE  
--  
create or replace alias qtemp.TODAYS_SQLPC_DATA for QPFRDATA.QAPMSQLPC(*LAST);  
  
Select * from qtemp.todays_sqlpc_data;
```

Interval number	Interval date time	Elapsed interval seconds	Active queries	Plans in plan cache	Plan cache size (MB)	Plan cache size limit (MB)	Plan cache size threshold (%)
INTNUM	DATETIME	INTSEC	SQCURQRY	SQCURPLN	SQPCSIZE	SQPCLIMIT	SQPCTHRESH
1	2024-05-01 00:15:00.000000	889	58	1943	252	512	94
2	2024-05-01 00:30:00.000000	900	58	1944	253	512	94
3	2024-05-01 00:45:00.000000	900	58	1945	253	512	94
4	2024-05-01 01:00:00.000000	900	58	1946	253	512	94
5	2024-05-01 01:15:00.000000	900	58	1947	253	512	94
6	2024-05-01 01:30:00.000000	900	58	1948	253	512	94
7	2024-05-01 01:45:00.000000	900	58	1949	253	512	94

SQL Built-in Functions

- June 2024 – **ANY_VALUE**
- November 2023 – **ENCRYPT_AES256**,
HTML_ENTITY_DECODE, and **HTML_ENTITY_ENCODE**
- May 2023 – **More HTTP functions based in QSYS2**
ADD_DAYS, **ADD_HOURS**,
ADD_MINUTES, **ADD_SECONDS**, & **ADD_YEARS**
- November 2022 – **FIRST_DAY**, **JSON_UPDATE**, & **TIMESTAMPDIFF_BIG**
- May 2022 – **TRY_CAST**
- October 2021 – **New HTTP functions based in QSYS2**
- July 2020 – **INTERPRET built-in function** & **HASH_ROW built-in function**
- January 2020 – **HASH Built-in functions**



ANY_VALUE aggregate function

ANY_VALUE(*expr*) aggregate function tells the optimizer that it can return any of the values defined by *expr* that exist within a given group. For certain grouping queries, this:

- Makes queries easier to write
- Enables better index usage

Assume PostalCode uniquely identifies a city and state (mostly true in the U.S.)

I want a count of the customers in each postal code.

```
SELECT COUNT(*), PostalCode FROM Customers GROUP BY PostalCode;
```



[IBM Idea: Add an ANY_VALUE aggregate function](#)

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```
SELECT COUNT(*), PostalCode FROM Customers GROUP BY PostalCode;
```

If I want to my query to show the City and State for each PostalCode, I have to add it also to the GROUP BY list:

```
SELECT COUNT(*), City, State, PostalCode FROM Customers
GROUP BY PostalCode, City, State;
```

To use index access, I need to have an index with three leading keys: **PostalCode, City, State**

ANY_VALUE aggregate function

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```
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GROUP BY PostalCode, City, State;
```

To use index access, I need to have an index with three leading keys: **PostalCode**, **City**, **State**

With ANY_VALUE, I can add these columns without changing the grouping specification:

```
SELECT COUNT(*), ANY_VALUE(City), ANY_VALUE(State), PostalCode
FROM Customers GROUP BY PostalCode;
```

This enables my query to use any index that has PostalCode as the leading key.

ANY_VALUE gives the optimizer more implementation choices.

SQL services for ILE-style programming:

- SYSTOOLS.PUTENV() scalar function
- SYSTOOLS.GETENV() scalar function
- SYSTOOLS.ERRNO_INFO() scalar function

SQL services for the IFS:

- SYSTOOLS.IFS_UNLINK scalar function
- QSYS2.COMPARE_IFS() table function

Enhanced services:

- SYSTOOLS.GENERATE_SPREADSHEET()
- SYSTOOLS.SEND_EMAIL()

- ✓ Support for more spreadsheet types
- ✓ Smarter spreadsheet column width for xlsx and xls spreadsheet types



- ✓ Support for CC
- ✓ Support for BCC
- ✓ Support for up to 20 email recipients
- ✓ Support for up to 10 attachments

SQL services for the audit journal:

- SYSTOOLS.AUDIT_JOURNAL_NA (Attribute Change)
- SYSTOOLS.AUDIT_JOURNAL_PS (Profile Swap)
- Improved performance for some helper functions
- MANAGE_AUDIT_JOURNAL_DATA_MART

SQL services special authority:

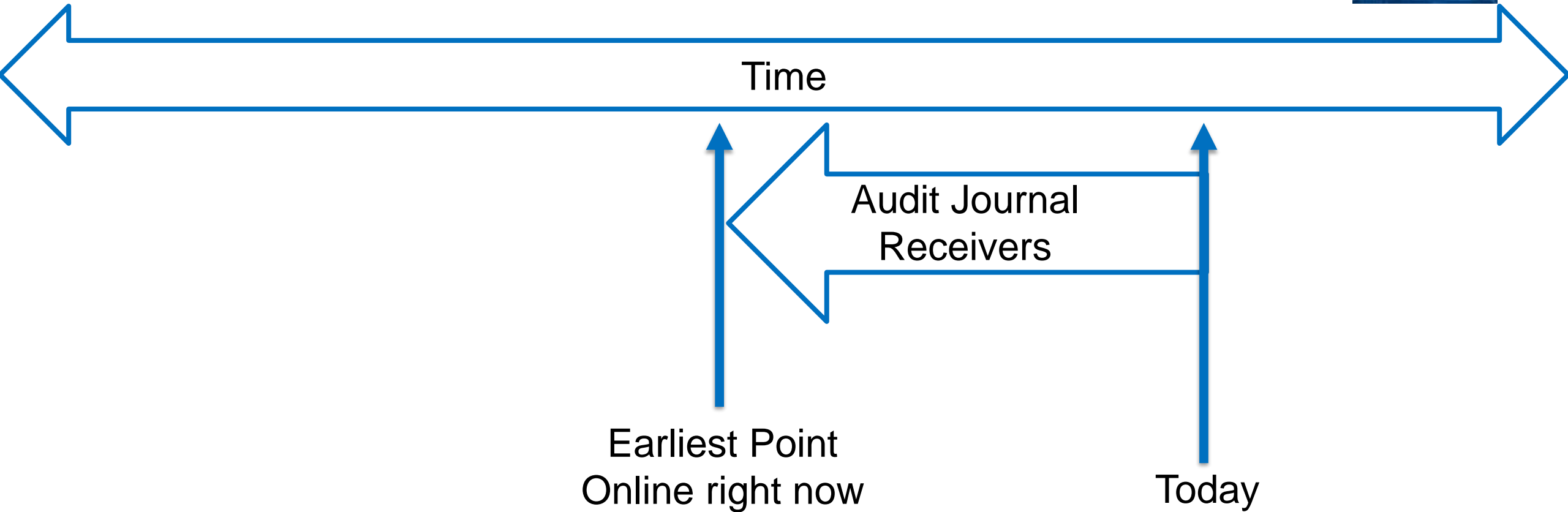
- SYSTOOLS.SPECIAL_AUTHORITY_DATA_MART

Improved Secure by default:

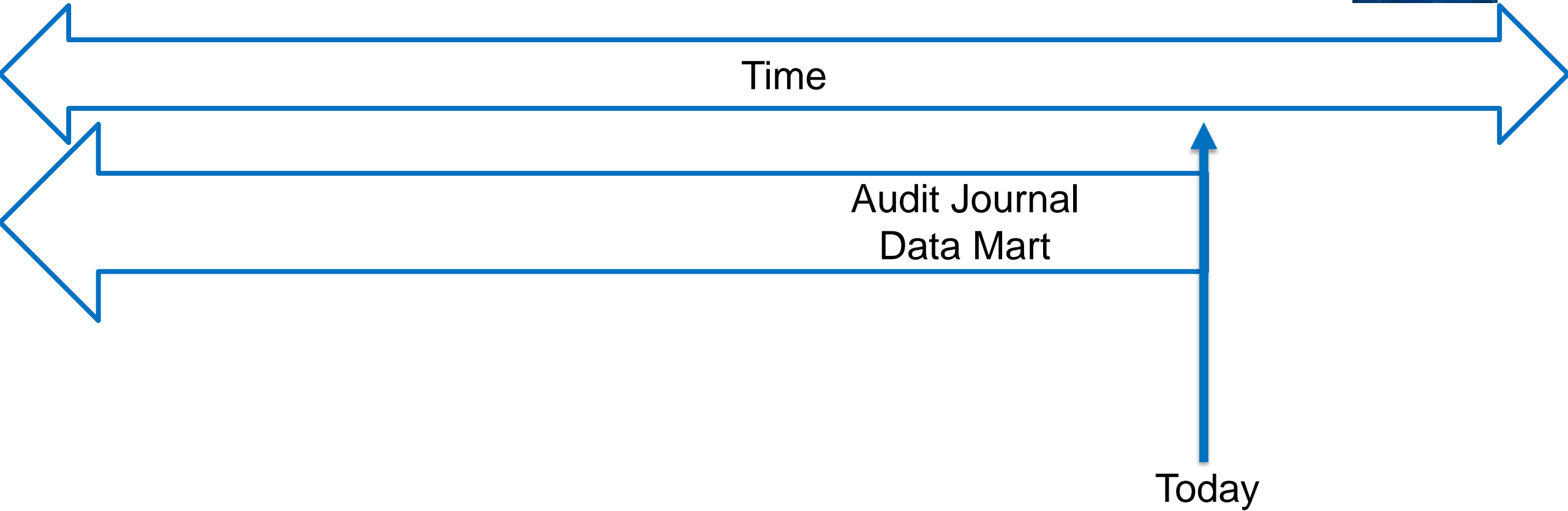
- Add Physical File Trigger (ADDPFTRG) changed from *PUBLIC *USE to *PUBLIC *EXCLUDE
- Other changes, some noted in the Memorandum to Users (MTU)



Audit Journal Data Mart



Audit Journal Data Mart



Establish a Data Mart for the AF (Authority Failure) audit journal entries

```
cl: crtlib AUD_DMART;  
cl: RVKOBJAUT OBJ(AUD_DMART) OBJTYPE(*LIB) USER(*PUBLIC) AUT(*ALL);  
  
CALL QSYS2.MANAGE_AUDIT_JOURNAL_DATA_MART (  
  JOURNAL_ENTRY_TYPE => 'AF',  
  DATA_MART_LIBRARY => 'AUD_DMART',  
  STARTING_TIMESTAMP => '*FIRST',  
  ENDING_TIMESTAMP => DEFAULT,  
  DATA_MART_ACTION => 'CREATE'  
);
```

Add entries to the data mart, starting at the latest point of previous capture

```
CALL QSYS2.MANAGE_AUDIT_JOURNAL_DATA_MART (  
  JOURNAL_ENTRY_TYPE => 'AF',  
  DATA_MART_LIBRARY => 'AUD_DMART',  
  STARTING_TIMESTAMP => '*CONTINUE',  
  ENDING_TIMESTAMP => NULL,  
  DATA_MART_ACTION => 'ADD'  
);
```

Db2 for IBM i

News and advice related to Db2 for i

Tuesday, May 7, 2024

Another Round of Db2 for i Enhancements

Today, IBM announced the content of its biannual delivery of new and enhanced IBM i capabilities via the upcoming TRs (Technology Refresh) for the 7.4 and 7.5 releases.

As always, there are some nice additions to Db2 for i to make your life as an application developer and/or [Database Engineer](#) (DBE) easier!

The ANY_VALUE aggregate function simplifies the query writing and eliminates the performance overhead by telling Db2 that any old value in the specified column (or expression) will do as shown in this example query.

```
SELECT clientName, SUM(salesAmt) AS totSales,  
       ANY_VALUE(clientEmail)  
FROM salesHistory  
GROUP BY clientName  
ORDER BY totSales DESC LIMIT 10
```

The usability of the [ACTIVE_QUERY_INFO](#) service was also greatly enhanced for those of you that are trying to monitor and track queries running in host server jobs like the QZDASOINIT jobs. The original version of the service had a job user parameter, JOB_USER, to track queries for a specific user. However, the JOB_USER filter was not applied to the current user of host server jobs. So essentially, there was no way to do user-level filtering for active queries running in host server jobs. That limitation is now gone with the addition of a new USER_NAME parameter that is applied to the current user of a host server job. The following example shows how you can easily target the active queries run by BADUSER in the QZDASOINIT server jobs.

```
SELECT * FROM  
TABLE(ACTIVE_QUERY_INFO(JOB_NAME=> 'QZDASOINIT',  
                        USER_NAME=> 'BADUSER'))
```

These are my highlights of some of the Db2 for i advancements in the latest IBM i TR, so I'd encourage you to review the complete list on the [IBM i Technology Updates wiki](#). Also, don't forget that the Memorandum to Users (MTU) gets updated with each IBM i TR as well – many users mistakenly believe that the MTU only gets updated at the GA of a new release. Here are the links to the MTU:

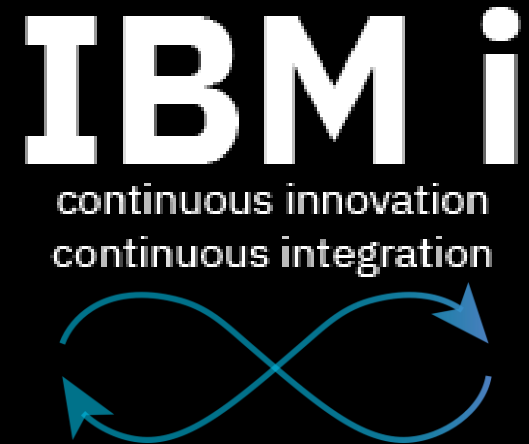
- [IBM i 7.5 MTU](#)
- [IBM i 7.4 MTU](#)
- [IBM i 7.3 MTU](#)

<https://db2ibmi.blogspot.com/2024/05/another-round-of-db2-for-i-enhancements.html>

IBM i May 7 TR Announcement

Tim Rowe - timmr@us.ibm.com

STSM – Business Architect Application Development
& Systems Management for IBM i



Modernization Engine for Lifecycle Integration



Merlin V2

Merlin V2 - GA planned for June 15

Cloud ready modern ecosystem for IBM i native development

- Built on the latest in DevSpaces
- Leveraging the latest Code for i technology
 - Improved developer experience
 - Db2 integration! Create and test your SQL from your Merlin IDE interface
 - Tools to help move from Source Physical Files into a GIT Repo
- Simplified OpenShift Requirements with Single Node OpenShift (SNO)



Merlin V2 - GA Jun 15

Cloud ready modern ecosystem for IBM i native development

- Supports IBM i 7.3 or later
- Supports Power9 and Power10 platforms only
- Leverages DevSpaces vs old Eclipse based environment
- Full for Code for IBM i support built on VS Code
 - Latest Code for IBM i additions including Db2 for i plugin
 - Support optional 3rd party plugins for Merlin IDE
- Improved Debugger support
- Latest ARCAD product updates:
 - Transformer
 - Observer
 - Builder
- Supported for OpenShift v4.14 & Single Node (SNO)
- Subscription based pricing only
- Contains a full replacement for source control management solutions
- Improved usage metrics for better resource estimations

- Merlin v1 withdrawal
 - EOS notice will be 5 months vs standard 1yr
 - Easy transitions to Version 2



Merlin - Modernization Engine for Lifecycle Integration

- Modern / Centralized Source Control and Branching



- Modern RPG



- Convert Fixed to Fully Free Format



- Application Impact Analysis



- Browser based VSCode IDE

- Intelligent Build

- Comprehensive IBM i application builds



- Automated build integration

- Jenkins



- Safe, Secure, Running in RedHat OpenShift or SNO



Secure, full function
modern development
ecosystem

Visual Studio Code & Code for IBM i



Used by 74% of professional developers



27k+ installs



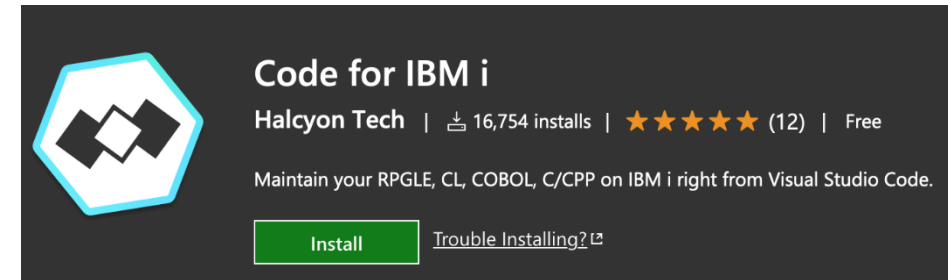
2000+ daily users




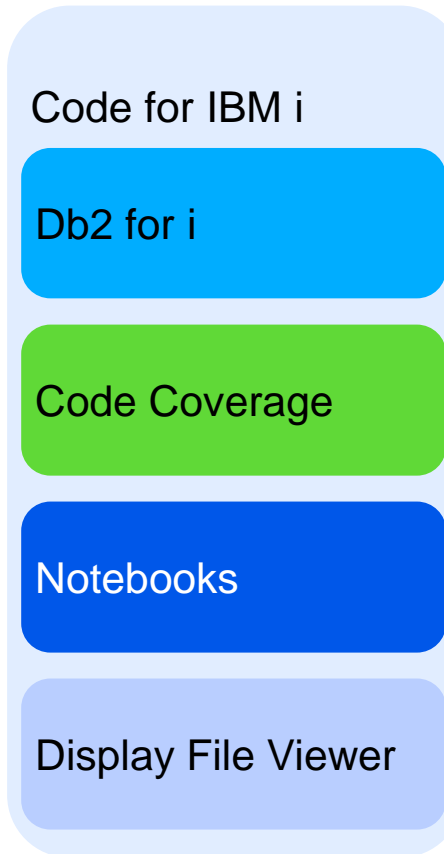
Extended by Merlin and ISVs

Developer statistics from StackOverflow Survey 2023

Reference customers: FNZ Group, KS3 Solutions, CMA Technology Solutions, Amalgamated Banks of South Africa, Directa SIM, Vermont Information Processing, Polar Beverages, Wright Service Corp, CPB Software



 **Code for IBM i**
Halcyon Tech | 📄 16,754 installs | ★★★★★ (12) | Free
Maintain your RPGLE, CL, COBOL, C/CPP on IBM i right from Visual Studio Code.
[Install](#) [Trouble Installing?](#)



Code for IBM i

- Db2 for i
- Code Coverage
- Notebooks
- Display File Viewer

Base tools

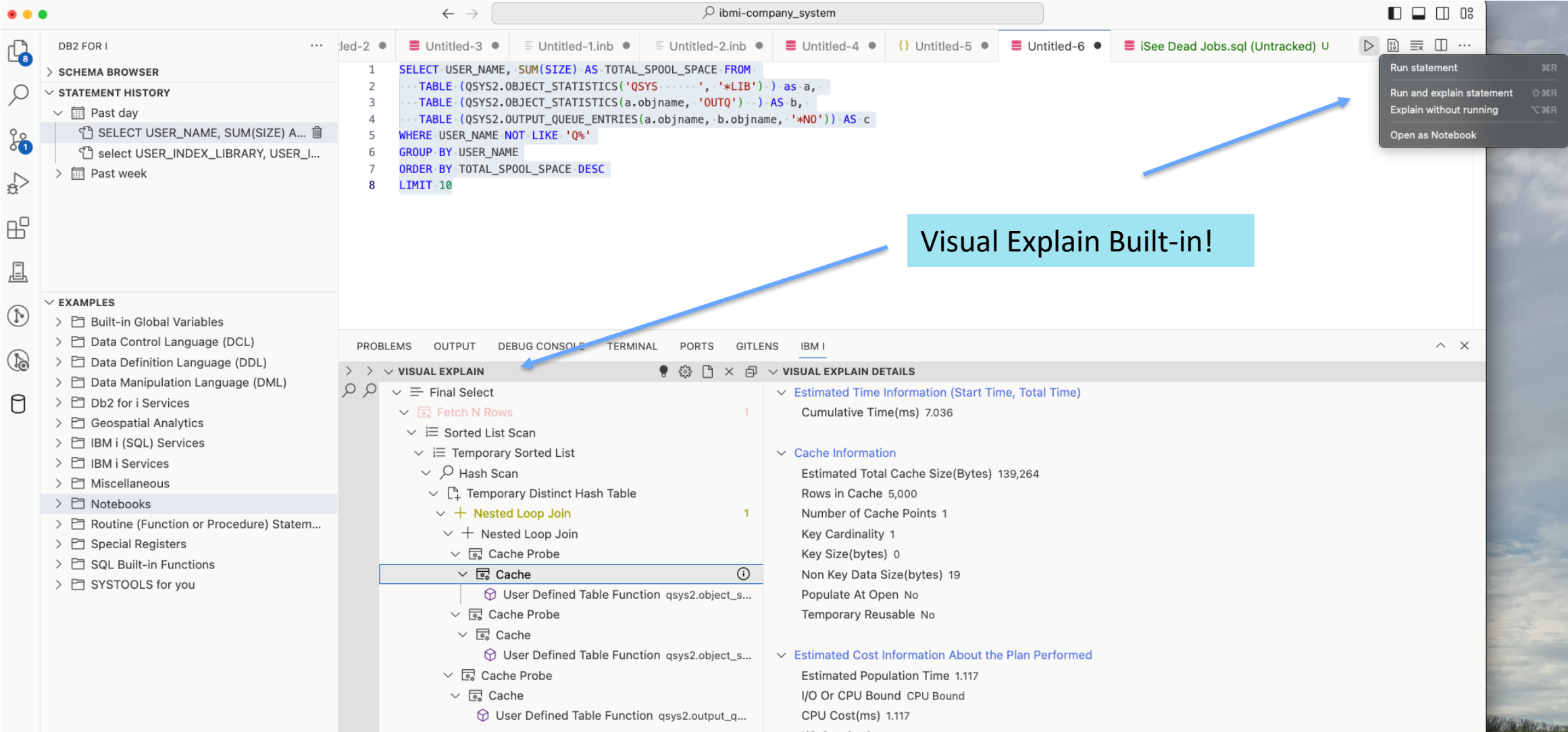


ISV integration

- MDCMS
- Rocket
- ARCAD
- ... future ...

Separate tools

Db2 Extension within Code for i



The screenshot displays the IBM Db2 extension within the Code for i IDE. The main editor shows a SQL statement:

```
1 SELECT USER_NAME, SUM(SIZE) AS TOTAL_SPOOL_SPACE FROM
2 ... TABLE (QSYS2.OBJECT_STATISTICS('QSYS...', '*LIB')) AS a,
3 ... TABLE (QSYS2.OBJECT_STATISTICS(a.objname, 'OUTQ')) AS b,
4 ... TABLE (QSYS2.OUTPUT_QUEUE_ENTRIES(a.objname, b.objname, '*NO')) AS c
5 WHERE USER_NAME NOT LIKE 'Q%'
6 GROUP BY USER_NAME
7 ORDER BY TOTAL_SPOOL_SPACE DESC
8 LIMIT 10
```

A context menu is open over the SQL editor, showing options: Run statement, Run and explain statement, Explain without running, and Open as Notebook. A blue arrow points from this menu to a callout box.

The callout box is a light blue rectangle containing the text: **Visual Explain Built-in!**

Below the SQL editor, the 'VISUAL EXPLAIN' panel is active, showing a tree view of the execution plan. The 'Cache' node is selected and highlighted. The 'VISUAL EXPLAIN DETAILS' panel on the right provides performance metrics:

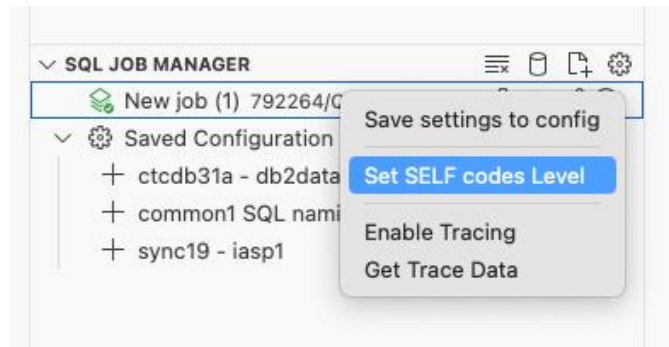
- Estimated Time Information (Start Time, Total Time)**
 - Cumulative Time(ms) 7.036
- Cache Information**
 - Estimated Total Cache Size(Bytes) 139,264
 - Rows in Cache 5,000
 - Number of Cache Points 1
 - Key Cardinality 1
 - Key Size(bytes) 0
 - Non Key Data Size(bytes) 19
 - Populate At Open No
 - Temporary Reusable No
- Estimated Cost Information About the Plan Performed**
 - Estimated Population Time 1.117
 - I/O Or CPU Bound CPU Bound
 - CPU Cost(ms) 1.117

Support for the SQL Error Logging Facility (SELF)

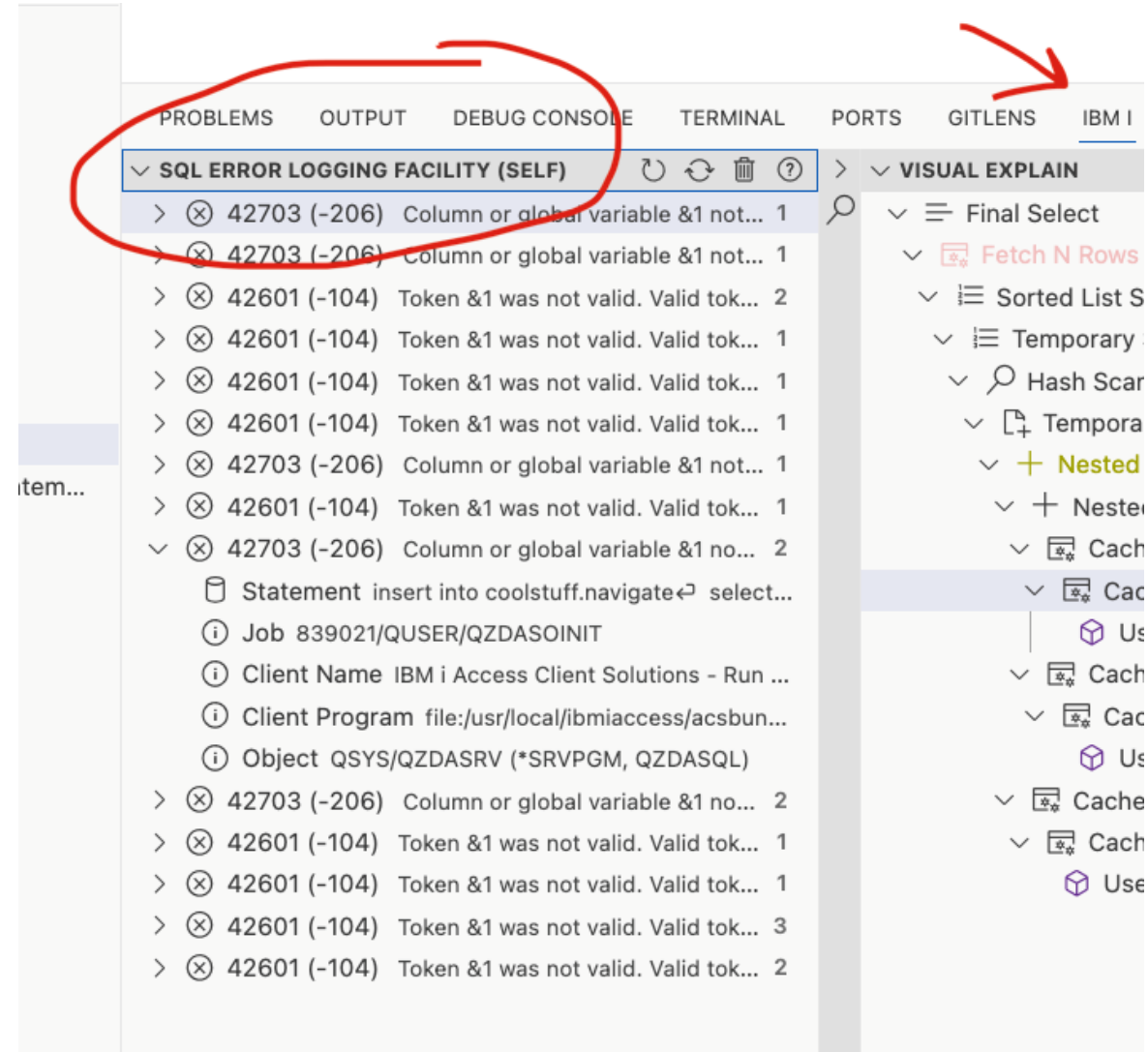
Challenge: Finding, understanding, and fixing SQL errors and warnings

SELF - Captures details about user specified SQL errors or warnings

VsCode Db2 for i extension provides a new easy to use interface for seeing the item captured by SELF



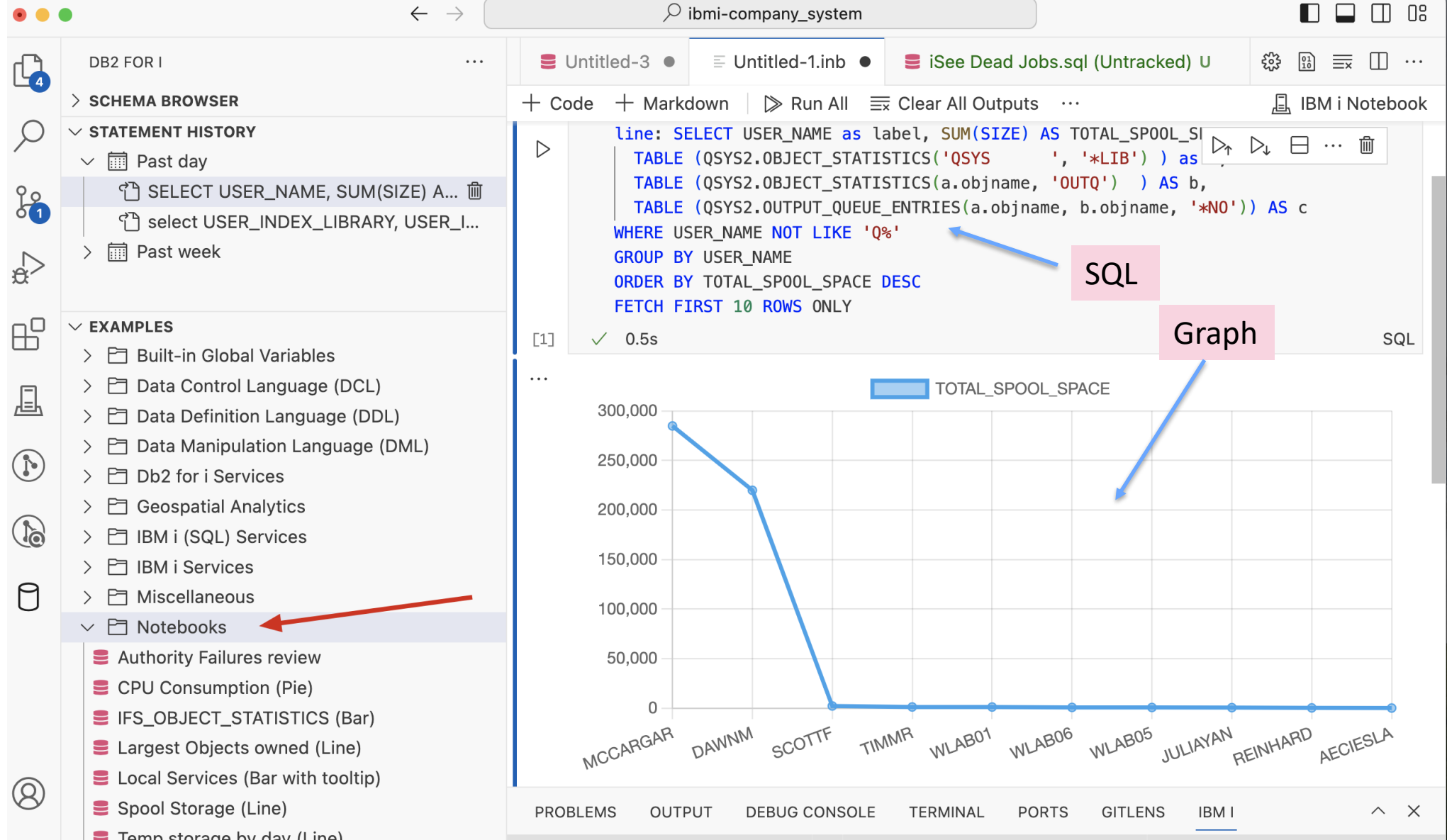
<https://www.ibm.com/support/pages/node/6828091>



Notebooks in VsCode

SQL in.....
Generated data
delivered in
Graph form!!!

Publish as a
doc!!!



The screenshot shows the VS Code interface with an IBM i Notebook. The left sidebar contains a 'SCHEMA BROWSER' and 'EXAMPLES' section, with 'Notebooks' highlighted. The main editor displays a SQL query:

```
SELECT USER_NAME as label, SUM(SIZE) AS TOTAL_SPOOL_SPACE  
FROM QSYS2.OBJECT_STATISTICS('QSYS', '*LIB') as a,  
     QSYS2.OBJECT_STATISTICS(a.objname, 'OUTQ') as b,  
     QSYS2.OUTPUT_QUEUE_ENTRIES(a.objname, b.objname, '*NO') as c  
WHERE USER_NAME NOT LIKE 'Q%'  
GROUP BY USER_NAME  
ORDER BY TOTAL_SPOOL_SPACE DESC  
FETCH FIRST 10 ROWS ONLY
```

The query is annotated with a pink box labeled 'SQL' and a blue arrow pointing to the WHERE clause. Below the query, the execution time is shown as 0.5s. A line graph is displayed below the code, with a pink box labeled 'Graph' and a blue arrow pointing to the graph area. The graph shows 'TOTAL_SPOOL_SPACE' on the y-axis (0 to 300,000) and user names on the x-axis. The data points are:

User Name	Total Spool Space
MCCARGAR	280,000
DAWNIM	220,000
SCOTTFF	0
TIMMR	0
WLAB01	0
WLAB06	0
WLAB05	0
JULIAYAN	0
REINHARD	0
AECIESLA	0

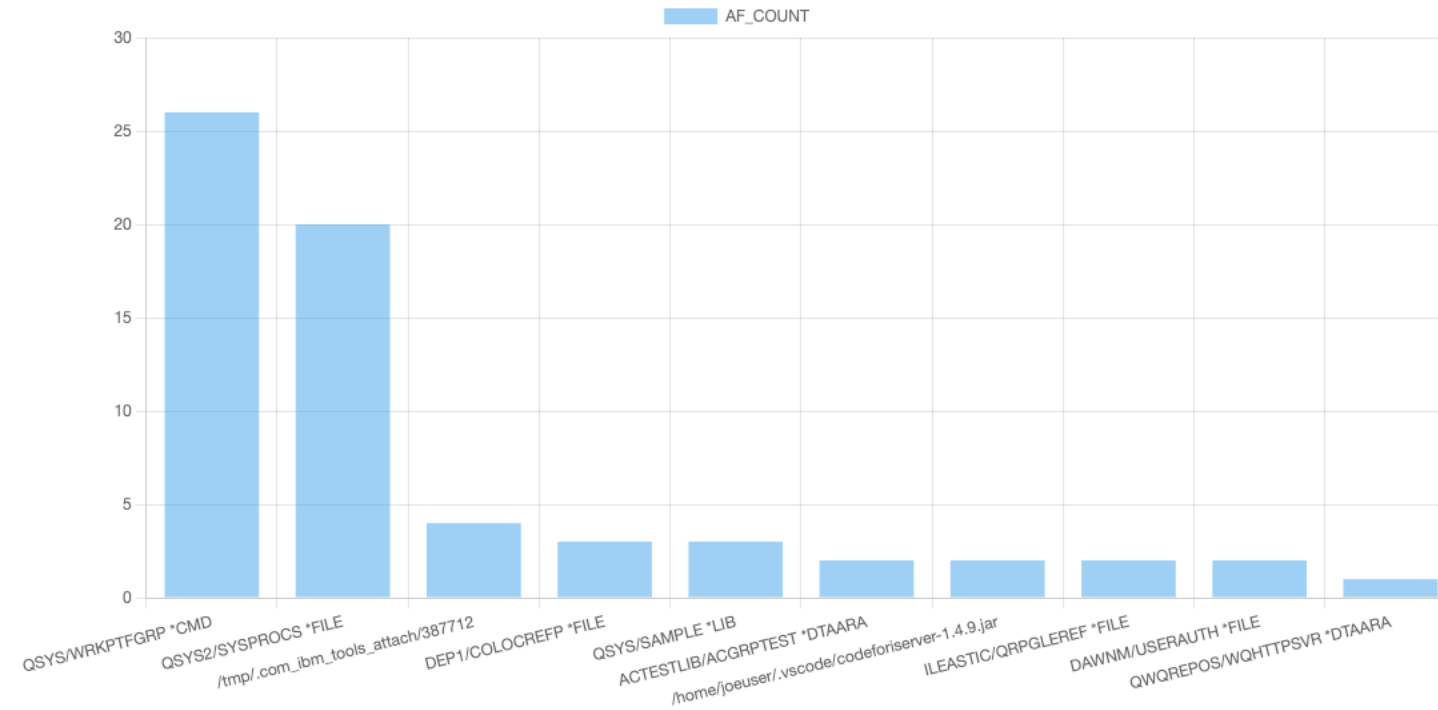
Notebooks published as a Report!

file:///Users/scottforstie/AF failures on common1 - april 30.html



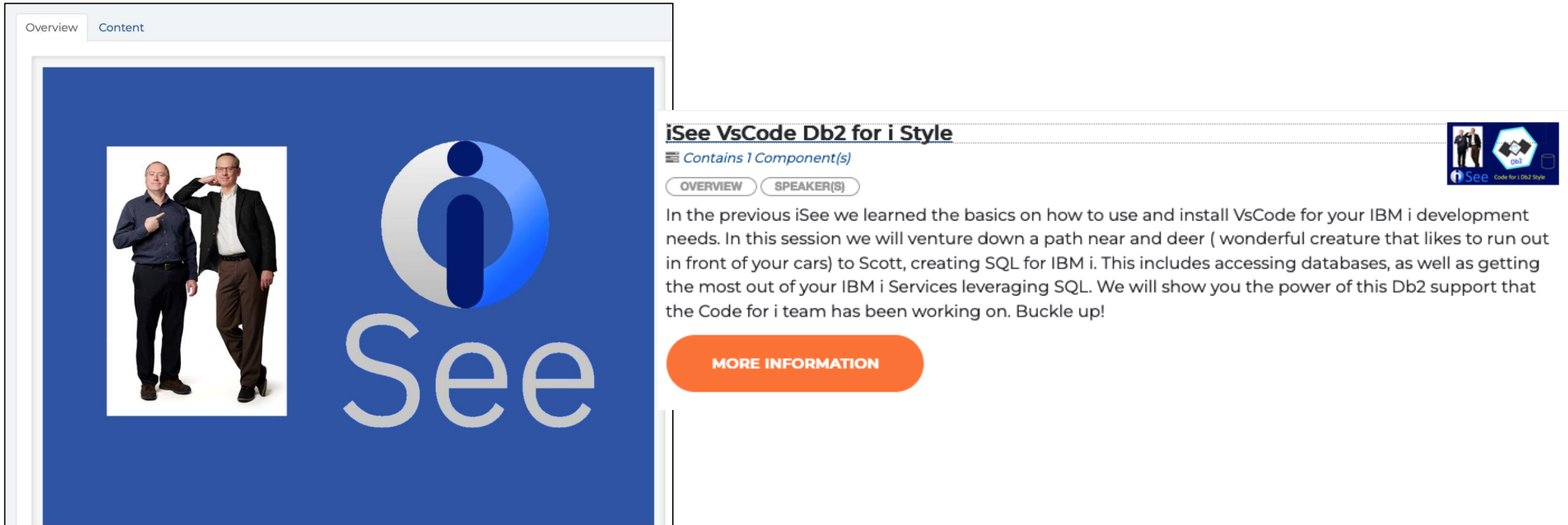
Which objects are having the authorization failures?

```
select coalesce(
  path_name, object_library concat '/' concat object_name concat ' ' concat object_type) as label,
  count(*) as AF_count
from table (
  SYSTOOLS.AUDIT_JOURNAL_AF(STARTING_TIMESTAMP => current timestamp - 1 month)
)
group by coalesce(
  path_name, object_library concat '/' concat object_name concat ' ' concat object_type)
order by AF_count desc limit 10
```



iSee educational videos (hosted by COMMON)

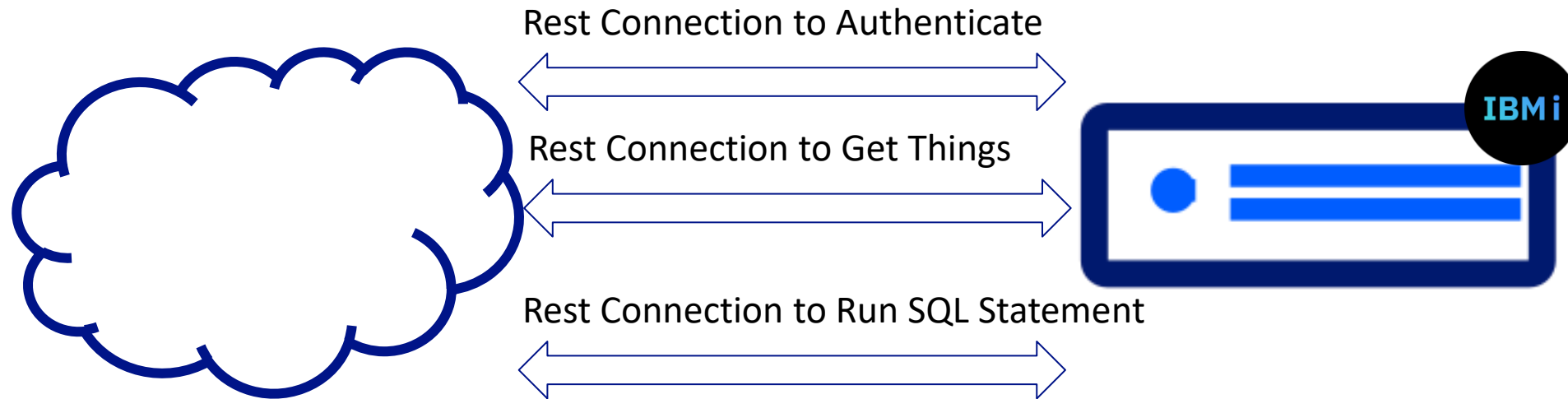
Many “free” learning opportunities



The screenshot displays a video player interface with a blue background. On the left, there is a video thumbnail showing two men standing. To the right of the thumbnail is the iSee logo, which consists of a stylized 'i' inside a circle, with the word 'See' written below it. The video title is 'iSee VsCode Db2 for i Style'. Below the title, there is a sub-header 'Contains 1 Component(s)' and two tabs: 'OVERVIEW' and 'SPEAKER(S)'. The main text of the video description reads: 'In the previous iSee we learned the basics on how to use and install VsCode for your IBM i development needs. In this session we will venture down a path near and dear (wonderful creature that likes to run out in front of your cars) to Scott, creating SQL for IBM i. This includes accessing databases, as well as getting the most out of your IBM i Services leveraging SQL. We will show you the power of this Db2 support that the Code for i team has been working on. Buckle up!'. At the bottom right, there is an orange button labeled 'MORE INFORMATION'. In the top right corner of the video player, there is a small icon for 'iSee Code for i Db2 Style'.

https://learn.common.org/products/ibm-isee#tab-product_tab_overview

Authenticate to an IBM i and Access Data / Change things with REST



<https://www.ibm.com/support/pages/node/6982701>.

RSE API – New DCM Management Services

POST /api/v1/security/dcm/cert/list Retrieve a list of certificates in a certificate store.

Example request:

```
{
  "certStoreType": "CMS",
  "certStorePath": "*SYSTEM",
  "certStorePassword": "passw0rd",
  "filters": {
    "alias": "q*",
    "certTypes": [
      "SERVER_CLIENT",
      "CERTIFICATE_AUTHORITY",
      "CERTIFICATE_SIGNING_REQUEST"
    ],
    "daysUntilExpiration": 5000,
    "excludeExpired": false
  }
}
```

List Certificates

POST /api/v1/security/dcm/cert/import Import a digital certificate.

Sample request:

```
{
  "certStoreType": "CMS",
  "certStorePath": "*SYSTEM",
  "certStorePassword": "myPassw0rd",
  "certType": "SERVER_CLIENT",
  "certAlias": "mylabel",
  "certData": "BASE64-BLOB",
  "certDataPassword": "myPassw0rd"
}
```

Import Certificates

POST /api/v1/security/dcm/appdef/associate Assign digital certificate(s) to an existing application definition.

Example request:

```
{
  "id": "myappdef",
  "type": "SERVER",
  "certAlias": [
    "mylabel1",
    "mylabel2"
  ]
}
```

Associate Certificates

And More....

Everything you need to Automate
the regular management of
certificates in DCM

IBM i Remote System Explorer API

PTFs are available that contain the new DCM REST APIs. The PTFs are:

SI85817	V7R5M0 (RSE APIs)
SI86098	V7R5M0 (DCM)
SI85818	V7R4M0 (RSE APIs)
SI86097	V7R4M0 (DCM)
SI85819	V7R3M0 (RSE APIs)
SI86095	V7R3M0 (DCM)

<https://www.ibm.com/support/pages/node/7144245>



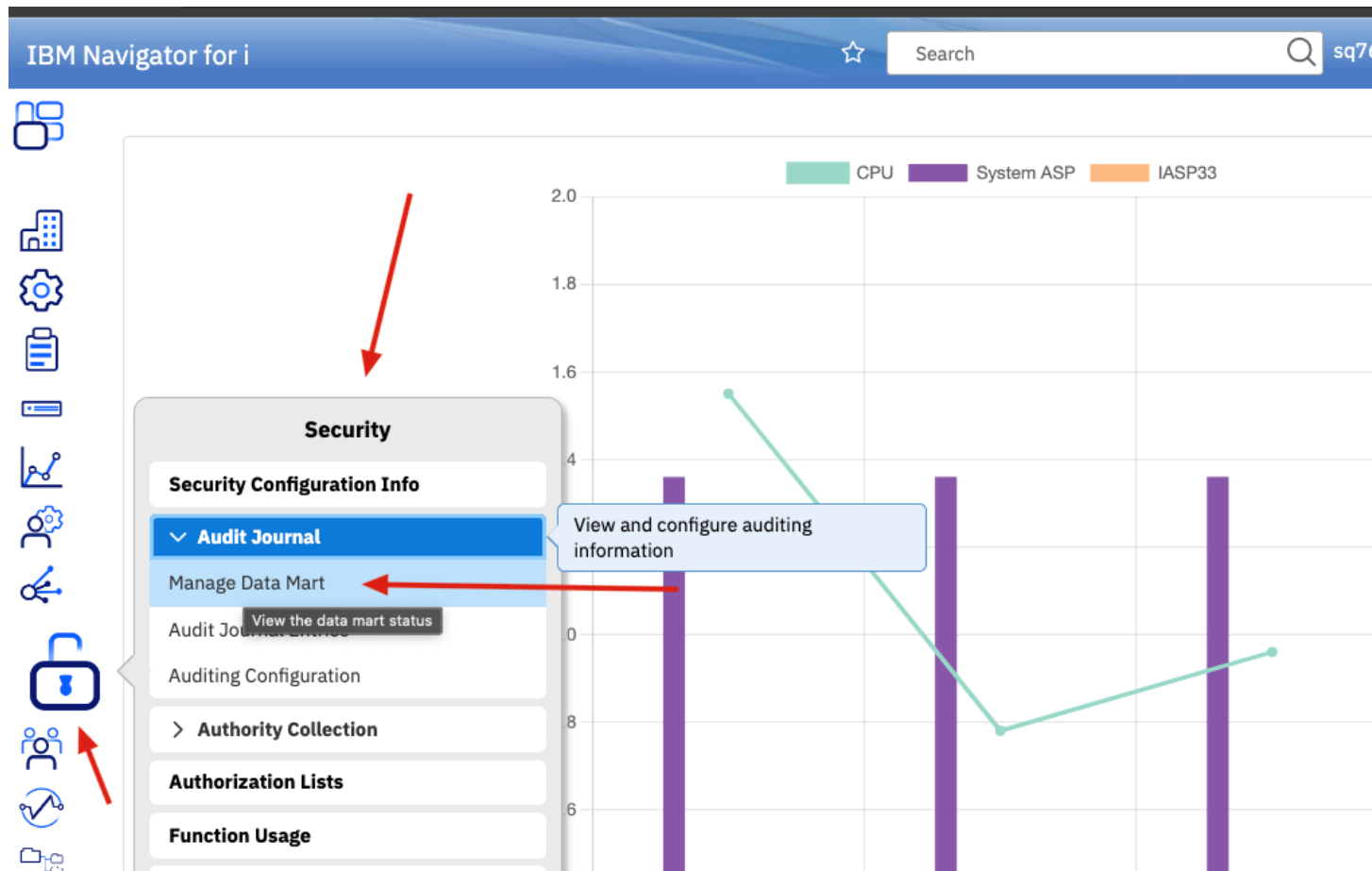
Navigator

<https://www.ibm.com/support/pages/navigator-i>

Navigator – Audit Journals Like Never Before!

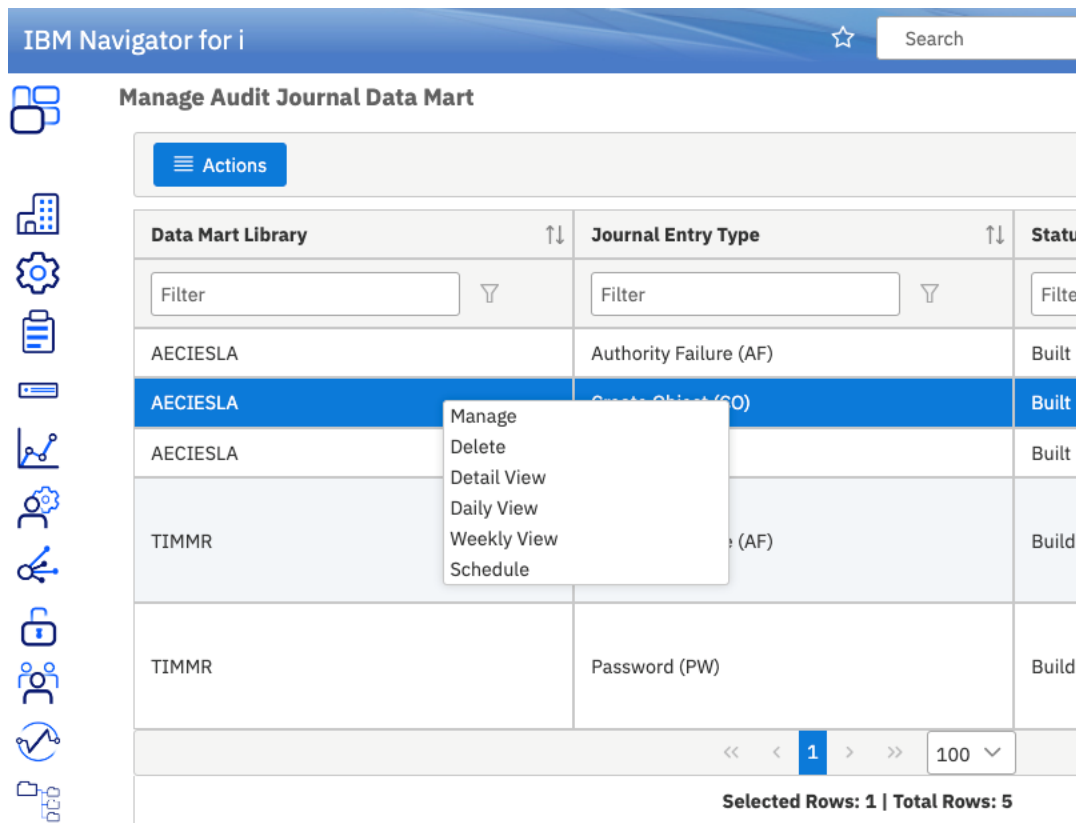
New Datamart!

- Consolidate Audit entries across many days to enable fast graphing and inspection
- Pay attention to Audit info to spot trends and security concerns

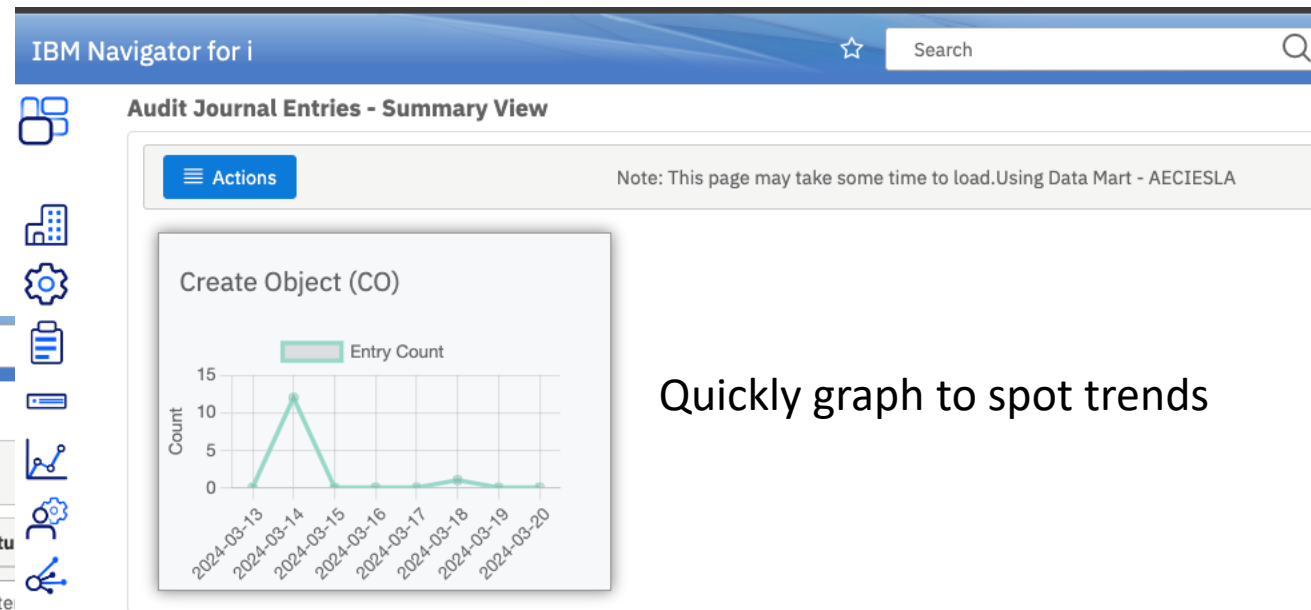


Navigator – Audit Journals Like Never Before!

Create a data mart for each audit type of interest



Data Mart Library	Journal Entry Type	Status
Filter	Filter	Filter
AECIESLA	Authority Failure (AF)	Built
AECIESLA	Create Object (CO)	Built
AECIESLA		Built
TIMMR	(AF)	Building
TIMMR	Password (PW)	Building



Audit Journal Entries - Summary View

Note: This page may take some time to load. Using Data Mart - AECIESLA

Create Object (CO)

Entry Count

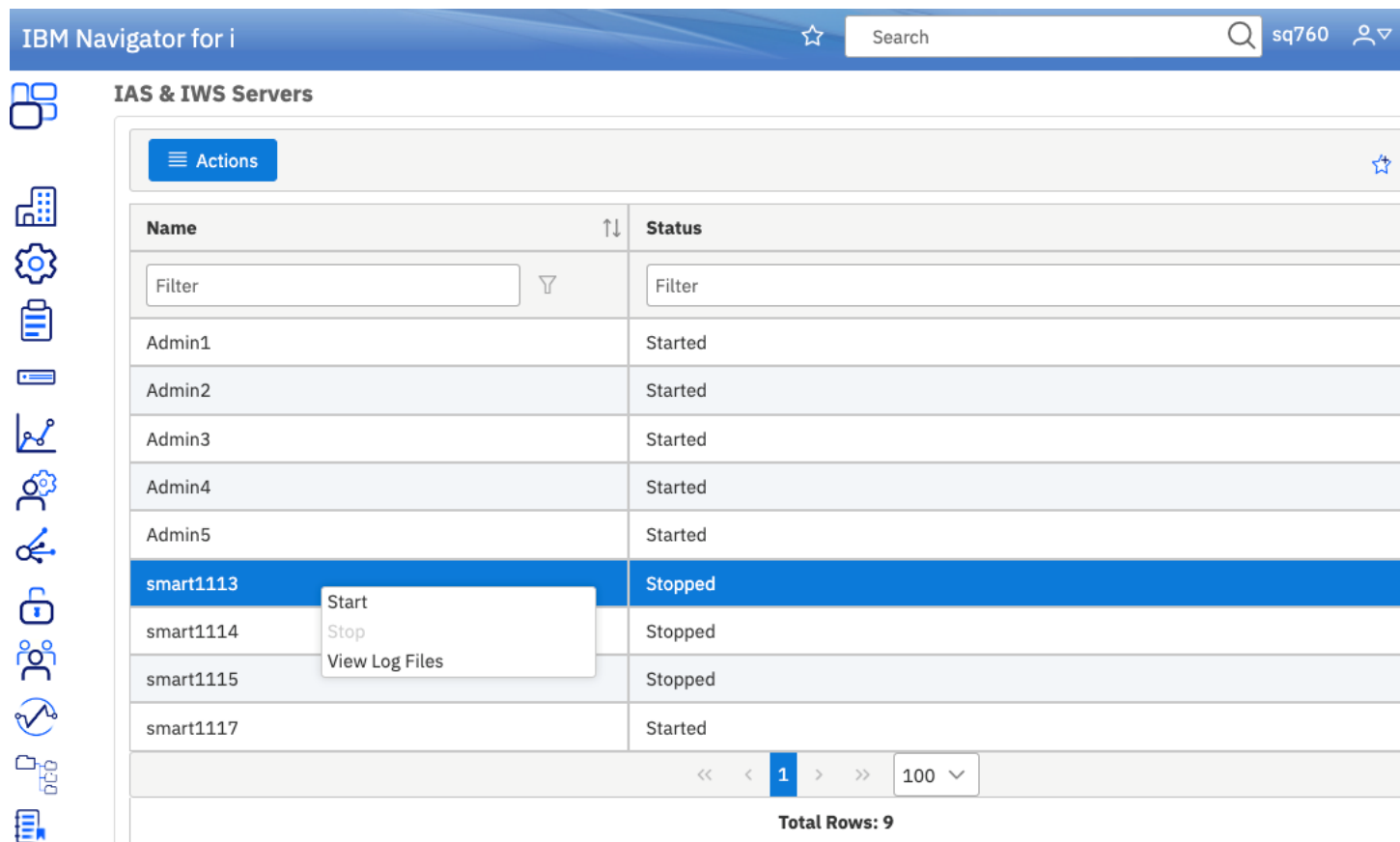
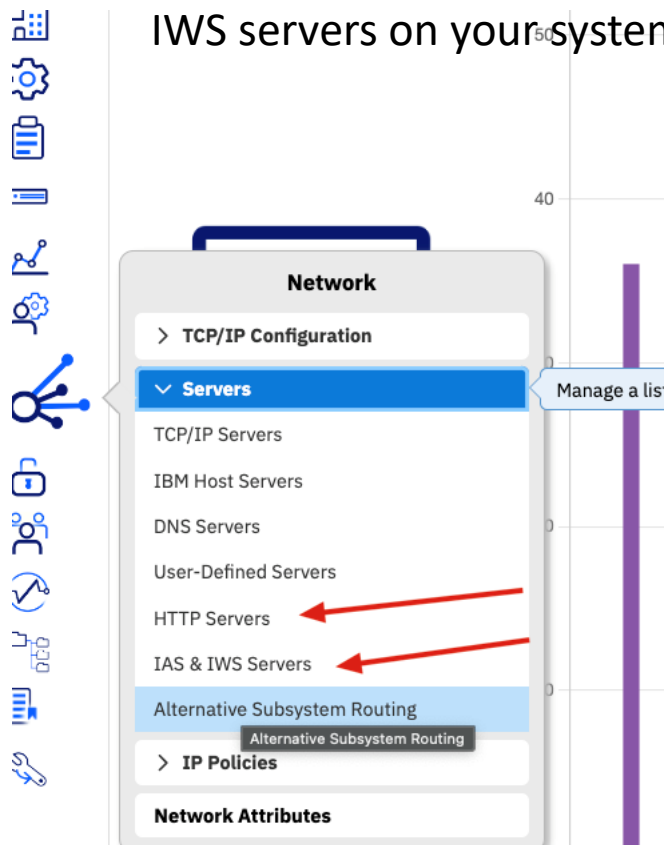
Date	Entry Count
2024-03-13	0
2024-03-14	12
2024-03-15	0
2024-03-16	0
2024-03-17	0
2024-03-18	1
2024-03-19	0
2024-03-20	0

Quickly graph to spot trends

View details to see what is causing the trends

HTTP, IAS and IWS Server Management

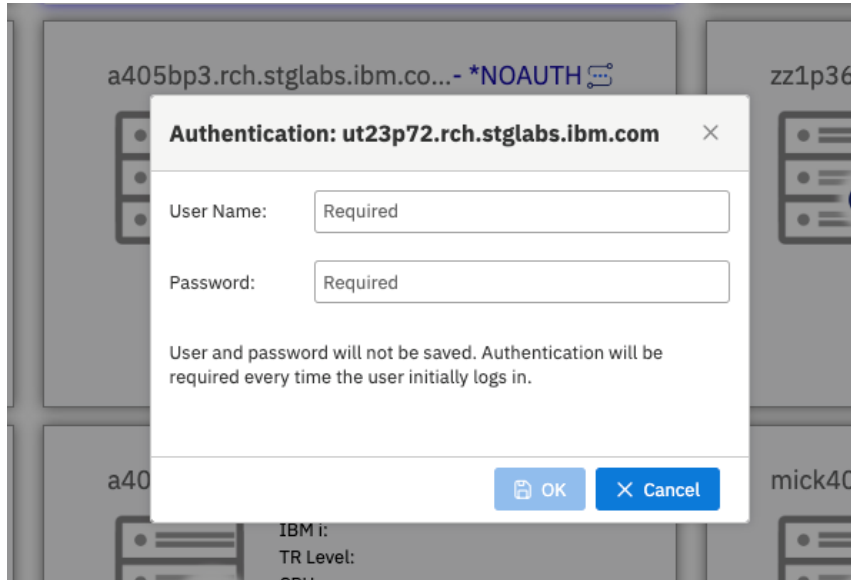
See all the HTTP, IAS, and IWS servers on your system



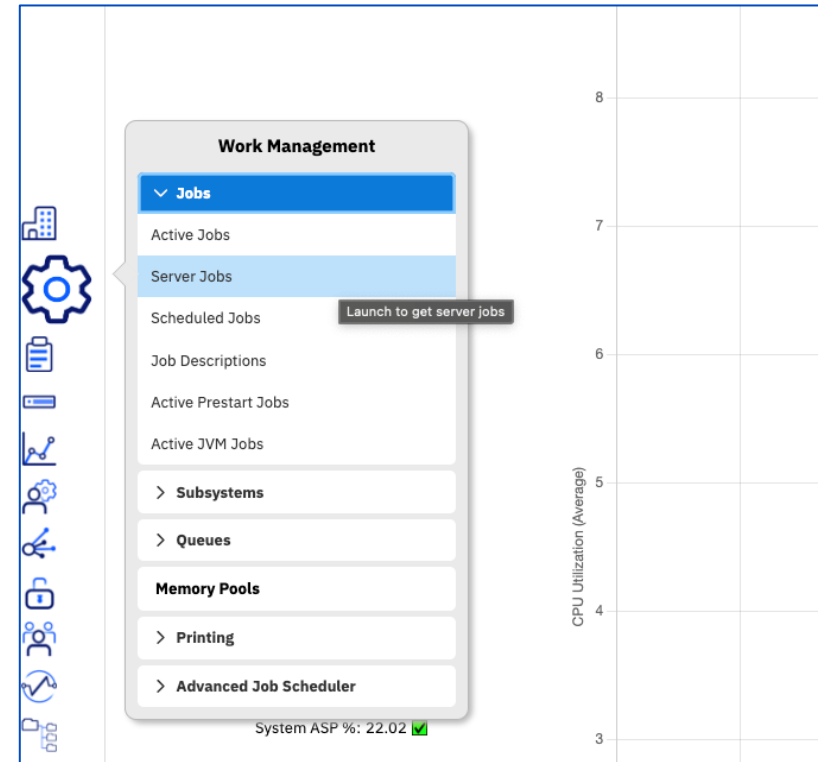
Name	Status
Admin1	Started
Admin2	Started
Admin3	Started
Admin4	Started
Admin5	Started
smart1113	Stopped
smart1114	Stopped
smart1115	Stopped
smart1117	Started

Manage the servers all from Navigator

Updated Angular Infrastructure – Cleaner Look



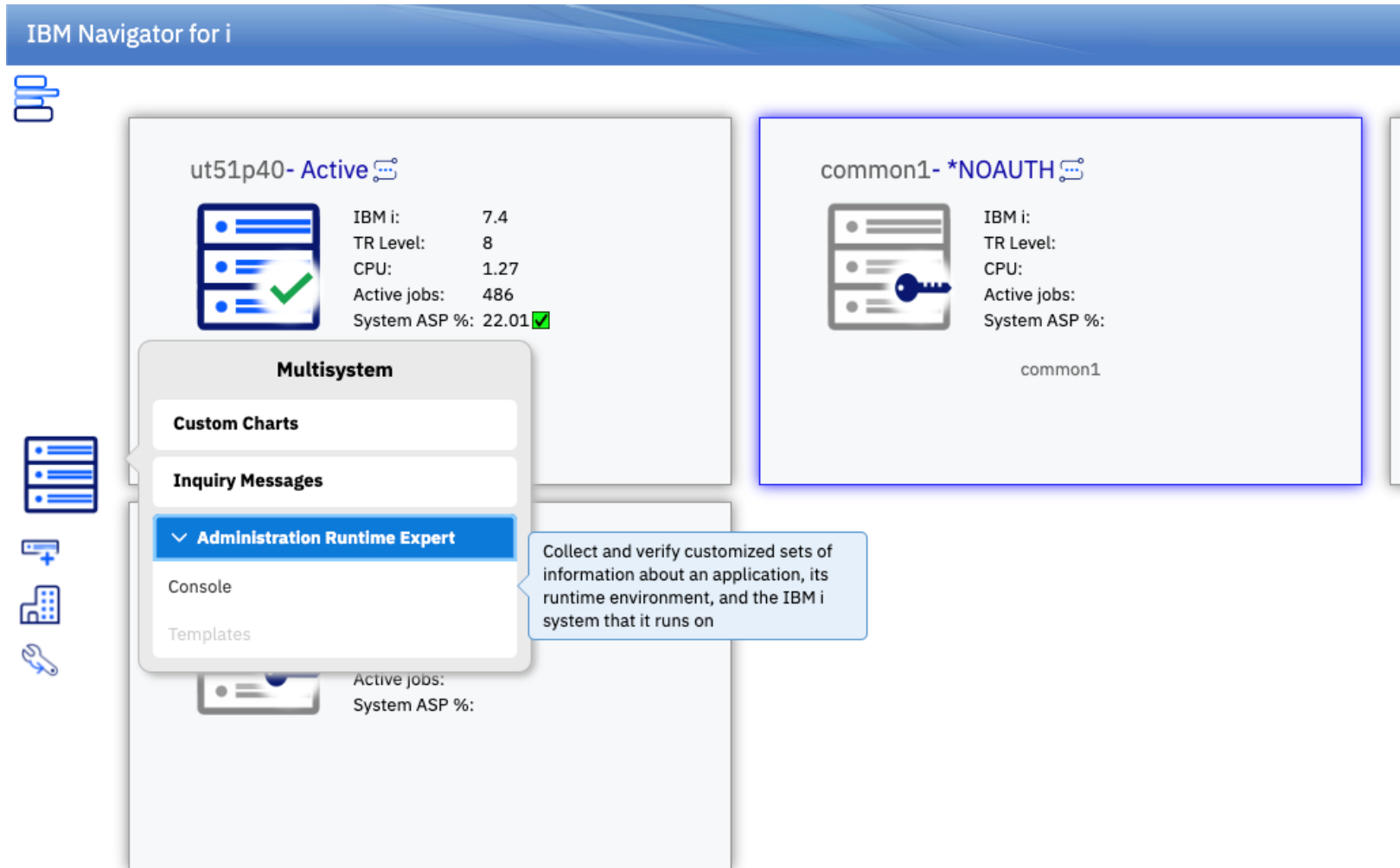
Cleaner prompt for authenticating to an IBM i node



Cleaned up left nav menu

ARE – Console support built into Navigator

IBM Navigator for i



ut51p40- Active

IBM i:	7.4
TR Level:	8
CPU:	1.27
Active jobs:	486
System ASP %:	22.01 <input checked="" type="checkbox"/>

common1- *NOAUTH

IBM i:	
TR Level:	
CPU:	
Active jobs:	
System ASP %:	

common1

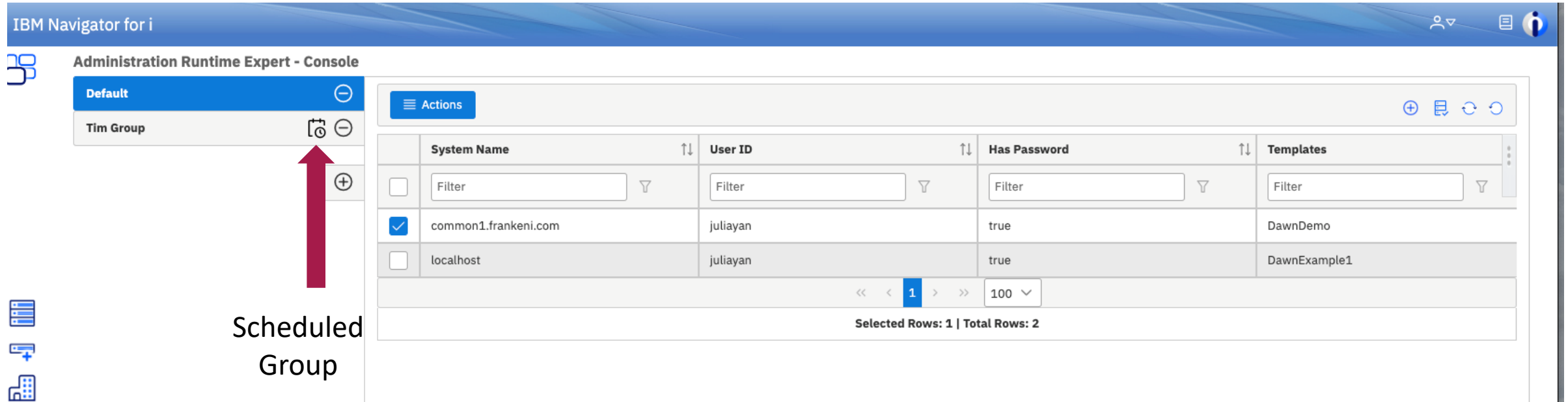
Multisystem

- Custom Charts
- Inquiry Messages
- Administration Runtime Expert**
- Console
- Templates

Active jobs:
System ASP %:

Collect and verify customized sets of information about an application, its runtime environment, and the IBM i system that it runs on

ARE – Run Template



IBM Navigator for i

Administration Runtime Expert - Console

Default

Tim Group

Actions

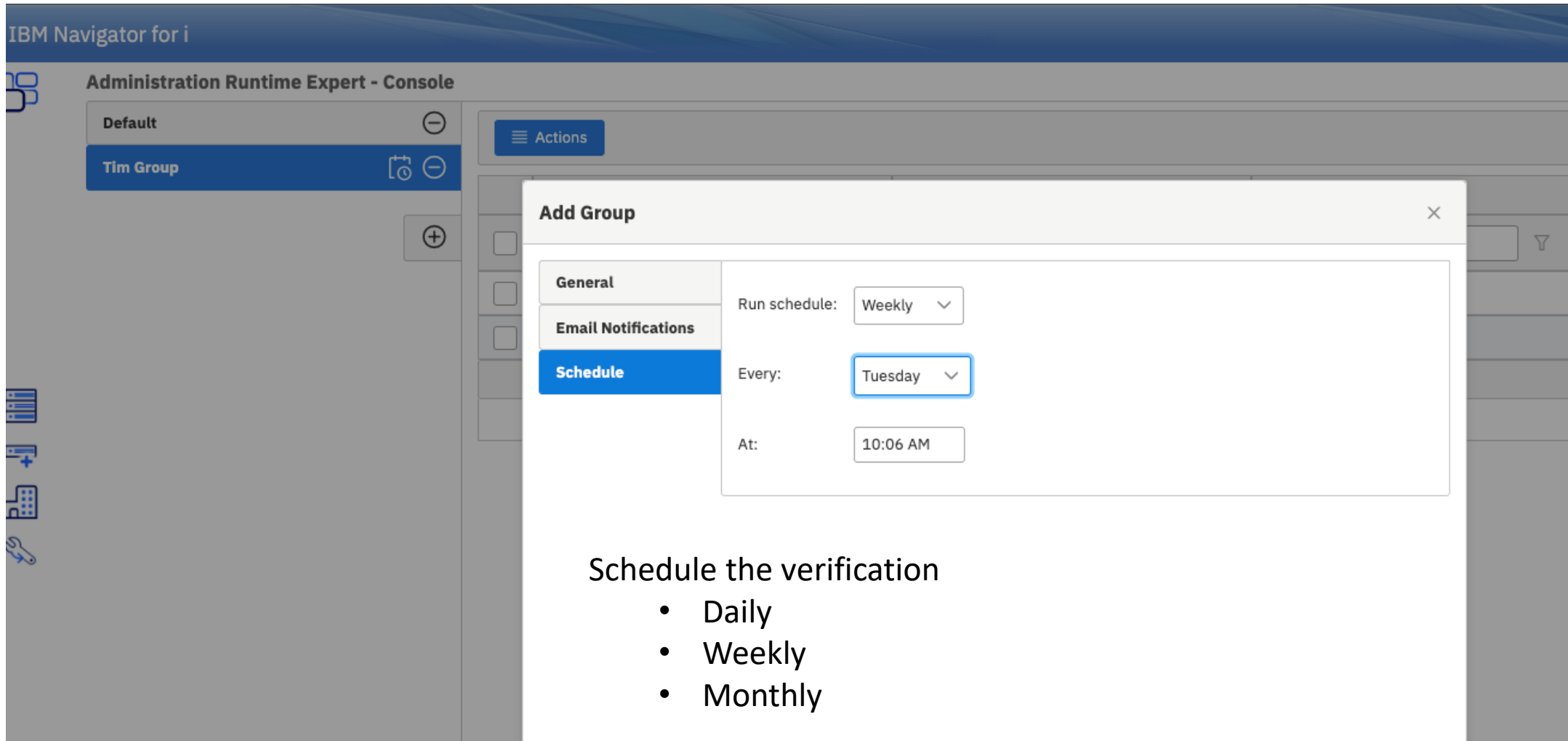
	System Name	User ID	Has Password	Templates
<input type="checkbox"/>	Filter	Filter	Filter	Filter
<input checked="" type="checkbox"/>	common1.frankeni.com	juliayan	true	DawnDemo
<input type="checkbox"/>	localhost	juliayan	true	DawnExample1

Selected Rows: 1 | Total Rows: 2

Scheduled Group

Add Group of Systems and Templates to Verify

ARE – Schedule a Verification



The screenshot shows the IBM Navigator for i Administration Runtime Expert - Console interface. A dialog box titled "Add Group" is open, with the "Schedule" tab selected. The dialog contains the following fields:

- Run schedule: Weekly
- Every: Tuesday
- At: 10:06 AM

Schedule the verification

- Daily
- Weekly
- Monthly

Schedule now tied to Admin1. Restart Admin1 and Scheduled Verifications are resumed

ARE – Details and Fix Actions



Actions

Console > Verify Systems

System Name	User ID	Templates	Status	Result	Core Version
Filter	Filter	Filter	Filter	Filter	Filter
common1.frankeni.com	JULIAYAN	DawnDemo	Complete	1057 error(s), 2 warning(s), 2 info	1.6.33

Plugin Name	Attributes Verified	Errors	Warnings	Info	Action
Authority Verifier	2466	76	0	0	Fixes
Command Verifier	16	1	0	0	Details
Configuration Attribute Verifier	31	4	0	0	Details
DisabledUserProfiles	0	1640	0	0	Fixes
File Attribute Verifier	1495	207	0	0	Details
FirmwareStatus	0	0	0	0	
NetServerFileShares	0	1	0	0	Details
Network Configuration Checker	0	0	0	0	
Network Verifier	0	0	0	0	
PTF Verifier	43	11	0	0	Fixes
Port Verifier	4	0	0	0	
Product Verifier	11	3	0	0	Details
SQL Query Verifier	20	5	2	0	Details
System Value Verifier	22	6	1	1	Details
User Profile Verifier	120	2	0	0	Fixes
Verify Collection Services Configuration	0	1	0	1	Details

DisabledUserProfiles - Fixes

Details

Fixes

Result	Description
<input checked="" type="checkbox"/>	Filter
<input checked="" type="checkbox"/>	Enable user AARONC, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user AATIM, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN01, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN02, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN03, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN04, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN05, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN06, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN07, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN08, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN09, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN10, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN11, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN12, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN13, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN14, reset the password, then set the password as expired
<input checked="" type="checkbox"/>	Enable user ACADMN15, reset the password, then set the password as expired

Total Rows: 820

[Fix Selected](#) [Close](#)



Scheduled Jobs – Submit Immediately



Scheduled Jobs

Actions

Scheduled Job Name	Next Submission Date	Scheduled Time	Command String	User Profile For Submitted Job	Scheduled Days	Scheduled Date	Frequency
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
QJSJHEARTBT	2024-02-14	01:59:00 PM	CALL PGM(QSYS/QJSJHEARTBT)	LDB	*ALL		*WEEKLY
QS9SACOL	2024-02-14	02:29:00 PM	QSYS/WRKSRVAGT TYPE(*SRVIN) COLS RVINF(*YES) SNDSRVINF(*YES) SRVIN(*ALL)	LDB	*ALL		*WEEKLY
COOLALLOBJ	2024-02-14	11:55:00 PM	RUNSQL SQL('call carolnew.maintain_allobj_users0') COMMIT(*NONE) NAMING(*SQL)	CWOODBURY	*ALL		*WEEKLY
COOLALLOBJ		11:55:00 PM	RUNSQL SQL('call coolstuff.maintain_journal_size_tracker0') COMMIT(*NONE) NAMING(*SQL)	SCOTTFF	*ALL		*WEEKLY
DAWNSPACE	2024-02-14	11:55:00 PM	RUNSQLSTM SRCSTMF('/home/SCOTTFF/capture_dawns_object_info.sql') COMMIT(*NONE)	SCOTTFF	*ALL		*WEEKLY
PROFACT	2024-02-14						*WEEKLY
SCOTTSS1	2024-02-14	11:55:00 PM	RUNSQL SQL('call coolstuff.create_and_email_top100') COMMIT(*NONE) NAMING(*SQL)	SCOTTFF	*ALL		*WEEKLY

- Change
- Hold
- Release
- Remove
- Job Log
- Submit immediately

Basic System Scheduled Jobs Interface - Submit a Scheduled Job Immediately



Advanced Job Scheduler – IASP Support

IBM Navigator for i ☆ Search

Advanced Job Scheduler - Properties

- General
- Schedules
- Job Controls/Applications
- Library Lists
- Command Variables
- Permissions
- Data Libraries
- Systems & Groups
- Users
- Calendars

IBM Advanced Job Scheduler 7.2.4 for IBM i

Data library: QUSRIJSGAL - GALAXY

Scheduler: QUSRIJS - QUSRIJSGAL - GALAXY

Activity retention: QUSRIJSSW - STARWARS QUSRIJSS2 - STARWARS

Days C

Reserved period

Specify a reserved period

Start date: 02/14/2024


Start time: 10:20

End date: 02/14/2024

End time: 10:20

Job monitor user: QIJS

Notification command: Use send-distribution ...

IASP: 

Monitor status: Inactive

Log retention (days): 180

Working days

- Sunday
- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday

What's New for RPG in Spring 2024



New options for SND-MSG

PTFs for 7.4 and 7.5
- Spring 2024

New message types for SND-MSG

- *COMP - New
- *DIAG - New
- *ESCAPE
- *INFO
- *NOTIFY - New
- *STATUS - New

```
snd-msg *comp 'Order processed successfully';
```

New options for SND-MSG

New targets for SND-MSG

- *CALLER
- *CTLBDY - **New**, send to the activation group boundary
- *EXT - **New**, send to the external message queue
- *SELF
- *PGMBDY - **New**, send to the program boundary

Send a message to the caller of the current program:

```
snd-msg *escape order_num + ' not found'  
      %target(*pgmbdy : 1);
```

New options for SND-MSG

PTFs for 7.4 and 7.5
- Spring 2024

A *STATUS message sent to *EXT displays at the bottom of the interactive screen.

```
for i = 1 to num;  
  ...  
  if %rem(i : 10) = 0; // Show a message after every 10  
    snd-msg *status %char(i) + ' of ' + %char(num) + ' complete'  
          %target(*ext);  
  endif;  
endfor;
```

```
Selection or command  
==> call process
```

```
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel  
F23=Set initial menu  
11340 of 100000 complete.
```

Constant standalone fields and data structures

PTFs for 7.4 and 7.5
- Spring 2024

The CONST keyword is supported for variables

A constant field cannot be modified by the program after it is initialized

For data structures, it is only supported for the entire data structure

- An individual subfield cannot be defined as constant

Constant standalone fields and data structures

PTFs for 7.4 and 7.5
- Spring 2024

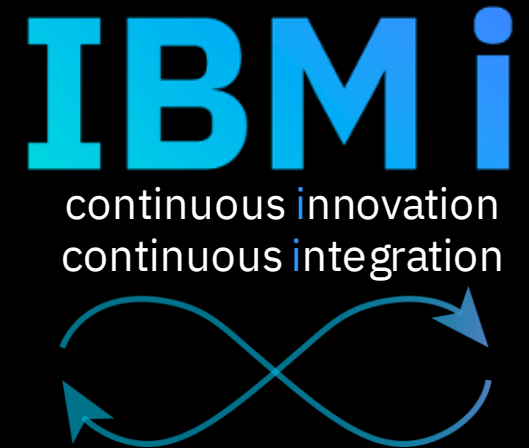
The "usrprf" subfield of the "defaults" data structure is initialized to the current user profile
It cannot be changed any further by any RPG statements

```
DCL-DS defaults QUALIFIED CONST;  
  usrprf CHAR(10) INZ(*USER);  
  branch VARCHAR(50) INZ('Main');  
END-DS;
```

The "startTimestamp" field is initialized to the current timestamp when the procedure starts.
It cannot be changed any further by any RPG statements

```
DCL-S startTimestamp TIMESTAMP INZ(*SYS) CONST;
```

PowerHA enhancements



PowerHA SystemMirror IBM i announced 04/11/23

Client Value	Capability being delivered.	Unique value
Non disruptive hardware upgrades and off-line backups when using multi-target Geographic Mirroring	Multi-target Geographic Mirroring on prem, hybrid, or cloud to cloud, up to 6 nodes for PowerHA 7.5	Example; customer can migrate to new pods in PowerVS non-disruptively, customer can detach a copy for off-line backup operations
Continuous availability of production data during resynchronization of a failed node	While one node is being synchronized the other nodes remain active in the HA/DR replication process	Maintain HA/DR cluster after a hard crash of one of the nodes in a multi-target Geographic Mirroring cluster
Non disruptive geographic mirroring configuration changes	Capability to change from synchronous mode to asynchronous mode without impacting the production workload	Continuous operations during a change in replication mode
Enable access to data on secondary nodes for diagnostics or for save operations	Enable detach of secondary volumes when network replication is suspended	Customer can access data on a secondary node whether network is down planned or unplanned
Simplified access to cluster health status detail via the new Graphical UI	UI will present diagnostic information without the user having to perform multiple steps	Integrated, simple health monitoring and information presentation via a modern graphical user interface

PowerHA SystemMirror IBM i 4.12.2 & 5.6.2 announce 05/07/24

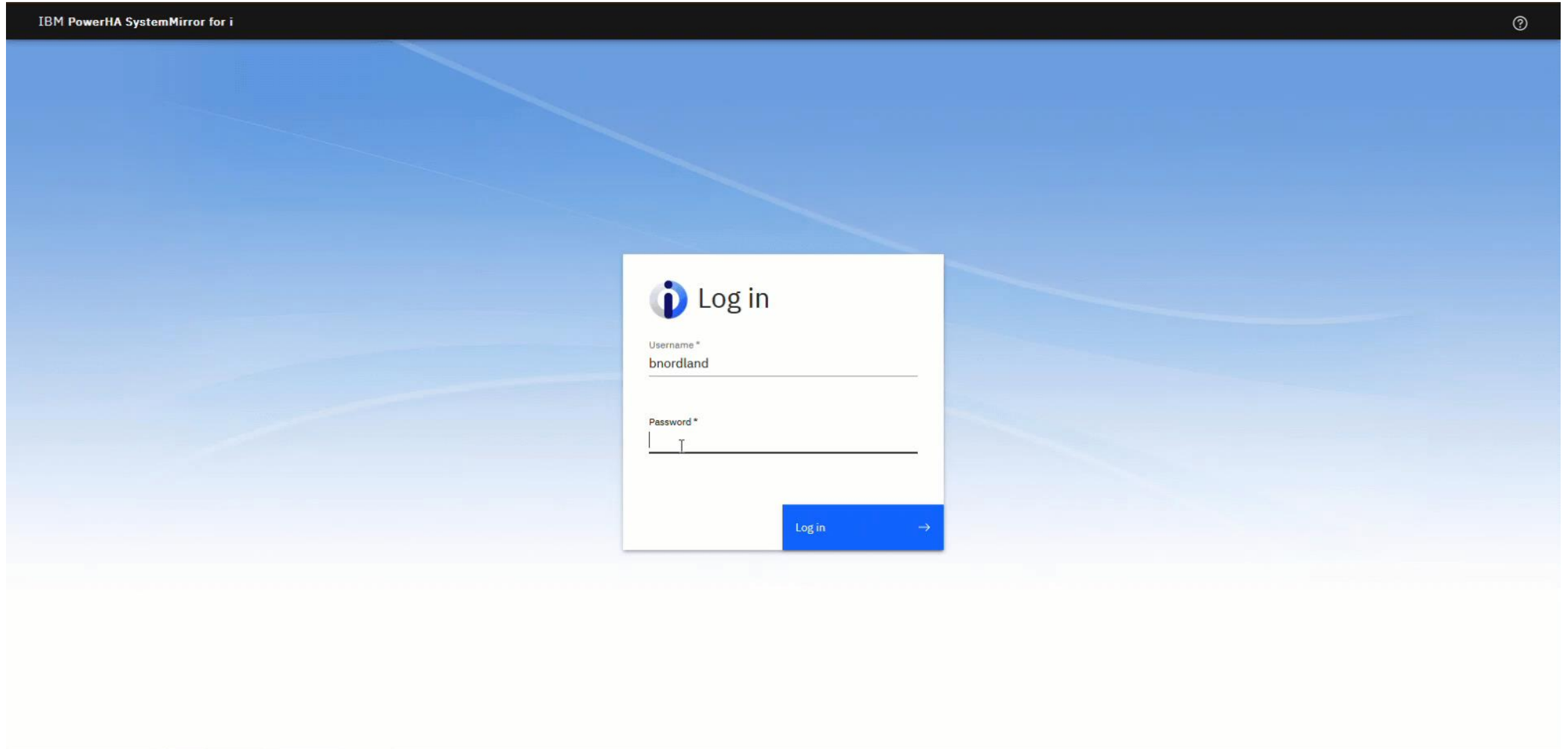
Client Value	Capability being delivered.	Unique value
PowerHA automatically detects asynchronous policy-based enabling the use of the same configuration and management commands.	PowerHA IBM i support for IBM FlashSystem asynchronous policy-based Replication	Automation
Ease of use enhancement requested by customers	Synchronization of resources when changes occur with adopted authority	Automation
Expands admin domain eliminating manual synchronization processes	Admin Domain synchronization of SNMPv3 attributes on printer device descriptions, including the SNMP username (SNMPUSR) and SNMP context name (SNMPCNTX) attributes	Automation
Eliminates a previously manual operations	Add multiple user profiles based on selection criteria, simplifies the ability to omit IBM profiles	Automation
Expanded cluster health monitoring	Additional SQL for retrieving PowerHA information programmatically including the ability to retrieve HyperSwap status	Ease of monitoring

PowerHA SystemMirror IBM i 4.12.2 UI announce 05/07/24 continued

Client Value	Capability being delivered.	Unique value
<p>Up and coming IT administrators will likely be using the UI verse CL</p>	<p>Cluster management via PowerHA GUI</p>	<p>Single pane of glass for PowerHA cluster monitoring and management</p>
	<p>Start and end cluster nodes</p>	
	<p>Administrative domain management, including:</p> <ul style="list-style-type: none"> • Start and end administrative domains • Add and remove monitored resources 	
	<p>Manage switchable environments</p> <ul style="list-style-type: none"> • Start and end cluster resource groups • Perform administrative switchovers and failovers • Manage replication sessions with the ability to suspend, resume, detach, and reattach replication 	

[IBM PowerHA SystemMirror for i](#)

A quick look at the PowerHA for IBM i UI



<https://www.youtube.com/watch?v=liH1LEXCIfs>

PowerHA Modern Web Interface



- Overview
- Cluster Nodes
- Administrative Domains ^
- ADMDMN
- Switchable Environments**

Overview / Switchable Environments

Cluster Resource Group ↑	Session	CRG Status	Copy Status	Primary Node	
SVCGMIRCRG	SVCGMIRSSN	Active	Suspended	NODEA	

Rows per page: 10 1-1 of 1

PowerHA SQL Services

IBM PowerHA SystemMirror for i | BRIAN

Overview / Administrative Domains / ADMDMN

Administrative Domain Information

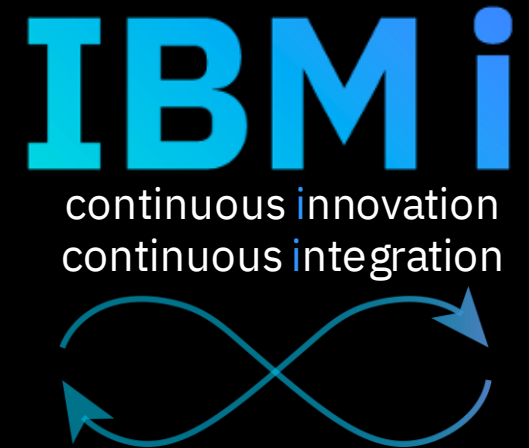
Status	Active
Synchronization Option	Last change
Nodes	5

Monitored Resources

Search [] Monitored Resource [] SQL [] Add +

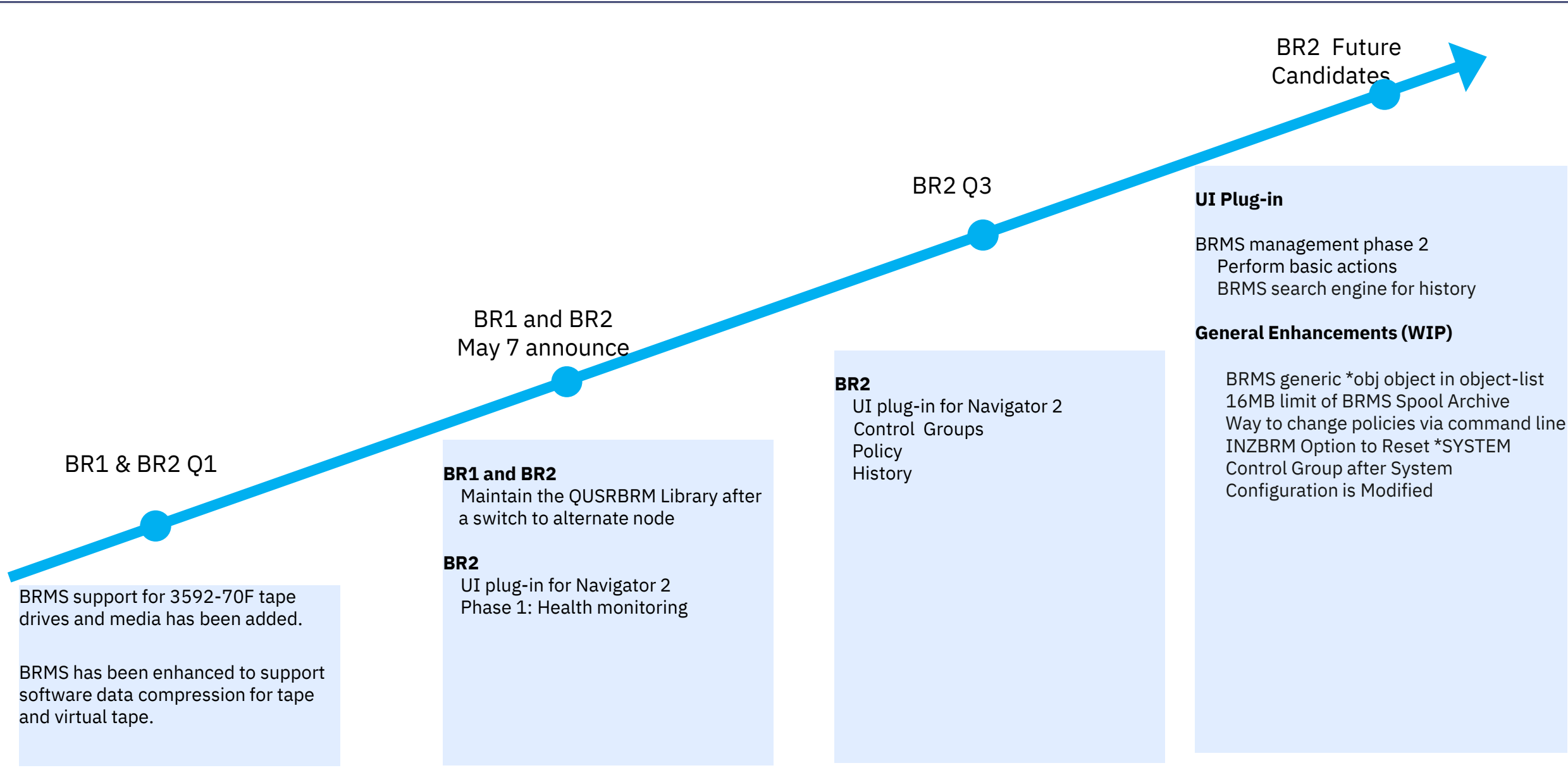
<input type="checkbox"/>	Monitored Resource	Type	Library	Global Status	
<input type="checkbox"/>	PMAADMIN	*AUTL	QSYS	Consistent	
<input type="checkbox"/>	PTADMIN	*AUTL	QSYS	Consistent	
<input type="checkbox"/>	GOANYWHERE	*CLS	GOANYWHERE	Consistent	
<input type="checkbox"/>	PMASBS	*CLS	PMASBS	Consistent	

BRMS enhancements



	Non-expiring	Subscription Term
Backup, Recovery and Media Services (BRMS)	<p>5770-BR1 BRMS SWMA is covered under IBM i group SWMA</p> <p>Per server, price based on tier</p> <p>Base feature required; Advanced & Network features optional</p> <p>Price: 0812 P05 OTC base - \$1,060 0813 P10 OTC base - \$2,120 0815 P20 OTC base - \$6,360 0818 P30 OTC base - \$12,720</p> <p>0861 P05 Advanced - \$382 0862 P10 Advanced - \$763 0863 P20 Advanced - \$2,290 0864 P30 Advanced - \$4,579</p> <p>0898 Network feature - \$954/system</p>	<p>5770-BR2 License & SWMA combined</p> <p>Per core: One price regardless of tier</p> <p>90 day or 1/2/3/4/5-year terms</p> <p>Consolidate Base & Advanced & Network features – all are provided on one order</p> <p>Price: Price/core: \$400/core/year (in addition, buying one-year term has 15% premium)</p> <p>IBM i 7.4 or 7.5</p>

BRMS Roadmap



For more information:

IBM PowerHA System Mirror <https://www.ibm.com/products/powerha>

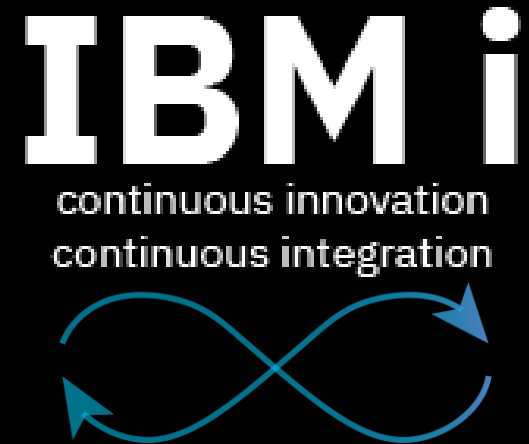
Introduction to PowerHA – IBM Developer <https://developer.ibm.com/articles/au-powerhaintro/>

IBM PowerHA System Mirror for i wiki <https://helpsystemswiki.atlassian.net/wiki/spaces/IWT/pages/163577866/Welcome+to+PowerHA+SystemMirror+for+i>

BRMS wiki <https://helpsystemswiki.atlassian.net/wiki/spaces/IWT/pages/165642461/Welcome+to+IBM+Backup+Recovery+Media+Services+BRMS+for+i>

Linkedin PowerHA for AIX <https://www.linkedin.com/groups/8413388/>

IBM Cryptographic Hardware Initialization and Maintenance (CHIM)

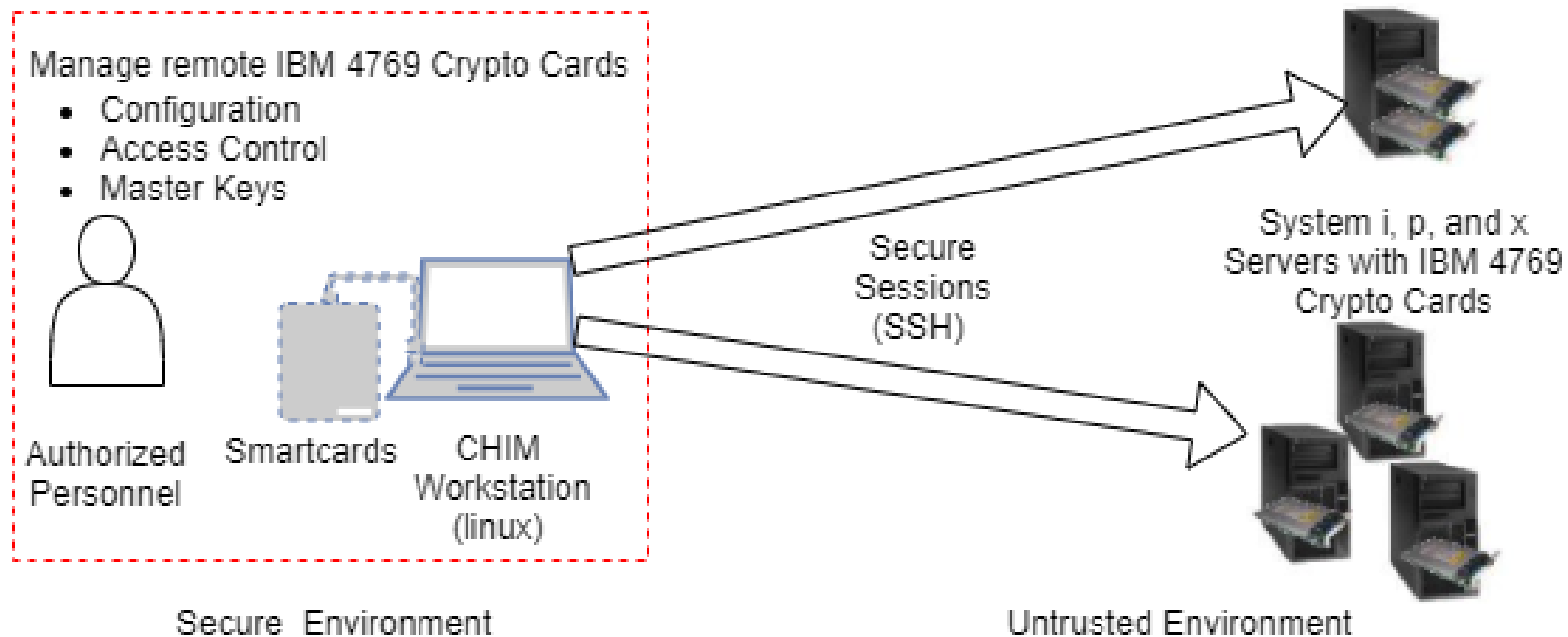


IBM Cryptographic Hardware Initialization and Maintenance (CHIM)

CHIM is PCI-compliant interface to configure the IBM 4769 Cryptographic Coprocessor

The CHIM workstation connects via secure sessions to the cryptographic coprocessors to let authorized personnel perform the following tasks:

- View coprocessor status
- View and manage coprocessor configuration
- Manage coprocessor access control (user roles and profiles)
- Generate and load coprocessor master keys
- Create and load operational key parts



With CHIM you can from a central trusted location securely manage remote IBM PCIe Cryptographic Coprocessors located in IBM i Power Systems in a hostile environment. Management tasks are done using a specialized workstation, the CHIM workstation. CHIM uses smart cards for profile authentication and storage of coprocessor master key parts.

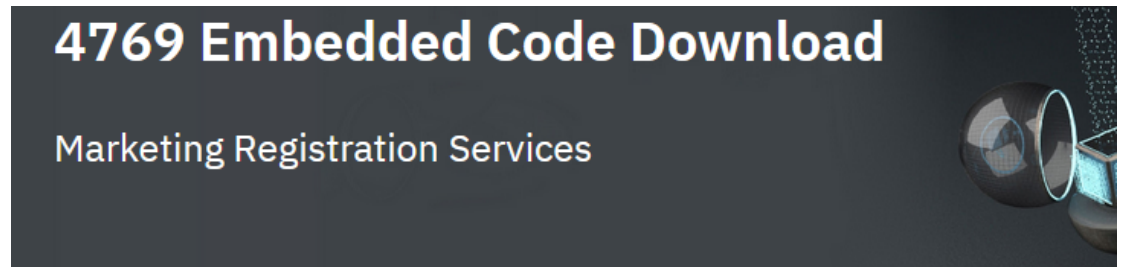
IBM Cryptographic Hardware Initialization and Maintenance (CHIM)

IBM i CHIM “Catcher”

- IBM i Common Cryptographic Architecture Cryptographic Service Provider (CCA CSP), delivered as IBM i Option 35, will include the support for IBM Cryptographic Hardware Initialization and Maintenance (CHIM) Catcher. This support is provided with IBM i PTFs, which will be available by June 15th, 2024.

CHIM Workstation Client

- Download the CCA Linux install media from [4769 Embedded Code Download - 4769 Embedded Code Download for 7.x]
https://www.ibm.com/resources/mrs/assets/packageList?source=4769ecdI&lang=en_US



4769 Embedded Code Download

Marketing Registration Services

Downloads

To properly configure your download, please review the information below. Select the appropriate offering and press the "Continue" button at the bottom.

Show entries Search:

Select	Offering	Platform	Language
<input type="radio"/>	Publications and Documentation 7.x View License Agreement	Supported Platforms	English
<input type="radio"/>	4769 Embedded Code Download for 7.x	Supported Platforms	English

IBM i Conversion

IBM i Product Management

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IBM i

continuous innovation
continuous integration



IBM

Announcement April 2: Conversion Pricing

IBM i Licensing Options as of May 7, 2024

Effective May 7, 2024, clients who acquire new specific IBM Power10 processor-based servers at IBM i P05 and P10 software tiers will have the following IBM i Licensing options:

- Acquire or renew IBM i Subscription Term licenses, or
- Convert IBM i non-expiring licenses to IBM i Subscription Term license at a lower-priced subscription term option.

→
April 2
prices
announced

- Active SWMA on the donor is required.
- Transfer of IBM i non-expiring licenses is not supported.
- Conversion pricing applies for 3-year, 4-year, 5-year Subscription Terms.

The specific IBM Power10 processor-based servers at IBM i P05 and P10 software are:

- IBM Power S1014 (9105-41B) 4-core processor (P05 software tier)
- IBM Power S1014 (9105-41B) 8-core processor (P10 software tier)
- IBM Power S1022 (9105-22A) (P10 software tier)
- IBM Power S1022s (9105-22B) (P10 software tier)

[April 2, 2024 announcement: Conversion pricing is announced](#)

P05 Subscription & Conversion Updates

- Offer a one-time Unlimited Users conversion offering to deliver investment protection for clients
 - Conversion pricing applies when acquiring 3, 4, or 5 year terms
- Offering updates:
 - Simplified user options to 10 User packs (from 5 User packs previously)
 - Lowered the Unlimited Users price to align with 50 users from 75 users
 - Clients purchasing P05 Unlimited Users will realize 10-40% savings
- Clients buying new subscriptions will see lower prices on 3-year subscription purchase.
 - Active SWMA on the donor is required.
- Conversion offering results in only a 14% price increase (\$1438) for 3 years; 36% increase (\$5280) for 5-year purchase

Feature	Non-Expiring	Subscription	Conversion 3/4/5 years
IBM i OS processor license per core	\$3,315	\$2,356	No change in price
Users	(5 users) \$1,590	(10 users) \$800	No change in price
Unlimited Users	\$23,850	\$4,000 (price effective May 7*)	\$1,600

Notes:

- USD list prices shown

*IBM’s plans can change without notice.

P10 Subscription & Conversion Updates

- Offer a one-time conversion offering to deliver investment protection for clients
 - Conversion applies when acquiring 3, 4, or 5 year terms
- Offering Updates:
 - Conversion offering delivers core pricing of \$7140
 - 10 user price of \$100
 - Unlimited Users at \$2000
- Conversion provides customers with significant investment protection compared to subscription
- Clients buying new subscriptions will see lower prices on 3-year subscription purchase.
 - Active SWMA on the donor is required.

Feature	Non-Expiring	Subscription	Conversion 3/4/5 years
IBM i OS processor license per core	\$15,895	\$8,925	\$7,140
Users (blocks of 10)	\$3,180	\$800	\$100
Unlimited Users	\$63,600	\$16,000	\$2,000

- Notes:
- USD list prices shown

IBM i Transformation FAQ

Refer to [IBM i Transformation FAQ](#) (on [IBM i License Topics](#)): this document will continually be updated.

Changes to any policies or plans will be announced in an IBM announcement letter and then updated in the [IBM i Transformation FAQ](#) .

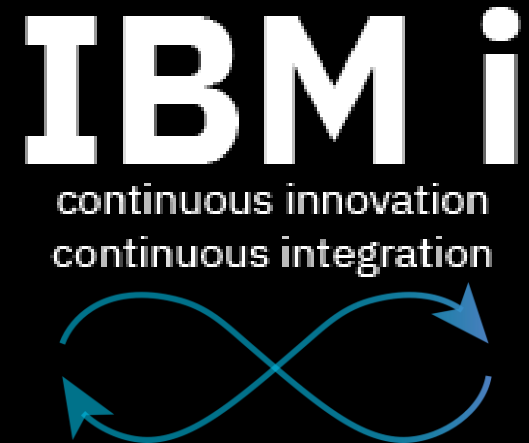
Pricing Announcements

- [Announce April 2, 2024, Worldwide: IBM i Subscription conversion pricing](#)
 - o Effective date: April 2
- [Announce April 2, 2024, for Europe: decrease prices for IBM i Subscription](#)
 - o Effective date: April 9

IBM Power S1012 (9028-21B)

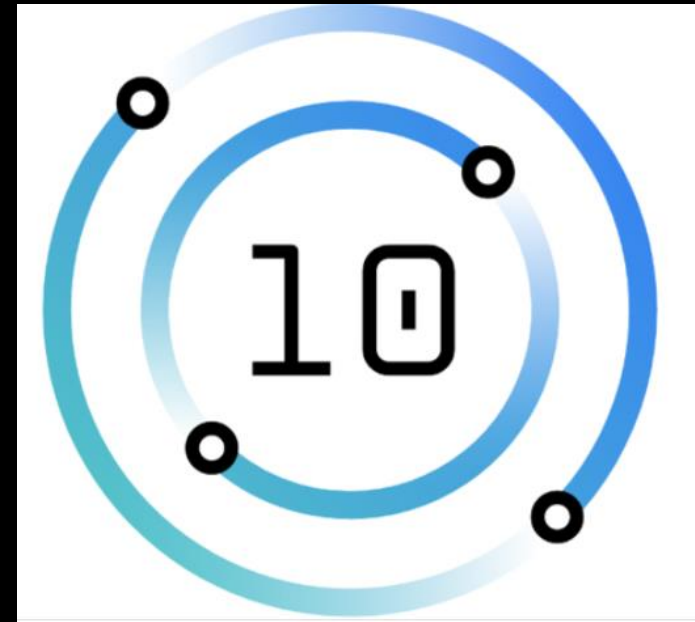
Daniel Goldener - Daniel.Goldener@ibm.com
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Douglas Gibbs - douglasg@ca.ibm.com
IBM i Product Manger, Program Director



<https://newsroom.ibm.com/Blog-New-IBM-Power-server-extends-AI-workloads-from-core-to-cloud-to-edge-for-added-business-value-across-industries>

IBM Power S1012 (9028-21B)










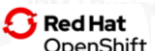


Delivering Cloud-to-Edge Excellence on Scale-Out Systems

IBM / Business Partners – Confidential

Confidential until July 12th, 2022

IBM / Business Partners – Confidential

Edge Computing <ul style="list-style-type: none"> Up to 8 cores and 256 GB memory footprints Reduced IT footprint Fully active, static servers 	Mainstream Computing <ul style="list-style-type: none"> Up to 16 cores and 2TB memory footprints <ul style="list-style-type: none"> Up to 32% perf/price increase vs. P9 <ul style="list-style-type: none"> Fully active, static servers Lower technical requirements and competitive deals 		Core Computing <ul style="list-style-type: none"> Up to 48 cores and 8TB memory footprints <ul style="list-style-type: none"> Up to 1.4x system performance vs. P9 Dynamic Capacity consumption with CUoD and PEP2.0 Value-driven solutions and higher technical standards 		Cloud Computing <ul style="list-style-type: none"> Unlimited cores and memory Dynamic Capacity Computing aaS
<p>S1012 9028-21B</p>  <ul style="list-style-type: none"> 1-socket, 2U, half-wide Up to 8 cores per system 1, 4, 8 SMT8 cores/socket 4 ISDIMM slots 256 GB memory 4 PCIe HHHL slots (All Gen5) 4 NVMe U.2 bays Max of 6.4 TB of internal storage Optional Internal RDX Media Bay Rack and Tower form factors 	<p>S1014 9105-41B</p>  <ul style="list-style-type: none"> 1-socket, 4U Up to 24 cores per system 4, 8, 24 SMT8 cores/socket 8 DDIMM slots 1 TB memory 5 PCIe FHHL slots (4 Gen5) 16 NVMe U.2 bays Max of 102.4 TB of internal storage Optional Internal RDX Media Bay Rack and Tower form factors 	<p>S1022s 9105-22B</p>  <ul style="list-style-type: none"> 1,2-socket, 2U Up to 16 cores per system 4, 8 SMT8 cores/socket 16 DDIMM slots 2 TB memory 10 PCIe HHHL slots (8 Gen5) 8 NVMe U.2 bays Max of 51.2 TB of internal storage 	<p>S1022 & L1022 9105-22A / 9786-22H</p>  <ul style="list-style-type: none"> 1,2-socket, 2U Up to 40 cores per system 12, 16, 20 SMT8 cores/socket 32 DDIMM slots 4 TB memory 10 PCIe HHHL slots (8 Gen5) 8 NVMe U.2 bays Max of 51.2 TB of internal storage L1022: max 25% of cores with other OS 	<p>S1024 & L1024 9105-42A / 9786-42H</p>  <ul style="list-style-type: none"> 1,2-socket, 4U Up to 48 cores per system 12, 16, 24 SMT8 cores/socket 32 DDIMM slots 8 TB memory 10 PCIe FHHL slots (8 Gen5) 16 U.2 NVMe bays Max of 102.4 TB of internal storage Optional Internal RDX Media Bay L1024: max 25% of cores with other OS 	<p>PowerVS</p>  <ul style="list-style-type: none"> Delivered aaS off-premise Unlimited cores Unlimited memory Unlimited storage and I/O Add-on backup services including VTL
<p style="text-align: center;">     </p>					
<p style="text-align: center;">All PowerVM based servers</p>					

IBM Power S1012 1-Pager

- **P10 eSCM Feature**
 - 1x 8 BC (Rack only)
 - 1x 4 BC
 - 1x 1 BC (IBM i only)
 - Max socket power 240W
- **OMI Memory with DDR4 ISDIMMs**
 - 4 OCMB+ 4 ISDIMMs
 - 16GB, 32GB, 64GB, 102 GB/s peak
 - Max 256 GB capacity
- **Internal Storage**
 - 4x NVMe Slots
 - 0.8 TB, 1.6 TB NVMe 15mm U.2
 - Max 18W
 - 6.4 TB capacity max
 - Optional RDX
- **PCIe HHL Slots**
 - 2 PCIe G5 x8 / G4 x16 direct
 - 2 PCIe G5 x8 direct
- **Form factor**
 - Half-wide 2U rack
 - 26" system depth
 - Includes desk-side
- **Rack Shippable option**

MTM 9028-21B
GA June 2024

Rack and Desk-Side



No Disk Drawer
No support for IO Drawer

AIX and VIOS

- AIX73D+: AIX Version 7.3 with the 7300-01 Technology Level and Service Pack 2 (P10 mode)
- AIX72Z: AIX Version 7.2 with the 7200-05 Technology Level and Service Pack 8 (P9-compat mode)
- VIOS 4.1.0.20
- VIOS 3.1.4.40 (P9 mode)

IBM i

- IBM i 7.4 TR10
- IBM i 7.5 TR4

Linux

- RHEL 9.2

- **OS**
 - IBM i
 - 1 core is native only
 - 4 & 8 core are native or virtual client
 - AIX
 - Linux
- **Hypervisor**
 - PowerVM
- **RAS**
 - Concurrent maintenance on NVMe
 - No concurrent maintenance on PCIe adapters
 - Redundant cooling, concurrent maintenance supported
 - Redundant power, concurrent maintenance supported
 - (1+1) 800W CRPS PS, 110 or 220 VAC
 - Customer setup, install & repair
- **Energy Efficiency**
 - 80+ Titanium Power Supply Compliant
 - EPA Energy Star Compliant
 - Built-in Advanced Thermal & Power Management
- **Enterprise BMC**
 - Op-panel (Base), LCD op-panel (Featured)
 - 1 1GbE, 1 USB/UPS 2.0 (all rear)
- **Host I/O**
 - 2 USB 3.0 (front, internal for RDX)
- **System Management (optional)**
 - HMC/vHMC (not redundant), Novalink, PowerVC (rack only)
- **Certifications**
 - FCC: Class A
 - Acoustics: General Business Category 2E for Desk Side and Data Center Category 1B for Rack
 - Environment: ASHRAE A3
 - 5-40C, 8-85% RH, 3050m max

New eBMC ASMI Functions

1. Easier set-up

- No need to access and use a physical control panel to perform the most common configuration operations
- Select Alternate restart device
- Select Load source device
- Select Console adapter slot
- No need to access and use a physical control panel to access a Dedicated Service Tools (DST) screen

2. More “install” and IPL use cases are supported without requiring HMC

- FC tape D-mode IPL and install – just tag the adapter
- Install from a network image
- Install from iSCSI

3. Improved remote management for IBM i partitions without HMC

- Access DST without pressing buttons on the control panel
- Initiate a Mainstore Dump
- Display debug SRCs for error situations

4. All IBM i supported releases for S1012 can use the new eBMC ASMI functions

- No IBM i PTFs are needed for these new functions – just FW1060

Contrast – Why Would Customer Still Want HMC?

HMC provides same values that are new in eBMC ASMI:

- Easy configuration
- The additional install and IPL use cases
- Improved remote management

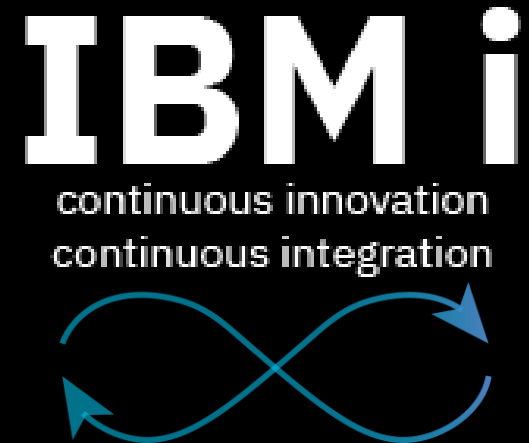
BUT... HMC also provides:

- Ability to configure and run multiple partitions, with or without VIOS
- Remote power on of the system
- Shared remote console
- Guidance through concurrent maintenance operations
- Performance metrics
- And more...

Withdrawals

Douglas Gibbs - douglasg@ca.ibm.com
IBM i Product Manger, Program Director

Linda Hirsch - llhirsch@us.ibm.com
IBM i Product Manger, IBM i Licensing/Terms and
Conditions



Withdrawals

Announce May 7

Effective EOS April 30, 2025 (with the exception of Merlin V1)

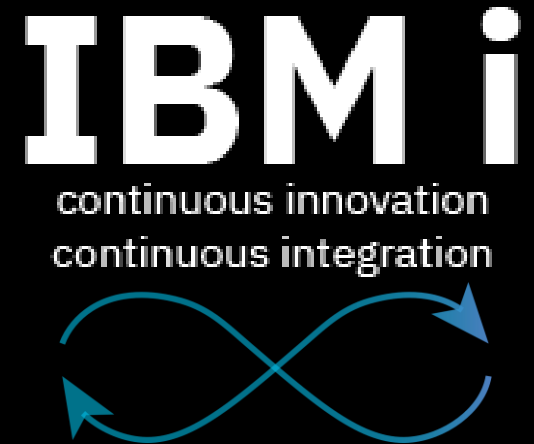
Merlin V1 – effective EOS 9/30/2024

Rational Developer for i V9.6

IBM i components - primarily outdated technology. Withdraw from Service for 7.5 and earlier releases:

- Bootstrap Protocol (BOOTP) server
- Native Dynamic Host Configuration Protocol (DHCP) server
- Remote Authentication Dial In User Service (RADIUS)
- Domain Name System (DNS) Serve
- Route Daemon (Routed)
- Virtual Private Network (VPN) protocol Internet Key Exchange version 1 (IKEv1)
- IP Payload Compression Protocol (IPCOMP)
- Quality of Service (QoS) Server
- FRCA (Fast Response Cache Accelerator) for HTTP Server
- Performance Tools outdated functions: Performance Graphics and Performance Advisor
- Graphical Data Display Manager (GDDM)
- OptiConnect

Upcoming Events





COMMON Annual Conference – POWERUp2024

Fort Worth, Texas

May 20-23

IBM i Education



COMMON Europe

June 03-06

Milano, Italy

IBM i, AIX and Hardware tracks

Many IBM and industry speakers will be there



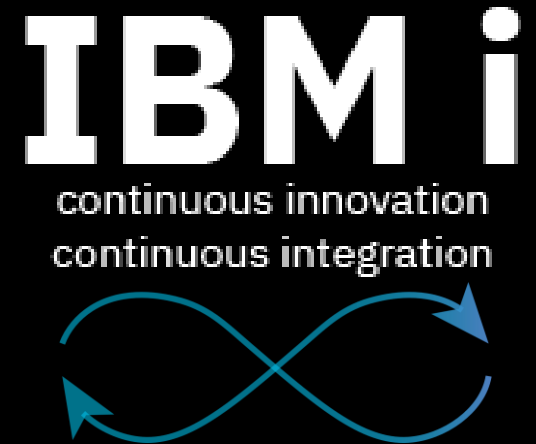
Upcoming Events - 2024

Events	Venue	Dates
COMMON PowerUp 2024	Fort Worth, TX	May 20-23
COMMON Europe	Milano, Italy	June 3-6
COMMON Navigate 2024	Bonita Springs, FL	Sept 16-18
IBM TechXchange	Las Vegas, NV	October 21-24
COMMON Navigate 2024	Toronto, Canada	November 4 - 6



IBM i Resources

IBM i Team



FORTRA™

WEBINAR

2024 IBM i Marketplace Survey Results Revealed

Wednesday, January 24, 2024
9:00am CST

REGISTER NOW

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<https://www.fortra.com/resources/guides/ibm-i-marketplace-survey-results>

<https://www.fortra.com/resources/videos/2024-ibm-i-marketplace-survey-results-revealed>

For more
information

IBM Sites:

IBM i Home Page	https://www.ibm.com/it-infrastructure/power/os/ibm-i
IBM Strategy Whitepaper	https://www.ibm.com/it-infrastructure/us-en/resources/power/i-strategy-roadmap/
IBM Client Success	https://www.ibm.com/it-infrastructure/us-en/resources/power/ibm-i-customer-stories/
Support Life Cycle	https://www.ibm.com/support/lifecycle/
License Topics	https://www-01.ibm.com/support/docview.wss?uid=nas8N1022087
IBM i Release Life Cycle	https://www.ibm.com/support/pages/release-life-cycle
IBM i TR Wikis	IBM i Technology Updates

For more
information

Events:

IBM i Guided Tours registration <https://ibm.webex.com/webappng/sites/ibm/webinar/webinarSeries/register/b5896475d7f74f5fbbb1f270b42916b9>

IBM i Guided Tours 2023 box <https://ibm.box.com/v/IBM-i-Guided-Tours-2023-REPLAY>

IBM TechXchange Conference <https://www.ibm.com/community/ibm-techxchange-conference/>

COMMON North America
PowerUP 2024 <https://www.common.org/powerup2024/home>

COMMON Europe Congress
(CEC) 2024 <https://comeur.org/common-europe-congress-2024-2/>

For more
information

Marketplace:

Forrester TEI Study	https://www.ibm.com/downloads/cas/1ZLRK39P
Steve Will's blog	https://techchannel.com/SMB/you-and-i-blog
Forta 2024 Marketplace Survey	https://www.fortra.com/resources/guides/ibm-i-marketplace-survey-results
IBM iSee Video Blog	https://learn.common.org/products/ibm-isee-video-blog

For more information:

Blogs to follow

- [TechChannel You and i \(Steve Will\)](#)
- [TechChanneli-Can \(Dawn May\)](#)
- [TechChannel: iTalk with Tuohy](#)
- [TechChannel: OpenYour i with Jesse Gorzinski](#)
- [IBM Db2 for i \(Kent Milligian\)](#)
- [IBM i Analytics Blog \(Jon Westcott Jr\)](#)
- [iSee with Scott and Tim](#)

More to follow

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[@IBMAIXeSupp](#)
[@IBMAIXdoc](#)

Hashtags to Use

#IBMPower
#IBMi
#IBMAIX
#Power10
#LinuxonPower
#HANAonPower
#ITInfrastructure
#OpenSource
#HybridCloud

Check IBM i License Topics first for IBM i offering and licensing questions:
<https://www.ibm.com/support/pages/ibm-i-license-topics>

IBM i Processor and User Transfer

IBM i will enable the transfer of IBM i processor and user (when applicable) entitlements from one machine to another within the same data center.

[IBM i Processor and User Transfer Guide GI11-9824-23](#) (386 KB) - Updated July 2022

[IBM i License Transfer Configuration and FAQ](#) (5 MB) - December 2015

Power Software Migration Policy

[Side-by-side Software Migration Policy for IBM Power Software](#) (240 KB)

IBM i Portfolio Simplification

October 10, 2023: IBM continues to simplify the IBM i portfolio.

[IBM i Portfolio Simplification](#) (140 KB) - Updated November 15, 2023

IBM Db2 Web Query for i Update

October 10, 2023: IBM withdraws IBM Db2 Web Query for i from marketing.

[IBM Db2 Web Query for i Frequently Asked Questions](#) (140 KB) - Updated November 30, 2023

IBM i Modernization Engine for Lifecycle Integration (IBM i Merlin)

IBM offers a set of containerized applications that will act as a set of guides, or patterns, to help IBM i software developers more easily migrate their applications to the cloud. Merlin tools will make it easier for clients to use a combination of on-premises IT infrastructure and one or more clouds.

