A Guide to IBM i Features

Get to know the benefits of each release

■ IBM i 7.5

Improved Password Encryption
QPWDLVL system value is enhanced to provide level 4 with stronger encryption than levels 0 – 3

Netserver authorization lists
IBM i Netserver allows directories within the Integrated File System to be set up as file shares and be accessible to Windows or Linux clients as mapped drives or directories. This means those clients can access IBM i directories and files like any other type of Windows or Linux shared drive.

Chilli IT would always advocate a thorough security configuration on the IBM i that secures the IFS from all interfaces, not just Netserver.

A ransomware encryption attack may traverse the network via non-IBM i file shares working it's way to the IBM i and if the relevant Integrated File System directory ('/' root or '/QSYS.LIB') is shared for read and write this could render the system inoperable and user information inaccessible.

At the very least we recommend that Netserver access is secured. At 7.5 this became much easier with the ability to create authorization lists; attach them to Netserver as a whole or individual file shares and then add users to them. Only those users will then have read/write or read access to the file shares or Netserver.

■ IBM i 7.4

DB2 Mirror for i

This licensed program product provides a continuous availability solution for your environment. Synchronous replication of data and objects from one node to another allows them to be used from both nodes simoultaneously.

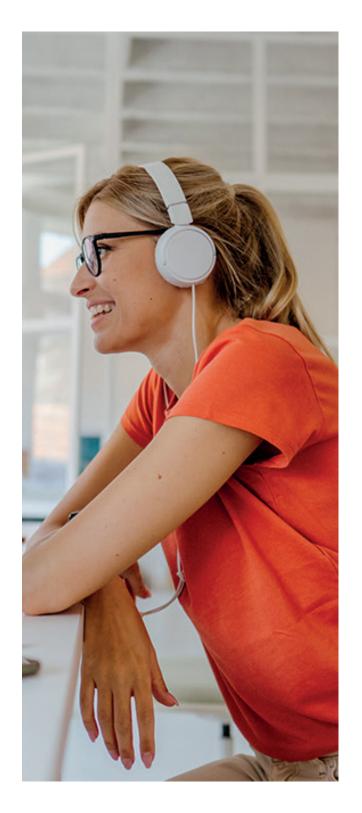### Authority collections for specific objects

Unlike version 7.3 of IBM i which collects authority information for all objects by a specific user; version 7.4 allows the collection of authority information for all users on a specific object.

Job queue exit points

Two new job queue exit points have been created – QIBM_QWT_SBMJOB and QIBM_QWT_CHGJOB. These allow you to extract information about jobs when they are submitted to a job queue and when they are changed on a job queue. This may be important to help you better control work management and for forensic analysis of job submissions.

Improvements to file reorganisations

The ability to reorganise files whilst they are still in use with the RGZPFM command has been enhanced again at 7.4 of IBM i so that active records are not classed as missing. With the last several releases of IBM i there really is no reason that files cannot be reorganised whilst in use; freeeing up valuable disk space and, more importantly, improving the runtime of workloads that are I/O intensive.

■ IBM i 7.3

System period temporal tables

Gives you the capability to let the database automatically store database file modifications in a history table linked to the live table. There are SQL tools that allow you to query the data at points in time; you only work with the live file but the system knows where to look for the data; either in the live file or history file. The system then extracts only that information pertinent to the point in time specified. This is straightfoward to configure and much easier to work with than journal images.

Authority collections

The problem with object security is 'I know my users have way more authority than what they need to do their job but I don't know how to remove what they don't need without risking breaking my applications.'

Authority Collections will help you discover what lowest level of authority you can give your users while still allowing them to do their job.

Query Supervisor

The Query Supervisor monitors queries that are running on the system and can take action should those queries exceed one or more of the following thresholds: CPU time (in seconds); Elapsed time, or clock time (in seconds); Temporary storage (in MB); Total I/O count.

This is a great tool in the fight against poorly performing systems caused by rogue queries.

Auto generated table columns

This capability allows you to modify your database tables so that the database automatically stores information such as the timestamp a record was modified; who modified it and from which IP address without having to change your applications. This is another great example of letting the database perform the tasks that normally would have to be built into applications. The big difference is that everything that could modify a file is automatically covered without the worry of finding all those programs and utilities that could modify a file. This is a great benefit to security.

■ IBM i 7.2

Separation of duties

This allows users to administer security such as database file object security without being able to use the data. Now you can have security administrators who have no ability to work with objects but can administer security for other people. Prior to this a user would have the ability to work with objects susch as the data in a database file.

Row and column access control

The ability to hide (mask) some or all of the characters in a field in a database file or to hide some of the records based on which user(s) are accessing the data (even QSECOFR). This is not industry standard encryption but is straightforward to configure without the need for complicated encyption handling routines and key management.

Temporary storage

New tools are available to allow you to work with what is using temporary storage on your system. A big help for debugging runaway disk storage problems and poorly performing queries.

For more information get in touch with your Account Manager
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