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Helping You Move From Fear to Fearlessness With These IBM i Security Features



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Given the reality of constantly evolving security threats, IBM works to offer our clients security rich computing environments. We do this using an approach to add security at all layers, from the hardware to the operating systems and enterprise-wide monitoring tools. IBM i, the choice for an integrated operating system on IBM Power Systems, is no exception. In this article, I'll cover some of the valuable security technologies for IBM i that help keep you safe in today's threat-filled IT landscape.

Reduce Insider Threats: A company's employees are one of its most valuable assets. However, they can also be one of the biggest threats. This is because they have access to another major asset – your data. When I'm performing security assessments, one of the biggest issues I see is that users often have a much higher level of authority to access systems and data than their job requires. This has the potential to threaten your customers' data and can lead to system outages and downtime caused by the permissioned user. The problem has always been knowing just what level of authority is correct – not too much, which increases risk, and not too little, which could cause errors and delays.

If you have been running SAP for a long time, your system may have security issues that were caused by some bad habits. Early SAP installations created all its profiles with well-known default passwords. It is highly recommended that you check your system for these old profiles and either disable them or reset the passwords. Also, to get around authority issues, some administrators would grant the SAP user profiles *ALLOBJ authority. I should not have to explain why this is a bad idea! In a properly configured SAP environment, this is not needed, and the profiles should be set back to their default authorities. Authority problems in the SAP system can usually be fixed with the SAP tools FIXSAPOWN and AS4FIXFILE.

Keeping Up With Krypto: Most IT security professionals understand the need to keep communications secure using data in flight encryption via Transport Layer Security (TLS). An important factor in TLS is the algorithm used for encryption. Today, the most common ones are based on factoring large numbers into primes. However, with the Quantum computing devel-



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opment effort, this style of encryption could be at risk in the future. New types of encryption that are thought to be more quantum safe, such as Elliptic Curve Cryptography (ECC), have been developed. CommonCryptoLib, SAP's cryptographic library, provides encryption and SAP Single Sign-on functionality for SAP systems. Settings and updates to CommonCryptoLib can be found in [SAP Note 1848999](#).

Sending Out an SOS: One of the major strengths of IBM i is its robust audit and logging facilities. As enterprises move to consolidated, centralized security information and event management (SIEM) tools like [IBM Security QRadar](#) and Splunk, IBM i has provided methods to translate our internal logs to the common messaging format of Syslog. The issue remains how to effectively move them off the local system and get them into the SIEM tool. To help complete the picture, [IBM Systems Lab Services](#) introduced the IBM i Syslog Reporting Manager. This asset allows system administrators to selectively filter which entries are extracted and then sent to a SIEM tool in near real time. Once the logs arrive at the central SIEM, it can apply rules to take actions based on the messages.

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Overcoming Limits to Growth (Part 2)



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In part 1 of “Overcoming Limits to Growth,” I discussed tools that can help identify data that can limit database growth due to system limits defined on IBM Db2 for i. I also provided ways to remedy reaching these limits by either 1) reducing the database size through purging or archiving data or 2) partitioning the offending tables. In part 2 of this article, I will present other system limits that SAP customers should monitor to help keep the system running.

In addition to the table size limits, the limits on indexes should be considered as well. While there may not be an immediate concern, a non-partitioned or “spanning” index could exceed size limitations or experience performance issues in the future. Consequently, the table partitioning planning process should also include the indexes of the partitioned table in order to avoid possible additional system downtime. Lastly, another limit to monitor is the number of auxiliary segments (AUX), which are 16MB chunks of storage storing variable length data. Though not commonly monitored, it is possible that the auxiliary segment limit, 65,533 segments, may be reached before either the size limit or the row limit. The variable length data can be cleaned up by an offline reorganization. The auxiliary segments can be monitored using the system table QSYS2/SYSLIMTBL.

Recognizing whether you are approaching any limits is fairly simple to assess on your own by either viewing QSYSOPR messages or by executing the DBCOCKPIT transaction. But overcoming the limits to growth is more complicated when considering your

options. The IBM Lab Services team is available to assess your situation and advise you on your options with our Very Large Database (VLDB) Workshop. This workshop consists of understanding the business and technical requirements for successfully implementing and maintaining a very large database (VLDB) environment with IBM i and Db2 for i. It will include a discussion and consultation on database design scenarios that meet the requirements, as well as possible database modernization and re-engineering options. Discussion items include:

- * Application architecture
- * Performance and throughput expectations
- * Availability, backup and recovery expectations
- * Attributes of the source system(s) - hardware, software, communications, etc.
- * Attributes of the data model(s)
- * Attributes of data access and data-centric applications
- * Number of concurrent users
- * Expectations for data growth and retention

Please contact the SAP on [IBM i Practice](#) for more details. If you are interested in learning more about system limits or the VLDB workshop, please contact the SAP on [IBM i Practice](#) for more

IBM i Security Features (Continued from page 1)

Ransomware Safety: In one final thought regarding security, I would be remiss if I did not address the recent outbreak of ransomware. While ransomware will not run directly on IBM i, your system may still be at risk from a mapped network drive. The danger in this is that once ransomware infects a PC, it will attempt to encrypt not only the local drives' contents but any attached network drive as well, including IBM i. Prior to September 2017, the SAP installation process created a read/write share to the root of the IFS called ROOTBIN. Because of these attacks, SAP changed their installation process to no longer create this share. But if your environment was created prior to 2017, you could still be at risk. For details on how to correct this, read SAP's blog post [here](#).

Help is available!

The IBM i Lab Services Security Team is here to help you [move from fear to fearlessness](#). Want to better understand the security posture of your system? Looking to set up new features such as TLS or single sign-on? We can help! [Contact Lab Services](#) to learn more about our services and tools.

SAP Business Suite Support Ends ~~2025~~ 2027

SAP maintenance has been extended! If you have not heard, yes, it is true, [SAP announced an extension of SAP Business Suite 7.0 core applications](#) through December 31, 2027. Given the low adoption rate of implementing HANA for existing SAP on IBM i customers, this announcement should come as a relief to many as it provides more time to plan and prepare for it. The applications and versions included in the extension SAP ERP 6.0, SAP CRM 7.0, SAP SCM 7.0, SAP SRM 7.0 and SAP Business Suite powered by HANA. If you require more time, extended maintenance was also announced from 2028-2030 at a premium cost of 2%. More detailed information about SAP's release maintenance strategy can be found in SAP OSS notes [2881788](#), [1648480](#) and [52505](#).