



Virtual Db2 user group: Newsletter 3



Welcome to the Virtual Db2 user group newsletter. The Virtual Db2 user group at itech-ed.com/virtualdb2 is an independently-operated vendor-neutral site run by and for the Db2 user community.

Virtual Db2 user group presentation

The recent webinar from the Virtual Db2 user group was entitled, "Db2 z/OS Recovery – How Best Practices Have Changed to Address New Threats". It was presented in March by Chad Reiber, Principal Software Consultant at BMC Software.

In 1983, Chad started in IT with AT&T as a developer of data generator software. From there he moved into the database arena as a database administrator for IMS, IDMS, and Db2. Chad has been working with Db2 since 1987. Hired by BMC Software in 1997 as a Software Consultant, Chad primarily supports all aspects of BMC's Mainframe products for the Northeast Db2 community.

Chad Reiber started his presentation by looking at

the reasons we worry about recovery. He suggested that they were: regulations; customer satisfaction; revenue; and the business. In the last case, they may be self imposed, segment imposed, or government imposed. He also suggested that certain expectations exist.

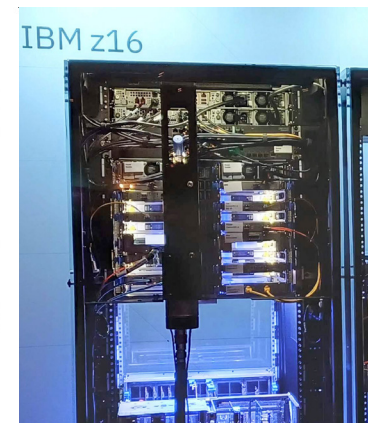
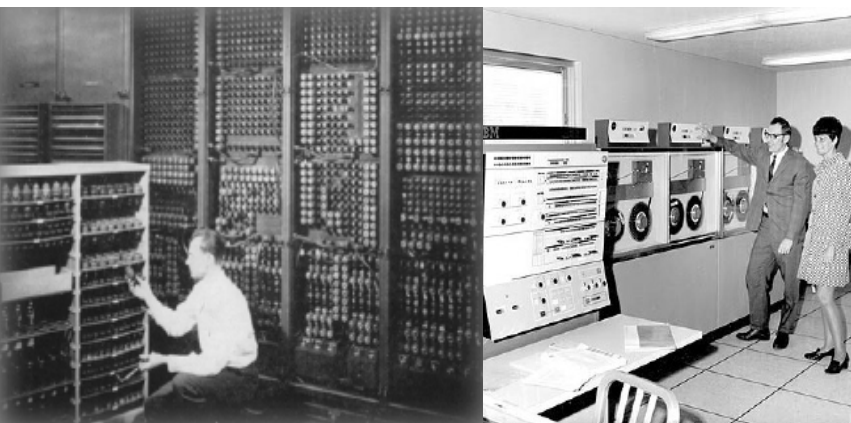
Chad asked whether sites even need to recover anymore. He said that recovery is a real challenge for a number reasons, including: exploding data volumes / Db2 objects); staff productivity and expertise pressures (eg recovery seen as a 'part time' job, many hours go into DR preparation and testing, there's more data/more apps/but not more DBAs?); planned downtime pressures (brief outages must be eliminated/consistent, cross DBMS, backups); and it's never a

good time for an unplanned outage.

There are problems, for example Db2 itself, z/OS hardware issues, and self-inflicted issues. These might be application issues, hardware additions/maintenance, and human error. In addition, there are things that we have no control over, such as hurricanes, floods, power outages, and fires.

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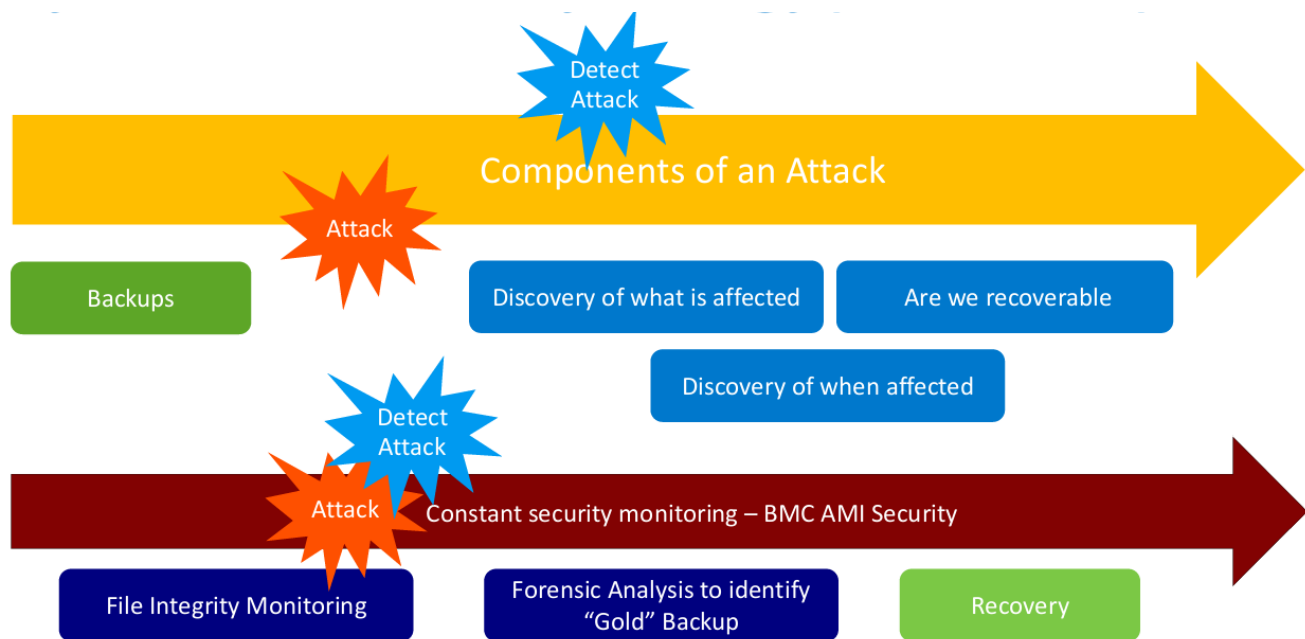


Figure 1: Cyber Attack Recovery Strategy (Db2 centric)

More recently, there has been a growing problem with cyber attacks and ransomware. Organizations need to ask themselves, how is the business going to handle protecting its data? Ransomware account for over 25% of security attacks, and the average cost of a data breach is the highest it has ever been. And this applies to every mainframe. Nowadays, it's not enough to build a secure perimeter, you need a way to discover that an attack is taking place as early as possible.

Figure 1 shows how the use of File Integrity Monitoring can help identify an attack in the very early stages.

Questions to ask yourself if you need to carry out a

recovery are:

- Are we ready for any type of recovery?
- Are we prepared for recovery?
- Is there enough time?
- Is there enough data, recovery resources?

More questions to ask when looking at Db2 readiness include:

- Does our backup strategy meet our needs?
- How much log do we have to apply?
- Do we have enough log available locally to recover from the last image copy?

- What happens if PLAN A fails? Do we have a Plan B
- Which application objects should be recovered first?

Because of ransomware, data and backups are exposed, which means that backups need to be protected. There are solutions from hardware and software vendors, but data loss and data latency are still issues.

For application database backups, it's important to verify that your objects are recoverable to meet your needs. Verify that the Db2 resources are still out there. You can manually build queries to check:

Do we have a way to generate all the different Recovery Scenarios?

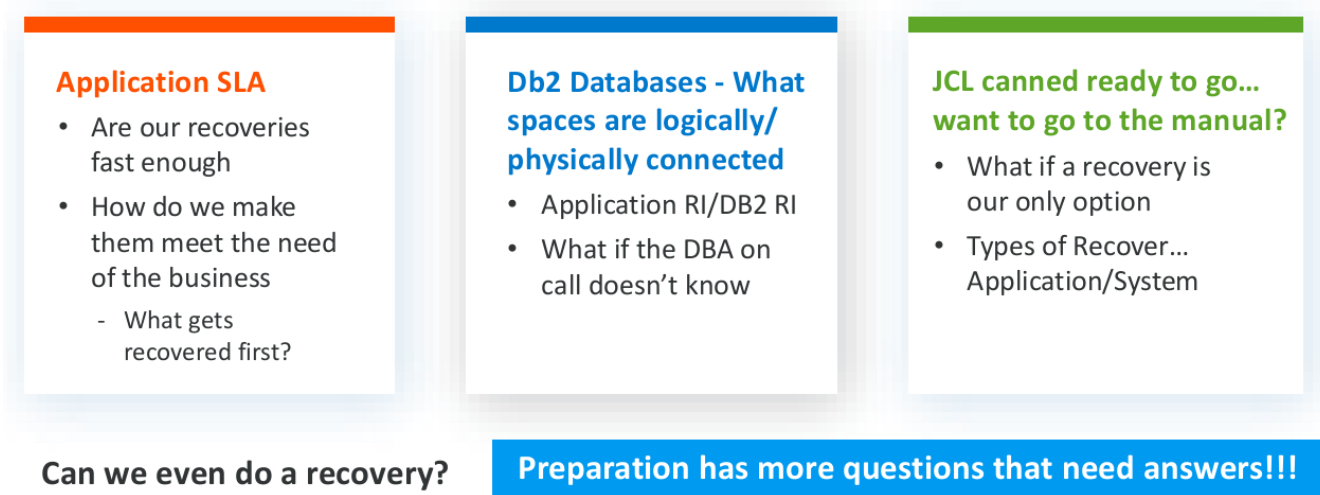


Figure 2: Db2 recovery preparation

- The MINIMUM number of image copies that need to exist
- The MAXIMUM number of days since the last image copy
- The MAXIMUM number of logs since the last image copy

Check that third-party software provides a VERIFY function with copies. Also, are you taking image copies frequently enough? Remember that how recent an incremental copy is affects the recovery time.

Chad recommended that sites build a daily recovery health check to verify that they are recovery-ready and to support all the recovery scenarios (local/remote

recovery, subsystem or application-level recovery). Validate your application recoveries. There are many types of recovery points (TOCOPY, TIMESTAMP, QUIESCE, LOGPOIN). sites should consider the recovery time and the recovery point.

Figure 2 shows some things to think about when it comes to recovery preparation.

When it comes to application recovery, determine what objects need to be recovered. This could be by plan, volume, or database. Decide what objects are included in each. Then think about where to recover to, image copy (which one?), quiesce point, timestamp, current. Then build the process. Do you need one

recovery job or multiple? Is the log being used in recovery? Will you recover indexes or rebuild them? Is recovery backout an option? Do all spaces actually need to be recovered? Run the jobs, wait, and hope there are no abends!

Chad looked at some of the tools that are available to help with recovery. He went on to explain why it was important to practice and looked at tools available to help practice the recovery.

He stressed that when recovery was required, there was never enough time. He gave examples of where recovery had taken much longer than expected, and said how important it is to meet the needs of the business.

A copy of Chad Reiber's presentation is available for download from the Virtual Db2 user group website at: <https://itech-ed.com/virtualdb2/presentations/Db2RecoveryMar23.pdf>

You can see and hear the whole user group meeting at: <https://youtu.be/uKW0tinazLU>

Meeting dates

The following meeting dates have been arranged for the Virtual Db2 user group:

- On 23 May we have Canvas Botha, who will be discussing, "Writing high performance SQL statements".
- The meeting after that is on 18 July, when Mark Rader, Db2 for z/OS Specialist at the IBM Z Washington Systems Center, will be discussing, "Local applications can take advantage of System Profile Monitoring in Db2 13 for z/OS".

We are using Zoom for the user group meetings.

Db2 articles and blogs

Evaluating and Tuning Db2 Subsystem Wait (Suspension) Times by Sally Mir in Enterprise Tech Journal issue 1 (March 2023). You can

find the article at: <https://mydigitalpublication.com/publication/?m=23234&i=786278&p=10&ver=html5>

Escaping Single Quotes in Db2 SQL Statements by Craig Mullins on The Db2 Portal Blog site (23 January 2023). You can find the article at: <https://db2portal.blogspot.com/2023/01/escaping-single-quotes-in-db2-sql.html>

Db2 news

Infotel Corp has released DB/IQ version 6.03, a solution for maintaining a cleaner Db2 Catalog for improved database and application performance and availability. The new version includes improved explain package functionality for invalid PACKAGE as well as all PTFs created during 6.02. Find out more at: https://www.prweb.com/releases/infotel_corp_announces_latest_version_release_of_db_iq_now_generally_available_and_compatible_for_all_db2_for_z_os_releases_up_to_version_13/prweb19151033.htm

Co-sponsorship opportunity

Supporting the user community is an important part of the relationship between software vendors and their customers. The

Virtual Db2 user group is new and is offering this opportunity to co-sponsor the user group. If this is of interest, please contact me (trevor@itech-ed.com).

About the Virtual Db2 user group

The Virtual Db2 user group was established as a way for individuals using IBM's Db2 for z/OS to exchange information, learn new techniques, and advance their skills with the product.

The website at itech-ed.com/virtualdb2 provides a central point for coordinating periodic meetings (which contain technically-oriented topics presented in a webinar format), and provides articles, discussions, links, and other resources of interest to IBM Db2 practitioners. Anyone with an interest in mainframe Db2 is welcome to join the Virtual Db2 user group and share in the knowledge exchange.

To share ideas, and for further information, contact trevor@itech-ed.com.

The Virtual Db2 user group is free to its members.