TAPPING THE CLOUD FOR
IBM i DISASTER RECOVERY

Is DRaaS the right choice for your IBM i environment?
Maxava & Skytap DRaaS — how it works!
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1. Introduction

For more than three decades, IBM i has been used by businesses in every industry vertical, from banking and financial services to insurance, retail, government, healthcare, manufacturing, and gaming. Today, these companies continue to run their critical business workloads on the IBM i platform as they move their IT infrastructure toward digital transformation, innovation, and the cloud.

Huge advances in server technology, power, storage, and virtualization architecture have been made in recent years. As a result, IBM i customers have been able to realize significant cost savings by consolidating their distributed servers back onto logically partitioned single servers, often in an on-premise data center. This consolidation combined with a dramatic increase in the volume and types of data generated daily has made it more important than ever for companies to have a robust disaster recovery (DR) solution.

In the past, some smaller businesses with single server environments based their disaster recovery solutions on magnetic tape media. This manual saves/restores strategy is not ideal in the modern IT world where there is less tolerance for user downtime and data loss. The solution for many organizations has been to move to a multi-server environment where data is replicated in real-time from a live production server to a purpose-built disaster recovery or backup server. Users can then swap between the servers in the event of a hardware failure or environmental disaster, a process often called a role-swap or switch-over. The downside of this model is that it requires the purchase and maintenance of duplicate hardware infrastructure, often in separate data centers and at a high cost. Networks and data interfaces need to be easily switchable as well.

"We couldn't have picked better partners. Now we can focus on what we do best, which is designing, manufacturing and shipping our products." - Robert Sentell Chilewich Sultan

The cloud is changing the IBM i disaster recovery computing landscape. Instead of maintaining an on-premise DR infrastructure, organizations can now deploy an effective DR environment delivered on IBM i infrastructure in the cloud and as a service. By migrating to a cloud-based Disaster Recovery as a Service (DRaaS) offering from Maxava and Skytap, for example, textile manufacturer Chilewich Sultan was able to avoid capital costs and improve service delivery at a significant discount to an on-premise DR solution.

If your organization is running critical workloads on IBM i servers and you have a single or multi-server environment, moving to a cloud-based DRaaS solution can help you save costs while maintaining confidence in your systems.

IBM i

EXPENSIVE

ON PREMISE

IBM i

DATA CENTER

MULTI SERVER CUSTOMER
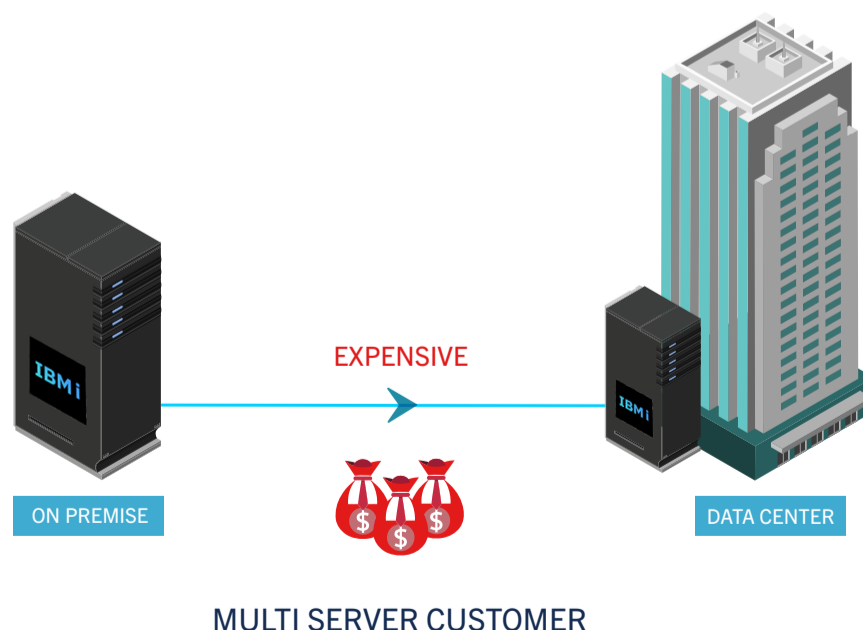
2. What is DRaaS?

DRaaS enables the delivery of a hot backup environment using cloud-based hardware infrastructure instead of an in-house on-premise server. It essentially replaces your on-premise DR server with a fully managed and monitored environment in the cloud. One such solution from Maxava and Skytap replicates your premise-based production system to a cloud-hosted DR system - a configuration sometimes referred to as a hybrid cloud.

Data and objects are replicated to the Skytap IBM i cloud environment in real-time using the Maxava replication software. The environment is fully managed and monitored by Maxava technical staff using the Maxava Mi8 monitor and delivered as a service rather than as a product. Fees are charged monthly on a limited-term contract, providing an affordable alternative to businesses looking for a recovery point objective (RPO) to the latest transaction and also a Recovery Time Objective (RTO) of under 4 hours. DRaaS effectively outsources your DR environment, meaning you no longer need duplicate hardware, associated resources, or to tie up your own IBM i staff with managing your DR environment.

3. DRaaS vs On-Premise DR

Disaster Recovery is a critical business function for most organizations that run on IBM i servers. The need for protection from data loss and downtime is widely understood; the best way to get there less so. The ideal approach is to replicate data to an off-site location, preferably at least 40 miles away from the production location. Not only does this approach guard against hardware failure but also from interruption to the localized power grid and from natural disasters.

The COVID-19 pandemic illustrated another important consideration as remote work exploded and physical access to the workplace was restricted. Having databases and duplicate server environments maintained in multiple locations and accessible from anywhere with an internet connection can greatly improve business continuity. During the initial months of the pandemic, IBM i businesses that maintained a dual- or multi-server environment were able to continue business operations while single-server sites were much more vulnerable to data loss and downtime due to machine failure. At some locations, technicians couldn't conduct onsite repairs or maintenance, and even if repairs could be made, supply chain interruptions caused parts delays and, in turn, business interruption.

There are two models for achieving real-time data and object replication over long distances: on-premise DR or DRaaS. In the on-premise model, customers can use own hardware or software data replication to a remote facility, but this requires duplicate backup hardware infrastructure, duplicate backup data center costs, and often a complicated network setup where system interfaces can be swapped between systems and data centers. DRaaS removes all this complexity from the customer and delivers the DR as a service for a monthly fee. The DRaaS offering includes everything that the on-premise model achieves, but as a service rather than as a self-managed combination of purchased products and hardware infrastructure.

4. Maxava Replication to Skytap

Maxava replicates IBM i data and objects to Skytap cloud systems with minimal backlogs, upkeep, and near-zero data loss. Maxava technicians take care of the simple process of migrating your data into Skytap. For companies with databases smaller than 1TB, the entire database is transferred directly into Skytap using Maxava. For customers with databases larger than 1TB, Maxava migrates data using a mass storage device.

Once the initial database is ported, Maxava continuously replicates system and application data changes transaction by transaction from the on-premise production server directly into the Skytap cloud in real-time.
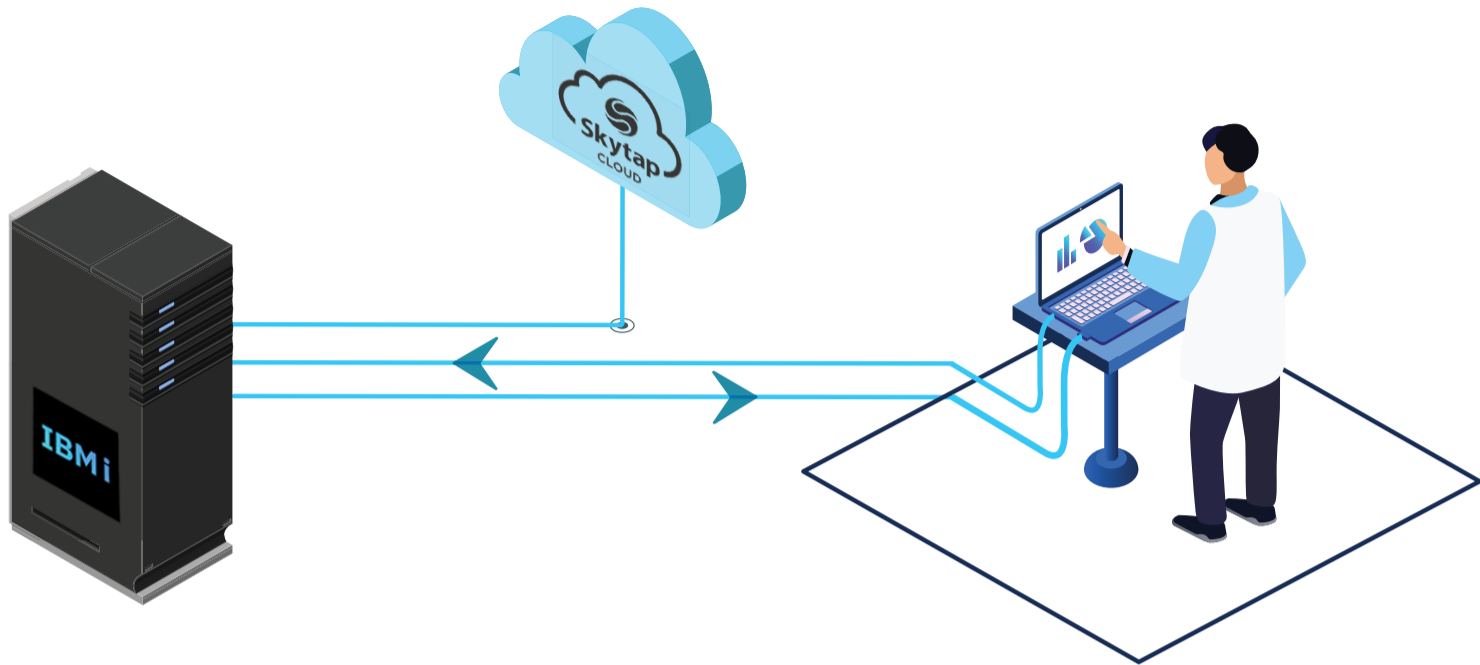
The proprietary Maxava HA replication and apply process allows any IBM i system in Skytap to be readily available as a hot backup, fully loaded with the most updated and current production data. Also, Maxava's Mi8 cloud monitoring software proactively checks for environmental situations that may cause an interruption or outage on both the cloud and the production server.

In the event (or in advance) of a disaster or business interruption at an IBM i production site, you will be able to quickly recover all of your critical application and system data to the last transaction without the need for tape or vault restoration services. With Maxava DRaaS, all of your application users and administrators can be quickly role-swapped to the Skytap server with minimal downtime, near-zero data loss, and rapid access to the most current production system and application data.

5. What is Skytap?

Skytap is a cloud service that creates a virtual data center in Microsoft Azure. Skytap mirrors complete IBM i production environments in the cloud, including infrastructure, storage, Level 2 and 3 networking connections, operating system, middleware, memory state, and applications, making it an ideal DR target. This virtual data center allows IBM i workloads to be replicated from on-premise servers directly into Skytap in their native form, including networking and configuration files, without any rewriting or code development
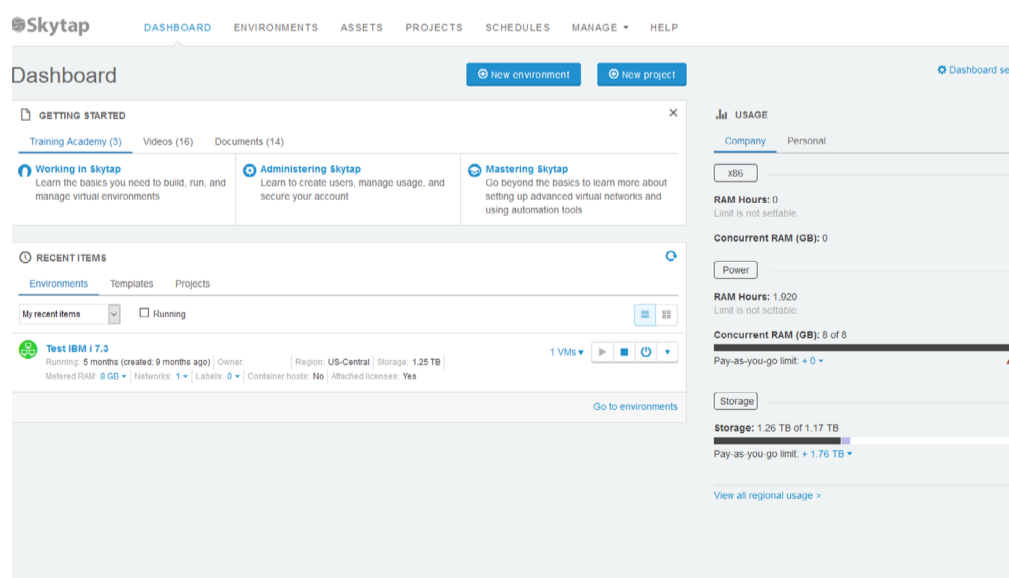
Administrators can work with IBM i environments in Skytap just as they would for on-premise servers. The Skytap portal makes it easy to configure and manage all aspects of production-equivalent environments, including allocating resources such as CPW, memory, storage, and networking configurations. If your business needs more computing power, memory, or storage, it can be easily added to the environment.

Once environments have been configured in the cloud and initial databases transferred, Maxava replicates transactions in real-time to Skytap, creating an immediately available copy of on-premise data. In the event of an outage or disaster, business users can be role-swapped to the Skytap environment and database, allowing business operations to continue without significant downtime or data loss.

For example, Chilewich Sultan uses the Maxava Skytap DRaaS solution to replicate customer data in real-time. The company streams approximately six million transactions per day to Skytap. In the event of a disaster or outage on its production server, Chilewich can swap users and run its business from Skytap without data loss or significant downtime.

Foundation for Cloud Strategy

Using Skytap for DRaaS allows companies to gain experience having their IBM i environments in the cloud. They can "pilot light" their cloud strategy by using Skytap for DR, proving out the ability to move production environments and workloads into the cloud in an outage or disaster scenario. With native workloads in the cloud, businesses can consider how they can begin to innovate and become more responsive to their traditional applications. Also, using Azure as the cloud provider allows companies to move towards geographic redundancy for global locations.

6. Benefits of Maxava-Skytap DRaaS

The combination of Skytap's cloud service and Maxava's DR software is a one-stop solution based on clear contractual terms and agreed-upon SLAs that lets your business establish a robust DR footprint at an inclusive and predictable monthly cost. At the same time, it eliminates the day-to-day management of the replication process and the burden of managing and maintaining duplicate hardware. Daily backups can be replaced with near real-time backups that deliver faster rollover times, while at the same time eliminating the many expenses associated with maintaining an on-premise DR solution.
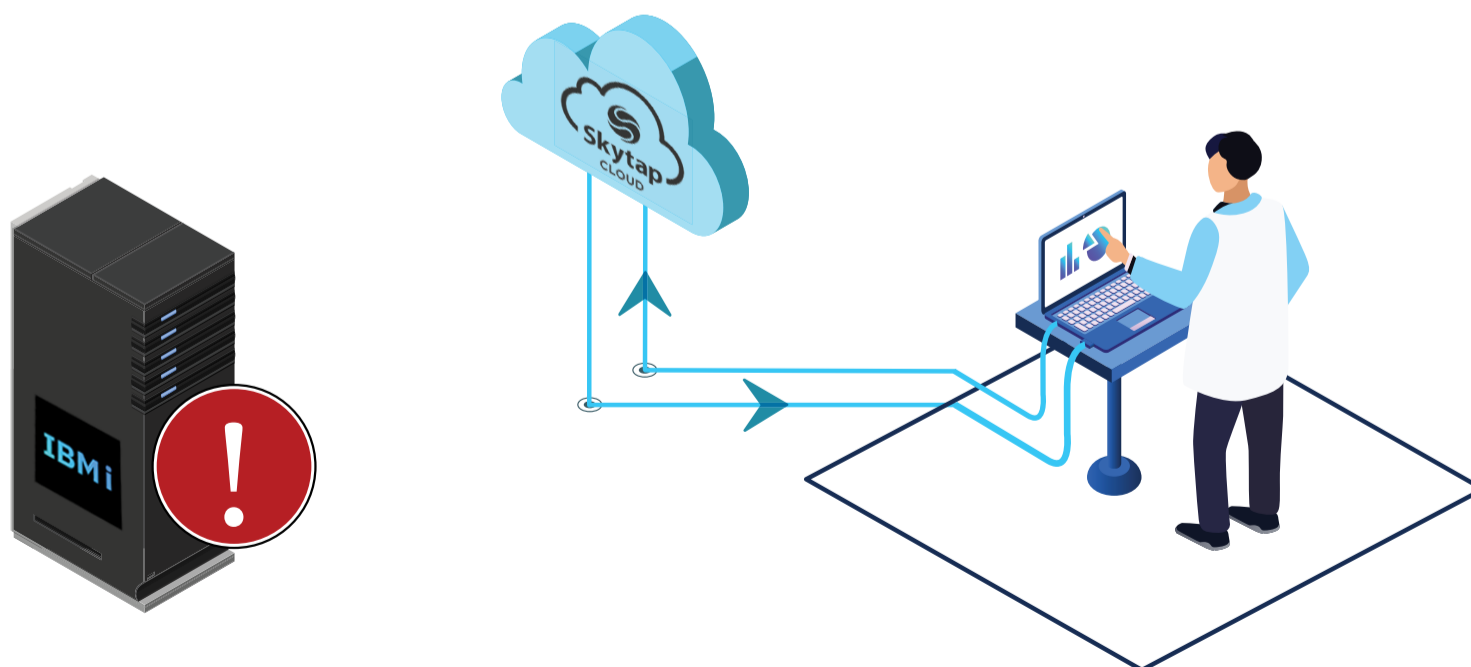
CAPEX investments in dedicated hardware

Investing in duplicate data center hardware for the maximum capacity required for DR is cost-prohibitive for many businesses, especially when factoring in hardware refresh costs every few years.

IBM hardware and software maintenance expenses

Most IBM i customers recognize the importance of maintaining hardware and software maintenance contracts, which add incremental costs to server ownership over time. Electing not to carry maintenance agreements to save money can have costly implications, both in terms of repair expenses and in system downtime. With a DRaaS service, you no longer need to maintain hardware and software maintenance (SWMA) on backup servers.

Datacenter costs

In addition to the capital investments and monthly maintenance expenses for owning hardware, the monthly overhead to house these duplicate servers in an offsite data center can add up, with costs in the thousands of dollars per month for rack space not uncommon. The Maxava-Skytap solution eliminates the need to pay for these ongoing expenses.

Network costs

One area that is commonly overlooked when considering an on-premise DR solution is the communications expenses incurred in connecting production systems with offsite DR target systems. Maintaining sufficient bandwidth for a remote failover adds monthly cost for seldom-used capacity. All network expenses are included with Skytap and Maxava.

Capacity-based Pricing

Skytap enables a pay-as-you-go OPEX model that allows companies to have replica environments available that can be scaled up immediately when an outage or disaster occurs, and released when normal operations resume. Monthly fees are based on the minimum capacity required on an ongoing basis, and when more is required, customers only pay for actual capacity used, when it is being used.

7 REASONS TO PUT YOUR DR BOX IN THE CLOUD WITH MAXAVA & SKYTAP

01 Hardware is a capital outlay that needs to be refreshed every three or four years
Skytap - Hardware Infrastructure - CPW, Storage & Memory Included!

02 IBM Software Maintenace and Hardware Maintenance is expensive
Skytap - All Hardware, Software Maintenance and Licensing included!

03 Data Centre Costs are expensive and can be up to $3,000 per month alone for rack-space.
Skytap - Data Centre Costs included!

04 Network Costs are often a forgotten overhead when calculating on premise DR costs
Skytap - Network Costs & Monitoring is included!

05 Replication software & monitoring – replace your in-house replication product
Maxava HA Enterprise+ Real-time replication & ongoing monitoring Mi8 to Skytap included!

06 Only pay for what you need when you need it
Skytap - CPW & Memory can be increased on demand as required meaning you only pay for the minimum resources until you need more!

07 Let Maxava monitor and manage your DR server hosted on Skytap
Maxava Mi8 can be used to monitor and manage the end to end DR environment!

In the case of Chilewich Sultan, the Skytap backup Logical Partition (LPAR) runs on limited resources in the day-to-day replication environment, and Processing Power (CPW) and memory can be dynamically increased when required. The company only pays for day-to-day use, and when more capacity is required, only pays for what is used. In this model, Maxava and Skytap can eliminate a significant portion of the cost of on-premise solutions.

What's included with Maxava-Skytap DRaaS

1. Recovery Point Objective (RPO): the last transaction sent.
2. Recovery Time Objective (RTO): 4 hours.
3. A live Skytap target server with continuously updated data, profiles, and applications.
4. Proactive monitoring of production and target systems.
5. Managed services to remediate replication performance issues.
6. Guaranteed contracted resource availability in the event of a disaster or interruption.
7. Additional resource provision based on availability at time of disaster or interruption.
8. The client supported failover by Maxava during a disaster declaration.
9. Assistance with role swap back to production system once disaster situation is resolved.
10. Full real-time replication to the Skytap IBM i LPAR through Maxava HA Enterprise+ software.
11. Full monitoring and management of the environment through Maxava Monitor Mi8.
12. 1 Simulated Role Swap exercise per year.
13. Site-to-Site VPN connection.

7. Conclusion

Having a robust DR solution in place is more important than ever. Maxava and Skytap DRaaS delivers the same strong disaster preparedness as an on-premise dual- or multi-server configuration without the excess costs and with the ease of working with a single service provider. You'll be prepared for the worst-case scenario without having to manage and maintain the infrastructure required for your maximum needs. At the same time, you'll gain experience with cloud environments, opening the door to the scalability and flexibility that can spur innovation and agility.

ABOUT MAXAVA

Maxava is a worldwide provider of innovative monitoring, high availability, disaster recovery and archiving solutions. Maxava's software and services are available from a global network of partners and are integral to the cloud offerings of leading managed services providers and cloud service providers.

Customers have been using Maxava software and services for 20 years to ensure business continuity, reduce risk and meet regulatory requirements. Maxava's implementations span a diverse set of industries including banking, telecommunications, government, manufacturing and healthcare, providing critical business solutions to customers around the globe.

Many of the world's most trusted consumer brands are supported by IT environments strengthened by the use of Maxava software. Maxava's software ensures business resilience for a cross-section of the world's most demanding IBM Power Systems users. Today, Maxava serves more than 500 customers in over 40 countries, providing 24x7 support directly through regional offices located in North America, Europe and Asia Pacific.

Maxava is an IBM Premier Business Partner, and Maxava software is available via software-as-a-service (SaaS), disaster-recovery-as-a-service (DRaaS), monitoring-as-a-service (MaaS), subscription and on-premise software licensing models. Visit maxava.com for more information or find out what our customers have to say at Maxava customer case study videos.

ABOUT SKYTAP

Skytap is a cloud service purpose-built to natively run traditional systems in the cloud. Our customers use Skytap for running production, disaster recovery, virtual training labs, and development workloads. We are the only cloud service to support AIX, IBM i, and Linux on IBM Power together with x86 workloads, enabling businesses to accelerate their journey to the cloud and increase innovation. To learn more about Skytap or schedule a demo, visit www.skytap.com

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