SQL Managed Instance

SYSPRO 8

Reference Guide

SYSPRO

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Exploring

Where it fits in?

SYSPRO 8 supports SQL Database Managed Instance (hereafter referred to as **SQL Managed Instance**).

SQL Managed Instance is a Microsoft Azure cloud-based environment that provides compatibility with the SQL Server on-premise Enterprise Edition database engine.

SYSPRO running on Azure provides you with a choice of running **SQL Managed Instance** or SQL Server running on a Virtual Machine (VM).

With **SQL Managed Instance** – a cloud-based managed database - you provision the SQL environment based on CPUs, Memory and Disk usage, and SQL Server is automatically configured and enabled for you. There is, therefore, no need for you to provision a separate Windows Server VM and then install and configure SQL Server.

SYSPRO customers already running on a Microsoft Azure cloud-based environment can replace their SQL Server Enterprise edition running on a Virtual Machine (VM) with **SQL Managed Instance**.

Alternatively, existing SYSPRO customers can lift and shift their on-premise server environments to the Azure cloud, taking advantage of **SQL Managed Instance** to handle their database workloads.

With Software Assurance you can exchange existing SQL Server licenses for discounted rates on **SQL Managed Instance**.

SQL Managed Instance preserves all the Platform as a Service (PaaS) capabilities (such as automated patching and version updates, automated backups and high-availability) that drastically reduces management overhead and Total Cost of Ownership (TCO) of an enterprise database environment.

Benefits

- Simplified SQL environment setup.

- PaaS environment - Automated patching and version updates, automated backups and high availability.

- Reduced management overhead and TCO – Improved IT flexibility and responsiveness.

- Flexibility to scale-up (and down) as required.

- Ability to exchange existing SQL Server licenses for discounted rates on SQL Managed Instance.

What is SQL Database Managed Instance?

The following explanation is extracted directly from Microsoft's website:
https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance

Azure SQL Database Managed Instance is a new deployment model of Azure SQL Database, providing near 100% compatibility with the latest SQL Server on-premises (Enterprise Edition) Database Engine, providing a native virtual network (VNet) implementation that addresses common security concerns, and a business model favorable for on-premises SQL Server customers.
Managed Instance allows existing SQL Server customers to lift and shift their on-premises applications to the cloud with minimal application and database changes.

At the same time, Managed Instance preserves all PaaS capabilities (automatic patching and version updates, automated backups, high-availability), that drastically reduces management overhead and TCO.

What is SQL Database Managed Instance?

A deployment option that enables friction-free migration of SQL Server workloads to a fully-managed service

SQL Database (PaaS)

- Managed Instance
- Single database
- Elastic Pool

Fully-managed Service
- Built on the same infrastructure as SQL Database
- Provides the same benefits (PaaS)

SQL Server Compatibility
- Fully-fledged SQL instance with nearly 100% compatibility with on-premise
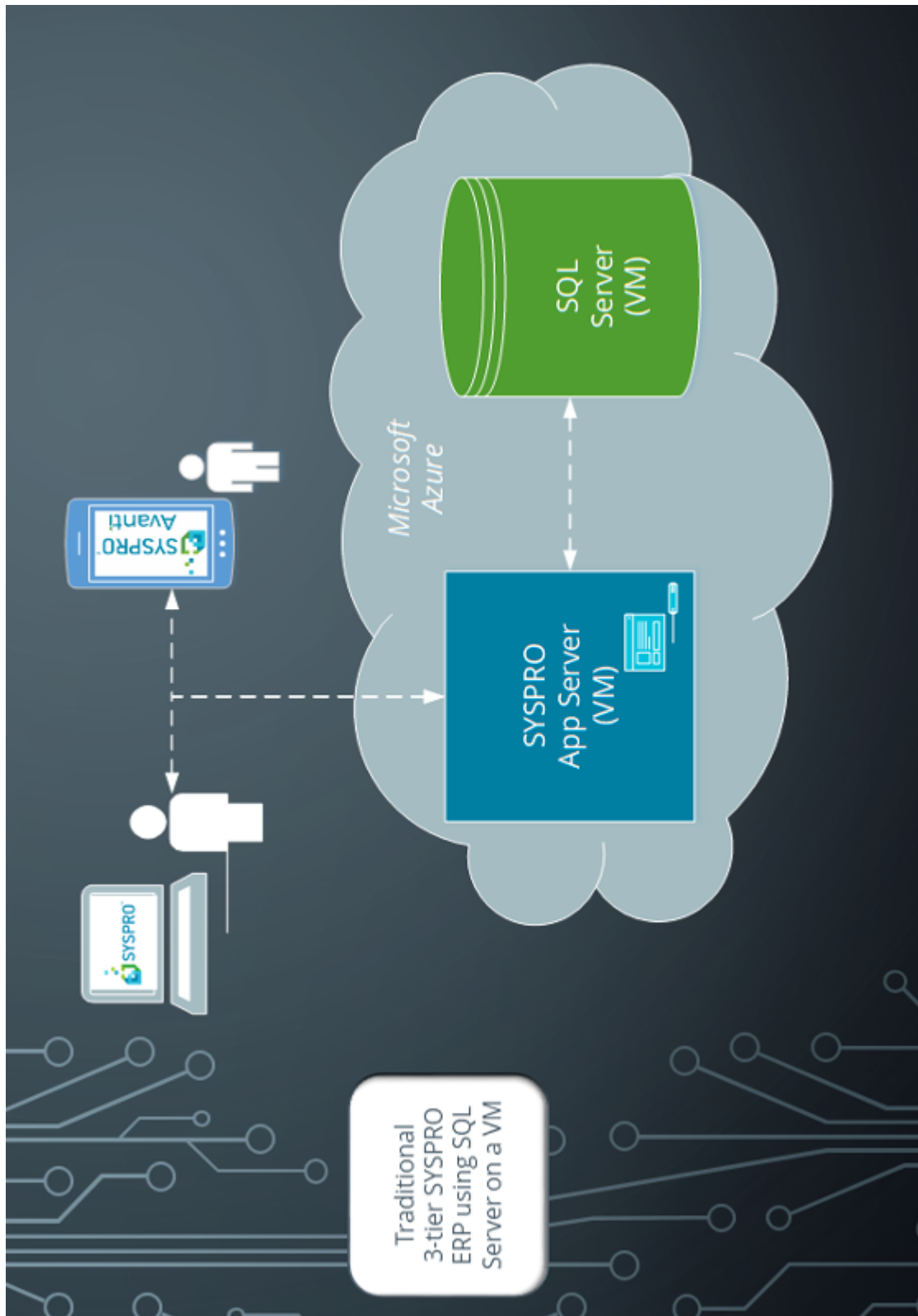
Full isolation and Security
- Native Vnet implementation
- Private IP addresses
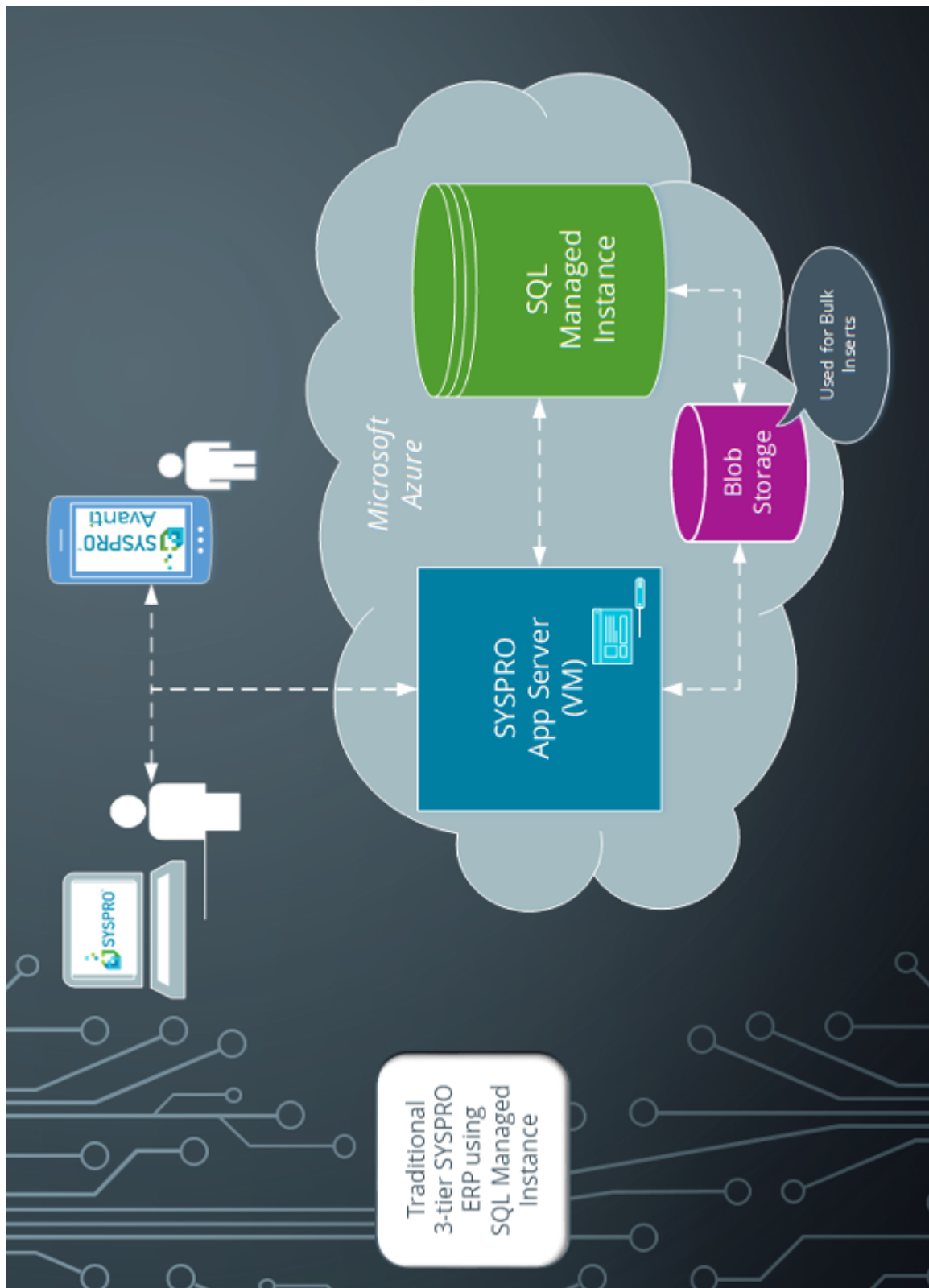- Express Route / VPN connectivity

New purchasing Options
- Transparent
- Frictionless
- Competitive

Architecture

The following depicts a traditional 3-tier SYSPRO environment:

The following depicts a 3-tier SYSPRO environment using a SQL Managed Instance:

Terminology

Blob storage

Azure Blob Storage provides SYSPRO with an intermediate storage area for the uploading of data into your SQL Managed Instance.

Managed instance

Managed instance is a new resource type in SQL database that streamlines the migration of SQL Server workloads and combines the best of SQL Server with all the benefits of a fully-managed database service.

Microsoft Azure

Microsoft Azure is a cloud computing service created by **Microsoft** to build, test, deploy, and manage applications and services through Microsoft-managed data centers.

It caters for:

- Software as a service (SaaS)
- Platform as a service (PaaS)
- Infrastructure as a service (IaaS)

In addition, **Microsoft Azure** supports different programming languages, tools and frameworks (including **Microsoft**-specific and third-party software and systems).

Peering

Peering is the arrangement of traffic exchange between Internet service providers.

In the context of SYSPRO SQL Managed Instances, peering is the direct interconnection between the Microsoft network and another network for the purpose of exchanging traffic between the networks.

Starting

Prerequisites

- Microsoft Azure administration knowledge

Deploying

The actions required to set up a **SQL Managed Instance**, depend on whether you are a new or existing SYSPRO user.

New SYSPRO Users

1. Create the **SQL Managed Instance** within the Microsoft Azure Portal.

2. Configure SYSPRO to access your newly-created **SQL Managed Instance**.

Existing SYSPRO Users

1. Create the **SQL Managed Instance** within the Microsoft Azure Portal.

2. Upload and install your databases.

3. Configure SYSPRO to access your newly-created **SQL Managed Instance**.

Solving

FAQs

How do I create a SQL Managed Instance?

1. Access the Azure portal (`https://portal.azure.com/`) to create your **SQL Managed Instance**.

   Considerations:

   - The **SQL Managed Instance** must reside on the same resource group as your SYSPRO Application Server.

   - The **SQL Managed Instance** must reside in the same location as your SYSPRO Application server.

   - Take note of the following information which will be used later in the setup process:

      - The virtual network card that you will be using.

      - The SQL credentials that will be used during your setup.

   - The deployment of a **SQL Managed Instance** can take up to 12 hours to complete.

2. Once the instance is deployed, ensure that your SYSPRO Application server can access the **SQL Managed Instance**:

   - Create *Peerings* against each of the Virtual Network cards, so that they are connected to each other.

      a. Select the network card from the virtual machine.

      b. Access the Peering configuration.

      c. Create a Peering to the network card used against the **SQL Managed Instance**.

   - Create *Peerings* on the **SQL Managed Instance** that will connect to the SYSPRO Application server network.

      a. Select the network card from the virtual machine.

      b. Access the Peering configuration.

      c. Create a Peering to the network card used against the SQL managed instance.

3. Open **SQL Server Management Studio** to connect to your newly created **SQL Managed Instance**.

   You will need to use the Instance name generated when you created the instance (e.g. `tcp:xxxxxxxx.database.windows.net,1433`).

How do I upload and install databases?

1. Access the Microsoft portal for detailed information about database migration:

   https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance-migrate.

2. Review and select your preferred migration method based on your requirements and system setup.

   The following database migration methods are currently supported:

   - **Azure Database Migration Service**

     Migration with near-zero downtime.

     Review the Microsoft tutorial:

     https://docs.microsoft.com/en-us/azure/dms/tutorial-sql-server-to-managed-instance.

   - **Native RESTORE database from URL**

     Migration using native backups from SQL Server (requires some downtime).

     Review the Microsoft tutorial:

     https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/sql-server-backup-to-url?view=sql-server-2017

3. Upload and install your databases, following the instructions based on the migration method you selected.

How do I configure SYSPRO for a SQL Managed Instance?

Once you have successfully restored your database(s) proceed with configuring SYSPRO.

1. Open your `IMPACT.INI` file (located in the `\Work` folder) and edit the `SQLSSN` entry to point to the newly-created **SQL Managed Instance** (e.g.
   `SQLSSN=tcp:xxxxxxx.database.windows.net,1433`.

2. Optionally change the `SQLADM` entry in the `IMPACT.INI` file to be `SQLADM=[reset]` to reset the SQL credentials. When you next open SYSPRO, the system will prompt you to enter the new credentials for the SQL databases.

3. Open SYSPRO and navigate to the **System Setup** program (*Program List > Administration > General Setup*), to enter the Azure Storage account details that SYSPRO uses for Bulk Insert commands.

   Enter the appropriate information in the following fields of the **Database** tab:

Field	Description
Azure Managed Instance Configuration	

Field	Description
Use managed instance	This lets you use a **SQL Managed Instance** created in Azure (i.e. this makes programs use logic written specially for **SQL Managed Instance**).
Blob storage container address	This is the address that is used to store objects in Azure.
Shared access signature	This indicates the credentials that will be used when accessing resources in the Azure Blob storage container.
External data source	This is the Azure external data source name (used by SYSPRO for Bulk Inserts).

4. Save your changes and exit the program.

5. Restart SYSPRO.

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