QGRIP

System
Requirements

GRIP ON SQL

2024-04-09

Contents

1   Introduction

This document contains a listing of the System Requirements needed for QGrip to work properly and should be used during an intake. How to create and configure the different components can be found in the Prepare Infra document.

QGrip is flexible in design and should fit in almost any organisation but, next to the system requirements, there are a few limitations that need to be considered. These are listed in:

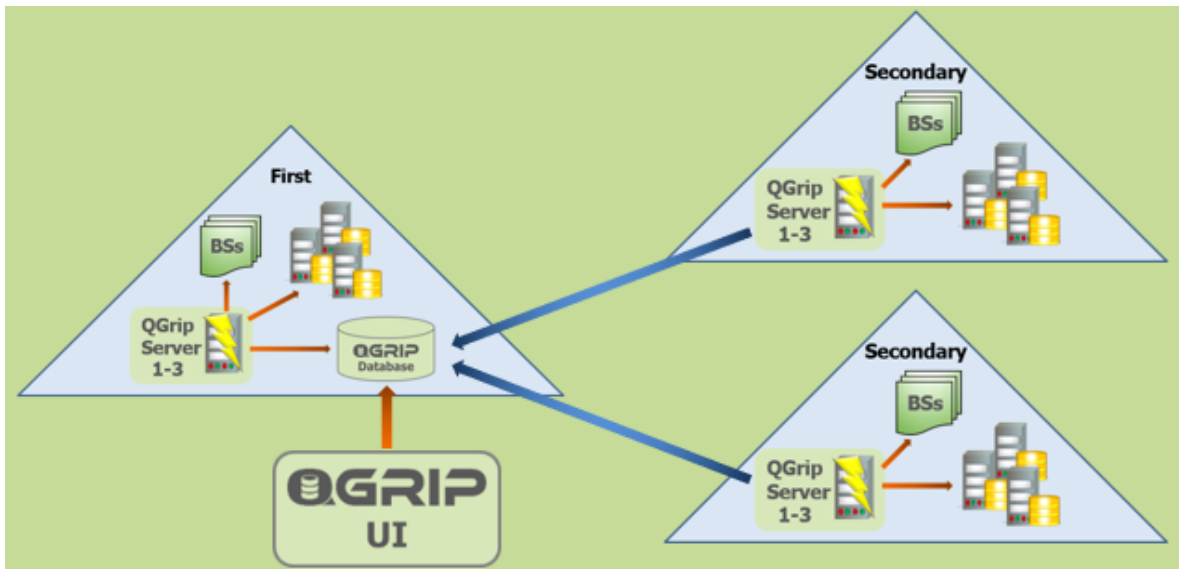| Doc-Tab	Title
Install	Limitations

2   Overview

Prior to installation of QGrip you will need to ensure that certain system requirements are met. These requirements are outlined in the following sections and in terms of the design and architecture components diagram below: -
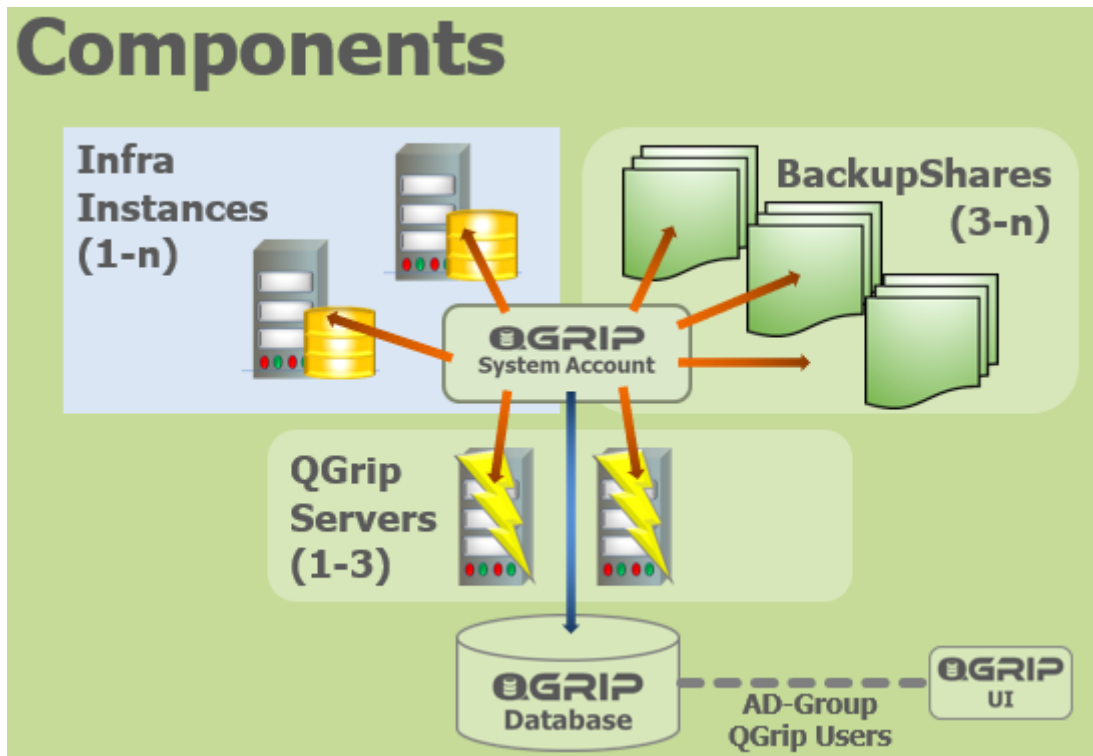
An overview of the QGrip components.

2.1   Multiple AD-Domain configuration

If your SQL Server environment is distributed in different AD-domains and you want to use one central QGrip database we call this a Multiple AD-Domain configuration. This introduces some additional requirement. Separate QGripServer(s), BackupShares and QGrip System Account will be needed in _all_ AD-Domains, including the 'First' Domain.

2.2   Overview Access/Authorisation
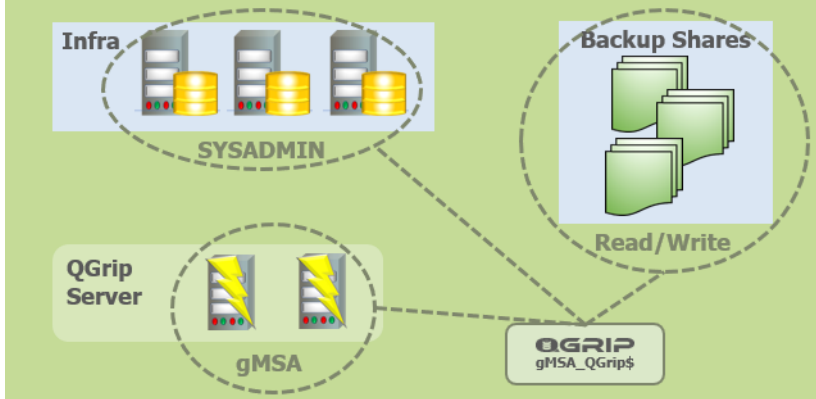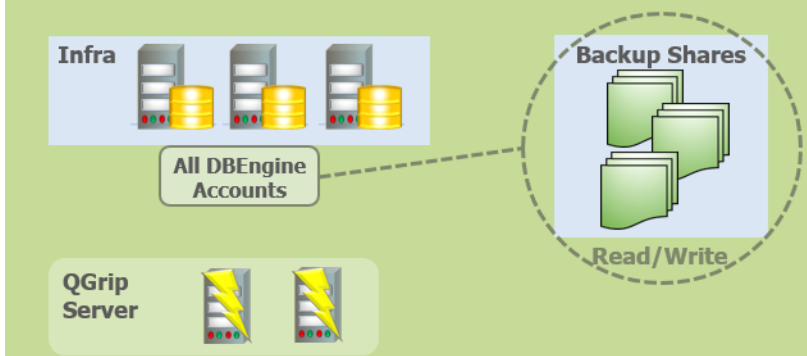
Access QGrip Users (AD)

2.3   Firewalls

(*) Instance Ports

Additional in Multiple Domain Configuration

3 Requirements

3.1 AD-Domain & Overall Requirements

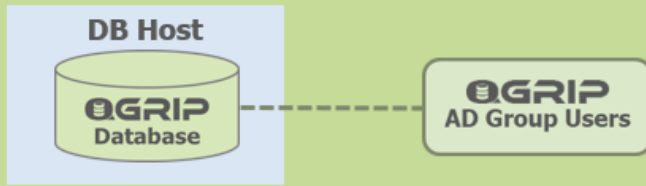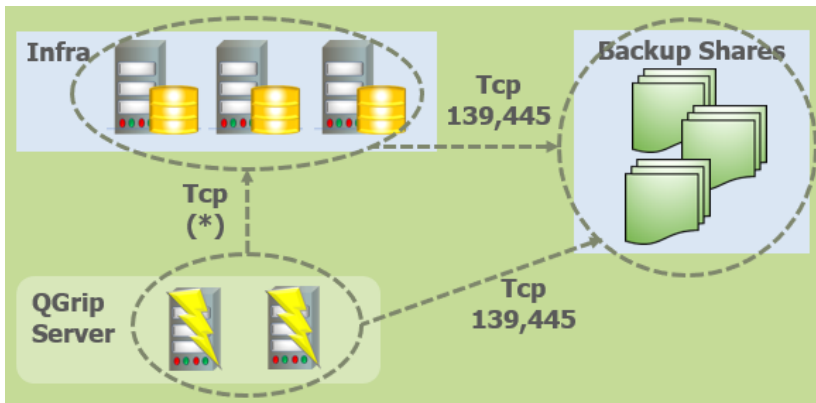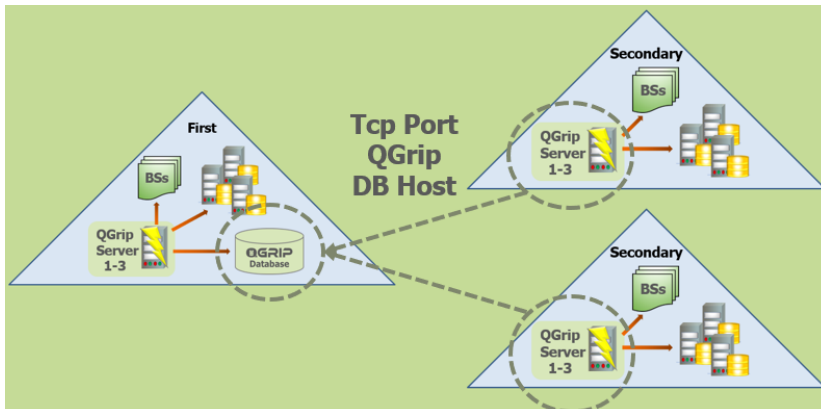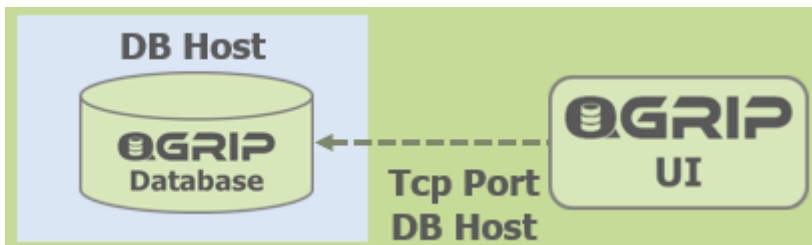| Requirement	Remark
Active Directory	QGrip needs Active Directory (AD) in order to work. All components need to be in the same AD domain except in a Multiple AD-Domain configuration. Active Directory forest level have to be set to Windows Server 2012 at a minimum to support use of group Managed Service Accounts.
Network	The network needs to be fast and stable enough to handle database backups to a file share.
Unique AD-Domain	Multiple AD-Domain configuration, Domain names need to be unique.
Unique Names	All names of Infra object (servers/hosts, SQL Server Instances, Clusters, Always on Listeners), need to be unique to avoid confusion.

3.2 QGrip Servers

Requirement	Remark
Windows Server 2012 R2 or higher	
4 GB Memory	
PowerShell 5.1 or higher	See Appendix.
.NET 4.0 or higher	See Appendix.
PowerShell Active Directory Module	See Install: Prepare Infra.
SQL Server SQLCmdLine Utils	See Appendix.
Access to all Instances (*), (**)	New firewall rules? (on port used by SQL Server)
Access to all BackupShares (*), (**)	New firewall rules? (port 139 and 445)
Access to the QGrip Database.	In Multiple AD-Domain configuration, new firewall rules may be needed.

(*) Within its own AD-Domain.
(**) Will be checked when added to QGrip.

3.3 QGrip System Account (gMSA)

Requirement	Remark
Group Managed System Account	gMSA_QGrip$
'Logon as a batch job' Local Security Setting	On all QGrip Servers (*)
SYSADMIN on all Instances (*)	Reminder when adding Instance to QGrip.
Full rights on all Backup Shares (*)	
Member of local Administrators Group on Backup Share Servers (**)	

(*) Within its own AD-Domain.
(**) Optional, needed if you want QGrip to Discover and Import Symmetric Keys (MASTER KEYs) and certificate and to enable QGrip Backup encryption and support of TDE.

3.4 Backup Shares

Requirement	Remark
Separate shares only used for QGrip backups.	Physical (Virtual) Disks. You should consider having at least 3 within each AD-Domain, 1 for regular backups and 1 for additional backups like archive backups and 1 for Import backups.
Backup to secondary (Optional)	Backing up the BackupShares to secondary storage (tape) reduces the period you need to keep the backup files on the share.
Enough diskspace	Strongly depend on the size of your databases and retention period.

3.5 Instances (SQL Server)

Requirement	Remark
SQL Server 2012 or Higher	
DB Engine service must run as an AD-account	Needed for access to all Backup Shares within its own AD-Domain.
TCP-IP enabled	The TCP IP protocol needs to be enabled.
IP-All TCP Port	Fixed port needs to be set, not dynamic port.
One DTAP environment	QGrip considers all Databases on an Instance to belong to the same DTAP environment.

3.6 Instances (SQL Server Always On)

Additional requirements for Instances in a SQL Server Always On configuration:

Requirement	Remark
Databases Readable on all Replicas	Thus, also on Secondary Replicas
Logins exist on all Replica Instances	This is only a recommendation, QGrip will check Consistency across the replicas and issue warnings.
User Database Data and Log directories identical on all Replicas.	

3.7 QGrip Users AD-Group

Requirement	Remark
AD-Group QGrip Users	For the communication between the QGrip-UI and the QGrip Database.

3.8 QGrip Database Instance

Requirement	Remark
SQL Server 2012 or higher	
Edition	Standard or Enterprise
Windows authentication	Needed for QGrip UI
SQL Server Authentication	Needed in Multiple Domain configuration where 'First' domain does not trust 'Secondary' domain or when needed for External monitoring and/or Export CMDB.

High availability	No jobs will start if QGrip database is down.
+/- 5 GB diskspace for QGrip database.	This depends on number of added Instances and Clean-up definitions.

The QGrip database can be placed on an existing *Production* SQL Server Instance or SQL Server Always on Cluster.

3.9   QGrip UI (User Interface)

On all machines where the QGrip UI will run, the following requirements need to be met.

Requirement	Remark
PowerShell 5.1 or higher	See Appendix.
.NET 4.0 or higher	See Appendix.
SQL Server SQLCmdLine Utils	Only needed for advanced users (see Postclone scripts).
Access to DB Host with QGrip database	New firewall rules might be needed.
AD-Group QGrip Users	See recommendation Prepare Infra.

3.10 File Transfer Method

Only needed in multiple AD-Domain configuration.

Requirement	Remark
File-Copy / FTP / SFTP	
Separate home folder for QGrip	
Separate User/Password for QGrip	
Accessible from all QGrip Servers	
Free space (*)	At least 120% of the backup file of the largest database.

(*) When using FTP/SFTP, QGrip will *not* check free space in advance which might result in a runtime error.

4   Appendix

4.1   Check PowerShell version

Check current version in PowerShell Window

```
$PSVersionTable.PSVersion

Major   Minor   Build   Revision
-----   -----   -----   --------
5       1       14393   1884
```

4.2   Check .NET version

Check current version in PowerShell Window

```
[environment]::Version

Major   Minor   Build   Revision
-----   -----   -----   --------
4       0       30319   42000
```

4.3   Check SQLCmdLine available

Check in CMD box

```
Sqlcmd -?
```

The following message implies that sqlcmd is not available and needs to be installed:
- 'sqlcmd' is not recognized as an internal or external command, operable program or batch file.