



# Design & Architecture

# QGrip Design Focus

- **Simplicity**
- **Flexibility**
- **Efficient**
- **Traceable**
- **Configurable**
- **Security**

## Conflict

- **Simplicity vs Flexibility**
- **Not everything is possible**

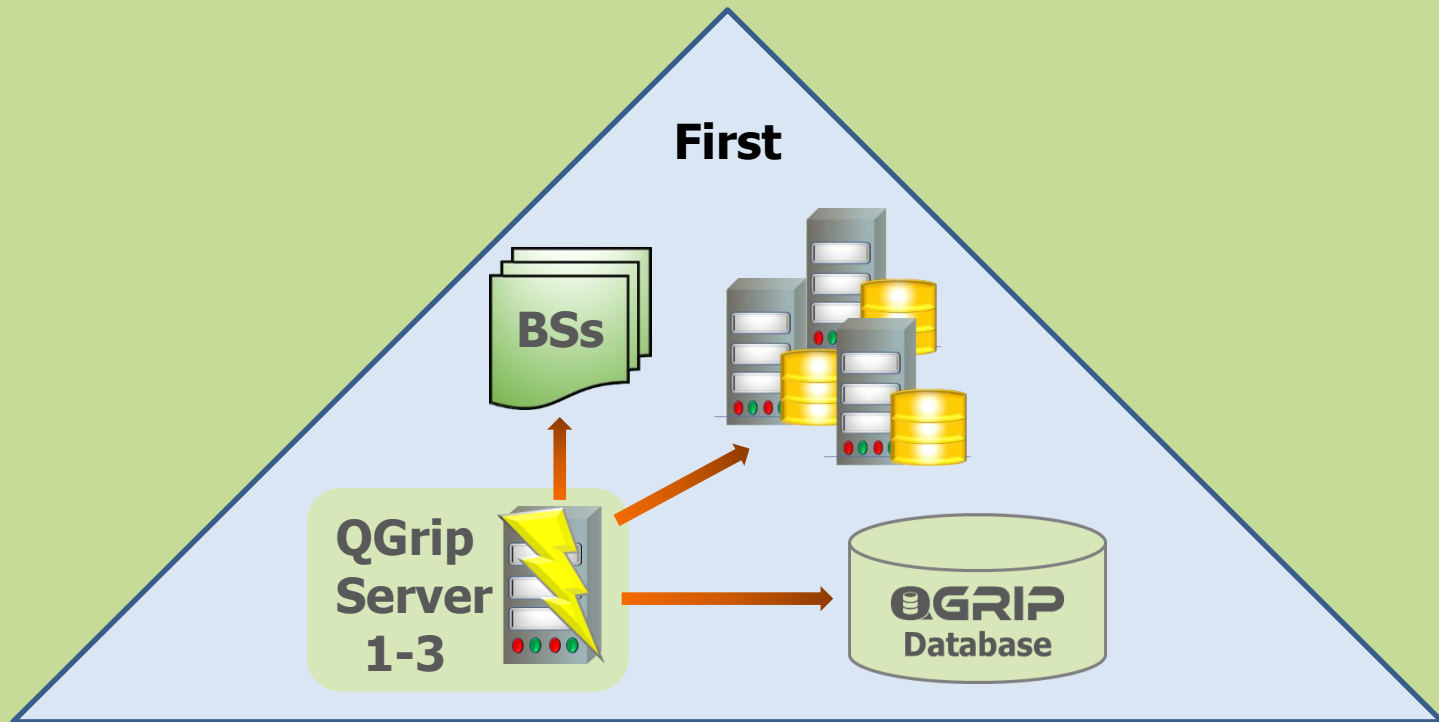
# QGrip Software

## Built using

- Powershell
- .NET
- SQL

Available almost everywhere

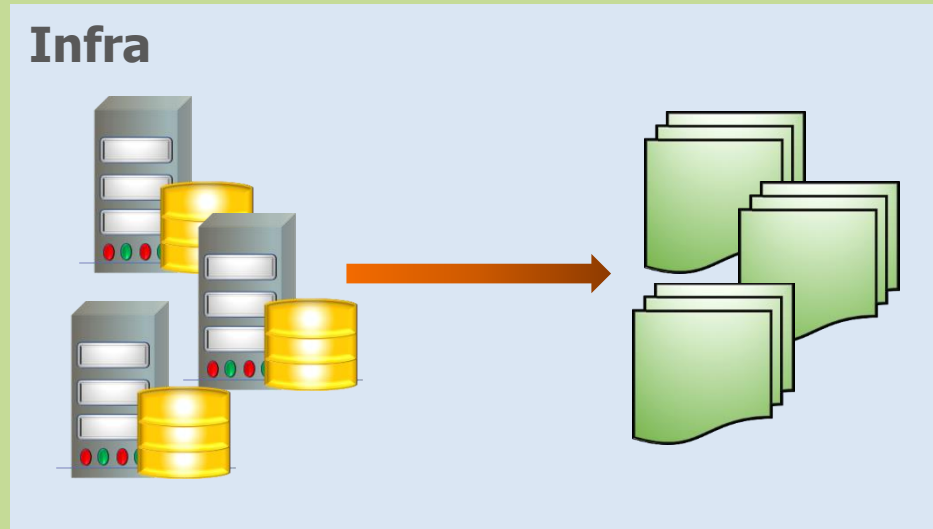
# QGrip Within one AD Domain



**Multiple Domain, see**

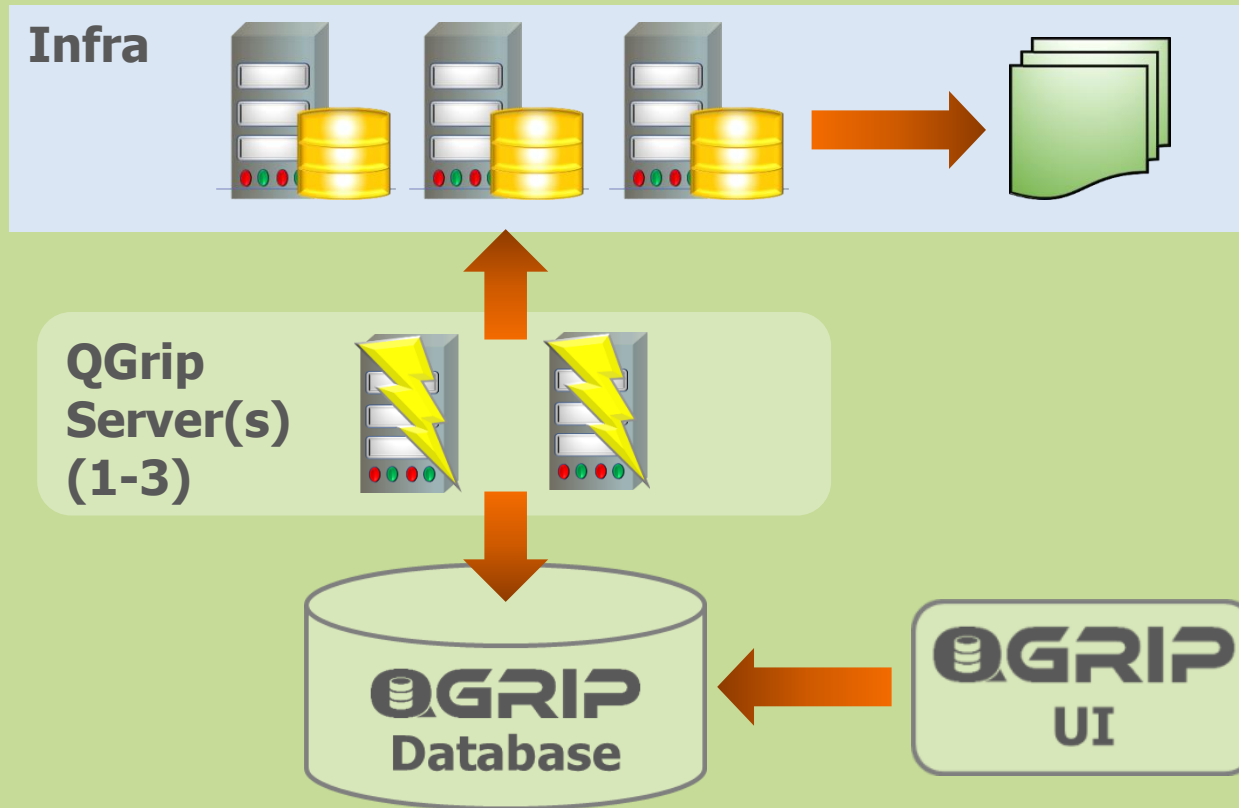
**– Multiple Domain Configuration**

# Backup to Backup Share



- **QGrip only supports backups to Backup Shares**

# QGrip Components



# QGrip Servers

## QGrip Server

- Dedicated for QGrip
- QGrip Processes (10 or 20)
- Processes started by Task scheduler
- Running as gMSA\_QGrip\$

QGrip  
Server(s)  
(1-3)



## gMSA\_QGrip\$

- group Managed Service Account

# Backup Shares

## Minimum 3

### 1. Regular Backups

- DBBackup, LogBackup

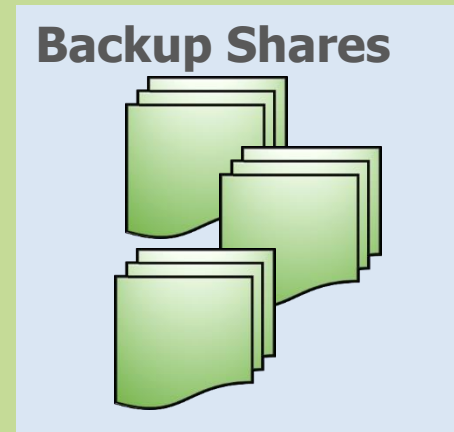
### 2. Copy Only backups

- CopyOnly, Archive, BaseLine

### 3. Import

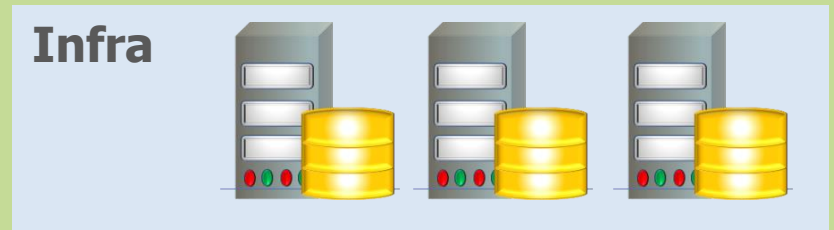
- For none QGrip backups

**Full rights to gMSA\_QGrip\$ and all DB-Engine Accounts.**





# Instances



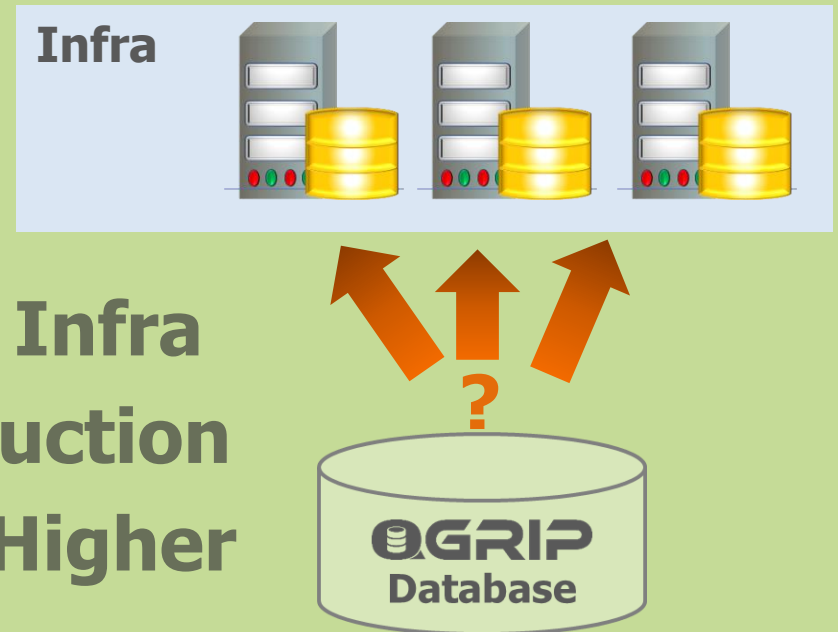
## Instance

- Environment = D,T,A or P (Not Mixed)
- DB-Engine Account = AD Domain Account (Managed Service Account)
- SQL Server 2008 or Higher
- gMSA\_QGrip\$ added as SYSADMIN

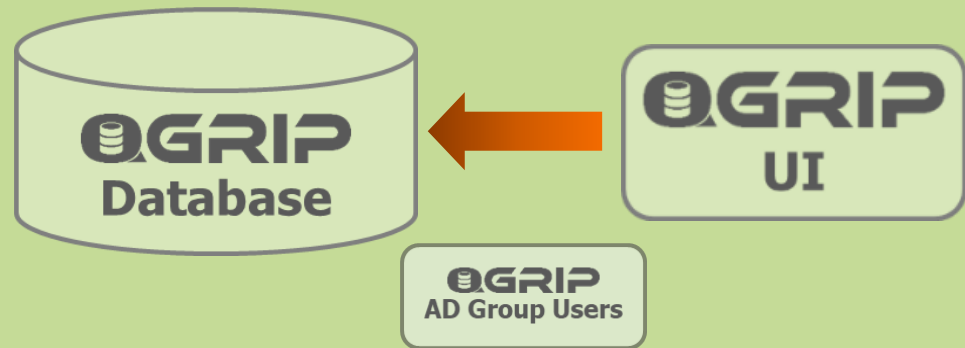
# QGrip Database

## Instance/Listener

- Running on DB Host Infra
- Environment = Production
- SQL Server 2012 or Higher
- 5 GB disk space
- Windows Authentication
  - Mixed Mode might be needed depending on External monitoring / Export CMDB / Multiple Domain Configuration



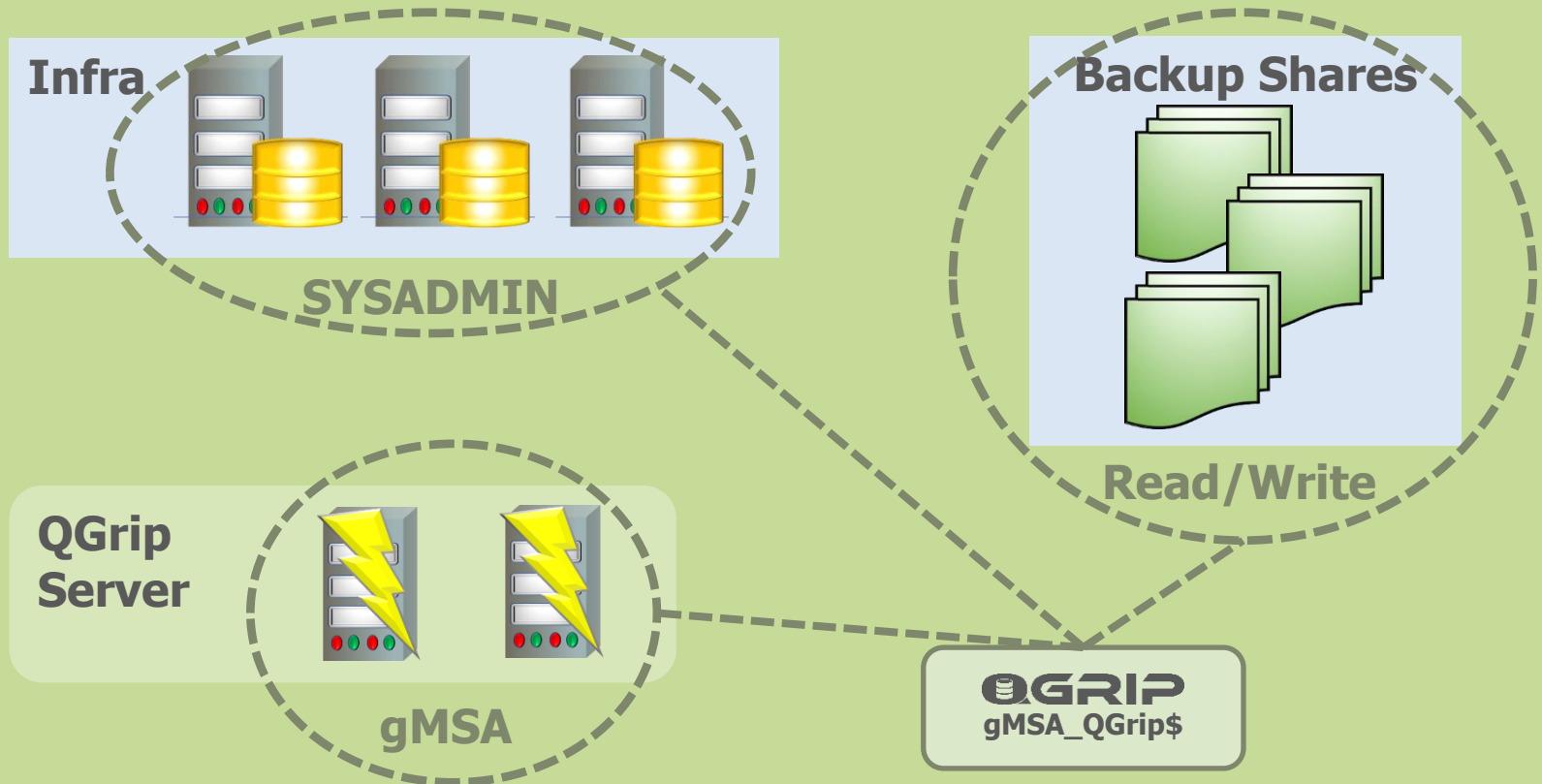
# QGrip UI



## QGrip UI (User Interface)

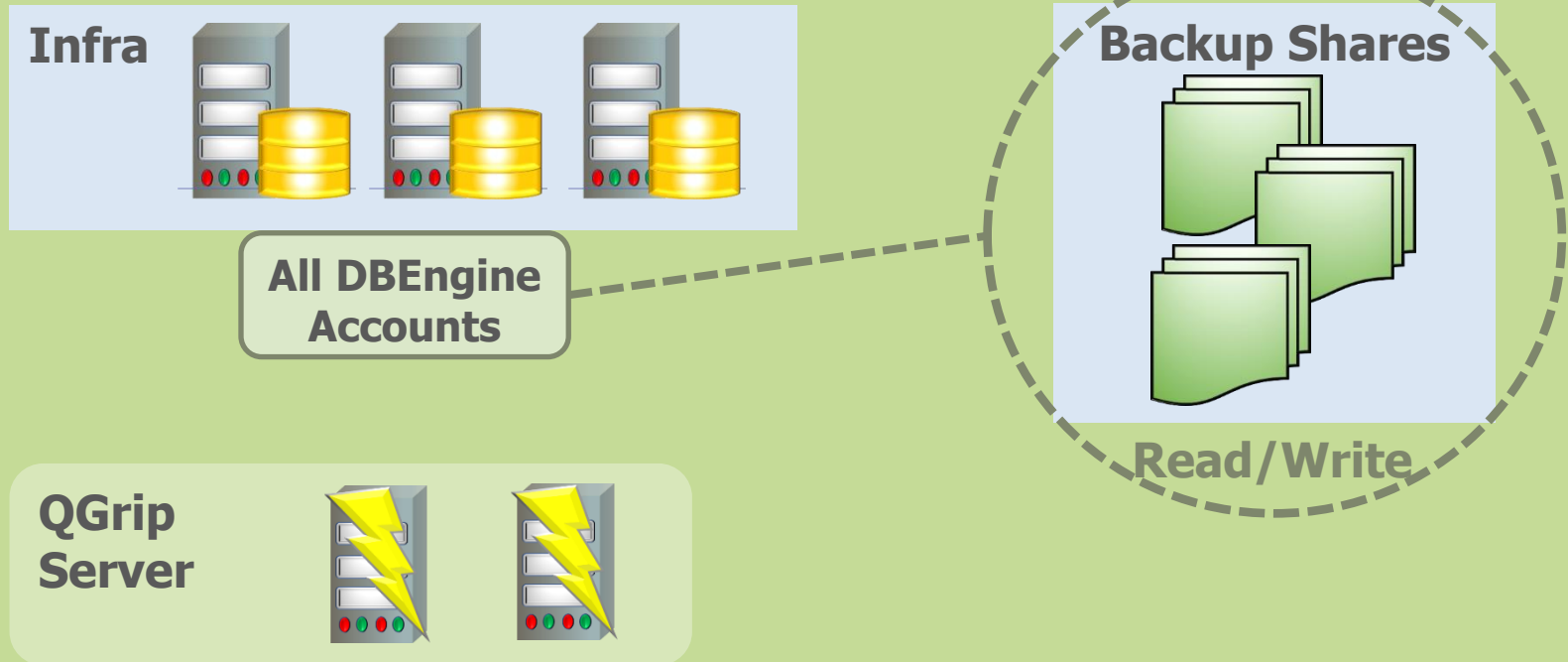
- Executable + ini-file
- Windows Authentication (AD Group)

# Access QGrip (gMSA)



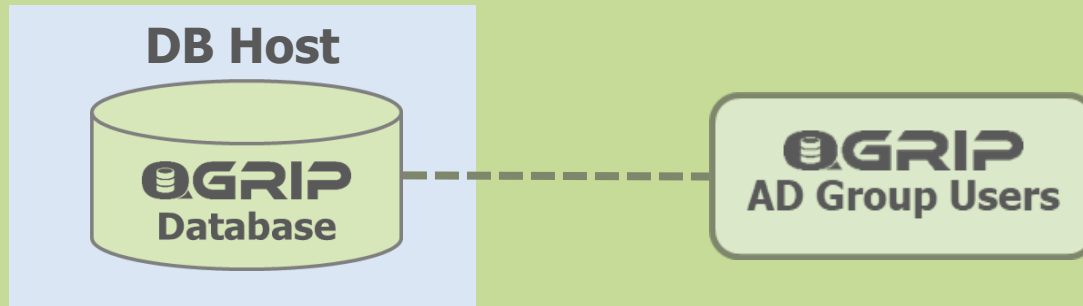
**group Managed Service Account**

# Access DBEngine Accounts



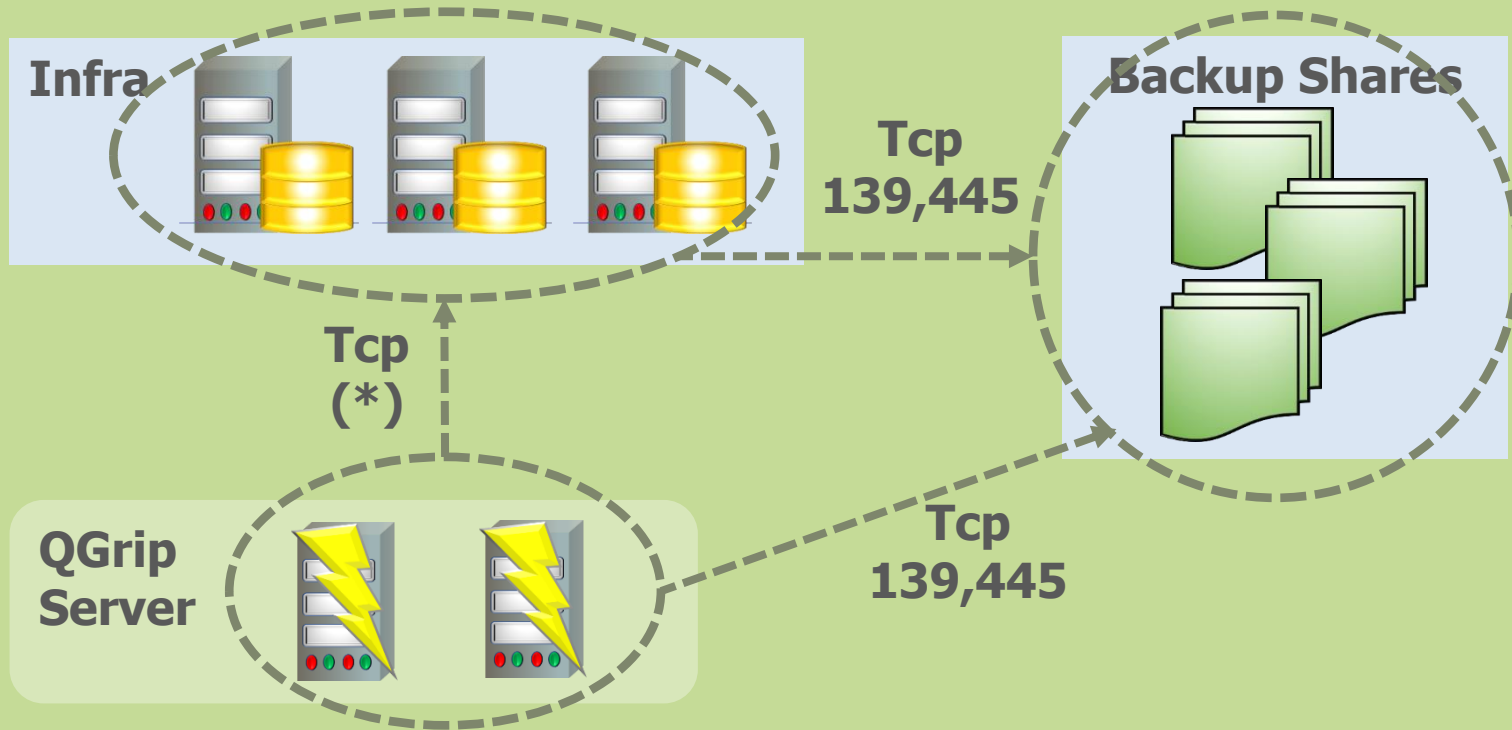
**All DBEngine Accounts need read/write rights on all Backup Shares**

# Access QGrip Users (AD)



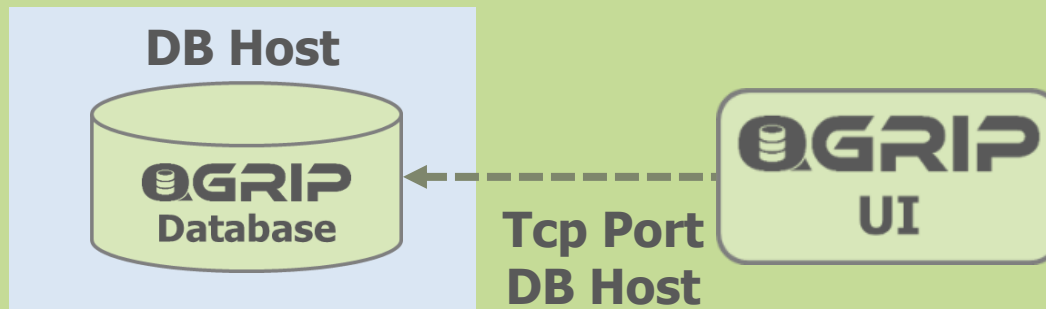
**Access QGrip Database arranged during Initial Configuration**

# Firewalls Open



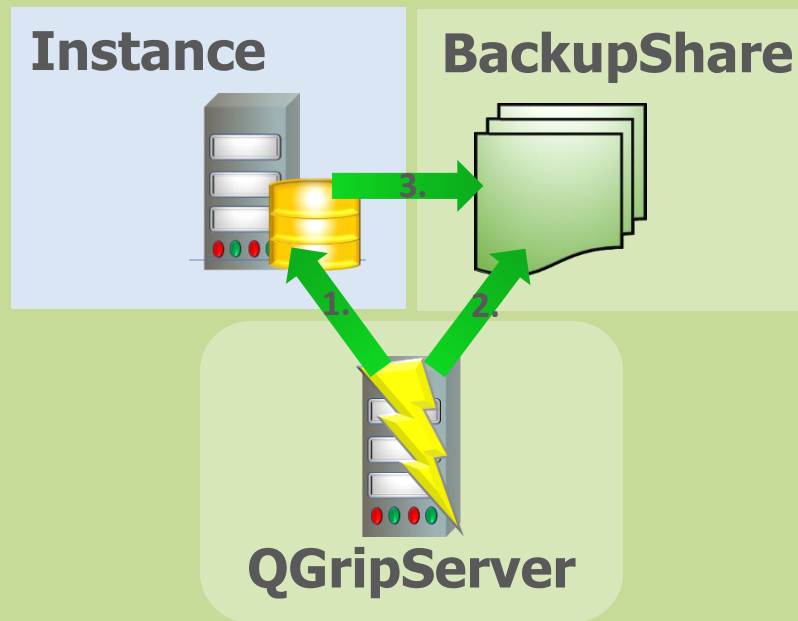
**(\*) All Instance Ports**

# Firewalls Open QGrip UI





# Accessibility Checks



1. Every QGripServer → Every Instance
2. Every QGripServer → Every BackupShare
3. Every Instance → Every BackupShare

# Security

- **QGrip System Account = gMSA**
- **Authorisation via Teams in QGrip**
- **Job Requests according to User Authorisation**
- **Extra check in Stored Procedures**
- **Database Code is Encrypted**
- **Password Hash (used for compare)**
- **Token during login for decrypt**
- **Request + Approval configurable**