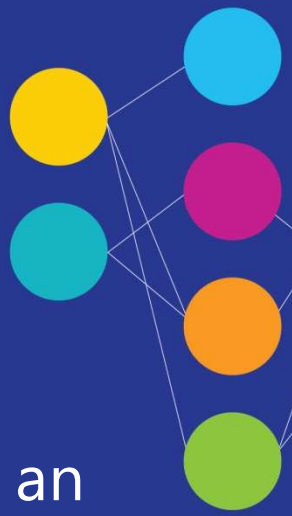

Connecting the dots

Neum 27-29/3/2019

SQL Availability Groups in an Azure Workgroup Cluster

Ljubo Brodarić

Atos Big Data & Cyber Security Mission Critical Systems

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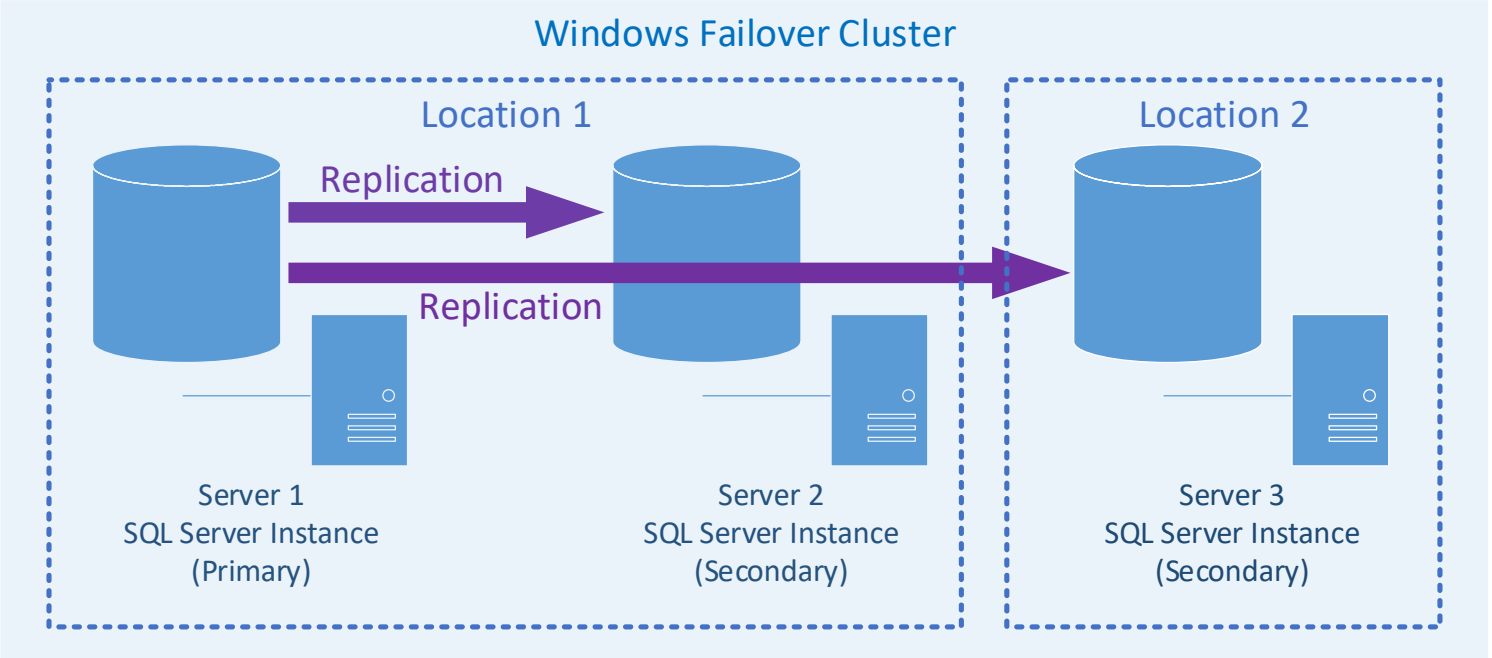
SQL Server Availability Group

- SQL Server High Availability and Disaster Recovery feature



SQL Server Availability Group

- Requires a Windows Server Failover Cluster (WSFC)
- Each availability replica must reside on a different node of the WSFC
- Cluster role is created for every availability group
- WSFC cluster monitors role to evaluate the health of the primary replica
- Quorum for AGs is based on all nodes in the WSFC

	SQL Server FCI	**SQL Server Availability Group**
Uses WSFC cluster	Yes	Yes
Protection level	Instance	Database
Storage type	Shared	Non-shared
Storage solutions	Direct attached, SAN, mount points, SMB	Depends on node type
Readable secondaries	No	Yes
Failed-over resources	Instance	Database

AG basics

- Availability Database
- Availability Replicas
  - Primary replica hosts read-write databases
  - Secondary replica hosts read-only databases
- Availability Modes
  - Asynchronous-commit mode
  - Synchronous-commit mode
- Automatic or manual failover (forced and planned)

AG basics

- Active Secondary Replicas
  - Backup operations
  - Read-only access
- Availability group listener
  - Virtual network name (VNN) for client connections
- Automatic Page Repair

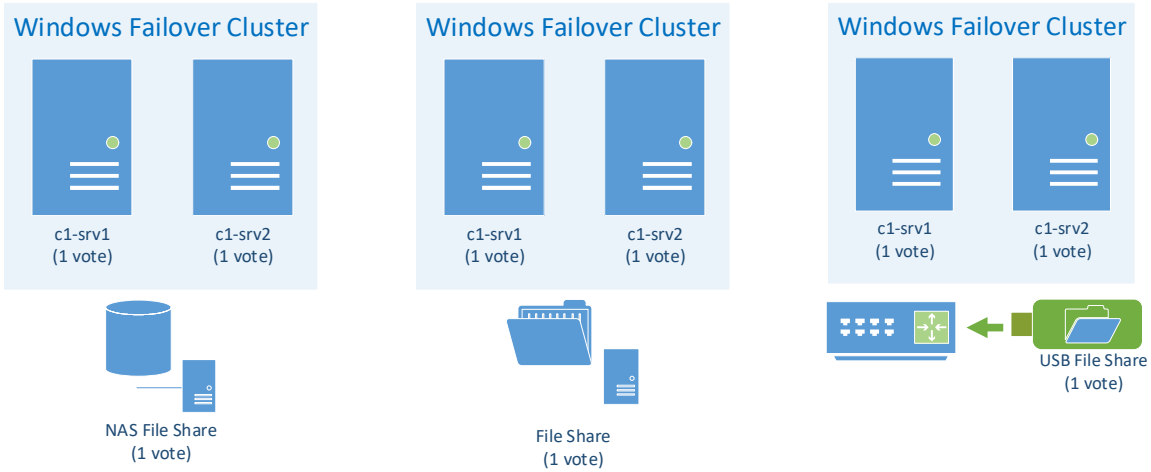
IMPORTANT: Do not use the Failover Cluster Manager to move availability groups to different nodes or to fail over availability groups!!!

Workgroup cluster

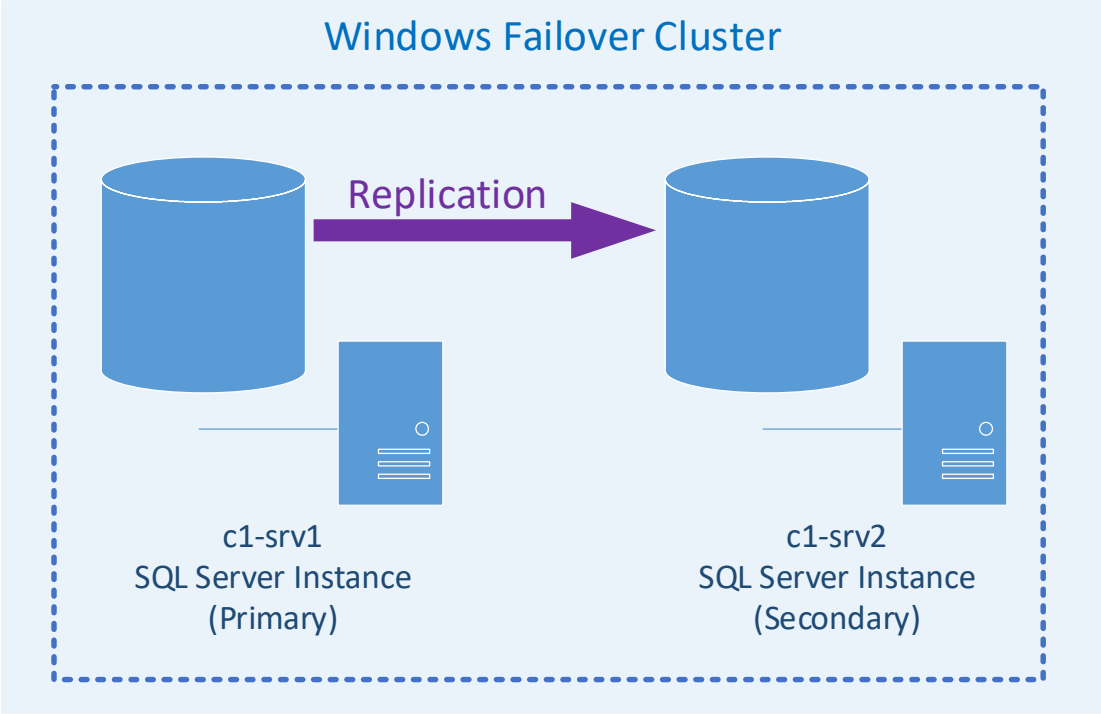
- Nodes are not domain joined
- Minimum infrastructure for HA
- All servers must be running Windows Server 2016/2019
- Requirements
  - DNS (or not - hosts file can be used)
  - Azure DNS Private Zones (public preview)
  - Identical admin account on all nodes
  - Primary DNS suffix on all nodes
  - Internal Load Balancer for Azure deployed (no GARP/broadcasting in cloud networks)

Cluster quorum

- Allways configure witness (in Azure use Cloud Witness)
- On-prem use traditional or new File Share (Windows Server 2019)
- New file share: NO kerberos, NO additional machine, NO account needed on the nodes



Demo


Windows Failover Cluster
Replication
c1-srv1
SQL Server Instance
(Primary)
c1-srv2
SQL Server Instance
(Secondary)

DA LI VAM SE SVIDJELO OVO PREDAVANJE?
Ocijenite ga i osvojite vrijedne nagrade!

Ocjenjivanje predavanja kojima ste prisustvovali je moguće na dva načina:

1. Posjetom web stranici
https://www.networkkonferencija.ba/profile/evaluation vršite evaluaciju u sklopu svog korisničkog profila.

2. Ocijenite predavanja kroz konferencijske mobilne aplikacije pod nazivom NetWork Conference koje su dostupne za Android i iOS mobilne uređaje.

U oba slučaja potrebno je prijaviti se sa korisničkim računom sa kojim ste se registrovali za učešće na konferenciji.

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