Microsoft SQL Server Availability Groups

For netFORUM Enterprise

Running a successful association requires an understanding of how to serve members, regardless of conditions. And when it comes to the technology you rely on to support your daily operations, even the shortest downtime can prove risky for the reputation of an organization.

Abila is proud to offer clients running netFORUM Enterprise versions 2015.1.4 or newer AlwaysOn Availability Groups, the most sophisticated availability technology from Microsoft on SQL Server. The cornerstone of any AMS continuity plan, AlwaysOn Availability Groups takes traditional database mirroring and failover clustering to the next level, maximizing the availability of your mission-critical netFORUM Enterprise information.

Benefits of SQL Server AlwaysOn Availability Groups

In addition to mitigating risk, AlwaysOn Availability Groups provide[i]:

Combined HA / DR	High availability and disaster recovery with live copies of your databases residing on several secondary servers, immediately *usable* in read-only mode.
Greater Control	Configure an availability group to replicate synchronously, writing data to both the primary and to the secondary area at the same time for absolutely no data loss in the event of disaster recovery or choose asynchronous replication, for faster execution of transactions.
Beyond Backup to Active Use	Because secondary replicas aren't just backup copies, they're usable for read-only tasks. Query the data, run reports or direct end-user connections to specific secondary replicas to spread out the workload.
Enhanced Performance	Offload resource intense operations, read-only and maintenance tasks to the secondary replica to relieve strain on the primary replica, optimizing performance.

AlwaysOn Availability Groups and netFORUM Enterprise

With enhanced support for availability groups, the vast majority of read-operation (SELECT commands or stored procedure calls) in netFORUM Enterprise versions 2015.1.4 and newer will go to read-only replica database, allowing the primary transactional database to be reserved almost exclusively for write (insert, update, delete) operations:

- Reports
- Query
- Find
- Child Forms
- Super Search
- xWeb GetQuery

- xWeb GetDynamicQuery
- xWeb ExecuteMethod
- Record Selects
- Form Links
- Cached Metadata

- eWeb page content (Lists, Xsl controls)
- Conditions for read-only and visibility, which are used to govern access to many content areas of netFORUM

The combination of high availability and disaster recovery in a single framework designed for peak operation now makes SQL Server Availability Groups the smart choice for high-performing associations.

System Requirements

AlwaysOn Availability Groups require:

- Microsoft SQL Server Enterprise edition license, which is an upgrade from the Standard edition license.
- A second SQL Server hardware instance for the secondary replica. The second server must have the same configuration (processor, memory, etc.) as the primary server in order to realize the benefits of AlwaysOn Availability Groups.
  - *Optional*: beginning with netFORUM 2017.1, an organization may choose to have a third SQL Server replica.

netFORUM 2017.1 and SQL Server 2016

netFORUM 2017.1 runs on SQL Server 2016. Previous versions of netFORUM run on SQL Server 2012.

Microsoft added many enhancements to AlwaysOn Availability Groups in SQL Server 2016[ii] including round-robin load balancing in readable secondaries. For clients with heavy loads who require the ultimate in performance, adding a second read-only replica, for a total of three database servers (one primary plus two secondary replicas), will provide an even faster experience by sharing the load on the read-only replica from one server to two servers.

Technical Notes

You can fine tune which operations go to the main database or the secondary replica by adjusting the setting of the EnableSQLReadOnlyAGConnection system option.

The availability group is referenced in a netFORUM configuration setting called sqlConnectionStringReadOnly within the connectionStrings node. This setting is in the web.config files which are located in the root of the iWeb, eWeb, xWeb and binaries directors of netFORUM. The "ApplicationIntent" attribute of "ReadOnly" enables the readonly replica, assuming the AlwaysOn Availability Group has been installed; if not, then netFORUM will resolve to the primary database.

Example:

```
<add name="sqlConnectionStringReadOnly" connectionString="Data Source= database-server-
name;Initial Catalog= netforumDatabaseName; Trusted_Connection=Yes;
ApplicationIntent=ReadOnly" providerName="System.Data.SqlClient" />
```

FAQ

Q. How can I get AlwaysOn Availability Groups for my netFORUM instance?

A. Please contact your customer account manager for more information on the licensing, hosting and service costs to implement AlwaysOn Availability Groups.

Q. Does netFORUM support AlwaysOn Availability Groups in releases before netFORUM 2015.1.4?

A. Yes, but only for reports. See chart below for more.

Q. Which netFORUM features are available in the SQL Server Standard edition vs Enterprise edition, and in which versions of netFORUM and SQL Server?

A. Please refer to the following chart. Beginning with netFORUM 2017.1 (which runs on SQL Server 2016), one of these features – table partitioning – becomes available in the Microsoft SQL Server Standard edition. The blue checkmarks highlight when a particular first feature becomes available in a release of netFORUM or version/edition of SQL Server.

netFORUM Release	netFORUM 2015.1.2 and earlier		netFORUM 2015.1.4		netFORUM 2017.1	
SQL Server Version	SQL Server 2012				SQL Server 2016	
SQL Server Edition	Standard	Enterprise	Standard	Enterprise	Standard	Enterprise
netFORUM support for AlwaysOn Availability Groups for Reports only (also requires additional SQL Server)		✓		✓		✓
Enhanced netFORUM support for AlwaysOn Availability Groups for Reports and other read commands (also requires additional SQL Server)				✓		✓
Table partitioning				✓	✓	✓
Data Driven Subscriptions		✓		✓		✓
Everything else	✓	✓	✓	✓	✓	✓

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[i] [Overview of Always On Availability Groups (SQL Server)](#)
[ii] [Enhanced Always On Availability Groups in SQL Server 2016 | SQL Server Blog](#)