

What's New in SQL Server 2014

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About Bob Beauchemin

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- SQL Server MVP
- Author of books and numerous resources related to SQL Server and data access
 - Microsoft SQL Server 2012 Internals - Special Indexes Chapter
 - A Developer's Guide to SQL Server 2005
 - A First Look at SQL Server 2005 for Developers
 - SQL Server MVP Deep Dives – Volume 1
 - Essential ADO.NET



Outline

- In-Memory OLTP
- Columnstore Improvements
- New Cardinality Estimator
- Additional Performance Features
- Azure Integration
- Others

1- In-Memory OLTP

- Pillars of In-Memory OLTP
- Memory-Optimized Tables details
- Compiled Stored Procedures details
- Multi-version concurrency control
- Programming differences
- Operational differences
- Migrating

2-Columnstore Enhancements

- **Columnstores**
 - Column-based storage vs. Row-based storage
 - Clustered columnstore
 - Archival compression
- **Query Improvements**
 - Batch mode
 - Partition and segment elimination
- **Updatable Columnstore**
 - Deltastores
 - Insert batch improvement
- **Use cases**
 - For clustered and nonclustered columnstore

3-Cardinality Estimation

- **Cardinality Defined**
- **Cardinality Estimator – SQL Server 7 – 2012**
- **Cardinality Estimator – SQL Server 2014**
- **Tracing and Troubleshooting the new Cardinality Estimator**

4-Additional New Features

- Performance Features
- Reliability and Security Features
- Hybrid Cloud Features