

# SQL Server Loadfest

## Lesson 1 – What is SQL Server

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Lesson 1 - What is SQL Server

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### Why we're here

- § Hands-on install of SQL Server 2008
- § Learn about managing SQL Server 2008
- § Learn about SQL Server 2008 security

### What is SQL Server?

### History of SQL Server

- § Based on Sybase SQL Server 1980's
- § First Microsoft edition was for OS/2
- § Microsoft only versions 4.2 – 6.5
- § SQL Server 7.0 was a 95% rewrite (1997)
- § SQL Server 2000 – Now on SP 4\*
- § SQL Server 2005 – Now on SP3
- § SQL Server 2008 – August

\* Limited support

### Pieces and Parts

- § Database Engine
- § SQL Server Agent
- § Replication
- § Full-Text Search
- § Reporting Services
- § Integration Services
- § Analysis Services
- § Client Connectivity / Client Tools

### Database Engine

- § Service that is the interface to databases
- § All database changes go through the engine
- § Database size to 500 TB
- § Multiple Databases/Instance

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### Instances

- § Instance is a "SQL Server"
- § Multiple instances on each Windows Server
- § May mix versions from 2000 – 2008
- § May mix Service Packs or Language

### SQL Server Agent

- § Scheduling Mechanism
- § Runs
  - SQL Scripts
  - SSIS Packages
  - Analysis Service Cubes
  - Other Programs
  - Maintenance, Backups, etc.

### Replication

- § Synchronizes data between databases
- § Publish – Subscribe Model
- § Multiple Types of Replication
  - Snapshot
  - Transactional
  - Merge
  - Peer-to-Peer

### SQL Server Full-Text Search Service

- § Creates an index on text columns
- § Runs as an external process
- § Adds predicates to T-SQL
  - CONTAINS - CONTAINSTABLE
  - FREETEXT - FREETEXTABLE

### SQL Server Reporting Services

- § Report Writer and Reporting Server
- § Report Server Executes on the server
- § Reports can be scheduled

### SQL Server Integration Services

- § Enter Test and Load tool
- § Programmed with Business Intelligence Studio (Visual Studio)
- § Breakout this afternoon – 1:15

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### SQL Server Analysis Services

- § On-Line Analytical Processing – OLAP  
(Cubes)
- § Data Mining

### SQL Server Browser

- § Directs connections to the correct instance
- § Supports SQL Server 2000 - 2008

### SQL Server Client 10.0

- § Connectivity components
- § DB-Library
- § Ole DB
- § ODBC

### Client Tools

- § SSMS SQL Server Management Studio
- § SQL Server Configuration Manager
- § Business Intelligence Development Studio
- § SQL Server Installation Center
- § SQL Server Profiler
- § SQLCMD – command line execution

### SQL Server Feature Packs

- § Additional Tools
  - Ole Db Drivers
  - Database Publishing Wizard
  - SQLCLR libraries

### SQL Server 2008 - Editions

- § Enterprise – Developer - Trial
- § Standard
- § Workgroup
- § Web
- § Express
- § Compact
- § Trial

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### **Enterprise Edition**

- § All the features
- § Limited by operating system limits
- § 50 Instances

### **Developer Edition**

- § Same features as Enterprise
- § License limits:
  - 1 User
  - No production use

### **Trial Edition**

- § Enterprise Edition Features
- § 180 Days timeout
- § For Evaluation only

### **Standard Edition**

- § All the components.
- § Some of the features not included
- § 4 Core Limit

### **Workgroup Edition**

- § 2 CPU, 4GB Ram
- § 16 Instances
- § Replication Subscriber Only

### **Web Edition**

- § Web Workload Only
- § 4 CPU
- § OS memory limit
- § 16 Instances

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### SQL Server Express

- § Free
- § 1 CPU
- § 4 GB Database Size
- § Limited Features, Tools

### SQL Server Compact Edition

- § Embedded Database  
(Runs in-process with calling application)
- § Evolved from SQL CE (Compact Edition)
- § Lacks programmability features (sprocs)
- § Runs on the mobile platform

### Instances/Edition

Edition	Instances
Enterprise	50
Standard	16
Workgroup	16
Developer	50
Web/ISP	16
Express	16
Compact	N/A

### 32-Bit vs. 64-Bit

- § 32 Bit supported on all 32 bit OS
- § 32 Bit supported on 64 bit Server
- § 64 Bit supported on 64 bit OS

**What does SQL Server cost?**

### Pricing Models

- § Per Processor  
– Charge for each "Socket", not core
- § Server Plus CAL

<http://www.microsoft.com/sqlserver/2008/en/us/pricing.aspx>  
See linked document "2008 SQL Server

AS of 3/15/2009

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## Lesson 1 – What is SQL Server

### Retail List Prices

Edition	Processor	Server + (CAL)
Enterprise	\$24,999	\$13,969 (25)
Standard	\$5,999	\$1,849 (5)
Workgroup	\$3,899	\$739 (5)
Developer	\$50	N/A
Web/ISP	\$15/Proc/Month	N/A
Express/Compact/Trial	\$0	\$0

<http://www.microsoft.com/sqlserver/2008/en/us/pricing.aspx> As of 3/15/2009

### Also Included In

- § Small Business Server – Premium
- § Essential Business Server – Premium
- § Additional products

### Lesson 1 – Recap

- § SQL Server has a long history
- § SQL Server 2008 - Multiple Editions
- § Many Components
- § You don't have to install all components

### What's Next in Lesson 2

- § Preparing for the install
- § Operating Systems
- § Storage/Disks
- § Security