

# MANAGE YOUR SHOP WITH POLICY BASED MANAGEMENT & CENTRAL MANAGEMENT SERVER

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SQL Server 2005

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# Objectives

- ▶ CMS Configuration
- ▶ CMS Import and Export
- ▶ Policy Creation
- ▶ Policy Evaluation
- ▶ Alerts
- ▶ Reporting

# Central Management Server

- ▶ CMS stores connection information for all your SQL servers in one central location.
- ▶ It's just like registered servers but is housed in MSDB



# Requirements

- ▶ Must be on a SQL 2008 Instance
  - ▶ All editions are supported including Express
  - ▶ You can register SQL 2000 and 2005 instances
- ▶ Security managed by two MSDB database roles
  - ▶ ServerGroupAdministratorRole
    - ▶ Allows management and configuration of the CMS
  - ▶ ServerGroupReaderRole
    - ▶ Allows connect and read to the CMS

# Advantages

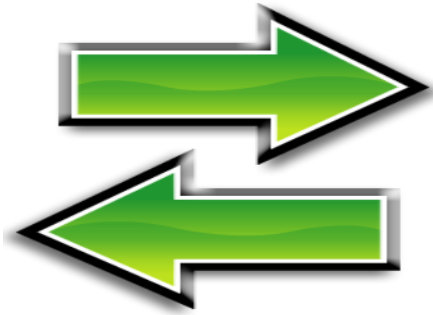
- ▶ Connection repository that all your admins can use
- ▶ Allows you to run a query against multiple servers simultaneously
- ▶ Allows you to group servers logically. Examples are by function, geographic location, or version
- ▶ Allows you to evaluate PBM policies against groups of servers

# Disadvantages

- ▶ The CMS server cannot be a part of its own group
  - ▶ Workaround is to use 127.0.0.1 or an FQDN
- ▶ Registered servers can only use Windows authentication.

Why is this a disadvantage?

# Import and Export



Import your locally registered servers

Export servers from your CMS groups

- ▶ Exports are stored in XML format
  - ▶ Exporting Local Connections
    - ▶ Windows Authentication
      - ▶ Username and password are not exported
    - ▶ SQL Authentication
      - ▶ Username exported, and password exported as hashed



Demo

# Policy Based Management



- ▶ Gives us centralized management of our SQL Servers
- ▶ Allows us to evaluate, configure, and enforce standards across the enterprise.

# Requirements

- ▶ SQL Server 2008 Standard, Enterprise, or Developer
  - ▶ You can evaluate policies against SQL 2000 and 2005 instances, but SQL 2008 is required for the policy server
- ▶ MSDB

# Terminology

- ▶ Facet
- ▶ Condition
- ▶ Policy
- ▶ Target
- ▶ Server Restriction
- ▶ Category



# Creating Policies

## Manual Policy Creation

- ▶ GUI
  - ▶ Create a check condition
  - ▶ Create a policy
    - ▶ Define check condition created in previous step
    - ▶ Define target condition
    - ▶ Define evaluation mode
    - ▶ Define server restriction condition
- ▶ T-SQL
  - ▶ `dbo.sp_syspolicy_add_condition`
  - ▶ `dbo.sp_syspolicy_add_object_set`
  - ▶ `dbo.sp_syspolicy_add_target_set`
  - ▶ `dbo.sp_syspolicy_add_target_set_level`
  - ▶ `dbo.sp_syspolicy_add_policy`

# Creating Policies

## Import

- ▶ Import policies exported from other servers
- ▶ Import Microsoft best practice policies
  - ▶ %installdir%\100\tools\policies\databaseengine\1033
- ▶ Option – Replace duplicates with items imported
- ▶ Option – Policy state
  - ▶ Preserve state
  - ▶ Enabled
  - ▶ \*\*\* Disabled \*\*\*

# Policy Evaluation

- ▶ Evaluation Modes
  - ▶ On Demand
  - ▶ On Schedule
  - ▶ On Change: Log Only
  - ▶ On Change: Prevent

# Policy Evaluation

## ▶ Methods

- ▶ Evaluate a single policy against a single instance
- ▶ Evaluate multiple policies against a single instance
- ▶ Evaluate a single policy against multiple instances
- ▶ Evaluate multiple policies against multiple instances



Demo

# Alerts

- ▶ Requirements
  - ▶ Database Mail
  - ▶ Operators
  - ▶ Enable alert system notifications in SQL Agent
  - ▶ Policy must be enabled to raise an alert
- ▶ PBM Error Numbers
  - ▶ On Change: Prevent (automatic) – 34050
  - ▶ On Change: Prevent (on demand) – 34051
  - ▶ On Change: Log Only – 34053
  - ▶ On Schedule – 34052

# Reporting

- ▶ Enterprise Policy Management Framework is an open source reporting project for PBM available on CodePlex.com
- ▶ Requirements
  - ▶ SQL 2008 SP1 CU3
  - ▶ PBM
  - ▶ CMS
  - ▶ PowerShell
  - ▶ Management Database
  - ▶ SQL Reporting Services
- ▶ Setup
  - ▶ SQL script to create the database
  - ▶ PowerShell script to evaluate policies against CMS
  - ▶ BIDS reporting project



Demo

# Use Cases

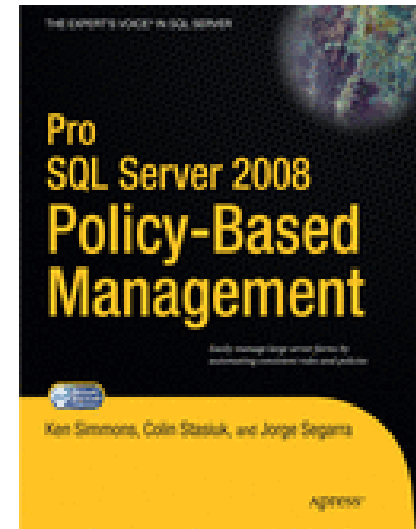
Disable Auto Shrink	Authentication Mode	SQL Password Expiration
SQL Password Policy	Guest Permissions	Last Backup Time
Auto Grow	Auto Create Statistics	Auto Update Statistics
Enforce Naming Convention	DB Compatibility Level	Recovery Model
Encryption	Is Trustworthy	Login Auditing
Enable Database Mail	Disable SQL Mail	Backup Compression
SQL Agent Running	Agent Jobs Notify on Failure	Monitor SQL Agent Jobs
Transaction Log Backups	Disable xp_cmdshell	

# Summary

- ▶ CMS Configuration
- ▶ CMS Import and Export
- ▶ Policy Creation
- ▶ Policy Evaluation
- ▶ Alerts
- ▶ Reporting

# Resources

- Pro SQL Server 2008 Policy-Based Management
- Ken Simmons
  - Twitter – @KenSimmons
  - Web – CyberSQL.blogspot.com
- Colin Stasiuk
  - Twitter - @BenchmarkIT
  - Web – BenchmarkITConsulting.com
- Jorge Segarra
  - Twitter - @SQLChicken
  - Web – SQLChicken.com



## Slides

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# QUESTIONS?