Slide 1

PASS SUMMIT 2019

Emergency!

Are You Ready for Disaster to Strike?

Allen White, DataPerf Professionals

Slide 2

Please silence cell phones
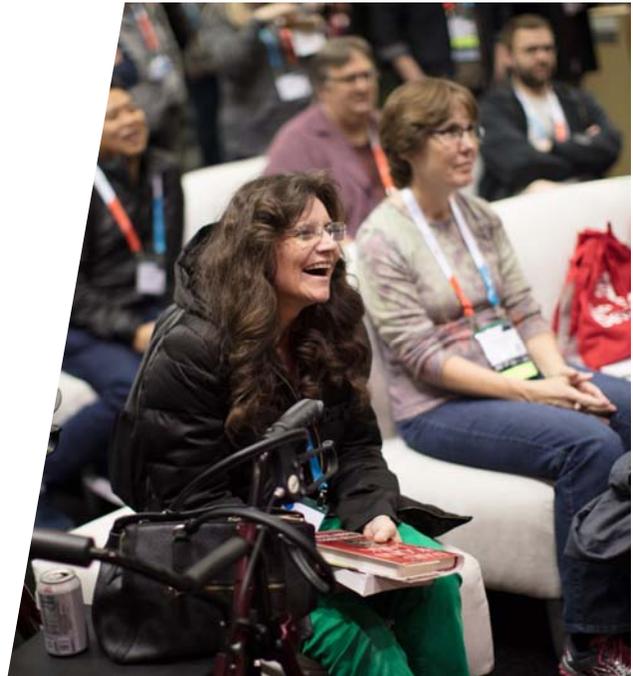
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Allen White

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DataPerf Professionals

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DataPerf Professionals

MVP Microsoft Most Valuable Professional

45 years in IT
Developer, Network
Admin, DBA, and
more

SQL Server - 27 years
PASS Director from
2016 - 2018

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Checklist

Always have a recovery checklist for each server

Server WS12SQL

O/S:	Windows Server 2012 R2 Datacenter
Processor:	Intel Core i7 2.8GHz
Memory:	2GB
Disk:	C: 60GB
SQL Server Version:	SQL Server 2014 SP1 Developer Edition
Database:	AdventureWorks
Database:	AdventureWorks2012
Database:	AdventureWorksDW2012

- o   Verify Server Specs to Original
- o   Install .NET 3.5
- o   Install SQL Server 2014
- o   Install SQL 2014 SP1
- o   Restore Database Backups
- o   Recover Logins
- o   Relink logins to users

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DEMO

Automated Install

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Expectancy Bias

"An expectation that conditions are as normal as we typically expect them to be."
Barry Schiff, AOPA Pilot, November 2016

How Do We React?

Depends on the problem
- Don't jump to conclusions
- Look for things out of place
- Practice emergency procedures
- May not require action
- Overreaction may worsen
        the problem

Emergency	
Engine failure	
TAKEOFF	
Throttle	Idle
Brakes	Apply
Flaps	Retract
Mixture	IDLE cut-off
Ignition	Off
Master switch	Off
AFTER TAKEOFF	
Airspeed	65 KIAS (flaps UP)
	60 KIAS (flaps DN)
Mixture	Idle Cut-off
Fuel shutoff valve	Off (Out)
Ignition	Off
Flaps	As Required
Master switch	Off
Cabin Doors	Unlatch
Land	Straight Ahead
DURING FLIGHT	
Airspeed	65 KIAS
LOOK FOR A FIELD	
Fuel shutoff valve	On (In)

Emergency	
Engine Fire during start	
Crank	Continue
Power	1700 RPM (2 min)
Engine	Shut down and inspect
Engine Fire during flight	
Mixture	Idle Cut-off
Fuel shutoff valve	Off (Out)
Master Switch	Off
Boost Pump	Off
Cabin Heat/Air	Off
Airspeed	100 KIAS
Electrical failure	
Load meter	Verify
Alternator	Off
Reduce load to minimum	
Breaker/alt	Check & Rest
Alternator	On
If still no power:	
Alternator	Off
Reduce load and land	
Electrical overload	

http://web.cs.wpi.edu/~rich/courses/cs525u-s08/projects/mtavares/Cessna172.pdf

Recovery Checklist
- Create one specific to your environment
- Practice using the checklist
- Keep it updated

Are You Prepared?

http://evansflight.wordpress.com/category/flightplans/

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Resource checklist

- System Inventory – SQL Power Doc
- Installation Media
  - OS (Current version and patch level)
  - SQL (Current version and patch level)
  - Other Services
  - Installation scripts
- Agent Job scripts and schedules
- Linked Server connections and credentials

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Resource Checklist

- Backups
    - OS
    - Database (Full, Diff, Log)
    - Certificates
    - Service Account recovery scripts
    - Login recovery scripts
    - Agent Job recovery scripts
    - Well Defined RPO/RTO
    - Backup Strategy supporting RPO/RTO

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Resource checklist

- Defines current environment
- Provides guidance for recovery
- Needs to be updated regularly

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Don't Be a Test Pilot

- White – Full Flaps
- Green – Normal Operating Range
- Yellow – Smooth Air
- Red Line – Aircraft Limit

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DEMO

Restore All The Things

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Rebuild Server

Use your checklist

WS12SQL Rebuild Checklist

Locate media and script files

- o OS Installation
- o OS Patch media
- o SQL Server Installation
- o SQL Server Patch media
- o SQL Server Certificate backup files
- o SQL Server backup files
- o SQL Server Login scripts
- o SQL Server Agent job scripts
- o SQL Server server object creation scripts

Rebuild WS12SQL Server

- o Verify hardware against SQL Power Doc inventory
- o Install OS to equivalent patch level
- o Format drives to corresponding drive letters and sizes
- o Ensure memory and network access configured correctly

Rebuild WS12SQL SQL Server

- o Verify ConfigurationFile.ini matches original install config

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Rebuild Server

Use scripts to ensure consistent recovery
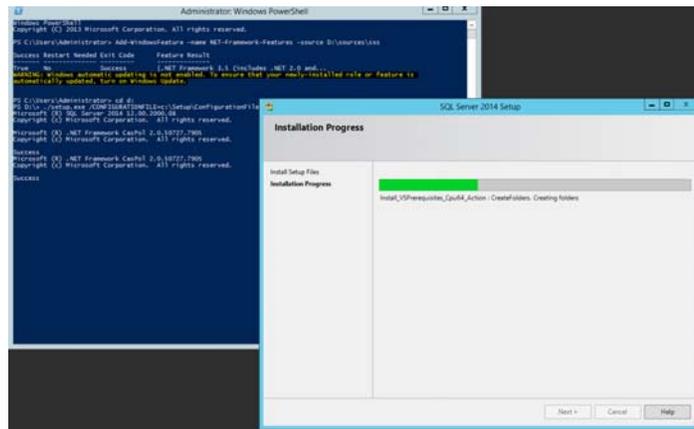
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Recovery

- How current are your backups?
- How often do you test them?
- Where are your install disks?
- Do you have a current install script?
- Do you have a recovery checklist?
- What order do your databases need to be restored?
- What order do your servers need to be restored?
- What about service accounts?
- What about network permissions?

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Practice, Practice, Practice

- Database sizes change
- I/O Subsystem changes
- Need to know that your recovery will meet RTO/RPO
- Regular practice ensures two important things
  - Your backups and processes work
  - You keep those processes fresh for when needed

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Resources

SQL Power Doc

> https://github.com/kendalvandyke/sqlpowerdoc

Glenn Berry DMV Queries

> www.sqlskills.com/blogs/glenn/category/dmv-queries/

sp_help_revlogin

> https://support.microsoft.com/en-us/help/918992/how-to-transfer-logins-and-passwords-between-instances-of-sql-server

DBATools PowerShell Script to Copy Logins

> https://blog.netnerds.net/2016/06/its-2016-why-is-sp_help_revlogin-a-thing/

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Session Evaluations

Submit by 5pm Friday, November 15th to win prizes.

3 WAYS TO ACCESS

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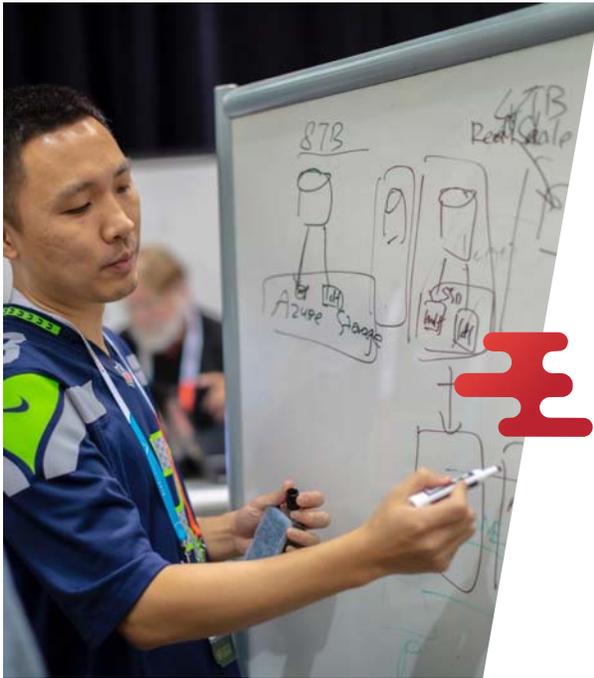
Thank You

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