

P A S S

**PROFESSIONAL ASSOCIATION
FOR SQL SERVER**

**PASS Deutschland e.V.
Regionalgruppe Köln/Bonn/Düsseldorf**

Basis Monitoring

Basis Monitoring

- **IT Leiter / zertifizierter IT Projektleiter**

IT Team mit 7 Mitarbeitern betreuen ~250 Mitarbeiter

- Projektleitungen

- Auslagerung unternehmenskritischer Server in ein Rechenzentrum
- Einführung Ticketsystem



- **DBA**

BI – derzeit Reporting Server 2008 R2, SSIS

HA & DR, Monitoring, Optimierungen, SQL Server Upgrades

- **PASS.DE**

Verantwortlich für die Technik hinter der PASS Webseite und dem Mailserver, Office 365

Basis Monitoring

- **Agenda**
 - **Basis Monitoring?**
 - **Installation SQL Server**
 - **DBA Datenbank**
 - **dbWarden**
 - **GetErrorLogEvents**
 - **IntegrityCheck und Indexoptimierung**
 - **Recycle Errorlog**
 - **Hostmonitor**

Basis Monitoring

- **Was meine ich mit „Basis Monitoring“?**
 - Erkennen von Engpässen auf dem SQL Server
 - Plattenplatz
 - CPU
 - Speicher
 - Fehler Monitoring
 - Fehlerhafte Logins
 - Blockaden / Deadlocks
 - Lang laufende Abfragen
 - „Vorbeugende Maßnahmen“

Basis Monitoring

• Installation neuer SQL Server 1/2

Dell Poweredge R920, 64 GB RAM

4x Intel E7-4820 v2 @ 2.00GHz mit je 8 Cores

Windows Server 2008 R2 Enterprise

SQL Server 2008 Standard

Disk Konfiguration:

- 2 x 300GB Disk als RAID 1 für System, SQL Programminstallation inkl. master, model, msdb
- 4 x 300GB Disk als RAID 10 für SQL Server Daten inkl. tempdb
- 4 x 300GB Disk als RAID 10 für SQL Server Logs

Basis Monitoring

- **Installation neuer SQL Server 2/2**

SQL Daten und Logs 64k Clustergröße formatiert

Messungen mit SQLIO:

Server	Laufwerk	64KB sequential IOs		8KB random IOs		8KB random IOs		RAID	Dateigröße
		4 outstanding IOs **		1 outstanding IOs **		4 outstanding IOs **			
		reading	writing	reading	writing	reading	writing		
dehosql6	C	3345,43	2980,00	646,35	1150,16	1087,98	1152,02	1	10 GB
dehosql6	F	6705,46	5841,90	759,01	2388,91	1665,65	2377,90	10	10 GB
dehosql6	G	6776,35	5831,43	764,73	2356,41	1706,45	2341,89	10	10 GB

Basis Monitoring

- TempDB Einrichtung

Datenbankname: tempdb

Besitzer: sa

Volltextindizierung verwenden

Datenbankdateien:

Logischer Name	Dateityp	Dateigruppe	Anfangsgröße (MB)	Automatische Vergrößerung/Maxim...	Pfad	Dateiname
tempdev	Zeilendaten	PRIMARY	5000	Um 100 MB, unbegrenzt ...	F:\SQLDaten	tempdb.mdf
tempdev2	Zeilendaten	PRIMARY	5000	Um 100 MB, unbegrenzt ...	F:\SQLDaten	tempdb2.mdf
tempdev3	Zeilendaten	PRIMARY	5000	Um 100 MB, unbegrenzt ...	G:\SQLLogs	tempdb3.mdf
tempdev4	Zeilendaten	PRIMARY	5000	Um 100 MB, unbegrenzt ...	G:\SQLLogs	tempdb4.mdf
templog	Protokoll	Nicht zutreffend	2000	Um 100 MB, unbegrenzt ...	F:\SQLDaten	templog.ldf

Basis Monitoring

- Einrichtung nach Installation SQL Server
 - DBA Datenbank
 - dbWarden - Monitoring
 - IntegrityCheck- und Optimierungsskripte
 - GetErrorLogEvent
 - Recycle Error Logs
 - Hostmonitor

Basis Monitoring

- DBA Datenbank
- **Separate DB für Stored Procedures usw.**
 - **GetErrorLogEvents**
 - **Optimierungsskripte und Tabellen**

Basis Monitoring

- **dbWarden**
 - Ein Skript
 - **Erstellt**
 - **Datenbank dbWarden**
 - **Tabellen, Stored Procedures, Trigger (!)**
 - **Jobs, Operatoren**
 - **Data Dictionary Einträge**

Basis Monitoring

• Verwendete Tabellen

TableName

AlertContacts

AlertSettings

BlockingHistory

CPUStatsHistory

DatabaseSettings

DataDictionary_Fields

DataDictionary_Tables

FileStatsHistory

HealthReport

JobStatsHistory

MemoryUsageHistory

PerfStatsHistory

QueryHistory

TableDescription

Contains email addresses for the Reports, Emails

Contains config data for SQL Jobs and Health Report

Contains history on blocking sessions and the victims

History table on CPU statistics

Settings to turn on/off schema tracking,
reindexing and alerts on specific databases

List of fields

List of tables

History table on DB file statistics

Storage for historical generated HealthReports

Contains statistical information on SQL Jobs

History table on memory usage statistics

Contains statistics on buffer cache hit ratio, blocked processes,
recompilations etc.

Storage for long running queries

Basis Monitoring

- Database Settings

DBName	SchemaTracking	LogFileAlerts	LongQueryAlerts	Reindex
DBA	False	False	False	False
dbWarden	False	False	True	False
DialogMaster	False	False	False	False
ranger_Kpn_Ftth	False	False	False	False
ranger_Telfort	False	False	False	False
ReportServerEV	False	False	False	False
ReportServerEVTempDB	False	False	False	False
wis32rangerdb	False	False	False	False
wis32rangersys	False	False	False	False

- **SchemaTracking** (T/F)

- Database trigger dbo.tr_DDL_SchemaChangeLog and table dbo.SchemaChangeLog are created on the database. Each time a schema modification is made the trigger puts a record into SchemaChangeLog.
 - Reported in the Health Report.
SchemaTracking should not be on for replicated database and should be tested for other databases.

- **LogFileAlerts** (T/F) is used by the job dba_CheckFiles.

- If this is On for a database, it's **Idf is monitored for growth**.

- **LongQueryAlerts** (T/F) is used by the job dba_LongRunningQueries to know which databases to collect long running query information for.

- There is also a flag in the DatabaseSettings table to stop **Reindexing**. Work in progress.
 - Health Report added

Basis Monitoring



- Jobs 1/2

- **dbWarden_BlockingAlert** – Runs every 5 seconds.
SP: usp_CheckBlocking, store data into *BlockingHistory* table.
Trigger on this table that will send the alert.
- **dbWarden_CheckFiles** (LDF and TempDB) – Runs every 1 hour.
SP: usp_CheckFiles determine if TempDB or any LDF is growing.
collect data into the *FileStatsHistory* table.
- **dbWarden_CPUIAlert** – Runs every 5 minutes.
SP: usp_CPUProcessAlert
collect data into the *CPUStatsHistory* table.
- **dbWarden_HealthReport** – Runs every day at 6am.
SP rpt_HealthReport and stores data in table *HealthReport*

Basis Monitoring



• Jobs 2/2

- **dbWarden_LongRunningJobs** – Runs every 1 hour
SP: usp_LongRunningJobs
collect data into the *JobStatsHistory* table.
- **dbWarden_LongRunningQueries** – Runs every 5 minutes.
SP: usp_LongRunningQueries
stores data into the *QueryHistory* table.
- **dbWarden_MemoryUsageStats** – Runs every 15 minutes.
SP: usp_MemoryUsageStats using dm_os_sys_info
stores data into the *MemoryUsageHistory* table.
- **dbWarden_PerfStats** – runs every 5 minutes.
SP: usp_PerfStats using dm_os_performance_counters
collects data into the *PerfStatsHistory* table.

Basis Monitoring

- Health Report - System

- Server Details, SQL Server Details, Disks, Clustering, Trace Flags

System					
Name	Processor	Operating System	Total Memory (GB)	Uptime	Clustered
PASSPROD01	Intel(R) Xeon(R) CPU E5645 @ 2.40GHz	Windows NT x64 Version 6.1 (7601)	6.00	14 days, 9 hours & 24 minutes	No

SQL Server					
Version	Start Up Date	Used Memory (MB)	Collation	User Mode	SQL Agent
Microsoft SQL Server 10.50.6000.34 SP3 Standard Edition (64-bit)	Apr 19 2015 9:41PM	2000.000000	Latin1_General_CI_AS	Multi	Up

Disks		
Drive	Free Space (GB)	Cluster Share
C:	28.97	No
E:	693.28	Yes
F:	19.89	No
G:	19.90	No
L:	473.07	Yes
N:	442.83	Yes

Clustering	
Cluster Name	Active
...01	No
...02	Yes

Trace Flags			
Trace Flag	Status	Global	Session
1222	Active	On	Off

*T/F

Basis Monitoring

- Health Report - Configuration
 - Modified Configuration Settings – not all Settings

SQL Server Configuration - Modified Settings				
Configuration Name	Configuration Description	Default Value	Current Value	Dynam
Ad Hoc Distributed Queries	Enable or disable Ad Hoc Distributed Queries	0	1	1
Agent XPs	Enable or disable Agent XPs	0	1	1
clr enabled	CLR user code execution enabled in the server	0	1	1
Database Mail XPs	Enable or disable Database Mail XPs	0	1	1
default full-text language	default full-text language	1033	1031	1
default language	default language	0	1	1
max server memory (MB)	Maximum size of server memory (MB)	2147483647	25000	1
min server memory (MB)	Minimum size of server memory (MB)	0	8192	1
priority boost	Priority boost	0	1	0
scan for startup procs	scan for startup stored procedures	0	1	0
SQL Mail XPs	Enable or disable SQL Mail XPs	0	1	1
user options	user options	0	384	1

Basis Monitoring

- Health Report - Databases

- Database Details

Databases								
Database	Create Date	Restore Date	Last Backup Date	Size (GB)	State	Recovery	Replicated	Mirrored
dbWarden	Sep 30 2013 7:56PM	N/A	May 3 2015 10:06PM	0.56641	ONLINE	SIMPLE	No	No
master	Apr 8 2003 9:13AM	N/A	May 3 2015 10:06PM	0.00488	ONLINE	SIMPLE	No	No
model	Apr 8 2003 9:13AM	N/A	May 3 2015 10:06PM	0.19531	ONLINE	SIMPLE	No	No
msdb	Apr 2 2010 5:35PM	N/A	May 3 2015 10:06PM	0.18262	ONLINE	SIMPLE	No	No
pass_deutschland_ev_dnn4	Sep 7 2010 3:37PM	Sep 25 2010 11:52AM	May 3 2015 10:11PM	14.79883	ONLINE	SIMPLE	No	No
ReportServer	Sep 7 2010 12:31PM	N/A	Jan 29 2014 11:02PM	0.00977	ONLINE	SIMPLE	No	No
ReportServerTempDB	Sep 7 2010 12:31PM	N/A	Jan 29 2014 11:02PM	0.00195	ONLINE	SIMPLE	No	No
tempdb	Apr 19 2015 9:41PM	N/A	N/A	1.07812	ONLINE	SIMPLE	No	No
www_sqlpass_ch	Sep 25 2010 3:23PM	Sep 25 2010 3:23PM	May 3 2015 10:11PM	0.39062	ONLINE	SIMPLE	No	No
www_sqlpass_org_uk	Sep 25 2010 4:49PM	Sep 25 2010 4:49PM	May 3 2015 10:11PM	3.46777	ONLINE	SIMPLE	No	No
www_sqlpass_rs_ba	Sep 25 2010 11:27AM	Sep 25 2010 11:27AM	May 3 2015 10:11PM	0.33203	ONLINE	SIMPLE	No	No

Basis Monitoring

- Health Report - File Info

Database	Drive	FileName	File Info								
			Logical Name	Group	VLF Count	Size (MB)	Growth	Used (MB)	Empty (MB)	% Empty	
dbWarden	C:	dbWarden.mdf	dbWarden	PRIMARY	N/A	480	10 MB	470	10	2.08	
dbWarden	C:	dbWarden_log.ldf	dbWarden_log	N/A	8	100	10 MB	10	90	90.00	
master	C:	master.mdf	master	PRIMARY	N/A	4	10 %	2	2	50.00	
master	C:	mastlog.ldf	mastlog	N/A	5	1	10 %	0	1	100.00	
model	C:	model.mdf	modeldev	PRIMARY	N/A	100	100 MB	1	99	99.00	
model	C:	modellog.ldf	modellog	N/A	11	100	100 MB	0	100	100.00	
msdb	C:	MSDBData.mdf	MSDBData	PRIMARY	N/A	178	10 %	162	16	8.99	
msdb	C:	MSDBLog.ldf	MSDBLog	N/A	35	9	10 %	4	5	55.56	
pass_deutschland_ev_dnn4	C:	pass_deutschland_ev_dnn4.ldf	pass_deutschland_ev_dnn4_log	N/A	4	50	10 MB	2	48	96.00	
pass_deutschland_ev_dnn4	C:	pass_deutschland_ev_dnn4.mdf	pass_deutschland_ev_dnn4	PRIMARY	N/A	1050	250 MB	1020	30	2.86	
pass_deutschland_ev_dnn4	C:	pass_deutschland_ev_dnn4_data2.mdf	pass_deutschland_ev_dnn4_data2	PRIMARY	N/A	14054	100 MB	14054	0	0.00	
ReportServer	C:	ReportServer.mdf	ReportServer	PRIMARY	N/A	1	1 MB	1	1	25.00	
ReportServer	C:	ReportServer_log.LDF	ReportServer_log	N/A	22	6	10 %	1	5	83.33	
ReportServerTempDB	C:	ReportServerTempDB.mdf	ReportServerTempDB	PRIMARY	N/A	2	1 MB	1	1	50.00	
ReportServerTempDB	C:	ReportServerTempDB_log.LDF	ReportServerTempDB_log	N/A	3	0	10 %	0	0	0.00	
tempdb	C:	tempdb.mdf	tempdev	PRIMARY	N/A	1058	1 MB	8	1050	99.24	
tempdb	C:	templog.ldf	templog	N/A	99	46	10 %	9	37	80.43	
www_sqlpass_ch	C:	www_sqlpass_ch.mdf	www_sqlpass_ch	PRIMARY	N/A	200	200 MB	179	21	10.50	
www_sqlpass_ch	C:	www_sqlpass_ch_1.ldf	www_sqlpass_ch_log	N/A	8	200	200 MB	22	178	89.00	
www_sqlpass_org_uk	C:	www_sqlpass_org_uk.mdf	www_sqlpass_org_uk	PRIMARY	N/A	1503	500 MB	1246	257	17.10	
www_sqlpass_org_uk	C:	www_sqlpass_org_uk_1.ldf	www_sqlpass_org_uk_log	N/A	56	2048	100 MB	11	2037	99.46	
www_sqlpass_rs_ba	C:	www_sqlpass_rs_ba.mdf	www_sqlpass_rs_ba	PRIMARY	N/A	50	50 MB	32	18	36.00	
www_sqlpass_rs_ba	C:	www_sqlpass_rs_ba_1.ldf	www_sqlpass_rs_ba_log	N/A	100	290	10 MB	4	286	98.62	

Basis Monitoring

- Health Report - File Stats

File Stats - Last 24 Hours								
FileName	# Reads	KBytes Read	# Writes	KBytes Written	IO Read Wait (MS)	IO Write Wait (MS)	Cumulative IO (GB)	IO %
dbWarden.mdf	5182	770864.00 (752.80 MB)	85	1160.00 (1.13 MB)	381476	1130	0.73	2.11
dbWarden_log.ldf	2	48.00 (0.05 MB)	749	1851.00 (1.81 MB)	28	21023	0.00	0.01
master.mdf	82	3288.00 (3.21 MB)	20	160.00 (0.16 MB)	1598	536	0.00	0.01
mastlog.ldf	2	25.00 (0.02 MB)	35	54.00 (0.05 MB)	11	45	0.00	0.00
model.mdf	17	1648.00 (1.61 MB)	9	72.00 (0.07 MB)	206	152	0.00	0.02
modellog.ldf	2	16.00 (0.02 MB)	9	27.00 (0.03 MB)	10	17	0.00	0.00
MSDBData.mdf	721	172480.00 (168.44 MB)	655	7072.00 (6.91 MB)	33855	12670	0.17	0.54
MSDBLog.ldf	5	53.00 (0.05 MB)	39447	32570.00 (31.81 MB)	113	152960	0.03	0.09
pass_deutschland_ev_dnn4.ldf	3	81.00 (0.08 MB)	11257	23919.00 (23.36 MB)	29	246578	0.02	0.07
pass_deutschland_ev_dnn4.mdf	5135	1693600.00 (1653.91 MB)	342	9976.00 (9.74 MB)	841572	4115	1.62	4.79
pass_deutschland_ev_dnn4_data2.mdf	57436	27960208.00 (27304.89 MB)	341	3008.00 (2.94 MB)	10665088	2212	26.67	79.68
ReportServer.mdf	6	48.00 (0.05 MB)	0	0.00 (0.00 MB)	71	0	0.00	0.00
ReportServer_log.LDF	0	0.00 (0.00 MB)	0	0.00 (0.00 MB)	0	0	0.00	0.00
ReportServerTempDB.mdf	6	48.00 (0.05 MB)	0	0.00 (0.00 MB)	100	0	0.00	0.00
ReportServerTempDB_log.LDF	0	0.00 (0.00 MB)	0	0.00 (0.00 MB)	0	0	0.00	0.00
tempdb.mdf	17687	1113152.00 (1087.06 MB)	37782	1631920.00 (1593.67 MB)	106621	23068698	2.62	8.06
templog.ldf	3	24.00 (0.02 MB)	1422	71120.00 (69.45 MB)	667	122417	0.07	0.24
www_sqlpass_ch.mdf	1877	201384.00 (196.66 MB)	267	2376.00 (2.32 MB)	53156	6009	0.19	0.58
www_sqlpass_ch_1.ldf	2	17.00 (0.02 MB)	652	3548.00 (3.46 MB)	14	1819	0.00	0.01
www_sqlpass_org_uk.mdf	1604	1279328.00 (1249.34 MB)	111	960.00 (0.94 MB)	117218	1386	1.22	3.65
www_sqlpass_org_uk_1.ldf	3	18.00 (0.02 MB)	546	649.00 (0.63 MB)	27	8887	0.00	0.00
www_sqlpass_rs_ba.mdf	623	42048.00 (41.06 MB)	63	552.00 (0.54 MB)	48239	2449	0.04	0.14
www_sqlpass_rs_ba_1.ldf	3	17.00 (0.02 MB)	80	143.00 (0.14 MB)	22	1130	0.00	0.00

Basis Monitoring

- Health Report – Mirroring, LogShipping, Replikation

Mirroring

Database	State	Server Role	Partner Instance	Safety Level	Automatic Failover	Witness Server
dba_mirror	SYNCHRONIZED	PRINCIPAL	PDXDEVDB	HIGH SAFETY	No	N/A

Log Shipping

Primary Server	Primary DB	Monitoring Server	Secondary Server	Secondary DB	Last Backup Date	Backup Share
...	Jan 18 2013 6:00AM	\\... \SQLBAK\LogShipping\... \TLOG
...	Jan 18 2013 6:00AM	\\... \SQLBAK\LogShipping\... \TLOG
...	Jan 18 2013 6:00AM	\\... \SQLBAK\LogShipping\... \TLOG
...	Jan 18 2013 6:00AM	\\... \SQLBAK\LogShipping\... \TLOG

Replication Subscriptions

Publisher	Publisher DB	Publication	Distribution Job	Date Stamp	Immediate Sync?
...	Apr 24 2012 3:46PM	Yes

Replication Distributor

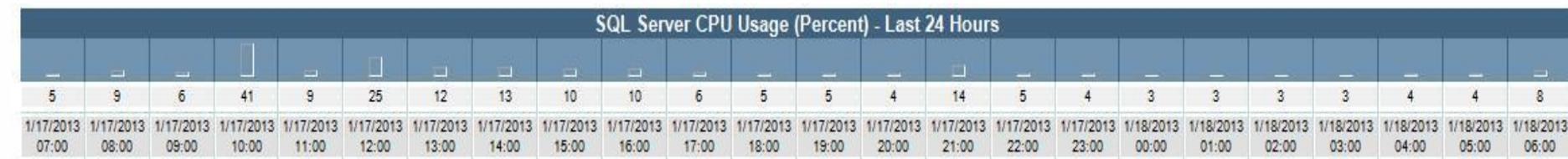
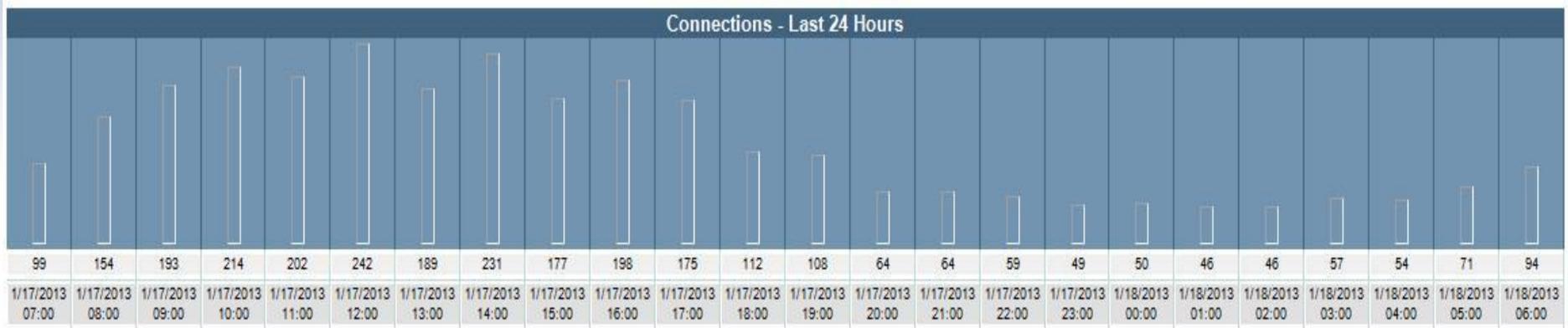
Distributor	Distribution DB	Replication Share	Replication Account	Publisher Type
...	distribution	\\... \ReplData	...	MSSQLSERVER

Replication Publisher

Publisher DB	Publication	Publication Type	Status	Warnings	Best Latency	Worst Latency	Average Latency	Last Dist Sync
...	...	Transactional Publication	Idle	N/A	710	710	710	Apr 24 2012 11:46PM

Basis Monitoring

- Health Report – Connections, Buffer Cache Hit Ratio, CPU*



*T/F

Basis Monitoring

- Health Report – Agent Jobs*, Backups*

SQL Agent Jobs							
Job Name	Owner	Category	Enabled	Last Outcome	Last Date Run	AvgRunTime(mi)	LastRunTime(mi)
Backup.Subplan_1	PASSPROD01\Administrator	Database Maintenance	True	Success	May 3 2015 10:00PM	15.58	11.63
copy Backup	PASSPROD01\Administrator	[Uncategorized (Local)]	False	FAILED	Dec 5 2010 2:35PM	0.00	0.02
dbWarden_BlockingAlert	sa	Database Monitoring	True	Success	May 4 2015 6:05AM	0.01	0.00
dbWarden_CheckFiles	sa	Database Monitoring	True	Success	May 4 2015 5:30AM	0.07	0.05
dbWarden_CPUAlert	sa	Database Monitoring	True	Success - Long Running	May 4 2015 6:05AM	0.01	0.03

Backup Stats - Last 24 Hours							
Database	Type	File Name	Backup Set Name	Start Date	End Date	Size (GB)	Age (hh)
dbWarden	Full	C:\SQLBackup\dbWarden_backup_2015_05_03_220621_1369971.bak	dbWarden_backup_2015_05_03_220621_1349969	May 3 2015 10:06PM	May 3 2015 10:06PM	0.46	8
master	Full	C:\SQLBackup\master_backup_2015_05_03_220621_1699989.bak	master_backup_2015_05_03_220621_1699989	May 3 2015 10:06PM	May 3 2015 10:06PM	0.00	8
model	Full	C:\SQLBackup\model_backup_2015_05_03_220621_1849998.bak	model_backup_2015_05_03_220621_1849998	May 3 2015 10:06PM	May 3 2015 10:06PM	0.00	8
msdb	Full	C:\SQLBackup\msdb_backup_2015_05_03_220621_2000007.bak	msdb_backup_2015_05_03_220621_2000007	May 3 2015 10:06PM	May 3 2015 10:06PM	0.16	8
pass_deutschland_ev_dnn4	Full	C:\SQLBackup\pass_deutschland_ev_dnn4_backup_2015_05_03_220621_2090012.bak	pass_deutschland_ev_dnn4_backup_2015_05_03_220621_2090012	May 3 2015 10:06PM	May 3 2015 10:11PM	14.72	8
www_sqlpass_ch	Full	C:\SQLBackup\www_sqlpass_ch_backup_2015_05_03_220621_2180017.bak	www_sqlpass_ch_backup_2015_05_03_220621_2180017	May 3 2015 10:11PM	May 3 2015 10:11PM	0.18	8
www_sqlpass_org_uk	Full	C:\SQLBackup\www_sqlpass_org_uk_backup_2015_05_03_220621_2260021.bak	www_sqlpass_org_uk_backup_2015_05_03_220621_2260021	May 3 2015 10:11PM	May 3 2015 10:11PM	1.22	8
www_sqlpass_rs_ba	Full	C:\SQLBackup\www_sqlpass_rs_ba_backup_2015_05_03_220621_2350027.bak	www_sqlpass_rs_ba_backup_2015_05_03_220621_2350027	May 3 2015 10:11PM	May 3 2015 10:11PM	0.03	8

Basis Monitoring

- Health Report – Blocking, Dead Locks, Error Log

Blocking								
Date Stamp	Database	Time(ss)	Victim SPID	Victim Login	Victim SQL Text	Blocking SPID	Blocking Login	Blocking SQL Text
Sep 5 2012 9:26AM	[REDACTED]	11.22	81	[REDACTED]	((@1 int)SELECT [REDACTED] FROM [REDACTED] WHERE [JobNo]=@1	172	[REDACTED]	[dbo].[usp_1 [REDACTED] ByJobNo] @JobNo Int, @Passed bit OUTPUT AS -----

Deadlocks - Prior Day									
Date Stamp	Database	Victim Hostname	Victim Login	Victim SPID	Victim Objects	Locking Hostname	Locking Login	Locking SPID	Locking Objects
Jan 17 2013 7:02AM	[REDACTED]	[REDACTED]	sa	56	NA	[REDACTED]	sa	126	NA
Jan 17 2013 9:13AM	[REDACTED]	[REDACTED]	[REDACTED]	158	NA	[REDACTED]	[REDACTED]	267	NA
Jan 17 2013 10:11AM	[REDACTED]	[REDACTED]	sa	237	NA	[REDACTED]	sa	139	NA
Jan 17 2013 12:15PM	[REDACTED]	[REDACTED]	[REDACTED]	146	NA	[REDACTED]	sa	108	NA
Jan 17 2013 2:35PM	[REDACTED]	[REDACTED]	sa	77	NA	[REDACTED]	sa	185	NA

Error Log - Last 24 Hours		
Log Date	Process Info	Message
Sep 6 2012 12:00AM	spid15s	This instance of SQL Server has been using a process ID of 5836 since 8/28/2012 8:18:48 PM (local) 8/29/2012 3:18:48 AM (UTC). This is an informational message only; no user action is required.
Sep 5 2012 2:25PM	Logon	Error: 18456, Severity: 14, State: 8.
Sep 5 2012 2:25PM	Logon	Login failed for user 'sa'. [CLIENT: 10.10.11.40]
Sep 5 2012 1:36PM	Logon	Error: 18456, Severity: 14, State: 8.
Sep 5 2012 1:36PM	Logon	Login failed for user 'sa'. [CLIENT: 10.10.11.40]

Basis Monitoring

- Health Report - Schema Tracking
 - Verfolgung von Änderungen in Datenbanken

Create Date	Database	SQL Event	Schema Changes		
			Object Name	Login Name	Computer Name
May 4 2015 12:15AM	pass_deutschland_ev_dnn4	DROP_TABLE	mv_newsletter_hits	PASSPROD01Administrator	PASSPROD01
May 4 2015 12:15AM	pass_deutschland_ev_dnn4	CREATE_TABLE	mv_newsletter_hits	PASSPROD01Administrator	PASSPROD01

Basis Monitoring

- **GetErrorLogEvent**

Weiterleiten von Meldungen aus dem SQL Errorlog per Mail

- Original von *Jonathan Kehayias* auf MSDN
- Job läuft alle 5 Minuten und liest das Errorlog aus
- Wenn darin Meldungen sind, die wichtig sind, werden diese per Mail weitergeleitet.



SQL MonitorAlert DEHOSQL5 CP.msg

Basis Monitoring

- IntegrityCheck und Indexoptimierung
 - Skripte von Ola Halengreen
 - IntegrityCheck = DBCC CheckDB
 - Indexoptimierung = Index Reorganize/Rebuild
 - Abhängig vom Fragmentation Level
 - plus Update Statistics

Basis Monitoring

- Indexoptimierung – Beispielaufruf 1/2
 - EXECUTE dbo.IndexOptimize
 - @Databases = 'USER_DATABASES',
 - @FragmentationLow = NULL,
 - @FragmentationMedium = 'INDEX_REORGANIZE, INDEX_REBUILD_ONLINE, INDEX_REBUILD_OFFLINE',
 - @FragmentationHigh = 'INDEX_REBUILD_ONLINE, INDEX_REBUILD_OFFLINE',

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- Indexoptimierung – Beispielaufruf 2/2

- @FragmentationLevel1 = 5,
- @FragmentationLevel2 = 30,
- @LogToTable = 'Y'

- Statistiken
 - @UpdateStatistics = 'ALL',

 - @OnlyModifiedStatistics = 'Y'

Basis Monitoring

- **Recycle Errorlog**

- Errorlog jede Woche einmal neu initialisieren
 - Das Errorlog wird komplett im Speicher vorgehalten (?)
 - Braucht lange zum Laden im Protokollviewer

- **EXEC dbo.sp_cycle_errorlog**

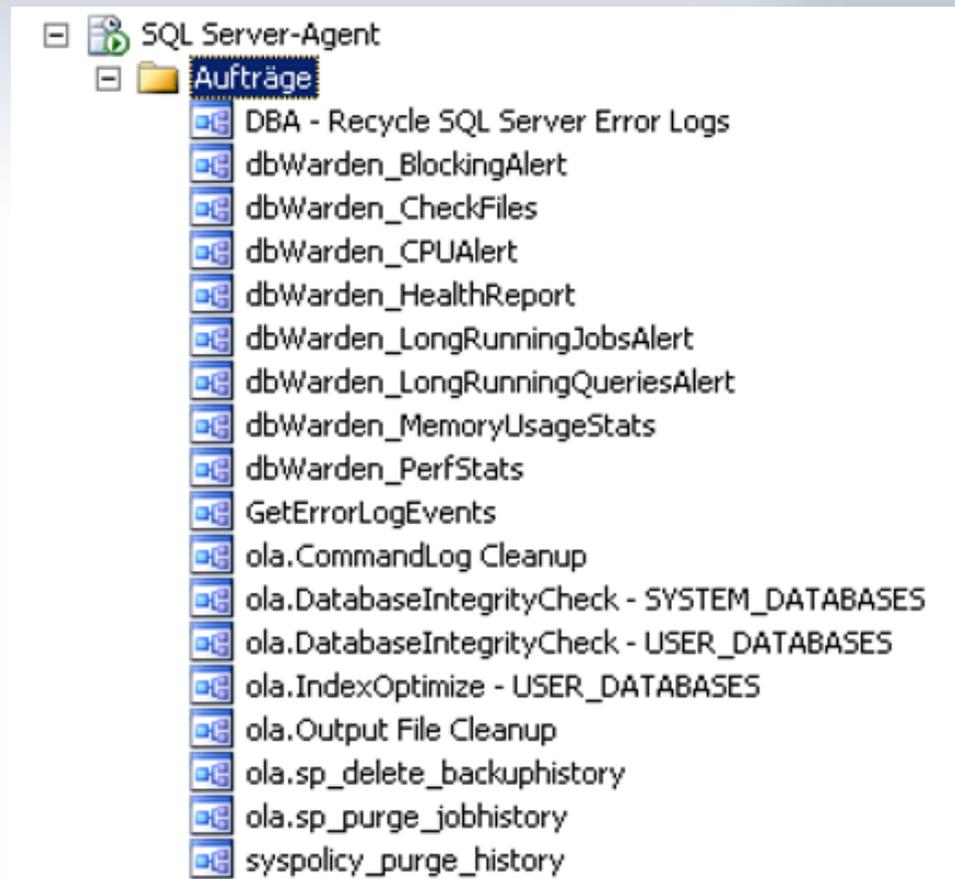
- **EXEC dbo.sp_cycle_agent_errorlog**



SQL Monitor Alert DEHOSQL3.msg

Basis Monitoring

- Übersicht der Jobs



Basis Monitoring

- Hostmonitor
 - Überwachung Perfmon, Eventlog, Festplattenplatz, CPU usw.

Basis Monitoring

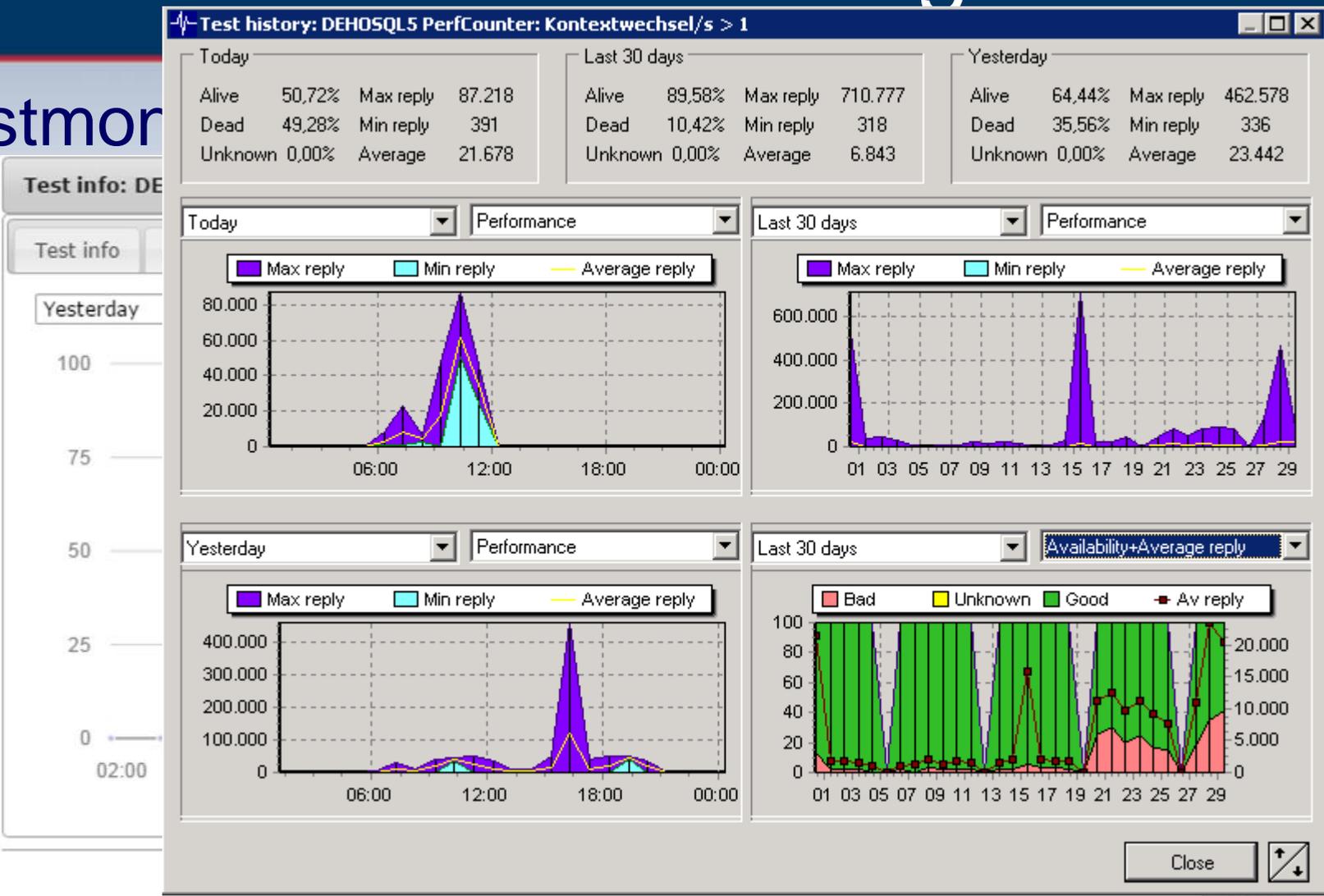
- Hostmonitor

Test name	Status	Recurrences	Reply	Test method	Alive %
Root\SQL\DEHOSQL6\					
CPU dehosql6 > 90 %	Ok	169385	4 %	CPU Usage	99,96 %
DEHOSQL6 LW C weniger als 10 GB	Ok	8600	75 Gb	check UNC (10 Gb)	99,92 %
DEHOSQL6 LW D (SQL Server) weniger als 10 GB	Ok	8600	127 Gb	check UNC (10 Gb)	99,92 %
DEHOSQL6 LW F (SQL Server Daten) weniger als 20 GB	Ok	8600	496 Gb	check UNC (20 Gb)	99,92 %
DEHOSQL6 LW G (SQL Server Logs) weniger als 20 GB	Ok	8600	547 Gb	check UNC (20 Gb)	99,92 %
Error im Eventlog (Anwendung) dehosql6	Ok	887	31 ms	check NT Event Log	99,90 %
Error im Eventlog (System) dehosql6	Ok	34137	15 ms	check NT Event Log	99,92 %
Ping dehosql6	Host is alive	204495	0 ms	ping (timeout - 2000 ms)	99,97 %
Root\SQL\DEHOSQL6\Perfmon\					
DEHOSQL6 PerfCounter: % Disk Time (SQLLogs) > 5	Ok	566	0,00	Perf Counter test (Zeit (%))	99,62 %
DEHOSQL6 PerfCounter: % Prozessorzeit > 80%	Ok	1558	0,09	Perf Counter test (Prozessorzeit (%))	99,68 %
DEHOSQL6 PerfCounter: Auslagerungsdatei Belegung (%) > 70	Ok	1558	0,00	Perf Counter test (Belegung (%))	99,68 %
DEHOSQL6 PerfCounter: DeadLocks /s > 1	Ok	1248	0,00	Perf Counter test (Number of Deadlocks/sec)	99,68 %
DEHOSQL6 PerfCounter: Durchschnittl. Warteschlangenlänge des Dat...	Ok	1248	0,00	Perf Counter test (Durchschnittl. Warteschlangenlänge ...)	99,68 %
DEHOSQL6 PerfCounter: Kontextwechsel/s > 1	Ok	3	2197,82	Perf Counter test (Kontextwechsel/s)	95,71 %
DEHOSQL6 PerfCounter: Lock Avg Wait time (ms) > 500	Ok	1248	0,00	Perf Counter test (Average Wait Time (ms))	99,68 %
DEHOSQL6 PerfCounter: Lock Timeouts /s > 1	Ok	1248	0,00	Perf Counter test (Lock Timeouts/sec)	99,68 %
DEHOSQL6 PerfCounter: Netzwerk Bytes/s	Disabled	0		Perf Counter test (Gesamtanzahl Bytes/s)	
DEHOSQL6 PerfCounter: Speicher Seiten/s > 1	Ok	30	0,00	Perf Counter test (Seiten/s)	99,23 %
DEHOSQL6 PerfCounter: SQL Access Methods Full Scans/s	Ok	1248	0,00	Perf Counter test (Full Scans/sec)	99,68 %
DEHOSQL6 PerfCounter: SQL Buffer Cache Hit Ratio	Ok	1247	100,00	Perf Counter test (Buffer cache hit ratio)	99,55 %
DEHOSQL6 PerfCounter: SQL Connections	Ok	2869	57,00	Perf Counter test (User Connections)	99,83 %
DEHOSQL6 PerfCounter: SQL Latch Average Wait Time (ms) > 100	Ok	1248	0,00	Perf Counter test (Average Latch Wait Time (ms))	99,68 %
DEHOSQL6 PerfCounter: Verfügbare MB < 500MB	Ok	1558	42118,00	Perf Counter test (Verfügbare MB)	99,68 %

Basis Monitoring

- Hostmon

- DESCSQL6
- DESCSQL5
- DESBSQL1
- DESBDC3 F
- DEHOSQL5
- DEHOSQL5
- DEHOSQL3
- DEHOSQL3
- DEHOSQL2



Basis Monitoring

- **Ressourcen**

- dbWarden**

- Beschreibung:

- <http://www.sqlservercentral.com/articles/Monitoring/98106/>

- Download, Wiki usw.:

- <http://sourceforge.net/projects/dbwarden/>

- Ola Halengreen -**

- <https://ola.hallengren.com/>

- Hostmonitor (€)**

- <http://www.ks-soft.net/hostmon.deu/index.htm>

- GetErrorLogEvents, Recycle Errorlog**

- <http://blog.volkerbachmann.de>

Basis Monitoring

- Vielen Dank für die Aufmerksamkeit!
- **Fragen?**
 - **Fragen?**
- vba@sqlpass.de
- <http://blog.volkerbachmann.de>