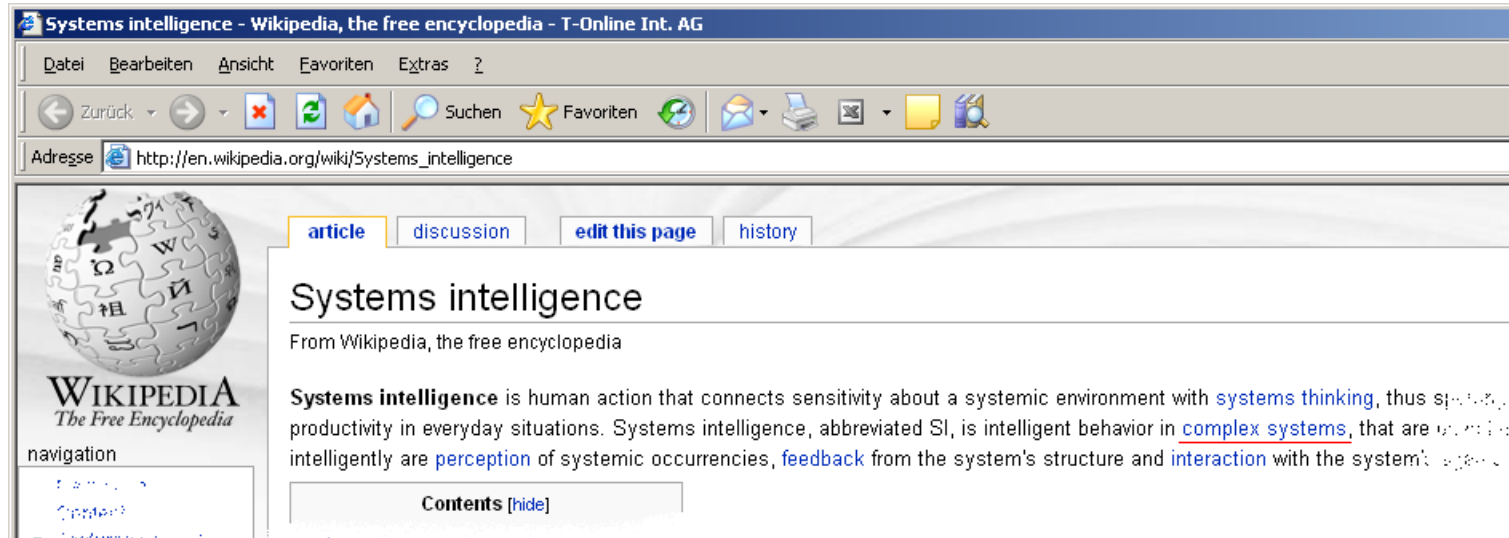


Systems Intelligence

Anwendung der BI-Tools SSIS & SSRS
um technische Fragestellungen
in komplexen (=umfangreichen)
IT-Systemen zu beantworten

Systems Intelligence It. Wikipedia



Systems Intelligence

Dargestellt am Beispiel einer SQL-Server Cluster-Installation mit den Fragestellungen

- 1) sind auf allen Cluster-Nodes die gleichen Services installiert ?
- 2) sind alle Services jeweils auf allen Nodes im gleichen Status ?

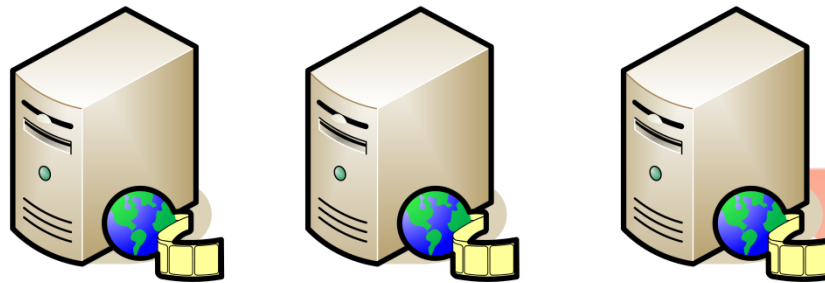
Server im Clusterverbund oder mit gleicher Application-Role

Server als MehrNodeCluster



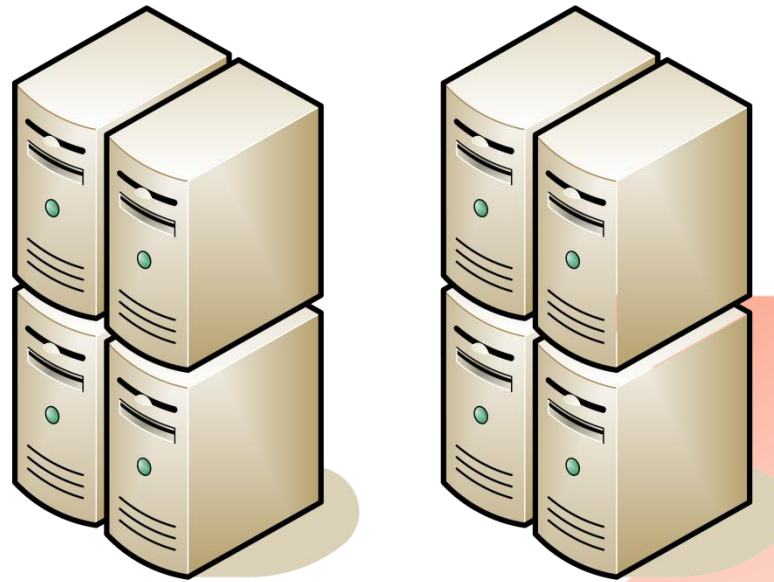
Server im Clusterverbund oder mit gleicher Application-Role

Server mit gleichen Application-Roles



Server im Clusterverbund oder mit gleicher Application-Role

Server im Verbund



- Anwendungsfall
z.B. Reboot aufgrund Security-Patches
→ deshalb „Check, ob alle Services wieder gestartet sind“

Ziel (Vorschau)



iptv Informations & Reportings
 Stamm > iptv_Reports >
 w_ServiceCompare

Anzeigen | **Eigenschaften** | **Verlauf** | **Abonnements**

Neues Abonnement

Server: SQ...01, SQ...02, SQ...03

Suchen | Weiter | Format auswählen | Exportieren

(Alles auswählen)
 SQ...01
 SQ...02
 SQ...03
 SQ...04
 SQ...07
 SQ...08

	SQ...01				SQ...02				SQ...03			
	Start Mode	Started	State	Status	Start Mode	Started	State	Status	Start Mode	Started	State	Status
ADSAdminAgent	>> Auto	True	Running	OK	Auto	True	Running	OK	Auto	True	Running	OK
AeLookupSvc	>> Auto	True	Running	OK	Auto	True	Running	OK	Auto	True	Running	OK
Alerter	>> Disabled	False	Stopped	OK	Disabled	False	Stopped	OK	Disabled	False	Stopped	OK
ALG	>> Disabled	False	Stopped	OK	Disabled	False	Stopped	OK	Disabled	False	Stopped	OK
AppMgmt	>> Disabled	False	Stopped	OK	Disabled	False	Stopped	OK	Disabled	False	Stopped	OK
aspnet_state	>> Manual	False	Stopped	OK	Manual	False	Stopped	OK	Manual	False	Stopped	OK
AudioSrv	>> Disabled	False	Stopped	OK	Disabled	False	Stopped	OK	Disabled	False	Stopped	OK
BITS	>> Manual	False	Stopped	OK	Manual	False	Stopped	OK	Manual	True	Running	OK
Browser	>> Auto	True	Running	OK	Auto	True	Running	OK	Auto	True	Running	OK
CcmExec	>> Auto	True	Running	OK	Auto	True	Running	OK	Auto	True	Running	OK
CIMnotify	>>				Disabled	False	Stopped	OK				
Cissesrv	>> Auto	True	Running	OK	Auto	True	Running	OK	Auto	True	Running	OK
CiSvc	>> Disabled											OK
ClipSrv	>> Disabled											OK
clr_optimization_v2.0.50727_32	>> Manual											OK
ClusSvc	>> Auto											OK
COMSysApp	>> Manual											OK

Info & Description

Start Mode	Started	Started	Started
Manual	True	Started	Started
Auto	False	Started	Started

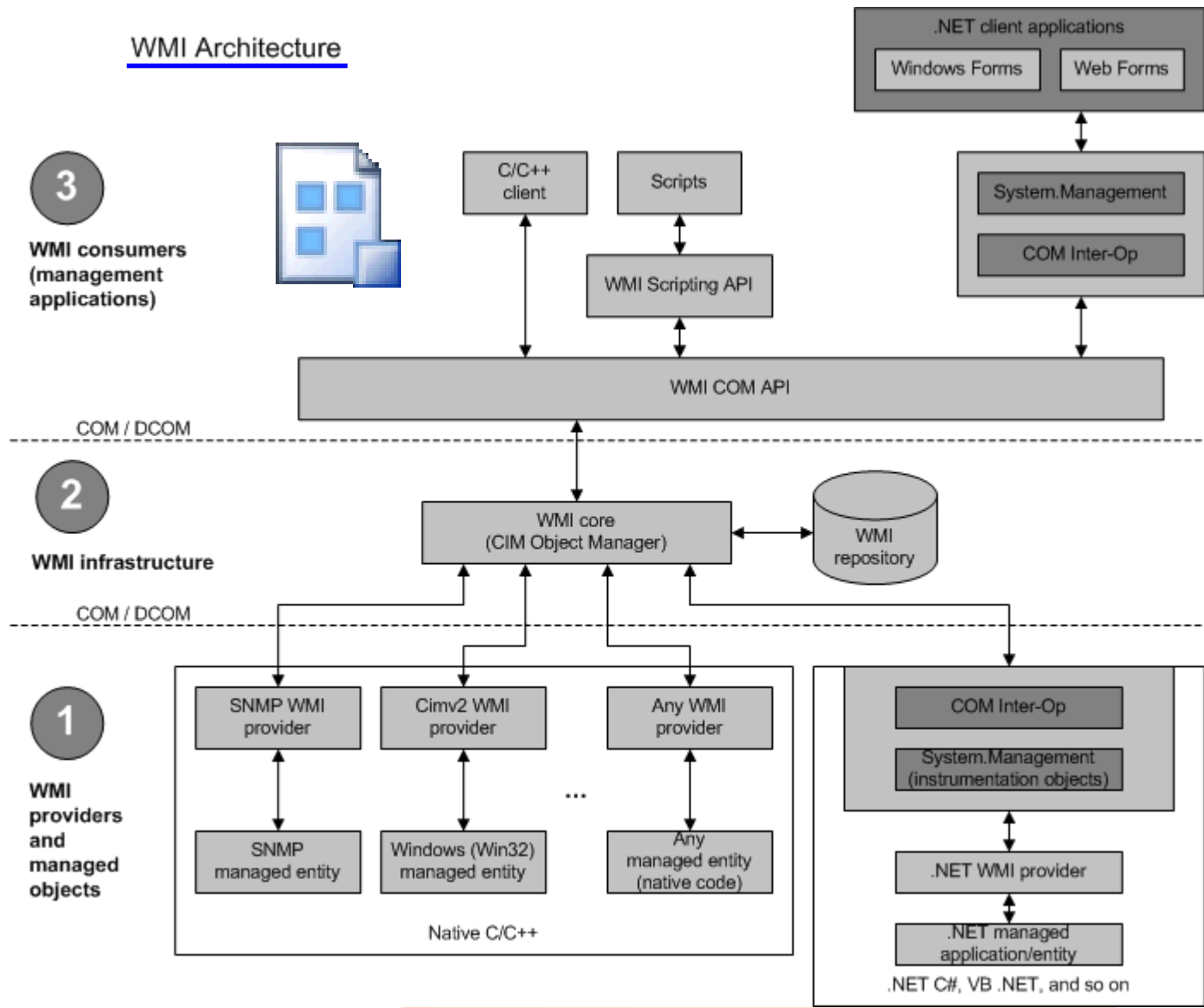
>> Dienst wurde 'von Hand' gestartet

>> Dienst wurde 'von Hand' gestoppt

Tools (Listing)

- SQL-Server Instance
 - 2 Tabellen
 - 2 Stored Procedures
 - Reporting Service Instance
 - 3 Reports
 - Integration Services
 - 1 dtsx Paket
- und Windows Management Instrumentation

WMI Architecture



WMI weitere Informationen



www.IT-Visions.de
Dr. Holger Schwichtenberg

Class-Reference

WMI weitere Informationen



Windows Management Instrumentation (WMI): Häufig gestellte Fragen (FAQ) - T-Online Int. AG

Adresse <http://www.microsoft.com/germany/technet/datenbank/articles/600682.msp>

Klicken Sie hier, um Silverlight herunterzuladen

Microsoft TechNet 

TechNet Homepage | TechCenter | Downloads | Newsletter | Security Bulletins | TechNet Plus Abonnement

Suche nach:

TechNet (DE)

Top-TechCenter

Geheimnisse von Windows Management Instrumentation

Problembehandlung und Tipps

Veröffentlicht: 28.07.2004 | Aktualisiert: 09. Okt 2004

Architektur (ServerSide)

```
1  -- Tables
2
3  select o.name as 'Table'
4         , c.name as 'Columns'
5  from    sys.objects o
6  inner join
7         sys.columns c
8  on      o.object_id = c.object_id
9  where   o.name = 'wmi_ServerAsParameter'
10         or o.name = 'wmiServiceCompare'
11
12
```

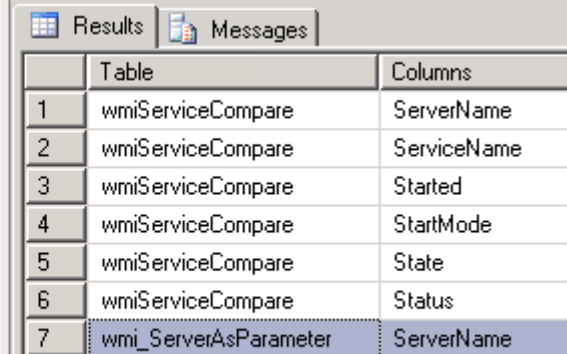


	Table	Columns
1	wmiServiceCompare	ServerName
2	wmiServiceCompare	ServiceName
3	wmiServiceCompare	Started
4	wmiServiceCompare	StartMode
5	wmiServiceCompare	State
6	wmiServiceCompare	Status
7	wmi_ServerAsParameter	ServerName

Architektur (ServerSide)

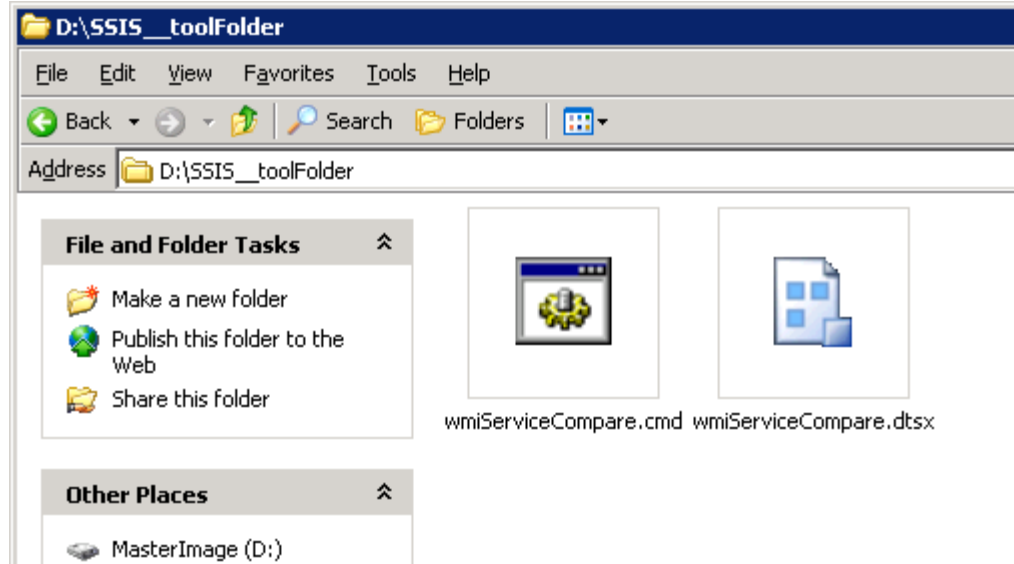
1 | wmi_ServerAsParameter

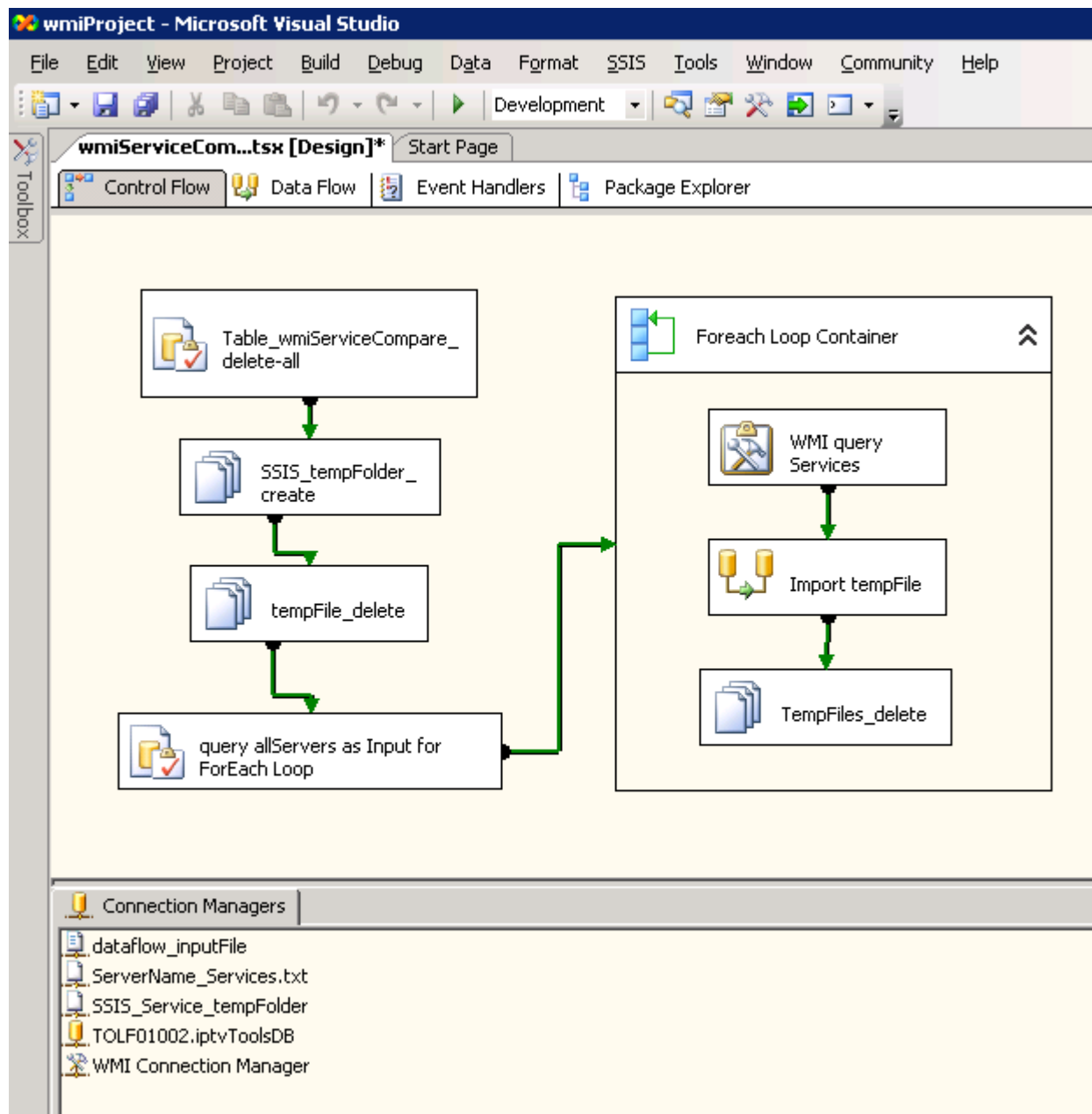
	ServerName
1	SF1000001
2	SF1000002
3	SF1000003
4	CF1000001
5	CF1000002
6	CF1000003
7	CF1000004
8	CG1000001
9	CG1000002
10	CG1000003
11	TS1000001
12	TS1000002

1 | wmiServiceCompare

	ServerName	ServiceName	Started	StartMode	State	Status
1	SF1000002	ADSAdminAgent	True	Auto	Running	OK
2	SF1000002	AeLookupSvc	True	Auto	Running	OK
3	SF1000002	Alerter	False	Disabled	Stopped	OK
4	SF1000002	ALG	False	Disabled	Stopped	OK
5	SF1000002	AppMgmt	False	Disabled	Stopped	OK
6	SF1000002	aspnet_state	False	Manual	Stopped	OK
7	SF1000002	AudioSrv	False	Disabled	Stopped	OK
8	SF1000002	BITS	True	Manual	Running	OK
9	SF1000002	Browser	True	Auto	Running	OK
10	SF1000002	CcmExec	True	Auto	Running	OK

Architektur (ServerSide)





Table_wmiServiceCompare_delete-all

Foreach Loop Container

Variables

Name	Scope	Data Type	Value
allServers	wmiServiceCompare	Object	System.Object
Service_serverName	wmiServiceCompare	String	T

query allServers as Input for ForEach Loop

TempFiles_delete

Connection Managers

- dataflow_inputFile
- ServerName_Services.txt
- SSIS_Service_tempFolder
- TOLF01002.iptyToolsDB
- WMI Connection Manager

Architektur (SSIS)

WMI Data Reader Task Editor

Configure the properties used run to a WMI Query Language (WQL) query that returns Windows Management Instrumentation (WMI) data about a system.

WMI Options
Expressions

WmiConnection	WMI Connection Manager
WqlQuerySourceType	Direct input
WqlQuerySource	<u>select Name, Started, StartMode, State, Status from Win32_Service</u>
OutputType	Data table
OverwriteDestination	Overwrite destination
DestinationType	File connection
Destination	ServerName_Services.txt

<New connection ...>

File Connection Manager Editor

Configure the file connection properties to reference a file or a folder that exists or is created at run time.

Usage type: Existing file

File: Existing file

File: Create file

File: Existing folder

File: Create folder

File: Existing file

File: Create folder

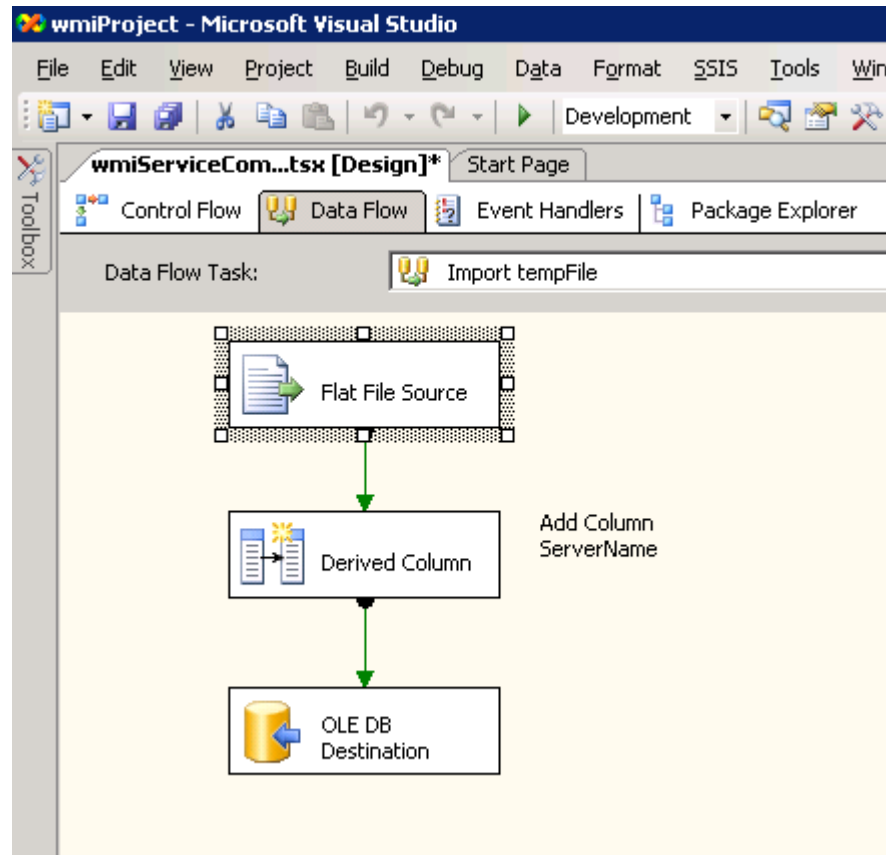
File: Existing folder

File name must be specified.

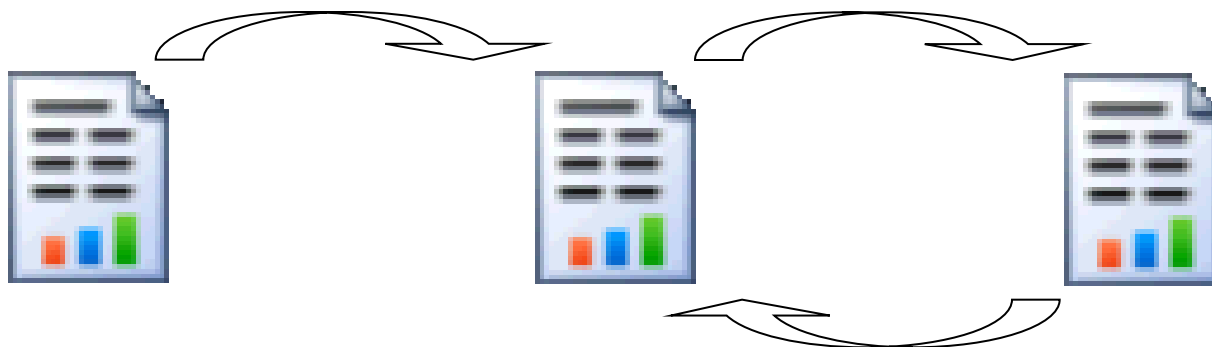
OK Cancel

Destination
Specifies the file connecti

Architektur (SSIS)

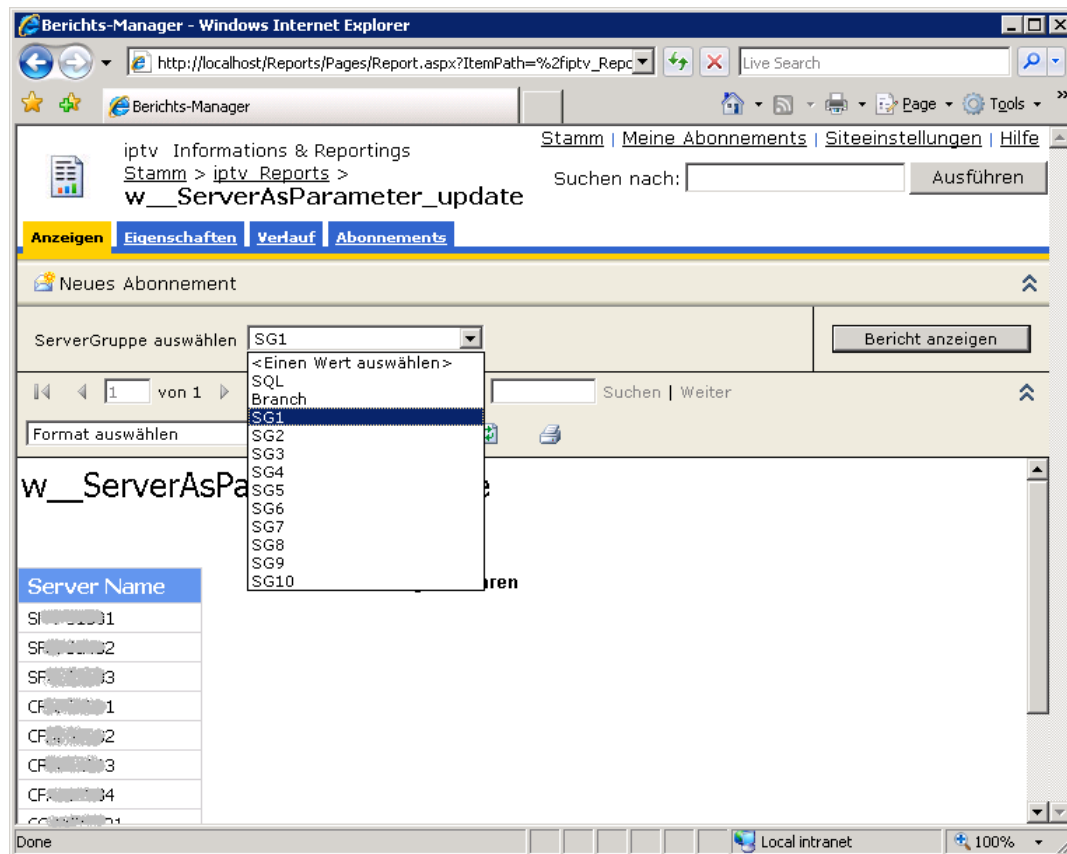


Architektur (Userside)

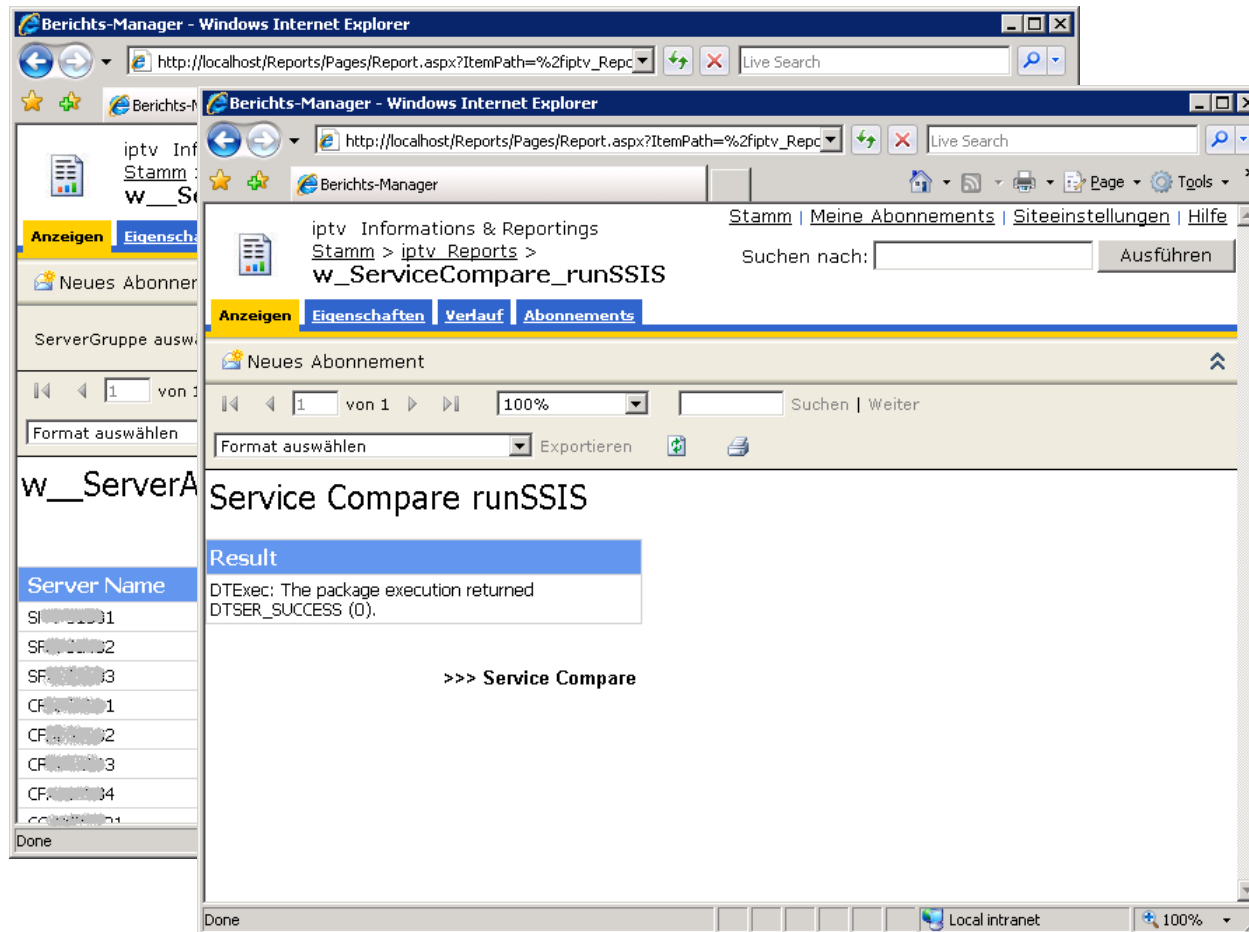


- **Report 1** (ServerAsParameter_update)
- **Report 2** (ServiceCompare_runSSIS)
- **Report 3** (ServiceCompare)

Architektur (Userside)



Architektur (Userside)



Architektur (Userside)

The screenshot displays a web application interface for comparing services across different servers. The main content area shows a table titled 'Services Compare' with columns for 'Server', 'Start Mode', 'Started', 'State', 'Status', and 'Stat'. The table compares services between two servers: 'CG...' and 'CC...'. The services listed include ADSAdminAgent, AeLookupSvc, Alerter, ALG, AppMgmt, aspnet_state, and AudinSrv.

	CG...	CC...						
	Start Mode	Started	State	Status	Stat	Start Mode	Started	Stat
ADSAdminAgent	>> Auto	True	Running	OK		Auto	True	Runni
AeLookupSvc	>> Auto	True	Running	OK		Auto	True	Runni
Alerter	>> Disabled	False	Stopped	OK		Disabled	False	Stopp
ALG	>> Disabled	False	Stopped	OK		Disabled	False	Stopp
AppMgmt	>> Disabled	False	Stopped	OK		Disabled	False	Stopp
aspnet_state	>> Manual	False	Stopped	OK		Manual	False	Stopp
AudinSrv	>> Disabled	False	Stopped	OK		Disabled	False	Stopp

Architektur (Detail Report 1)

```
1 select *
2 from   dbo.wmi_ServerAsParameter
```

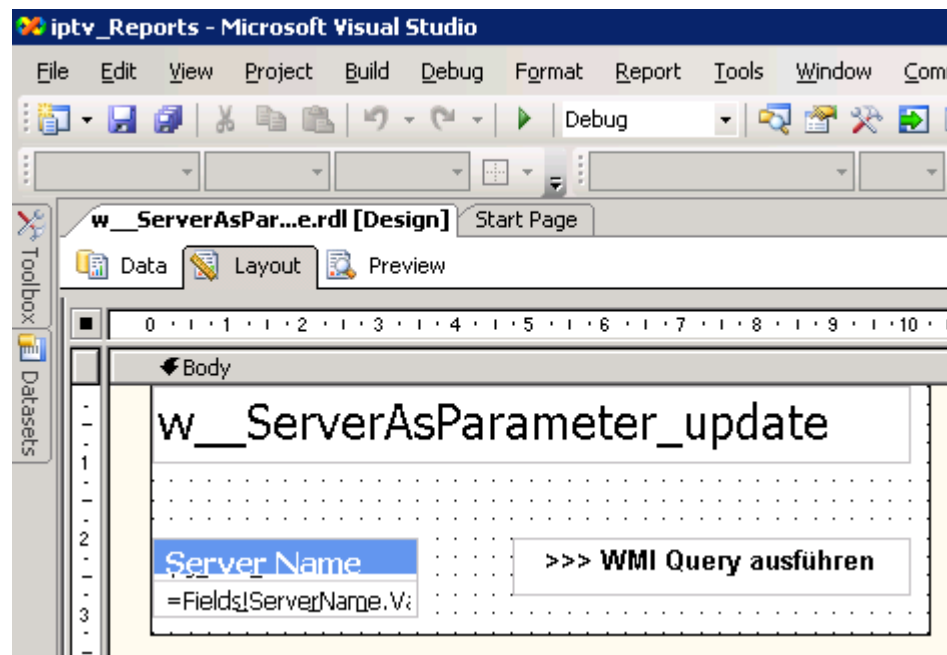
Results Messages

	ServerName
1	SQLSERVER01
2	SQLSERVER02
3	SQLSERVER03
4	SQLSERVER04
5	SQLSERVER07
6	SQLSERVER08
7	SQLSERVER09

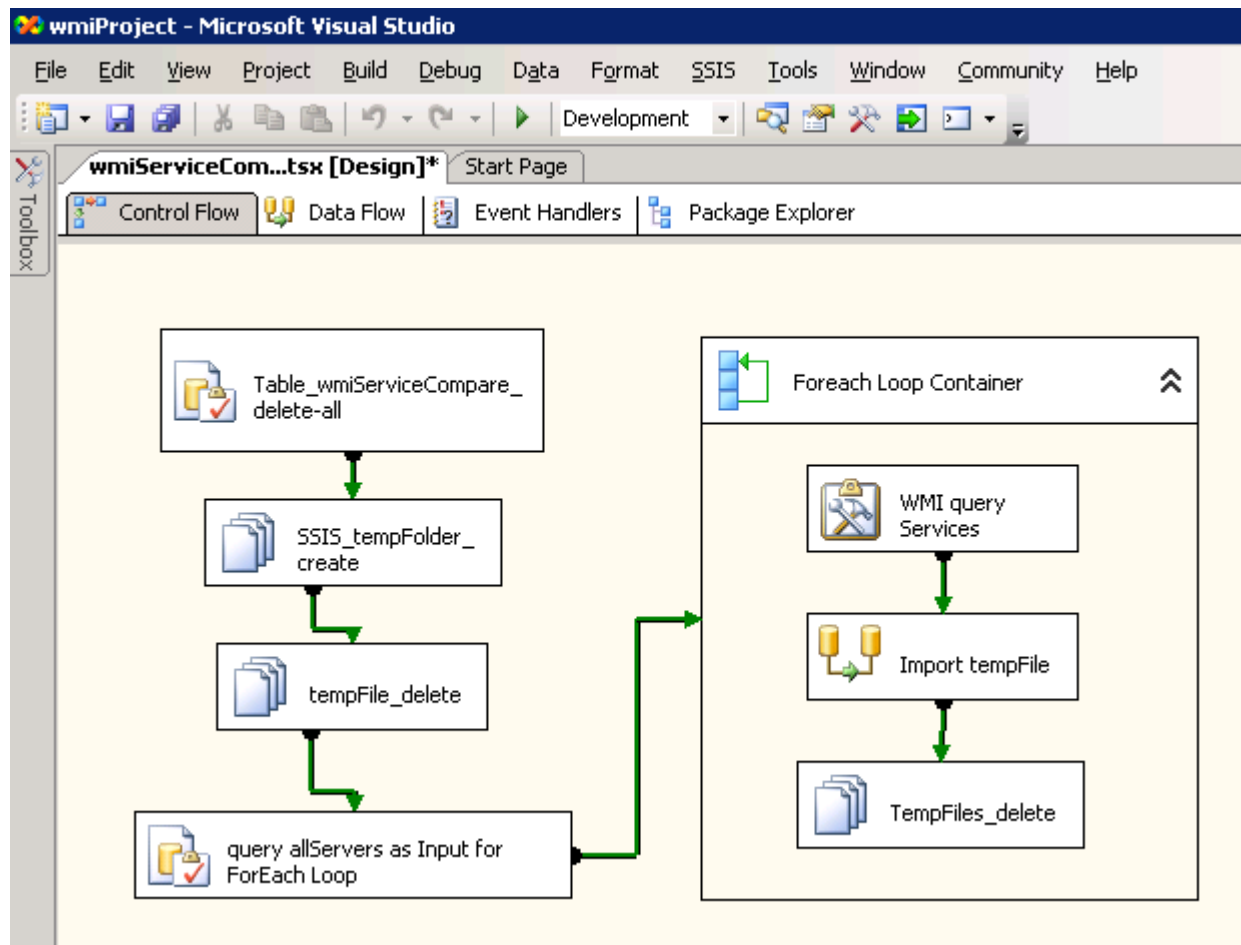
Architektur (Detail Report 1)

```
1  ---- Parameter
2  -- SQL
3  -- Branch
4  -- SG1
5  -- ...
6  -- SG10
7
8  CREATE Proc [dbo].[wmi_ServerAsParameter_update]
9      @par varchar(10)
10 AS
11 BEGIN
12
13     If      @par = 'SQL'
14     Begin
15         Delete From iptvToolsDB.dbo.wmi_ServerAsParameter ;
16         ----
17         Insert Into iptvToolsDB.dbo.wmi_ServerAsParameter ( [ServerName] ) Values ('SQwwwwww1' ) ;
18         ....
19         Insert Into iptvToolsDB.dbo.wmi_ServerAsParameter ( [ServerName] ) Values ('SQwwwwww2' ) ;
20     End
21     -----
22     If      @par = 'Branch'
23     Begin
24         ....|
25     End
26 --- RETURN
27 Select [ServerName]
28 From   iptvToolsDB.dbo.wmi_ServerAsParameter
29
30 END
```


Architektur (Detail Report 1)



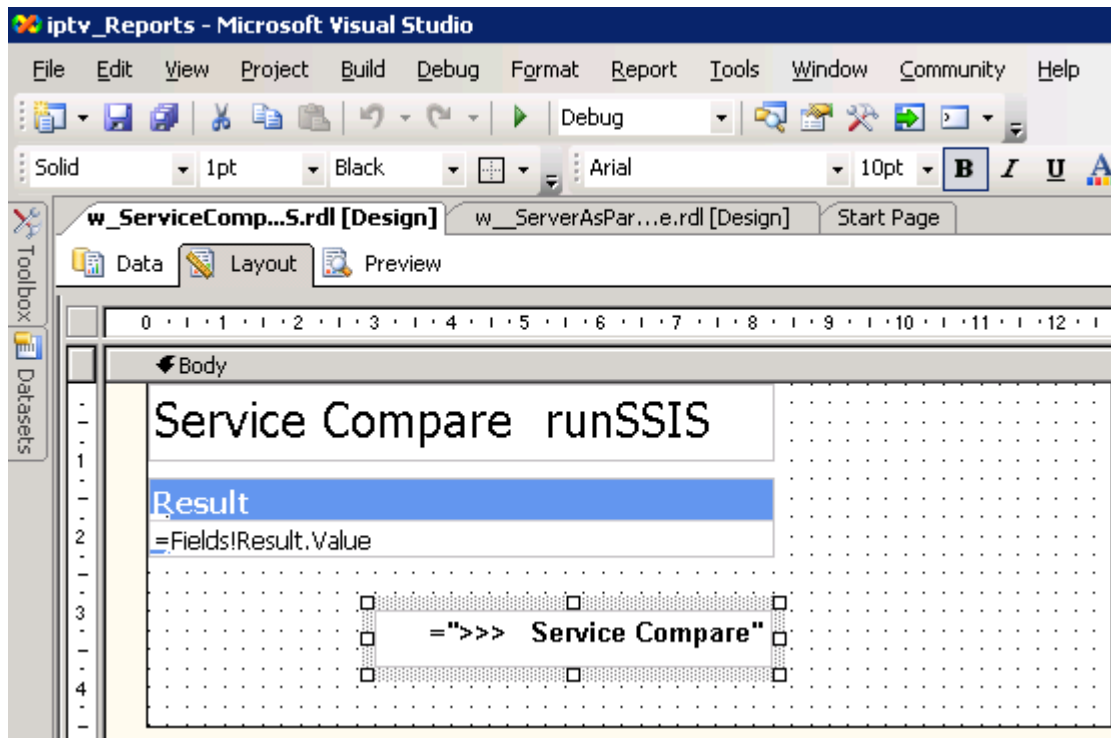
Architektur (Detail Report 2)



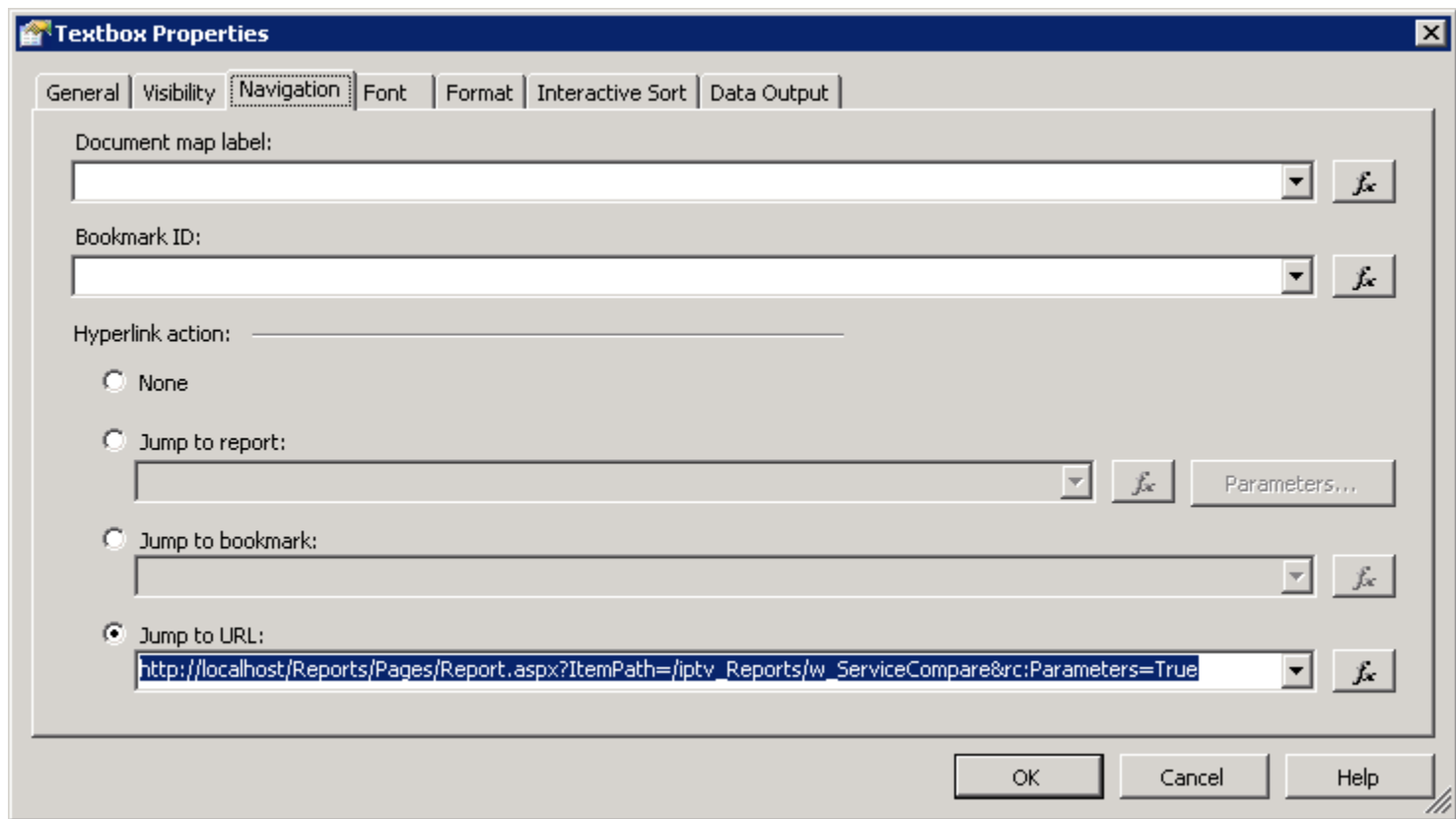
Architektur (Detail Report 2)

```
1 CREATE Proc [dbo].[wmi_ServiceCompare_runSSIS]
2 WITH EXECUTE As SELF
3 AS
4 BEGIN
5
6     DECLARE @tempResult TABLE
7         ( col1 varchar(255) )
8
9     INSERT INTO @tempResult
10    EXEC     master..xp_cmdshell 'dtexec /F "D:\SSIS__toolFolder\wmiServiceCompare.dtsx"'
11
12    SELECT col1 As Result
13    FROM     @tempResult
14    WHERE    col1 like '%The package execution returned%'
15
16 END
```

Architektur (Detail Report 2)



Architektur (Detail Report 2)

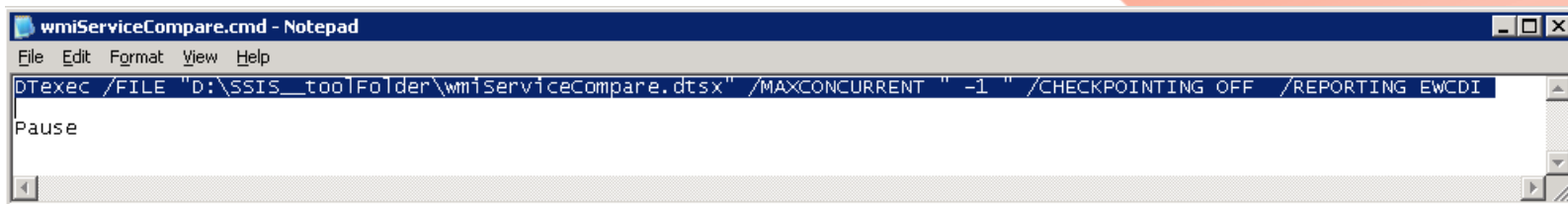


Architektur (Detail Report 2b)

SSIS Paket

alternativ:

Ausführung mit Batch-Aufruf



```
wmiServiceCompare.cmd - Notepad
File Edit Format View Help
dtexec /FILE "D:\SSIS_toolFolder\wmiServiceCompare.dtsx" /MAXCONCURRENT " -1 " /CHECKPOINTING OFF /REPORTING EWCDI
Pause
```

Architektur (Detail Report 3)

```
1 select *
2 from dbo.wmiServiceCompare
```

Results Messages

	ServerName	ServiceName	Started	StartMode	State	Status
1	SQLSERVER01	ADSAdminAgent	True	Auto	Running	OK
2	SQLSERVER01	AeLookupSvc	True	Auto	Running	OK
3	SQLSERVER01	Alerter	False	Disabled	Stopped	OK
4	SQLSERVER01	ALG	False	Disabled	Stopped	OK
5	SQLSERVER01	AppMgmt	False	Disabled	Stopped	OK
6	SQLSERVER01	aspnet_state	False	Manual	Stopped	OK
7	SQLSERVER01	AudioSrv	False	Disabled	Stopped	OK

Architektur (Detail Report 3)

The screenshot shows the Visual Studio IDE with the report 'w_ServiceCompare.rdl' in Design view. The report body contains a table with the following structure:

Services Compare		>>> update WMI Query			
		=Fields!ServerName.Value			
		Start Mode	Started	State	Status
=Fields!ServiceName.Value	= ">>"	=First(Fields!S	=First(Fields	=First(Fields	=First(Fields

The Page Footer section contains an 'Info & Description' table:

="Info & Description"				
= "Start Modk	= "Started"	= "Started"	= "Startec	
= "Manual"	= "True"	= "Started"	= "Started"	= ">> Dienst wurde 'von Hand' gestartet"
= "Auto"	= "False"	= "Started"	= "Started"	= ">> Dienst wurde 'von Hand' gestoppt"

Demo

Links

- http://en.wikipedia.org/wiki/Systems_intelligence
- [http://msdn.microsoft.com/en-us/library/aa394553\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/aa394553(VS.85).aspx)
- http://de.wikipedia.org/wiki/Windows_Management_Instrumentation
- http://www.it-visions.de/Scripting/WMIReferenz.asp?C_Klasse=Win32_DiskDrive
- <http://www.edv-buchversand.de/product.php?cnt=product&id=ms-5602&lng=0>
- <http://www.microsoft.com/germany/technet/datenbank/articles/600682.msp>
- **und**
- <http://www.t-home.de/entertain>

Thank you

for attending my session

did you enjoy ?



next **PASS Summit** is coming soon
Seattle 8th – 11th November 2010