Sdružení uživatelů Informix & DB2

SolidDB Universal Cache a Informix Dynamic Server Ing. Jan Musil, IBM ČR Community of Practice for CEEMEA



Agenda

- Architektura SolidDB Universal Cache
- Příprava prostředí IDS a SolidDB
- Instalace a konfigurace CDC pro Informix a SolidDB
- Instalace CDC Access Serveru a Management Console
- Vytvoření DataStore pro SolidDB a Informix
- Příklady konfigurace replikací

Architektura SolidDB Universal Cache





Příprava prostředí IDS

Databáze musí být žurnálovaná

– dbaccessdemo7 -log

- Nastavení proměnné prostředí ENABLE_FULL_ROW_LOGGING=1
- Vytvoření systémové databáze pro CDC – dbaccess - \$INFORMIXDIR\etc\syscdcv1.sql

Příprava prostředí SolidDB

- Instalace SolidDB do adresáře <soliddb>
- Vytvoření adresáře, kde bude vytvořena SolidDB databáze <db_dir>
 - Např.: e:\solidb
 - cp <soliddb>\solidDB6.3\eval_kit\standalone\solideval.lic <db_dir>
 - V <db_dir> vytvořit konfigurační soubor solid.ini

[com]

Listen = tcp 1315

[LogReader]

LogReaderEnabled=yes

- Inicializace a start SolidDB
 - solid -U dba -P dba -C dba



Instalace CDC

- SoliDB CDC
 - setup-x86-solid.exe

Instalační adresář: c:\Program Files\DataMirror\CDC for solidDB

- Informix CDC
 - setup-x86-informix.exe

Instalační adresář: c:\Program Files\DataMirror\CDC for Informix

- V obou případech zatím po instalaci nestartovat
 - Odškrtnout 'Launch Configuration Tool'

a

Konfigurace CDC pro SolidDB

Instance

Name:

IBM InfoSphere Change Data Capture New Instance

SolidDB

×

Start -> Programs -> IBM InfoSphere CDC for SolidDB -> Configure IBM InfoSphere CDC

eeningare ibin inteephere ebe	Server Port: 11101	
Instance Successfully Created	Auto-Discovery Port:	-
Instance SolidDB was successfully created. Would you like to START this instance now?	Maximum Memory Allowed (MB): 512 Bit Version: C 64 bit	
Ano Ne	Windows Service Log on as: C Local System account This account: CMTEST\informix	
IBM InfoSphere Change Data Capture Configuration Tool	Password: *****	
Instances:	Confirm Password: ******	12
Name Server Port Schema Status Add		
Edt.,, Delete Start: Stop Refresh	Database Database Database Database Database Passwork: **** Metadata Schema: DBA Server (* Single Server Host Name: Nacalhost Port: 1315 * HA Configuration (HotStandby) Primary Host Name: Secondary Host Name: Port:	5
Close	OK Cancel	

Konfigurace CDC pro Informix

IBM InfoSphere Chan	ige Data Cap	ture New Instance			×	S	Start ->	Progra	ams ->	>		
Instance		· <u>·</u>				IF	3M Info	Spher	e CD0	C for In	formix ->	
Name:		Informix				Ċ	onfiqu		InfoS	nhoro		
Server Port:		10201					Johngu			phere		
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Maximum Memory A	llowed (MB):	512		1. 1		Extra JDBC para	meters:				[
Bit Version:		😨 32 bit 🛛 C 64 bit				INFORMIXSERV	Parameter ER	ol_	ifmx	Value	Add Modify	
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Log on as:												
C Local System ac	ccount					1					OK Cancel	-1
This account:	CMT	EST\informix									OK LE Cancer	
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Database							Ano	Ne				
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metadata schema:	Jinirormix					Code: SOLI	DDBCACHE		/ Enabled			
		_	OK	Cancel						Apply	Close	

Instalace CDC Access Serveru a Management Console

- CDC Access Server
 - dmaccess-setup.exe

Instalační adresář: C:\ProgramFiles\DataMirror\CDC Access Control

Port Number: 10101

Username: Admin

Password: password

CDC Management Console

- dmclient-setup.exe

Instalační adresář: C:\ProgramFiles\DataMirror\CDC Management Console

Startování CDC Management Console

X

Start -> Programs -> IBM InfoSphere CDC Management Console -> Management Console

Managemen	t Console	× IBM.	Your password fails and must be change Current <u>P</u> assword:	ord - Admin the policy settings for password complexity ed.
			 <u>N</u> ew Password:	•••••
			<u>C</u> onfirm Password:	•••••
			1	OK Cancel
IBM InfoSp 6.3	ohere Change Data Capture	e	New Pass Confirm P	word: solid123 Password: solid123
User Name:	admin			
Password:				
Server Name:	localhost			
Port <u>N</u> umber:	10101			
¢		Login Cancel		

Vytvoření DataStore pro SolidDB

Edit Subscription	Mapping View Help	
Datastore Managem	ent	
y		
2 Datastore	Description	Туре
Right Clic	k	
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	P New Datastore	

Connection Paramet	ers
Specify optional cor added to the datast values.	inection parameters for the datastore. When a user is tore, these parameters are used as the default
Database/URL;	<u></u>
DB <u>L</u> ogin:	dba
DB <u>P</u> assword:	•••

New Datasto	ore	_				×
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Description:	Solid	DB for Front End				
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Port:	1110	1				
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Properties					\succ	
Datastore Typ	pe:	Dual				
Platform Type	e: [Java VM				
Data <u>b</u> ase Typ	pe:	JDBC				
Datastore Ver	rsion: [V6R3M1BS3KRW	/LPY 2837 42			
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Vytvoření DataStore pro Informix

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solid_FE	SolidDB for Front End
Right Cli	New Datastore

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Database/URL:	<u></u>
DB <u>L</u> ogin:	informix
DB <u>P</u> assword:	
Confirm Password:	•••••

New Datast	ore				×	
Identification						
Name:	IDS_BE					
Description:	IDS for	Back End			-	
Server:	192.16	8.1.200				
Port:	10201					
			(Ping		
Properties Datastore Ty Platform Type Database Typ Datastore Ve	rpe: e: pe: rrsion: Vi	Jal iva VM)BC iR3M1BSJKRWLPY_2837_35	Connection	Parameters Can		
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SOUG_FE		SOMETR LOL FLOUG FUG		Dual	iocainost@11	J



Přiřazení DataStores uživateli "admin"

ିମ୍ବି User Management		Select Datastore	Select Datastore
40	1	Select a datastore to assign to the user: Enter search	Select a datastore to assign to the user: Image: Select a datastore to assign to the user:
Admin	e Role	ID5_BE	solid_FE
Right Click	Copy User Delete User Delete		
	Assign Datastore Change Role		CK Close
	User Report	ОК	llose
	Properties		

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12 Datastore	Description	Туре	Host	Database	Connection
	IDS for Back End	Dual	192.168.1.20	JDBC	🖂 🛉 Admin
J IDS_BE			localboot@11	IDBC	
IDS_BE solid_FE	SolidDB for Front End	Dual	local losc@11	DDDC	

Připojení Access Serveru k DS

4)

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Access Server	Connothe
Connect to Datastores	Disconnect
Datastore	()? New Datastore
Print Diagram	^{¶⁰} New <u>U</u> ser
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	Change Role
	Copy User
	Delete User

File Edit Subscription Mapping	View Help
Access Server	Connect
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	Change Role
	Copy User
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		Enter search
12 Datastore	Database	Status
🔍 IDS_BE	JDBC	Connected
🔍 solid_FE	JDBC	Connected

Replikace struktur a dat z BE do FE 1/5

e <u>E</u> dit <u>S</u> ubsci	Edit Subscription Mapping		View	Help	
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12 Subscription		Sourc	e	Target	[1 <u>3</u>
		2	New ≦ Impor	ubscription	
			Projec	t	



Description: Load existing tables and data from BE to FE Project: Default Project	
Project: Default Project 💌 New P	
	roject
ource: JDS_BE	
larget: solid_FE De	tails

📧 Map Tables

Select Mapping Type

Depending on your replication requirements, select from one of the follow mapping types to apply data to the target.

Automatic

One-to-one Mappings

Map one or more source tables to one or more target tables. These identical structures.

C LiveAudit Mappings

Map one or more source tables to one or more target tables. Mappe

Replikace struktur a dat z BE do FE 2/5

📧 Map Tables		
Select Source Tables Select one or more source tables to map to target tables.		
Source Tables:	Enter search	. 💌 🐨
Table	Replicate	
🖂 🤮 informix		19
call_type	\checkmark	
catalog		
cust_calls		
customer		
items		
manufact		
in orders		
🔜 state		
🗖 🖬 stock		
ts_auth		TS Man Tables
ts_bookmark		The rap rapies
ts_confaud		Select Exist

Select Existing or Create New Target Tables

Specify whether you want to map to existing target tables or map to new

C Map to existing target tables

Map source tables to existing target tables.

• Create new target tables

Map source tables to new target tables. Target tables are created du

Replikace struktur a dat z BE do FE 3/5

Map Tables		
Select Schema for New Targ Specify the schema for the new target	et Tables tables.	
Specify a target owner for each source Schema	owner:	
	Click to select a target owner	
	📧 Select Target	×
	Select a target schema. Schema: Enter s DBA	earch 💌 📡

📧 Map Tables

Name Target Tables

For each of the new target tables, provide a name that relates to th tables.

Specify how the new target table names relate to their correspondi

Identical to the source table names



Prefix:

Replikace struktur a dat z BE do FE 4/5

📧 Map Tables IS Map Tables Set Replication Method **Review Mappings** Set the replication method for the mapped tables. Review mapping settings. Replication On Finish, the wizard will do the following: Standard replication table mappings will be created within the subscription LOAD TABLES. C Mirror (Change Data Capture) Tables will use Change Data Capture (CDC) replication. Tables from IDS_BE will be mapped to newly created tables on solid_FE. F Prevent Recursion The replication method will be set to refresh. • Refresh (Snapshot) Tables will use snapshot replication. 0 Next > Einish < Back Cancel

🖺 Map Tables		×
OP Creating table stock	54%	Details >>
		Close

Replikace struktur a dat z BE do FE 5/5

IBM InfoSphere Change Data Capture Management Consol				ß	
Monitoring 🚯 Configuration 👫 Access Manager 🛛 🥐					
Subscriptions 🕼 Datastores 🛛 🗖 Tab	e Mappings - LOAD_TABLI	25			-
🗊 📰 🛛 Enter search 💌 🙀 🛗 🖬	- us us 😋 🖑	L		Enter search	n 💌 🎖
12 Subscription Source Target	Source Table	Target Table	Mapping Type	Method	Status
🖃 😂 Default Project 🔄 🔚 inf	ormix.call_type	DBA.call_type	Standard	Refresh	Refresh
🔤 LOAD TABLES 📕 IDS BE 📕 solid FE 🚺 🧰 inf	ormix.cust_calls	DBA.cust_calls	Standard	Refresh	Refresh
Man Tables	her	DBA.customer	Standard	Refresh	Refresh
Tanies		DBA.items	Standard	Refresh	Refresh
Notification	act	🛅 DBA.manufact	Standard	Refresh	Refresh
Latency Thresholds		DBA.orders	Standard	Refresh	Refresh
Chappen Defrech Order		DBA.state	Standard	Refresh	Refresh
Change Refresh Order		DBA.stock	Standard	Refresh	Refresh
Infopphere DataStage Properties		14			
Static S <u>Q</u> L					
User Exits					
Copy Subscription					
Copy Subscription					
Promote Subscription					
Import Subscription					
Export Subscription	10000				
Delete Subscription	Delete				
Generate InfoSphere DataStage Job Definition					
Project	•				
Start <u>R</u> efresh					
Start Mirroring (Continuous)					
Start Mirroring (Net Change)					
	4				
End Replication	<u> </u>				
Properties					
P. Loberges	1				



Ověření replikace

🎫 Příkazový řádek - solsql "tcp 1315" dba dba



Definice oboustranné replikace

Definice replikace ve směru: IDS -> SolidDB

lame:	state_table_BEtoFE	
escriptio	n: state table - replicate to FE	
roject:	Default Project 💽 New Project	t
ource:	IDS_BE	
arget	solid FE 🛛 💌 Details,	

Juice ID;	STATE_TA	
IP Host:	Auto-Select	
rewall Port:		
not replicate	e data received from the follo	owing subscriptions:
		<u>A</u> dd
		Delete
		Delete



Definice oboustranné replikace

Definice replikace ve směru: SolidDB -> IDS

lame:	state_table_FEtoBE		
escription:	state table replicate to BE		
roject:	Default Project	•	New Project
jource: soli	d_FE	_	
arget: 10	_BE	•	Dgtails,
arget: Just			DEcalision

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Subscriptions	🗔 Datastores			Table Mappings
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2 Subscripti	on	Source	Target	12 Source Table
🛛 🗁 Defaul	t Project			
STA	TE_TABLE_BETOFE	🔍 IDS_BE	🔍 solid_FE	
🐯 STA	TE_TABLE_FETOBE	🔍 solid_FE	🕵 IDS_BE	



Výběr repliky (BE->FE) a typu mapování

📧 IBM InfoSphere Change Dat	a Capture Mana	agement Console	
Eile Edit Subscription Mapping Image: I	View Help	nager 🧿	
Subscriptions 🔍 Datastores		-	🗖 📑 Table Mappings - STATE_
12 E	Enter s	earch 💌 🔨	x 🛅 🗵 🗷 🖂 🖓
12 Subscription	Source	Target	1ª Source Table
🕞 🗁 Default Project		t dire-	
STATE_TABLE_BETO	FE 🚺 IDS BE	solid FF	
STATE_TABLE_FETO	BE 🛅 Map <u>T</u> ables	6	
	Notification Latency Th Change Re	 resholds fresh Order	

18 Map Tables	
Select Mapping Type	Par
Depending on your replication requirements, select from one of the following mapping types to apply data to the target.	
Automatic	
One-to-one Mappings	
Map one or more source tables to one or more target tables. These tables have	e identical or almost

identical structures.

Mapování tabulky "state" (BE -> FE)

📧 Map Tables	
Select Source Tables Select one or more source tables to map to target tables.	
Source Tables:	Enter search 💌 📡
Table	Replicate
🛛 🖂 informix	
call_type	
🚾 catalog	
cust_calls	
customer	
items	
i manufact	
i orders	
📰 state	
- stock	

📧 Map Tables

Select Existing or Create New Target Tables

Specify whether you want to map to existing target tables or ma

Map to existing target tables

Map source tables to existing target tables.

📧 Map Tables

Map Source Tables to Existing Target Tables

Select the target table to map to the example source table that is di relationship will be used to map the other selected source tables.

r <u>a</u> rget Table:	
CALL_TYPE CALL_TYPE CUST_CALLS CUSTOMER CUSTOMER	
MANUFACT ORDERS STATE STOCK	



Zvolení replikační metody

🗈 Map Tables	
Set Replication Method Set the replication method for the mapped tables.	
Mirror (Change Data Capture) Tables will use Change Data Capture (CDC) replication. Prevent Recursion Refresh (Snapshot)	
Tables will use snapshot replication.	

Výběr repliky (FE->BE) a typu mapování

IBM InfoSphe File Edit Subsci	re Change Data	Capture Mana View <u>H</u> elp	gement Console	_
🛄 Monitoring	🛞 Configuration	🚺 Access Man	ager 🛛 🕜	
😨 Subscriptions	🗔 Datastores		- 0	🛅 Table Mappings - S
19 🗃		Enter se	earch 💌 🙀	🔚 20 🖂 🔊
12 Subscripti	on	Source	Target	12 Source Table
🖂 😂 Defaul	t Project TE_TABLE_BETOFE	IDS_BE	🔍 solid_FE	
STA 🐺	TE_TABLE_FETOBE	Map <u>T</u> ables	IDS BE	
		Notification	holds	



Mapování tabulky "state" (BE -> FE)

📧 Map Tables	
Select Source Tables Select one or more source tables to map to target tables.	
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Table	Replicate
🖂 🔏 DBA	
CALL_TYPE	
CUST_CALLS	
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ITEMS	
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📧 Map Tables



Map source tables to existing target tables.

📧 Map Tables

Map Source Tables to Existing Target Tables

Select the target table to map to the example source table that is displayed relationship will be used to map the other selected source tables.

Source Table: 🔚 DBA.STATE	
T <u>a</u> rget Table:	
🗉 🤱 informix	
customer	
items	
stock	
ts_confaud	



Zvolení replikační metody

🖻 Map Tables	
Set Replication Method Set the replication method for the mapped tables.	
Mirror (Change Data Capture) Tables will use Change Data Capture (CDC) replication. Image: Prevent Recursion Refresh (Snapshot) Tables will use snapshot replication.	

IBM InfoSphere Change Data C File Edit Subscription Mapping V Monitoring Nonitoring Nonitoring Nonitoring Nonitoring	apture (jew <u>H</u> el å å Acce:	Managei P ss Manag	ment Console				
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STATE_TABLE_BETOFE	🔘 Inac	tive	Normal			🚺 IDS_BE	🐰 solid_FE
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Spuštění replik

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Subscriptions 📴 Replication Diag	gram					
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STATE_TABLE_FETOBE	Inactive Normal Inactive Normal Inactive Normal Inactive Inactive Normal Inactive Inactive In			Solid_FE	olid_FE M IDS_BE	
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Dékuji za pozomost

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