

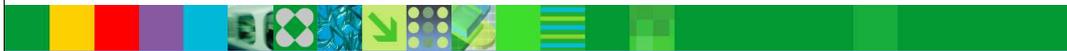


IBM Software Group

Informix Dynamic Server

Enterprise replication – Monitoring changes - cdr view syntax in V10.00.xC9

IBM Information Management software



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This presentation includes cdr view syntax subcommands and descriptions. The following slides do not contain audio. You can pause the presentation at any time to delay the advancement of future slides.

Monitoring changes - cdr view syntax

Sub-commands

Long form	Description
apply	Summary of data apply on each target servers, including the latency of each target
ats	Displays a portion of each ATS file
atsdir	Displays the filenames in the ATS directory, optionally
run	repair operations based on those files
ddr	Displays the state, key log positions, and the proximity to DDRBLOCK for each server in the domain

Monitoring changes - cdr view syntax (continued)

Sub-commands

Long form	Description
nif	Displays information about network connections between ER servers, including # of transactions waiting to be transmitted to target servers
profile	Summary view of the state, data capture, data apply, errors, connectivity, queues, and the size of spooling files for every ER server
rcv	Displays information about receive statistics for each target server, including # of failures and the transaction apply rate
ris	Display a portion of each RIS file

Monitoring changes - cdr view syntax (continued)

Sub-commands

Long form	Description
risdir	Displays the filenames in the RIS directory, optionally run repair operations based on those files
sendq	Displays information about send queues for each ER server
servers	Displays information about the state, connection status, and queue size for each ER server
state	Display the state of: ER, data capture, network connections, and data apply for each ER server

Monitoring changes - cdr view syntax (continued)

Options

long form	short form	Description
--check	-C	Checks consistency between the database and the ATS/RIS file. List repair operations to <i>stderr</i> , but do not perform the repair operations
--delete	-d	Deletes the ATS/RIS files after processing with the --repair (-R)
--help	-h	Display cdr view command usage
--quiet	-q	Quiet mode. Repair operations not written to <i>stderr</i>
--repair	-R	Synchronize data based on ATS/RIS files
--repeat= #	-r	Repeat the cdr view command after # of seconds
--verbose	-v	Verbose mode (default). All repair operations are written to <i>stderr</i>

Monitoring changes - cdr view syntax (continued)

```
cdr view [-c server] [-r interval] object(s) [options]
  -c server --connect=server connect to server
  -r interval --repeat=repeat interval in seconds
objects: list of objects separated by space
List of supported objects and their sub options are:
  ddr
  servers
  sendq
  nif
  apply
  rcv
  ris
  ats
  profile
  state
  atmdir [-R | -C | -v | -d | -q]
  risdir [-R | -C | -v | -d | -q]
    -R repair
    -C check
    -v verbose
    -d delete option for repair
    -q quiet option for repair
```

Monitoring changes - cdr view state

```
> cdr view state
```

```
STATE
```

Source	ER State	Capture State	Network State	Apply State
ron_1_cdr	Active	Running	Running	Running
ron_2_cdr	Active	Running	Running	Running

Monitoring changes - cdr view profile

```
> cdr view profile
```

```
ER PROFILE for Node ron_1_cdr          ER State Active
```

```
DDR - Running
```

```
Current          7:204800
```

```
Snoopy           7:200812
```

```
Replay           7:168180
```

```
Pages from DDRBLOCK      2950
```

```
SPOOL DISK USAGE
```

```
Total          8192
```

```
Metadata Free   1473
```

```
Userdata Free   6303
```

Monitoring changes - cdr view profile

SENDQ		RECVQ	
		Txn In Queue	0
Txn In Queue	0	Txn In Pending List	0
Txn Spooled	0		
Acks Pending	0	APPLY - Running	
		Txn Processed	0
NETWORK - Running		Commit Rate	0.00
Currently connected to 1 out of 1		Avg. Active Apply	0.00
Msg Sent	6146	Fail Rate	0.00
Msg Received	19	Total Failures	0
Throughput	0.15	Avg Latency	0.00
Pending Messages	0	Max Latency	0
		ATS File Count	0
		RIS File Count	0

Monitoring changes - cdr view ddr

```
> cdr view ddr
```

```
DDR
```

Server	Snoopy log page	Replay log page	Current log page	total log pages	log pages to DDRBLOCK
ron_1_cdr	7:1	7:0	7:2	6000	2998
ron_2_cdr	7:412	7:0	7:413	6000	2587

Above columns show

- ▶ Server = Name of the ER server.
- ▶ Snoopy log page = the current log ID and position where ER captures transactions for replication.
- ▶ Replay log page = the current log ID and position where ER has been applied. This is where ER would start recovery in the event of a shutdown.
- ▶ Current log page = where current database activity is being written.
- ▶ total log pages = total number of logical log pages available on this server.
- ▶ log pages to DDRBLOCK = the # of log pages available before blocking occurs.

Monitoring changes - cdr view servers

```
> cdr view servers
```

```
SERVERS
```

```
Server      Peer      ID   State   Status   Queue   Connection
  Changed

-----
ron_1_cdr   ron_1_cdr 127   Active  Local    0
           ron_2_cdr 128   Active  Connected 0      Feb 11 16:12:02
ron_2_cdr   ron_1_cdr 127   Active  Connected 0      Feb 11 16:12:02
           ron_2_cdr 128   Active  Local    0
```

This output is very similar to the `cdr list servers` output, except it shows the view from each server individually.

The `Server` column shows which server is used to view the domain.

The `Peer` column lists the names of the other ER servers, as seen from this node.

Monitoring changes - cdr view sendq

```
> cdr view sendq
```

```
RQM SENDQ
```

Server	Trans. in que	Trans. in mem	Trans. spooled	Data in queue	Memory in use	ACKS pending
--------	------------------	------------------	-------------------	------------------	------------------	-----------------

ron_1_cdr	0	0	0	0	0	0
ron_2_cdr	0	0	0	0	0	0

- Above columns show

- ▶ Trans. in que = # of transactions in the queue.
- ▶ Trans. in mem = # of transactions in the queue and in memory.
- ▶ Trans. spooled = # of transactions in the queue that have spooled to disk.
- ▶ Data in queue = # of bytes in the queue, both in-memory and spooled.
- ▶ Memory in use = # of bytes in the queue that are in memory.
- ▶ ACKS pending = # of acknowledgements received but not yet processed.

Monitoring changes - cdr view rcv

```
> cdr view rcv
```

```
RCV
```

Server	Received Txn.	Spooled Txn.	Memory In Use	Pending Txn.	Waiting Txn.
ron_1_cdr	0	0	0	0	0
ron_2_cdr	0	0	0	0	0

- Above columns show
 - ▶ Received Txn. = # of transactions in the queue.
 - ▶ Spooled Txn. = # of transactions in the queue that have spooled to disk.
 - ▶ Memory In Use = Size in bytes of the queue.
 - ▶ Pending Txn. = # of transactions processed but not yet applied.
 - ▶ Waiting Txn. = # of acknowledgements waiting to be sent back to the source server.

Monitoring changes - cdr view apply

```
> cdr view apply
```

```
APPLY
```

Server	Pl Rate	Failure Ratio	Num Run	Num Failed	Apply Rate	--Latency-- Max	Avg.	ATS #	RIS #
ron_1_cdr	0	0.000	0	0	0.000	0	0.000	0	0
ron_2_cdr	0	0.000	4	0	0.000	0	0.000	0	0

- Above columns show

- ▶ PI Rate = Degree of parallelism used during apply of data. 0 = highest rate.
- ▶ Failure Ratio = Ratio of # of times data could not apply in parallel due to deadlocks or lock timeouts.
- ▶ Num Run = # of transactions processed.
- ▶ Num Failed = # of failed transactions due to deadlocks or lock timeouts.
- ▶ Apply Rate = # of transactions applied ÷ the amount of time that ER has been active.
- ▶ Max Latency = maximum # of seconds for processing a transaction.
- ▶ Avg. Latency = average # of seconds spent processing transactions.
- ▶ ATS # = number of ATS files.
- ▶ RIS # = number of RIS files.

Monitoring changes - cdr view nif

```
> cdr view nif
```

```
NIF
```

Source	Peer	State	Messages			Transmit Rate
			Sent	Received	Pending	
ron_1_cdr	ron_2_cdr	Connected	6114	18	0	0.150
ron_2_cdr	ron_1_cdr	Connected	6110	22	0	0.150

- Above columns show
 - ▶ NIF Source = source server for this view.
 - ▶ Peer = Server to which the source is connected.
 - ▶ State = Connection state, values are listed in notes...
 - ▶ Messages Sent = # of messages sent from source to the target.
 - ▶ Messages Received = # of messages received from this target.
 - ▶ Messages Pending = # of messages the source needs to send to the target.
 - ▶ Transmit Rate = total bytes of messages sent and received ÷ amount of time ER has been running. (same as 'throughput' field in the `cdr view profile` command).

Monitoring changes - cdr view ris

```
> cdr view ris
```

```
RIS for ron_1_cdr - no files
```

```
-----
```

```
RIS for ron_2_cdr - no files
```

```
-----
```

Monitoring changes - cdr view ats

```
> cdr view ats
```

```
ATS for ron_1_cdr - no files
```

```
ATS for ron_2_cdr - 1 files
```

Source	Txn. Commit	Receive
	Time	Time

```
ron_1_cdr 09-02-15 22:17:55 | 09-02-15 22:18:05
```

```
File:ats.ron_2_cdr.ron_1_cdr.D_1.090215_22:18:05.1
```

Monitoring changes - cdr view atmdir

```
> cdr view atmdir
```

```
ATSDIR
```

Server	File	Size	
Create	Name		
Time			

ron_2_cdr	ats.ron_2_cdr.ron_1_cdr.D_1.090215_22:18:05.1		
15 22:18:10		447	2009-02-

Monitoring changes - cdr view risdir

```
> cdr view risdir
```

```
RISDIR
```

Server	File	Size
Create	Name	

Monitoring changes - examples

- This command will display information about the send queue and network, and repeat it every 10 seconds.
 - ▶ `cdr view sendq nif --repeat=10`

- This command could be used within a script to check for any new ATS/RIS files and automatically repair, then delete them every 5 minutes.
 - ▶ `cdr view atmdir risdir --repair --delete --repeat=300`

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