Process of Accessing SDChain-Core Node

1 Environmental Requirements

Operating System：

Linux ubuntu 4.2.0-27-generic #32 ~14.04.1-ubuntu SMP Fri 15:32:26 UTC 2016 x86_64 x86_64 x86_64 Gnu/linux

Compile environment：

gcc Version 5.4.1 20160904 (Ubuntu 5.4.1-2ubuntu1~14.04)

Resource constraints：

core file size (blocks, -c) 0
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited
pending signals (-i) 31449
max locked memory (kbytes, -l) 64
max memory size (kbytes, -m) unlimited
open files (-n) 1024
pipe size (512 bytes, -p) 8
POSIX message queues (bytes, -q) 819200
real-time priority (-r) 0
stack size (kbytes, -s) 8192
cpu time (seconds, -t) unlimited
max user processes (-u) 31449
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited

2 Software Downloads

Https://github.com/SDChain/SDChain-Core/bin

Download sdchaind. tar. gz File

After decompression, it contains the following files：

sdchaind
SDChain-Core.cfg
validators.txt
libprotobuf.so.8
libstdc++.so.6

3 Installation and Deployment

3.1 Deploy Executable Directory

mkdir /usr/local/ sdchaind
mv sdchaind /usr/local/ sdchaind

3.2 Deploy Directory of Configuration File

mkdir /etc/opt/ sdchaind
mv SDChain-Core.cfg validators.txt /etc/opt/ sdchaind

3.3 Deploy Directory of Database File

mkdir /var/lib/sdchaind/db

3.4 Deploy Directory of Log File

mkdir /var/log/ sdchaind

3.5 Deploy Directory of Dependency Library File

mv libprotobuf.so.8 /usr/lib/x86_64-linux-gnu/libprotobuf.so.8
mv libstdc++.so.6 /usr/lib/x86_64-linux-gnu/libstdc++.so.6

4 Configuration Parameters

Edit Sdchain-core.cfg File

```
[ServIs]
port_rpc_admin_local
port_peer
port_ws_admin_local
port_ws_public
```

```
#ssl_key = /etc/ssl/private/server.key
#ssl_cert = /etc/ssl/certs/server.crt

[port_rpc_admin_local]
port = 5005
ip = 127.0.0.1
admin = 127.0.0.1
protocol = http

[port_peer]
port = 51235
ip = 0.0.0.0
protocol = peer

[port_ws_admin_local]
port = 6006
ip = 0.0.0.0
admin = 0.0.0.0
protocol = ws

[port_ws_public]
port = 6007
ip = 0.0.0.0
admin = 0.0.0.0
protocol = wss

[ledger_history]
full

[node_size]
medium

[node_db]
type=RocksDB
path=/var/lib/sdchaind/db/rocksdb
open_files=2000
filter_bits=12
cache_mb=256
file_size_mb=8
file_size_mult=2
#online_delete=2000
advisory_delete=0

[database_path]
```

```
/var/lib/ sdchaind /db

[debug_logfile]
/var/log/ sdchaind /debug.log

[sntp_servers]
time.windows.com
time.apple.com
time.nist.gov
pool.ntp.org

[ips]
Genesis.sdchain.io 51235    //Currently tested node
[validation_seed]
snVNTbPZwkNPNYoFmMSYg6FbaZmF7

[validators_file]
validators.txt

[validation_quorum]
3

[rpc_startup]
{ "command": "log_level", "severity": "warning" }

  [ssl_verify]
0
```

Edit Validators.txt File

```
# Public keys of the validators that this sdchaind instance trusts.
[validators]
n9M2JkDT2WWAo1iaPTag9rxjGQDwC7dnnvyxUfVsZNrAe2CPnu6p
```

5 Start Execution

5.1 Normal Mode Boot

./sdchaind

For the first boot, if this mode is selected, history account information will be initialized

synchronously with other nodes on the SDChain-Core blockchain.

5.2 Load Startup Mode

./sdchaind –load

Start again. This kind of starting mode will initialize the history ledger information locally first, then be in sync with the network.

5.3 Stand-alone Startup Mode

./sdchaind –a

Single machine debugging. This mode will not connect with another node of the public SDChain-Core network.

5.4 Turn off Services

./sdchaind stop

5.5 Verify Successful Startup

./sdchaind

5.6 Authentication

Execute the following command:

./sdchaind peers

Returns the following response information:


```
{
    "id" : 1,
    "result" : {
        "cluster" : {},
        "peers" : [
            {
                "address" : "45.76.69.152:44951",
                "complete_ledgers" : "1 - 115670",
                "inbound" : true,
                "latency" : 319,
```

```
                "load" : 170,
                "public_key" : "n9LFnDTLjwAnHF9zUtkkATW5cPRMqKJS7u6x6zcmtzdSjKtszzf2",
                "uptime" : 16,
                "version" : "sdchaind-0.60.2"
            }
        ],
        "status" : "success"
    }
}
```


Comments：

If peers have information of the other SDChain-Core node server, they have successfully connected with the public service network of blockchain.