测试文档

设备：部署三个节点，搭建私链
A. ethereum常规节点: ssh root@**.***.***.**
运行
geth --datadir /root/testprivate console
同时打开挖矿
miner.start()

B. Usechain常规节点: ssh root@**.***.***.***
运行
geth --datadir testpriv/ --bootnodes
enode://83a142fe4dc4eafbcb0c70679c1a04bc5a3c69e6131d7a72b2853d4aea570999ca399cb086f56b673cb5b007d77bf8a7b1ab2cb3b67ddabf440c94bb03d399fc@[**.***.***.**]:30303

--rpc --rpcaddr 0.0.0.0 --rpcport 8545 --rpcapi 'web3,eth,personal' --rpccorsdomain * 0

geth --datadir ~/testpriv/ --rpc --rpcaddr 0.0.0.0 --rpcport 8545 --rpcapi web3,eth,personal --rpccorsdomain * console

C. Usechain常规节点 ssh root@**.***.***.**
运行
geth --datadir testpriv/ --bootnodes
enode://83a142fe4dc4eafbcb0c70679c1a04bc5a3c69e6131d7a72b2853d4aea570999ca399cb086f56b673cb5b007d77bf8a7b1ab2cb3b67ddabf440c94bb03d399fc@[**.***.***.**]:30303

确保三个节点连接到同一网络，区块同步正常

步骤1:
A机器，account[0]: 0xe984996f42d9348999b4dcb8b897597fc3725b10
创建CA合约（USG合约，publicAccount合约暂未部署）：

eth.sendTransaction({from: eth.accounts[0], value: 0, gas:'0x332423', data:
'0x60606040526000600455341562000015576000 80fd5b60405162001b5738038062001b57833981016040528080518201919050503360008061010 00a81548173ffffffffffffffffffffffffffffffffffffffff021916908373ffffffffffffffffffffffffffffffffffffffff160217905550806007600073cc73428bd9b2a5bbcd49289c1e1966d24b50433d73ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff16815260200190815260200160002060010190805190602001906200 00df9291906200038d565b5060036007600073cc73428bd9b2a5bbcd49289c1e1966d24b50433d73ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffff

fffffffffffff16815260200190815260200160002060000181905550 73cc73428bd9b2a5bbc
d49289c1e1966d24b50433d60068260405180828051906020019080838 35b60208310151
56200018b57805182526020820191506020810190506020830392506 2000164565b60018
36020036101000a038019825116818451168082178552505050505050 90500191505090 8
15260200160405180910390206003016000610100 0a8154817 3fffffffffffffffffffffffffffffff
ffffffff021916908373ffffffffffffffffffffffffffffffffffffffff1602179055506001600682604 05
18082805190602001908083835b60208310151562000 23b57805182526020820191506 02
08101905060208303925062000214565b60018360200361010 00a038019825116818451 1
68082178552505050505050905001915050908152602001604051809103902060000160 0
06101000a81548160ff021916908315150217905550600160068260405180828051906 02
001908083835b60208310151562000 2c45780518252602082019150602081019050602 08
30392506200029d565b60018360200361010 00a038019825116818451168082178552505
05050505090500191505090815260200160405180910390206002018190555060045460 0
68260405180828051906020019080838 35b60208310151562000 33b57805182526020820
19150602081019050602083039250620003 14565b60018360200361010 00a03801982511
68184511680821785525050505050509050019150509081526020016040518091039020 6
00101819055506001600460008282540192505081905550506200043c565b82805460018
16001161561010002031660029004906000526020600020906 01f016020900481019282 6
01f10620003d057805160ff191683800117855562000401565b828001600101855582156 2
00040157918201 5b828111156200040057825182559160200191906001019062000 3e356
5b5b5090506200041091906200041 4565b5090565b6200043991905b8082111562000435
57600081600090555060010162000 41b565b5090565b90565b61170b806200044c600039
6000f300606060405260043610610 0c4576000357c010000000000000000000000000000
000000000000000000000000000000900463ffffffff16806299cc99146100c957806333161ca
8146101575780633cebb8231461019057806 3592bf900146101c95780635cc2c2dc146102
7b578063737dc985146102a457806374f54c371461035d578063c4cdc974146103e457806
3d72d181d1461041d578063d96119681461046a578063f77c47911461050757806 3fc1d21
751461055c578063fd79c2a914610595575b600080fd5b34156100d457600080fd5b6100d
c610623565b60405180806020018281038252838181518152602001915080519060200 19
080838360005b8381101561011c57808201518184015260208101905061010 1565b50505
050905090810190601f168015610149578082038051600183602003610 1000a031916815
260200191505b509250505060405180910390f35b34156101625760080fd5b61018e600
480803573ffffffffffffffffffffffffffffffffffffffff169060200190919050506106 5c565b005b34
1561019b57600080fd5b6101c7600480803573ffffffffffffffffffffffffffffffffffffffff1690602
00190919050506108 2b565b005b34156101d457600080fd5b6102006004808035 73ffffffff
ffffffffffffffffffffffff169060200190919050506108c9565b604051808060200182810
382528381815181526020019150805190602001908083836000 5b83811015610240578 0
820151818401526020810190506102255 65b505050509050908101906 01f16801561026d
57808203805160018360200361010 00a031916815260200191505b509250505060405180
910390f35b34156102865760080fd5b61028e6109b3565b604051808281526020019150
506040518091039 0f35b34156102af57600080fd5b6102db600480803573ffffffffffffffffff
ffffffffffffffffffff169060200190919050506109b9565b604051808381526020018060200 1
828103825283818151815260200191508051906020019080838360005b83811015610321
578082015181840152602081019050610306565b505050509050908101906 01f16801561
034e57808203805160018360200361010 00a031916815260200191505b509350505050600
405180910390f35b34156103685760080fd5b6103ca600480803590602001909190803 5

90602001909190803590602001908201803590602001908080601f016020809104026020
01604051908101604052809392919081815260200183838082843782019150505050505050
91905050610a75565b604051808215151515815260200191505060405180910390f35b34
156103ef57600080fd5b61041b600480803573ffffffffffffffffffffffffffffffffffffffff16906020
01909190505061135c565b005b34156104285760080fd5b6104546004808035573ffffffff
ffffffffffffffffffffffffffff169060200190919050506113fd565b604051808281526020019
150506040518091039f35b34156104755760080fd5b6104c56004808035906020019080
20180359060200190808060 1f016020809104026020016040519081016040528093929190
818152602001838380828437820191505050505050919050506114495 65b60405180827
3ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff1681526020019
150506040518091039f35b34156105125760080fd5b61051a6114e1565b60405180827
3ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff1681526020019
150506040518091039f35b34156105675760080fd5b6105936004808035573ffffffffffffff
ffffffffffffffffffff169060200190919050506115065b005b34156105a057600080fd5
b6105a86115a5565b604051808060200182810382528381815181526020019150805190 6
020019080838360005b838110156105e857808201518184015260208101905061 05cd565
b505050509050908101906 01f1680156106155780820380516001836020036101000a031
916815260200191505b509250505060405180910390f35b604080519081016040528060 0
681526020017f566572302e390000000000000000000000000000000000000000000000000
0000081525081565b60008090549061010 00a900473ffffffffffffffffffffffffffffffffffffffff16
73ffffffffffffffffffffffffffffffffffffffff163373ffffffffffffffffffffffffffffffffffffffff1614151561
06b757600080fd5b60006106c2826113fd565b14156106cd57610828565b600660076000
8373ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff1681526020
019081526020016000206001016040518082805460018160011615610100020316600290
04801561076c5780601f1061074a57610100808354040283529182019161076c565b8201
919060005260206000020905b81548152906001019060200180831161075857 5b50509150
509081526020016040518091039020600080820160006101000a81549060ff0219169055
60018201600090556002820160009055600382016000610 1000a81549073ffffffffffffffff
ffffffffffffffffffff02191690555050600760008273ffffffffffffffffffffffffffffffffffffffff1673f
ffffffffffffffffffffffffffffffffffffffff16815260200190815260200160002060008082016000905
5600182016000610825919061 15de565b50505b50565b600080905490610 1000a900473
ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff163373ffffffffffffff
ffffffffffffffffffff161415156108865760008 0fd5b806000806101000a81548173ffffff
ffffffffffffffffffffffffffffffff021916908373ffffffffffffffffffffffffffffffffffffffff1602179055
5050565b6108d1611626565b600760008373ffffffffffffffffffffffffffffffffffffffff1673ffffffff
ffffffffffffffffffffffffffff16815260200190815260200160002060010180546001816001
161561010002031660029004801 56109a7578060
1f1061097c57610100808354040283529160200191 6109a7565b8201919060005260206000
0020905b81548152906001019060200180831161098a57829003601f168201915b505050
505090509190505 65b60045481565b600760205280600052604060002060009150905080
60000154908060010180546001816001161561010002031660029004806 01f0160208091
040260200160405190810160405280929190818152602001828054600181600116156101
000203166002900480 15610a6b5780601f10610a405761010080835404028352916020 01
91610a6b565b8201919060005260206000020905b81548152906001019060200180831161
0a4e57829003601f168201915b505050505090508256 5b600080826000151560068260 40

5180828051906020019080838 35b602083101515610ab557805182526020820191506020
810190506020830392506 10a90565b600183602003610100 0a038019825116818451168 0
821785525050505050509050019150509081526020016040518091039020600001600090
54906101000a900460ff161515141515610b0757600080fd5b60405180807f73746f72654
341436572746966696361746528756 96e743235362c75696e743281526020017f35362c7
37472696e67290000000000000000000000000000000000000000000000000815250602a01905
060405180910390209150600035 7fffffffff000000000000000000000000000000000000000
000000000000000000167bfffffffffffffffffffffffffffffffffffffffffffffffffffffff1916827bfffffff
ffffffffffffffffffffffffffffffffffffffffffffff1916141515610bd557600080fd5b60001515600
685604051808280519060200190808383 5b602083101515610c1157805182526020820 19
150602081019050602083039250610bec565b600183602003610100 0a038019825116818
451168082178552505050505050905001915050908152602001604051809103902060000
160009054906101000a900460ff161515141561125f5783600760003373ffffffffffffffffffff
ffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff168152602001908152602001600 0
206001019080519060200190610cb392919061163a565b5085600760003373ffffffffffffffff
ffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff168152602001908152602001
600020600001819055503360068560405180828051906020019080838 35b602083101515
610d34578051825260208201915060208101905060208303925061 0d0f565b6001836020
036101000a038019825116818451168082178552505050505050905001915050908152602
00160405180910390206003016000610100 0a81548173ffffffffffffffffffffffffffffffffffffff
f021916908373ffffffffffffffffffffffffffffffffffffffff160217905550846006856040518082 80
519060200190808383 5b602083101515610de157805182526020820191506020810190 50
602083039250610dbc565b600183602003610100 0a038019825116818451168082178552
505050505050905001915050908152602001604051809103902060020181905550600454
600685604051808280519060200190808383 5b602083101515610e565780518252602082
019150602081019050602083039250610e31565b600183602003610100 0a038019825116
818451168082178552505050505050905001915050908152602001604051809103902060
010181905550600160068560405180828051906020019080838 35b602083101515610eca
578051825260208201915060208101905060208303925061 0ea5565b6001836020036101
000a038019825116818451168082178552505050505050905001915050908152602001 60
405180910390206000016000610100 0a8154816 0ff021916908315150217905550600160
046000828254019250508190555060018514156 1125a576005600090549061010 00a9004
73ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff1663e1e13941
336040518263ffffffff167c0100000000000000000000000000000000000000000000000000
0000000028152600401808273ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffff
ffffffffffffffff168152602001915050600060405180830381600087803b1515610fed57600
080fd5b5af11515610ffa57600080fd5b505050600560009054906101000a900473ffffffffff
ffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff1663a5330bdf336001600
09054906101000a900473ffffffffffffffffffffffffffffffffffffffff166019604051846 3ffffffff167
c0100000000000000000000000000000000000000000000000000000000281526004018
08473ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff168152602
0018373ffffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff1681526
020018260ff168152602001935050505060006040518083038160008780 3b151561111b5
7600080fd5b5af11515611 2857600080fd5b505050600560009054906101000a900473fff
ffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffffff1663a5330bdf33600
26000905490610100 0a900473ffffffffffffffffffffffffffffffffffffffff166032604051846 3ffffff

ff167c0100000000000000000000000000000000000000000000000000000002815260
0401808473ffffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffff1681
526020018373ffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffffff16
81526020018260ff16815260200193505050506000604051808303816000878 03b151561
124957600080fd5b5af11515611256576000 80fd5b5050505b61134e565b600760003373f
ffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffff168152602001908
152602001600020600001548611151561 12af57611353565b83600760003373ffffffffffffff
ffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffff16815260200190815260200 1
600020600101908051906020019061130592919061163a565b5085600760003373ffffffff
ffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffffffffffffff1681526020019081526020
200160002060000181905550 5b600192505b50509392505050565b600073ffffffffffffffffff
ffffffffffffffffffff16600360009054906101000a900473ffffffffffffffffffffffffffffffffffffffff
1673ffffffffffffffffffffffffffffffffffffff161415156113b957600080fd5b806003600061010
00a81548173ffffffffffffffffffffffffffffffffffffff02191690837 3ffffffffffffffffffffffffffff
ffffff16021790555050565b6000600760008373ffffffffffffffffffffffffffffffffffff1673ffff
ffffffffffffffffffffffffffffffffff16815260200190815260200160002060000154905091905 0
565b60006006826040518082805190602001908083835b6020831015156114835780518 2
526020820191506020810190506020830392506 1145e565b60018360200361010 00a0380
19825116818451168082178552505050505050905001915050908152602001604051809 1
039020600301600090549061010 00a900473ffffffffffffffffffffffffffffffffffffffff169050919
050565b600080905490610 1000a900473ffffffffffffffffffffffffffffffffffff1681565b6000
809054906101000a900473ffffffffffffffffffffffffffffffffffff1673ffffffffffffffffffffffffff
ffffffffff163373ffffffffffffffffffffffffffffffffffffff161415156115615760008 0fd5b806005
60006101000a81548173ffffffffffffffffffffffffffffffffffffff02191690837 3ffffffffffffffffff
ffffffffffffffffff16021790555050565b6040805190810160405280601881526020017f434
120436572746966696361746520436f6e74726163742e0000000000000000081525081565
b5080546001816001161561010002031660029004600082558060 1f10611604575061162
3565b601f0160209004906000526020600020908101906116229 1906116ba565b5b50565
b6020604051908101604052806000815250905 65b828054600181600116156101000203 1
660029004906000526020600020906 01f0160209004810192826 01f1061167b57805160ff
191683800117855 56116a9565b828001600101855582156116a9579182015b8281111561
16a857825182559160200191906001019061168d565b5b5090506116b691906116ba565b
5090565b6116dc91905b808211156116d857600081600090555060010161 16c0565b5090
565b905600a165627a7a72305820c1d21a3cb4b34adf1840eeb27753e05815f0140873e8a4
6b6bdc77515c75907e0029000000000000000000000000000000000000000000000000000
0000000000020000000000000000000000000000000000000000000000000000000000000
000047465737400000000000000000000000000000000000000000000000000000000'})

拿到CA合约地址 ：0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0

合约构造函数已经在0xcc73428bD9B2a5bbCd49289C1e1966D24b50433D地址绑定了证书“test”

交易执行成功，计算

var key =
"0000000000000000000000cc73428bD9B2a5bbCd49289C1e1966D24b50433D" +
"0000000000000000000000000000000000000000000000000000000000000007”
web3.sha3(key, {"encoding": "hex"})
eth.getStorageAt("0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0",
"0xa77b045d740033c65d496c892d80ea68f8fdb23e01927a6ecb57d58a64bb96df")

得到结果
"0x0000000000000000000000000000000000000000000000000000000000000003”结果表示合约部署有效
同时创建合约时，已经将地址0xcc73428bD9B2a5bbCd49289C1e1966D24b50433D置为合法地址

步骤2:
更新B，C两台机器的geth源码， 将AuthenticationContractAddressString赋值为0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0
同时将tca.crt证书放在keystore文件夹下

步骤3（B机器）:
发送合法的身份认证合约交易
为B机器的account[0]申请两个认证等级的Tcert，分别为1，2，addressTag为2（子地址，主地址功能暂时不测）

B account[0]: 0x2426e17b1f85c78d9682325382126ca2ecc3e861
Tcert 1 发送：
eth.sendAuthentication({from: eth.accounts[0], to:
'0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0', value: 0, gasPrice:0, gas:
0xe57e0,data:
'0000000000000000000000000000000000000000000000000000000000000010000000
0000000000000000000000000000000000000000000000000000000022d2d2d2d2d42454
7494e204345525449464949434154452d2d2d2d2d0a4d494943526a43434161696741774942
2416749514c64773369533338326752316f6a33446f45614a786a414b42676771686b6a4f
50515144424441674d5173770a435159445651514745774a44546a45524d413847413155
4543684d4956584e6c513268686157347748686346e4d5467774d7a49314d5463304e6a51
775768634e0a4d6a67774e4441304d4467784e7a4134576a41674d517377435159445651
514745774a44546a45524d413847413155454368 4d4956584e6c5132686861573477 0a675a7377454159484b6f5a497a6a3043415159464b34454541434d44675959414241417648
5a536b744737366b4e48346837372f4f45727768457a373471435a0a47586455424571662
f4f7433755251425746744346e4671414a77754d672f4539544f593578563543484a397448
733746376477706d543831346748684c2b43310a336a5339324c6c78504b37644462444c
4f52474542333875734f3734342f4962484659663048676231 4c376b32736f326c474d764
f4f4563506e624e6b4361540a466e484d45783067476f32367535457134614f426744422b
4d413447413155644477454 22f7751454177494370444164426 74e5648535545466a4155

426767720a4267454642516344415159494b7759424251554841774977447759445652305441514824f42415577417745422f7a413842674e56485245454e54417a675445770a654449304d6a5a6c4d5464694d5759344e574d334f4751354e6a67794d7a49314d7a67794d544932593245795a574e6a4d3255344e6a46414d544975593239740a4d416f4743437147534d343942414d454134474c4144434268774a434155417675376932317843387656384b6d6b4454764e635349386a713562443879672b530a784b43517a48515a372f46793650442f586d5349556e6a365a356c47326b3053797668353384b49795a5779746a623969633751784166466f64772f6d61364c4f0a2f4e3944335164364926f6548726c30347a446d73446130543641367662484a68416c746d6a5366514e5238436b3348696b46556d4275566c544739636658476f0a5755616255716c753263655676673d3d0a2d2d2d2d2d454e442043455254494649434154452d2d2d2d2d0a'})

查看结果level：
var key =
"0000000000000000000000002426e17b1f85c78d9682325382126ca2ecc3e861" +
"0000000000000000000000000000000000000000000000000000000000000007”
web3.sha3(key, {"encoding": "hex"})
eth.getStorageAt("0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0",
"0x7a54d03e985e5978027c7f0027128f3e5d4e16dfc04b1cb3d8cbb8c306594cb3")
结果：0x0000000000000000000000000000000000000000000000000000000000000001
则认证通过
Tcert 2 发送:(暂时不测，合约更新level有问题)
eth.sendAuthentication({from: eth.accounts[0], to:
'0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0', value: 0, gasPrice:0, gas:
0xe57e0,data:
'0000000000000000000000000000000000000000000000000000000000000020000000000000000000000000000000000000000000000000000000000000022d2d2d2d2d424547494e204345525449464949434154452d2d2d2d2d0a4d494943527a434341616d674177494241674952414c3979575a6d666434487551694d4845566f62746f4d77436759494b6f5a497a6a3045417751774944454c0a4d416b474131554542684d435130347845544150426742f544346567a5a554e6f59576c754d423458445445344d444d794e5445334e4459304d466f580a445449344d4451774e4441344d6a45314d466f774944454c4d416b474131554542684d435130347845544150426742f544346567a5a554e6f59576c750a4d4947624d424147427971475475375424241416a41344747414151414c783255704c52752b7044522b49652b2f7a684b3849524d2b2b4b670a6d526c335641524b6e2f7a7264376b5541566862516a52616743634c6a49507850557a6d4f635665516879666252374f786533634b5a6b2f4e65494234532f670a7464343076646935635479753351327779 7a6b526841642f4c7244752b4f5079477878574839423447395 32b354e724b4e70526a4c7a6a68484435327a5a416d0a6b785a787a424d644942714e757275524b75476a67594176676a414f42674e5648513842416638454241 4d4341715177485159445652306c4242597746415949 0a4b77594242515548417745474343734741515546427 74d434d41384741315564457745422f7751464d414d424166387750415944565230524245577 4d3445780a4d4867794e4449325a544533596a466d4f44566a4e7a686b4f5459344d6a4d794e544d344d6a45794e6d4e684d6d566a597a4e6c4f445978514449794c6d4e760a6254414b42676771686b6a4f5051514442414f4269774177675963435155366b626252784370596e726b70446a7a553

3306c69566a6f317a45677743342b2b530a484a2b3653474a364e387a3857534934797638
4130734a32355369764c42494b592f396243413775615973645347356f49747773416b49
412f317735465947780a4f2b2b3436574e3641592b70667357687a454655734f614754505
26730635459554f33726e6f4a35664c414541544b69306e6e5138726b484d71393753466f
350a71654465766975524430585l4c50453d0a2d2d2d2d2d454e44204345525449464943
4154452d2d2d2d2d0a'})

步骤4（B机器）：
发送不合法的身份认证交易
account[1]: 0x14068263495630fa3e92ed4a1f203cd0f5803cc5

eth.sendAuthentication({from: eth.accounts[1], to:
'0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0', value: 0, gasPrice:0, gas:
0xe57e0,data:
'0000000000000000000000000000000000000000000000000000000000010000000
0000000000000000000000000000000000000000000000000000000022d2d2d2d2d42454
7494e204345525449464943415445 2d2d2d2d2d0a4d494943526a4343416169674177494
2416749514c64773369533338326752316f6a33446f45614a786a414b42676771686b6a4f
50515144424441674d5173770a435159445651514745774a44546a45524d413847413155
4543684d4956584e6c513268686157347748686 34e4d5467774d7a49314d5463304e6a51
775768634e0a4d6a67774e4441304d4467784e7a4134576a41674d517377435159445651
514745774a44546a45524d413847413155454368 4d4956584e6c5132686861573477486
5a737745415948 6b6f5a497a6a3043415159464b34454541434d44675959414241417648
5a536b744737366b4e48346837372f4f45727768457a373471435a0a47586455424571662
f4f7433755251425746744346e4671414a77754d672f4539544f593578563543484a397448
733746376477706d543831346748684c2b43310a336a5339324c6c78504b37644462444c
4f52474542333875734f3734342f4962484659663048676231 4c376b32736f326c474d764
f4f4563506e624e6b4361540a466e484d45783067476f32367535457134614f426744422b
4d413447413155644477454 22f7751454177494370444164426 74e5648535545466a4155
426767720a4267454642516344415159494b7759424251554841774977447759445652 30
544151482f4241557741774542 2f7a413842674e56485245454e54417a675445770a65444
9304d6a5a6c4d5464694d5759344e574d334f4751354e6a67794d7a49314d7a67794d5449
32593245795a574e6a4d3255344e6a46414d544975593239740a4d416f4743437147534d3
43942414d454134474c4144434268774a434155417675376932317843387656384b6d6b4
454764e635349386a713562443879672b530a784b43517a48515a372f46793650442f586d
5349556e6a365a356c47326b305379766835384b49795a5779746a62396963375178416b
466f64772f6d61364c4f0a2f4e394433516436492f6548726c30347a446d73446130543641
367662484a68416c746d6a5366514e5238436b3348696b46556d4275566c544739636658
476f0a5755616255716c753263655676673d3d0a2d2d2d2d2d454e442043455254494649
434154452d2d2d2d2d0a'})

步骤5(B机器):
发送普通交易，地址有效性检测

eth.sendTransaction({from: eth.accounts[0], to:
'0xcc73428bD9B2a5bbCd49289C1e1966D24b50433D', value: 1, gasPrice:0, gas:
0xe57e0})
eth.sendTransaction({from: eth.accounts[0], value: 0, gas:'0x332423', data:
'0x60606040526040805190810160405280601181526020017f7465737420666f72207472
616e736665720000000000000000000000000000000081525060009080519060200190610
4f929190610060565b50341561005b57600080fd5b610105565b828054600181600116
1561010002031660029004906000526020600020906601f016020900481019282601f106100
a157805160ff1916838001178555610cf565b828001600101855582156100cf579182015
b828111156100ce57825182559160200191906001019061006100b3565b5b5090506100dc919
06100e0565b5090565b61010291905b808211156100fe576000816000905550600101610
0e6565b5090565b90565b60d48061011360000396000f3006060604052600436106103f576
000357c0100000000000000000000000000000000000000000000000000000000900463f
fffffff168063611cd906146041575b005b60476049565b005b60007329fbd4c229ee3d63e1
6a41cb10e51106cf889a1690508073ffffffffffffffffffffffffffffffffffffffff166108fc6305f5e10
0908115029060405160006040518083038185888f19350505050151560a557600080fd5
b505600a165627a7a72305820b5667d32280cee0f9f33e0b58f7f52734322cf1fc2df08fa8d
2e57aff14e1e920029'})
不合法的交易
包含不合法地址
eth.sendTransaction({from: eth.accounts[0], to:
'0x2c73428bD9B2a5bbCd49289C1e1966D24b50433D', value: 1, gasPrice:0, gas:
0xe57e0})

步骤6（A机器）：

A机器是未经修改的以太坊geth，能够打包不合法的认证交易和普通交易；需要测试其发送的不合法区块不会被正常Usechain节点打包

A机器开启挖矿，B，C不开启挖矿以简化测试流程，保证刚开始时区块数一致

发送不合法的认证交易
eth.sendAuthentication({from: eth.accounts[0], to:
'0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0', value: 0, gasPrice:0, gas:
0xe57e0,data:
'0000000000000000000000000000000000000000000000000000000000000010000000
0000000000000000000000000000000000000000000000000000000022d2d2d2d2d42454
7494e204345525449464949434154452d2d2d2d2d0a4d494943526a4343416169674177494
2416749514c64773369533338326752316f6a33446f45614a786a414b42676771686b6a4f
50515144424441674d5173770a435159445651514745774a44546a45524d413847413155
4543684d4956584e6c513268686157347748686346d5467774d7a49314d5463304e6a51
775768634e0a4d6a67774e4441304d4467784e7a4134576a41674d517377435159445651
514745774a44546a45524d413847413155454368 4d4956584e6c5132686861573477 0a675a7377454159484b6f5a497a6a3043415159464b34454541434d44675959414241417648

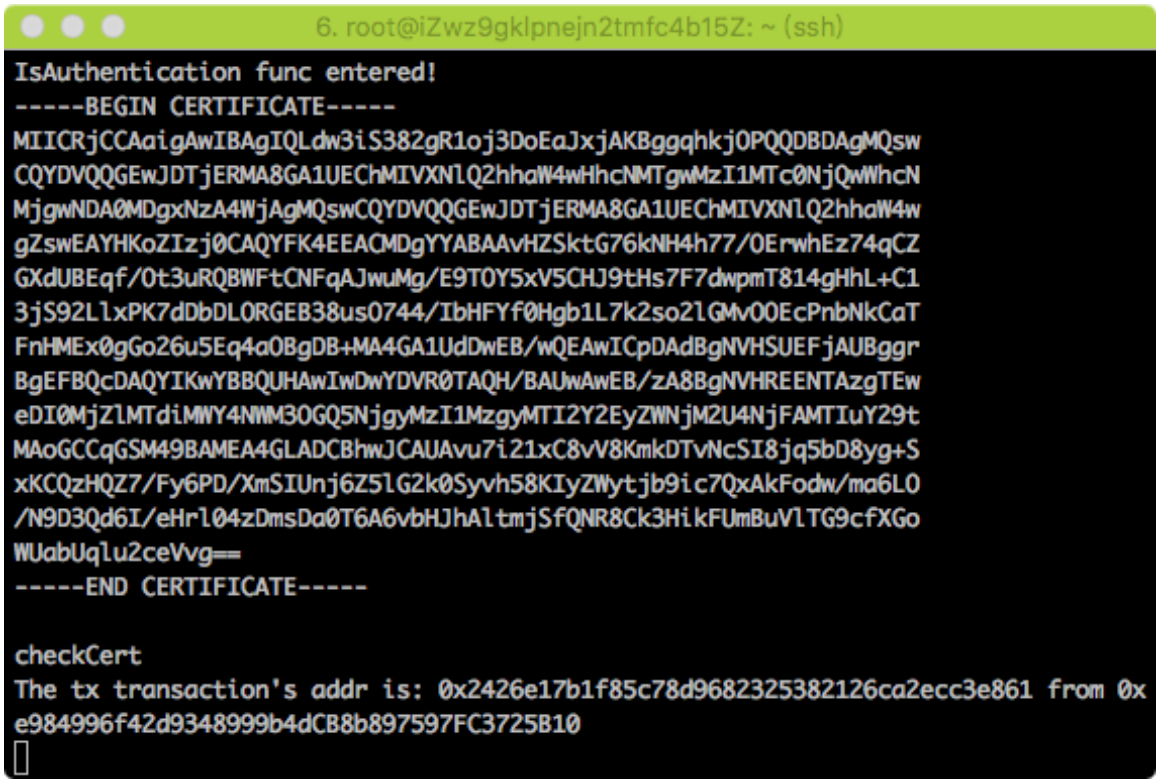
5a536b744737366b4e48346837372f4f45727768457a373471435a0a47586455424571662
f4f7433755251425746744344e4671414a77754d672f4539544f593578563543484a397448
733746376477706d543831346748684c2b43310a336a5339324c6c78504b37644462444c
4f52474542333875734f3734342f4962484659663048676231 4c376b32736f326c474d764
f4f4563506e624e6b4361540a466e484d45783067476f32367535457134614f426744422b
4d413447413155644477454 22f7751454177494370444164426 74e5648535545466a4155
426767720a426745464251634441515949 4b77594242515548417749774477594456523 0
544151482f42415577417745422f7a413842674e56485245454e54417a675445770a65444
9304d6a5a6c4d5464694d5759344e574d334f4751354e6a67794d7a49314d7a67794d5449
32593245795a574e6a4d3255344e6a46414d544975593239740a4d416f4743437147534d3
43942414d454134474c4144434268774a434155417675376932317843387656384b6d6b4
454764e635349386a713562443879672b530a784b43517a48515a372f46793650442f586d
5349556e6a365a356c47326b305379766835384b49795a5779746a623969633751784 16b
466f64772f6d61364c4f0a2f4e394433516436492f6548726c30347a446d73446130543641
367662484a68416c746d6a5366514e5238436b3348696b46556d4275566c544739636658
476f0a5755616255716c753263655676673d3d0a2d2d2d2d2d454e442043455254494649
434154452d2d2d2d2d0a'})

由于sendAuthentication是后续加的命令，使用sendTransaction来进行认证交易的发送

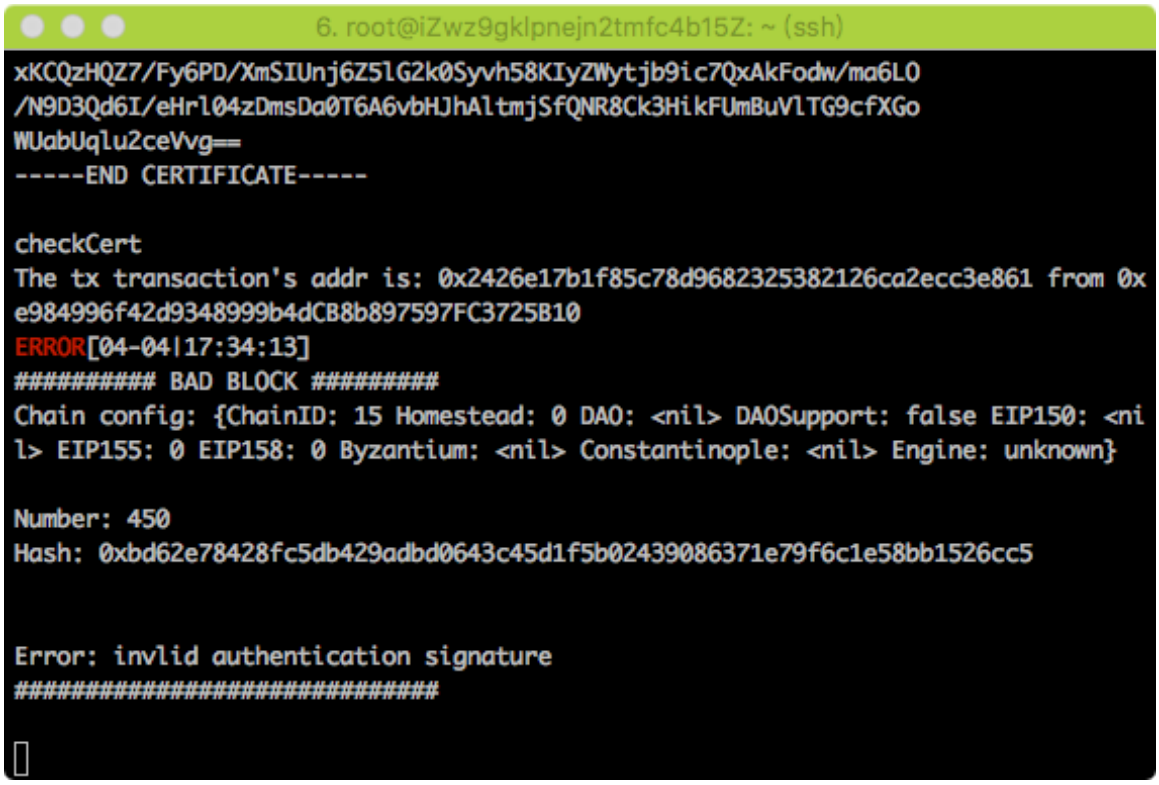
eth.sendTransaction({from: eth.accounts[0], to:
'0xf4690Fd64955aAb0d12bB9c7CC17b9Fc3F5a8dE0', value: 0, gasPrice:0, gas:
0xe57e0,data:
'0x74f54c3700000000000000000000000000000000000000000000000000000000000
0100000000000000000000000000000000000000000000000000000000000022d2d2d
2d2d424547494e204345525449464949434154452d2d2d2d2d0a4d494943526a4343416169
674177494241674951 4c64773695333383267523 16f6a33446f45614a786a414b4267677
1686b6a4f50515144424441674d5173770a435159445651514745774a44546a45524d413
8474131554543684d4956584e6c513268686157347748686 34e4d5467774d7a49314d546
3304e6a51775768634e0a4d6a67774e4441304d4467784e7a4134576a41674d5173774351
594456515147457 74a44546a45524d413847413155454368 4d4956584e6c513268686157
34770a675a7377454159484b6f5a497a6a3043415159464b34454541434d446759594142
414176485a536b744737366b4e48346837372f4f45727768457a373471435a0a475864554
24571662f4f7433755251425746744344e4671414a77754d672f4539544f59357856354348
4a397448733746376477706d543831346748684c2b43310a336a5339324c6c78504b3764
4462444c4f52474542333875734f3734342f4962484659663048676231 4c376b32736f326
c474d764f4f4563506e624e6b4361540a466e484d45783067476f32367535457134614f42
6744422b4d413447413155644477454 22f7751454177494370444164426 74e5648535545
466a4155426767720a426745464251634441515949 4b77594242515548417749774477594
44565230544151482f42415577417745422f7a413842674e56485245454e54417a6754457
70a654449304d6a5a6c4d5464694d5759344e574d334f4751354e6a67794d7a49314d7a67
794d544932593245795a574e6a4d3255344e6a46414d544975593239740a4d416f4743437
147534d343942414d454134474c4144434268774a434155417675376932317843387656 3
84b6d6b4454764e635349386a713562443879672b530a784b43517a48515a372f4679365
0442f586d5349556e6a365a356c47326b305379766835384b49795a5779746a6239696337
5178416b466f64772f6d61364c4f0a2f4e394433516436492f6548726c30347a446d734461

3054364136766248 4a68416c746d6a5366514e5238436b3348696b46556d4275566c5447
39636658476f0a5755616255716c753263655676673d3d0a2d2d2d2d2d454e4420434552
54496469434154452d2d2d2d2d0a'})

交易广播到B，C节点，会被识别出错误（下图为Tcert地址和发送地址不匹配）



区块广播B，C节点，会被识别出错误



此后A继续出块， B，C节点不再同步A广播的区块（因为A的链上有不合法的区块）

步骤7（A机器）：
清空A链上的区块，重启geth，A机器从BC机器同步区块，并可以同步到相同的区块高度

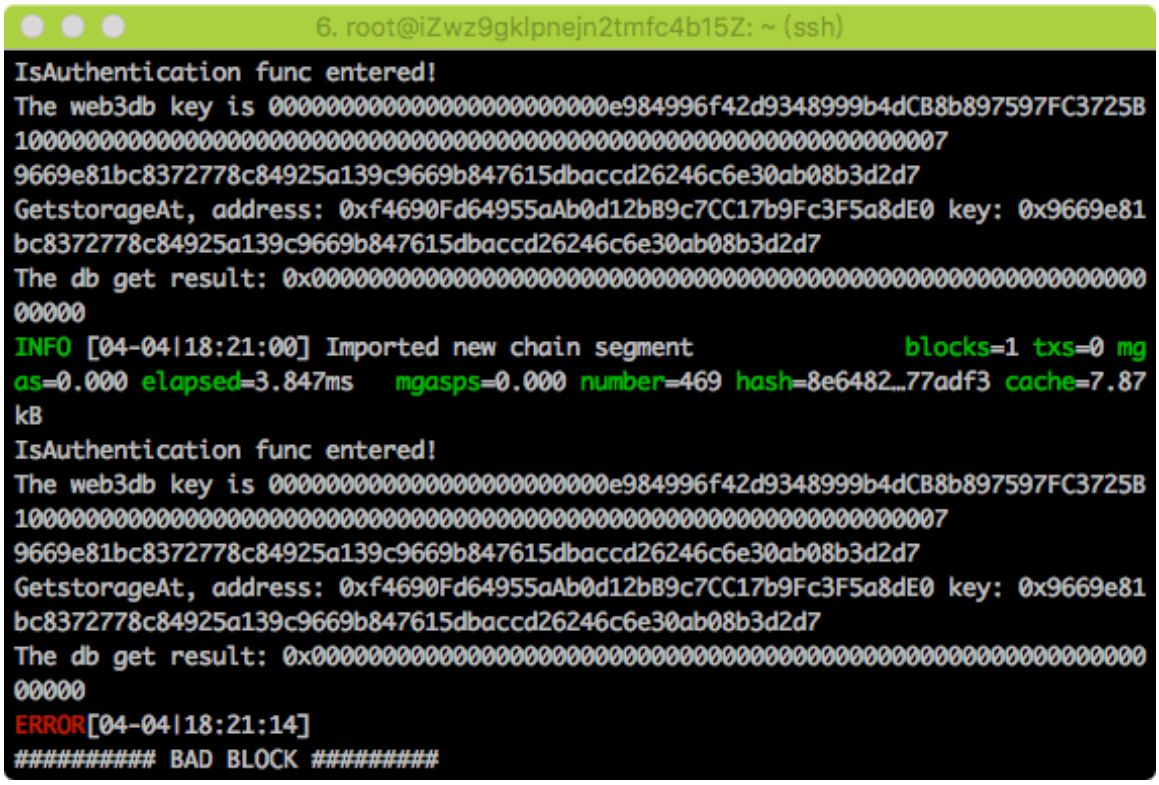
步骤8（A机器）：

A机器是未经修改的以太坊geth，能够打包不合法的普通交易；需要测试其发送的不合法区块不会被正常Usechain节点打包

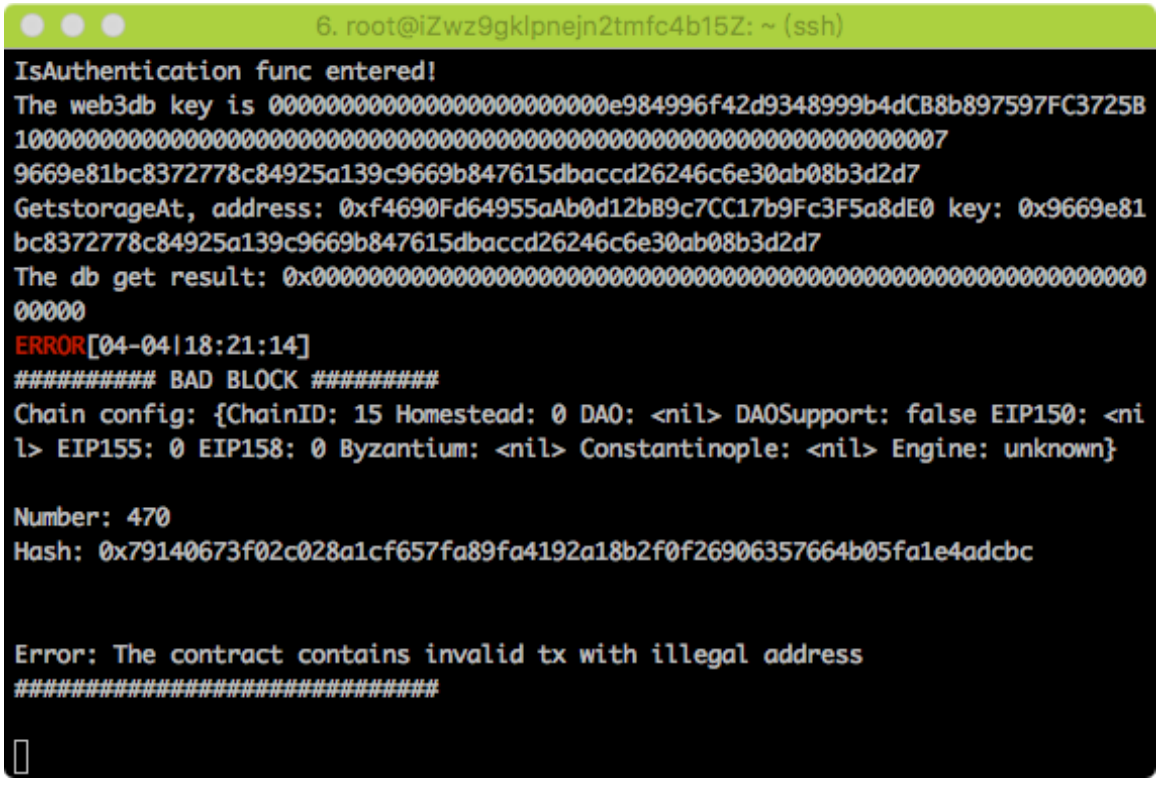
A机器开启挖矿，B，C不开启挖矿以简化测试流程，保证刚开始时区块数一致

发送不合法地址的普通交易
eth.sendTransaction({from: eth.accounts[0], to: '0x2c73428bD9B2a5bbCd49289C1e1966D24b50433D', value: 1, gasPrice:0, gas: 0xe57e0})

交易广播到B，C节点，会被识别出错误



区块广播B，C节点，会被识别出错误



此后A继续出块， B，C节点不再同步A广播的区块（因为A的链上有不合法的区块）

步骤9（A机器）：
清空A链上的区块，重启geth，A机器从B, C机器同步区块，并可以同步到相同的区块高度