Appendix – CPN Model of BlockVoke/ACME Extension

The following figures show the complete CPN model for the BlockVoke/ACME Extension.

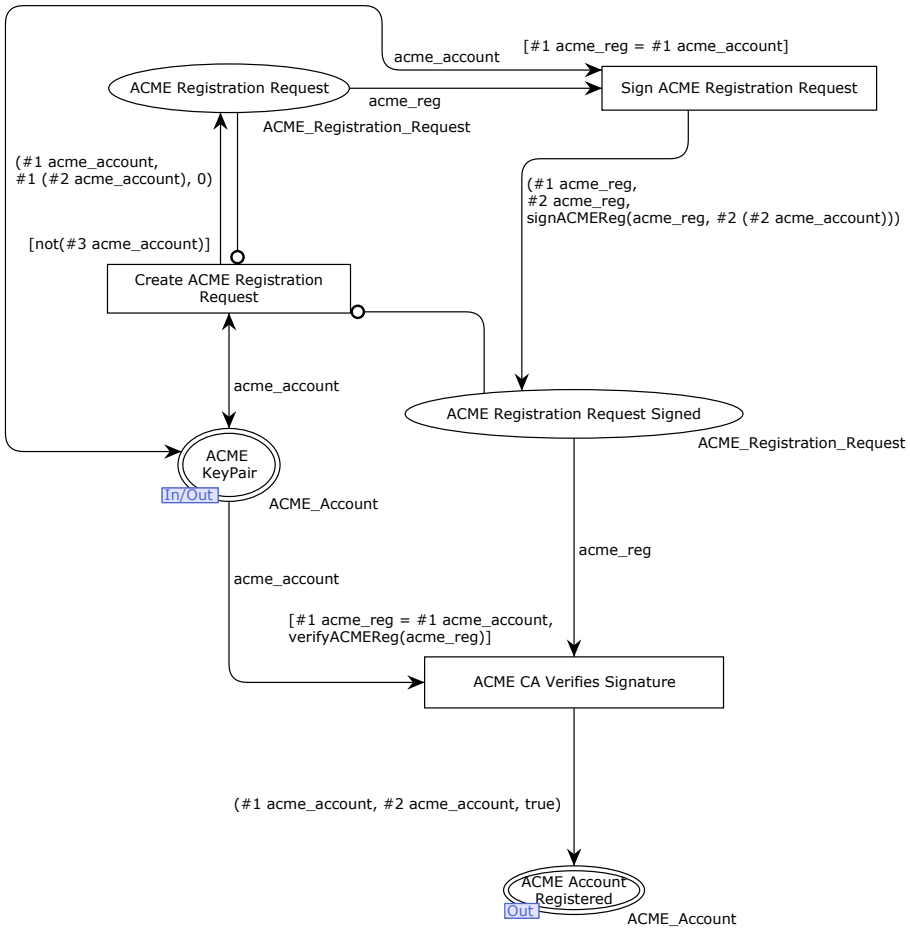


Fig. 1: *Register ACME Account* CPN sub–module

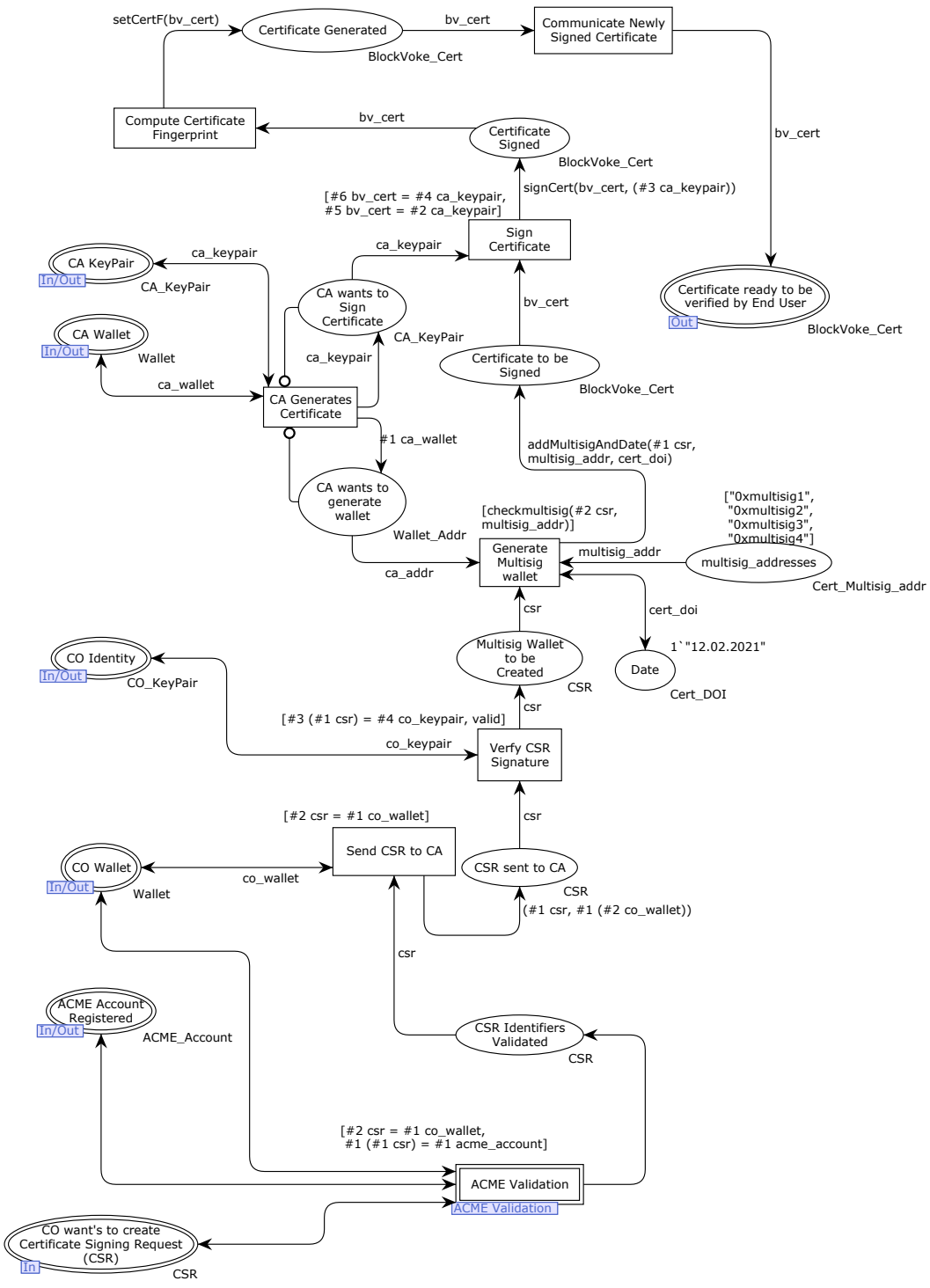


Fig. 2: *Generate Certificate* CPN sub–module

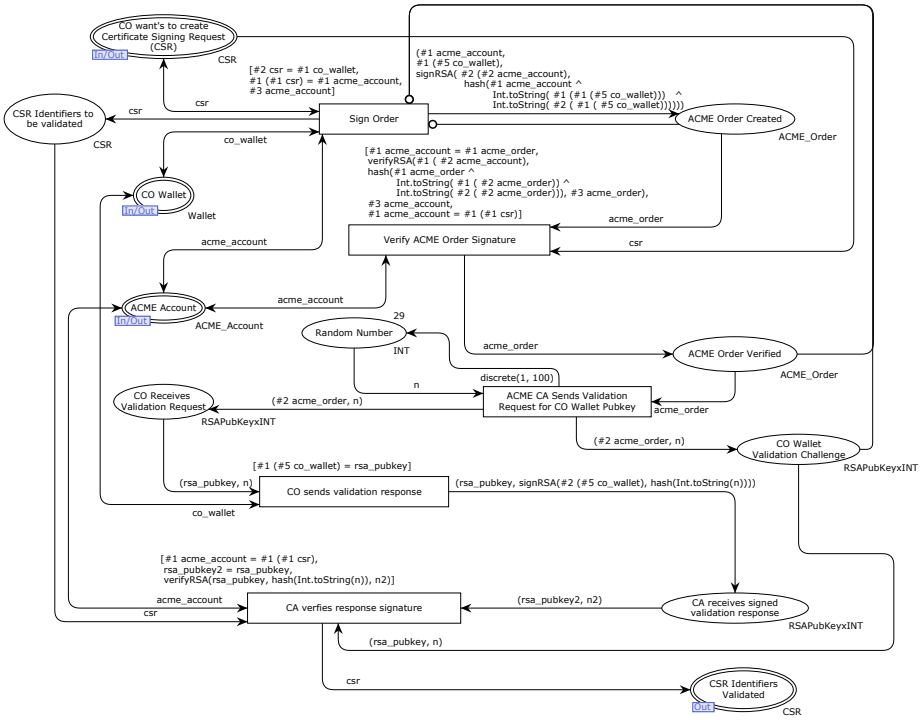


Fig. 3: *ACME Validation* CPN sub–module

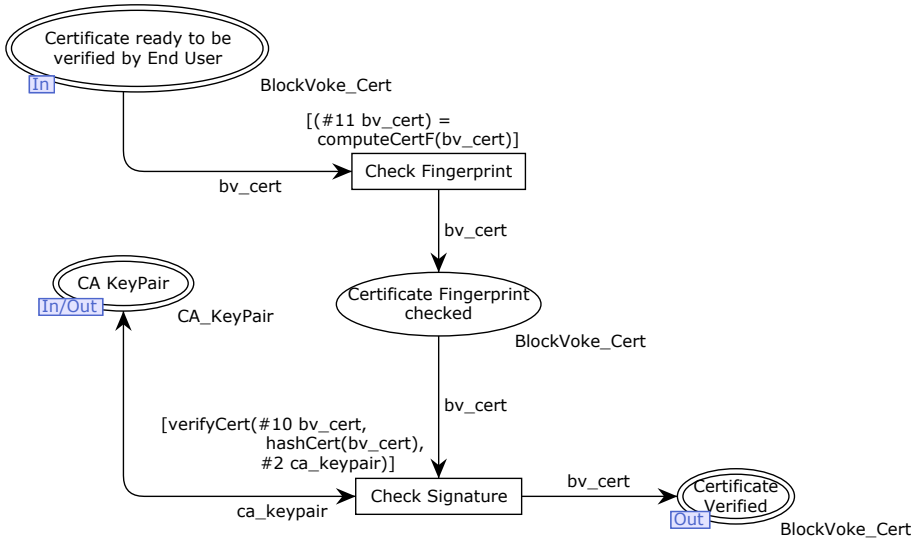


Fig. 4: *Verify Certificate* CPN sub–module

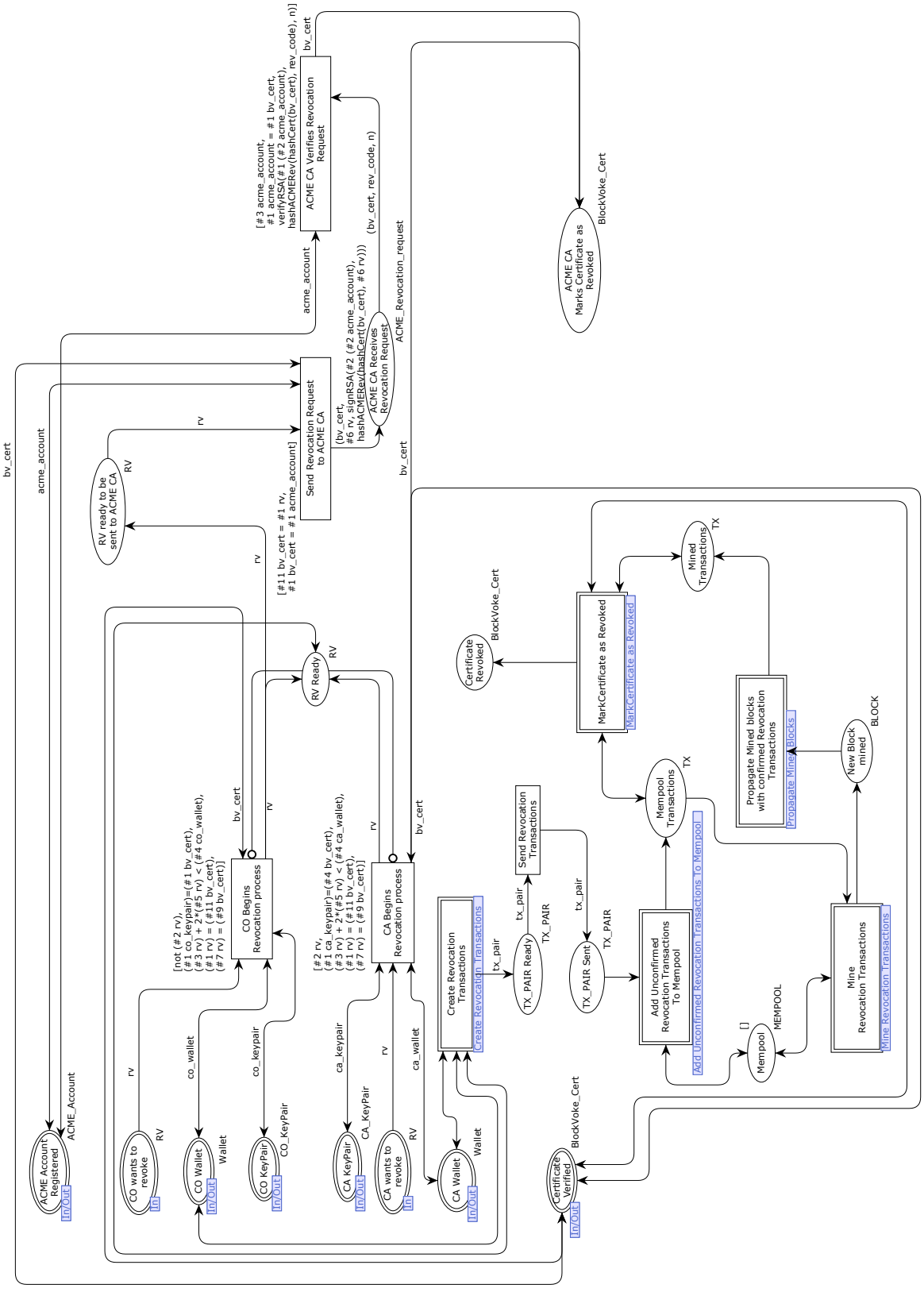


Fig. 5: *Revoke Certificate* CPN sub–module

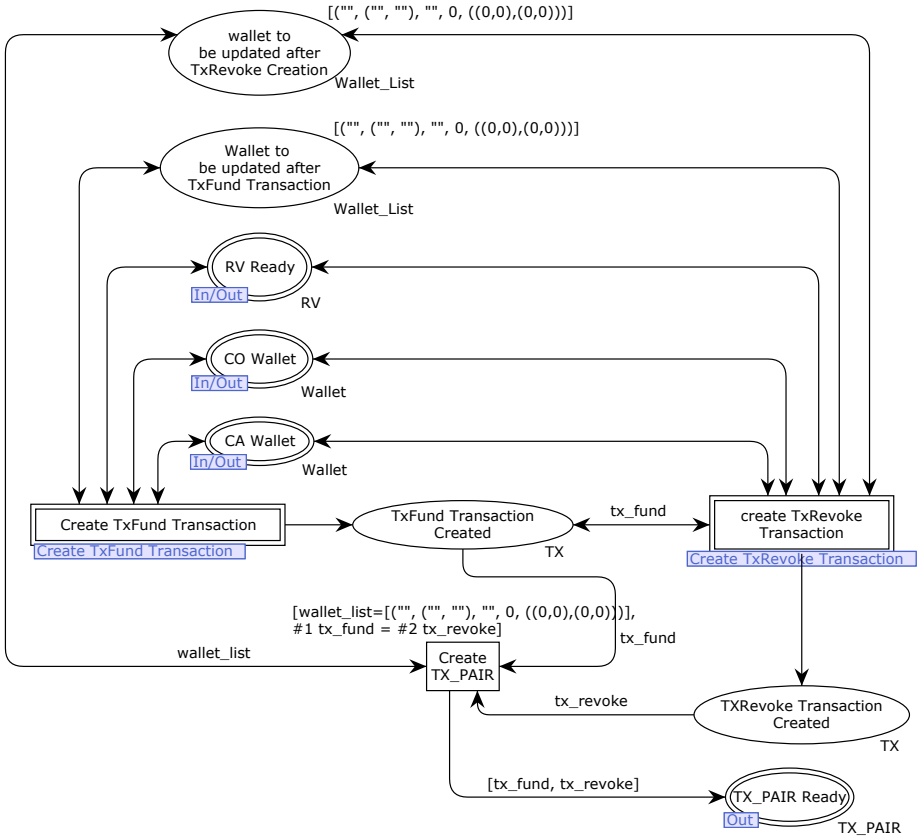
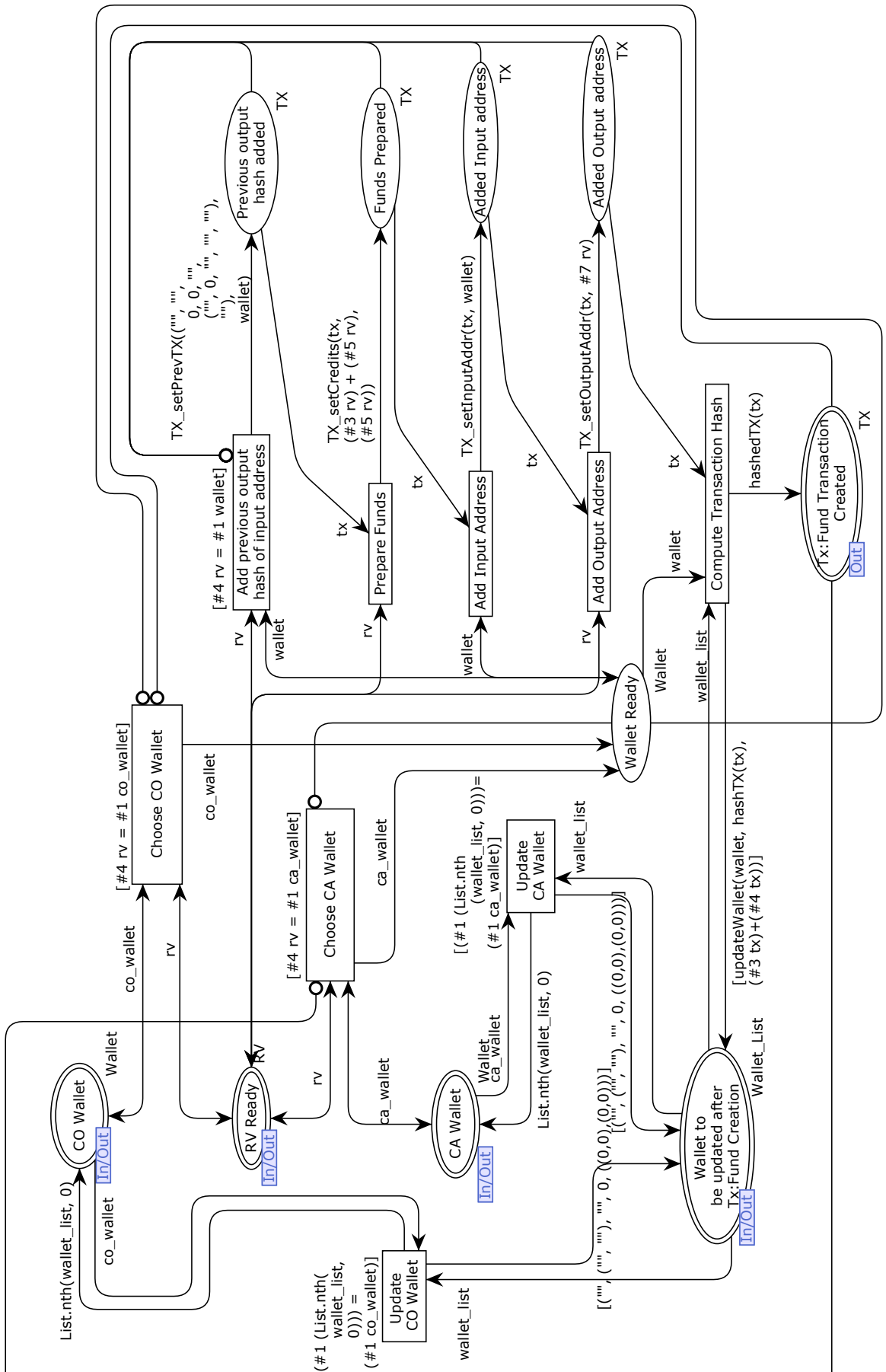


Fig. 6: *Create Revocation Transactions* CPN sub–module


CO Wallet
Wallet
In/Out
RV Ready
RV
In/Out
CA Wallet
Wallet
ca_wallet
In/Out
Wallet to
be updated after
Tx:Fund Creation
Wallet_List
In/Out
List.nth(wallet_list, 0)
co_wallet
Update
CO Wallet
(#1 (List.nth(
wallet_list,
0))) =
(#1 co_wallet)]
wallet_list
[("", ("", ""), "", 0, (0,0),(0,0))]
List.nth(wallet_list, 0)
[(#1 (List.nth
(wallet_list, 0))) =
(#1 ca_wallet)]
Update
CA Wallet
wallet_list
[("", ("", ""), "", 0, ((0,0),(0,0)))]
[updateWallet(wallet, hashTX(tx),
(#3 tx)+(#4 tx))]
[#4 rv = #1 co_wallet]
Choose CO Wallet
co_wallet
rv
[#4 rv = #1 ca_wallet]
Choose CA Wallet
ca_wallet
[#4 rv = #1 wallet]
Add previous output
hash of input address
rv
wallet
TX_setPrevTX(("", ""),
0, 0, "", "", "", ""),
""),
wallet)
Previous output
hash added
TX
tx
Prepare Funds
rv
TX_setCredits(tx,
(#3 rv) + (#5 rv),
(#5 rv))
Funds Prepared
TX
tx
Add Input Address
wallet
TX_setInputAddr(tx, wallet)
Added Input address
TX
tx
Add Output Address
rv
TX_setOutputAddr(tx, #7 rv)
Added Output address
TX
Wallet Ready
Wallet
wallet
wallet_list
tx
Compute Transaction Hash
hashedTX(tx)
TX:Fund Transaction
Created
Out
TX

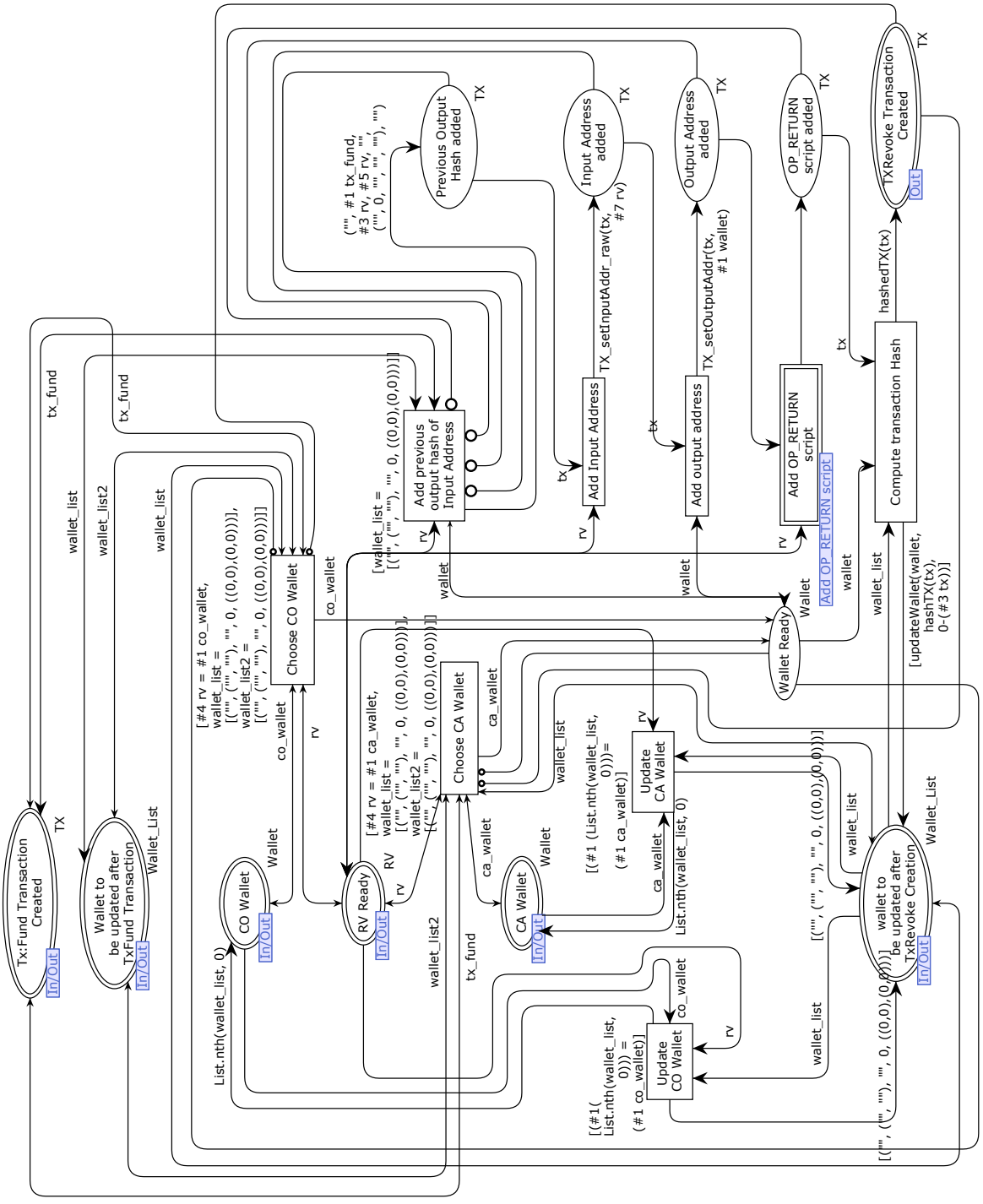


Fig. 8: *Create TxRevoke Transaction* CPN sub–module

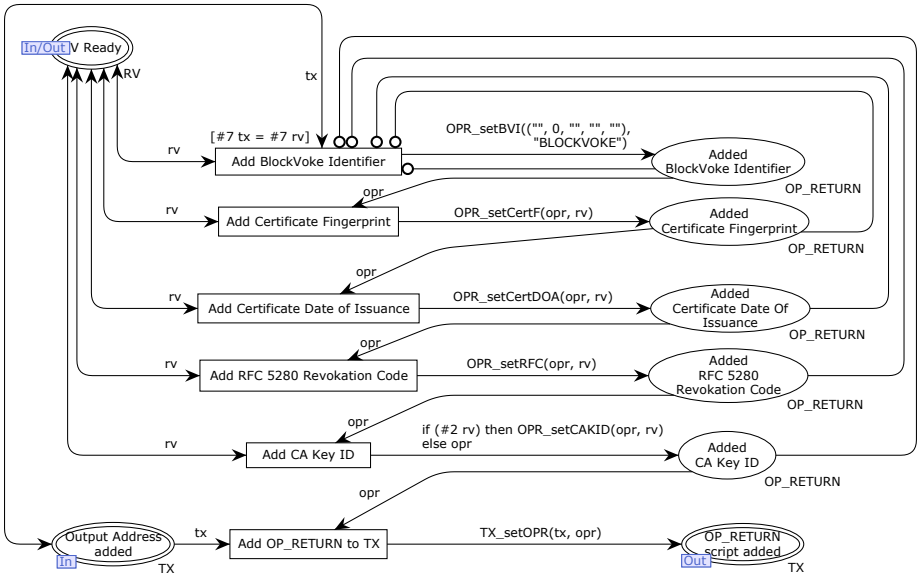


Fig. 9: *Add OP_RETURN script* CPN sub–module

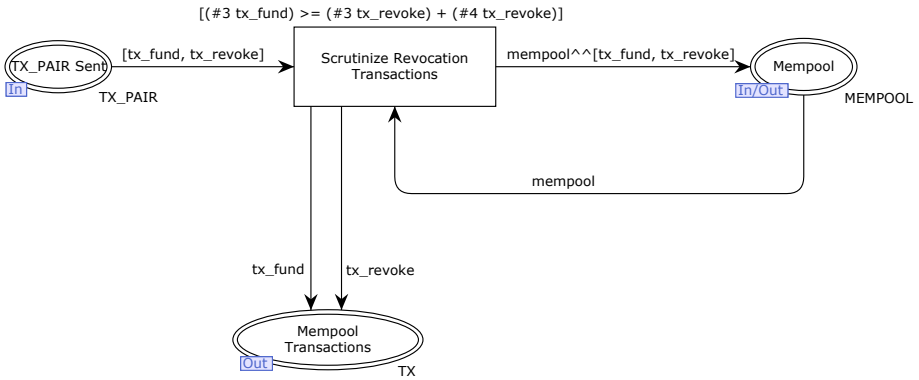


Fig. 10: *Add Unconfirmed Revocation Transactions to Mempool* CPN sub–module

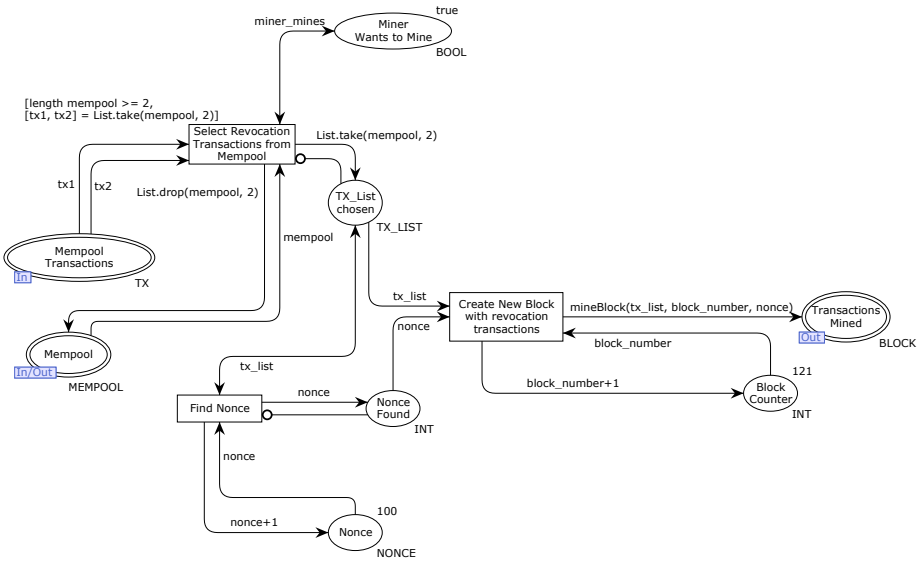


Fig. 11: *Mine Revocation Transactions* CPN sub–module

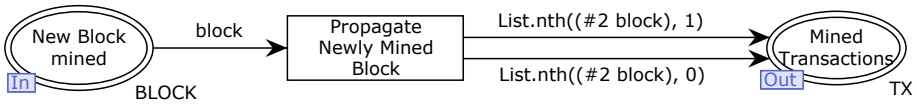


Fig. 12: *Propagate Mined Blocks* CPN sub–module

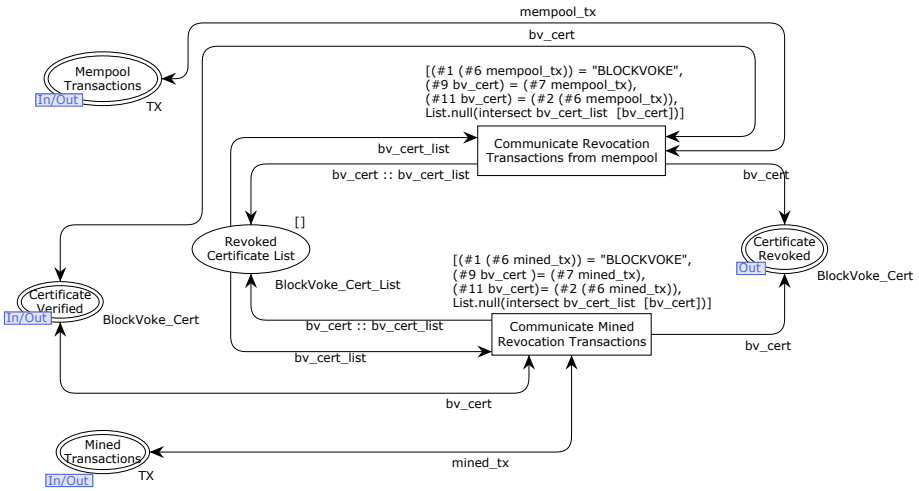


Fig. 13: *Mark Certificate as Revoked* CPN sub–module