

The image features a dark background of a server rack with a grid of ventilation holes. Overlaid on this are several large, curved, orange and red abstract shapes that create a dynamic, modern feel. In the top left corner, the text 'NETWORK MANAGER' is displayed in white, with 'NETWORK' on the top line and 'MANAGER' on the bottom line.

**NETWORK**  
M A N A G E R

**CISCO UBR7246VXR CMTS  
DOCSIC 3.0 CONFIGURATION  
FOR UBR-MC88V LINE CARD**

# CISCO UBR7246VXR CMTS DOCSIC 3.0 CONFIGURATION FOR UBR-MC88V LINE CARD

```
<1>controller Integrated-Cable 3/0 </1>
rf-channel 0 cable downstream channel-id 1
<2>rf-channel 0 frequency 418000000 annex A modulation 256qam interleave 12</2>
<3>rf-channel 0 rf-power 52.0 </3>
<4>no rf-channel 0 rf-shutdown </4>
rf-channel 1 cable downstream channel-id 2
rf-channel 1 frequency 426000000 annex A modulation 256qam interleave 12
rf-channel 1 rf-power 52.0
no rf-channel 1 rf-shutdown
rf-channel 2 cable downstream channel-id 3
rf-channel 2 frequency 434000000 annex A modulation 256qam interleave 12
rf-channel 2 rf-power 52.0
no rf-channel 2 rf-shutdown
rf-channel 3 cable downstream channel-id 4
rf-channel 3 frequency 442000000 annex A modulation 256qam interleave 12
rf-channel 3 rf-power 52.0
no rf-channel 3 rf-shutdown
!
controller Integrated-Cable 3/1
rf-channel 0 cable downstream channel-id 5
rf-channel 0 frequency 386000000 annex A modulation 256qam interleave 12
rf-channel 0 rf-power 52.0
no rf-channel 0 rf-shutdown
rf-channel 1 cable downstream channel-id 6
rf-channel 1 frequency 394000000 annex A modulation 256qam interleave 12
rf-channel 1 rf-power 52.0
no rf-channel 1 rf-shutdown
rf-channel 2 cable downstream channel-id 7
rf-channel 2 frequency 402000000 annex A modulation 256qam interleave 12
rf-channel 2 rf-power 52.0
no rf-channel 2 rf-shutdown
rf-channel 3 cable downstream channel-id 8
rf-channel 3 frequency 410000000 annex A modulation 256qam interleave 12
rf-channel 3 rf-power 52.0
no rf-channel 3 rf-shutdown

<5>interface GigabitEthernet0/1
ip address 10.0.255.1 255.255.0.0 </5>
duplex auto
speed auto
media-type rj45
no negotiation auto

<6>interface Cable3/0 </6>
no ip address
<7>cable shared-secret 0 autodelovice </7>
no cable packet-cache
<8>cable bundle 1 </8>
cable upstream max-ports 4
<9>cable upstream bonding-group 1
upstream 0
upstream 1
upstream 2
upstream 3 </9>
cable upstream 0 connector 0
<10>cable upstream 0 frequency 45000000 </10>
<11>cable upstream 0 docsis-mode tdma </11>
<12>cable upstream 0 channel-width 6400000 3200000 </12>
cable upstream 0 minislots-size 2
<13>cable upstream 0 power-level 0 </13>
cable upstream 0 power-adjust continue 6
cable upstream 0 range-backoff 3 6
cable upstream 0 modulation-profile 221
cable upstream 0 load-balance group 1
cable upstream 0 rate-limit
no cable upstream 0 shutdown
cable upstream 1 connector 1
cable upstream 1 frequency 55000000
cable upstream 1 docsis-mode tdma
cable upstream 1 channel-width 6400000 3200000
cable upstream 1 minislots-size 2
cable upstream 1 power-level 0
cable upstream 1 power-adjust continue 6
cable upstream 1 range-backoff 3 6
cable upstream 1 modulation-profile 221
cable upstream 1 load-balance group 1
cable upstream 1 rate-limit
no cable upstream 1 shutdown
cable upstream 2 connector 2
cable upstream 2 frequency 45000000
cable upstream 2 docsis-mode tdma
cable upstream 2 channel-width 6400000 3200000
cable upstream 2 minislots-size 2
cable upstream 2 power-level 0
cable upstream 2 power-adjust continue 6
cable upstream 2 range-backoff 3 6
cable upstream 2 modulation-profile 221
cable upstream 2 load-balance group 1
cable upstream 2 rate-limit
no cable upstream 2 shutdown
cable upstream 3 connector 3
cable upstream 3 frequency 55000000
cable upstream 3 docsis-mode tdma
cable upstream 3 channel-width 6400000 3200000
cable upstream 3 minislots-size 2
cable upstream 3 power-level 0
cable upstream 3 power-adjust continue 6
cable upstream 3 range-backoff 3 6
cable upstream 3 modulation-profile 221
cable upstream 3 load-balance group 1
cable upstream 3 rate-limit
no cable upstream 3 shutdown
!
<14>interface Wideband-Cable3/0:0 </14>
cable bundle 1
cable rf-channel 0 bandwidth-percent 50
cable rf-channel 1 bandwidth-percent 50
cable rf-channel 2 bandwidth-percent 50
cable rf-channel 3 bandwidth-percent 50
!
<15>interface Integrated-Cable3/0:0 </15>
cable bundle 1
cable rf-bandwidth-percent 50
!
interface Integrated-Cable3/0:1
cable bundle 1
cable rf-bandwidth-percent 50
!
interface Integrated-Cable3/0:2
cable bundle 1
cable rf-bandwidth-percent 50
!
interface Integrated-Cable3/0:3
cable bundle 1
cable rf-bandwidth-percent 50
!
<16>interface Bundle1 </16>
ip address 10.1.255.2 255.255.0.0
<17>ip access-group 101 in </17>
!
cable arp filter request-send 3 2
cable arp filter reply-accept 3 2
!
<18>ip route 0.0.0.0 0.0.0.0 10.0.255.10 </18>
!
<19>access-list 1 permit 10.0.255.10 </19>
<20>access-list 101 deny tcp any eq 137
access-list 101 deny tcp any eq 138
access-list 101 deny tcp any eq 139
access-list 101 deny tcp any eq 445 </20>
!
<21>snmp-server community public RRR 1 </21>
!
<22>cable fiber-node 1 </22>
description NOD 1
downstream Integrated-Cable 3/0 rf-channel 0-3
upstream Cable 3 connector 0
!
cable fiber-node 2
description NOD 2
downstream Integrated-Cable 3/0 rf-channel 0-3
upstream Cable 3 connector 1
!
!
<23>line con 0
transport output none
stopbits 1
line aux 0
transport output none
stopbits 1
line vty 0 4
access-class 1 in
password "$$$!!"
login
transport input all
transport output all </23>
<24>ntp clock-period 17180077
ntp update-calendar
ntp server 89.200.173.2 </24>
end
```



## COMMENTS:

<1> Configuration Downstream cable interface Bonding Downstream

<2> Frequency for downstream channel in Hz (Hertz).

Standard Annex A for Europe, Annex B is for America.

<3> Downstream power level in dbmV.

<4> Command for enabling interface

<5> Interface connecting to the server

<6> Interface on which one downstream is grouped with four upstreams.

<7> Command for preventing unregistered users to connect to the system. In this case variable is 'autodelovice'. 'Autodelovice' password is generated on every config file for a modem from Cable Operator Management software. It is same as the password on this interface and CMTS allows modem to register.

<8> Virtual interface. It groups all RF interfaces from all MC28U line cards in one virtual (Bundle) interface which has its own IP address. That interface is assigned to Cable interface.

<9> Bonding Upstream frequency for higher speedinterface

<10> Frequency for upstream channel in Hz (Hertz).

<11> Settings for DOCSIS mode. It can be DOCSIS1.1 (tdma), DOCSIS2.0 (atdma) or mixed mode where it's chosen which to use by the network performance.

<12> Channel width depends on chosen DOCSIS mode, default is 1600000 for DOCSIS 1.1, DOCSIS 2.0 is 3200000. For DOCSIS 2.0 it can be manually adjusted even to 6400000.

<13> Upstream power in dbmW

<14> Creating Docsis 3.0 bandwidth

<15> Creating Docsis 2.0 bandwidth

<16> Virtual interface bundling all RF channels in one IP channel.

<17> Access list which allows access only to certain protocols-addresses of bundle interface.

<18> Default route to server.

<19> Access list allowing only server IP address.

<20> "Access list 101" forbidding TCP protocol from any address to any address, coming from ports 137,138,139,445.

<21> Defining of SNMP server, over this protocol CMTS sends all necessary data about modems, bandwidth, interface consumption to server.

<22> Creating Fiber "physical" node

<23> Defining of Telnet and SSH access to CMTS.

<24> Defining of NTP (Network Time Protocol) client.

NETWORK  
MANAGER

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FOR MORE INFORMATION

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