

Biohazard Outbreak private server (obsrv.org)

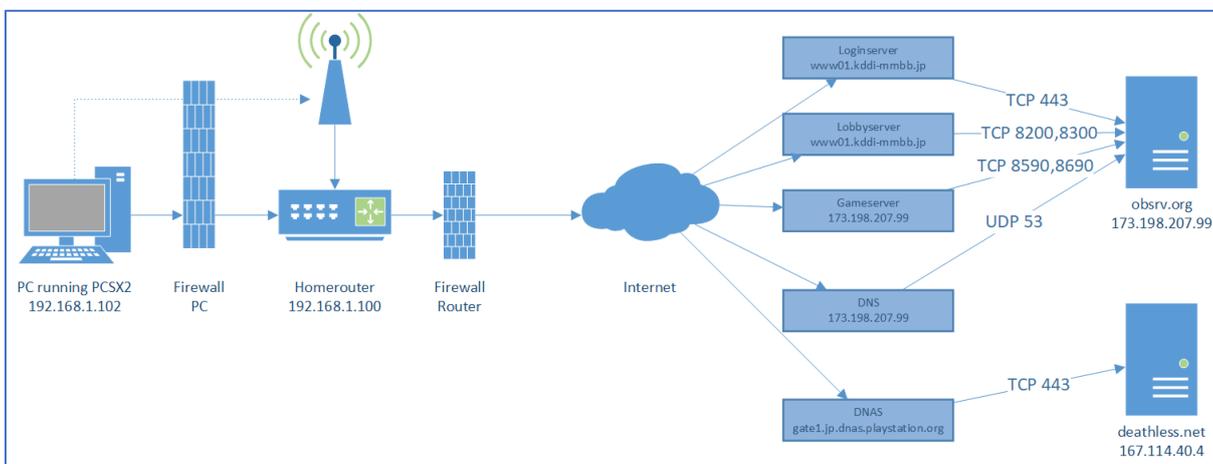
troubleshooting network connection problems

Introduction

First of all, you need to understand the infrastructure and stages the outbreak games take. I am assuming a pretty common network setup and will cover modified setups in later chapters. Nowadays a lot of people are playing via pcsx2, so this guide will cover this one first. This guide doesn't cover the basic installation of the emulator and its plugins, there are plenty video tutorials and threads on obsrv.org about these steps.

Basic setup (pcsx2, clr_dev9) and game network stages

The following figure shows a basic setup with a PC running pcsx2. The PC is connected wired or wireless to the homerouter. Then there exist two physical servers, one for login, lobby, gaming and most important DNS, the other one exists for DNAS emulation.



The game stages are as follows:

- 1.) Game asks DNS server for the address of gate1.jp.dnas.playstation.org on port UDP 53
- 2.) DNS server tells the game it's 167.114.40.4
- 3.) Game connects to DNAS server on port TCP 443 and does some authentication
- 4.) Game asks DNS server for the address of www01.kddi-mmbb.jp on port UDP 53
- 5.) DNS server tells the game it's 173.198.207.99
- 6.) Game connects to the Loginserver on port TCP 443 and does some authentication
- 7.) Loginserver creates a session and tells game how to connect
- 8.) Game connects to www01.kddi-mmbb.jp on port TCP 8200 or 8300 (depending on game)
- 9.) Player creates or joins a game
- 10.) Game connects to the gameserver at 173.198.207.99 on port 8590 or 8690 (depending on game)

One important function of the obsrv.org server is DNS redirection of certain domain names. We don't own the domain names gate1.jp.dnas.playstation.org and www01.kddi-mmbb.jp. This means we need to trick the console resp. pcsx2 to think the obsrv.org/deathless.net server's IP are matching to these domain names.

Symptoms, possible problems and how to check them

DNAS check fails

There are several causes why this step could fail.

- a.) DNS resolution is not working properly
- b.) DNAS server is not online
- c.) DNAS service not available

This results usually in DNAS-Errors shown on the screen.

- d.) DNAS ID is not patched properly to the ISO

Get the ID of your original disc with the appropriate tool and patch it to the ISO. A search engine might help you here.

Open a command line dialog (click on windows symbol and enter **cmd**). To check if DNS resolution is working, enter **nslookup gate1.jp.dnas.playstation.org 173.198.207.99**. It should give you the following output:

```
C:\Users\>nslookup gate1.jp.dnas.playstation.org 173.198.207.99
Server: UnKnown
Address: 173.198.207.99

Name: gate1.jp.dnas.playstation.org
Address: 167.114.40.4
```

If you get the same output you know that the DNS server of obsrv.org is responding and DNS resolution is working. So, port UDP 53 traffic works like expected. If you don't get this output, we need to analyse further. For one, the DNS service at obsrv.org might be faulty. To rule this out enter **nslookup gate1.jp.dnas.playstation.org 149.56.101.45**. This is the expected output:

```
C:\Users\>nslookup gate1.jp.dnas.playstation.org 149.56.101.45
Server: deathless.net
Address: 149.56.101.45

Name: gate1.jp.dnas.playstation.org
Address: 167.114.40.4
```

If you don't get this output, it's quite likely a problem with your setup or your carrier. Let's do another test to be sure with google's nameserver **nslookup obsrv.org 8.8.8.8** should give you:

```
C:\Users\>nslookup obsrv.org 8.8.8.8
Server: google-public-dns-a.google.com
Address: 8.8.8.8

Nicht autorisierende Antwort:
Name: obsrv.org
Address: 173.198.207.99
```

If this fails, your carrier or router is intercepting DNS queries and redirecting to their own servers. One possible solution is to manually add the needed addresses to your routers' host table. Here's an example from OpenWrt:

Hostnames	
Host entries	
Hostname	IP address
www01.kckl-emtb.jp	173.198.207.99
gate1.jp.dnas.playstation	167.114.40.4

Another possible solution is your own DNS server in your network served by a Raspberry Pi for example, but setting this thing up is out of the scope of this guide.

If everything's okay up to this point but DNAS still fails, we want to check if the DNAS server is online with **ping 167.114.40.4**.

```
C:\Users\>ping 167.114.40.4

Ping wird ausgeführt für 167.114.40.4 mit 32 Bytes Daten:
Antwort von 167.114.40.4: Bytes=32 Zeit=116ms TTL=51
Antwort von 167.114.40.4: Bytes=32 Zeit=116ms TTL=51
Antwort von 167.114.40.4: Bytes=32 Zeit=116ms TTL=51
Antwort von 167.114.40.4: Bytes=32 Zeit=115ms TTL=51

Ping-Statistik für 167.114.40.4:
    Pakete: Gesendet = 4, Empfangen = 4, Verloren = 0
    (0% Verlust),
Ca. Zeitangaben in Millisek.:
    Minimum = 115ms, Maximum = 116ms, Mittelwert = 115ms
```

If it is not responding, your firewall might filter out ICMP requests or the server is offline. Go to deathless.net with your browser. If the page is shown, the problem lies in your firewall setup (PC or router, see figure on first page). If the DNAS server is indeed offline, get in touch with the moderators on obsrv.org.

Login page (stage 6) not reached

This can be caused by the following problems:

- 1) DNS redirection is not working properly
- 2) The webserver of obsrv.org is not online

In the second case, you just need to use your browser and go to <https://obsrv.org>. If the page loads, this is not causing the problem.

To check the first case you just have to do checks like in the chapter about DNAS problems. These are the needed commands and expected outputs:

nslookup www01.kddi-mmbb.jp 173.198.207.99

```
C:\Users\>nslookup www01.kddi-mmbb.jp 173.198.207.99
Server: UnKnown
Address: 173.198.207.99

Name: www01.kddi-mmbb.jp
Address: 173.198.207.99
```

nslookup www01.kddi-mmbb.jp 173.198.207.99

```
C:\Users\>nslookup www01.kddi-mmbb.jp 149.56.101.45
Server: deathless.net
Address: 149.56.101.45

Name: www01.kddi-mmbb.jp
Address: 167.114.40.4
```

nslookup obsrv.org 8.8.8.8

```
C:\Users\>nslookup obsrv.org 8.8.8.8
Server: google-public-dns-a.google.com
Address: 8.8.8.8

Nicht autorisierende Antwort:
Name: obsrv.org
Address: 173.198.207.99
```

Please note, that for security reasons you cannot **ping obsrv.org**.

Login works, session created but lobby (stage 8) not reached

At this stage we can safely assume that DNS redirection is working properly. If you cannot connect to the lobby the problem is most likely a firewall rule denying pcsx2 to use port TCP 8200 and TCP 8300 outbound. In rare cases the lobbyserver crashes. In this case don't hesitate to use the moderator bell on obsrv.org. But please check beforehand if this is really the problem. Ask in the shoutbox first if other players experience the same connection problems.

Connection to lobby works, but game (stage 10) not reached

At this stage we can safely assume that DNS redirection is working properly. If you cannot connect to the lobby the problem is most likely a firewall rule denying pcsx2 to use port TCP 8590 and TCP 8690 outbound. Sometimes the gameserver hangs. In this case don't hesitate to use the moderator bell on obsrv.org. But please check beforehand if this is really the problem. Ask in the shoutbox first if other players experience the same disconnections.

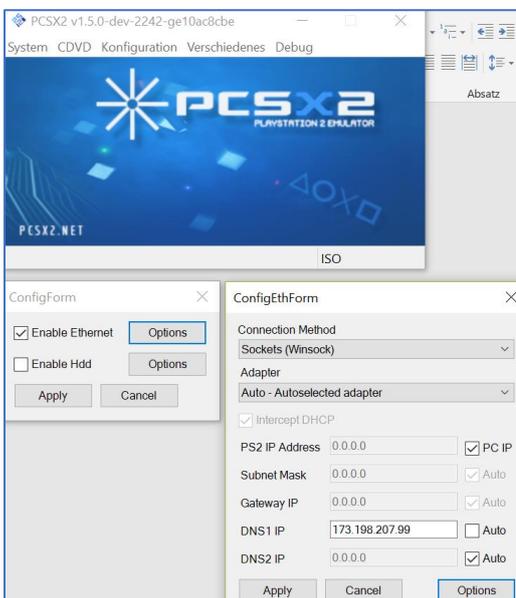
pcsx2 setup

If firewall rules of the PC and the router and DNS redirection don't seem to be the problem you should carefully look at the setup of pcsx2 and the game's network settings.

Make sure that in the game's network configuration

- DHCP is enabled
- DNS1 set to 173.198.207.99
- DNS2 is empty

The configuration of clr_dev9 should look like this:



Other configurations

Plain vanilla setup

If you're using a Playstation 2 instead of pcsx2 the setup is quite similar. Since the Playstation is not using a firewall, this won't be a problem, still the routers' firewall could cause trouble when outbound connections on ports TCP 8200,8300,8590,860 are denied. All the checks from above can be done with a PC in the same network.

devGigaRaziell plugin

This plugin needs WinPCap installed. WinPCap only works on wired connections. If you're using WLAN you will not be able to connect with this plugin directly. With some adapters though, bridging the wired and the wireless connection is possible and WinPCap works. But this setup brings a whole set of own problems. Since this plugin is mostly abandoned and clr_dev9 is far advanced, solutions for problems with the old plugin are not further described.

Fixed IP addresses instead of DHCP

Well, in this case you should know what you're doing. I haven't tested it but using DHCP and DNS1 in the network configuration setting the appropriate IP in the plugin should do the job. Just make sure you're using the correct network.

Antivirus and additional firewalls

The standard configuration of Windows' firewall allows all needed outbound traffic for Outbreak and the Antivirus software doesn't interfere. This is not necessarily the case for other vendors.

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the_fog