

我们近期看到的针对乌克兰和俄罗斯的DDoS攻击细节

By 360Netlab

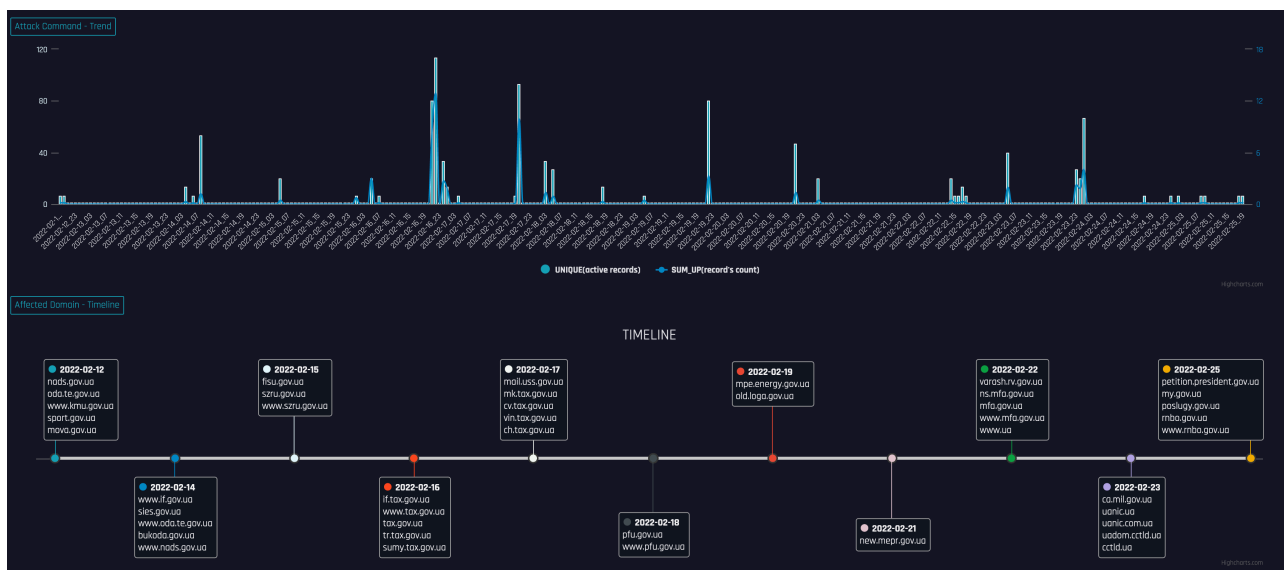
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在360Netlab (netlab.360.com) ，我们持续的通过我们的 BotMon 系统跟踪全球范围内的僵尸网络。特别的，对于DDoS 相关的僵尸网络，我们会进一步跟踪其内部指令，从而得以了解攻击的细节，包括攻击者是谁、受害者是谁、在什么时间、具体使用什么攻击方式。

最近俄乌局势紧张，双方的多个政府、军队和金融机构都遭到了DDoS攻击，我们也不断接收到安全社区的询问，咨询对于最近乌克兰和俄罗斯相关网站 (.ua .ru 下属域名) 遭受DDoS攻击的具体情况，因此我们特意整理相关数据供安全社区参考。

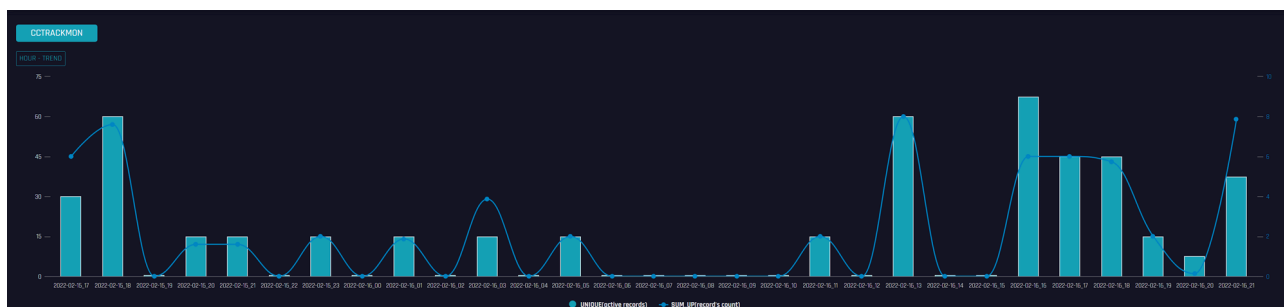
针对乌克兰的DDoS攻击

下图是我们看到的针对域名以 .gov.ua 结尾的政府网站的攻击趋势。



可以看到攻击最早始于2月12号，攻击数量和强度都在持续变大，在2月16日达到顶峰，攻击类型则混合了NTP放大、UDP/STD/OVH flood等多种类型

下图是我们看到的针对另一个以 .ua 结尾的网站“online.oschadbank.ua”的DDoS攻击。



可以看到攻击开始自2月15日，持续了3天。值得注意的是攻击这个网站的C2 mirai_5.182.211.5 2月11号上线，从2022-02-16 03:02:37+08:00发出第一条攻击指令始到2022-02-17 01:08:27+08:00最后一条指令，它只攻击了185.34.x.x/24这个网段的IP，而这些IP均属于“online.oschadbank.ua”。

我们捕获的针对 .ua 网站的DDoS攻击，除了NTP反射放大攻击外，其它的均跟botnet有关，涉及Mirai、Gafgyt、ripprbot、moobot和ircBot等5个家族的10多个C2。因为这些家族业界相关分析已经很多，这里不再赘述，只罗列下我们捕获到的样本和跟踪到的C2指令。除第一个C2自上线以来只用来攻击“oschadbank.ua”相关的几个子站，其他的C2攻击了不同国家的多个目标。限于篇幅，下面罗列首先出现的4个C2。

1, mirai_5.182.211.5

前面已经说过，该C2在其活跃期间（2022-02-11~2022-02-17）只攻击了“online.oschadbank.ua”这一个目标。我们的蜜罐从2月11日到2月14日曾持续捕获到它的样本，部分URL和MD5对应如下：

e5822f8f9bc541e696f5520b9ad0e627	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.i486
39532b27e2dbd9af85f2da7ff4519467	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.mpsl
69b51b792b1fca9a268ce7cc1e1857df	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.mips
70aaa4746150eba8439308096b17d8cc	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm
68ed4532bd6ad79f263715036dee6021	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.m68k
54bd85b40041ba82ae1b57664ee3e958	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arc
1b7247a2049da033a94375054829335d	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.i686
ac4d8d0010775e185e12604c0e304685	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.x86_64
0eca53a2dca6384b7b1b7de186e835b5	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.sh4
cc79916e1e472a657a9ae216b2602a7b	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm5
8f488f3218baec8b75dc6e42e5c90a47	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm6
b307dd0043e94400f8632c4d0c4eae0e	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm7
340255b25edf28c8de140f3f00306773	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.spc
e2b103a3b74dd0bfd98ffd27ed07f2c6	http://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.x86

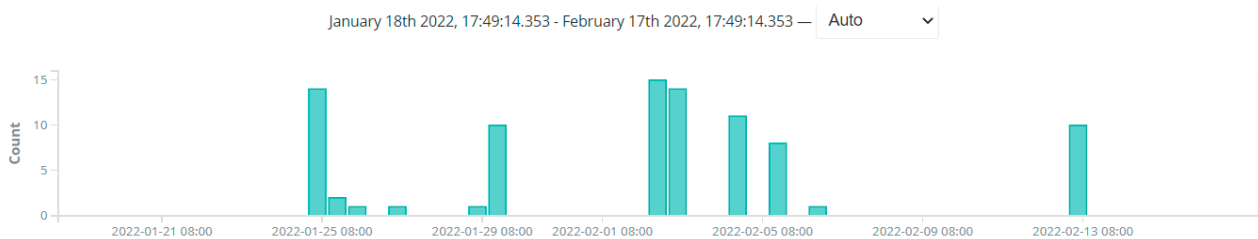
样本为Mirai变种，具有较强的Mirai代码特征，保留了table_init()、attack_init()等典型的Mirai函数。下面是我们跟踪到的指令：

2022-02-16 21:27:44+08:00	mirai	5.182.211.5	60195	ddos	atk_7
2022-02-16 21:19:04+08:00	mirai	5.182.211.5	60195	ddos	atk_7
2022-02-16 21:06:14+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 19:17:12+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 18:55:07+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 18:34:18+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 18:15:23+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 17:55:35+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 17:39:01+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 17:24:37+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 17:24:37+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 16:48:55+08:00	mirai	5.182.211.5	60195	ddos	atk_5

2022-02-16 13:41:41+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 13:25:49+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 13:23:33+08:00	mirai	5.182.211.5	60195	ddos	atk_6
2022-02-16 11:06:32+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 05:04:45+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-16 01:02:32+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-15 23:00:06+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-15 21:00:08+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-15 20:01:13+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-15 18:55:36+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-15 18:30:32+08:00	mirai	5.182.211.5	60195	ddos	atk_5
2022-02-15 18:08:50+08:00	mirai	5.182.211.5	60195	ddos	atk_6
2022-02-15 17:42:26+08:00	mirai	5.182.211.5	60195	ddos	atk_7

2 , mirai_209.141.33.208

该C2的样本1月25日便已经出现，样本捕获情况如下图所示。



它在16日攻击了“www.szru.gov.ua”网站：

2022-02-16 05:35:38+08:00	mirai	209.141.33.208	209.141.33.208	9999	atk_2
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3 , gafgyt_172.245.6.134

该C2的样本最早1月29日开始传播，样本捕获情况如下图所示。



下面是我们跟踪到的指令：

2022-02-17 01:46:30+08:00	gafgyt	172.245.6.134	61108	ddos	OVH
2022-02-17 00:08:31+08:00	gafgyt	172.245.6.134	61108	ddos	OVH
2022-02-17 00:07:40+08:00	gafgyt	172.245.6.134	61108	ddos	HEX
2022-02-16 22:19:04+08:00	gafgyt	172.245.6.134	61108	ddos	OVH
2022-02-16 22:18:33+08:00	gafgyt	172.245.6.134	61108	ddos	OVH
2022-02-16 22:07:34+08:00	gafgyt	172.245.6.134	61108	ddos	HEX

2022-02-16 22:01:44+08:00	gafgyt	172.245.6.134	61108	ddos	HEX
2022-02-16 21:57:02+08:00	gafgyt	172.245.6.134	61108	ddos	OVH
2022-02-16 21:53:16+08:00	gafgyt	172.245.6.134	61108	ddos	OVH
2022-02-16 21:46:41+08:00	gafgyt	172.245.6.134	61108	ddos	HEX
2022-02-16 21:44:41+08:00	gafgyt	172.245.6.134	61108	ddos	HEX
2022-02-16 05:35:27+08:00	gafgyt	172.245.6.134	61108	ddos	HEX

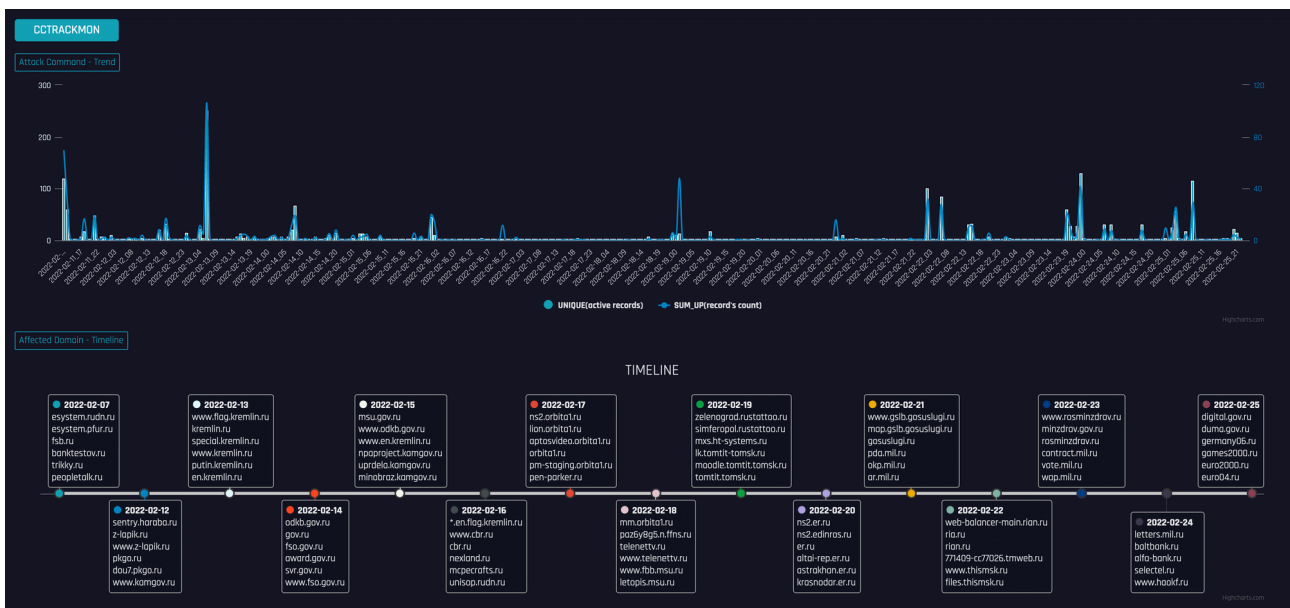
4 , gafgyt_188.127.237.5

该C2的样本在2月6日被捕获，它在2月16日攻击了“od.tax.gov.ua”网站：

2022-02-16 01:54:00+08:00	gafgyt	188.127.237.5	606	STDHEX	193.200.32
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针对俄罗斯的DDoS攻击

下图是我们看到的针对以 .ru 结尾的俄罗斯政府和军队网站的攻击。



可以看到，针对俄国的DDoS攻击从2月7日就开始了，持续至今且数量呈增加趋势。跟乌克兰相比，针对俄国的DDoS攻击其实更多，限于篇幅，下面只罗列涉事botnet的C2。

gafgyt_195.133.40.71
gafgyt_212.192.241.44
gafgyt_46.249.32.109
mirai_130.162.32.102
mirai_137.74.155.78
mirai_142.93.125.122
mirai_152.89.239.12
mirai_173.254.204.124
mirai_185.245.96.227

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mirai_45.61.136.130
mirai_45.61.186.13
mirai_46.29.166.105
mirai_84.201.154.133
mirai_ardp.hldns.ru
mirai_aurora_life.zerobytes.cc
mirai_cherry.1337.cx
mirai_offshore.us.to
mirai_pear.1337.cx
mirai_wpceservice.hldns.ru
moobot_185.224.129.233
moobot_goodpackets.cc
riprbot_171.22.109.201
riprbot_212.192.246.183
riprbot_212.192.246.186

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IoC

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# C2 mirai_5.182.211.5
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arc 54bd85b40041ba82ae1b57664ee3e958
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm 5096be3bab6b9731293472d7cbd78d18
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm 70aaa4746150eba8439308096b17d8cc
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm5 9636a88f8543b35d212e240c3094d7bb
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm5 cc79916e1e472a657a9ae216b2602a7b
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm6 8f488f3218baec8b75dc6e42e5c90a47
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm6 c5350546e6d22075ac58f0b4410a9c9a
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm7 59b9988a7132fda4fb89b3758411e9df
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.arm7 b307dd0043e94400f8632c4d0c4eae0e
# hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.i486 49b9d14010071605549dc0dfb77d5f59
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.i486 e5822f8f9bc541e696f5520b9ad0e627
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.i686 1b7247a2049da033a94375054829335d
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.i686 c2135973f6d059d9dd09a853cfa241fc
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.m68k 45677381938006bbc019753dfdfb945
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.m68k 68ed4532bd6ad79f263715036dee6021
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.mips 69b51b792b1fca9a268ce7cc1e1857df
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.mips d38cc4879fe0bc66cb8e772b28fbfd15
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.mpsl 39532b27e2dbd9af85f2da7ff4519467
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.mpsl 69717fbd6954f16794ff46e4b7c0f58a
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.ppc
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.sh4 0eca53a2dca6384b7b1b7de186e835b5
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.sh4 b21e118e9f6b4b393719e0669214946a
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.spc 340255b25edf28c8de140f3f00306773
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.spc 84c7c39e3f1a4bdfdcfaa4800d410829
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.x86 bfaffe fb3cc7f301d017242ca832cf45
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.x86 e2b103a3b74dd0bfd98ffd27ed07f2c6
hxxp://5.182.211.5/z0l1mxjm4mdl4jjfjf7sb2vdmv/KKveTTgaAAsecNNaaaa.x86_64 8be8a51819d7493de15c5ad7471fe1cc

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```
# C2 mirai_209.141.33.208
hxxp://209.141.33.208/bins/Zeus.arm ac9a7a24b3e5229df0e35f99bd8f4dd0
hxxp://209.141.33.208/bins/Zeus.arm5 0592fc8590bb8b01618bd1075bf45971
hxxp://209.141.33.208/bins/Zeus.arm6 a9a286065f59e833ce6310e4ca0a327a
hxxp://209.141.33.208/bins/Zeus.arm7 2a9ad76fbfe573820d89edc832a759a9
hxxp://209.141.33.208/bins/Zeus.m68k 16cc3f8359b55d32f133ecfd78092dcd
hxxp://209.141.33.208/bins/Zeus.mips 75011d511ee19c482cd12271c238d7d3
hxxp://209.141.33.208/bins/Zeus.mpsl f3dd9da090cc830e370dfa3a96128bd0
hxxp://209.141.33.208/bins/Zeus.ppc a7578b554b50cf01c43ebc54c3029fb2
hxxp://209.141.33.208/bins/Zeus.sh4 9798c9f24407da3bb709384f161e20a5
hxxp://209.141.33.208/bins/Zeus.spc 283d7df13561c851d8959f24dce2af99
hxxp://209.141.33.208/bins/Zeus.x86 d1bf7c6e6dde347ea3414cbf38b4e25f
```

```
# C2 gafgyt_172.245.6.134
hxxp://172.245.6.134:80/bins/arc ed6013177b8c7e61f936c14b698c7bdc
hxxp://172.245.6.134:80/bins/arm 89bb874db266e9aa4d9c07e994a0f02d
hxxp://172.245.6.134:80/bins/arm5 6a9587b5c95d16ce915c3218aa0ef68c
hxxp://172.245.6.134:80/bins/arm6 53526f9affd4d2219e6a33d497ef17f3
hxxp://172.245.6.134:80/bins/arm7 831353dd99cae5bb9ae7dcf125bbe46c
hxxp://172.245.6.134:80/bins/m68k ad59c219813642fc8d9af23131db12d1
hxxp://172.245.6.134:80/bins/mips 72e13614d7f45adce589d3ab6a855653
hxxp://172.245.6.134:80/bins/mpsl 9d2ed5fb9b586cb369b63aea5ee9c49e
hxxp://172.245.6.134:80/bins/ppc 4b0b53b2f13ceb16b14f8cf7596682bc
hxxp://172.245.6.134:80/bins/sh4 8e26db0a91c6cc2c410764d1f32bbac3
hxxp://172.245.6.134:80/bins/spc 13ead0d75d2fcd53c7d6d8f40f615f4
hxxp://172.245.6.134:80/bins/x86 015ed26cc1656246177004eab5c059fe
hxxp://172.245.6.134:80/bins/x86 67d2f13fcd2622c85d974a6c41c285a4
```

```
# C2: gafgyt_188.127.237.5
hxxp://188.127.237.5/a-r.m-4.Sakura f422e76cee6fb12a1c53a68ed2f554
hxxp://188.127.237.5/a-r.m-5.Sakura 870e6969eb7db126e945cfd7e9a2ed5f
hxxp://188.127.237.5/a-r.m-6.Sakura 619517a7ff244de1dc574d2fffb6553d3
hxxp://188.127.237.5/a-r.m-7.Sakura 478ab4262768222839d51c7ea2e5e46f
hxxp://188.127.237.5/i-5.8-6.Sakura 03f6aeda4b403cead904240faec8d32f
hxxp://188.127.237.5/m-6.8-k.Sakura d3dd19a2ae9228ca71bdf58e3450e205
hxxp://188.127.237.5/m-i.p-s.Sakura 2a2cc9b33cfe1f8dcf4eed09666ddc
hxxp://188.127.237.5/m-p.s-l.Sakura 37f0100946589aeacdc647ccb14e9baa
hxxp://188.127.237.5/p-p.c-.Sakura f422e76cee6fb12a1c53a68ed2f554
hxxp://188.127.237.5/s-h.4-.Sakura df831e3d07da42cfa5acf95ef97a753a
hxxp://188.127.237.5/x-3.2-.Sakura 8c2a26b9171964d12739addb750f2782
hxxp://188.127.237.5/x-8.6-.Sakura 9612862c128b5df388258a2e76e811a0
```

其它攻击过.ru网站的C2:

```
gafgyt_195.133.40.71
gafgyt_212.192.241.44
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```
gafgyt_46.249.32.109
mirai_130.162.32.102
mirai_137.74.155.78
mirai_142.93.125.122
mirai_152.89.239.12
mirai_173.254.204.124
mirai_185.245.96.227
mirai_45.61.136.130
mirai_45.61.186.13
mirai_46.29.166.105
mirai_84.201.154.133
mirai_ardp.hldns.ru
mirai_aurora_life.zerobytes.cc
mirai_cherry.1337.cx
mirai_offshore.us.to
mirai_pear.1337.cx
mirai_wpceservice.hldns.ru
moobot_185.224.129.233
moobot_goodpackets.cc
riprrbot_171.22.109.201
riprrbot_212.192.246.183
riprrbot_212.192.246.186
```

Source: <https://blog.netlab.360.com/wo-men-kan-dao-de-wu-ke-lan-bei-ddosgong-ji-xi-jie/>