


# Untangling the Patchwork Cyberespionage Group

## Appendix




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December 2017

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## Indicators of Compromise (IoCs)

Hashes related to malware used by Patchwork (SHA256):

| Hash   | Trend Micro Detection |
|--|-----------------------|
| 6535696186395b02608f16d86ce9b918e45012a217c11352b9d2904bf6a30c6c | BAT_DLOADER.AUSYSB    |
| ab70ef16e625291df6dc33903ec23dbc7b505c25e2e894bfbfd0110550d7664e | BKDR_SCADPRV.G        |
| 647b7a619b3ef6fa76b3e710a3f20b78a0a8ab6299b9245a893052d7b94b62fa |                       |
| ac15fe5d369eb2dce9d04207f9ef573250c362df2d8e304747dd8ee68f17ad05 | BKDR SOCKSBOT.B       |
| 5f45f9238f17e140b65af93ae072256468c377a39fe0b637fe0c3527627a612c |                       |
| 48a92c81bace0b39ab211f512755ec35176748c6c53437f317d959ae649604c1 | BKDR_SOKCSBOT.A       |
| f1a45adcf907e660ec848c6086e28c9863b7b70d0d38417dd05a4261973c955a | BKDR_XRAT.JCT         |
| 92be93ec4cbe76182404af0b180871fbbfa3c7b34e4df6745dbcde480b8b4b3b | BKDR_XRAT.KVJ         |
| 684523927a468ed5abea8f6c0d3dc01210ec38aa4e0a533abc75dc891d3b0400 |                       |
| a34d60d00ac67e8ccce6c5b969e86e969272af2e2479e17b5bfd0b25650504c4 |                       |
| e5af968a8eca77ac64862db3f6c92d7d64db24a999d0ded30f272f2a220cdb70 |                       |
| 260fa4d0680272feb537aac722466e58eb26c5de2ac858c10d3a24465544313  | TROJ_ARTIEF.EVW       |
| d9cdaa649b7ca7b9f61121d269801dbbd68551488c8423ae3a3e95233d6ee99d |                       |
| 889f1f6873a090162356109f0f3984c044094ea789028ec3e20ba2238d269160 | TROJ_DDEX.SM          |
| 0aeda32f977c98c8160491358491d0ad0898dcaa3366bde60c0a3bf8541e7b3f | TROJ_DISMONN.A        |
| de22772c655890a73c7fe13d6cff49b1a560d19df04271e4bc3adcd5402158c9 | TROJ_DLOADER.JEJOWJ   |
| f2c6effbbb203d5889f75b7d445f1a0f73c479e4a977fd7da3bd923f5b827762 | TROJ_DLOADR.AUSUGF    |
| a6abfb56c25c06c5c12c08a8098f427fd0a11c5930a02ebb51ebc117ff63b1a  | TROJ_DROPDR.DAM       |
| 283e3e8a651b87e055944e9b132f087f88181331bec1194f354eccf085d1bfe2 |                       |
| 34399b371c44e52dbd17c6b4e46619f7c7131af20f66fd7a2c7f92c081d78276 |                       |
| b6e9a1ab662304ad11ffca314fcf3d29bf7bd8cb2ff06d9b9727eae576384b6  | TROJ_FUERY.A          |
| bc8e469ac8515a23a3073a41099fde8420b8a40bb71abaf965c9031bd0a084e3 |                       |
| 7535cf27ca99f8f77c8ae918ca07e8365289f27d252283444b1e6a5dd8bf087b | TROJ_GENOME.VIDK      |
| 10112aab7bc43c9c138aad9b75ed6a69d7305ea2f04b5cfaa14ecfcdffaa4c7a |                       |
| 0345ecfb3b26acc072a3a423a9bc6aaf8750e65234e5d1f820c07cb61a2fcf   | TROJ_HTALINK.C        |
| 145551d6ad9f6e6d825393342561407f9f663a43471bb1738f741adfd4dd6d82 | TROJ_MDROP.YYSOW      |
| e4f66bd9eb1cb01f103c9a0b0616c3b073c658c1248f0e0f6aa06a629d7b06d  |                       |
| bf94a8f82f9b3ec1ad36be72a27813a661654bc5215559bf10b9eddfd49021b4 |                       |
| 7d6fa3046a4e558b2ef40ae0a96001a50eb3fcaed9b00e4d7bd235d1d83be01a |                       |
| a0c9b6a77dd3e6738a9f5c1a6704adeef904831d29392cf2c24a5628afecf563 |                       |

| Hash  | Trend Micro Detection |
|---|-----------------------|
| 4fbfc64623700615410ec2caba6b931494990e1c0b210d76819edc95a8d1d8b4  | TROJ_MDROP.YYSRE      |
| e80a97b02bf9c43b8d288097caa38ab85a03ec1f8dbbc7cced1198274f60f6f6  |                       |
| 4c8202aa414622c84a6fe32bb0402c30de964e84dcffef452e830c6f3b6c8467  |                       |
| 667992e8c195664ad87fed3e715f0a52efe79a7c83f67d031c3a1affc6411e5f  |                       |
| 328d98944555f83357c099208c3be597f5a0af0c05a3384dfbd419822177ad08  |                       |
| 8a6a2027099e8a4d68f4c9931a8050b89aa587f8de47244af4ff399dfc0930a2  | TROJ_MDROP.YYSRG      |
| 72d71b91ceb7dda82db0ec8ca3aba476d01b1011057ae71425e34fa31af2ee6b  | TROJ_SELFDEL.TT       |
| dfc469d0cca07e83e58c6266dcd6ac67c5d5dacd6c6ef2543b3ebbbf6d35a280  | TROJ_VAGGER.B         |
| d0d63189a28406914d9d49e8164dc716326f849cd35195ad56bb7e7ea0196ad8  | TROJ_VAGGER.C         |
| dfe0e2cad843ee66f7bad85e62accb76ae54993eb057041e6f81315a3c99d522  | TROJ_XRAT.JCT         |
| f24546590ad97b60b3c99a0bcacea4e405ba3884b57393ecf47b3463c8936a45  |                       |
| 801b101bc935ae3c4a8b9bf964ddc30fc5132da2271a23b9727f2b78187c62b4  |                       |
| 244d8dccd179a94b91e51f94be1e8ace42835b5b204e94e3f77f52dc866d8209  | TSPY_SKEEYAH.LNH      |
| ae5ecf3889c4bb1838cca1b644c16cb32e815fc1e2fd0db96aa6ca6fffbf30b6  |                       |
| cf7adf8ed9b779e62f603a2f23af72671eb331e79586c46b75bd95644a62039a  |                       |
| 4a21f18ec5e65b77a9c826991d6c51c45001d2b013d317096fb5f1417da88d74  | VBS_DLOADR.YYSUJ      |
| 7317867ee5207f6b7195930d0ec3938130cbd2dc00adc8ba0cd3eca7114f4b26  | W2KM_DLOADE.PUTY      |
| b43bd22295f8287e5f8126712f0db11afe8b2bdaf918ed361c0d0865125a585b  | W2KM_DLOADE.VQZTP     |
| 0c09c662699c507c553317a909665952562bd7e2434c4a719470f672bdada700  |                       |
| 48b68a5ab219d7917dbe818e00ddbae889cf8655faf02639e4a3fbe4e46ef9b2  |                       |
| f0766afdaf89181401b1cbcf012f8e3bf7af8dde10f11407e23ad867e1b2922a  |                       |
| 3dd9814aeae5530e514915c6f73125188a692d0df2e56788c4302cb63d406e03  |                       |
| 0cddd9288e87db957b3517ac201f2da309e782a8f127d49e1dec2c7a7312d911  | TROJ_MDROP.YYSRH      |
| c1227e575553f06fca469d43d02eda006033e5d88acb9b516f5ba64c030772b1  |                       |
| 72d71b91ceb7dda82db0ec8ca3aba476d01b1011057ae71425e34fa31af2ee6b  |                       |
| c1227e575553f06fca469d43d02eda006033e5d88acb9b516f5ba64c030772b1  | TROJ_MDROP.YYSRG      |
| 90218e24be373a8a8a3452d5da59d551a3b1936e7c3210cc9cb83995be3d2030  | BKDR_SCADPRV.G        |
| 647b7a619b3ef6fa76b3e710a3f20b78a0a8ab6299b9245a893052d7b94b62fa  | BKDR_SCADPRV.I        |
| 47e0886ba064156d7914db02dec46fa8f497b20373c7f2d4bc8f3f13bd8fa455  |                       |
| ab608d1adb169040b6fad2029ae56c07fa8d45ee9e03f4b9dfecbce2b7d92b1d4 |                       |

## Domains/URLs related to Patchwork's campaigns:

| Domain/URL                       |
|----------------------------------|
| hxxp://bdarmy[.]news             |
| hxxp://brokings[.]org            |
| hxxp://ciis[-]cn[.]net           |
| hxxp://clep[-]cn[.]org           |
| hxxp://cnaas[.]org               |
| hxxp://cpcnews[-]cn[.]com        |
| hxxp://crazywomen[-]dating[.]com |
| hxxp://dwnnews[.]net             |
| hxxp://euuwebmail[.]com          |
| hxxp://gffbzbgov[-]cn[.]org      |
| hxxp://gloalfirepower[.]org      |
| hxxp://googlemail[.]support      |
| hxxp://googlmail[.]cloud         |
| hxxp://ifenngnews[.]com          |
| hxxp://iisd[.]org                |
| hxxp://invitingholes[.]com       |
| hxxp://loweinstitute[.]org       |
| hxxp://mfagov[-]cn[.]com         |
| hxxp://mileastday[-]cn[.]com     |
| hxxp://militarypeoplecn[.]com    |
| hxxp://militaryreviews[.]net     |
| hxxp://milstar[-]cn[.]com        |
| hxxp://netease[.]com             |
| hxxp://pla[-]report[.]net        |
| hxxp://qzonecn[.]com             |
| hxxp://randreports[.]org         |
| hxxp://rand[.]org                |
| hxxp://scitechrends[.]com        |
| hxxp://servicelogin[.]center     |
| hxxp://servicelogin[.]support    |
| hxxp://sinamilblog[-]cn[.]org    |
| hxxp://sinamilnews[.]com         |

| Domain/URL                  |
|-----------------------------|
| hxxp://sinodefence[.]info   |
| hxxp://stripshowsclub[.]com |
| hxxp://tecchweb[.]com       |
| hxxp://tiexue[-]cn[.]net    |
| hxxp://ustc[-]cn[.]org      |
| hxxp://yahoomail[.]support  |
| hxxp://zhiihua[.]org        |
| hxxp://zhouangjiabing[.]com |

Command-and-control IP Addresses related to Patchwork:

| IP Address                   |
|------------------------------|
| 93[.]115[.]94[.]202          |
| 94[.]185[.]82[.]155          |
| 94[.]242[.]249[.]203         |
| 179[.]48[.]251[.]14          |
| 209[.]58[.]183[.]33          |
| 176[.]107[.]177[.]10[.]23558 |
| 5[.]101[.]140[.]220          |
| 209[.]58[.]163[.]44          |
| 46[.]166[.]163[.]243         |
| 5[.]8[.]88[.]64              |



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