

## Part I. Russian APT - APT28 collection of samples including OSX

### XAgent

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APT28APT28\_2011-09\_Telus\_Trojan.Win32.Sofacy.A APT28\_2011-09\_Telus\_Trojan.Win32.Sofacy.A28F21E96E0722DD6FC7D6E1275F352BD060ADE0D1e217668d89b480ad42e230e8c2c4d971feb41c4a64a7588d1e8e APT28\_2011-09\_Telus\_Trojan.Win32.Sofacy.A72CFD996957BDE06A02B0ADB2D66D8AA9C25BF37ed7f6260dec470e81dafb0e63barf5ae7313eaf95a8a8b4c206b5 APT28\_2011-09\_Telus\_Trojan.Win32.Sofacy.AAC6B465A13370F87CF57929B7CFD1E45C3694585e1554b931affb3cd2edc90bc580280785ab8ef93fdeaac9af258845; APT28\_2011-09\_Telus\_Trojan.Win32.Sofacy.AC01B02CCC86ACBD9B266B09D2B693CB39A2C68099e4817f7bf36a61b363e0911cc0f08b931a0906b0d8b07167125 APT28APT28\_2014-08\_MhtMS12-27\_Prevenity APT28\_2014-08\_MhtMS12-27\_Prevenity33EEC0D1AE550FB33874EDCE0138F485538BB21B\_\_mht\_d3de5b8500453107d6d152b3c850693555038c4326964f480fd2160b6b2a7af APT28\_2014-08\_MhtMS12-27\_Prevenity8DEF0A554F19134A5DB3D2AE949F9500CE3DD2CE\_filee.dll\_16a6c56ba458ec718b4e9bc8f910785ce554d57333bdbccbb5e2e8d16a3 APT28\_2014-08\_MhtMS12-27\_PrevenityA8551397E1F1A2C0148E6EADCB56FA35EE6009CA\_coreshell.dll\_48656a93f9ba39410763a2196aacb67fc8087186a215553d2f95c68c03 APT28\_2014-08\_MhtMS12-27\_PrevenityE338A57C35A4732BBB5F738E2387C1671A002BCB\_advstorshell.dll\_d7a625779df56d874871bb632f3e310611097a7a3336e0ab124fa921 APT28APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.Operations APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.Operations367D40465FD1633C435B966FA9B289188AA444BC\_\_tmp64.dat\_791428601ad12b9230b5 APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.Operations6316258CA5BA2D85134AD7427F24A8A51CE4815B\_coreshell.dll\_da2a657dc69d7320f2f APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.Operations682E49EFA6D2549147A21993D64291BFA40D815A\_coreshell.dll\_3b0ecd011500f61237c APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.Operations85522190958C82589FA290C0835805F3D9A2F8D6\_coreshell.dll\_8b92fe86c5b7a9e34f433 APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.OperationsA8551397E1F1A2C0148E6EADCB56FA35EE6009CA\_coreshell.dll\_48656a93f9ba394107 APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.OperationsCF3220C867B81949D1CE2B36446642DE7894C6DC\_coreshell.dll\_5882fda97fdf78b47081 APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.OperationsD87B310AA81AE6254FFF27B7D57F76035F544073\_coreshell.dll\_272f0fde35dbdfccbca1e APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.OperationsD9C53ADCE8C35EC3B1E015EC8011078902E6800B\_coreshell.dll\_1259c4fe5efd9bf07fc4 APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.OperationsE2450DFFA675C61AA43077B25B12851A910EEEEB6\_coreshell.dll\_9eebfbe3987fec3c395594dc57a0c4ce6d09ce32cc62b6f17279204fac1771a6eb35077bb79471115e8dfed2c86cd75 APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.OperationsED48EF531D96E8C7360701DA1C57E2FF13F12405\_coreshell.dll\_ead4ec18ebce6890d207 APT28\_2014-10\_Fireeye\_A\_Window\_into\_Russia\_Cyber\_Esp.OperationsF5B3E98C6B5D65807DA66D50BD5730D35692174D\_asdfasf.dat\_8c4fa713c5e2b009114 APT28APT28\_2014-10\_Telus\_Coreshell.A APT28\_2014-10\_Telus\_Coreshell.AD87B310AA81AE6254FFF27B7D57F76035F544073\_coreshell.dll\_272f0fde35dbdfccbca1e33373b3570d423a0799efe41b28a8b7f APT28APT28\_2014-10\_TrendMicro Operation Pawn Storm APT28\_2014-10\_TrendMicro Operation Pawn Storm0A3E6607D5E9C59C712106C355962B11DA2902FC\_Case2\_S.vbs\_exe\_db9edafbad71c7a3a0f0aec1b216a92b3d624c4287795a7fbddd617f5770 APT28\_2014-10\_TrendMicro Operation Pawn Storm0E12C8AB9B89B6EB6BAF16C4B3BBF9530067963F\_Case2\_Military CooperationDecoy.doc\_7fcf20302404f644fb07fe9d4fe9ac8477166146463b9124e075f3a7925075f969974e32746c78d022ba99f578b9f0bb APT28\_2014-10\_TrendMicro Operation Pawn Storm14BEEB0FC5C887D0435009730B6370BF94BC93\_Case5Payload2\_netids.dll\_35717cd78ce713067a5037286cf91c3e1b3dd8aaafd750aa85185c APT28\_2014-10\_TrendMicro Operation Pawn Storm3814EEC8C45FC431A9C7F65CE882A7899CF0405\_Case4\_NetIds.dll\_a24552843b9fedd7d0084e1eb1dd6e35966660738c9e3ec103c2f8fe361c8 APT28\_2014-10\_TrendMicro Operation Pawn Storm4B8806FE8E0CB49E4AA5D8F87766415A2DB1E9A9\_Case2dropper\_cryptmodule.exe\_41e14894f4ad9494e0359ee5bb3d9745684f4b9ea61e14a1 APT28\_2014-10\_TrendMicro Operation Pawn Storm550ABD71650BAEA05A0071C4E084A803CB413C31\_Case2\_skype.exe\_7276d1dab1125f59604252159e0c529c81f0f5fcb3cb8a63713b4107 APT28\_2014-10\_TrendMicro Operation Pawn Storm55318328511961EC339DFDDCA0443068DCCE9CD2\_Case3\_conhost.dll\_f1704aaf08cd66a2ac6cf8810c9e07c274bdd9c250b0f4f27c0ecfeca967f APT28\_2014-10\_TrendMicro Operation Pawn

Storm5A452E7248A8D3745EF53CF2B1F3D7D8479546B9\_Case3\_netui.dll\_keylogaa3e6af90c144112a1ad0c19bdf873ff4536650c9c5e5e1bb57d9bedf7  
APT28\_2014-10\_TrendMicro Operation Pawn

Storm6ADA11C71A5176A82A8898680ED1EAA4E79B9BC3\_Case1\_Letter to  
IAEA.pdf\_decoy76d3eb8c2bed4f2588e22b8d0984af86b0f1f553a847f3244f434541edbf26904e2de18cca8db8f861ea33bb70942b61  
APT28\_2014-10\_TrendMicro Operation Pawn

Storm6B875661A74C4673AE6EE89ACC5CB6927CA5FD0D\_Case2Payload2\_  
netids.dll\_42bc93c0caddf07fce919d126a6e378f9392776d6d8e697468ab671b43dce2b7baf97057b53bd3517ecd77a081eff67d  
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Storm72CFD996957BDE06A02B0ADB2D66D8AA9C25BF37\_Case1\_saver.scr\_ed7f6260dec470e81dafb0e63bafb5ae7313eaf95a8a8b4c206b9afe306e7  
APT28\_2014-10\_TrendMicro Operation Pawn

Storm78D28072FDABF0B5AAC5E8F337DC768D07B63E1E\_Case5\_IDF\_Spokesperson\_Terror\_Attack\_011012.doc\_1ac15db72e6d4440f0b4f710a516  
APT28\_2014-10\_TrendMicro Operation Pawn

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APT28\_2014-10\_TrendMicro Operation Pawn

Storm88F7E271E54C127912DB4DB49E37D93AEA8A49C9\_Case3\_download\_msmvs.exe\_66f368cab3d5e64475a91f636c87af15e8ac9acc6fa3283276f  
APT28\_2014-10\_TrendMicro Operation Pawn

Storm8DEF0A554F19134A5DB3D2AE949F9500CE3DD2CE\_Case6\_dropper\_filee.dll\_16a6c56ba458ec718b4e9bc8f9f10785ce554d57333bdcbcebb5e  
APT28\_2014-10\_TrendMicro Operation Pawn

Storm956D1A36055C903CB570890DA69DEABAACB5A18A\_Case2\_International  
Military.rtf\_d994b9780b69f611284e22033e435edb342e1f591ab45fcca6cee7f5da118a99dce463e222c03511c3f1288ac2cf82c8  
APT28\_2014-10\_TrendMicro Operation Pawn

Storm9C622B39521183DD71ED2A174031CA159BEB6479\_Case3\_conhost.dll\_d4e99548832b6999f00e8d223c6fabdd5debe5d88e76a409b9bc3f69af  
APT28\_2014-10\_TrendMicro Operation Pawn

StormA8551397E1F1A2C0148E6EADCB56FA35EE6009CA\_Case6\_Coreshell.dll\_48656a93f9ba39410763a2196aab67fc8087186a215553d2f95c68c0  
APT28\_2014-10\_TrendMicro Operation Pawn StormA90921C182CB90807102EF402719EE8060910345\_Case4\_APEC  
Media list 2013  
Part1.xls\_aeebf9eb9031e423797a5af1985242de8d3f1e4e0d7c19e195d92be5cb6b3617a0496554c892e93b66a75c411745c05  
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APT28\_2014-10\_TrendMicro Operation Pawn StormB3098F99DB1F80E27AEC0C9A5A625AEDAAB5899A\_APEC  
Media list 2013  
Part2.xls\_decoybebb3675cfa4adaba7822cc8c39f55bf8fc4fe966ef4e7ecf635283a6fa6bacd8586ee8f0d4d39c6faffd49d60b01cb9  
APT28\_2014-10\_TrendMicro Operation Pawn

StormBC58A8550C53689C8148B021C917FB4AECC62AC1\_Case5Payload\_install.exe\_c43edb579e43aaebf0c0703f84e43f77dd063acdcb00509b3b06  
APT28\_2014-10\_TrendMicro Operation Pawn

StormC5CE5B7D10ACCB04A4E45C3A4DCF10D16B192E2F\_Case1Payload\_netids.dll\_85c80d01661f88ec556579e772a5a3db461f5340f9ea47344f86f  
APT28\_2014-10\_TrendMicro Operation Pawn

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APT28\_2014-10\_TrendMicro Operation Pawn

StormDAE7FAA1725DB8192AD711D759B13F8195A18821\_Case6\_MH17.doc\_decoy388594cd1bef96121be291880b22041aadf344f12633ab0738d25e  
APT28\_2014-10\_TrendMicro Operation Pawn

StormE338A57C35A4732BBB5F738E2387C1671A002BCB\_Case6\_advstoshell.dll\_d7a625779df56d874871bb632f3e310611097a7a3336e0ab124fa92  
APT28\_2014-10\_TrendMicro Operation Pawn

StormF542C5F9259274D94360013D14FFBECC43AAE552\_Case5Decoy\_IDF\_Spokesperson\_Terror\_Attack\_011012.doc\_77aa465744061b4b725f7384  
APT28\_2014-10\_TrendMicro Operation Pawn Stormwp-operation-pawn-  
storm.pdfce254486b02be740488c0ab3278956fd9b8495ff1d023e3ae7aed799f02d9cf24422a38dfb9ed37c0bdc65da55b4ee42  
APT28APT28\_2015-07\_Digital Attack on German Parliament APT28\_2015-07\_Digital Attack on German  
Parliament0450AAF8ED309CA6BAF303837701B5B23AAC6F05\_servicehost.dll\_800af1c9d341b846a856a1e686be6a3e566ab945f61be016bfd9e83cc1  
APT28\_2015-07\_Digital Attack on German  
ParliamentCDEEA936331FCDD8158C876E9D23539F8976C305\_exe\_5e70a5c47c6b59dae7faf0f2d62b28b3730a0e3daf0b54f065bdd2ca427fbe10e8d4e  
APT28\_2015-07\_Digital Attack on German ParliamentDigital Attack on German Parliament\_ Investigative Report on the  
Hack of the Left Party Infrastructure in Bundestag\_  
netzpolitik.pdf28d4cc2a378633e0ad6f3306cc067c43e83e2185f9e1a5dbc550914dcb7a4d0f8b30a577ddb4cd8a0f36ac024a68aa0  
APT28\_2015-07\_Digital Attack on German  
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Downloader.Win32.Sofacy.BB8B3F53CA2CD64BD101CB59C6553F6289A72D9BB.dll\_dcf6906a9a0c970bcd93f451b9b7932a9a527274f99865a7d704f  
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APT28\_2015-  
09\_Root9\_APT28\_Technical\_FollowupF46F84E53263A33E266AAE520CB2C1BD0A73354E\_winexesvc.exe\_77e7fb6b56c3ece4ef4e93b6dc608be0513  
APT28APT28\_2015-09\_SFecure\_Sofacy-recycles-carberp-and-metasploit-code APT28\_2015-09\_SFecure\_Sofacy-  
recycles-carberp-and-metasploit-codeDlIs  
DlIs21835AAFE6D46840BB697E8B0D4AAC06DEC44F5B211b7100fd799e9eaabeb13cfa4462313d13f2e5b241168005425b15410556bcf26d04078da6f  
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APT28\_2015-09\_SFecure\_Sofacy-recycles-carberp-and-metasploit-codeDroppers  
Droppers015425010BD4CF9D511F7FCD0FC17FC17C23EEC1c2a0344a2bb29d9b56d378386afcbcd63d0b28114f6277b901132bc1cc1f541a594ee72f2  
Droppers4FAEE67D3988DA117608A7548D9029CADDBFB3EBFC6a80316ea97218df1e11125337233ab0b3f0d6e6c593e2a2046833080574f98566c48a1  
Droppers51B0E3CD6360D50424BF776B3CD673DD45FD0F97973e0c922eb07aad530d8a1de19c77557c4101caf833aa9025fec4f04a637c049c929459ad  
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DroppersB4A515EF9DE037F18D96B9B0E48271180F5725B7afe09fb5a2b97f9e119f70292092604ed93f22d46090bfc19ef51963a781eeb864390c66d934  
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DroppersB8AABE12502F7D55AE332905ACEE80A10E3BC39991381cd82cdd5f52bbc7b30d34cb8d831a09ce8a9210d2530d6ce1d59bfae2ac617ac8955  
DroppersF3D50C1F7D5F322C1A1F9A72FF122CAC990881EE77089c094cf02c15898ff0f021945148eb6620442c3ab327f3ccff1cc6d63d6ffe7729186f7e  
APT28APT28\_2015-10\_New Adobe Flash Zero-Day Used in Pawn Storm APT28\_2015-10\_New Adobe Flash Zero-Day  
Used in Pawn  
Storm2DF498F32D8BAD89D0D6D30275C19127763D5568763D5568.swf\_6ca857721be6ff26b10867c99bd8c80b4064721d911e9606edf36617332594f  
APT28\_2015-10\_New Adobe Flash Zero-Day Used in Pawn  
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mgswizap.dll\_f1d3447a2bfff56646478b0adb7d0451c5a414a39851c4e22d4f9383211dfc080e16e2caffd90fa06dcb51d11fdd0d6c  
APT28APT28\_2015-10\_Root9\_APT28\_targets Financial Markets APT28\_2015-10\_Root9\_APT28\_targets Financial  
Markets0450AAF8ED309CA6BAF303837701B5B23AAC6F05\_servicehost.dll\_800af1c9d341b846a856a1e686be6a3e566ab945f61be016bfd9e83cc1b6-  
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MarketsF325970FD24B088F1BEFDAE5788152329E26BF3\_SupUpNvidia.exe\_0369620eb139c3875a62e36bb7abd8ae81f2d461856bb6f2760785ee1af  
APT28APT28\_2015-12\_Bitdefender\_In-depth\_analysis\_of\_APT28â€œThe\_Political\_Cyber-Espionage APT28\_2015-  
12\_Bitdefender\_In-depth\_analysis\_of\_APT28â€œThe\_Political\_Cyber-EspionageBitdefender\_In-  
depth\_analysis\_of\_APT28â€œThe\_Political\_Cyber-  
Espionage.pdf1a5d89f6fd3f1ed5f4e76084b0fa7806a76b1ec9d196b5c071992486d096ad475226e92b6db06c351e3a4ad4e4949248  
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4076\_tan.exe\_e49bce75070a7a3c63a7cebb699342b316d49a40333f584b19606733b4deeff1b9ecace2c32950010ad1450b44ce3716e  
APT28APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile targets APT28\_2015-12\_Kaspersky\_Sofacy APT hits high  
profile  
targets1A4F39C0262822B0623213B8ED3F56DEE0117CD59\_tf394k.dll\_8c4d896957c36ec4abeb07b2802268b96cd30c85dd8a64ca529c6eab98a757fbf  
APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targets1A4F39C0262822B0623213B8ED3F56DEE0117CD59\_tf394k.dll\_8c4d896957c36ec4abeb07b2802268b96cd30c85dd8a64ca529c6eab98a757fbf3  
APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targets314EF7909CA0ED3A744D2F59AB5AC8B8AE259319.dll\_(4.3)AZZYimplants-  
USBStealerf688caf49a3e32174387cacfa144a89e917166adf6e1135444f327d8fff6ec6c6a8606d65dda4e24c2f416d23b69d45  
APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targets3E2E245B635B04F006A0044388BD968DF9C3238C\_IGFSRVC.dll\_USBStealerc151285e8f0e7b2b90162ba171a4b904e4606313c423b681e1111  
APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targets776C04A10BDEEC9C10F51632A589E2C52AABDF48\_USBGuard.exe\_8cb08140ddb00ac373d29d37657a03cc690b483751b890d487bb63712e5  
APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targetsAF86743852CC9DF557B62485715AF4C6D73644D3\_AZZY4.3installerc3ae4a37094ecfe95c2badecf40bf5bb67ecc3b8c6057090c7982883e8d9dc

APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targetsC78FCAE030A66F388BF8CEA569422F5A79B7B96C\_tmpdt.tmp\_(4.3)AZZYimplantce8b99df8642c065b6af43fde1f786a31bab1a3e0e501d3c14

APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targetsC78FCAE030A66F388BF8CEA569422F5A79B7B96C\_tmpdt.tmp\_ce8b99df8642c065b6af43fde1f786a31bab1a3e0e501d3c14652ecf60870e483

APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targetsE251B3EB1449F7016DF78D113571BEA57F92FC36c\_servicehost.dll\_USBStealer8b238931a7f64fddcad3057a96855f6c92dcb0d8394d0df1064ef

APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targetsE3B7704D4C887B40A9802E0695BAE379358F3BA0\_Stand-aloneAZZYbackdoor96f4b8ac7aa9dbf4624424b7602d4f7a9dc96d45702538c2086a749ba2fb467ba8d8b603e513bdef62a024dfef124cb

APT28\_2015-12\_Kaspersky\_Sofacy APT hits high profile  
targetsF325970FD24BB088F1BEFDAE5788152329E26BF3\_SupUpNvidia.exe\_USBStealer0369620eb139c3875a62e36b7abdaeb1f2d461856bb6f276

APT28APT28\_2015\_06\_Microsoft\_Security\_Intelligence\_Report\_V19  
APT28\_2015\_06\_Microsoft\_Security\_Intelligence\_Report\_V190450AAF8ED309CA6BAF303837701B5B23AAC6F05\_servicehost.dll\_800af1c9d341b1

APT28\_2015\_06\_Microsoft\_Security\_Intelligence\_Report\_V191535D85BEE8A9ADB52E8179AF20983FB0558CCB3.exe\_4ac8d16ff796e825625ad18f

APT28APT28\_2016-02\_PaloAlto\_Fysbis Sofacy Linux Backdoor APT28\_2016-02\_PaloAlto\_Fysbis Sofacy Linux  
Backdoor9444D2B29C6401BC7C2D14F071B11EC9014AE040\_Fysbis\_elf\_364ff454dcf00420cff13a57bcb784678bca0031f3b691421cb15f9c6e71ce195

APT28\_2016-02\_PaloAlto\_Fysbis Sofacy Linux BackdoorA Look Into Fysbis\_Sofacy™s Linux Backdoor - Palo Alto  
Networks  
Blog.pdf9a6b771c934415f74a203e0dfab9edbe1b6c3e6ef673f14536ff8d7c2bf18f9358a9a7f8962a24e2255f54ac451af86c

APT28\_2016-02\_PaloAlto\_Fysbis Sofacy Linux  
BackdoorECCDA7ACA5C805E5BE6E0AB2017592439DE7E32C\_ksysdefd\_elfe107c5c84ded6cd9391aede7f04d64c8fd8b2ea9a2e8a67e4cb3904b49c7f

APT28\_2016-02\_PaloAlto\_Fysbis Sofacy Linux  
BackdoorF080E509C988A9578862665B4FCF1E4BF8D77C3E0756695ab63f36af657fffd45cccd3902c7cf55fd5c5809ce2dce56085ba43795f2480423a4

APT29 APT29\_2016-06\_Crowdstrike\_Bears in the Midst Intrusion into the Democratic National Committee APT29\_2016-06\_Crowdstrike\_Bears in the Midst Intrusion into the Democratic National  
Committee0B3852AE641DF8ADA629E245747062F889B26659.exe\_cc9e6578a47182a941a478b276320e06fd39d2837b30e7233bc54598ff51bdc2f8c41

APT29\_2016-06\_Crowdstrike\_Bears in the Midst Intrusion into the Democratic National  
Committee74C190CD0C42304720C686D50F8184AC3FADDBE9.exe\_19172b9210295518ca52e93a29cfe8f440ae43b7d6c413becc92b07076fa128b875c

APT29\_2016-06\_Crowdstrike\_Bears in the Midst Intrusion into the Democratic National CommitteeBears in the Midst Intrusion into the Democratic National Committee  
À».pdfdd5e31f9d323e6c3e09e367e6bd0e7b12d815b11f3b916bdc27b049402f5f1c024cffe2318a4f27ebfa3b8a9fffe2880

APT29\_2016-06\_Crowdstrike\_Bears in the Midst Intrusion into the Democratic National  
CommitteeCB872EDD1F532C10D0167C99530A65C4D4532A1E.exe\_cc227ae503e166b77bf46b6c8f5ee4dab101cd29e18a515753409ae86ce68a4cedbe

APT29\_2016-06\_Crowdstrike\_Bears in the Midst Intrusion into the Democratic National  
CommitteeE2B98C594961AAE731B0CCEE5F9607080EC57197\_pagemgr.exe\_004b55a66b3a86a1ce0a0b9b69b959766c1bce76f4d2358656132b6b1d47

APT29\_2016-06\_Crowdstrike\_Bears in the Midst Intrusion into the Democratic National  
CommitteeF09780BA9EB7F7426F93126BC198292F5106424B\_VmUpgradeHelper.exe\_9e7053a4b6c9081220a694ec93211b4e4845761c9bed0563d0aaaf

APT28APT28\_2016-07\_Invincea\_Tunnel of Gov DNC Hack and the Russian XTunnel APT28\_2016-07\_Invincea\_Tunnel of Gov DNC Hack and the Russian  
XTunnelE2101519714F8A4056A9DE18443BC6E8A1F1B977\_PortMapClient.exe\_ad44a7c5e18e9958dda66ccfc406cd44b81b10bdf4f29347979ea8a171

APT28\_2016-07\_Invincea\_Tunnel of Gov DNC Hack and the Russian  
XTunnelF09780BA9EB7F7426F93126BC198292F5106424B\_VmUpgradeHelper.exe\_9e7053a4b6c9081220a694ec93211b4e4845761c9bed0563d0aa83f

APT28\_2016-07\_Invincea\_Tunnel of Gov DNC Hack and the Russian XTunnelTunnel of Gov DNC Hack and the Russian  
XTunnel\_  
Invincea.pdf1b88f78c2f4393d437da4ce743ac5e8fb0cb4527efc48c90a2cd3e9e46ce59eaa280c85c50d7b680c98bb159c27881d

APT28APT28\_2016-10\_ESET\_Observing the Comings and Goings APT28\_2016-10\_ESET\_Observing the Comings and Goingseset-sednit-part-2.pdf3c278991ad051fbace1e2f3a4c20998f9ed13d5aa43c74287a936bf57272080fc26b5c62a805e19abceb20ef08ea5ff

APT28\_2016-10\_ESET\_Observing the Comings and GoingsSedreco-dropper Sedreco-dropper4F895DB287062A4EE1A2C5415900B56E2CF158425363e5cc28687b7d71f1e257eab2d5dd403ded7c4acfffe8dc2a3ad8fb848f08388b4c345210

Sedreco-dropper87F45E82EDD63EF05C41D18AEDDEAC00C49F1AEE9617f3948b1886bec95689c02d2cf264378ef276eeaa4a29dab46d114710fc14ba0a9f964fi

Sedreco-dropper8EE6CEC34070F20FD8AD4BB202A5B08AEA22ABFA30cda69cf82637dfa2ffdc803bf2aead20ac1420eade0bdb464cd9f6d26a84094271b252c0f

Sedreco-dropper9E779C8B68780AC860920FCB4A8E700D97F084EFf686304cff9b35ea0d7647820ab525ba2c81023a146d2b5003d2b0c617ebf2eb1501dc6e55fc

Sedreco-dropperC23F18DE9779C4F14A3655823F235F8E221D0F6A9f82abbaebc1093a187f1887df2cf926c2f14916e0b52fb727111962dff9846839137968e322f

Sedreco-dropperE034E0D9AD069BAB5A6E68C1517C15665ABE67C96a24be8f61bcd789622dc55ebb7db90bfb3a3339e2ba82bc3dcdc43d0e49e7b8a26ced3a58

Sedreco-dropperE17615331BDCE4AFA45E4912BDCC989EACF284BC5e93cf87040cf225ab5b59f9f0a0d036bbec6b2927325891cc008d3378d30941fe9d21e5c

APT28\_2016-10\_ESET\_Observing the Comings and GoingsSedreco\_payload  
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Sedreco\_payload11AF174294EE970AC7FD177746D23CDC8FFB92D79422ca55f7fca4449259d8878ede5e47ba1c02aa6c12794a33c4742e62cbda3c17de  
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APT28\_2016-10\_ESET\_Observing the Comings and GoingsXAgent-LIN XAgent-  
LIN7E33A52E53E85DDB1DC8DC300E6558735ACF10CEfd8d1b48f91864dc5acbd429a49932ca3dd8facad6c0626b6c94e1cc891698d4982782a5564aaef  
XAgent-  
LIN9444D2B29C6401BC7C2D14F071B11EC9014AE040364ff454dcf00420cff13a57bcb784678bca0031f3b691421cb15f9c6e71ce193355d2d8cf2b1904  
XAgent-  
LINECDDA7ACA5C805E5BE6E0AB2017592439DE7E32Ce107c5c84ded6cd9391aede7f04d64c8fd8b2ea9a2e8a67e4cb3904b49c789d57ed9b1ce5bebf  
XAgent-  
LINF080E509C988A9578862665B4FCF1E4BF8D77C3E075b6695ab63f36af65f7fd45cccd3902c7cf55fd5c5809ce2dce56085ba43795f2480423a425655  
APT28\_2016-10\_ESET\_Observing the Comings and GoingsXAgent-WIN XAgent-  
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XAgent-  
WIN08C4D755F14FD6DF76EC86DA6EAB1B5574DFBAFD26ac59dab32f6246e1ce3da7506d48fa5f6b2a0d1d966fc4f1ed292b46240767f4acb06c1351  
XAgent-  
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XAgent-  
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XAgent-  
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XAgent-  
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WIN71636E025FA308FC5B8065136F3DD692870CB8A496ed0a7976e57ae0bb79dcbd67e39743ea957d663dbc0b28844f6aa7dfdc5ac0110a4004ac46c87  
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XAgent-  
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APT28\_2016-10\_ESET\_Observing the Comings and GoingsXtunnel  
Xtunnel0450AAF8ED309CA6BAF303837701B5B23AAC6F05800af1c9d341b846a856a1e686be6a3e566ab945f61be016bfd9e83cc1b64f783b9b8deb89:  
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Xtunnel1535D85BEE8A9ADB52E8179AF20983FB0558CCB34ac8d16ff796e825625ad1861546e2e88c488b029188e3280ed3614346575a4a390e0dda00  
Xtunnel42DEE38929A93DFD45C39045708C57DA15D7586Cae4ded48da0766d237ce2262202c3c96a2c9041ee1918523e67dbaf1c514f98609d4d4be451t  
Xtunnel8F4F0EDD5FB3737914180FF28ED0E9CCA25BF4CCe766e048bd222cfd2b9cc1bf24125dac1289ee3d29967f491542c0bdeff6974aad6b37932e9  
Xtunnel982D9241147AAACF795174A9DAB0E645CF56B9220ebfac6dba63ff8b35cbd374ef33323ac9ef265fc0a174f3033ff21b8f0274224eb7154dca97f  
Xtunnel99B454262DC26B081600E844371982A49D334E5Eac3e087e43be67bdc674747c665b46c2a979c5094f75548043a22b174aa10e1f2025371bd9e1  
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XtunnelCDEEA936331FCDD8158C876E9D23539F8976C3055e70a5c47c6b59dae7faf0f2d62b28b3730a0e3daf0b54f065bdd2ca427feb10e8d4e28646a5  
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APT28APT28\_2016-10\_ESET\_Sednit A Mysterious Downloader APT28\_2016-10\_ESET\_Sednit A Mysterious  
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APT28\_2016-10\_ESET\_Sednit A Mysterious  
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APT28\_2016-10\_ESET\_Sednit A Mysterious  
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part3.pdfa7b4e01335aac544a12c6f88aab80cd92c7a60963b94b6fc924abdc19da4d32f35c86cdf2277b0081cd02c72435b48  
APT28APT28\_2016-10\_ESET\_Sednit Approaching the Target APT28\_2016-10\_ESET\_Sednit Approaching the  
Target015425010BD4CF9D511F7FCD0FC17FC17C23EEC1c2a0344a2bbb29d9b56d378386afcbcd63d0b28114f6277b901132bc1cc1f541a594ee72f27d5  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target0F7893E2647A7204DBF4B72E50678545573C3A1035283c2e60a3cba6734f4f98c443d11fda43d39c749c121e99bba00ce809ca63794df3f704e7ad4  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target10686CC4E46CF3FFBDEB71DD565329A80787C439d7c471729bc124babf32945eb5706eb6bc8fec92eee715e77c762693f1ae2bbcd6a3f3127f1221  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target17661A04B4B150A6F70AFDABE3FD9839CC56BEE8a579d53a1d29684de6d2c0cbabd525c56562e2ac60afa314cd463f771fcfb8be70f947f6e2b3:  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target21835AAFE6D46840BB697E8B0D4AAC06DEC44F5B211b7100fd799e9eaabeb13cfa4462313d13f2e5b241168005425b15410556bcf26d04078da  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target2663EB655918C598BE1B2231D7C018D8350A0EF9540e4a7a28ca1514e53c2564993d8d8731dd3e3c05fabbbefafcbf7f5616dba30bbb2b1fc77dba6  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target2C86A6D6E9915A7F38D119888EDE60B38AB1D69D56e011137b9678f1fcc54f9372198bae69d5123a277dc1f618be5edcc95938a0df148c856d2e:  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target351C3762BE9948D01034C69ACED97628099A90B083cf67a5d2e68f9c00fbbe6d7d9203bf853dbbba09e2463c45c0ad913d15d67d15792d888f81b  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target3956CFE34566BA8805F9B1FE0D2639606A404CD4dff22a1a6a757443ab403d61e760f0c0356f5fa9907ea060a7d6964e65f019896deb1c7e303b7  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target4D5E923351F52A9D5C94EE90E6A00E6FCED733EF6159c094a663a171efd531b23a46716de00eaf295a28f5497dbb5cb8f647537b6e55dd666135  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target4FAE67D3988DA117608A7548D9029CADDBFB3EBFC6a80316ea97218df11e11125337233ab0b3f0d6e6c593e2a2046833080574f98566c48a1ed  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target51B0E3CD6360D50424BF776B3CD673DD45FD0F97973e0c922eb07aad530d8a1de19c77557c4101caf833aa9025fec4f04a637c049c929459ad3e4  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target51E42368639D593D0AE2968BD2849DC20735C071dfc836e035cb6c43ce26ed870f61d7e813468ebe5d47d57d6277043c80784cbf475fb2de1df45  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target5C3E709517F41FEBF03109FA9D597F2CCC495956ac75fd7d79e64384b9c4053b37e5623f0ac7b666814fd016b3d21d7812f4a272104511f90ca66f  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target63D1D33E7418DAF200DC4660FC9A59492DDD50D92d4eaa0331abbcd867f5f979b2c890db4f755c91c2790f4ab9bac4ee60725132323e13a268f  
APT28\_2016-10\_ESET\_Sednit Approaching the  
Target69D8CA2A02241A1F88A525617CF18971C99FB63Bed601bbd4dd0e267afb0be840cb27c904c52957270e63efa4b81a1c6551c706b82951f019b68:

APT28\_2016-10\_ESET\_Sednit Approaching the  
Target6FB3FD8C2580C84314B14510944700144A9E31DFf7ee38ca49cd4ae35824ce5738b6e58763911ebce691c4b7c9582f37f63f6f439d2ce56e992bfbf

APT28\_2016-10\_ESET\_Sednit Approaching the  
Target80DCA565807FA69A75A7DD278CEF1DAAEE34236E98631efc5274b3d449b5b7467819d280abda721c4f1ca626f5d8bd2ce186aa98b197ca68d5

APT28\_2016-10\_ESET\_Sednit Approaching the  
Target842B0759B5796979877A2BAC82A33500163DED67291af793767f5c5f2dc9c6d44f1bfb59f50791f9909c542e4abb5e3f760c896995758a832b0699

APT28\_2016-10\_ESET\_Sednit Approaching the  
Target8F99774926B2E0BF85E5147AAC8A8BBBCC5F1D48c2988e3e4f70d5901b234ff1c1363dcc69940a20ab9abb31a03fcef6de92a16ed474bbdff328

APT28\_2016-10\_ESET\_Sednit Approaching the  
Target90C3B756B1BB849CBA80994D445E96A9872D0CF521d63e99ed7dcd8baec74e6ce65c9ef3dfa8a85e26c07a348a854130c652dcc6d29b203ee230c

APT28\_2016-10\_ESET\_Sednit Approaching the  
Target99F927F97838EB47C1D59500EE9155ADB55B806A07c8a0a792a5447daf08ac32d1e283e88f0674cb85f28b2619a6e0ddc74ce71e92ce4c3162056

APT28\_2016-10\_ESET\_Sednit Approaching the  
Target9FC43E32C887B7697BF6D6933E9859D29581EAD0a3c757af9e7a9a60e235d08d54740fbcfbf28267386a010197a50b65f24e815aa527f2adbce53c6C

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetA43EF43F3C3DB76A4A9CA8F40F7B2C89888F03997c2b1de614a9664103b6ff7f3d73f83dc2551c4e6521ac72982cb952503a2e6f016356e02ee31

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetA5FCA59A2FAE0A12512336CA1B78F857AFC06445f1d3447a2bff56646478b0adb7d0451c5a414a39851c4e22d4f9383211dfc080e16e2caffd90f

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetA857BCCF4CC5C15B60667ECD865112999E1E56BA0c334645a4c12513020aaabc3b78ef9fe1b1143c0003c6905227df37d40aacbaecc2be8b9d86

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetB4A515EF9DE037F18D96B9B0E48271180F5725B7afe09fb5a2b97f9e119f70292092604ed93f22d46090bfc19ef51963a781eeb864390c66d9347ef

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetB7788AF2EF073D7B3FB84086496896E7404E625Eeda061c497ba73441994a30e36f55b1db1800cb1d4b755e05b0fca251b18c6da96bb85f8042f2d7

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetB8AABE12502F7D55AE332905ACEE80A10E3BC39991381cd82cdd5f52bbc7b30d34cb8d831a09ce8a9210d2530d6ce1d59bfae2ac617ac89558c

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetC1EAE93785C9CB917CFB260D3ABF6432CFDAF4D732fbf0a4ceb10e9a2254af59ae4f8806236a1bdd76ed90659a36f58b3e073623c34c6436d21

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetC2E8C584D5401952AF4F1DB08CF4B6016874DDAC078755389b98d17788eb5148e23109a654c4ce98970a44f92be748ebda9fcfb7b30e08d9849

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetC345A85C01360F2833752A253A5094FF421FC8391219318522fa28252368f58f36820ac2fbd5c2cf1c1f17402cc313fe3266b097a46e08f48b97157

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetD3AA282B390A5CB29D15A97E0A046305038DBEFE18efc091b431c39d3e59be445429a7bceae782130b06d95f337ff7d5c0977a8019960bdf80f

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetD85E44D386315B0258847495BE1711450AC02D9Fcf4ffab85d84b494e1c450819a0e9c7db500fa112a204b6abb365101013a17749ce83403c30cd37

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetD9989A46D590EBC792F14AA6FEC30560DFE931B18b031fce1d0c38d6b4c68d52b2764c7e4bcd11142d5b9f96730715905152a645a1bf487921d

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetE5FB715A1C70402774EE2C518FB0E4E9CD3FDCFF072c692783c67ea56da9e0a53a60d11c431ae04c79ade56e1902094acf51e5fb6b54d65363d

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetE742B917D3EF41992E67389CD2FE2AAB0F9ACE5B7764499bb1c427d0d1f302f15be792c63047199037892f66dc083420e2fc60655a77075684

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetED9F3E5E889D281437B945993C6C2A80C60FDEDC2dfc90375a09459033d430d046216d22261b0a5912965ea95b8ae02aae1e761a61f9ad3a9fb8

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetF024DBAB65198467C2B832DE9724CB70E24AF0DD7b1bfd7c1866040e8f618fe67b93bea5df47a939809f925475bc19804319652635848b8f346f

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetF3D50C1F7D5F322C1A1F9A72FF122CAC990881EE77089c094cf2c15898ff0f021945148eb6620442c3ab327f3ccff1cc6d63d6ffe7729186f7e8ac

APT28\_2016-10\_ESET\_Sednit Approaching the  
TargetF7608EF62A45822E9300D390064E667028B75DEA75f71713a429589e87cf2656107d2bfcfbff95a74f9847f1a4282b38f148d80e4684d9c35d9ae7

APT28\_2016-10\_ESET\_Sednit Approaching the Targeteset-sednit-part1.pdfbae0221feefb37e6b81f5ca893864743b31b27aa0808aea5b0e8823ecb07402c0c2bbf6818a22457e146c97f685162b4

APT28APT28\_2016-10\_Sekoia\_Rootkit analysisUse case on HideDRV APT28\_2016-10\_Sekoia\_Rootkit analysisUse case on

HideDRV83E54CB97644DE7084126E702937F8C3A2486A2F\_fsflt.sys\_f8c8f6456c5a52ef24aa426e6b1216854bfe2216ee63657312af1b2507c8f2bf362f

APT28\_2016-10\_Sekoia\_Rootkit analysisUse case on

HideDRV9F3AB8779F2B81CAE83F62245AFB124266765939\_fsflt.13430bf72d2694e428a73c84d5ac4a4b9b1900cb7d1216d1dbc19b4c6c8567d482151

APT28APT28\_2017-02\_Bitdefender\_OSX\_XAgent APT28\_2017-02\_Bitdefender\_OSX\_XAgent70A1C4ED3A09A44A41D54C4FD4B409A5FC3159F6\_XAgent\_OSX4fe4b9560e99e33dabca553e2eeee5102a854997a4