	Types (-m)	1731 200	MSSQL (2012, 2014)	Attack Modes
	HASH**	300	MySQL323 MySQL4.1/MySQL5	-a 0 Straight
900 0	MD4 MD5	3100	Oracle H: Type (Oracle 7+)	-a 1 Combination -a 3 Brute-Force
5100	Half MD5	112 12300	Oracle S: Type (Oracle 11+) Oracle T: Type (Oracle 12+)	-a 6 Hybrid Wordlist + Ma
100 1300	SHA1 SHA-224	8000	Sybase ASE	-a 7 Hybrid Mask + Wordl
1400 10800	SHA-256	141	P, SMTP, LDAP, FTP *** Episerver 6.x < .NET 4	Character Cata (Default) [3]
1700	SHA-384 SHA-512	1441 1 600	Episerver 6.x >= .NET 4 Apache \$apr1\$ MD5, md5apr1, MD5 ARP	Character Sets (Default) [?] ?l abcdefghijklmnopqrs
5000	SHA-3 (Keccak)	12600	ColdFusion 10+	?u ABCDEFGHIJKLMNOF
600 10100	BLAKE2b-512 SipHash	1421 101	hMailServer nsldap, SHA-1(Base64), Netscape LDAP SHA	?d 0123456789
6000	RIPEMD-160	111	nsldaps, SSHA-1(Base64), Netscape LDAP SSHA	?h 0123456789abcdef ?H 0123456789ABCDEF
6100 6900	Whirlpool GOST R 34.11-94	1411 1711	SSHA-256(Base64), LDAP {SSHA256} SSHA-512(Base64), LDAP {SSHA512}	?s !"#\$%&'()*+,/:;<=>?
11700	GOST R 34.11-2012 (Streebog) 256-bit	16400	CRAM-MD5 Dovecot	?a ?l?u?d?s
11800 ***RAV	GOST R 34.11-2012 (Streebog) 512-bit V HASH + SALT / ITERATION *****	15000 *** CHE	FileZilla Server >= 0.9.55 CKSUM ***	?b 0x00 - 0xff
10	md5(\$pass.\$salt)	11500	CRC32	Dovice Types (D)
20 30	md5(\$salt.\$pass) md5(utf16le(\$pass).\$salt)	*** OPE	RATING SYSTEMS *** LM	Device Types (-D) -D 1 CPU
40	md5(\$salt.utf16le(\$pass))	1000	NTLM	-D 2 GPU
3800 3710	md5(\$salt.\$pass.\$salt) md5(\$salt.md5(\$pass))	1100 2100	Domain Cached Credentials (DCC), MS Cache Domain Cached Credentials 2 (DCC2), MS Cache 2	-D 3 FPGA, DSP, Co-Proc
4010	md5(\$salt.md5(\$salt.\$pass))	15300	DPAPI masterkey file v1	Options
4110 2600	md5(\$salt.md5(\$pass.\$salt)) md5(md5(\$pass))	15900 12800	DPAPI masterkey file v2 MS-AzureSync PBKDF2-HMAC-SHA256	-m [#] Hasi
3910 4300	md5(md5(\$pass).md5(\$salt)) md5(strtoupper(md5(\$pass)))	1500	descrypt, DES (Unix), Traditional DES	-a [#] Atta
4400	md5(sha1(\$pass))	12400 500	BSDi Crypt, Extended DES md5crypt, MD5 (Unix), Cisco-IOS \$1\$ (MD5)	-r [file] Rule
110 120	sha1(\$pass.\$salt) sha1(\$salt.\$pass)	3200	bcrypt \$2*\$, Blowfish (Unix)	-V Vers
130	sha1(utf16le(\$pass).\$salt)	7400 1800	sha256crypt \$5\$, SHA256 (Unix) ha512crypt \$6\$, SHA512 (Unix)	status kee -b Ben
140 4500	sha1(\$salt.utf16le(\$pass)) sha1(sha1(\$pass))	122	macOS v10.4, MacOS v10.5, MacOS v10.6	runtime [#] Abo
4520	sha1(\$salt.sha1(\$pass))	1722 7100	macOS v10.7 macOS v10.8+ (PBKDF2-SHA512)	-session [text] Set
4700 4900	sha1(md5(\$pass))	6300	AIX {smd5}	restore Rest -o [filename] Defi
14400	sha1(\$salt.\$pass.\$salt) sha1(CX)	6700 6400	AIX {ssha1} AIX {ssha256}	username Igno
1410 1420	sha256(\$pass.\$salt) sha256(\$salt.\$pass)	6500	AIX {ssha512}	potfile-disable Igno
1430	sha256(utf16le(\$pass).\$salt)	2400 2410	Cisco-PIX MD5 Cisco-ASA MD5	-d [#] Spec
1440 1710	sha256(\$salt.utf16le(\$pass)) sha512(\$pass.\$salt)	500	Cisco-IOS \$1\$ (MD5)	-D [#] Spec
1720	sha512(\$salt.\$pass)	5700 9200	Cisco-IOS type 4 (SHA256) Cisco-IOS \$8\$ (PBKDF2-SHA256)	-O Opti
1730 1740	sha512(utf16le(\$pass).\$salt) sha512(\$salt.utf16le(\$pass))	9300	Cisco-IOS \$9\$ (scrypt)	-i Incr
	V HASH, AUTHENTICATED ***	22 501	Juniper NetScreen/SSG (ScreenOS) Juniper IVE	increment-min [#] Star
50 60	HMAC-MD5 (key = \$pass) HMAC-MD5 (key = \$salt)	15100	Juniper/NetBSD sha1crypt	increment-max [#] Stop
150	HMAC-SHA1 (key = \$pass)	7000 5800	FortiGate (FortiOS) Samsung Android Password/PIN	hashcat-utils
160 1450	HMAC-SHA1 (key = \$salt) HMAC-SHA256 (key = \$pass)	13800	Windows Phone 8+ PIN/password	Cap2hccapx (.pcap to WPA/V
1460	HMAC-SHA256 (key = \$pass)	8100 8500	Citrix NetScaler RACF	./cap2hccapx.bin input.pca
1750 1760	HMAC-SHA512 (key = \$pass) HMAC-SHA512 (key = \$salt)	7200	GRUB 2	ct3_to_ntlm (mschap to ntlm
*** RA\	W CIPHER, KNOWN ATTACK ***	9900 125	Radmin2 ArubaOS	./ct3_to_ntlm.bin 8-byte-c
14000 14100	DES (PT = \$salt, key = \$pass)	*** ENT	ERPRISE APPLICATION SOFTWARE ***	<pre>deskey_2_ntlm (DES KPA to I ./deskey_to_ntlm.pl 8-byte</pre>
14900		7700 7800	SAP CODVN B (BCODE) SAP CODVN F/G (PASSCODE)	keyspace (calculate keyspace
	ChaCha20 NERIC KDF***	10300	SAP CODVN H (PWDSALTEDHASH) iSSHA-1	./keyspace.bin [options] m
400	phpass	8600 8700	Lotus Notes/Domino 5 Lotus Notes/Domino 6	
8900 11900	scrypt PBKDF2-HMAC-MD5	9100	Lotus Notes/Domino 8	Keyspace Exhaustion At 229
12000	PBKDF2-HMAC-SHA1	133 13500	PeopleSoft PeopleSoft PS_TOKEN	20 x ?a 2.2 T Solar orbits ar
10900 12100	PBKDF2-HMAC-SHA256 PBKDF2-HMAC-SHA512	*** ARC	CHIVES ***	10 x ?a 8,290 years 7 x ?a 3.4 days
	TWORK PROTOCOLS ***	11600 12500	7-Zip RAR3-hp	5 x ?a 38 seconds
23 2500	Skype WPA/WPA2	13000	RAR5	10 x ?l 7 days
2501	WPΔ/WPΔ2 PMK		AxCrypt AxCrypt in-memory SHA1	
		12600	27	7 x ?l 35 seconds
4800 5300	iSCSI CHAP authentication, MD5(CHAP)			
5300 5400	IKE-PSK SHA1	*** BAC	KUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds
5300	IKE-PSK IVIDS	*** BAC 14700 14800	:KUP *** iTunes backup < 10.0 iTunes backup >= 10.0	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is to one time and takes approximately
5300 5400 5500 5500 5600	IKE-PSK MDS IKE-PSK SHA1 NetNTLMv1 NetNTLMv1+ESS NetNTLMv2	*** BAC 14700 14800	KUP *** iTunes backup < 10.0	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 char
5300 5400 5500 5500	IKE-PSK SHA1 NetNTLMV1 NetNTLMV1+ESS NetNTLMV2 IMAL SAMP IMAG. SHA1	*** BAC 14700 14800 *** FUL 62XY	KUP *** iTunes backup < 10.0 iTunes backup >= 10.0 L DISK ENCRYPTION *** TrueCrypt Android FDE <= 4.3	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is to one time and takes approximately
5300 5400 5500 5500 5600 7300 7500 8300	IRE-PSK MUDS IRE-PSK SHA1 NetNTLIMv1 NetNTLIMv1+ESS NetNTLIMv2 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3)	*** BAC 14700 14800 *** FUL 62XY	KUP *** iTunes backup < 10.0 iTunes backup>= 10.0 L DISK ENCRYPTION *** TrueCrypt	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 char second will take approximately 2.2
5300 5400 5500 5500 5600 7300 7500 8300 10200 11100	IRE-PSK MUDS IRE-PSK SHA1 NetNTLMv1- NetNTLMv1-ESS NetNTLMv2- IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MDS PostgreSQL CRAM (MD5)	*** BAC 14700 14800 *** FUL 62XY 8800 12900 12200 137XY	IKUP *** ITunes backup < 10.0 ITunes backup >= 10.0 L DISK ENCRYPTION *** TrueCrypt Android FDE <= 4.3 Android FDE (Samsung DEK) eCryptfs VeraCrypt	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 chan second will take approximately 2. 95*20/22900000000/3600/24/3
5300 5400 5500 5500 5600 7300 7500 8300 10200 11100 11200	IRE-PSK MUDS IRE-PSK SHA1 NetNTLMv1 NetNTLMv1+ESS NetNTLMv2 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1)	*** BAC 14700 14800 *** FUL 62XY 8800 12900 12200 137XY 14600 *** DOO	IXUP *** ITunes backup < 10.0 ITunes backup >= 10.0 LDISK ENCRYPTION *** TrueCrypt Android FDE <= 4.3 Android FDE (Samsung DEK) eCryptfs VeraCrypt LUKS LUMENTS ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 char second will take approximately 2. 95^20/22900000000/3600/24/3 USE WORDLISTS/DICTIONARI
5300 5400 5500 5500 5600 7300 7500 8300 10200 11100 11200 11400	IRE-PSK MUDS IRE-PSK SHA1 NetNTLMv1- NetNTLMv1-ESS NetNTLMv2- IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MDS PostgreSQL CRAM (MD5)	*** BAC 14700 14800 *** FUL 62XY 8800 12900 12200 137XY 14600 *** DOC 9700	XLUP *** ITUnes backup < 10.0 ITUnes backup >= 10.0 L DISK ENCRYPTION *** TrueCrypt Android FDE <= 4.3 Android FDE (Samsung DEK) Ecryptfs VeraCrypt LUKS LUKS LUMENTS *** MS Office <= 2003 \$0/\$1, MD5 + RC4	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 chan second will take approximately 2. 95*20/22900000000/3600/24/3
5300 5400 5500 5500 5600 7300 7500 8300 10200 11100 11400 13100 16100	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1-ESS NetNTLIMV2 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS+	*** BAC 14700 14800 *** FUL 62XY 8800 12900 12200 137XY 14600 *** DOO	XUP *** Titunes backup < 10.0 Titunes backup >= 10.0 LDISK ENCRYPTION *** TrueCrypt Android FDE <= 4.3 Android FDE (Samsung DEK) ecryptfs VeraCrypt LUKS UMENTS *** MS Office <= 2003 \$0/\$1, MD5 + RC4 MS Office <= 2003 \$0/\$1, MD5 + RC4, collider #1 MS Office <= 2003 \$0/\$1, MD5 + RC4, collider #2	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 charsecond will take approximately 2.95^20/2290000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options]
5300 5400 5500 5500 5600 7300 7500 8300 10200 11100 11400 13100 16100 16500	IRE-PSK MUDS IRE-PSK SHA1 NetNTLMv1+ NetNTLMv1+ESS NetNTLMv2 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23	*** BAC 14700 14800 *** FUL 62XY 8800 12900 12200 137XY 14600 *** DOC 9710 9720 9800	XUP *** Titunes backup < 10.0 iTunes backup >= 10.0 LDISK ENCRYPTION ** TrueCrybt Android FDE (< 4.3 Android FDE (Samsung DEK) eCryptfs VeraCrybt LUKS LUKS LUMENTS ** MS Office <= 2003 \$0/\$1, MD5 + RC4 MS Office <= 2003 \$0/\$1, MD5 + RC4, collider #1 MS Office <= 2003 \$0/\$1, M5 + RC4, collider #2 MS Office <= 2003 \$3/\$4, \$4/\$14 + RC4	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 char second will take approximately 2. 95^20/22900000000/3600/24/3 USE WORDLISTS/DICTIONARI
5300 5400 5500 5500 5600 7300 8300 10200 11100 11400 13100 16100 16500 *** FOR	IRE-PSK MUDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NENTLIMV2 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS+ JWT (JSON Web Token) RUMS *** SMF (Simple Machines Forum) > v1.1	*** BAC 14700 14800 *** FUL 62XY 8800 12900 12200 137XY 14600 *** DOC 9700 9710 9810 9820	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 char second will take approximately 2.95*20/290000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes
5300 5400 5500 5500 5600 7300 7500 8300 10200 11100 11200 13100 16100 16500 **** FOF	IRE-PSK MUDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1-ESS NetNTLIMV2 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MDS POStgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS+ JUNT (JSON Web Token) RUMS****	*** BAC 14700 14800 *** FUL 62XY 8800 12900 137XY 14600 *** DOC 9700 9710 9720 9800 9810 9820 9400	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 chan second will take approximately 2.95*20/2290000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [Options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0 -see
5300 5400 5500 5500 7300 7300 7300 10200 11100 11400 13100 16100 16500 *** FOF 121 400 2611 2711	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NetNTLIMV1 IPMI2 RAKP HIMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS-+ JWT (JSON Web Token) RUMS*** SWF (Simple Machines Forum) > v1.1 phpB83 (MD5) vBulletin < v3.8.5 vBulletin > v3.8.5	*** BAC 14700 14800 *** FUL 62XY 8800 12900 12200 12200 *** DOC 9700 9710 9720 9820 9840 9820 9400 9500	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 char second will take approximately 2.95*20/290000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes
5300 5400 5500 5500 5500 7300 7500 8300 10200 11100 11400 13100 16500 **** FOF 121 400 2611	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NENTILMV2 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS+ JWT (ISON Web Token) RUMS*** SMF (Simple Machines Forum) > v1.1 phpB83 (MD5)	*** BAC 14700 14800 14800 14800 12900 12200 137XY 14600 *** DOC 9700 9710 9720 9810 9820 9400 9500 10400	XUP *** Titunes backup < 10.0 Titunes backup > 10.0 LDISK ENCRYPTION *** TrueCrypt	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 chan second will take approximately 2.95*20/2290000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [Options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0 -see
5300 5400 5500 5500 7300 7300 7300 10200 11100 11400 13100 16100 16500 *** FOR 121 400 2611 2711 2811 2811 8400	IRE-PSK MUDS IRE-PSK SHA1 NetNTLMV1 NetNTLMV1 NetNTLMV1 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS- JUNT (JSON Web Token) RUMS.*** SMF (Simple Machines Forum) > v1.1 phpBB3 (MD5) vBulletin < v3.8.5 MyBB 1.2+ IPB2+ (Invision Power Board) WBB3 (Woltab Burning Board)	*** BAC 14700 14800 *** FUL 62XY 8800 12900 12900 137XY 14600 *** DOC 9710 9720 9810 9820 9810 9820 9400 9500 10400 10410	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" istone time and takes approximately character password with a 95 character password production with a province password production with a production of the production
5300 5400 5500 5500 7300 7300 7300 10200 11100 11400 13100 16100 16500 *** FOR 121 400 2611 2711 2811 2811 8400	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NENTLIMV2 IPMI2 RAKP HMAC-SHA1 Kerberos S AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS+ JWT (JSON Web Token) ZUMS*** SMF (Simple Machines Forum) > v1.1 phpBB3 (MD5) vBulletin < v3.8.5 vBulletin > v3.8.5 vBulletin > v3.8.5 vBulletin > w3.8.5 vBulletin > w8.8.5 VBulletin >	*** BAC 14700 14800 *** FUL 62XY 8800 12200 137XY 14600 *** DOC 9700 9710 9720 98800 9810 9820 9400 9500 10400 10410 10420 10420 10420	XUP *** Times backup < 10.0 Times backup > 10.0 Times backup > 10.0 LOISK ENCRYPTION *** TrueCryt	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" ist one time and takes approximately character password with a 95 charsecond will take approximately 2.595-20/239000000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0se Create a hashcat session to the second will be a second to the second will be a second will
5300 5400 7500 5500 7500 8300 10200 11200 11400 13100 16500 *** FOI 2711 2811 2811 2811 4400	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NetNTLIMV1 PMI2 RAKP HMAC-SHA1 Kerberos S AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS+ JWT (ISON Web Token) ZUMS*** SMF (Simple Machines Forum) > v1.1 php8B3 (MD5) vBulletin < v3.8.5 vBulletin >	***BAC 14700 ***FUL 14800 ***FUL 62XY 8800 12200 12200 137XY 9700 9710 9800 9810 9810 9820 98400 99500 9600 10400 10400 10400 10500 10500 10600 10700	XUP *** Titunes backup < 10.0 Titunes backup > 10.0 LDISK ENCRYPTION *** TrueCrypt	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 charsecond will take approximately 2.95*20/2900000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0se Create a hashcat session to the second will be seen to be compared to the second be compare
5300 5400 5500 5500 5600 7300 8300 10200 11100 11400 13100 16100 2611 2711 400 2611 2711 2811 8400 **** COI	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIM'1 NetNTLIM'1 NetNTLIM'1 NetNTLIM'1 IPMI2 RAKP HIMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS-+ JWT (JSON Web Token) RUMS*** JWHIST (SON Web Token) RUMS** VBulletin < v3.8.5 WJ8B1 (AUT) WBB3 (WOS) WBB3 (WOS) WBB3 (WOS) WBB3 (Woldtab Burning Board) WBB3 (Woldtab Burning Board) WBB3 (Woldtab Burning Board) TENT MANAGEMENT SYSTEMS *** Joomla < 2.5.18	***BAC 14700 14800 ***FUL 14800 12900 12900 12200 12200 1270	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" ist one time and takes approximately character password with a 95 charsecond will take approximately 2.595-20/239000000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0se Create a hashcat session to the second will be a second to the second will be a second will
5300 5400 5500 5500 5500 5500 7500 8300 11200 11200 113100 16100 16500 122611 2711 2811 2811 8400 *** COI 11 00 400 400 2612 79900	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NetNTLIMV1 NENTIMV1-ESS NetNTLIMV2 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SP digest authentication (MD5) Kerberos 5 TGS-REP etype 23 TACACS+ JWT (JSON Web Token) RUMS SWF SMF (Simple Machines Forum) > v1.1 php8B3 (MD5) VBB3 (MD5) VBB3 (WOItlab Burning Board) WBB3 (Woltlab Burning Board) NTENT MANAGEMENT SYSTEMS Joomla < 2.5.18 Joomla > 2.5.18 (MD5) WordPress (MD5) PHPS Drupal7	***BAC 14700 ***FUL 14800 14800 1***FUL 14800 12900 12200 12200 12370 14600 ***PDO 9710 9720 9810 9820 9810 9820 10410 10420 10420 10500 10500 10500 10500 10500 10500 10500 10500 10500 10500 10500 10500 10500 10500 10500	XUP *** Titunes backup < 10.0 Titunes backup > 10.0 LDISK ENCRYPTION *** TrueCrypt	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 charsecond will take approximately 2.95*20/2900000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0se Create a hashcat session to the second will be seen to be compared to the second be compare
5300 5400 5500 5500 5500 5500 7500 8300 11200 11200 113100 16100 16500 122611 2711 2811 2811 8400 *** COI 11 00 400 400 2612 79900	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIM'1 NetNTLIM'1 NetNTLIM'1 NENTLIM'1 IPMI2 RAKP HMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MDS POstgreSQL CRAM (MDS) MySQL CRAM (SHA1) SIP digest authentication (MDS) Kerberos 5 TGS-REP etype 23 TACACS+ JWT (JSON Web Token) RUMS*** SWF (Simple Machines Forum) > v1.1 phpB83 (MDS) vBulletin < v3.8.5 WJB81.2+ IPB2+ (Invision Power Board) WJB83 (WOltlab Burning Board) WJB83 (WOltlab Burning Board) WJBB3 (WOltlab Burning Board)	****BAC** 14700 ****FUL** 14800 ****FUL** 14800 12900 12200 12200 12200 1237XY 14600 9700 9700 9800 9810 9810 9810 9810 9810 10420 10500 10420 10500 10620 ****PAS 9600 5000 ****PAS	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" ist one time and takes approximately character password with a 95 chasecond will take approximately 2.2 95*20/229000000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0 -se Create a hashcat session to hashcat -m 0 -a 3 -i hashes Crack MD5 hashes using al hashcat -m 100 -a 6 hashe Crack SHA1 by using wordli
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5300 5500 5500 7500 7300 7500 10200 111000 16100 16500 121 400 16100 16201 11400 161	IRE-PSK MIDS IRE-PSK SHA1 NetNTLIM'1 NetNTLIM'1 NetNTLIM'1 NetNTLIM'2 IPMI2 RAKP HIMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) PostgreSQL CRAM (MDS) MySQL CRAM (SHA1) PostgreSQL CRAM (SHA1) SIP digest authentication (MDS) Kerberos 5 TGS-REP etype 23 TACACS+ JWT (JSON Web Token) JUMS*** JWT (JSON Web Token) SUMS** JWT (JSON Web Token) SUMS** JWT (JSON Web Token) JWBB3 (MOS) VBulletin < v3.8.5 VBulletin < v3.8.5 WBB1.2+ IPB2+ (Invision Power Board) WBB3 (Woltlab Burning Board) WBB4 (Woltlab Burning Board) WBB5 (Woltlab Burning Board) WBB6 (Woltlab Burning Board) WBB7 (WordPress (MDS) PHPS Drupal (SAM) WWARCE, FRAMEWORKS *** OSCOmmerce PrestaShop Pilene (SLA 1)	***BAC 14700 14800 14800 14800 14800 14800 14800 12900 12900 12900 12900 12900 137xy 14600 137xy 14600 9720 9800 9720 9800 9800 9800 9600 10410 10500 10400 1050	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" ist one time and takes approximately character password with a 95 charsecond will take approximately 2.595-20/23900000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0se Create a hashcat session to the second will be sold to be created a hashcat session to the second will be sold to be created a hashcat will be sold to be created a hashcat session to the second will be sold to be sold
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5300 5400 5500 7500 7500 7500 7500 7500 75	IRE-PSK MIDS IRE-PSK MIDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NENTLIMV1 IPMI2 RAKP HIMAC-SHA1 Kerberos 5 AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) PostgreSQL CRAM (MDS) MySQL CRAM (SHA1) SIP digest authentication (MDS) Kerberos 5 TGS-REP etype 23 TACACS-+ JWT (JSON Web Token) RUMS*** SWF (Simple Machines Forum) > v1.1 phBB3 (MDS) vBulletin < v3.8.5 WJBB1 (Woltlab Burning Board) WBB3 (Woltlab Burning Board) WBB3 (Woltlab Burning Board) WBB3 (WOltlab Burning Board) DOmila < 2.5.18 Joomla > 2.5.18 (MDS) WordPress (MDS) PHPS Drupa17 OSCOmmerce xt:Commerce PrestaShop Jiango (SHA-1) Diango (SHA-1) Diango (PBKDF2-SHA256) Tripcode	***BAC 652XY 8800 12200 137XY 8800 12200 137XY 9700 9710 9720 9810 9400 9500 10410 10420 10500 10420 10500 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200 10700 16200	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 charsecond will take approximately 2.95*20/29000000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0se Create a hashcat session to hashcat -m 0 -a 3 -i hashes Crack MD5 hashes using all hashcat -m 100 -a 6 hashes Crack SHA1 by using wordll hashcat -m 13600 -a 3 hast Crack WinZip hash, mask for hashcat -a 0 -m 400 examp Crack PHPAss using diction
5300 5500 5500 7300 7300 7300 10200	IRE-PSK MUDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NetNTLIMV1 NENTIMV1-ESS NetNTLIMV2 IPMI2 RAKP HMAC-SHA1 Kerberos S AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos S TGS-REP etype 23 TACACS+ JWT (JSON Web Token) RUMS*** SMF (Simple Machines Forum) > v1.1 phpBB3 (MD5) VBUIletin (-> v3.8.5 VBUIletin (-> v3.8.5 VBUIletin (-> v3.8.5 VBUILETIN SWB (MD5) MYBB 1.2 IPB2+ (Invision Power Board) WBB3 (WOItab Burning Board) NTENT MANAGEMENT SYSTEMS *** Joomla c 2.5.18 Joomla - 2.5.18 (MD5) WordPress (MD5) PHPS Drupal7 MMERCE, FRAMEWORKS *** oSCommerce xt.Commerce xt.Commerce PrestaShop Django (SHA-1) Django (SHA-1) Django (PBKD7-SHA256) Tripcode MediaWiki B type OpenCart	*** BAG 14700 14800 14800 14800 14800 14800 14800 14800 14800 12900 12900 12900 12900 12900 12900 12900 12900 12900 12900 12900 12900 12900 12900 10400 10410 10500 10600 10600 10600 10600 10600 10700 10800 10800 109000 10900 10900 10900 10900 10900 10900 109000 10900 10900 10900 10900 10900 10900 109000 10900 10900 10900 10900 10900 10900 109000 10900 10900 10900 10900 10900 10900 109000 10900 10900 10900 10900 10900 10900 10900 10900 109000 10900 10900 10900 10900 10900 10900 10900 10900 10900 10900 10900 10900 10900	XUP ***	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" ist one time and takes approximately character password with a 95 charsecond will take approximately 2.595-20/23900000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0se Create a hashcat session to the second will be sold to be created a hashcat session to the second will be sold to be created a hashcat will be sold to be created a hashcat session to the second will be sold to be sold
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5300 5500 7500 7500 8300 10200	IRE-PSK MUDS IRE-PSK SHA1 NetNTLIMV1 NetNTLIMV1 NENTILMV2 IPMI2 RAKP HMAC-SHA1 Kerberos S AS-REQ Pre-Auth etype 23 DNSSEC (NSEC3) CRAM-MD5 PostgreSQL CRAM (MD5) MySQL CRAM (SHA1) SIP digest authentication (MD5) Kerberos S TGS-REP etype 23 TACACS+ JWT (ISON Web Token) RUMS*** SMF (Simple Machines Forum) > v1.1 php883 (MD5) VBulletin >= v3.8.5 VBulletin >= v4.1	***BAC 62XY 8800 12200 12300 12900 12900 12900 12900 12900 9700 9710 9710 9710 9710 9710 9710 9	XUP *** Times backup < 10.0 ITunes backup > 10.0 Android FDE < 4.3 Android FDE < 4.3 Android FDE (Samsung DEK) Cryptfs VeraCrypt UKS VeraCrypt UKS Office < 2003 \$0/\$1, MD5 + RC4 MS Office < 2003 \$5/\$1, MD5 + RC4, collider #1 MS Office < 2003 \$5/\$1, MD5 + RC4, collider #1 MS Office < 2003 \$3/\$4, SHA1 + RC4 MS Office < 2003 \$3/\$4, SHA1 + RC4 MS Office < 2003 \$3, SHA1 + RC4, collider #2 MS Office 2003 \$3, SHA1 + RC4, collider #2 MS Office 2010 MS Office 2010 MS Office 2010 MS Office 2010 MS Office 2011 MS Office 2011 MS Office 2011 MS Office 2012 MS Office 2013 PDF 1.1 - 1.3 (Acrobat 2 - 4) PDF 1.1 - 1.3 (Acrobat 2 - 4) PDF 1.1 - 1.4 (Acrobat 2 - 4) PDF 1.1 - 1.5 (Acrobat 2 - 4) PDF 1.1 - 1.6 (Acrobat 5 - 8) PDF 1.1 PDF 1.1 - 1.6 (Acrobat 5 - 8) PDF 1.1 PDF 1.1 - 1.6 (Acrobat 5 - 8) PDF 1.1 PDF 1.1 - 1.6 (Acrobat 5 - 8) PDF 1.1 PDF 1.1	7 x ?l 35 seconds 5 x ?l 51 milliseconds *A solar orbit or "Cosmic Year" is one time and takes approximately character password with a 95 charsecond will take approximately 2.95-20/29000000000/3600/24/3 USE WORDLISTS/DICTIONARI hashcat [Options] hashcat -b -m 900 Benchmark MD4 hashes hashcat -m 13100 -a 0se Create a hashcat session to hashcat -m 100 -a 6 hashes Crack MD5 hashes using all hashcat -m 100 -a 6 hashes Crack SHA1 by using wordll hashcat -m 13600 -a 3 hasi Crack WinZip hash, mask for hashcat -a 0 -m 400 examp Crack PHPAss using diction hashcat -a 0 -m 0 example Crack MD5 hashes using di



Hashcat 4.10 Cheat Sheet v.2018.1b

@BHInfoSecurity @Krelkci

https://www.blackhillsinfosec.com

https://hashcat.net/hashcat/ https://github.com/hashcat/hashcat

Common Dictionary Repos

CrackStation: https://crackstation.n Lots of others: https://wiki.sk Custom: cewl -d3 -w wordlist.txt -v http://domain.tld

Hash Sources to Hash Type

Inveigh NetNTLMv1 Inveigh NetNTLMv2 Mimikatz/LSAdump 1000 esedbexport/secretsdump.py ntds.dit (LM) esdbexport/secretsdump.py ntds.dit (NTLM) 3000 airmon-ng (WPA/WPA2) 2500 2501

Common Hash Types MD4

MD5 NTLM 1000 NetNTI Mv1 5500 NetNTLMv2 mscache1 (xp, w2k3) 5600 1100 mscache2 (v, w7, w8, w10, w2k8+) 2100 LanManager SHA512 3000 Kerberos REQ 7500 13100 400 2500 Kerberos TGS-REP Wordpress WPA WPA PMK

Lookup Hash Modes (Type) from Command Line

hashcat --help| grep -I [keyword] hashcat --help| grep -i salt hashcat --help| grep -i Network hashcat --help| grep -i raw hashcat --help| grep -i Office hashcat --help| grep -i Cisco hashcat --help| grep -i Forum hashcat --help| grep -i Domain hashcat --help| grep -i SHA256 hashcat --help| grep -i MD5

Empty Hashes LanManager aad3b435b51404eeaad3b435b51404ee

NTLM 31d6cfe0d16ae931b73c59d7e0c089c0

Lookup Hash Examples from Command Line
hashcat –example-hashes -m [hash-mode#]
NTLM – hashcat –example-hashes -m 1000

ashcat-utils

Hash Type (mode) Attack Mode

Keep screen updated Benchmark

Abort after x seconds

Define output/potfile

Restore/Resume session

Specify an OpenCL Device

Increment (brute force)

Set session name (resumeable)

Ignore username field in hashfile

Ignore potfile and do not write

Specify an OpenCL Device type

Optimized Kernel, Passwords <32 char

List OpenCL Devices & Types

Start increment at [#] of chars Stop increment at [#[of chars

Rules file

Version

Hybrid Wordlist + Mask

Hybrid Mask + Wordlist

abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ

!"#\$%&'()*+,-./:;<=>?@[\]^_`{|}~

ap2hccapx (.pcap to WPA/WPA2)

/cap2hccapx.bin input.pcap output.hccapx [essid]

./ct3_to_ntlm.bin 8-byte-ct3-in-hex 8-byte-salt-in-hex [24bESS]

[hash] [dictionary]

[hash] [mask]

[hash] [dictionary] [dictionary]

[hash] [dictionary] [mask]

[hash] [dictionary] [mask]

[26] [26]

[10]

[16]

[33]

[95]

[255]

eskey_2_ntlm (DES KPA to NTLM)

./deskey_to_ntlm.pl 8-byte-key-in-hex eyspace (calculate keyspace with hashcat masks)

./keyspace.bin [options] mask

eyspace Exhaustion At 229 GH/s

0 x ?a 2.2 T Solar orbits around the center of the Milky way*

A solar orbit or "Cosmic Year" is the Sun orbiting the center of the Milkyway ne time and takes approximately 225 million Earth years. Brute forcing a 20 paracter password with a 95 character mask at 229,000,000,000 hashes per

cond will take approximately 2.2 Trillion Cosmic Years. 5^20/22900000000/3600/24/365/255000000000~3.202.000.000.000 Years

SE WORDLISTS/DICTIONARIES

hashcat [options]... hash|hashfile|hccapxfile [dictionary|mask|directory]

hashcat -b -m 900

hashcat -m 13100 -a 0 --session crackin1 hashes.txt wordlist.txt -o output.pot

Create a hashcat session to hash Kerberos 5 tickets using wordlist.txt

hashcat -m 0 -a 3 -i hashes.txt ?a?a?a?a?a?a?a -o output.txt

Crack MD5 hashes using all characters in 7 character passwords

hashcat -m 100 -a 6 hashes.txt wordlist.txt ?a?a -o output.txt

Crack SHA1 by using wordlist with two ?a characters after

hashcat -m 13600 -a 3 hashes.txt ?u?!?!?!?!?d?d?d?d! -o output.txt Crack WinZip hash, mask for Eighth2018!, Summer2018!, Etcetc5050

hashcat -a 0 -m 400 example400.hash example.dict

Crack PHPAss using dictionary file example, dict

hashcat -a 0 -m 0 example0.hash example.dict -r rules/best64.rule

Crack MD5 hashes using dictionary example dict and modify with rules in best64.rule

hashcat -a 3 -m 0 example0.hash ?a?a?a?a?a?a

Crack MD5 using brute force with 6 characters that match the ?a characterset (upper, lower, numbers, symbols)

hashcat -a 1 -m 0 example0.hash example.dict example.dict

Crack MD5 using combinator function combining two dictionaries