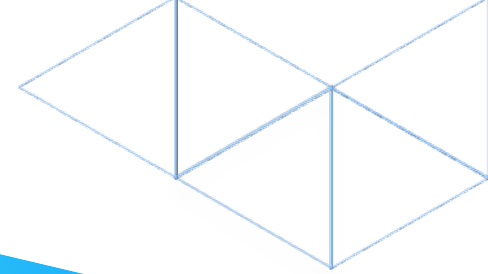




COMFORT IN CHAOS: Building cyber acumen in senior decision makers

Alex Heidenreich
Exec Director CyberCX – Cyber Capability, Education & Training



The status quo hasn't worked.
The only accurate prediction we have ever made, is that we will fail to predict what comes next.

~~Can we use fear?~~

~~Can we use statistics?~~

~~Can we use risk?~~

~~Can we use regulation?~~

Can we use curiosity, mentoring,
personalisation & simplicity?

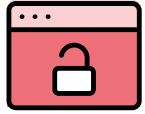


Cyber Characteristics

Threat Actors	INDIVIDUALS		HACKTIVISTS		ORGANISED CRIMINALS	NATION STATES
Cyber Effects	 Unauthorised Access	 Denial of Service	 Data Exfil	 Vulnerability Exploitation	 Malware	 Social Engineering
Controls	Appetite	Strategy (efficient & effective)	Compliance	Triggers/ Intelligence	Culture	Risk
Vectors	Staff	Mobile Devices	Network Access Perimeter & Cloud		Suppliers and Partners	Physical Access
Impacts	Revenue Loss	Critical Failure	Operational Disruption	Data Theft Identity Theft	Reputation Damage Emotional Impact	Regulatory Distorted Views

Cyber Characteristics

Threat Actors	INDIVIDUALS		HACKTIVISTS		ORGANISED CRIMINALS	NATION STATES
Cyber Effects	 Unauthorised Access	 Denial of Service	 Data Exfil	 Vulnerability Exploitation	 Malware	 Social Engineering
Controls	Password Management	Multifactor Authentication	USB Control	Default Password Change	Phishing Resilience	Update Computer, Browser and Apps
Vectors	Staff	Mobile Devices	Network Access		Suppliers and Partners	Physical Access
Impacts	Revenue Loss	Critical Failure	Operational Disruption	Data Theft Identity Theft	Reputation Damage Emotional Impact	Regulatory Distorted Views



Unauthorised Access

Unauthorised access relates to gaining access to your legitimate account, or gaining privilege escalation

Case Study





Unauthorised Access

294 159357
295 jackie
296 1990
297 123456a
298 789456
299 turtle
300 horny
301 abcd1234
302 scorpion
303 qazwsxedc
304 101010
305 butter
306 carlos
307 password1

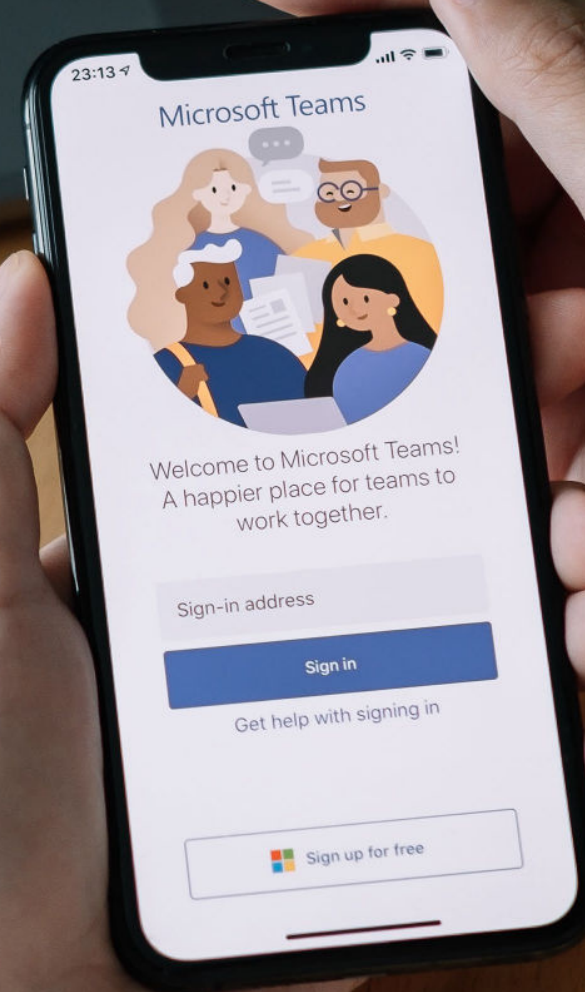
ple.com

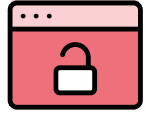
:count?



Passwords.xls

Next





Unauthorised Access

bc4b9b87b5226535924e4914eb356df6



92 Million



359 Million



164 Million



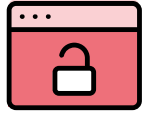
152 Million



6.8 Million

Username: Jane.Doe@northernelectric.com.au

Password: NorthernElectric2023!

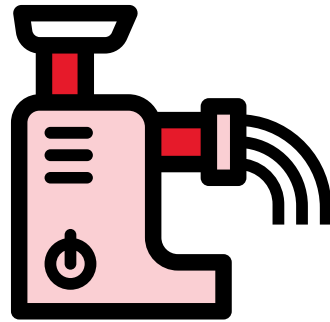


Unauthorised Access

NorthernElectric2023!

NorthernElectric2022!

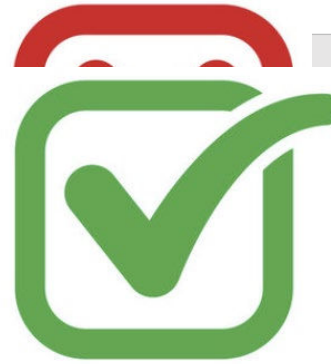
NorthernElectric2023!



bc4b9b87

313af749

bc4b9b87



ab356df6

3ccfc259

ab356df6



“ I can try **85,000,000,000** passwords (hashes) per second ”



Context Relevant Dictionary

- Northern
- Electric
- Melbourne
- Electricity
- Transmission
- Generation
- Power

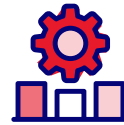


Dictionary

- welcome
- Technology
- sneaky

Dictionary + Rules

- W3lcom3
- welcome2021
- sn3aky21?



Statistically Common Masks

- ULLLLLLNNN
- ULLLLNNS



Chains

- Welcomecat2021
- Catwelcome2021
- 2021welcomecat



Brute Force

- Any 7 Chars = sub 1 minute
- Any 8 Chars = 2 days
- Any 9 Chars = 10 years
- Any 10 Chars= 1000 years

Welcom01
welcome01
Welcome01
Welcome0108
welcome02
Welcome02
Welcome03
welcome05
Welcome05
welcome06
Welcome06
Welcome07
Welcome07Welcome07
Welcome10
Welcome11
Welcome12345678
Welcome15!
Welcome27
Welcome333
Welcome&7
Welcome888

Welcomepassword01
welcometoworkplace1
welcometomyworld
WelcomeWelcome06
Welcomewelcome07
WelcomeWelcome1
Welcomewelcome17
WelcomeWelcome92
WelOct18
PasswOrd3
Password!00
password01
Password01
_Password08
Password1
Password2
Password25
Password97!
passwordpassword
P@sswOrd
P@\$swOrd1

Qu3stSp0tl1ght
r3s0urc3
R3s0urc3
r3s0urc31
R3s0urc3Mailbox
R3s0urce
RadelaideRadelaide
RandomP@sswOrd
Rangers1215
rangerstillidie
ratherbecamping
ReclinerRecliner
redcarsgoesfaster
Reddevil1234567
redorangeyellowblue
Res0urc3
Res0urc31
ihavealongpassword
iloveaustralia4
ilovechocolate!
Iloveeating1973

Ilovemercedes43
I love my family
ilovemyfamilyalot
Ilovepasswords2018
ilovesummer4444
ilovethemondays
ilovetheweekend
Iluvcag77
Incorrectpassword
Indiaisgreat4ever
Indiais_thebest
Informationtec01
Islandinthesun01
January2015!
GuttermouthGuttermouth6
Gypsy#1968
Happinessforever94
Happylife001
happynewyear2019
HarleyDavidson11
Harleydavidson17

have1niceday!
Heavensdeclare01
highvoltage2018
Holdenmonaro001
wOrkplace8
WOrkPlaceSA1
easternstandard
workplace!
workplace0119!
workplace01555
workplace0919!
workplace1
workplace1
workplace1003
workplace102018
workplace12345
workplace@22
workplace22
workplace3
workplace31968
workplace//4

workplace@spf3
Industry00
Industry01
Industry02
Industry03
Industry04
Industry05
Industry06
Industry07
Industry08
Industry09
Industry10
Industry11
Industry12
Ch3ckmat3s
Ch3ckp01nt
chairsandtables2019
Changeapassword1
ChangeMe!
changepassword1

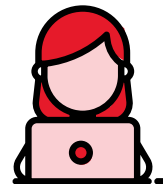


Unauthorised Access



Jane.doe@northernelectric.com.au

bc4b9b87b5226535924e4914eb356df6



Jane.doe@northernelectric.com.au

NorthernElectric2023!

21 random characters = 100 million years

northernelectric + 1-4 digits + special char = How long?



```
Windows PowerShell
>>.hashcat -a3 -m 1000 bc4b9b87b5226535924e4914eb356df6 -1 nN -2 eE ?1orthern?2lectric?d?d?d?s -i --potfile-path demo.pot
```



Thank you.