

Multi-Factor Authentication

Deakin's Journey to uplift authentication using Single Sign-On and Multi-Factor



DEAKIN
UNIVERSITY

Dushyant Sattiraju

Cyber Security Operations Lead



- Single Sign-On Implementation
- Multi-Factor Authentication



**Your digital identity is more
than 'Password123'**



Multi-Factor

- Something you **have**
- Something you **are**
- Something you **know**



Source: Splunk Inc.

Why Multi-Factor Authentication

284

pwned websites

5,044,555,541

pwned accounts











70,358

pastes











77,127,825

paste accounts

Largest breaches

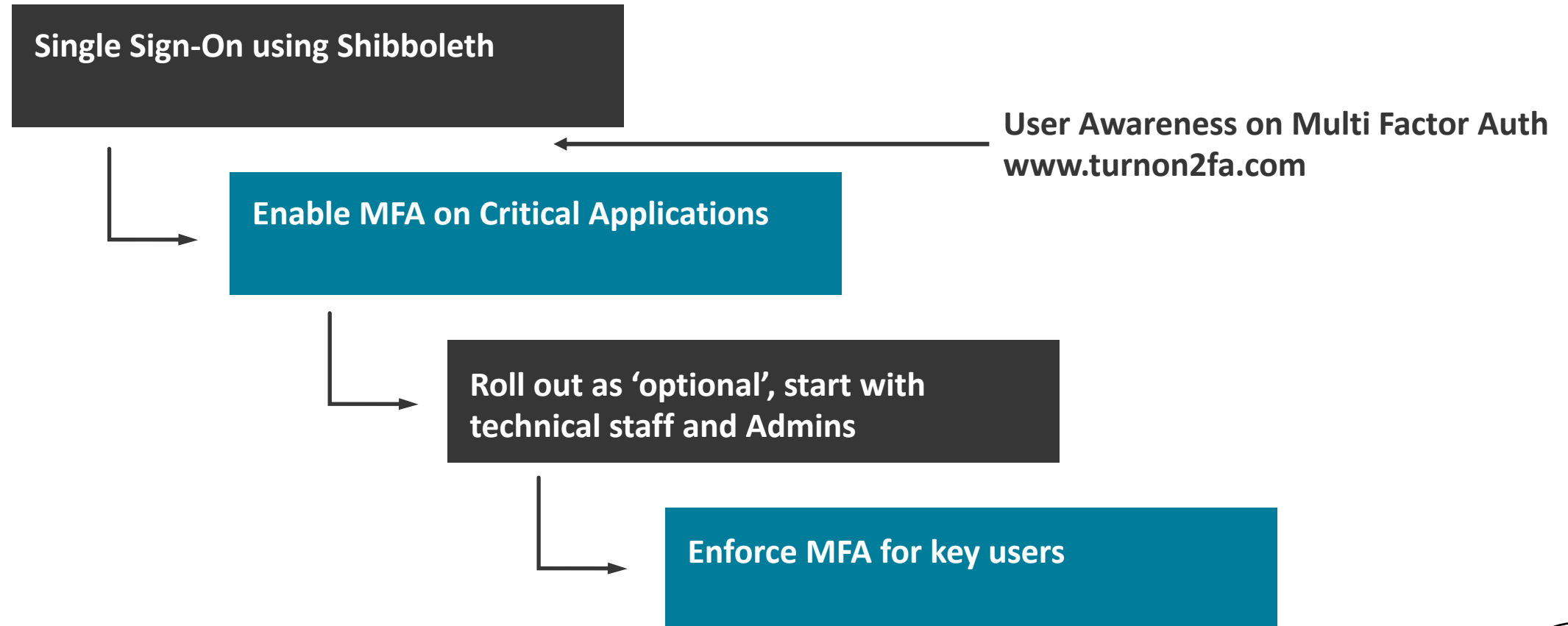
	711,477,622 Onliner Spambot accounts
	593,427,119 Exploit.In accounts
	457,962,538 Anti Public Combo List accounts
	393,430,309 River City Media Spam List accounts
	359,420,698 MySpace accounts
	234,842,089 NetEase accounts
	164,611,595 LinkedIn accounts
	152,445,165 Adobe accounts
	112,005,531 Badoo accounts
	105,059,554 B2B USA Businesses accounts

Recently added breaches

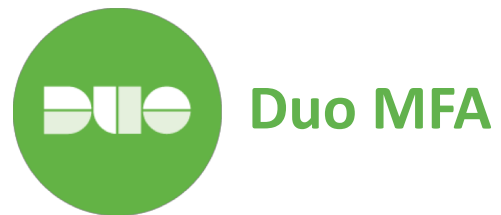
	777,649 ViewFines accounts
	24,853,850 VNG accounts
	7,485,802 17173 accounts
	10,371,766 TGBUS accounts
	188,847 ILikeCheats accounts
	6,844,490 CashCrate accounts
	27,971,100 Taringa accounts
	386,489 Smogon accounts
	13,873,674 HiAPK accounts
	3,204 Bestialitysextaboo accounts

Source: haveibeenpwned.com

Our Journey



Technology Stack

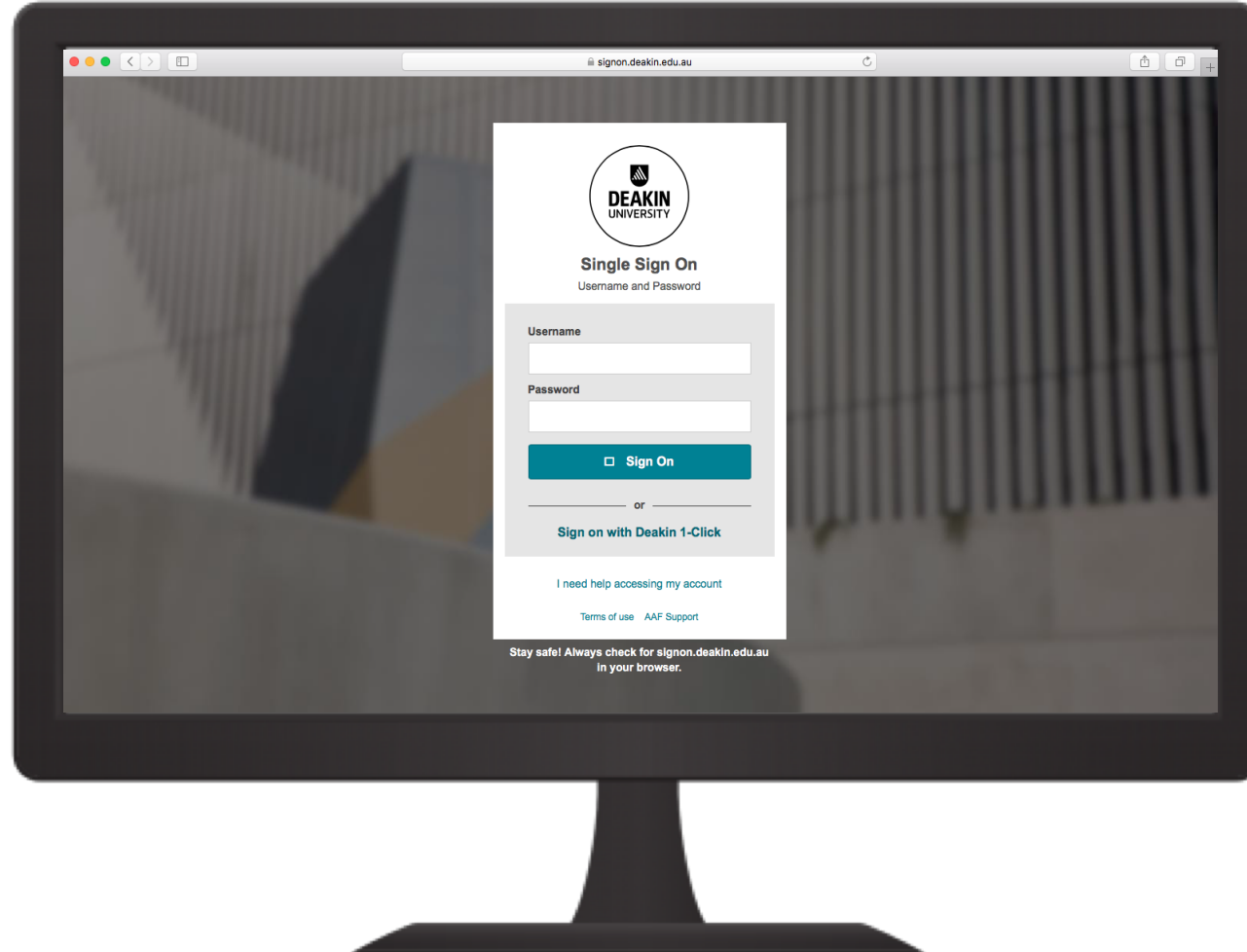


Source:
shibboleth.net
f5.com
duo.com

Balance between security and usability



Single Sign-On

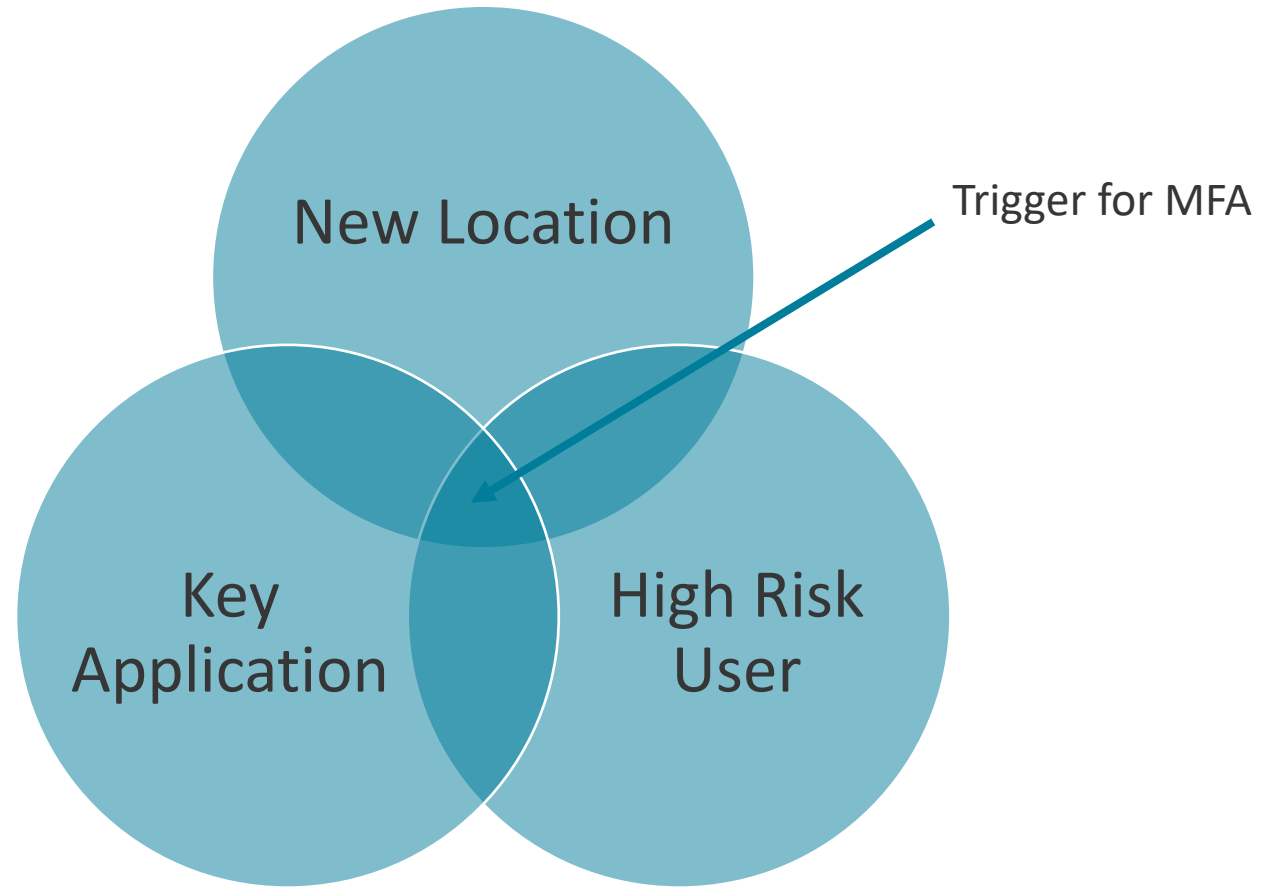


MFA using Duo

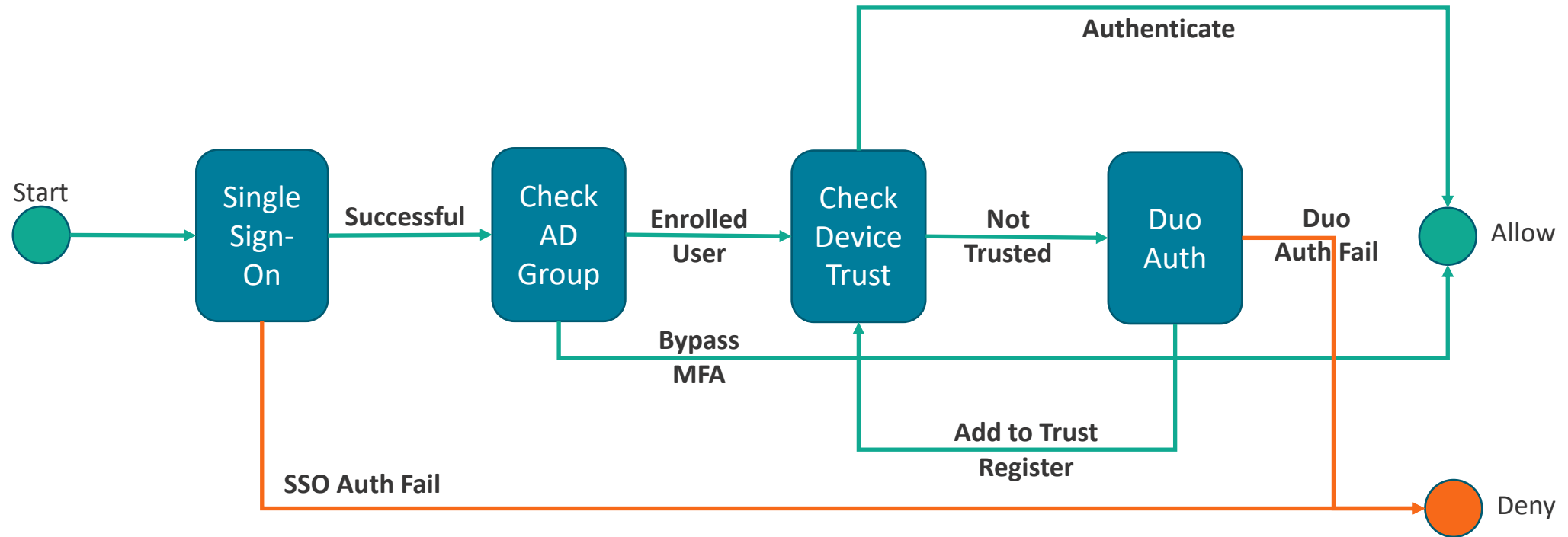


Source: Duo Security

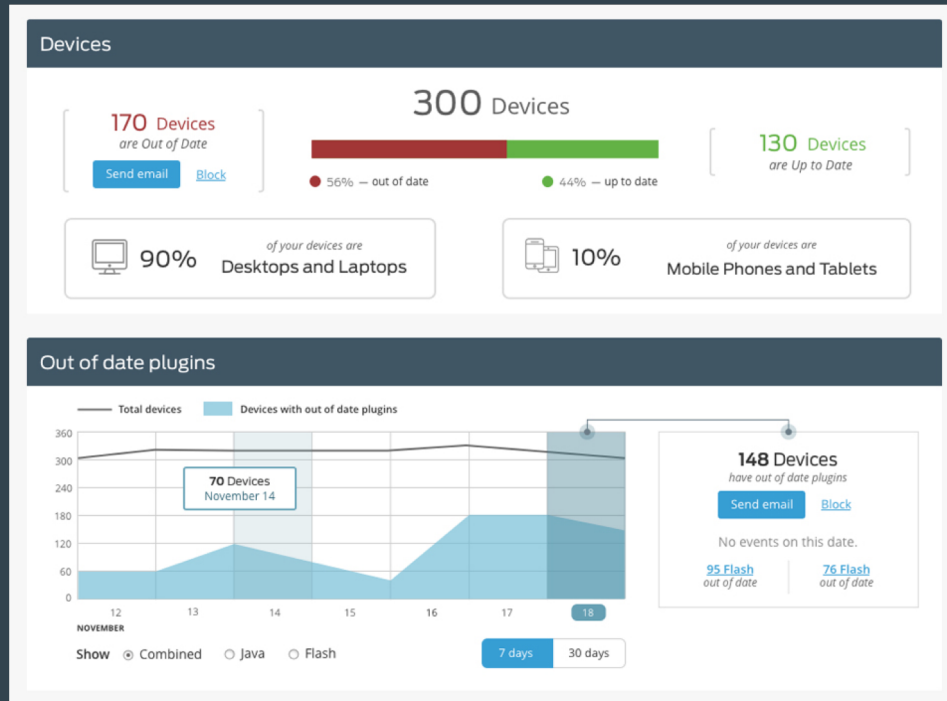
MFA Policy



MFA Logic Flow



Advantages



Different options

Device Health

Issues and challenges

- User Awareness and education around 'MFA'
- Bring Executives on Board
- Reluctance to use personal device
- Session limit for f5 APM
- Duo Look and Feel is not customizable – at this stage

A person is performing a squat in a gym, holding a barbell with large black weights. They are wearing a grey t-shirt, dark blue leggings with a yellow stripe, and blue sneakers. The background is slightly blurred, showing other gym equipment and a person in the distance.

Ben Savage
Ryan Parker-Hill



Questions?

✉ dushyant@deakin.edu.au

🐦 [@du5hyant](https://twitter.com/du5hyant)

in [linkedin.com/in/du5hyant](https://www.linkedin.com/in/du5hyant)