Durham Shared Fail2Ban

October Update

“An experiment that has locked me out numerous times…..”

Presented by Paul Clark

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What is it?

Standard Fail2Ban client agent modified to perform the following:

- Report to a centralised database
- Retrieve unknown IP’s and pre-emptively initiate blocking
- Escalate Jail time/punishment based on time/No. of instances.

System Goals

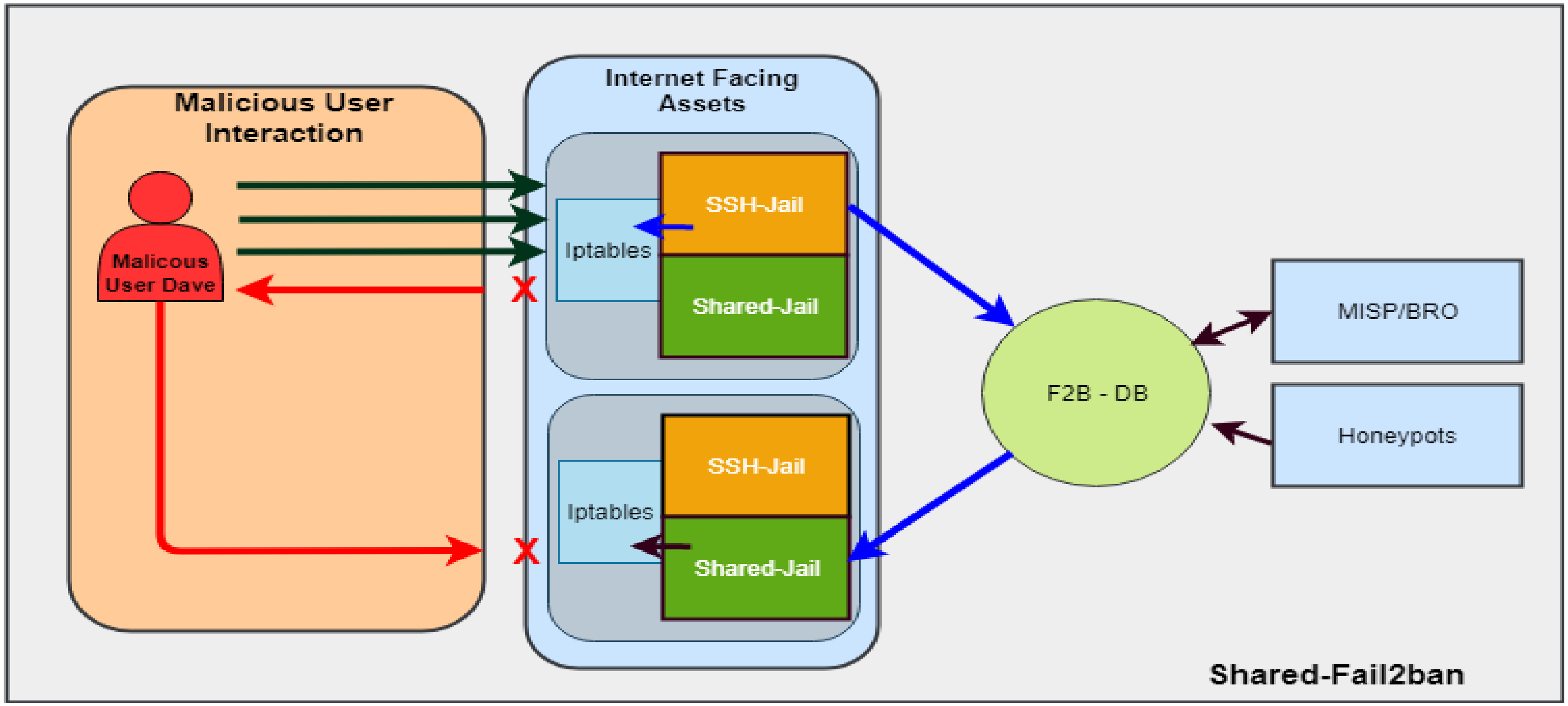
- Reduce target area by banning at initial source and mitigating further attempts against remote systems.

- Centralise Accounting to aid in data gathering/research.

- Export gathered data into external resources.

- Import data from external resources to allow automatic attack prevention prior to one occurring.

Basic Functionality



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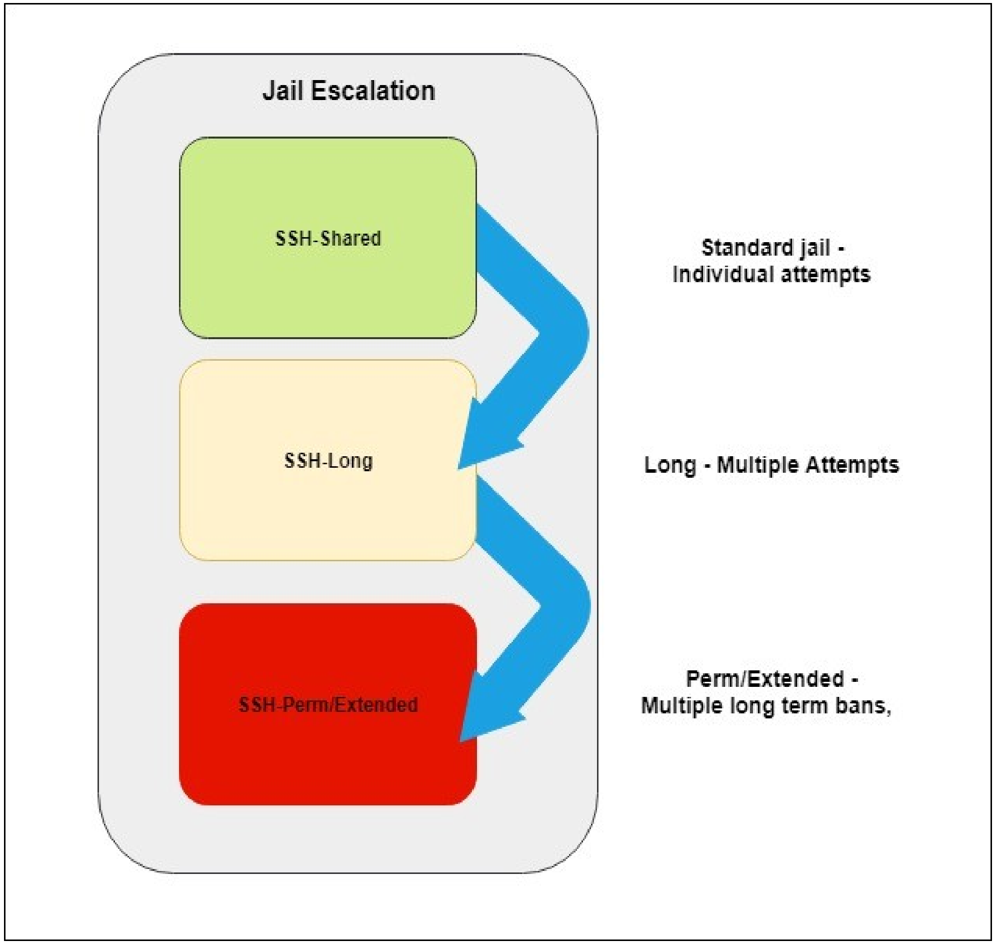
Escalation

Purpose:

- Minimise extended bans for common user error
- Persistent aggressive attempts banned for longer periods


Jail Escalation
SSH-Shared
SSH-Long
SSH-Perm/Extended
Standard jail - Individual attempts
Long - Multiple Attempts
Perm/Extended - Multiple long term bans,

Current Status

- Test system is fully functional in VM environment
- Initial test scripts exported to Python
- GridUI's implemented with basic sharing functionality
- Data gathering underway

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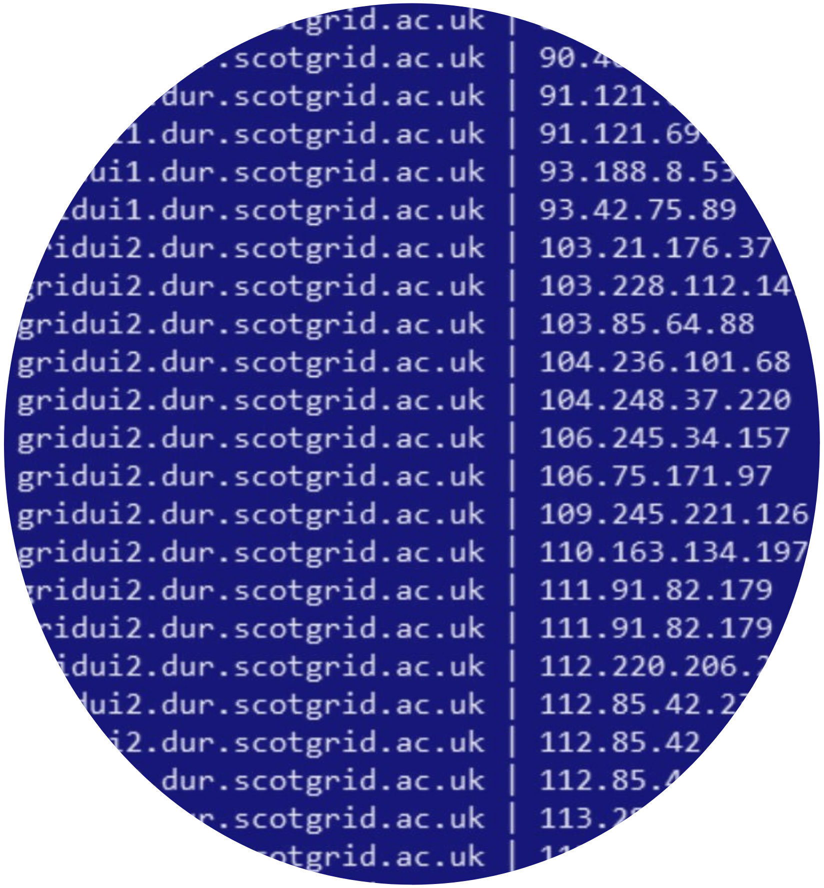
Traffic Highlights

Continuous attempts from:

- 58.218.92.44 – China
- 5.188.10.156 – Russia
- 193.201.224.214 – Ukraine



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Future Work

- Continue testing long term jails
- Push updated scripts to GitHub
- Investigate exporting gathered data to Central IT and MISP
- Implementation of SSH-honeypots to feed data into fail2ban
- Test jail types other than SSH

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