

Participant Sheets and Consent Form

Patching Behaviour of System Administrators

What is the purpose of the study?

Our goal is to understand the prevalence of common Patching behaviours among System Administrators when carrying out patch management related tasks, and any deviations that may occur in some instances.

What will happen if I decide to take part?

You will be asked to provide some basic demographics, such as age, gender, and country of work and some demographic-like information regarding the organisation you patch for. Then we will ask you questions about your typical behaviour during different patching phases, based on the systems and machines you are most comfortable talking about.

Why have I been asked to take part?

We are advertising this study to people who are currently working as System Administrators, or where Patch Management is a regular part of their assigned duties.

Do I have to take part?

No – participation in this study is entirely up to you. You can withdraw from the study at any time, without giving a reason. Your rights will not be affected. If you wish to withdraw, contact the Principle Investigator, Dr Kami Vaniea (kvaniea@inf.ed.ac.uk), or lead researcher, Adam Jenkins (adam.jenkins@ed.ac.uk). We will stop using your data in any publications or presentations submitted after you have withdrawn consent. However, we will keep copies of your original consent, and of your withdrawal request.

Are there any benefits associated with taking part?

You will receive no compensation for participating in this study other than the knowledge that you have helped us gain a better understanding of the patching behaviour of admins, with the goal of ultimately improving the current state of Patch Management.

Are there any risks associated with taking part?

There are no significant risks associated with participation.

What will happen to the results of this study?

The results of this study may be summarised in published articles, reports and presentations. Quotes or key findings will be anonymized: we will remove any information that could, in our assessment, allow anyone to identify you. With your consent, information can also be used for future research. Your data may be archived for a minimum of 3 years.

How will my data be protected and kept confidential?

Your data will be processed in accordance with Data Protection Law. All information collected about you will be kept strictly confidential. Your data will be referred to by a unique participant number rather than by name or platform ID. Your data will only be viewed by members of the research team. All electronic data will be stored on password-protected encrypted computers, on the School of Informatics' secure file servers, or on the University's secure encrypted cloud storage services (DataShare, DataSync, or Sharepoint).

What are my data protection rights?

The University of Edinburgh is a Data Controller for the information you provide. You have the right to access information held about you. Your right of access can be exercised in accordance Data Protection Law. You also have other rights including rights of correction, erasure and objection. For more details, including the right to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk. Questions, comments and requests about your personal data can also be sent to the University Data Protection Officer at dpo@ed.ac.uk. For general information about how we use your data, go to: edin.ac/privacy-research

Who is conducting this research and who can I contact about it?

This survey is conducted by researchers from School of Informatics, University of Edinburgh. If you have any further questions about the study, please contact the lead researcher, Adam Jenkins (adam.jenkins@ed.ac.uk), or his supervisors Dr Kami Vaniaea (kvaniea@inf.ed.ac.uk) and Dr Maria Wolters (maria.wolters@ed.ac.uk).

If you wish to make a complaint about the study, please contact inf-ethics@inf.ed.ac.uk. When you contact us, please provide the study title and detail the nature of your complaint. This study was certified according to the Informatics

Ethics boards, with reference number 2021/95958.

Updated information

If the research project changes in any way, an updated Participant Information Sheet will be made available on: <https://web.inf.ed.ac.uk/infweb/research/study-updates>

Alternative formats

To request this document in an alternative format, such as large print or on coloured paper, please contact Adam Jenkins (adam.jenkins@ed.ac.uk).

Consent

Please read the following statements carefully:

- I confirm that I have read and understood the Participant Information Sheet for the above study, that I have had the opportunity to ask questions, and that any questions I had were answered to my satisfaction.
- I understand that my participation is voluntary, and that I can withdraw at any time without giving a reason. Withdrawing will not affect any of my rights.
- I consent to my anonymised data being used in academic publications and presentations.
- I understand that my anonymised data can be stored for a minimum of 3 year.

Do you agree to participate in this survey?

- Yes, start the survey
- No

Demography - Outsourcing

How many distinct organisations do you currently manage patches for?

- Currently Unemployed
- 1 Organisation
- 2 - 5 Organisations
- 6 - 10 Organisations
- 11+ organisations

Demography - Information of the organisation

Please answer the following questions about a single organisation.

For the remaining questions, please select one of the organisations you manage patches for and answer based only on that organisation. If you work for an outsourcing or technology support organisation, please select one of your clients and answer the questions about that client.

Please answer the following questions about the last organisation you worked with.

For the remaining questions, please refer to the most recent organisations that you managed patches for and answer based only on that organisation.

What sector does your organisation work in?

How large is your organisation?

- <10 employees
- 10-49 employees
- 50-249 employees
- more than 250 employees

How many other system administrators do you work with?

- 0
- 1-5
- 6-10
- more than 10

Demography - Knowledge of the machine/OS/software

How many machines/devices do you manage?

- 1 - 100 machines
- 101 - 250 machines
- 251 - 500 machines
- 500 - 1000 machines
- 1000+ machines

What type of machines/devices do you manage? (Select all that apply)

- Client Machines (Laptops, Desktops etc.)
- Servers
- Mobile devices (e.g. phones and tablets)
- Routers/network appliances
- Embedded devices/Internet of Things
- Other

What are the operating systems on the machines that you manage? (Select all that apply)

- Mac
- Windows
- Linux
- iOS
- Android
- Blackberry
- ChromeOS
- Other

What types of software components are you in charge of patching? (Select all that apply)

- Operating system
- Applications
- Custom/bespoke inhouse programs
- Software that is no longer supported by vendor
- Other

Baseline question

Please select one of the types of systems you support and then answer all following questions in regards to that system.

- » Client Machines (Laptops, Desktops etc.)
- » Servers
- » Mobile devices (e.g. phones and tablets)
- » Routers/network appliances
- » Embedded devices/Internet of Things
- » Other

What operating systems run on the type of system you selected above?
(Select all that apply)

- » Mac
- » Windows
- » Linux
- » iOS
- » Android
- » Blackberry
- » ChromeOS
- » Other

Behaviour - Awareness

When new patches become available, I learn about them through:

	Never	Sometimes	About half the time	Most of the time	Always
Tech news and blogs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Official notifications from vendors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
External mailing lists, online forums, and social media (e.g. Reddit)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Notifications generated by the software, such as a popup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patches are released on a regular schedule , so I am expecting them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patch management software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Behaviour - Prioritisation

When deciding which patches to prioritise for installation or testing, how often do you engage in each of the following?

	Never	Sometimes	About half the time	Most of the time	Always
Read about a patch's related CVEs and vulnerabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform a formal risk assessment for a patch or set of patches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read about new features and improvements added by the patch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calculate expected downtime and its likely cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determine if a patch fixes existing bugs that are impacting the organisation's systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read a patch's known issues and workarounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek online advice for which patches to prioritise (forums, blogs etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read patch documentation and release notes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaborate with co-workers in deciding which patches to prioritise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Follow a patching policy to guide prioritisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Behaviour - Deciding

Who makes the final decision about installing, not installing, or waiting to install a patch?

(Select all that apply)

- My boss, manager, CISO, or executive level
- A previously agreed patch policy clearly states
- The client
- I, or my team, make the decision
- Other

In your opinion, how much say do you have in if a patch will or will not be installed?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

Behaviour - Preparation

When preparing to install patches on a system, how often would you do the the following actions?

	Never	Sometimes	About half the time	Most of the time	Always
Modify settings for third-party patching tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collect baseline system performance metrics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify software and firmware dependencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schedule a suitable patching window with impacted people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Modify custom deployment scripts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make back-ups of the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Modify software configuration files	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This is an attention check , select sometimes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Behaviour - Testing

When testing patches which of the following test setups do you use?

(Select all that apply)

- No testing** is done
- Testing on a **couple of computers** first
- Testing via **Virtual Machines (VM)**
- Testing on a personal machine**
- Testing on a dedicated test environment**
- Staged deployment**
- Other**

The deployment of patches is:

- Fully Automated
- Mostly Automated
- Roughly the same
- Mostly Manual
- Fully Manual

What most motivated your testing setup?

- Speed to patch
- Resource availability for testing
- Patching policies
- Patches rarely cause errors
- Other

When testing patches, what is considered by your organisation? Please rank the following options with 1 (top) being the most important.

Time to patch, getting patches deployed as quickly as possible

Stability and uptime of system

User experience

Efficient use of staff time

Efficient use of computing resource (e.g. VMs or development servers)

Behaviour - Post-Deployment State

Once a patch has been deployed, to validate that it is working as expected, I will:
(Select all that apply)

- Compare** system performance **against baseline**
- Monitor **user reports**
- Monitor **online sources** (e.g. blogs, forums) for reported **patch issues**
- Monitor **vendor announcements**
- Monitor for changes in **patch documentation**
- Other

When you detect an error after testing or deployment, what actions would you perform?

(Select all that apply)

- Immediately **uninstall the patch**
- Raise ticket with **software vendor**
- Read/ask external **online forums or mailing lists**
- Ask **colleagues**
- Investigate **patch documentation**
- Local investigation of **cause and scope of error**
- Other

Demographics - Personal information

How many years old are you?

- 18-25
- 25-35
- 35-45
- 45-55
- 55-65
- over 65
- I do not wish to disclose

Which country did/do you currently work in?

What is your gender?

- Male
- Female
- Non-Binary / Third Gender
- Other/ Wish to self identify
- Prefer not to say

Demographics - Education background

What is the highest level of education that you have completed?

- Secondary school or less
- High School
- College but no degree
- Bachelor's degree
- Master's degree
- Phd degree
- Other

What is the subject area of your highest level of education?

Demography - Career situation

What is your current job title?

What was your job title?

For how many years did you work in that role?

- < 1 year
- 1-2 years
- 2-5 years
- 5-10 years
- 10+ years

For how many years have you worked in this current role?

- < 1 year
- 1-2 years
- 2-5 years
- 5-10 years
- 10+ years

How much total experience have you had in the area of System Administration?

- < 1 year
- 1 - 2 years
- 3 - 5 years
- 6 - 10 years
- 11+ years

ANYTHING Else

Optional: Is there anything else about patching awareness, prioritisation, testing, deployment, or troubleshooting that you would like to tell us about?

Powered by Qualtrics