Incident Response in Action

What are we going to talk about?

1. Who we are and what we do?
2. Common misconceptions about incident response
3. Often failed basics
4. Examples of incidents we've responded to

Who are we and what do we do?

Incident Response at a High Level

Prepare → **Detect** → **Triage** → **Respond** → **Post Incident**

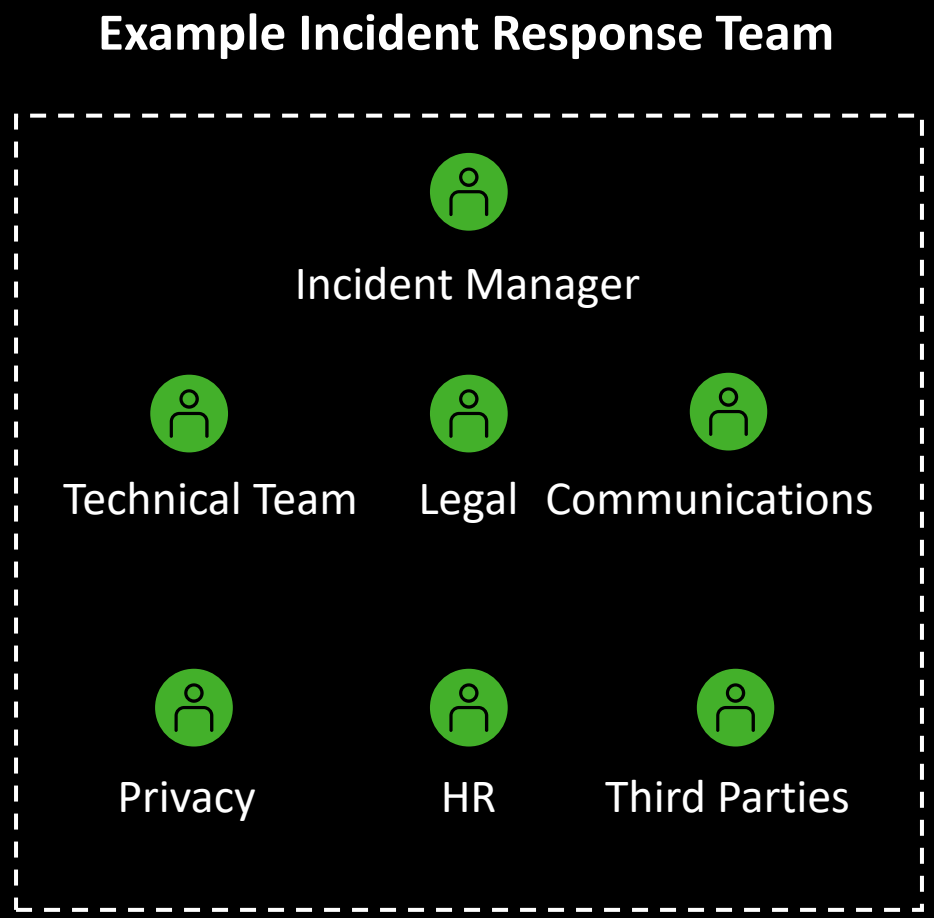
Common misconceptions about incident response

1. It’s not just technology impact

Where there is a cyber incident there is business and people impact.

2. A response is not only technical

Cyber response requires more than technical experts.



Often failed basics

1. Mindset of incident responders

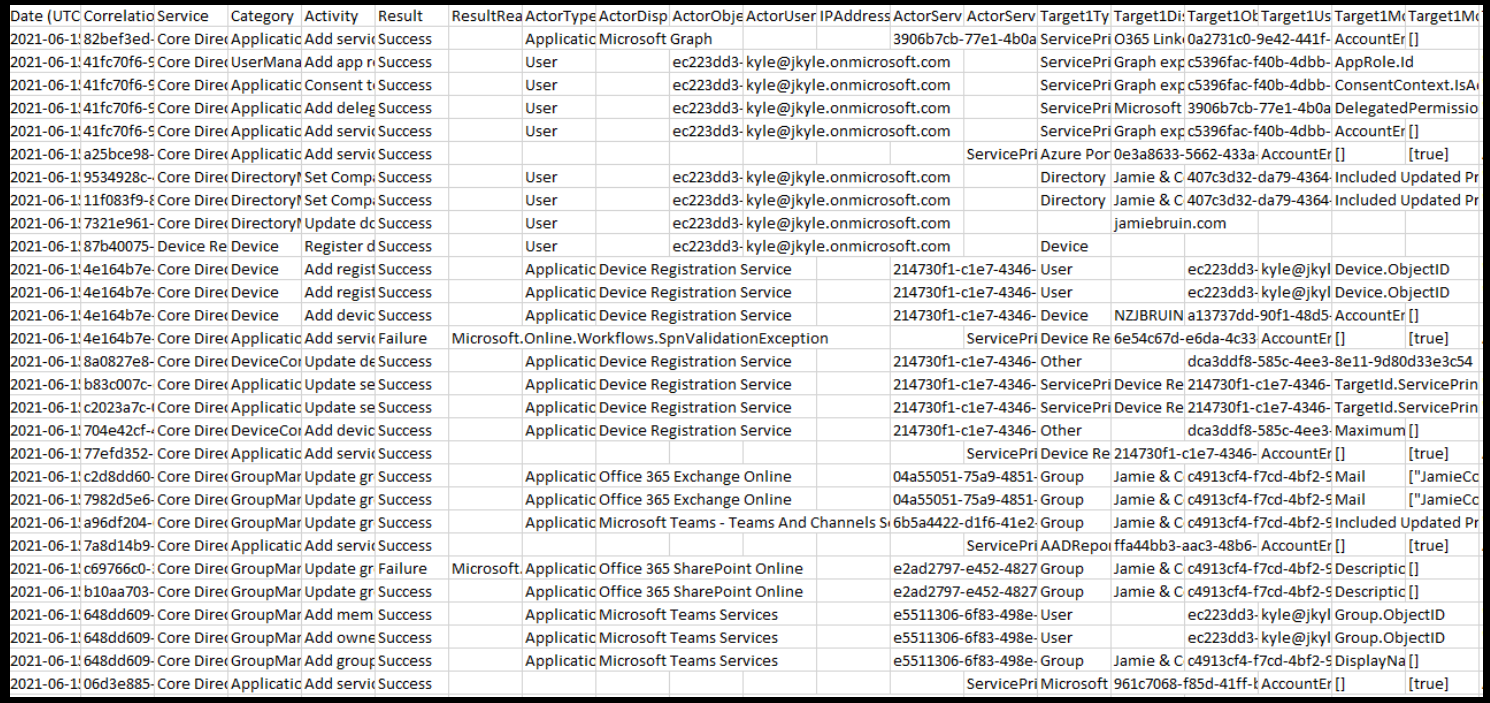
Your ability to handle a crisis is what really matters – not your seniority or technical capability.

2. Incident tracking and role assignment

Making sure people know what they are responsible for, and decisions are not lost.

3. Not having the logs

Without visibility of time or systems what can you investigate?



Date (UTC	Correlatio	Service	Category	Activity	Result	ResultRea	ActorType	ActorDisp	ActorObje	ActorUser	IPAddress	ActorServ	ActorServ	Target1Ty	Target1Di	Target1Ob	Target1Us	Target1M	Target1M
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2021-06-1	a96df204-	Core Direc	GroupMar	Update gr	Success		Applicatic	Microsoft Teams - Teams And Channels S				6b5a4422-	d1f6-41e2-	Group	Jamie & C	c4913cf4-	f7cd-4bf2-9	Included Updated Pr	
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4. Limited/No Staff Welfare consideration

Contrary to popular belief, responders are not robots and need to rest too.

5. Communications – who really needs to know, and what do they need to know?

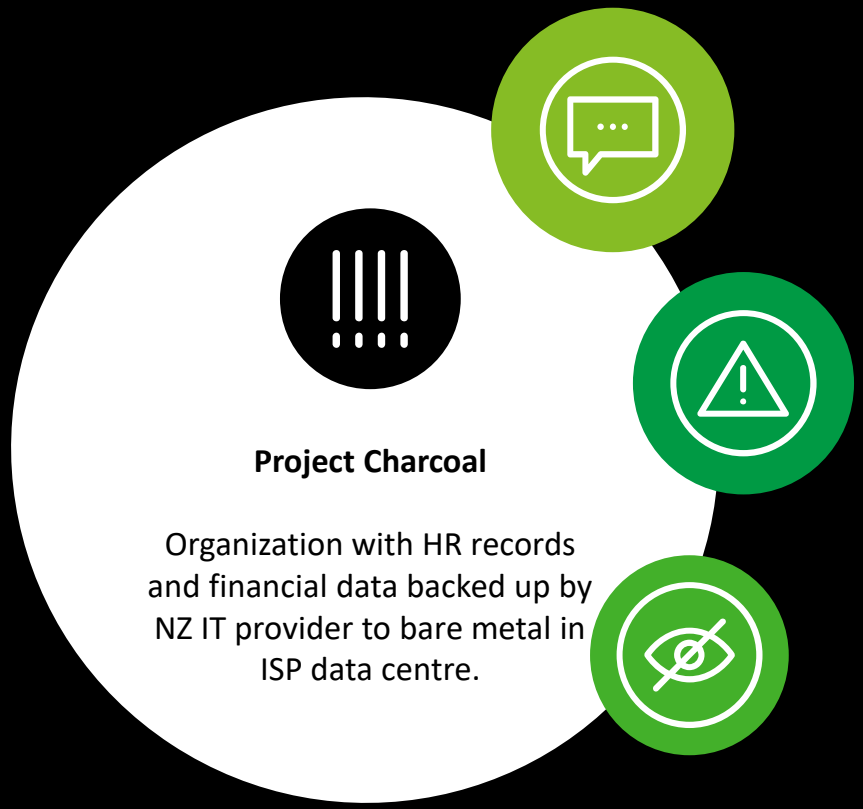
Communications are critical to maintaining trust, so getting these right, with the right expertise is key.

Incidents we've responded to

1. Ransomware

Ransomware

Running through a particularly difficult incident



Project Charcoal

Organization with HR records and financial data backed up by NZ IT provider to bare metal in ISP data centre.

Foreshadowing

ITP notified Organization the Disaster Recovery server was not working as intended with the issue identified in March earlier Assumed this was a networking issue.

Ransomware Event

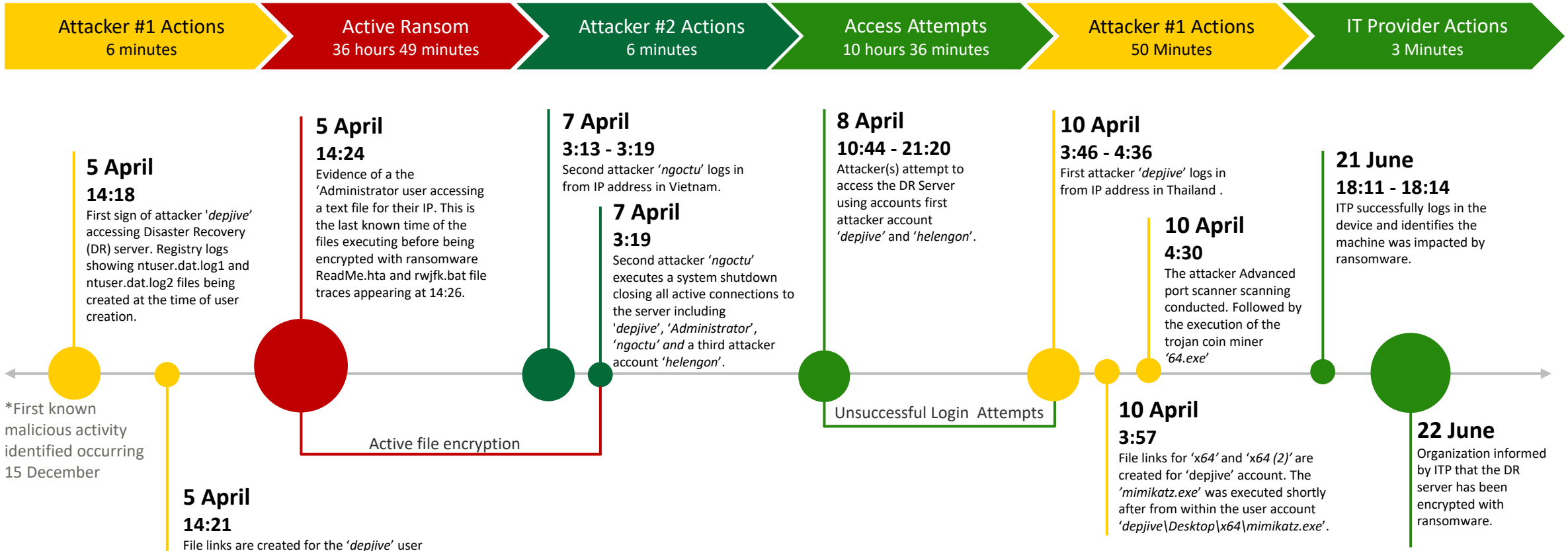
ITP logged into the server in June and identified the host device was impacted by ransomware and shut-down the device to prevent the spread.

Loss of Visibility

Inadvertently the shut-down reduced our forensic capability and had a catastrophic impact on the server motherboard causing it to fault and kill the server.

Example Timeline

Putting it all together



2. Poor Configuration

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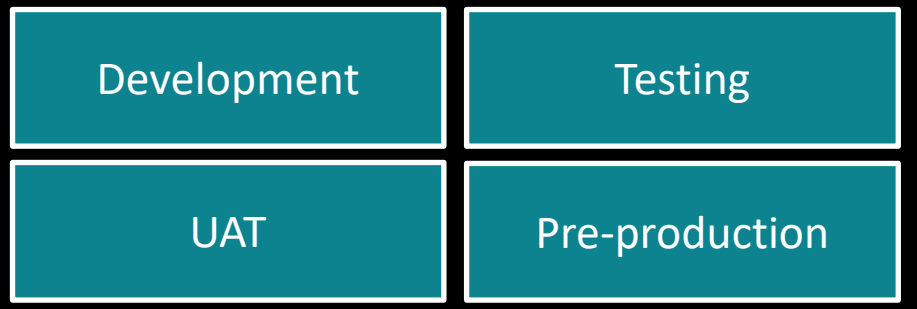
Things of interest with non-production environments:

- Don’t have as many security controls as prod
- Shouldn’t be publicly accessible (sometimes are)
- Shouldn’t have real data (often do)
- Often have provided more people with access

Example non-production environments



2. Poor Configuration

crt.sh ID	Logged At	Not Before	Not After	Common Name	Matching Identities	Issuer Name
7142445583	2022-07-17	2022-07-17	2022-10-15	status.api.limgravesgoods.com	status.api.limgravesgoods.com status.cloud.limgravesgoods.com status.limgravesgoods.com status.mobile.limgravesgoods.com status.partner.limgravesgoods.com status.signup.limgravesgoods.com status.web.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7141443346	2022-07-17	2022-07-17	2022-10-15	status.api.limgravesgoods.com	status.api.limgravesgoods.com status.cloud.limgravesgoods.com status.limgravesgoods.com status.mobile.limgravesgoods.com status.partner.limgravesgoods.com status.signup.limgravesgoods.com status.web.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7142428818	2022-07-17	2022-07-17	2022-10-15	online.limgravesgoods.com	online.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7141432687	2022-07-17	2022-07-17	2022-10-15	online.limgravesgoods.com	online.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7142412897	2022-07-17	2022-07-17	2022-10-15	wiki.limgravesgoods.com	wiki.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7141419333	2022-07-17	2022-07-17	2022-10-15	wiki.limgravesgoods.com	wiki.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7142051754	2022-07-17	2022-07-17	2022-10-15	api.limgravesgoods.com	api.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7141101004	2022-07-17	2022-07-17	2022-10-15	api.limgravesgoods.com	api.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7141694900	2022-07-17	2022-07-17	2022-10-15	mail.limgravesgoods.com	mail.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
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7116366655	2022-07-12	2022-07-12	2022-10-10	nonprod.limgravesgoods.com	autodiscover.limgravesgoods.com email.limgravesgoods.com limgravesgoods.com nonprod.limgravesgoods.com sales.limgravesgoods.com support.limgravesgoods.com www.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3
7111381742	2022-07-12	2022-07-12	2022-10-10	nonprod.limgravesgoods.com	autodiscover.limgravesgoods.com email.limgravesgoods.com limgravesgoods.com nonprod.limgravesgoods.com sales.limgravesgoods.com support.limgravesgoods.com www.limgravesgoods.com	C=US, O=Let's Encrypt, CN=R3

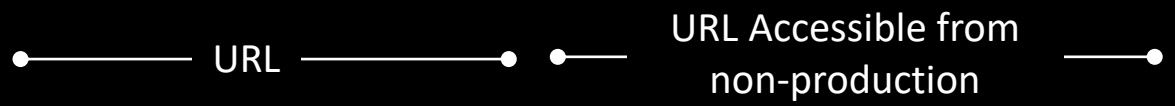
https://crt.sh/ -

Shows public SSL certificates for a particular targeted domain

2. Poor Configuration

Culmination of three key issues:

1. Non-production environment was externally accessible
2. Authentication controls enabling unauthenticated access



https://examplewebsite.com + /authentication_required_section

3. Non-production environments with production data

Key Takeaways

The key takeaways as an incident responder, wider cyber security, and in general you need to consider:

- **The business and people impacts a cyber incident has**
- **The wider expertise that should be in your incident repsonse team**
- **That being the most senior, does not make you the best incident responder – your approach to handling a crisis is what matters**
- **Incident tracking and role assignment is essential**
- **Make sure your logs exist, and have time and system coverage**
- **Your wellbeing, and your teams wellbeing are critical to a successful response**
- **Communications need to be considered and clear – what might you be telling your attackers? How might those impacted feel?**

Questions?