

How Not to Run a Maintenance
 Window

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Maintenance Windows:

What are they:

- Designated time period during which changes are made to a network.
- Necessary Evil.
- Usually take place in non-peak hours.
- Can be as simple as a configuration change or massive re-working of network infrastructure.
- Often requires coordination between multiple departments.
- Usually planned works in advance.

How to run a maintenance window:

It's all about the preparation.

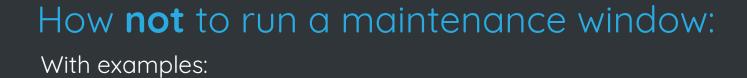
How to run a maintenance window:

Keys to success:

- Have a standardized change process.
- Document your change in a MOP/SOP!
- Have regular change meetings.
- Be able to assess scope of impact and notify stakeholders and customers of potential outages.
- Communicate Before/During/After!
- Peer-review changes.
- Orchestrate spares if necessary!

- How to run a maintenance window (continued):
 - Have a MOP/SOP/plan of action:
 - Documented pre/post checks (validate network state).
 - Have fallback procedures.
 - Include disaster recovery if necessary.
 - Test your MOP/SOP/plan of action!
 - Have your MOP/SOP peer-reviewed.
 - Distribute your MOP/SOP to relevant parties transparency helps.

- Murphy's Law: "Anything that can go wrong will go wrong."
 - Inevitable Eventually something will go wrong.
 - Always have disaster recovery options in impacting work.
 - Depends on scope of work.
 - Communicate issues quickly and clearly.
 - Document!
 - Log Console/SSH sessions.
 - Automation Logs etc.



- "Good morning, you have an outage in progress."
- Routine configuration change on BNG mishandled left customers down for hours.

What went wrong:

- Pre/post checks not carried out.
- MOP/SOP was not validated (configuration errors/typos).
- Network engineer blindly pasted configuration.

- Murphy's Law strikes: How to recover from a critical failure.
- Routine line card swap on a router in critical role (L2 termination point in network).

What went wrong:

- Poor timing (near maintenance freezes / blizzard incoming).
- Someone let out the magic smoke (not me).
- Unable to locate spare chassis.
- RMA uplift delayed due to blizzard.
- No disaster recovery strategy in place.

Murphy's law strikes (Continued):

What went right:

- Pre-staged alternative and capable router found.
- All hands on deck effort to convert configuration and stand up new device.
- Services restored after ~12 hours.
- Was not a RGE.
- (Made the news?)

Murphy's Law Strikes: (Continued)

Takeaways:

- Be aware of sparing situation.
- Be cognizant of the timing of a maintenance window (blizzard / end of year).
- Have a DR plan in place.
- Don't let unqualified personnel work on your equipment.
- Remain calm and work through difficulties.

Short stories:

Not using proper tools:

Using rubber mallets to install line cards.

Unfamiliar platform/MOP not peer-reviewed:

no router isis <domain> vs. no ip router isis <domain>

Thank you! Any questions?

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