Break Glass

Local emergency accounts, and holding a device or host back from the server · Checked against tacctl 0.2.22

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When a bad change cuts off AAA on a device, nobody can log in with their tacctl credentials, and the server's refusals stop the device's local accounts from working too. A **break-glass hold** makes the server stop answering that one device or host, so its local accounts work while the server stays up for everyone else. Placing and releasing holds is a **superuser** task; engineers can list the holds in their own scopes.

> **Example names used on this page** Scope: `site-a` · Devices: `sw1` (Cisco), `rtr1` (Junos), `pdu1` (WTI) · Host: `web1` · Ticket `CHG-1182`

1. Before you need it: record the local accounts

Every device should keep a local emergency account for the day the server can't help. Record which accounts each scope's devices keep, so the walkthroughs include them and holds point to them:

```
tacctl scope breakglass site-a                      # list
tacctl scope breakglass site-a add netadmin         # role defaults to admin
tacctl scope breakglass site-a add noc-local --role operator
tacctl scope breakglass site-a remove noc-local
```

- tacctl **never stores** these passwords or hashes. You create, rotate and remove the account on the device yourself.
- `tacctl config validate` warns about scopes with no break-glass accounts: a lockout risk.

1.1 Junos `root`

Many Junos devices keep `root` as their local access. Junos holds it under `system root-authentication`, not as a `system login user`, and tacctl accepts it as a break-glass entry for a scope's Junos devices:

```
tacctl scope breakglass site-a add root      # always admin; lower case only
```

The Junos walkthrough then renders two statements in its break-glass step, commented out like the other accounts:

```
# set system root-authentication encrypted-password '<HASH>'
# set system services ssh root-login allow
```

- Put in the hash yourself: tacctl stores and generates no password or hash.
- Junos refuses root over ssh by default. Allowing it is a security trade-off, since root can then log in over ssh with the password: keep the device behind the management filter, or leave the second line out and keep `root` on the console.

- For a scope that records `root`, `device config pull` and `diff` check both facts in the `breakglass` section: that a root password is set (present, never compared or shown) and that `root-login allow` is there. A plan never types either statement.
- `--role operator` and `--role readonly` are refused for `root`.
- Cisco and WTI devices have no such account: their walkthroughs render nothing for it. A scope whose only entry is `root` has no break-glass account on its Cisco and WTI devices, and `config validate` warns.

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2. Hold

```
tacctl breakglass hold sw1 --reason "failed AAA paste, CHG-1182"
tacctl breakglass hold web1 --reason "CHG-1182 locked out of sudo"
tacctl breakglass hold "sw2=console recovery,sw3" --reason "CHG-1182 failed paste"
```

- You confirm by **typing the name back**. There is no `--yes`.
- The output shows the way in for the vendor and the local accounts that will now work.
- Several devices: a comma list, each with an optional `=reason`. Each device is checked on its own; the ones refused are named on a `Not held:` line.
- A hold is refused, with nothing changed, for a name that is neither a registered device nor an enrolled host (or is both), one that is already held, this server's own host, a name with no address, a loopback address or an address a listener binds, a device at the address of an enrolled host (the hold would silence the host too), and an address that no scope covers.

> **Only the registered address is carved out.** If a device sends AAA from another address (a Cisco source interface, NAT, IPv6), the server still answers it. The hold report warns you when this looks likely.

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3. Get in, by vendor

Vendor	How to log in while held
Cisco IOS	ssh or console as the local account. The device waits a few seconds for the server, then accepts the local password. On the console, `enable` with the local enable secret.
Junos	ssh or console as a local `system login user`, or as `root` when the scope records it (ssh needs `root-login allow`, §1.1), after the tacplus timeout. `root` on the console is always local.
WTI	Works only if the unit's TACACS+ *Fallback Local* is `On`. With `Off`, nobody gets in until you release the hold; use the serial console.

Vendor	How to log in while held
Linux host	The host's local administrator and its console work. tacctl users cannot log in or use `sudo` there.

The engineer can print the back-out for the failed change with `tacctl device config plan sw1 --backout`.

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4. While a device or host is held

- `tacctl breakglass list` shows what is held, since when, by whom and why.
- `device remove` and `device config pull` refuse a held device.
- `host sync`, `enroll`, `move`, `unenroll` and `forget` refuse a held host, and `host sync --all` skips it (and names it).
- `tacctl ssh` warns you and connects; your tacctl login will fail there.

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5. Fix and release

```
tacctl breakglass release sw1
tacctl device config pull sw1 --diff       # confirm the fix
tacctl ssh sw1                             # and log in as yourself again
```

For a host: `tacctl breakglass release web1`, then `tacctl host check web1`.

> **A hold has no timer** and never releases itself. Check `tacctl breakglass list` at every shift start.

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6. Quick reference

Task	Command	Who
Record local accounts	`tacctl scope breakglass <scope> add <user> [--role <role>]`	Superuser
Record Junos `root`	`tacctl scope breakglass <scope> add root`	Superuser
Hold	`tacctl breakglass hold <name> --reason "<ticket>"`	Superuser
List holds	`tacctl breakglass list`	Engineer (own scopes)

Task	Command	Who
Release	`tacctl breakglass release <name>`	Superuser
Back-out for the failed change	`tacctl device config plan <name> --backout`	Engineer

See also: Incident Response Runbooks R4, R5 · *Vendor Notes* · *Emergency Lockdown* · Break-glass (repo) · `man tacctl`