

# supportconfig-utils / Inav

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# Vision for tools

- Deliver **fastest possible path** from being given supportconfigs to starting useful debugging
- Make most likely **area to investigate immediately available**
- Make **debugging as efficient as possible**
- Provide a **rich UI** for navigating / analysing (potentially many) log files
- Extend to **support all SUSE products** out of the box

# Overview of tools used

- supportconfig-utils is built using:
  - **Inav** - Log file navigator
  - **tmux** - terminal multiplexer
  - **unpack** - utility for unpacking any kind of archive
  - Some small-ish hacks in Ruby and shell

# UI

- Purely terminal based
- Can be run from existing terminal session via `supportconfig-tmux`
- Can be launched in new terminal via `supportconfig-tmux-window`
  - One click from browser to create new analysis session!
- Currently 1 terminal / tmux session per supportconfig
  - May get smarter in the future

# Introduction to Inav

- <https://lnav.org>
- `less(1)` on steroids
- Specialises in timestamped log files
- Can auto-detect and parse many formats out of the box
  - even more via `lnav -i extra`
  - easy to add your own
- Chronological merging of files
- `tail -f` watching of live files

# Introduction to Inav (part 2)

Packed with **useful features!**

- Syntax highlighting
- Time-based navigation (e.g. jump back 1 hour)
- Navigation to errors / warnings
  - including via zoomable histogram!
- Regex filtering
- Data extraction
- Full SQLite query engine embedded!
- Command completion

# Introduction to tmux

- Terminal multiplexer
- A modern alternative to GNU screen
- Client/server model (UNIX sockets)
- Multiple sessions per server
- Multiple windows per session
- Multiple panes per window
- Slightly easier to script automated setup of sessions

# Workflow

- Launch from browser or CLI
- Automatic session setup:
  - Unpacks supportconfig
  - Unpacks individual files into `rootfs/`
  - Sets up new `tmux` session
  - Extracts essential information
  - Determines SUSE product and context (e.g. SOC Crowbar admin node)
  - Launches windows with `lnav` etc. showing relevant info
- Start analysing!



# tmux crash course for GNU screen users

- Escape key is `Control+b` not `Control+a`
- Otherwise somewhat similar default bindings
- `Control+b` ? for other key bindings

# Install and Configure

- Install the supportconfig-utils package from OBS:

- <https://software.opensuse.org/package/supportconfig-utils>

This also installs `tmux-lib` and `unpack`, and sets up MIME types / desktop handlers etc.

- Default terminal session launched using `xdg-terminal`. Can be changed in

- `~/.config/supportconfig-utils/tmux-window` or

- `/etc/sysconfig/supportconfig-utils`

e.g.

```
SUPPORTCONFIG_UTILS_TMUX_TERMINAL=\n"urxvt-256color -g 200x60 -e"
```

- `lnav` from OBS

- <https://build.opensuse.org/package/show/home:nicolasbock:lnav/lnav>

- <https://build.opensuse.org/package/show/server:monitoring/lnav>

# Features

- Initial commands are "pushed" in as simulated keystrokes
  - just press Up to reuse shell history
- `lnav2` wrapper around `lnav`
  - jumps to first error on launch
  - sets up r/R keyboard shortcuts for jumping by minute
- Automatically extracts/displays useful product-specific info
  - e.g. nodes / IPs in cluster
  - tmux window per node-specific logs
- Optionally auto-delete supportconfig files when closing tmux session

# tmux windows

Currently oriented towards SOCC (please help us change this!)

E.g. for SOCC controller nodes:

- 0: spare shell window
- VM: /var/log/messages
- lcc: local chef-client log

# Cloud-specific features

- `lnav-crowbar-admin`
- `lnav-chef-sync-marks`
- `post-process-crowbar-logs`

# **supportconfig-tmux-safe**

When unpack fails, safe wrapper will show the error before closing the session and hence the window.

# Scaling up to lots of logs

Post-processing:

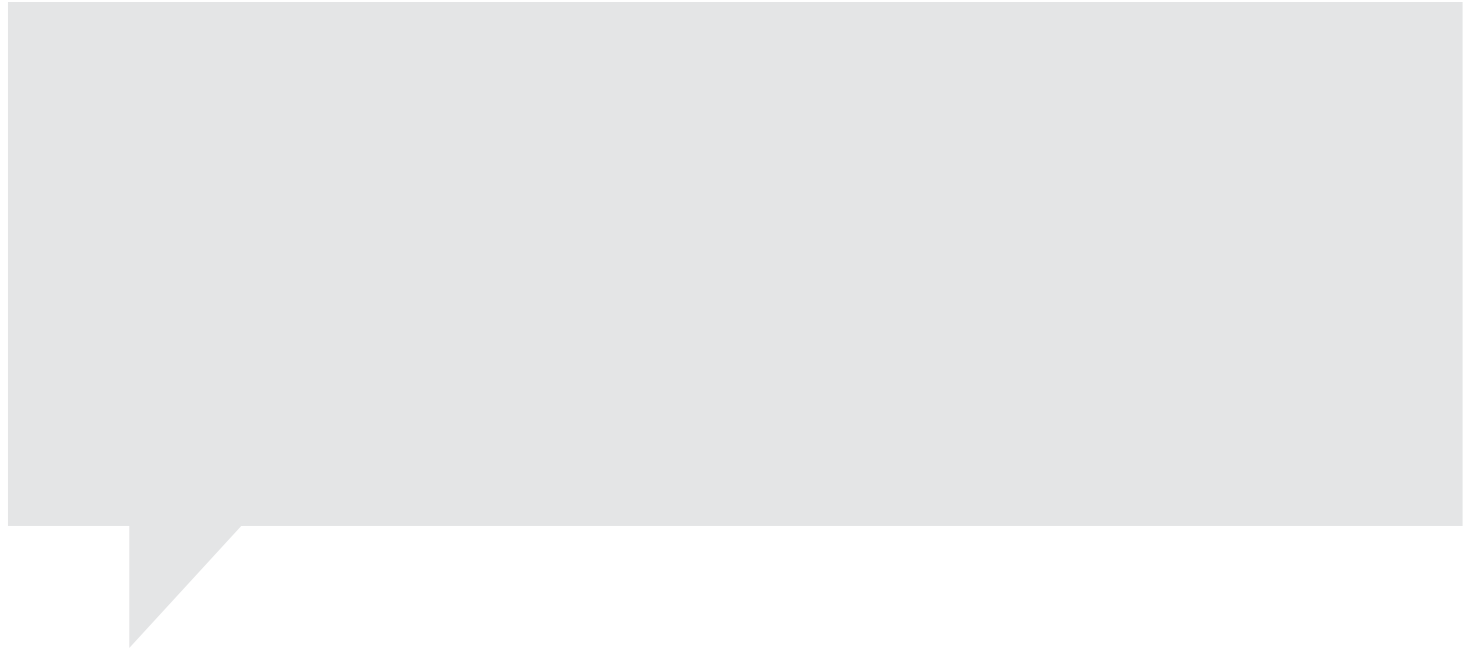
- Mapping of MAC and IP addresses to aliases for readability
  - Within log files
  - Within log file path names
- Extraction of "topics" (keystone, nova, ...)
  - Pipe STDOUT from post-processor | xargs lnav2 to start lnav session for selected topics

Tip: manually maintain an 'annotations' file with timestamps / comments

- Allows human analysis to be presented in lnav views alongside the log files.

# Questions?





Thank you.







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