

REVaMP²

FeDeV

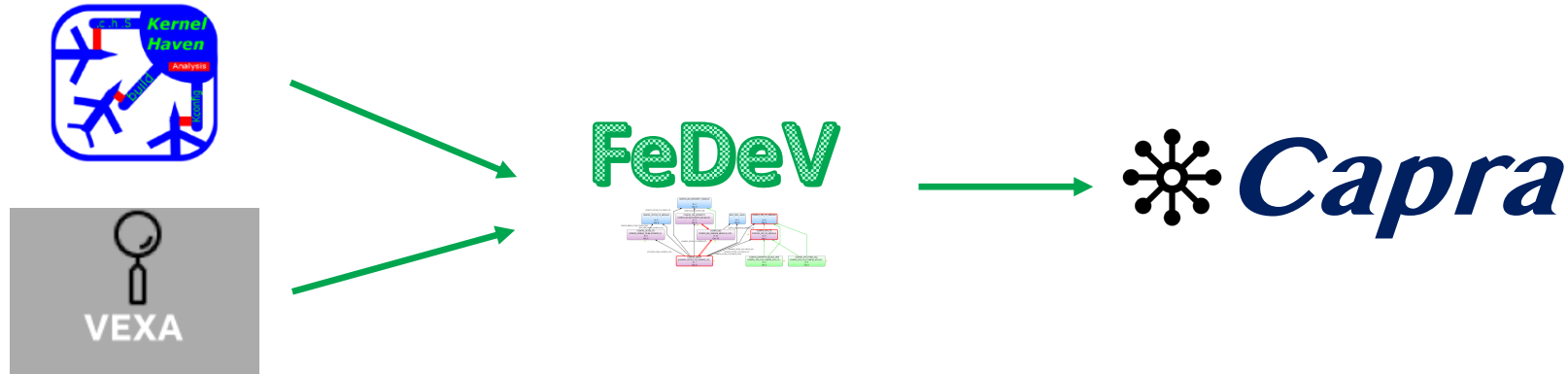
Feature Dependency Visualization

ScopeSET GmbH

Purpose and Main Features

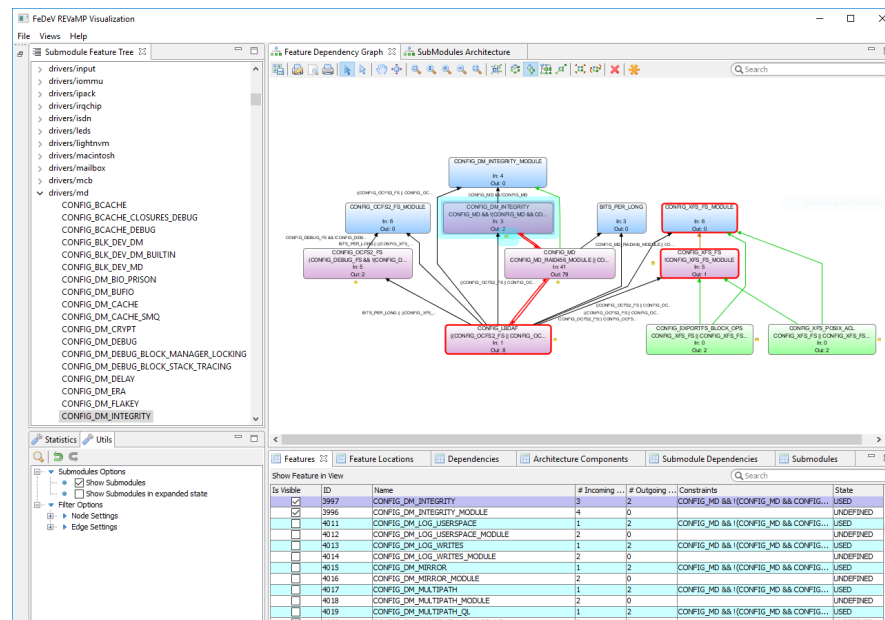
FeDeV

- Visualization and exploration of extraction results
 - Information is provided by external tools like KernelHaven and VEXA



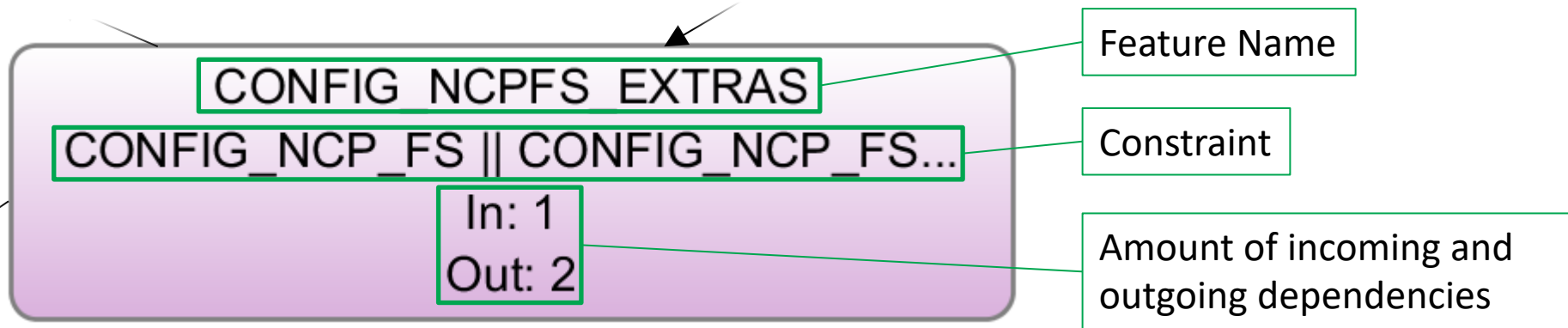
- Additional integrations with tools like Eclipse Capra
 - Set up additional trace links to requirements, issue tracker, etc

- Visualization in various views
 - Tree view (e.g. for file systems, submodules)
 - Table view (e.g. to list features and submodules)
 - Graph view (e.g. for feature dependencies)
- Additional filter and search functionality



Explanation

Feature Visualization



Color coding visualizes dependency state:

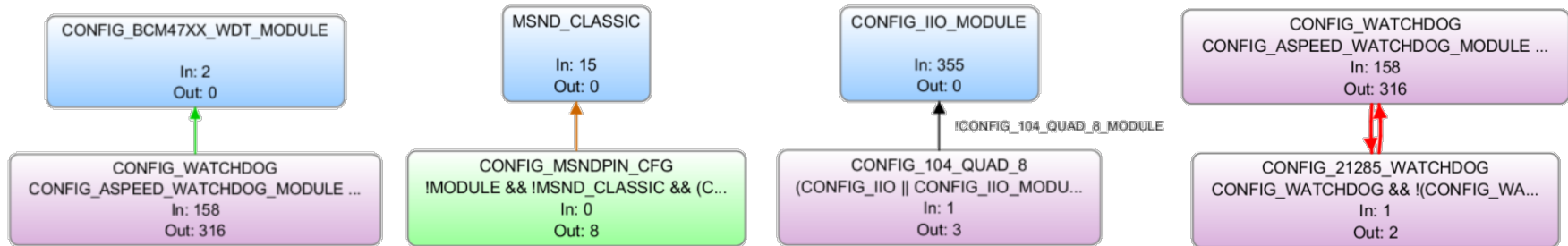


- Root Node (no dependencies)
- Intermediate Node (referenced by others and has dependencies)
- Leaf Node (dependencies but not referenced by others)

Explanation

Dependency Visualization

- Features depending on one another and are related by colored edges
- There are different types distinguished:
 - Green → Single required dependency (for a valid configuration)
 - Orange → Conflicting dependency (both features are not allowed in a configuration)
 - Black → Multiple required dependency (more than one depending feature is required)
 - Red → Cycles between features



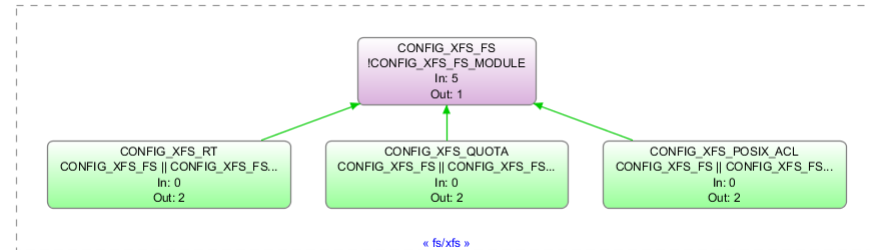
Explanation

Submodule Visualization

- Features are organized in Submodules
- One feature is contained in at most one submodule
- Some features are not contained in a submodule at all



collapsed view



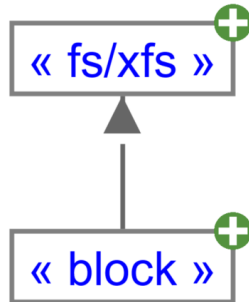
expanded view

Explanation

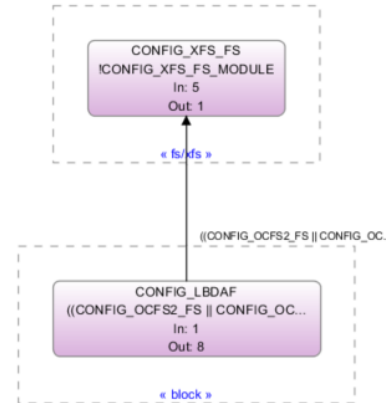
Submodule Dependency

- Submodule dependencies are defined by feature dependencies
- Submodule A depends on Submodule B, if there is a feature A in submodule S_A, which depends on feature B in submodule S_B

Example:



because of

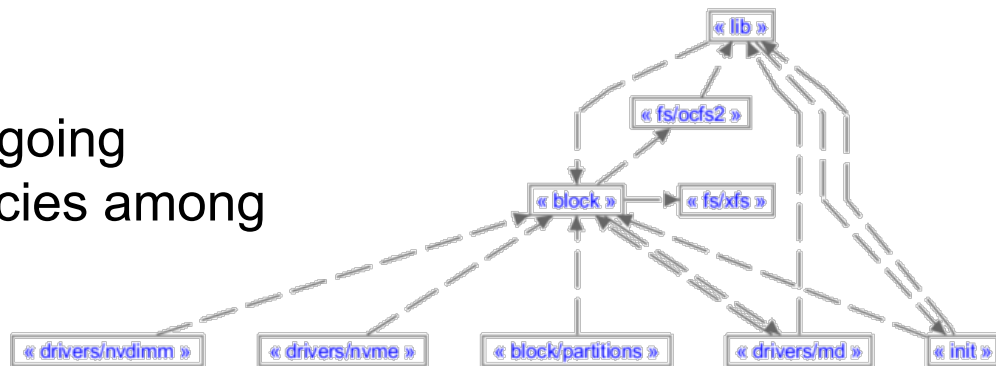


Explanation

Submodule Dependency Context

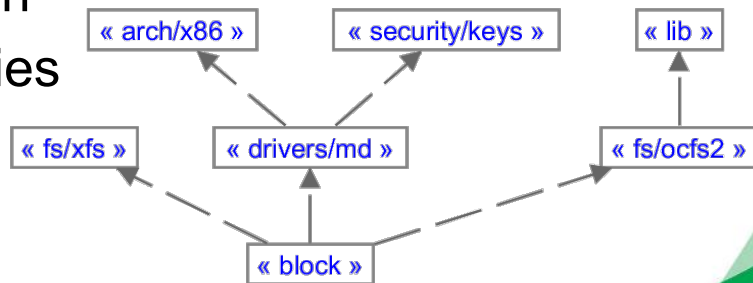
Architecture Context

- Shows all direct incoming/outgoing dependencies and dependencies among themselves



Incoming/Outgoing Dependency Context

- Shows dependencies only on direction
- Skips already discovered dependencies (e.g. drivers/md has also a dependency to lib, but lib is already discovered as dependency of fs/ocfs2)



Partners and Contact Details

FeDeV - Feature Dependency Visualization

Partners involved

- ScopeSET
- Supported by
 - University of Hildesheim , FZI, University of Gothenburg



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Download

- <https://nextcloud.scopeforge.de:444/s/m4RWSPB55pXKdPT>