

# *The Maintenance Phase* - Bug Tracking

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Error: Keyboard not attached.  
Press F1 to continue.

92

9/9

Relay 2145  
Relay 3370

1545

Relay #70 Panel F  
(moth) in relay.

First actual case of bug being found.  
1630 antenae started.  
1700 closed down.

# Bugs

- **Bug** = inexplicable defect
  - engineering jargon, since 1940s
  - can even trace back to T.A. Edison, 1878: "little faults and difficulties" in an invention
- **Software updates** = new release to
  - cure defects ("bugs")
  - respond to Requests for Enhancement ("RFEs")
  - ...typical incremental release includes both
- Update is either **incremental** ("patch") or **full**
  - Patch particularly critical to ascertain proper interplay of old & new components!

IETF RFC 9225: Software Defects Considered Harmful



# Anatomy of a Bug

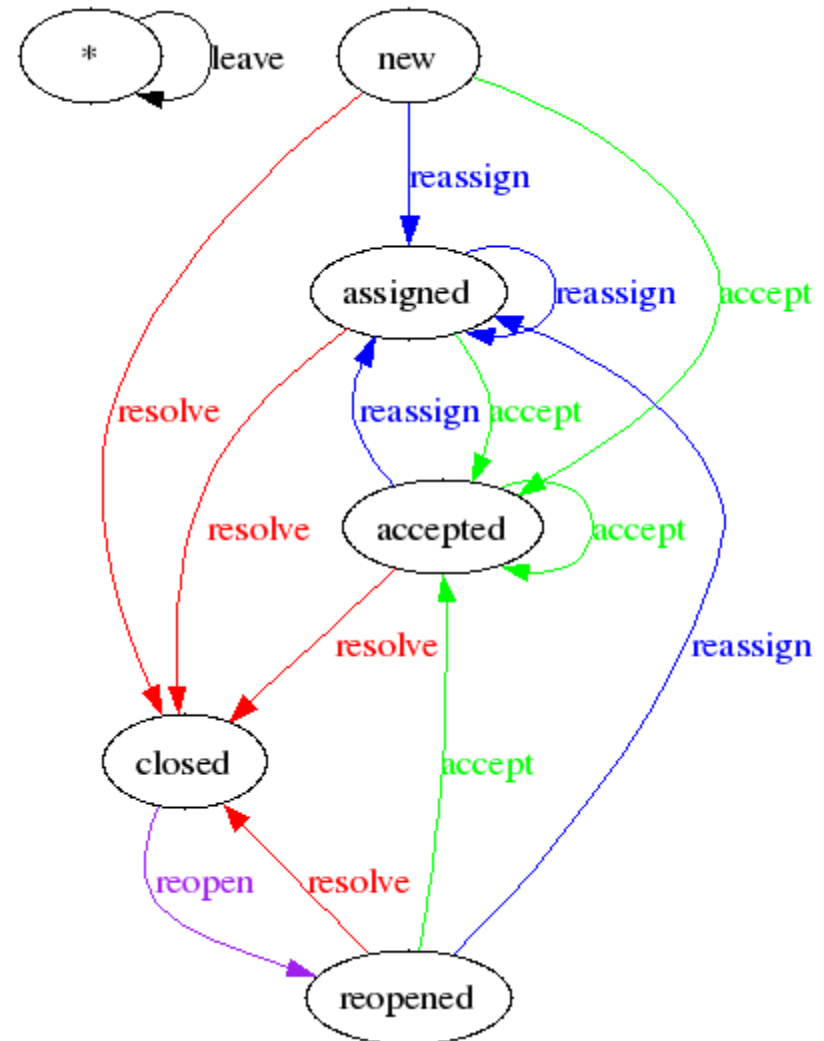
- **Component:** module where the bug occurred
- **Status:** short notes
- **Keywords:** e.g. test cases, help requested
- **Target Milestone:** estimated fix date or release version

# Life Cycle of a Bug: Resolution

- Fixed bugs are marked **RESOLVED** and receive a resolution:
  - **FIXED**: source updated and tested
  - **INVALID**: not a bug in the code
  - **WONTFIX**: “feature”, not a bug
  - **DUPLICATE**: already reported elsewhere; include reference
  - **WORKSFORME**: couldn't reproduce

# Example: Trac

- Trac = integrated tool for software project management (minimalistic)
- Includes ticket management
  - Ticket types: Bug, task, feature, documentation...
  - Customizable
- open-source project
  - [trac.edgewall.org](http://trac.edgewall.org)



# How to Write Bug Reports

- *“The more effectively a bug is reported, the more likely that an engineer will actually fix it”*
- Bug reports should be:
  - **Reproducible**: provide relevant detail
  - **Specific**: isolate the cause if possible
- Example of a good bug report:  
[http://bugzilla.mozilla.org/show\\_bug.cgi?id=2683](http://bugzilla.mozilla.org/show_bug.cgi?id=2683)