Meeting of the Network Stack Cabal
Intensive Network Stack Stack Review

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BSDCan 2007
Introduction

- Intensive network stack reading and review
  - Many complex parts, many complex interactions
- Network stack developers
  - Many specialists, few generalists
- Goals
  - Improve general education about stack
  - Motivate general architectural discussions
- Format based on McKusick code-reading class
Architectural Themes

- Locking strategies and granularity
- Opportunities for increased concurrency
- Cache friendliness
- Scheduling interactions
- Work/dispatch model

- Per-packet overhead
- Copy reduction opportunities
- Context switch reduction
- Device driver API
- Hardware integration (TSO, LRO, TOE, ...
# The Immodest Proposal

<table>
<thead>
<tr>
<th>Start</th>
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The Plan (cont)

- For each topic area:
  - Introduce key concepts and data structures
  - A guided code-reading of key paths
- Remember to take notes
  - Any bugs or problem areas
  - Architectural concerns
- Will try to keep up pace...
  - ... but will see how day evolves