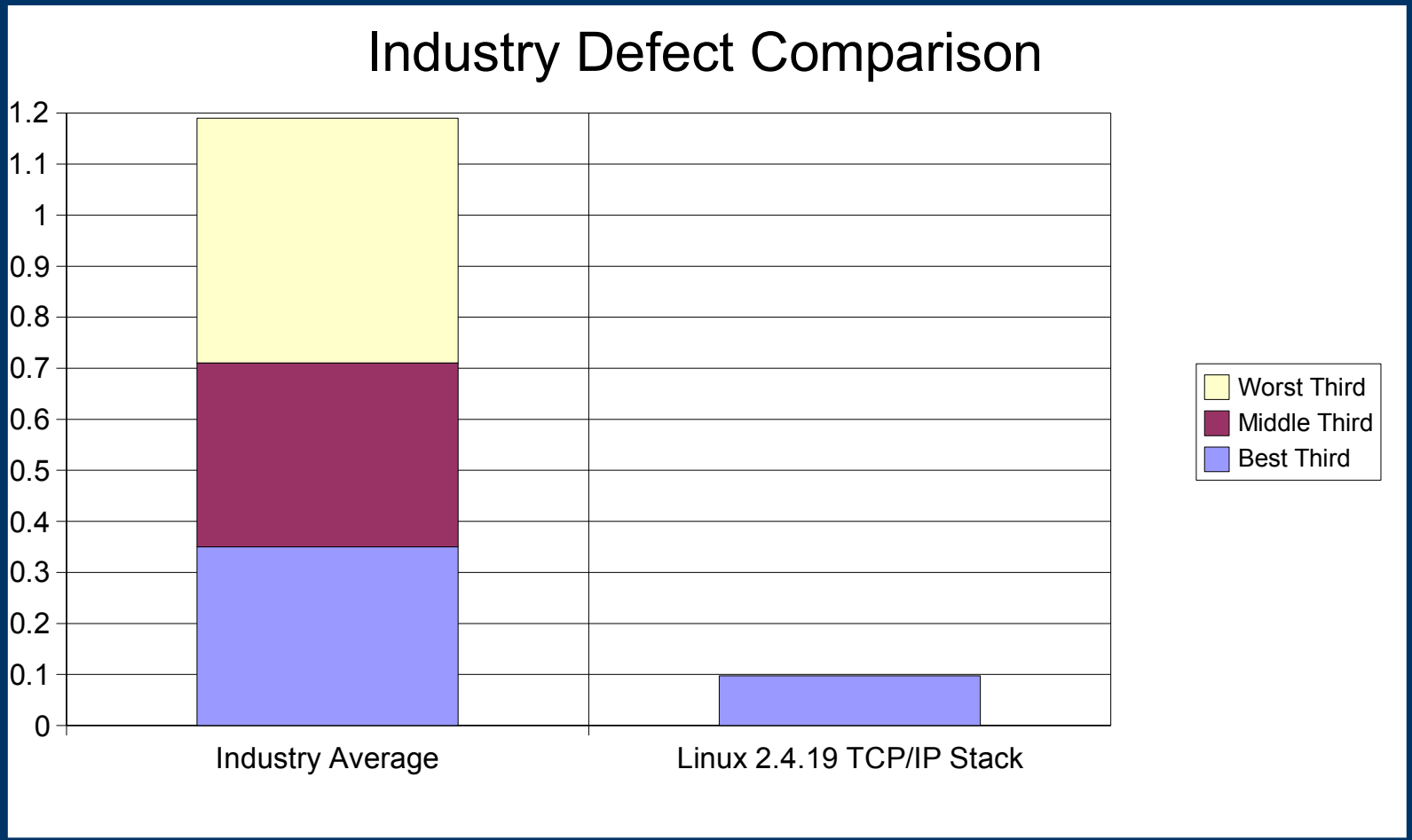
Open Source vs. Proprietary Software

Quality, Cost Effectiveness and Issues

Open Source vs. Proprietary Software

- Software Quality
  - What, if any, are the software quality differences between open source software and proprietary, or closed source software?
    - Studies such as the Reasoning studies show defect density rates far below commercial software.
      - As much as six times more defects in commercial software offerings.
    - Studies such as the University of Wisconsin ”Fuzz Revisited” show quality in terms of hangs and crashes.
      - Between three and seven times more hangs and crashes in commercial software offerings.
    - Studies done by IBM, through the OSDL, show Linux reliability in high stress workloads to be very high.

Open Source vs. Proprietary Software



Open Source vs. Proprietary Software

- Software Quality References
  - http://www.cs.wisc.edu/~bart/fuzz/fuzz.html
  - http://www.reasoning.com/pdf/Open_Source_White_Paper_v1.1.pdf
  - http://www.reasoning.com/pdf/MySQL_White_Paper.pdf
  - http://www.reasoning.com/pdf/Linux_Defect_Report.pdf
  - http://www-106.ibm.com/developerworks/linux/library/l-rel/

Open Source vs. Proprietary Software

- My own quality experiences
  - Deployed Apache/Tomcat/JBoss in production environments for over four years.
    - In that four year time, we have patched for a bug that affected an application four times.
    - Only two of the four times did the issue actually arise in production, and the first one was in relation to an ISV supplied application using an older version of JBoss. The second time was also an issue that arose in an existing application, and had been fixed in upstream versions of the application server for about a year (JBoss support backported the fix for us in two hours)
  - Deployed Linux in mission critical environments with our production data warehouse migrating to Linux.
    - Have not experienced a single unscheduled outage due to the operating system (only hardware failures and human error have caused unscheduled downtime).

Open Source vs. Proprietary Software

- Cost Effectiveness
  - Proprietary software vendors will tell you that software acquistion (license) costs only represent 2% to 7% of the total cost of ownership for software!
  - What is the other 93% to 98%?
    - The other 93% to 98% is made up of items such as:
      - Maintenance fees over the life of the software
      - Personell costs associated with support of the software
      - Legal costs associated with contracts, maintenance and license management
      - License management costs, especially for software licensed on a per x basis, where x is users, CPU's, etc.

Open Source vs. Proprietary Software

- $780,000 – license fee
- $585,000 – annual maintenance over 3 years
- $686,400 internal support costs over 3 years
- $1,765 miscellaneous
- Total 3-year cost of $2,053,165

- $0 – license fee
- $150,000 – annual support over 3 years
- $70,000 internal support costs over 3 years
- $1,765 miscellaneous
- Total 3-year cost of $221,765

Open Source vs. Proprietary Software

- Issues
  - License terms, and what does it mean for your software?
    - GPL, LGPL, BSD, ASF, etc.
  - Indemnification?
    - What is it, and why is it important if at all?
  - How do software patents affect open source software?
    - Is this a real problem?

Open Source vs. Proprietary Software

Q & A