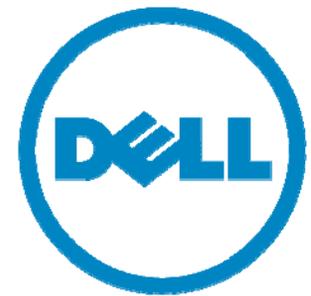

Blade Servers & the Relative Cost Impact of *Materials*

Bhavesh Patel

John D'Ambrosia



Supporters

- Sudeep Bhoja, Broadcom
- Brad Booth, Dell
- Matt Brown, APM
- Dave Chalupsky, Intel
- Dan Dove, APM
- Howard Frazier, Broadcom
- Ilango Ganga, Intel
- Adam Healey, LSI
- Beth Kochuparambil, Cisco
- Kent Lusted, Intel
- Venkatesh Nagapudi, APM
- Vasudevan Parthasarathy, Broadcom
- Adee Ran, Intel
- Shawn Searles, AMD
- David Warren, HP

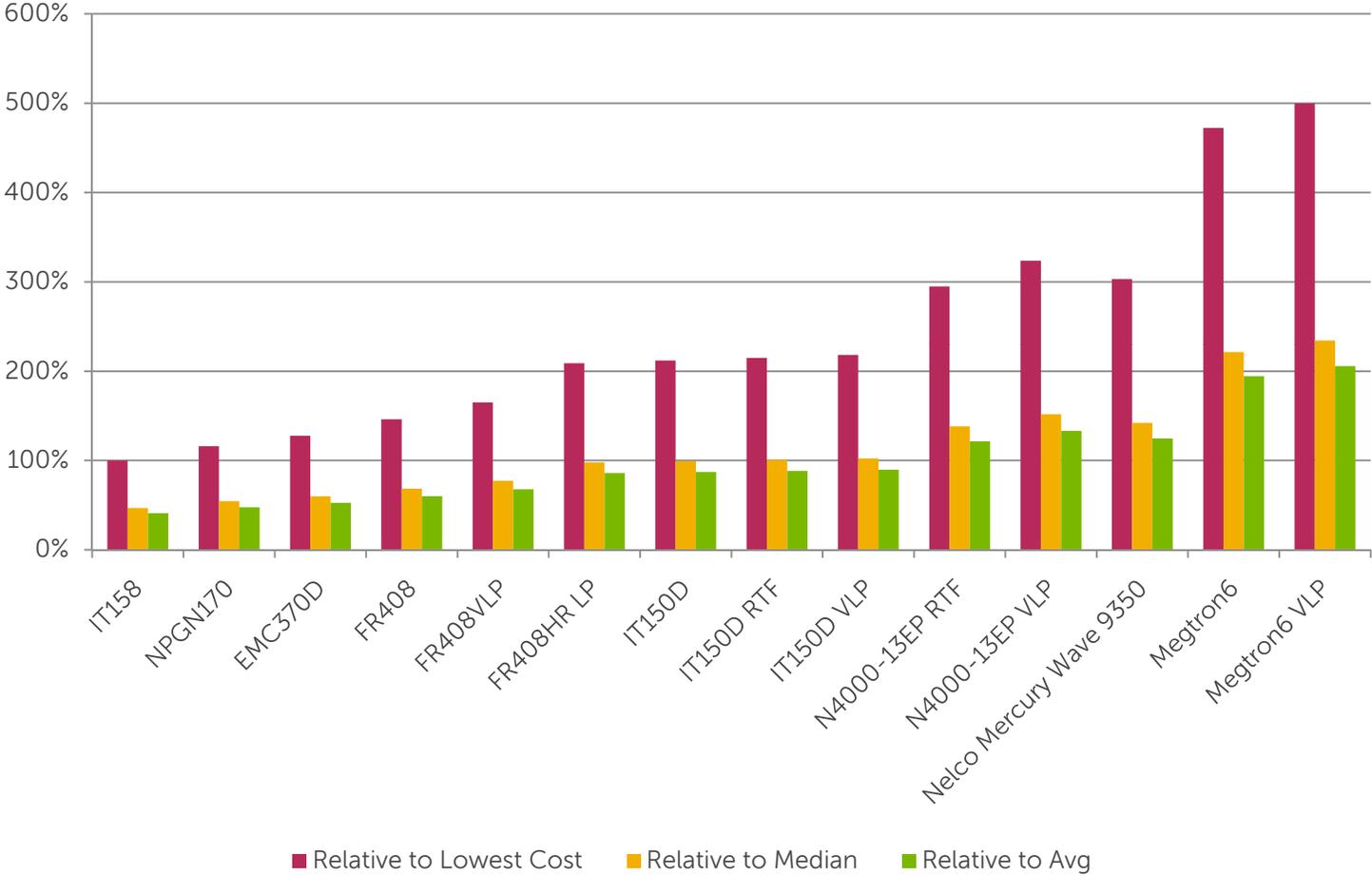


Introduction

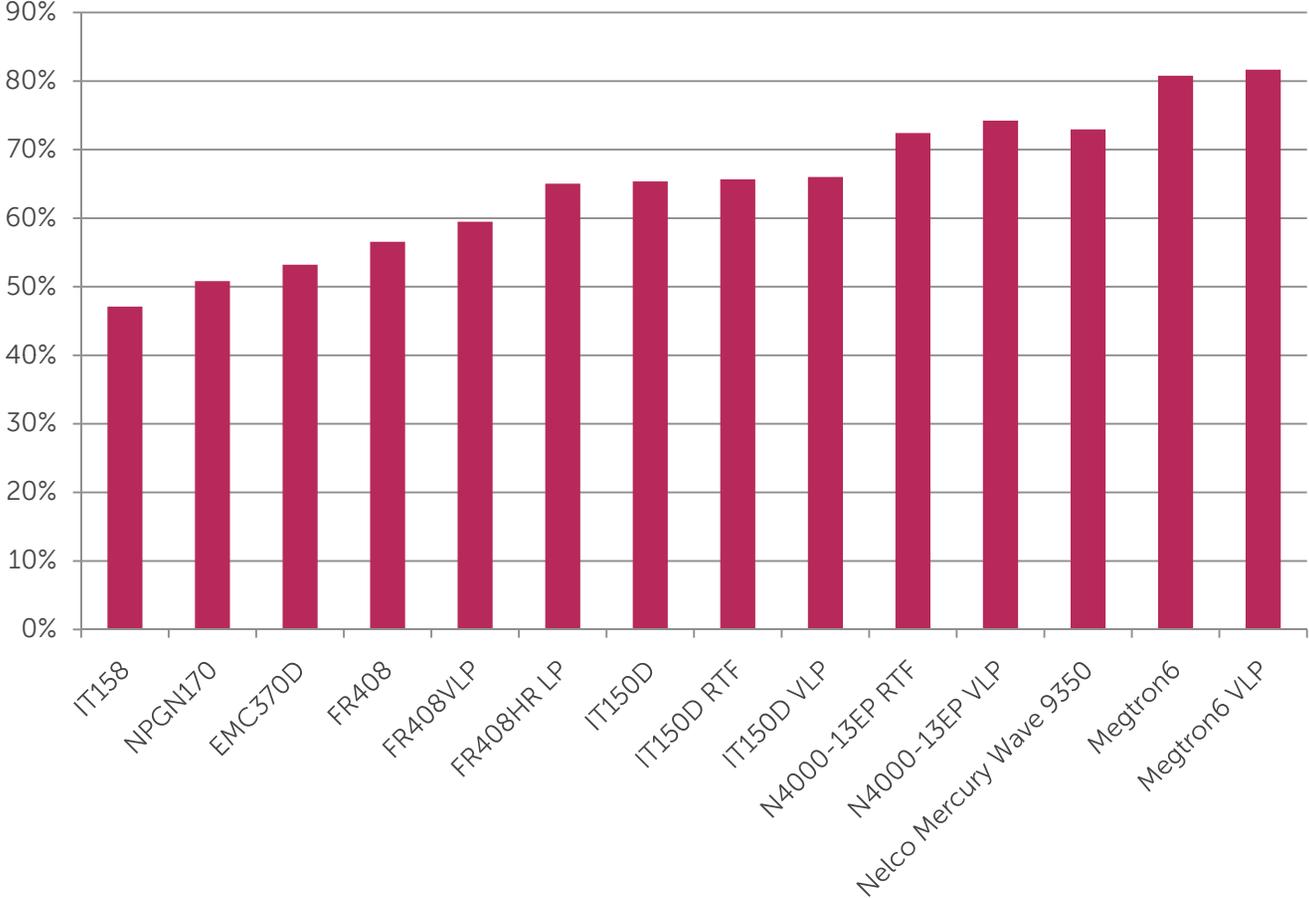
- The IEEE P802.3bj project was partially justified by providing an upgrade path for the next deployment of backplanes to be able to support 100G blade servers in 2017.
- What is the relative cost impact of the upgrade path?
 - i.e. the backplane
- What is the relative cost impact to blades?
- Note - Costing analysis with major supplier done in 2010 and reviewed in 2011 (minimal change).



Relative Cost Impact of Materials on Midplane



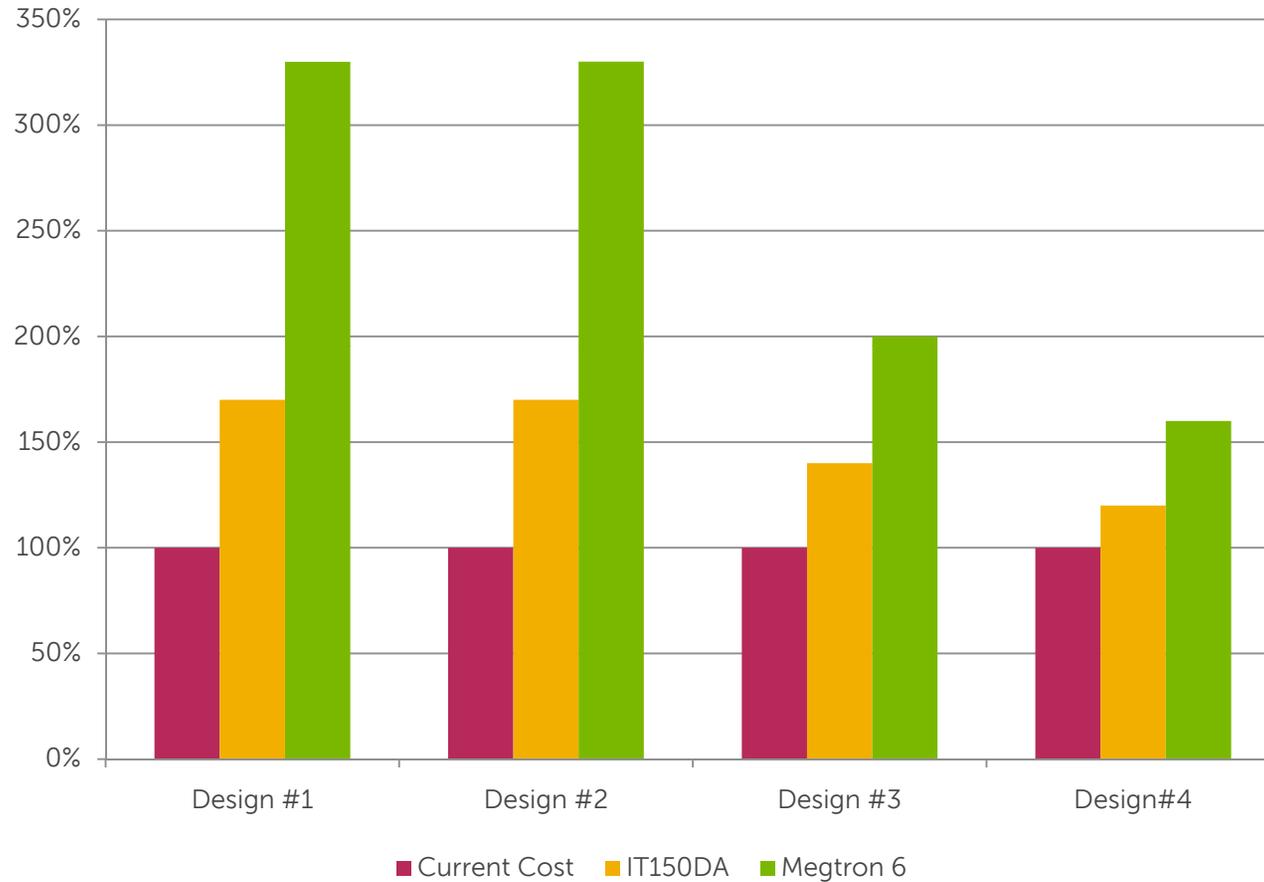
Relative Percentage of Bare PWB to Total Cost



Note: Total Cost = Cost of fully assembled midplane



Relative Cost Impact of Materials on Different Line Cards



Summary

- Significant cost impact of materials
 - Reducing loss budget shifts designs up the cost curve
 - The true cost impact is design dependent
 - Bare PWB can become a significant portion of total cost

