x86 Paging and Segmentation

x86 architecture supports both paging and segmentation

- Segment register base + pointer val = linear address
- Page translation happens on linear addresses
- Two levels of protection and translation check
 - Segmentation model has four privilege levels (CPL 0–3)
 - Paging only two, so 0–2 = kernel, 3 = user

Acknowledgments

Some of the course materials and projects are from

- · Ryan Huang teaching CS 318 at John Hopkins University
- David Mazière teaching CS 140 at Stanford