

# Why IBM System z?



Here are 23 good reasons why you should be teaching your students about IBM System z and mainframe technology.

1. 25 of the top 25 world-wide banks<sup>1</sup> run on System z.
2. 23 of the top 25 US retailers<sup>2</sup> run on System z.
3. 9 of the top 10 global life or health insurance providers<sup>3</sup> run on System z.
4. 64% of US Fortune 500 companies are System z clients.
5. 45% of US Fortune 1000 companies are System z clients.
6. 71% of global Fortune 500 companies are System z clients.
7. 80% of world's corporate data resides or originates on mainframes.
8. 2/3 of business transactions for US retail banks run directly on mainframes.
9. A mainframe averages decades between server outages<sup>4</sup>.
10. The mainframe is one of the most secure servers on the market; a 16-way System z990 can securely process 12,000 transactions per second.
11. Mainframes act as a centralized repository of encryption keys to facilitate security management. Each Crypto Express 2 can handle up to 6,000 SSL handshakes per second and, with 8 of these in a System z9, this equates to up to 48,000 SSL handshakes per second<sup>5</sup>.
12. A single System z server can run thousands of virtual Linux servers.
13. System z is designed to deliver application availability up to 99.999%, which equates to approximately 5 minutes of downtime in a year on an average.
14. System z9 allows scalability in processing power to up to 54 processors in a single server.
15. The mainframe was the first IBM server platform to announce support for Linux (May 2000).
16. There are more than 1300 independent software vendors (ISVs) running on System z today.
17. More than 275 ISVs sell over 800 Linux applications on System z.
18. The cost per user (hardware, software, and maintenance costs) over a 5 year period for the mainframe is \$4,500 per user; PCs are nearly twice as expensive at \$8,000 per user. If the number

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- of users is doubled, the costs jump 125% on a non-mainframe, and only 90% on a mainframe<sup>6</sup>.
19. 66% of mainframe capacity shipped today comprises of "new workloads," including Linux, IBM WebSphere, SAP and other leading enterprise business applications.
  20. Introduced only in late 2000, Linux on the mainframe has already grown to approximately 20% of mainframe capacity being shipped.
  21. The IBM mainframe experienced 28% growth in capacity YOY in the 4<sup>th</sup> quarter of 2005, the largest revenue gain for the mainframe since it came roaring back in the 4<sup>th</sup> quarter of 1998, with the largest shipment of capacity in history.
  22. IBM began shipping the System z9 on September 16, 2005, which represents a three-year, \$1.2-billion development effort encompassing 5,000 IBM engineers, software developers, and security experts from around the world.
  23. Since 2000, the mainframe has captured 17 points of market share in the high-end server category according to IDC, a global provider of market intelligence.

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### Footnotes:

1. Top companies as identified by The Banker.com:  
[http://www.thebanker.com/news/fullstory.php/aid/1699/Tio\\_1000\\_World\\_Banks.html](http://www.thebanker.com/news/fullstory.php/aid/1699/Tio_1000_World_Banks.html).
2. Top companies as identified by the National Retail Federation July 2005:  
<http://www.stores.org/pdf/TOP100printwithad.pdf>.
3. Top companies as identified by Insurance - 2005 Ward's 50 Benchmark Group:  
[www.memic.com/news/Wards50.asp](http://www.memic.com/news/Wards50.asp).
4. As per IBM HW MTBF number.
5. Theoretically correct; however this has never been measured or validated. Also, to approach this number requires a high capacity z9.
6. "The Dinosaur Myth", Arcati Research 2005.