What does *problem solving* mean in the real world

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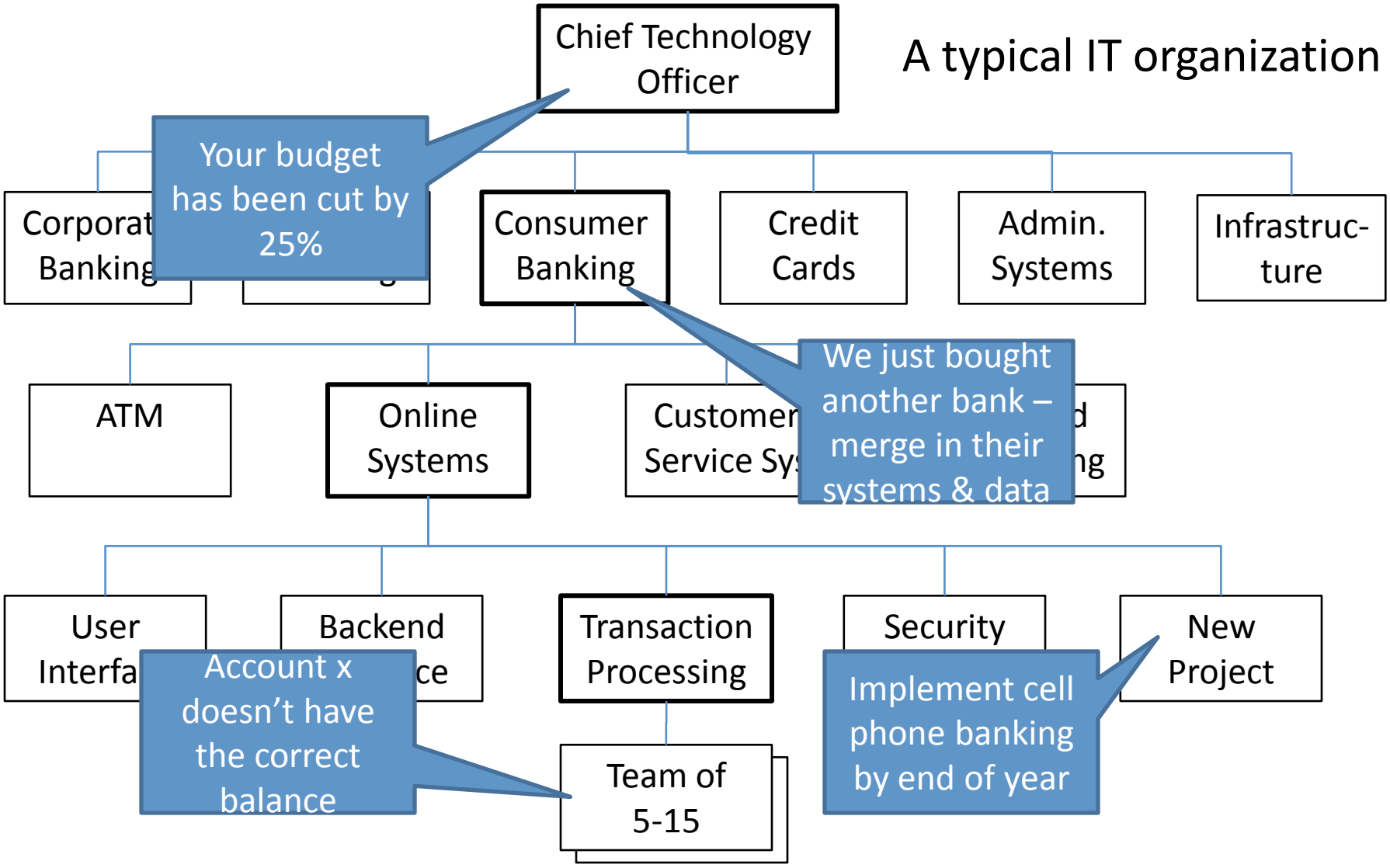
From my experience …

- 1977: BS, Mechanical Engineering., Indian Institute of Technology, Kanpur
- 1979: MBA, University of Maryland, College Park
- 1980-82: Systems Analyst, US Chamber of Commerce
- 1983-87: Manager/Partner, Meta Systems
- 1988-96: Director, Computer Sciences Corp.
- 1997-05: Partner, Accenture
- 2006-??: Ph.D. Computer Science (computational biology), Virginia Tech.

… problem solving ability is the single most important key to success

Your progress up the corporate ladder depends on the problems you've solved



And it's equally important for academic recognition and growth

- Anandakrishnan, R. and Onufriev, A. (2008). Analysis of basic clustering algorithms for numerical estimation of statistical averages in biomolecules. *Journal of Computational Biology,* 15(2):165-184.
- Anandakrishnan, R. and Onufriev, A. (2009). An N log N approximation based on the natural partitioning of biomolecules for speeding up the computation of long range interactions. *Journal of Computational Chemistry,* Submitted.

Find a better (simpler, more accurate and faster) way to do biomolecular modeling

Find a better (faster) way to calculate the Boltzmann average

So what makes a good problem solver?

- Take full ownership – see the big picture
- Learn everything you can - about the problem and known solutions
- Break it down – into smaller easier problems
- Be persistent
- Follow through – implement your solution and prove that it works

And what do candy bars and pigeonholes have to do with this?

I hope the problem solving skills you learn in this class help you succeed in whatever career you choose.

Questions?