



Beyond the Summit: NSCI/ECI Connections

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Software Tools and Techniques for HPC, Clouds and Servers

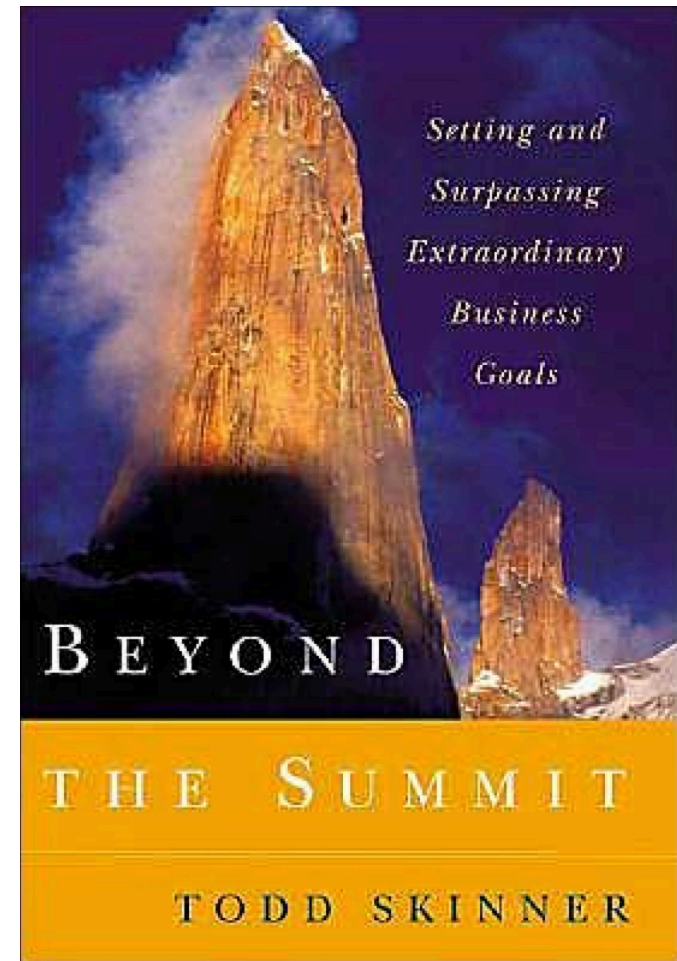
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Bold Challenges

- Rob Leland Connections
- *Beyond the Summit*
by Todd Skinner
 - Skinner led a team to be the first to apply rock climbing techniques to climb Trango Tower in the Himalayas
 - The climbing metaphor has interesting parallels to management and teams
- This helps explain Rob's Interest in taking on *Bold Challenges*



Being the 1st Ascensionist

- *Choose the path of greatest gain*
 - Goals with the most rewards are often the most difficult
 - We pick challenging mountains not because they are hard, but *because we have the most to gain there*
- *My mindset for dreaming is to work continuously on the frontier, to be the first ascensionist*
 - If my piece of rock has been climbed anywhere, I have no desire to climb it myself because it has been shown to be achievable.
- *When you journey off the map, *how* you think is more important than *what* you know*

Teams, Goals and Falling/Failing

- *I look for team members who are willing to begin without all the answers*
- *When choosing your mountain and defining its summit, remember to make your decisions based not on what the team **can** do, but on what the team **could** do*
- *Falling is not failing*
 - The most important attitude when leaving the ground in new terrain is to accept that there is a good chance you will fall off
 - If you don't fall you might not have gone far enough
 - Put in place a system of protection to keep your falls from being fatal, and each misstep can accelerate your ascent because you learn more quickly the correct way to climb

Reconnaissance from the Leading Edge

- *Every time you move into new terrain, you must go as far as you can into the unknown in order to learn:*
 - What **will work**, or
 - What **might work**, or at least to have an indication of
 - What **won't work**
- *A fall provides you with data from the frontier*
 - It is reconnaissance, and there is no such thing as a failed recon because you always come back with more than you began
 - The next person into the frontier goes better armed, and in a true team, the setback of one leads to the advancement of all

Beyond the Summit

- The DOE portion of NSCI is ECI
 - The real impact of ECI is **Time** and **Funding** to Influence the Design of Future COTS Computing Technology
 - Series of Multi-agency Workshops on SoC for HPC →
 - Not just to *influence* HW architectures,
 - Opportunity to *design* HW architectures
 - ECI has a goal of a 2023 Exascale system – *The Summit*
- ECI also supports NSCI goals – *Beyond the Summit*
 - Application of ECI Technology to HPDA
 - Economic Competitiveness
 - Application of HPC to other agency missions