203e Cyber Infrastructure from a National Perspective: Any Room Left in in the Middle?
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A famous quote from Richard Feynman, "there's plenty of room at the bottom" has been the rallying cry for research and investments in nanotechnology. Given the central role of "middleware" as the backbone of the new and emerging cyberinfrastructure, "some more room in the middle" could very well become the dominant theme for the research community. In this plenary lecture, we present the key role of middleware in the context of enablement of distributed, data-intensive science and engineering research. We consider lessons learned from other complex infrastructure projects but also point out some unique and challenging aspects of middleware. Examples will be drawn from some of the larger pending investments in middleware to point out the need for additional (academic?) research on the interplay between socio-economic forces and technology evolution.