DARPATech 2004
IPTO Closing Remarks
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As Ron Brachman said, to start our session, IPTO has embraced an ambitious new focus in cognitive system technology, especially learning. As we've emphasized here today, technology integration is crucial to realizing and advancing our office vision. This is reflected in Dave Gunning's program, PAL, which is a significant system-level step towards "taming the monster". But we've only just begun.

We need the help of you, the broader computer science community; we need to make sure that "computing meets cognition".

There are two ways to think about this. First, we need to ensure "better computing thorough cognition". You've seen our first steps in this direction in the talks just given by Lee Badger and Chris Ramming, where learning and reasoning are being introduced into the infrastructure of security and networking systems.

Second, and perhaps even more important, is the need for "better cognition through computing". Ron described a new program in this area, ACIP, which could be a major enabler in the development of integrated cognitive systems.

Novel hardware and software architectures could alleviate the computational and memory access bottlenecks that plague our quests to broaden machine learning into knowledge acquisition; develop new systems that can reason in real time; and scale our applications from narrow domains to real-world environments.

We've come a long way since DARPATech 2002. We have launched important new programs; we have a full complement of excellent Program Managers; and we've stirred up excitement and energy in the community.

But there's much more to do. We are counting on your help as we forge a path into this uncharted territory. Some of IPTO's greatest successes have been totally unanticipated. So we recognize that we can't always foresee the importance of our technical investments. We are casting our net wide and examining virtually all aspects of computer science to identify those emerging technologies that are particularly promising.

There are two constant challenges for every DARPA office. The first is to identify those technical areas that are sufficiently novel and ripe for DARPA investment. This means program areas that are likely to produce dramatic, transformational advances in both the fundamental science and military applications. So, we want your ideas, particularly about the things you think we've missed; we encourage your out-of-the-box thinking.

The second challenge is our need for Program Managers who can create new program ideas and bring their vision to reality. With your help, IPTO is going to change the world once again—even Bill Gates has jumped on our bandwagon.

Just last week, he was quoted as saying, "If you invent a breakthrough in artificial intelligence, so machines can learn…that is worth 10 Microsofts".

Come bring us your new ideas and help us create the next information technology revolution.

Thank you.