Notes on the "Worm" programs -- some early experience with a distributed computation

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Abstract: The "Worm" programs were an experiment in the development of distributed computations -- programs that would span machine boundaries, and also replicate themselves in idle machines. A "worm" is composed of multiple "segments" each running on a different machine. The underlying worm maintenance mechanisms were responsible for maintaining the worm -- finding free machines when needed, and replicating the program for each additional segment. The worm control procedures require some careful design, but this mechanism made each worm a very dynamic and robust program.

These techniques were then used to support several real applications, ranging from a simple multi-machine test program to a more sophisticated real-time animation system harnessing multiple machines.

The worm programs have helped to demonstrate that the tools are at hand for experimenting with distributed computations.

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