Virtual Distributed Industry: Concepts and Initial Research

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Abstract

Virtual reality (VR) human-computer interface technology is providing us with a new look at how we could potentially design, engineer, manufacture, market, and maintain products of the future. VR is a technology that immerses the human senses into a computer generated 4D environment (space and time) of data and/or simulations, with mechanisms that allow interaction with and navigation through the objects in the environment. Virtual Distributed Industry (VDI) is a reformulation of our concept of "industry" motivated by the promise of virtual reality technology, distributed high performance computing, and high speed information infrastructures. Workers are empowered in these virtual environments to, among other things, communicate "in person", simulate and model, design for manufacturability, and assemble virtual products in a natural, efficient, and high quality manner. Much research and development must be done to make this a reality. This talk will describe the current state of this technology and where it is going in the future.