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**Networks on the Edge of Forever:**

**Meteor Burst Communication Networks on Mars**

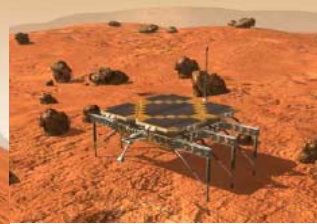
The envisioned future may include continuous operating outposts and networks on other worlds supporting human and robotic exploration. Given this possibility, a feasibility analysis is proposed for a communications



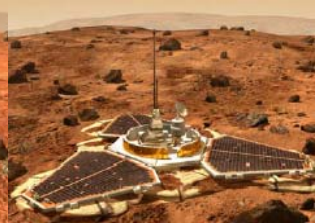
A conceptual illustration of the Meteor Burst Telecommunication Lander Platform on Mars.



A conceptual rendering of the Meteor Burst Telecommunication Human Platform on Mars.



A conceptual rendering of the Meteor Burst Telecommunication Insect Robot Platform on Mars.



A conceptual rendering of the Meteor Burst Lander Platform on Mars.

architecture based upon reflection of ion trails from meteors in planetary atmospheres. Such Meteor Burst (MB) communication systems consist of semi-continuous, low bandwidth networks possessing both long distance capability (hundred of kilometers) and lower susceptibility to atmospheric perturbations. Meteor Communications Corporation (MCC) and its personnel (developers and patent holders of commercial terrestrial MB systems) are associated as technical partners for this examination. A proposed architecture on the Martian surface is presented. In order to facilitate global communication, various high-power nodes are scattered throughout the planet. These act as nerve centers that can communicate either directly with Earth or relay information to orbiting satellites. Remote terminals can be placed on various systems: autonomous robots, weather stations, human transport craft, and crewed bases. The work plan proceeds with analyses of state-of-the-art technical capabilities, development of archetype systems on Mars, examination of the use in space of such architectures in the rest of solar system besides Mars, and technology road-mapping activities.