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I. INTRODUCTION

This paper describes a novel self-organizing hierarchical ad-hoc wireless network ("SOHAN") designed to provide significant improvements in system capacity and performance relative to conventional "flat" ad-hoc networking approaches. The proposed hierarchical ad-hoc network is motivated by the fact that flat ad-hoc architectures do not scale well as the number of radio nodes becomes large [1]. In addition, most realistic usage scenarios involve predominant mobile device traffic flows to and from the wired Internet, thus requiring effective integration of wired "access points" with the ad-hoc wireless network nodes.

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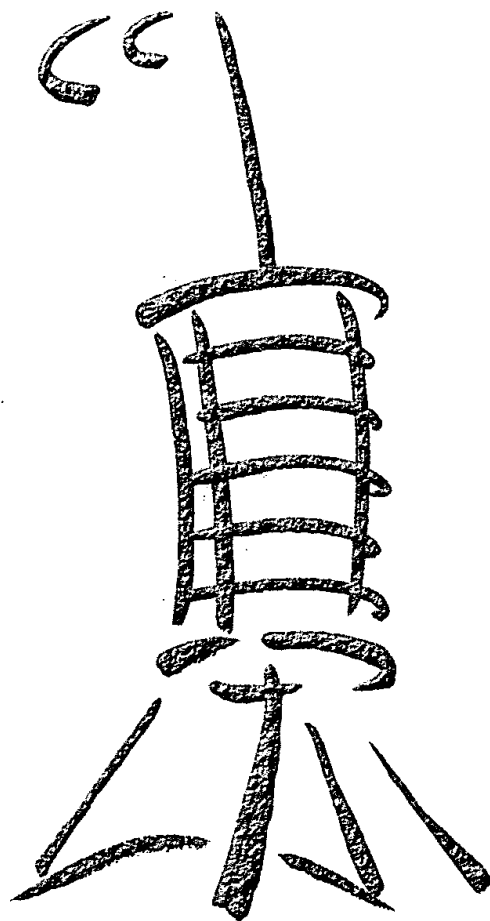
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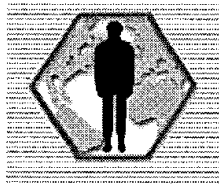


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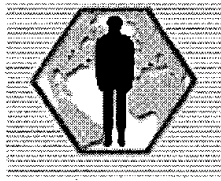


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