



Laboratory and Ground Development Plan

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Plan Goals

- To facilitate the development of an in-house laboratory for the testing of various wireless technologies
- A plan for the development of an initial ground prototype
- Identification of current and desired facility resources, hardware and software

Description

- Defines the Surface and Terminal sub-project's methodology for meeting the objective of establishing a laboratory in which wireless surface communications network concepts can be validated.

Development Strategy

- Phase I – Development and testing of wireless components in an indoor setting
- Phase II – Ground prototype testing in an outdoor setting (NASA Campus)
- Phase III – Integration of phases I and II for airport prototype testing

Task Description

- Lab operations concept
- Identification of existing and required physical, hardware and software resources
- Identification of required test equipment
- Potential applications

Technology

- New technology to be used
 - Acquisition of 802.x Test Equipment
 - Acquisition of 802.11a and 802.16 Gear
- Standards being followed
 - Participating in IEEE 802 LAN/MAN Plenary Sessions

Resources

- Hardware Readily Available
 - Sun/Linux workstations
 - IP routers
 - Signal Generators/Spectrum Analyzers
 - Terrestrial Hybrid Environment for Verification of Aeronautical Networks (THEVAN)
- Software Readily Available
 - Ethereal
 - Iperf
 - TCPDump

Resources (cont.)



Current Status

- Plan completed
- Representative applications selected for testing of surface network
- Generated a comprehensive Synopsis of various wireless technologies
- Applying plan to the development of an initial wireless demonstration