

ABSTRACT

VSAT-IP is a solution to prepare network capacity and capability of broadband access via satellite in order to increase the value added for the optimal satellite business and provide the maximum contribution to increase market share and revenue share PT. Telkom in the broadband business as new revenue driver in the future.

The development of various alternative broadband access technology that provides better performance, the development of network terrestrial, and the high competition among VSAT operator, make the market share of broadband access network over satellite is small.

So it needs to be objective and comprehensive analysis of both technical and economic aspects in implementing a VSAT-IP as broadband access network. Analysis of technical aspects do with the optimization of technology parameters that are used to support services that will be given. Technical aspects of the analysis results used as reference in the analysis of economic feasibility.

Results of research showed that the optimal modulation scheme for downstream is 8-PSK 5/6 and the upstream is QPSK 7/8. Optimal earth station configuration for service of less than 1024 kbps is using antenna with diameter 1.8 meters and 2 Watt

power amplifier, and for 1024 kbps service using the 1.8 meter antenna with a 5 Watt power amplifier. Economically is feasible to implement this with the lowest NPV of Rp. 211.643 billion, the lowest IRR of 52.71% and the Payback period 4 years.

Keywords-VSAT-IP, Satellite, Broadband