LAMPIRAN A
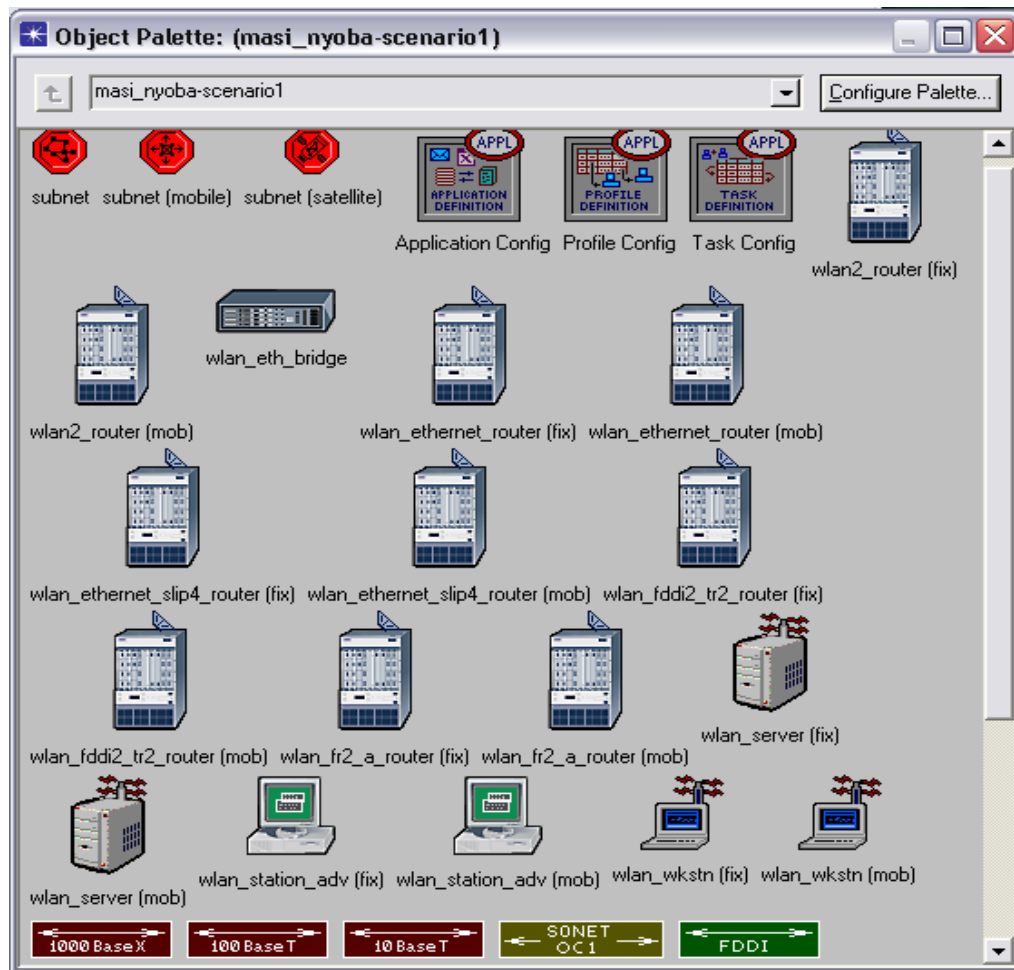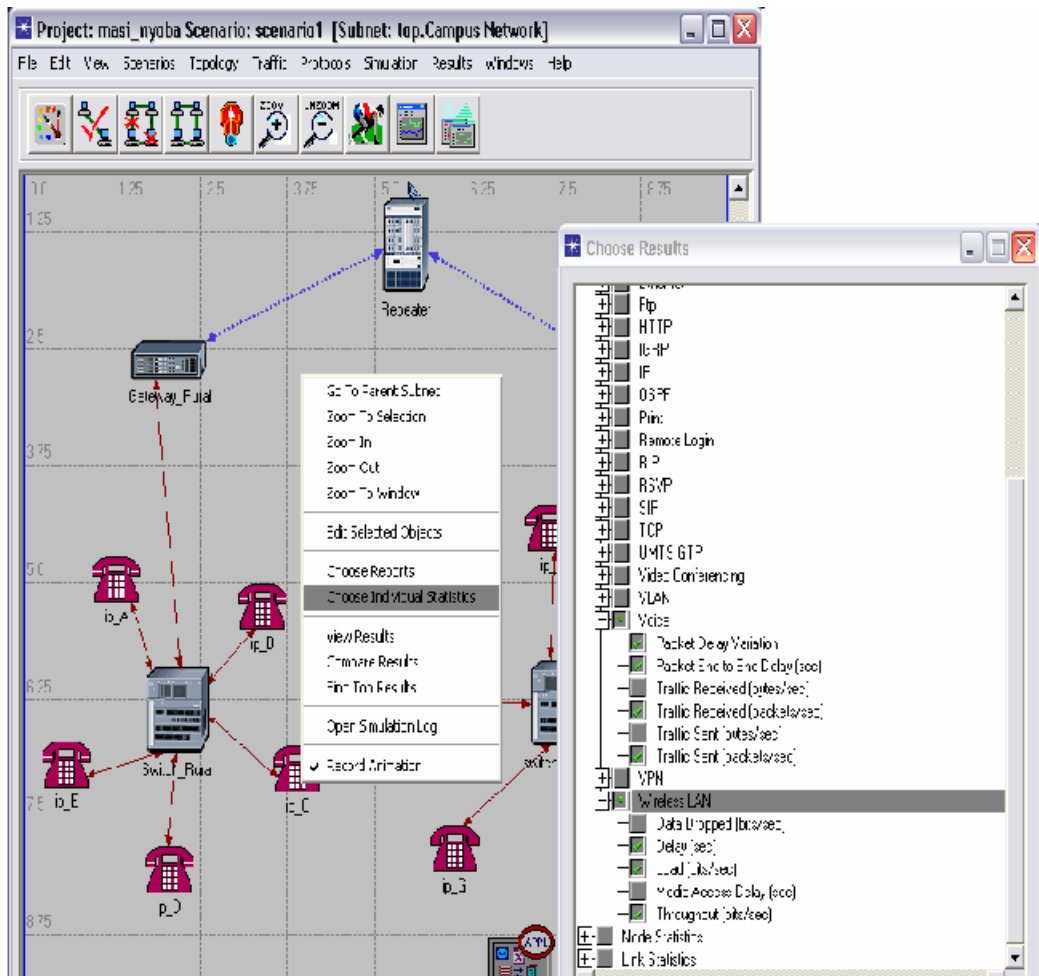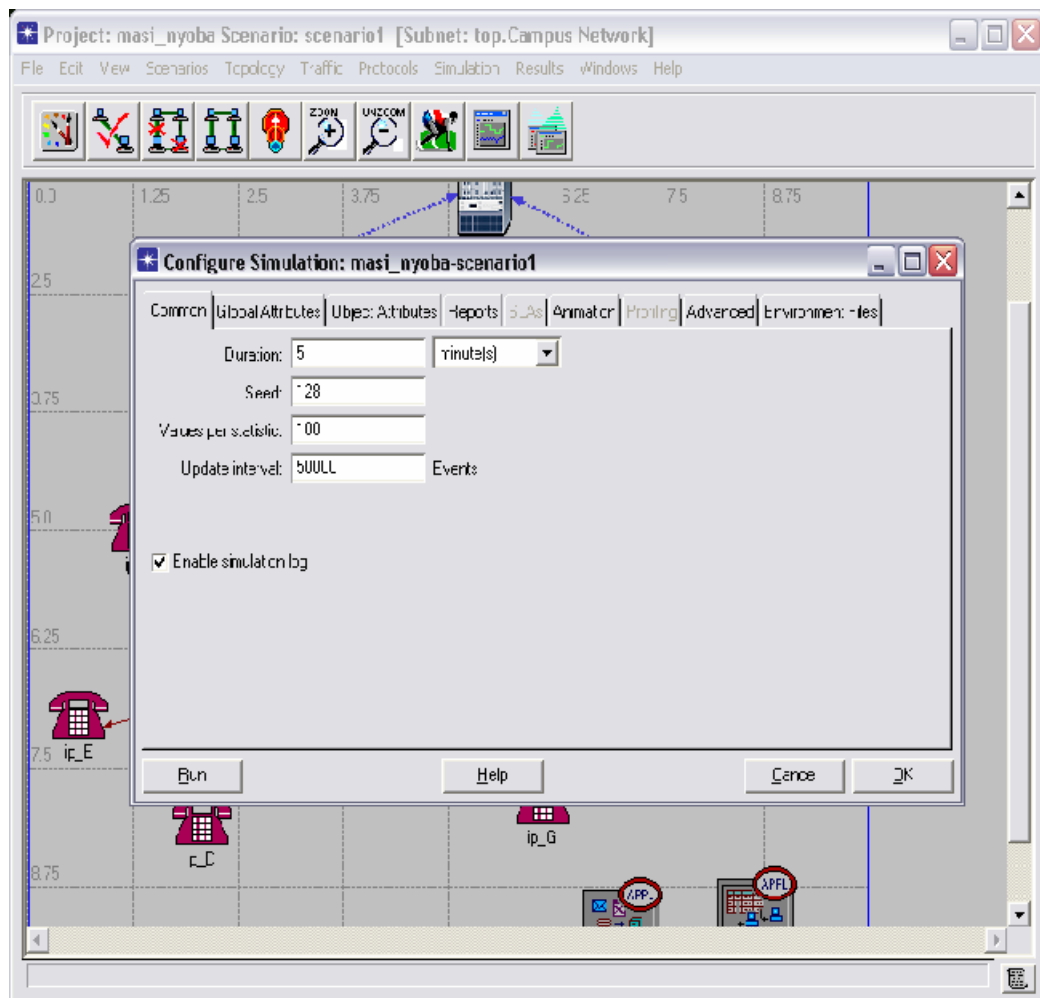

Tampilan *software* OPNET IT GURU *academic Edition* V9.1
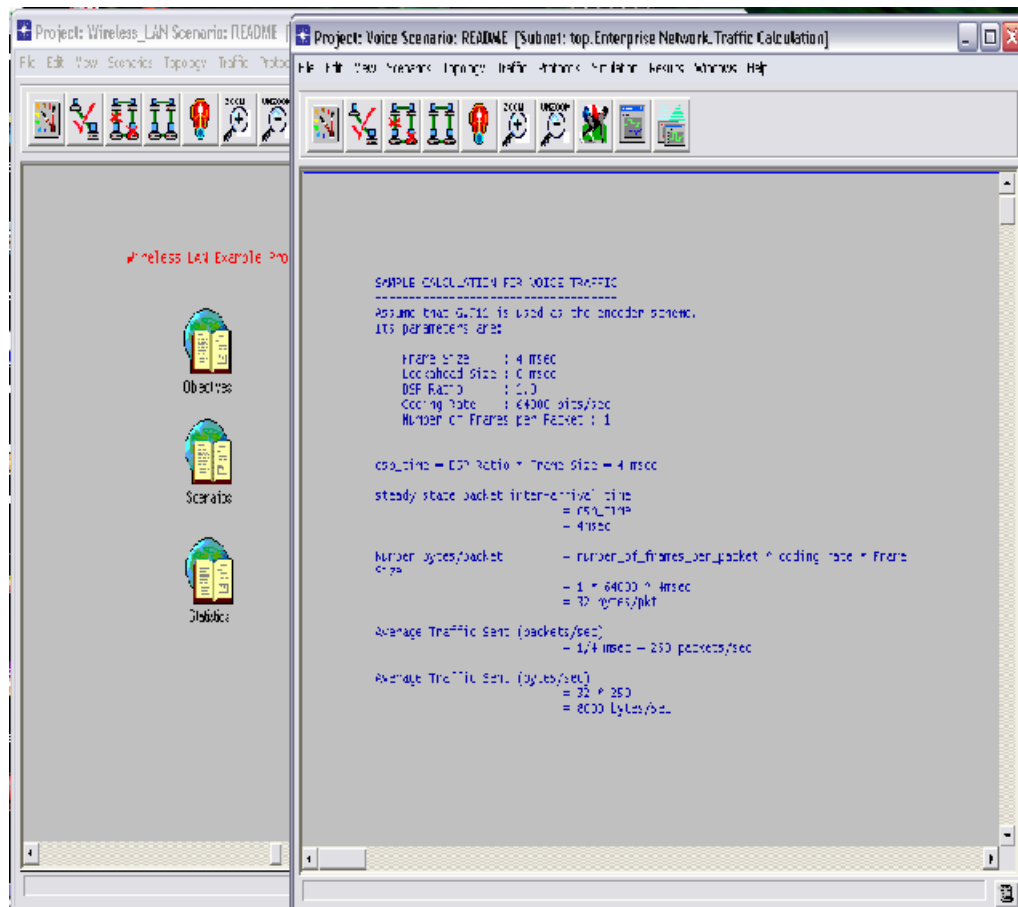
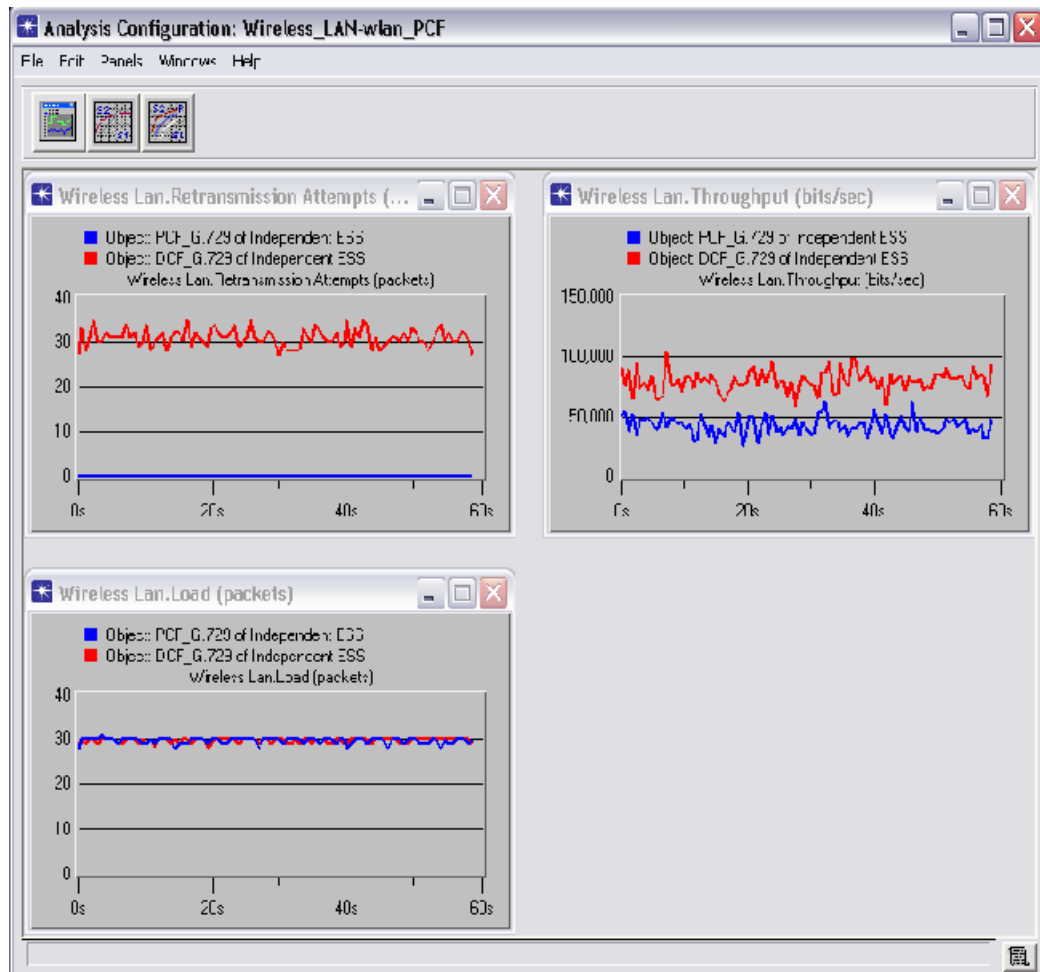Tampilan berbagai macam peralatan network

Tampilan pemilihan data statistik yang akan di analisa dalam bentuk grafik
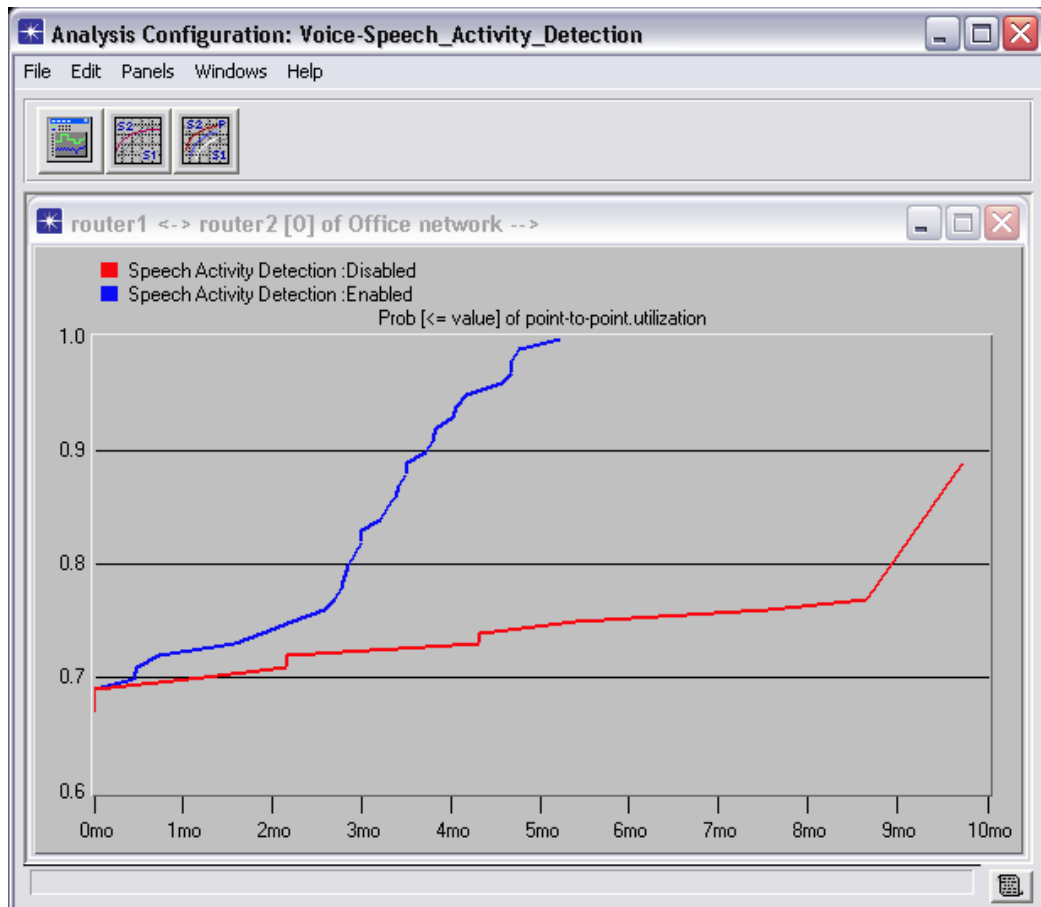
Tampilan parameter-parameter yang dibutuhkan sebelum simulasi di jalankan

Tampilan penjelasan tentang perhitungan traffic sent

Tampilan grafik hasil simulasi skema MAC WLAN PCF dan DCF

Tampilan grafik *Speech Activity Detection* pada codec G.729

LAMPIRAN B

Standar IEEE 802.11

Table D-1 provides a summary of the various 802.11 standards. For each of the eight standards, a description of the standard, purpose keywords and remarks about the standard, and when the standard and products will be available are provided.

Table D-1. Summary of 802.11 Standards

Standard	Description	Purpose Keywords and Other Remarks	Availability
802.11a	A physical layer standard in the 5 GHz radio band. It specifies eight available radio channels (in some countries, 12 channels are permitted). The maximum link rate is 54 Mbps per channel; maximum actual user data throughput is approximately half of that, and the throughput is shared by all users of the same radio channel. The data rate decreases as the distance between the user and the radio access point increases.	Higher Performance. In most office environments, the data throughput will be greater than for 11b. Also, the greater number of radio channels (eight as opposed to three) provides better protection against possible interference from neighboring access points. Conformance is shown by a Wi-Fi5 mark from WiFi Alliance.	Standard was completed in 1999. Products are available now.
802.11b	This is a physical layer standard in the 2.4 GHz radio band. It specifies three available radio channels. Maximum link rate is 11 Mbps per channel, but maximum user throughput will be approximately half of this because the throughput is shared by all users of the same radio channel. The data rate decreases as the distance between the user and the radio access point increases.	Performance. Products are in volume production with a wide selection at competitive prices. Installations may suffer from speed restrictions in the future as the number of active users increase, and the limit of three radio channels may cause interference from neighboring access points.	Standard was completed in 1999. A wide variety of products have been available since 2001.
802.11d	This standard is supplementary to the Media Access Control (MAC) layer in 802.11 to promote worldwide use of 802.11 WLANs. It will allow access points to communicate information on the permissible radio channels with acceptable power levels for user devices. The 802.11 standards cannot legally operate in some countries; the purpose of 11d is to add features and restrictions to allow WLANs to operate within the rules of these countries.	Promote worldwide use. In countries where the physical layer radio requirements are different from those in North America, the use of WLANs is lagging behind. Equipment manufacturers do not want to produce a wide variety of country-specific products, and users that travel do not want a bag full of country-specific WLAN PC cards. The outcome will be country-specific firmware solutions.	Work is ongoing, but see 802.11h for a timeline on 5 GHz WLANs in Europe.

Standard	Description	Purpose Keywords and Other Remarks	Availability
802.11e	This standard is supplementary to the MAC layer to provide QOS support for LAN applications. It will apply to 802.11 physical standards a, b, and g. The purpose is to provide classes of service with managed levels of QOS for data, voice, and video applications.	Quality of service. This standard should provide some useful features for differentiating data traffic streams. It is essential for future audio and video distribution. Many WLAN manufacturers have targeted QOS as a feature to differentiate their products, so there will be plenty of proprietary offerings before 11e is complete. This standard will be greatly affected by the work of Tgi.	The finalized standard is expected in the second half of 2002. Products will be available in the second half of 2003 or later.
802.11f	This is a "recommended practice" document that aims to achieve radio access point interoperability within a multivendor WLAN network. The standard defines the registration of access points within a network and the interchange of information between access points when a user is handed over from one access point to another.	Interoperability. This standard will work to increase vendor interoperability. Currently few features exist in the AP work. 802.11f will reduce vendor lock-in and allow multivendor infrastructures.	Completed standard is expected in the second half of 2002. Products will be available in the first half of 2003 or later.
802.11g	This is a physical layer standard for WLANs in the 2.4 GHz and 5 GHz radio band. It specifies three available radio channels. The maximum link rate is 54 Mbps per channel whereas 11b has 11 Mbps. The 802.11g standard uses orthogonal frequency-division multiplexing (OFDM) modulation but, for backward compatibility with 11b, it also supports complementary code-keying (CCK) modulation and, as an option for faster link rates, allows packet binary convolutional coding (PBCC) modulation.	Performance with 802.11b backward compatibility. Speeds similar to 11a and backward compatibility may appear attractive but modulation issues exist: Conflicting interests between key vendors have divided support within IEEE task group for the OFDM and PBCC modulation schemes. The task group compromised by including both types of modulation in the draft standard. With the addition of support for 11b's CCK modulation, the end result is three modulation types. This is perhaps too little, too late, and too complex relative to 11a. However, advantages exist for vendors hoping to supply dual-mode 2.4 GHz and 5 GHz products, in that using OFDM for both modes will reduce silicon cost. If 802.11h fails to obtain pan-European approval by the second half of 2003, then 11g will become the high-speed WLAN of choice in Europe.	Completed standard is expected in the second half of 2002. Products will be available in the first half of 2003 or later.

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