open the network air conditioning "dialog control. Finally, the PAC would generate a confirm event message package to sent to the PHG, we can see the record in PHG's memo control (as figure 5). So this paper has simulated the cooperation of the equipments (between the network television and the network air conditioning) based on event-driven technology.

Figure 5 PHG's interface

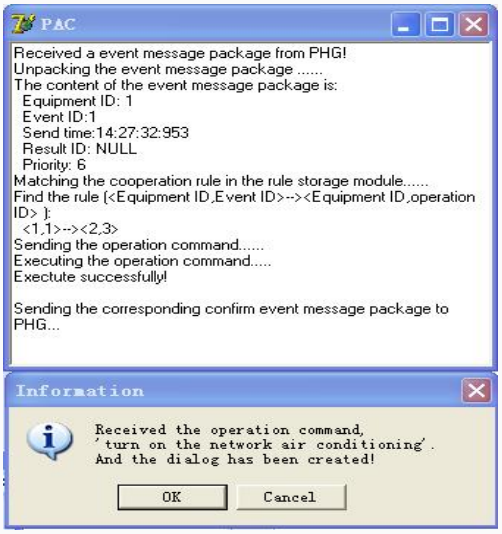

Figure 6 PAC's interface

The model of the system uses response time as the evaluation index of cooperation performance, the response time is defined as: response time is equal to subtract some action's finish time caused by a event from the time of generating the event, in the above example, subtract the time of generating the confirm event message package where come from PAC from the time of generating "turn on the network television" event message package in PTV equal to the response time of the cooperation which is between the PAC and the PTV. This paper assumes that in any intelligent home environment, the number of the equipment of information appliances has not exceed 30, each equipment has 10 events and stores 10 cooperation rules. As shown in figure 7, with the number of equipment increasing, the system's response time is linear growth, but in the extreme situation (equipment's number equals to 30), the system response time is 12.8 seconds. The experimental results show that the event-driven cooperation model of information appliances is feasible.

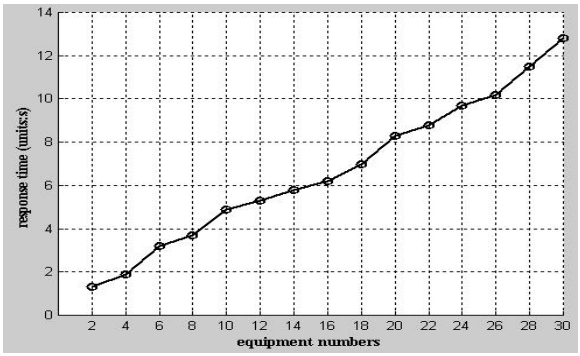

Figure 7 The change of response time

V. CONCLUSIONS

With the rapid development of the information technology, network technology and object-oriented technology, they provide a broad prospect for developing the information appliances and intelligent home. Based on the principle that the cooperation of information appliances are often event-driven, in this paper, the concept of event is proposed. The architecture model of the intelligent home's system based on event-driven and expert-system is studied by the method of object-oriented analysis and design. The process of system, which is composed with event capture, event multicast and event response is given. Finally, the model of the system is verified by simulation experiment. By introducing the event-driven mechanism to the cooperation of information appliances, it has improved the intelligence and convenience of information appliances and intelligent home.

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