

01/10

100 →

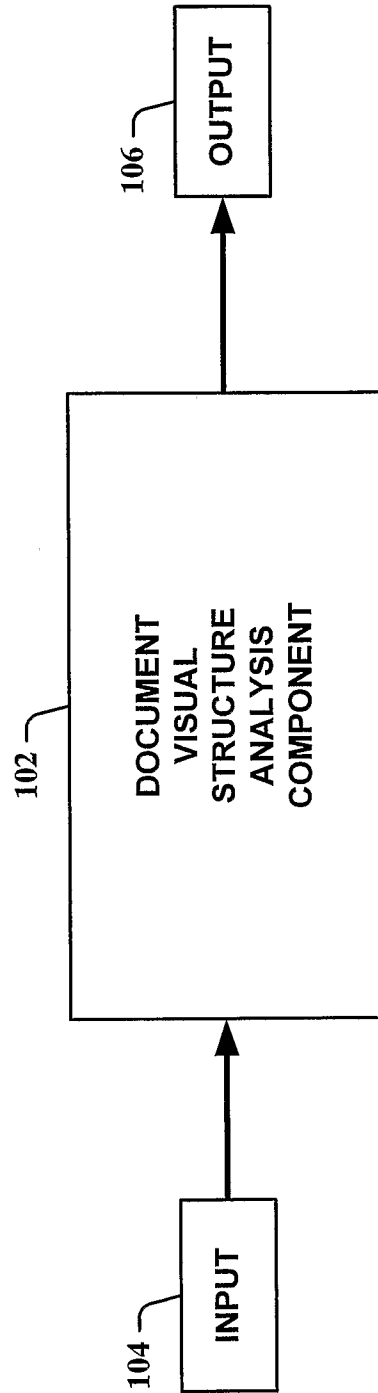


FIG. 1

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200 →

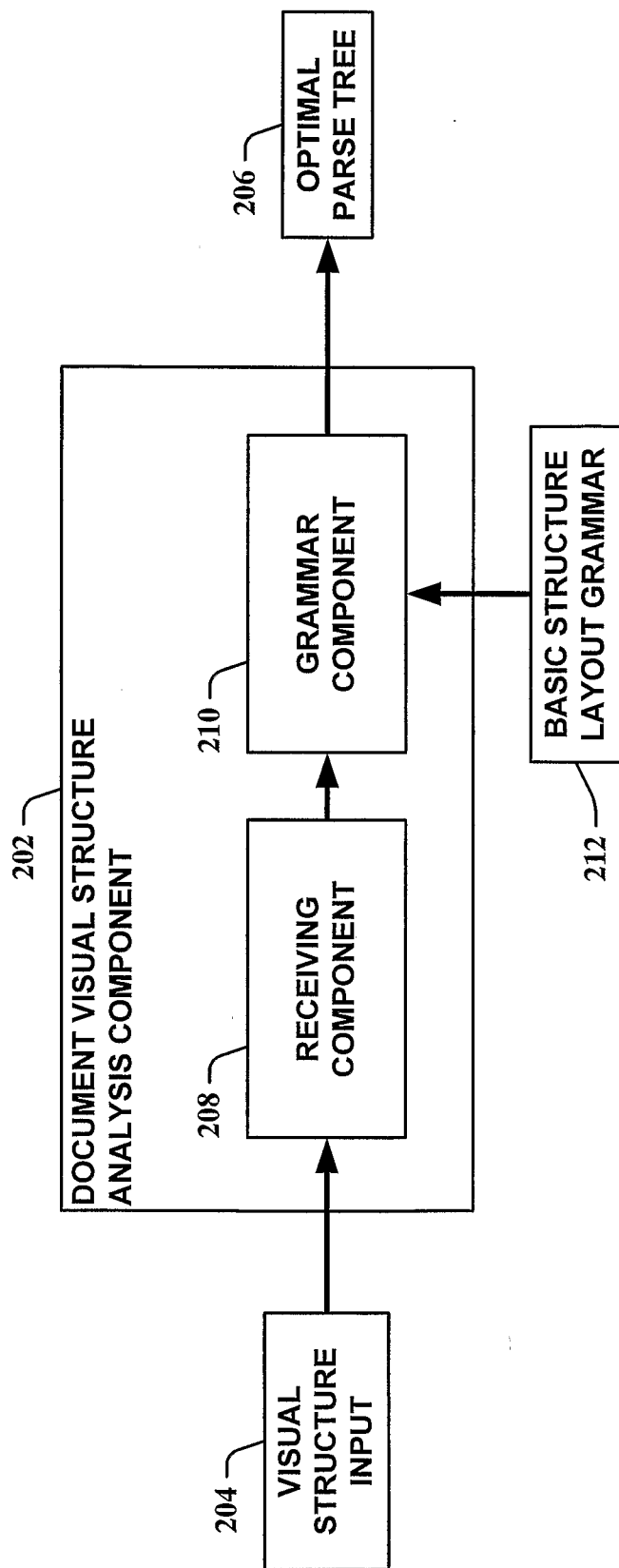


FIG. 2

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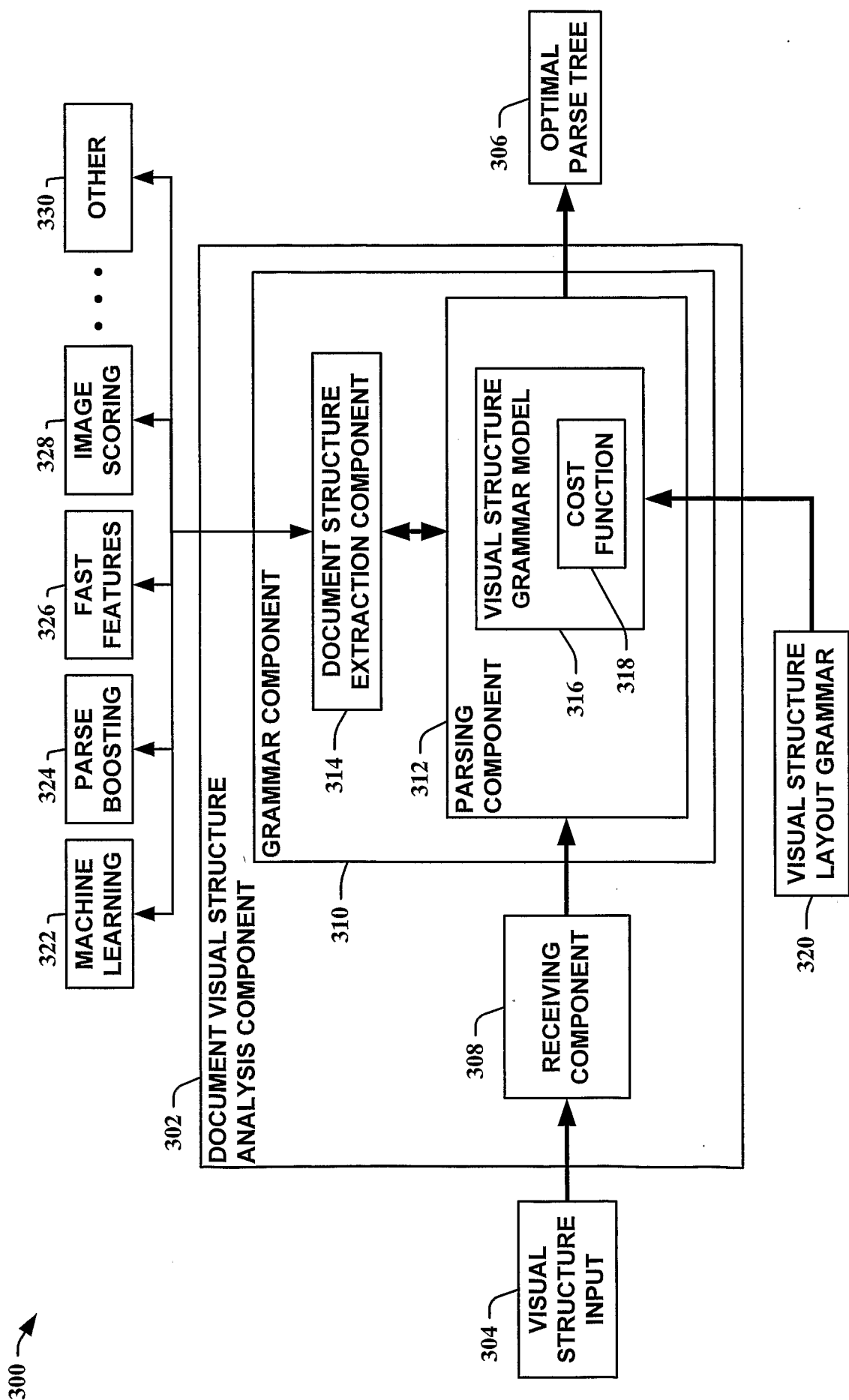


FIG. 3

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400 →

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Motor Vehicle Crash Fatalities in the Second Year of 65 MPH Speed Limits

Herbert M. Baum, John K. Wells, and Adrian K. Lund

In 1987, the federal government relaxed the 55 mph (88 km/h) national maximum speed limit, permitting states to post 65 mph (104 km/h) speed limits on rural interstate highways. By the end of 1987, 38 states had done so and two additional states followed suit in 1988. It is estimated that the higher speed limit caused motor vehicle crash fatalities to be 26% to 28% higher in 1988 than they would have been if the speed limit had remained at 55 mph. This translates into over 300 deaths attributable to the higher speed limits on rural interstate highways. Overall, it is estimated that more than 700 people who would have lived had the limit not been raised, have died on rural interstate highways since states began to post 65 mph limits in 1987. The effect of the higher limit doubled between 1987 and 1988, and the 65 mph limit may cost far more in death and injury than projected prior to the speed limit increase.

404

402

In 1987, Congress enacted the Surface Transportation and Uniform Relocation Act (PL 100-17), which allowed states to increase speed limits on rural interstate highways from 55 mph (88 km/h) to 65 mph (104 km/h). By the end of the year, 38 states had increased the speed limit on most sections of their rural interstate highways (Table 1). In a previous report, it was estimated that the first months of the higher limits produced a 15% increase in rural interstate fatalities (Baum et al., 1989). The National Highway Traffic Safety Administration (NHTSA), after adjusting for the number of vehicle miles traveled on rural interstates, estimated a similar increase in fatalities of 16% due to the higher limits (NHTSA, 1989). The increase in fatalities

translates into nearly 200 excess deaths (Baum et al., 1989). It was also noted that even more fatalities could be expected in 1988, because the states that changed speed limits in 1987 would have one full year of experience rather than just a few months. Although several studies have tried to estimate the effects of higher speed limits for individual states (e.g., McCarthy, 1988; Minnesota Department of Public Safety, 1988; Virginia Department of Transportation, 1989), national studies provide the best estimates of the real effect of the higher speed limits. The number of crashes and fatalities that occur in any single state are usually too small for meaningful statistical analysis. Even in states where the numbers are larger, there is often significant variation in fatality counts from year to year for reasons that are not always identifiable. Not surprisingly, the estimates of the effect of higher speed limits in individual states vary greatly and provide a misleading and confusing picture of the actual effect of higher speed limits.

During 1988, another two states adopted 65

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Source: 1990 Volume 11 Number 1



FIG. 4

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500 →

$$\frac{\beta^2}{8} T_r (U'(\Phi))^2$$

FIG. 5

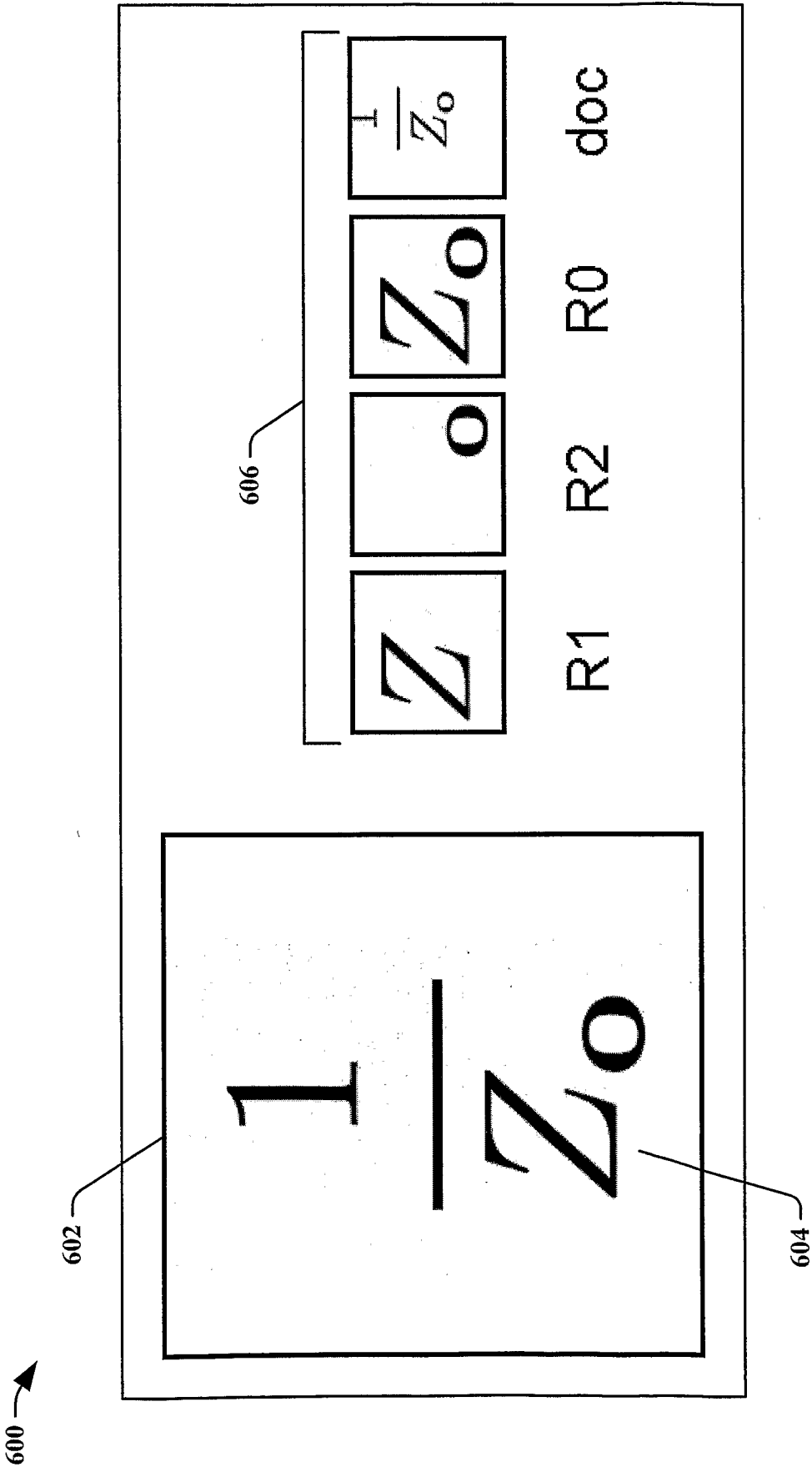


FIG. 6

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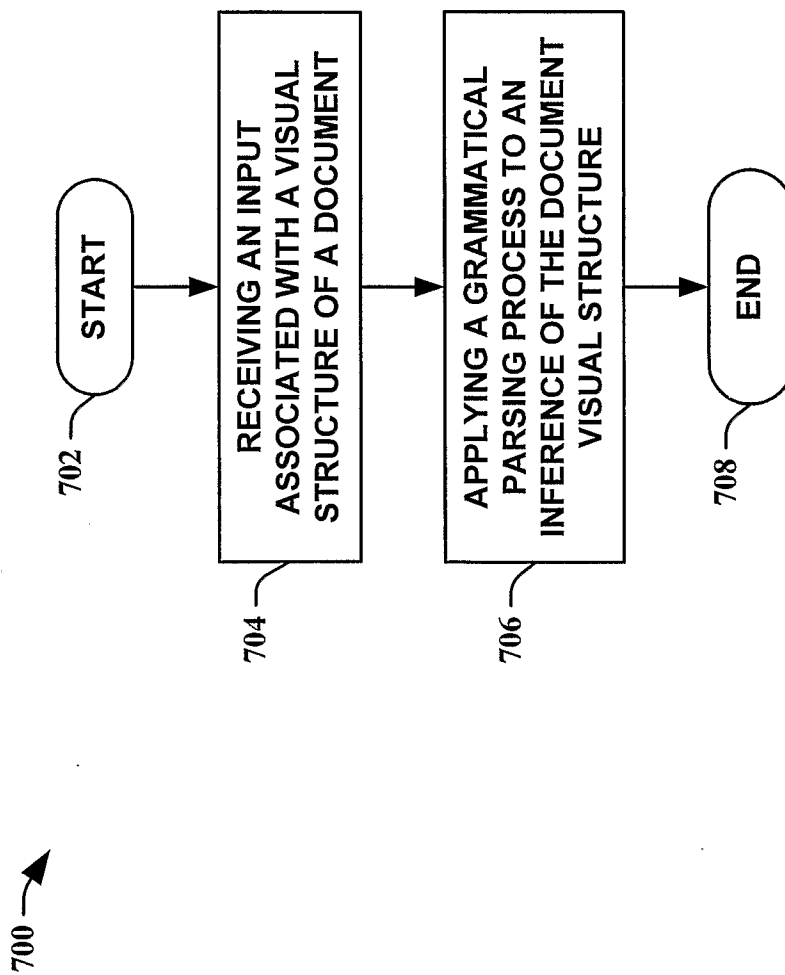


FIG. 7

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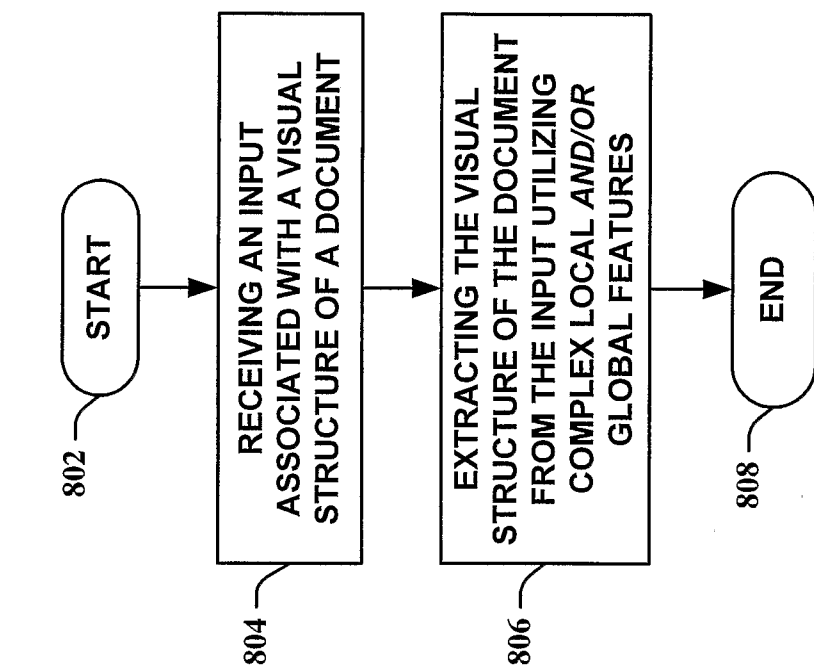


FIG. 8

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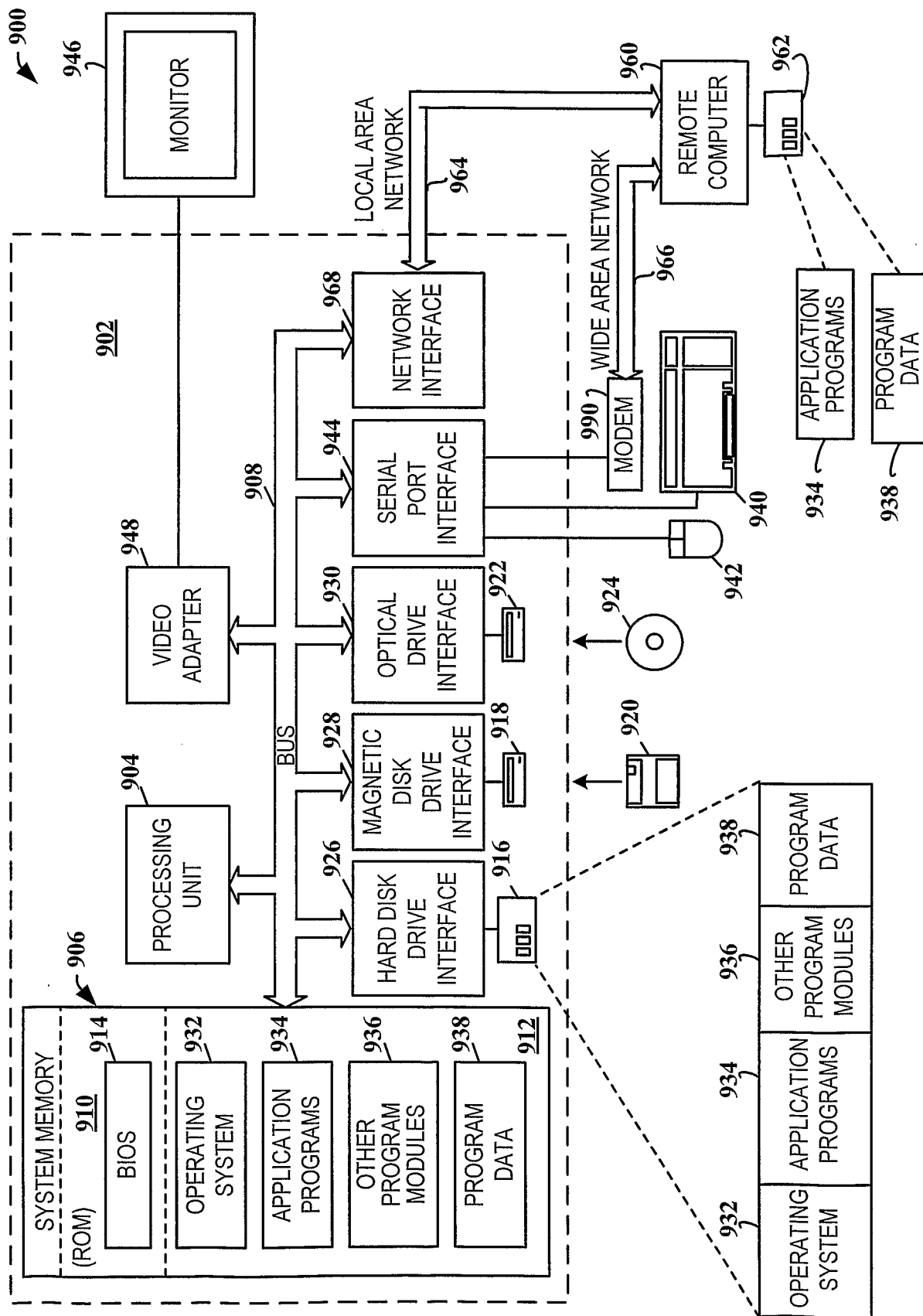


FIG. 9

1000 →

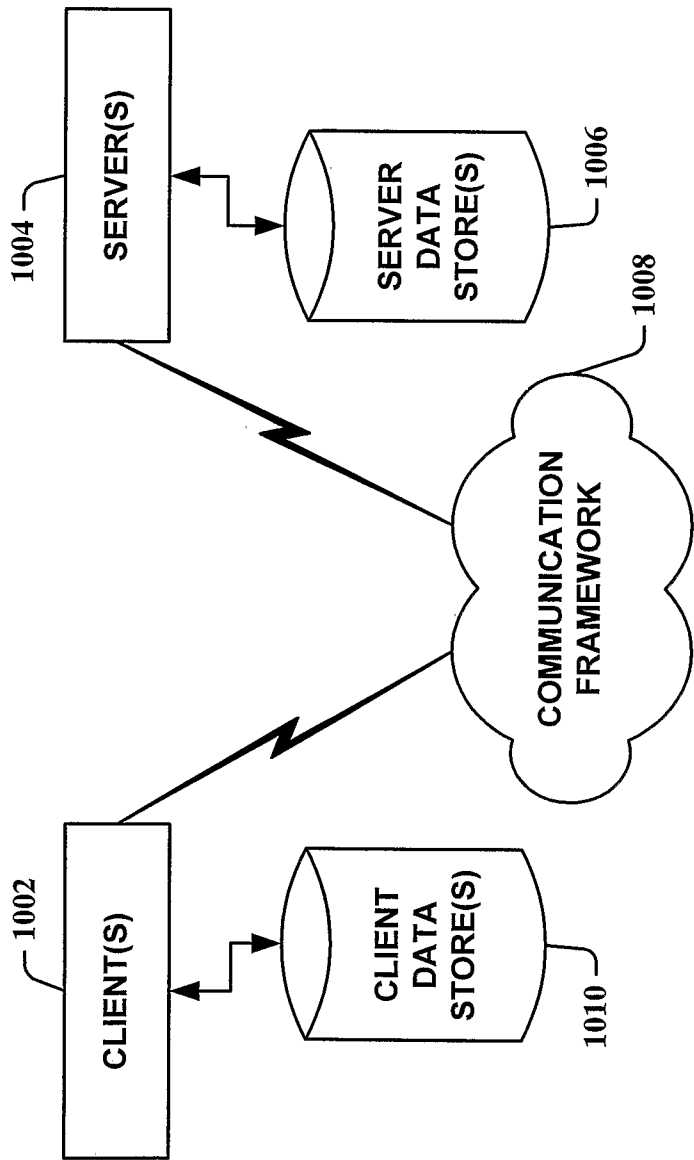


FIG. 10