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United States Patent [19]

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Cline et al.

[45] Date of Patent: **May 17, 1994**

[54] **METHOD FOR ANALYZING CALLS OF APPLICATION PROGRAM BY INSERTING MONITORING ROUTINES INTO THE EXECUTABLE VERSION AND REDIRECTING CALLS TO THE MONITORING ROUTINES**

5,210,862 5/1993 De Angelis et al. 395/575
5,212,794 5/1993 Pettis et al. 395/700

OTHER PUBLICATIONS

Joseph et al, "A Fault Tolerance Approach To Computer Viruses", IEEE, Apr. 1988, pp. 52-58.

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[57] ABSTRACT

[73] Assignee: **88Open Consortium, Ltd.**, Sunnyvale, Calif.

A method for verifying the conformance of an application program to a set of system rules characterized by the development of a conformance database, the performance of a static analysis of the application program to determine whether the application program is in static conformance with the conformance database and the performance of a dynamic analysis of the application program to determine whether the application program is in dynamic conformance with the conformance database. The static analysis produces a graph of the basic blocks of the application program and analyzes the graph for conformance to system rules, dead code and coverage metrics. The dynamic analysis adds a small amount of monitoring code into an executable application program which monitors the application program as it is exercised in a test harness. The monitoring code produces a log database which can be analyzed for run-time non-conformities of the application program.

[21] Appl. No.: **584,189**

[22] Filed: **Sep. 18, 1990**

[51] Int. Cl.⁵ **G06F 11/30; G06F 9/45**

[52] U.S. Cl. **395/500; 395/575;**
395/700; 371/19; 364/274.5; 364/280.4;
364/280.5; 364/264.1; 364/DIG. 1

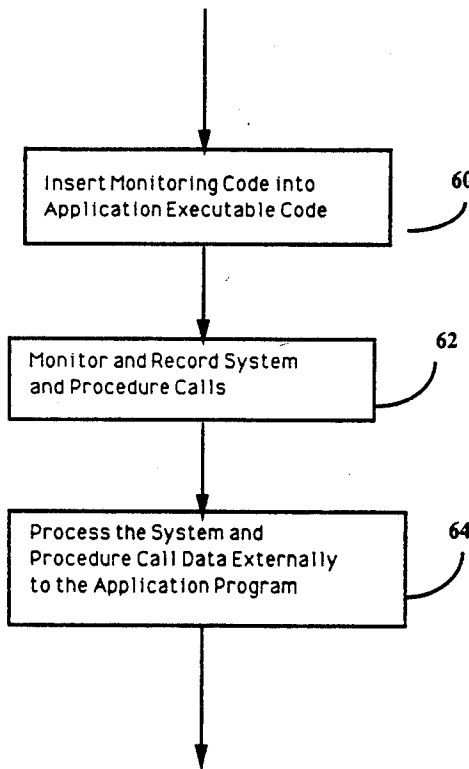
[58] Field of Search 395/500, 575, 600, 700,
395/800; 371/19

[56] References Cited

U.S. PATENT DOCUMENTS

| | | | |
|-----------|--------|------------------|----------|
| 4,100,532 | 7/1978 | Farnbach | 382/1 |
| 4,533,997 | 8/1985 | Furgerson | 395/425 |
| 4,642,765 | 2/1987 | Cocke et al. | 395/700 |
| 4,692,897 | 9/1987 | Crabbe, Jr. | 371/25.1 |
| 4,951,195 | 8/1990 | Fogg, Jr. et al. | 395/500 |
| 5,047,919 | 9/1991 | Sterling et al. | 395/575 |
| 5,204,956 | 4/1993 | Danuser et al. | 395/575 |

11 Claims, 15 Drawing Sheets



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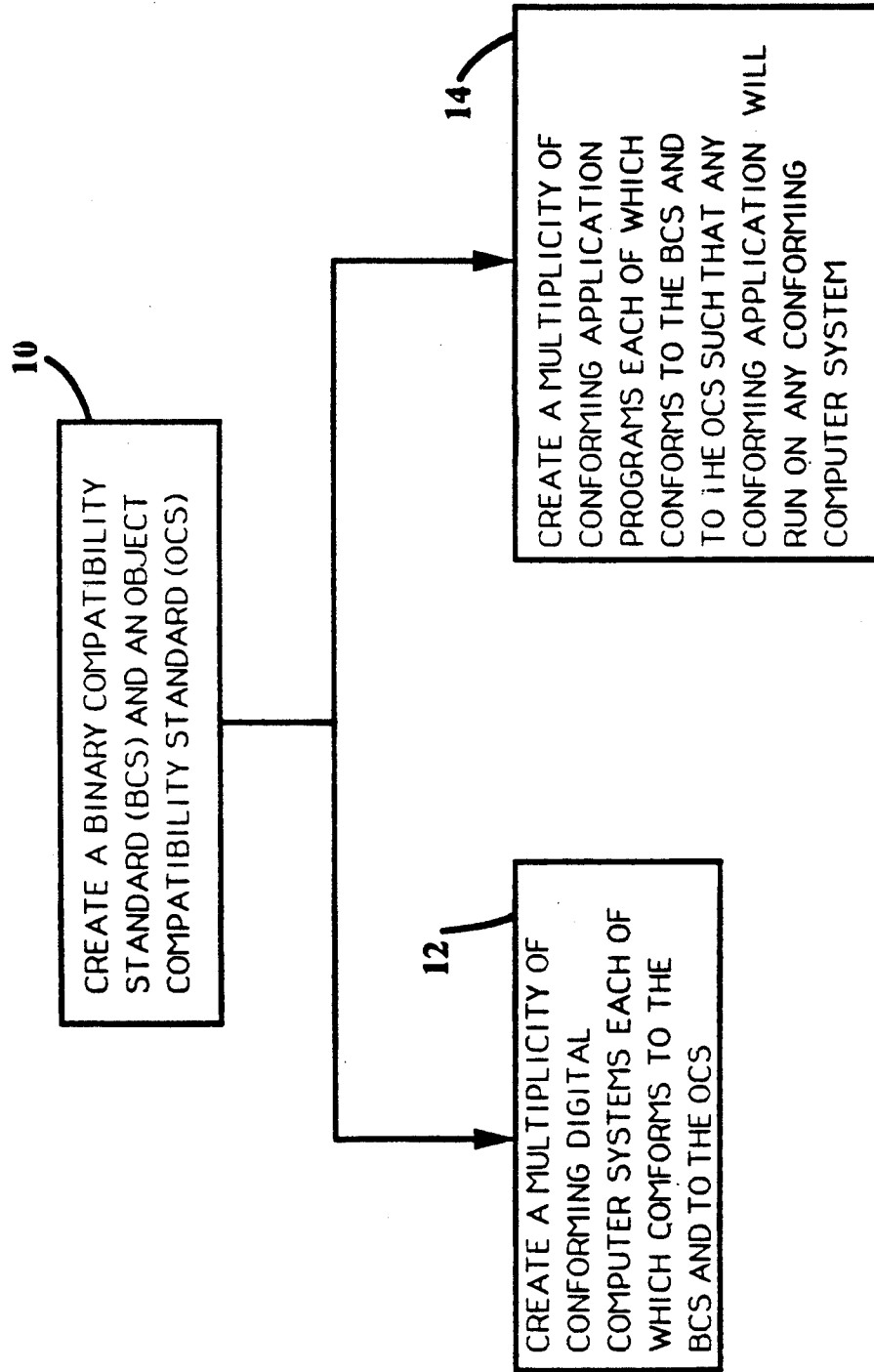


Fig. 1

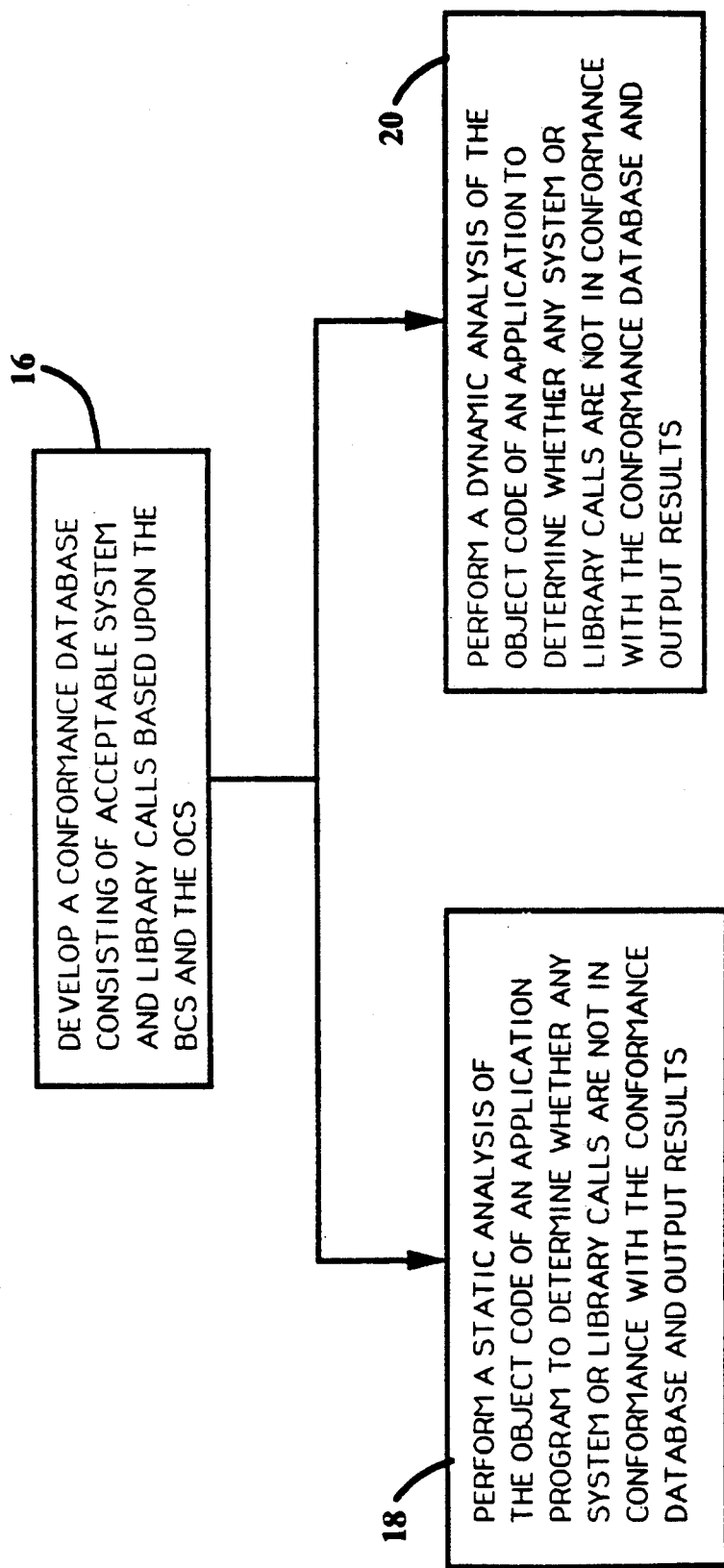


Fig. 2

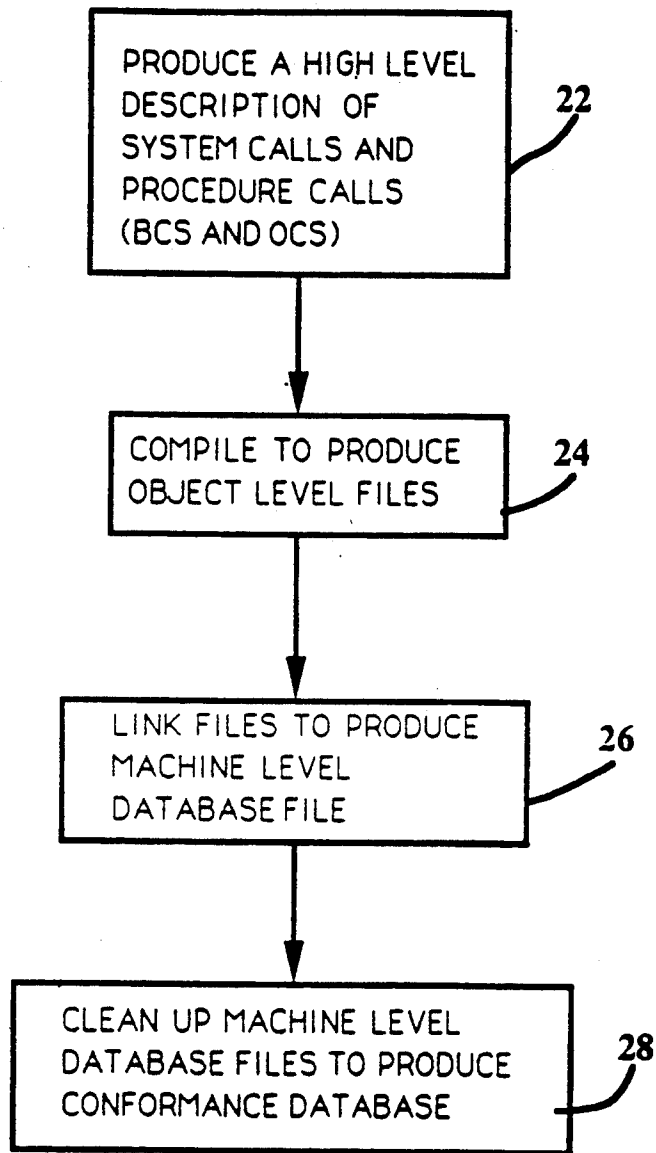


Fig. 3

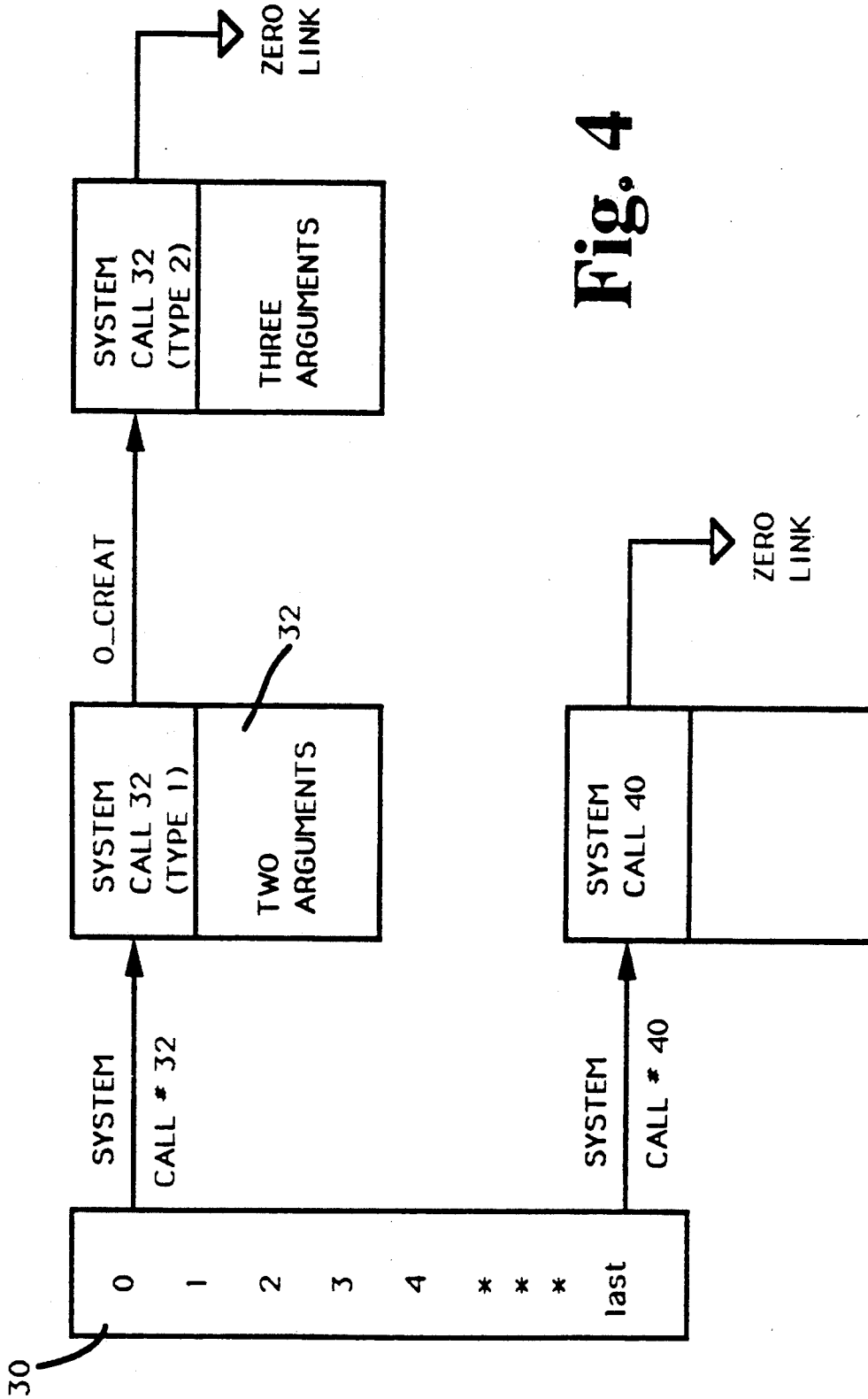


Fig. 4

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