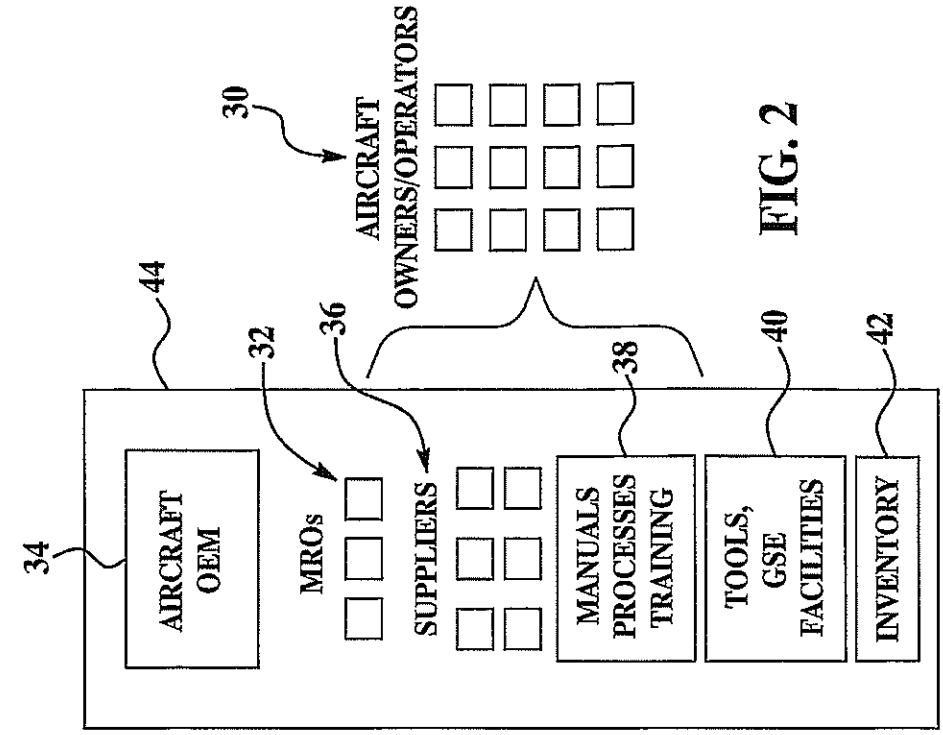


FIG. 2

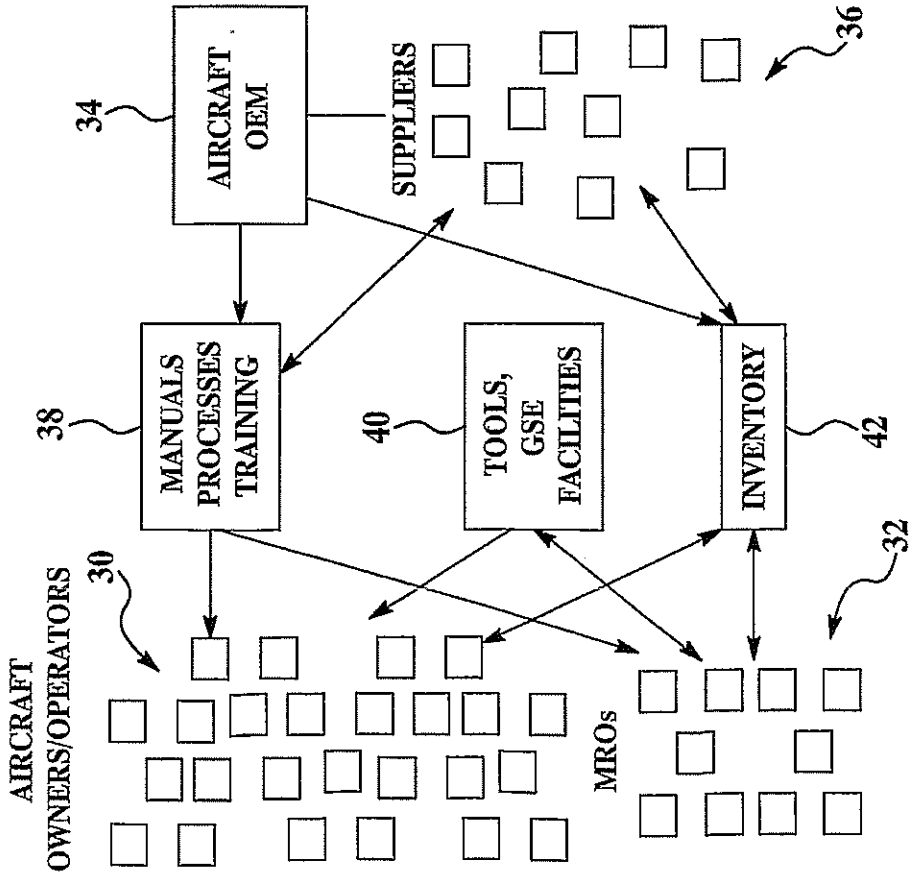


FIG. 1
Prior Art

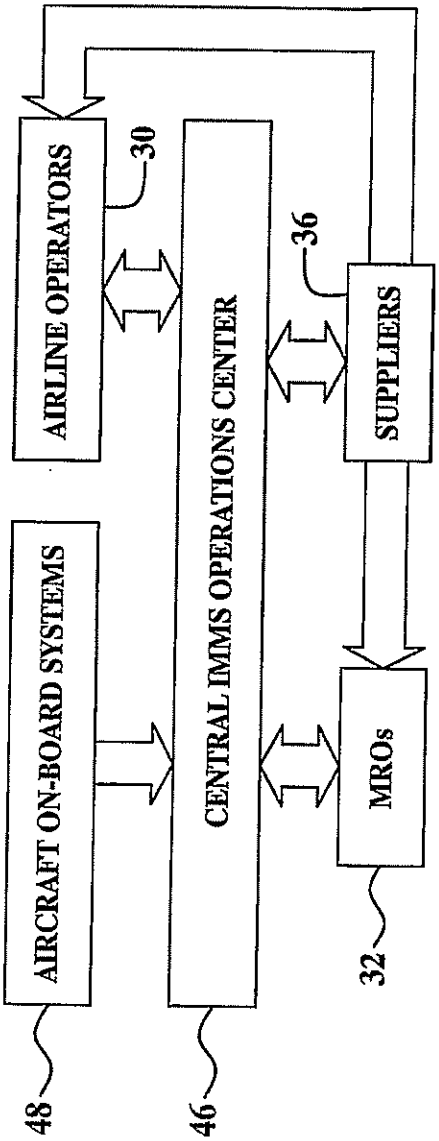

AIRCRAFT ON-BOARD SYSTEMS
AIRLINE OPERATORS
CENTRAL IMMS OPERATIONS CENTER
MROs
SUPPLIERS
30
36
48
46
32

FIG. 3

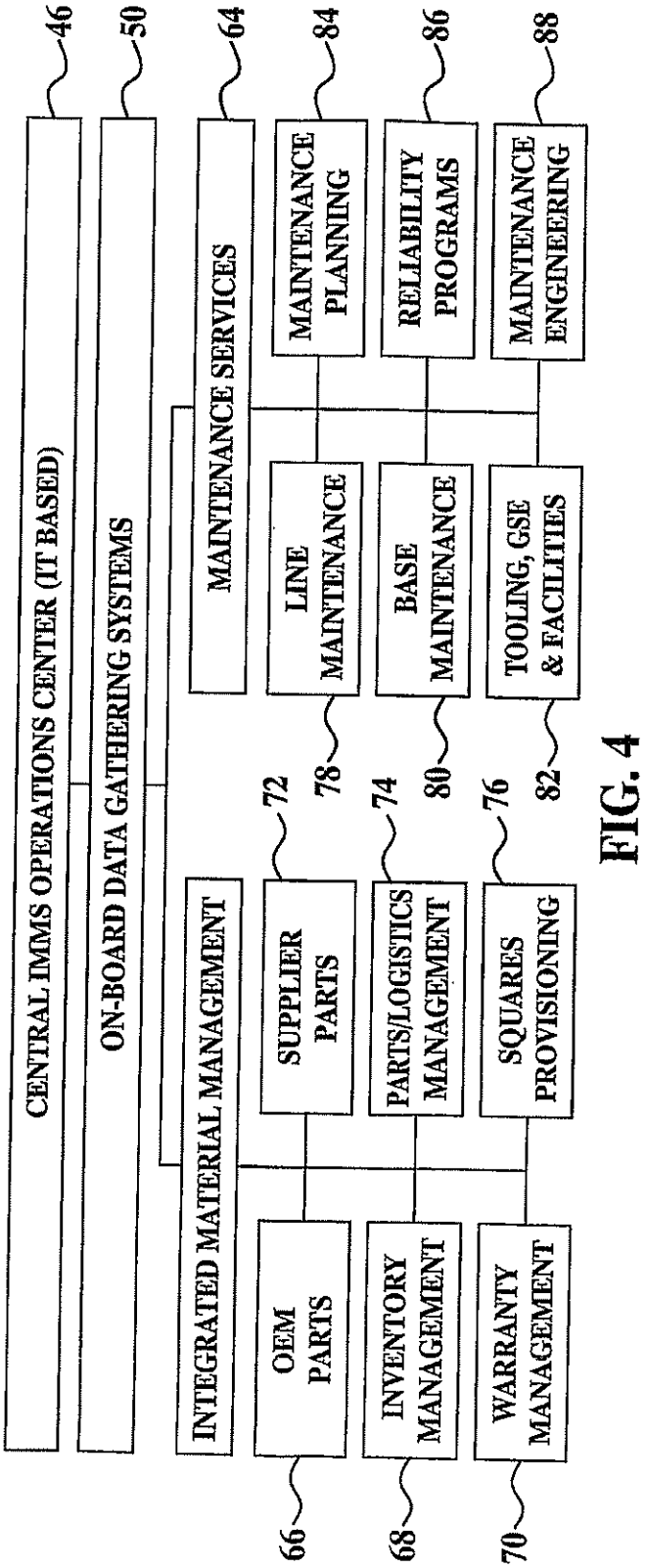

CENTRAL IMMS OPERATIONS CENTER (IT BASED)
ON-BOARD DATA GATHERING SYSTEMS
INTEGRATED MATERIAL MANAGEMENT
MAINTENANCE SERVICES
OEM PARTS
SUPPLIER PARTS
INVENTORY MANAGEMENT
PARTS/LOGISTICS MANAGEMENT
WARRANTY MANAGEMENT
SQUARES PROVISIONING
LINE MAINTENANCE
BASE MAINTENANCE
TOOLING, GSE & FACILITIES
MAINTENANCE PLANNING
RELIABILITY PROGRAMS
MAINTENANCE ENGINEERING
46
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72
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76
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FIG. 4

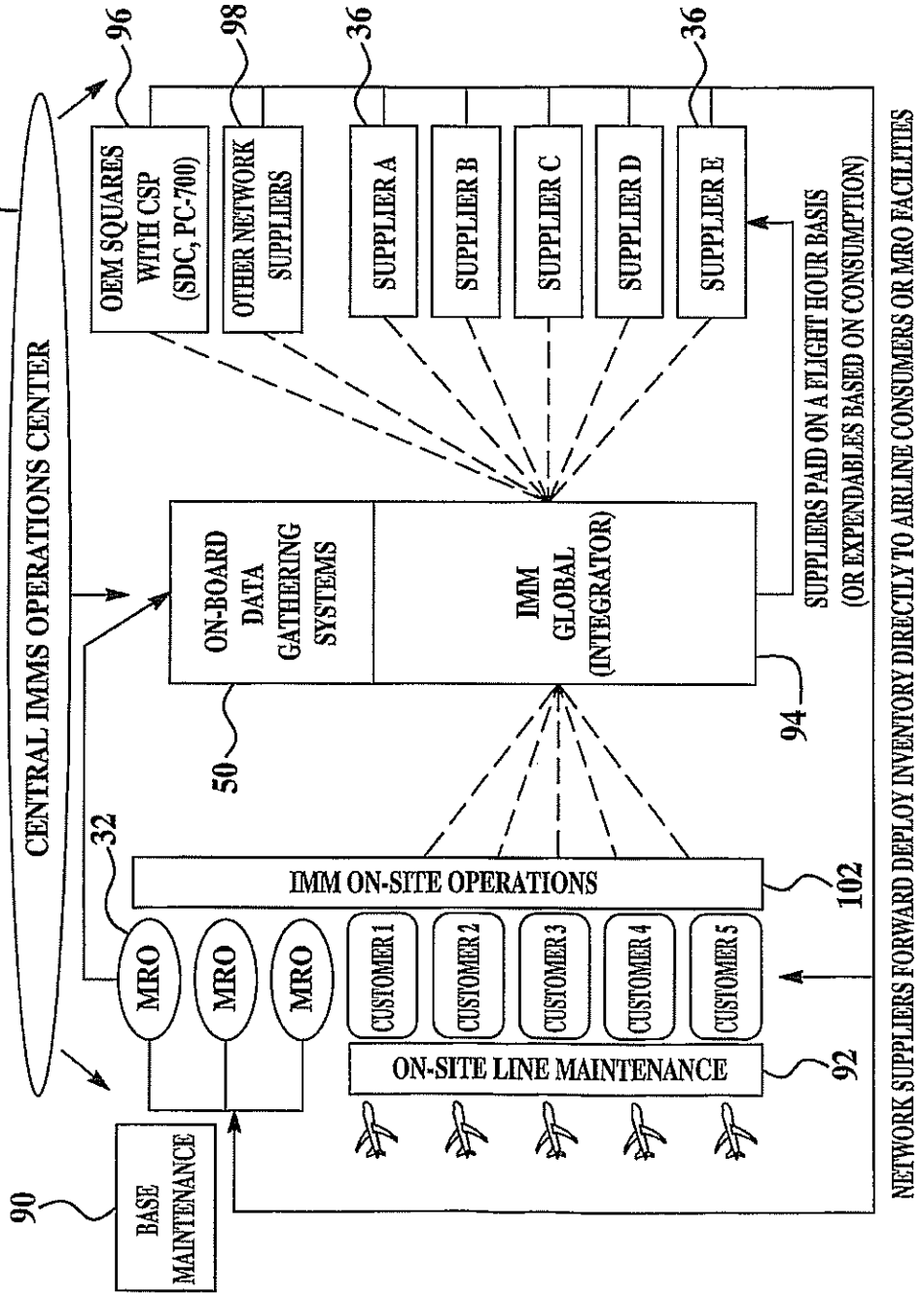

46
CENTRAL IMMS OPERATIONS CENTER
96
OEM SQUARES WITH CSP (SDC, PC-700)
98
OTHER NETWORK SUPPLIERS
36
SUPPLIER A
SUPPLIER B
SUPPLIER C
SUPPLIER D
36
SUPPLIER E
SUPPLIERS PAID ON A FLIGHT HOUR BASIS (OR EXPENDABLES BASED ON CONSUMPTION)
ON-BOARD DATA GATHERING SYSTEMS
IMM GLOBAL (INTEGRATOR)
50
94
32
IMM ON-SITE OPERATIONS
102
MRO
MRO
MRO
CUSTOMER 1
CUSTOMER 2
CUSTOMER 3
CUSTOMER 4
CUSTOMER 5
ON-SITE LINE MAINTENANCE
92
90
BASE MAINTENANCE
NETWORK SUPPLIERS FORWARD DEPLOY INVENTORY DIRECTLY TO AIRLINE CONSUMERS OR MRO FACILITIES

FIG. 5

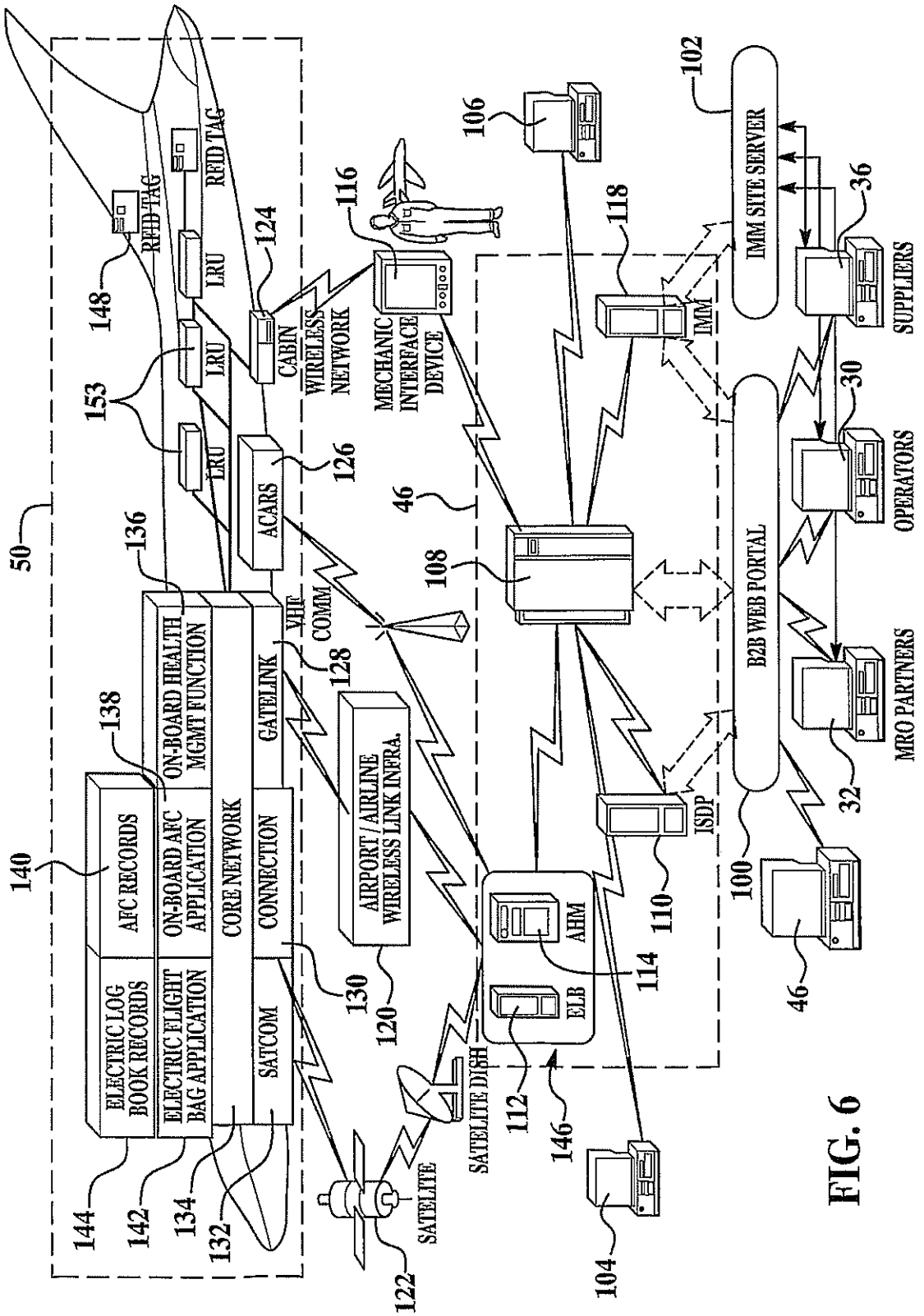

50
140
ELECTRIC LOG BOOK RECORDS
AFC RECORDS
ELECTRIC FLIGHT BAG APPLICATION
ON-BOARD AFC APPLICATION
CORE NETWORK
SATCOM
CONNECTION
GATELINK
ON-BOARD HEALTH MGMT FUNCTION
136
138
144
142
134
132
RFID TAG
RFID TAG
148
LRU
LRU
LRU
153
124
CABIN WIRELESS NETWORK
ACARS
126
VHF COMM
128
AIRPORT / AIRLINE WIRELESS LINK INFRA.
130
120
SATELITE DISH
SATELITE
122
116
MECHANIC INTERFACE DEVICE
106
46
108
AHM
ELB
112
146
114
104
118
IMM
ISDP
110
102
IMM SITE SERVER
B2B WEB PORTAL
100
36
SUPPLIERS
30
OPERATORS
MRO PARTNERS
32
46

FIG. 6

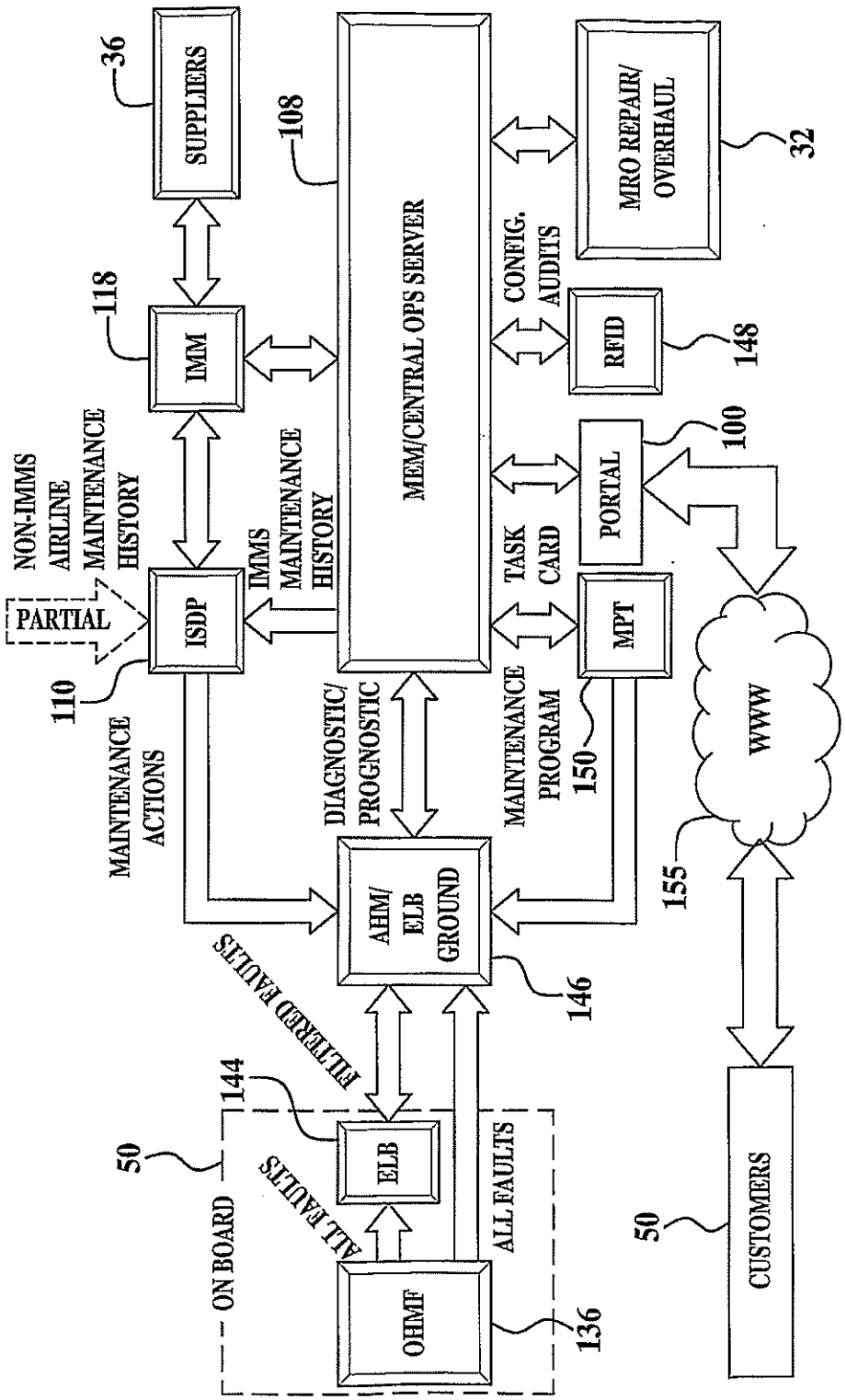

SUPPLIERS
36
MEM/CENTRAL OPS SERVER
108
MRO REPAIR/ OVERHAUL
32
IMM
118
CONFIG. AUDITS
RFID
148
NON-IMMS AIRLINE MAINTENANCE HISTORY
PARTIAL
ISDP
IMMS MAINTENANCE HISTORY
TASK CARD
PORTAL
100
MPT
110
MAINTENANCE ACTIONS
DIAGNOSTIC/ PROGNOSTIC
MAINTENANCE PROGRAM
150
WWW
155
AHM/ ELB GROUND
146
FILTERED FAULTS
144
50
ON BOARD
ELB
ALL FAULTS
ALL FAULTS
OHMF
136
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CUSTOMERS

FIG. 7

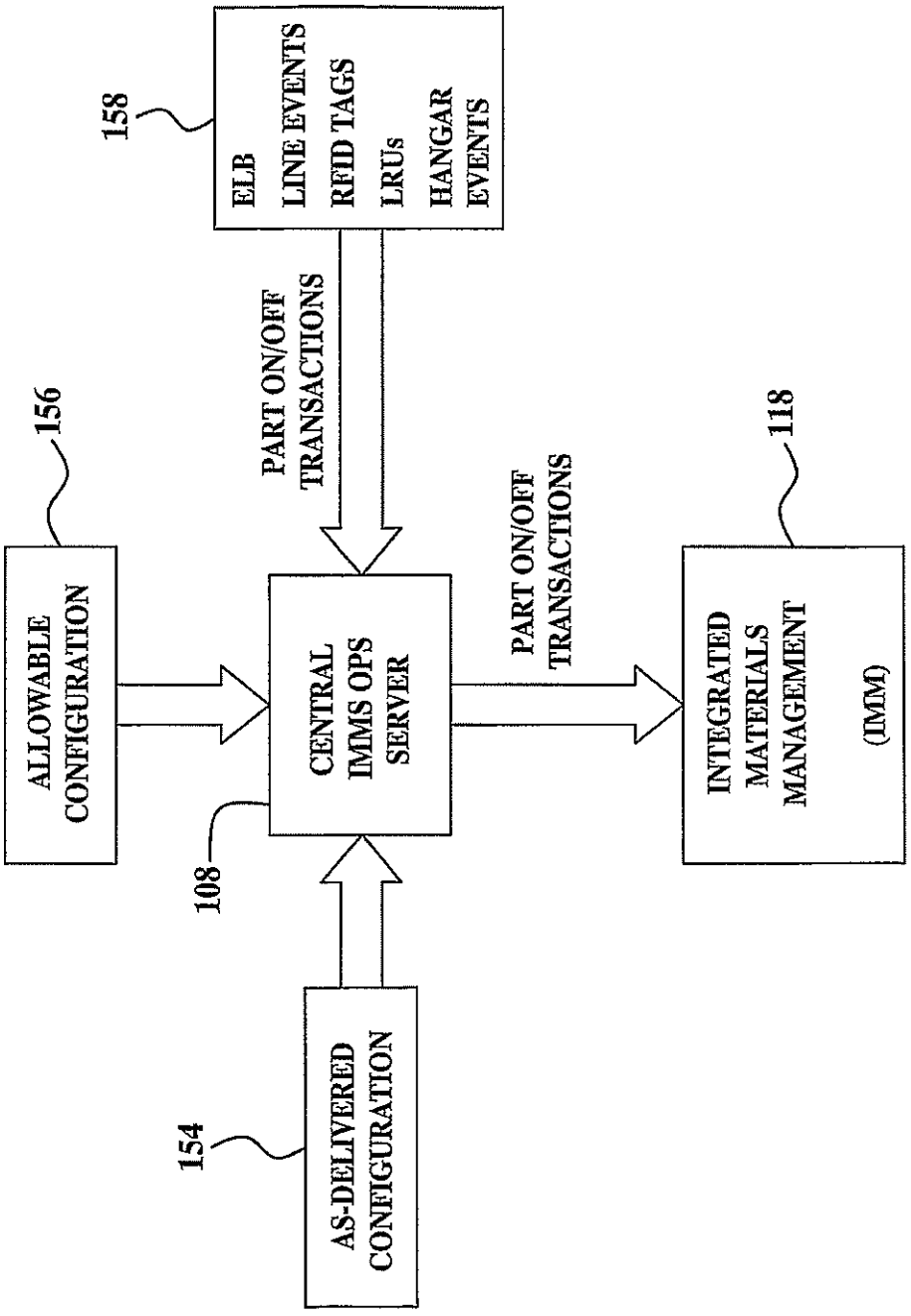

158
ELB
LINE EVENTS
RFID TAGS
LRUs
HANGAR
EVENTS
PART ON/OFF
TRANSACTIONS
156
ALLOWABLE
CONFIGURATION
CENTRAL
IMMS OPS
SERVER
PART ON/OFF
TRANSACTIONS
118
INTEGRATED
MATERIALS
MANAGEMENT
(IMM)
108
154
AS-DELIVERED
CONFIGURATION

FIG. 8

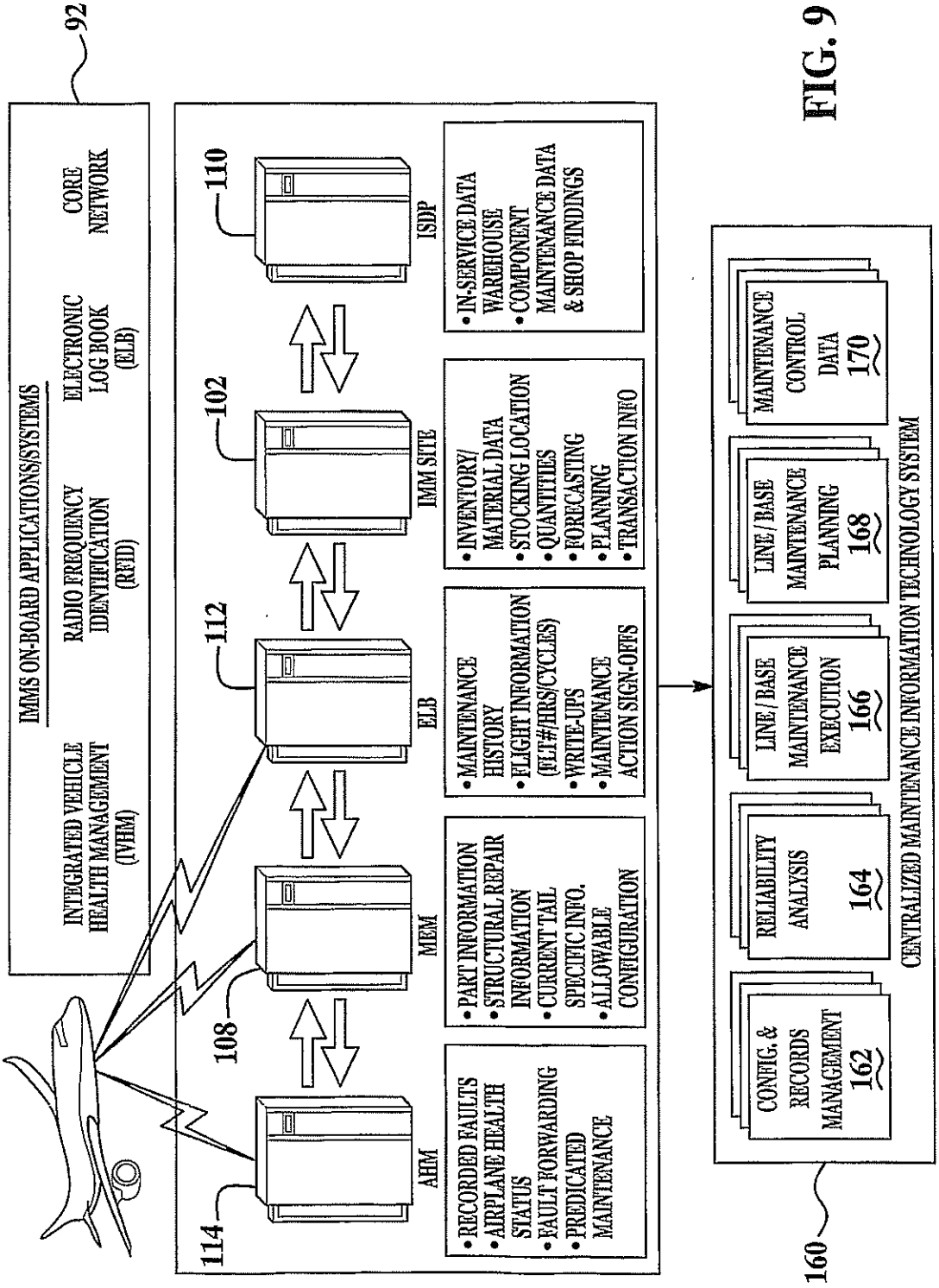

92
IMMS ON-BOARD APPLICATIONS/SYSTEMS
INTEGRATED VEHICLE HEALTH MANAGEMENT (IVHM)
RADIO FREQUENCY IDENTIFICATION (RFID)
ELECTRONIC LOG BOOK (ELB)
CORE NETWORK
110
ISDP
• IN-SERVICE DATA WAREHOUSE
• COMPONENT MAINTENANCE DATA & SHOP FINDINGS
102
IMM SITE
• INVENTORY/ MATERIAL DATA
• STOCKING LOCATION
• QUANTITIES
• FORECASTING
• PLANNING
• TRANSACTION INFO
112
ELB
• MAINTENANCE HISTORY
• FLIGHT INFORMATION (FLT#/HRS/CYCLES)
• WRITE-UPS
• MAINTENANCE ACTION SIGN-OFFS
108
MEM
• PART INFORMATION
• STRUCTURAL REPAIR INFORMATION
• CURRENT TAIL SPECIFIC INFO.
• ALLOWABLE CONFIGURATION
114
AHM
• RECORDED FAULTS
• AIRPLANE HEALTH STATUS
• FAULT FORWARDING
• PREDICATED MAINTENANCE
CONFIG. & RECORDS MANAGEMENT 162
RELIABILITY ANALYSIS 164
LINE / BASE MAINTENANCE EXECUTION 166
LINE / BASE MAINTENANCE PLANNING 168
MAINTENANCE CONTROL DATA 170
CENTRALIZED MAINTENANCE INFORMATION TECHNOLOGY SYSTEM
160

FIG. 9

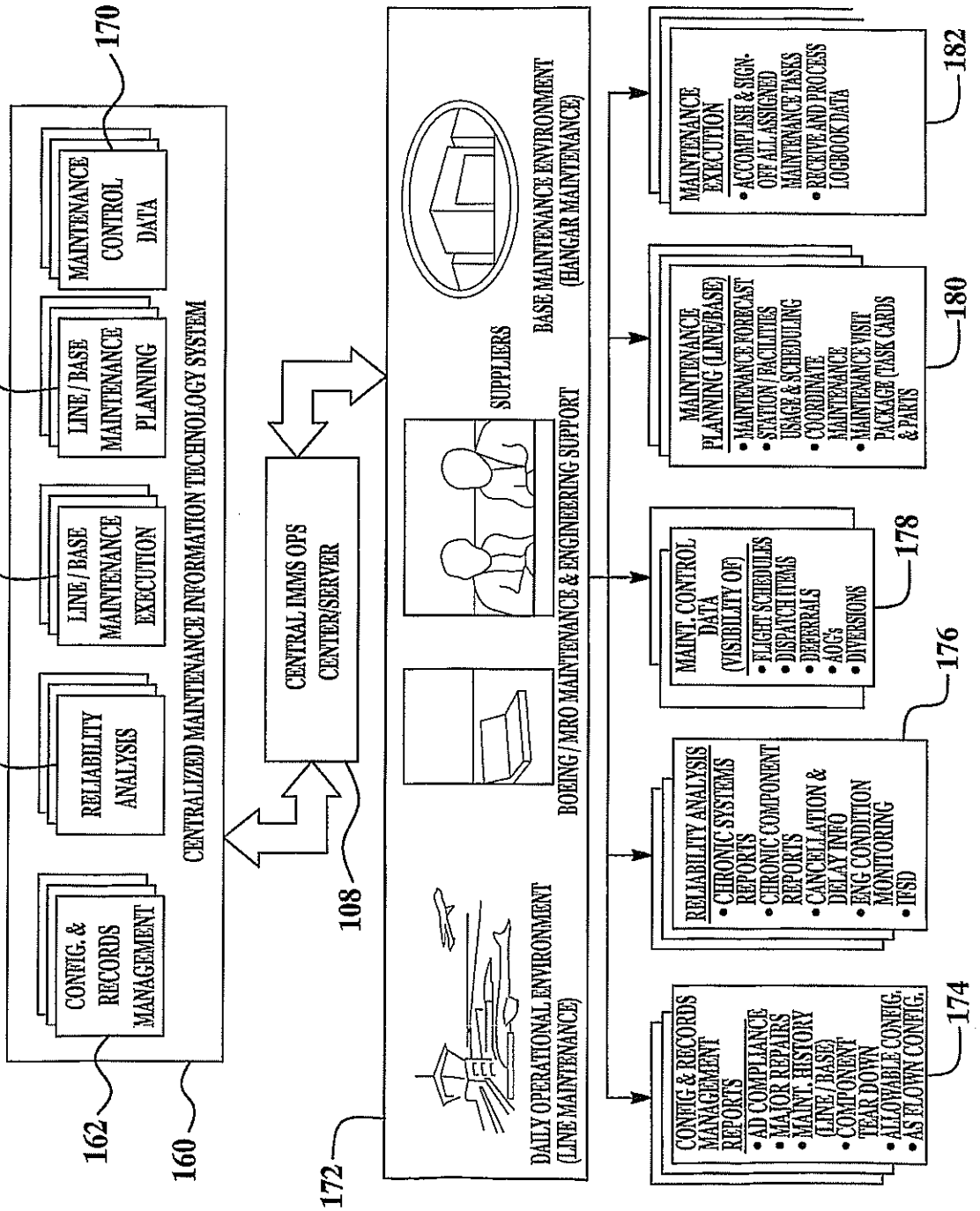

CENTRALIZED MAINTENANCE INFORMATION TECHNOLOGY SYSTEM
CONFIG. & RECORDS MANAGEMENT
RELIABILITY ANALYSIS
LINE / BASE MAINTENANCE EXECUTION
LINE / BASE MAINTENANCE PLANNING
MAINTENANCE CONTROL DATA
CENTRAL IMMS OPS CENTER/SERVER
DAILY OPERATIONAL ENVIRONMENT (LINE MAINTENANCE)
SUPPLIERS
BASE MAINTENANCE ENVIRONMENT (HANGAR MAINTENANCE)
BOEING / MRO MAINTENANCE & ENGINEERING SUPPORT
CONFIG & RECORDS MANAGEMENT REPORTS
• AD COMPLIANCE
• MAJOR REPAIRS
• MAINT. HISTORY (LINE / BASE)
• COMPONENT TEAR DOWN
• ALLOWABLE CONFIG.
• AS FLOWN CONFIG.
RELIABILITY ANALYSIS
• CHRONIC SYSTEMS REPORTS
• CHRONIC COMPONENT REPORTS
• CANCELLATION & DELAY INFO
• ENG CONDITION MONITORING
• IFSD
MAINT. CONTROL DATA (VISIBILITY OF)
• FLIGHT SCHEDULES
• DISPATCH ITEMS
• DEFERRALS
• AOCs
• DIVERSIONS
MAINTENANCE PLANNING (LINE/BASE)
• MAINTENANCE FORECAST
• STATION / FACILITIES USAGE & SCHEDULING
• COORDINATE MAINTENANCE
• MAINTENANCE VISIT PACKAGE (TASK CARDS & PARTS
MAINTENANCE EXECUTION
• ACCOMPLISH & SIGN-OFF ALL ASSIGNED MAINTENANCE TASKS
• RECEIVE AND PROCESS LOGBOOK DATA
162
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164
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168
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180
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FIG. 10

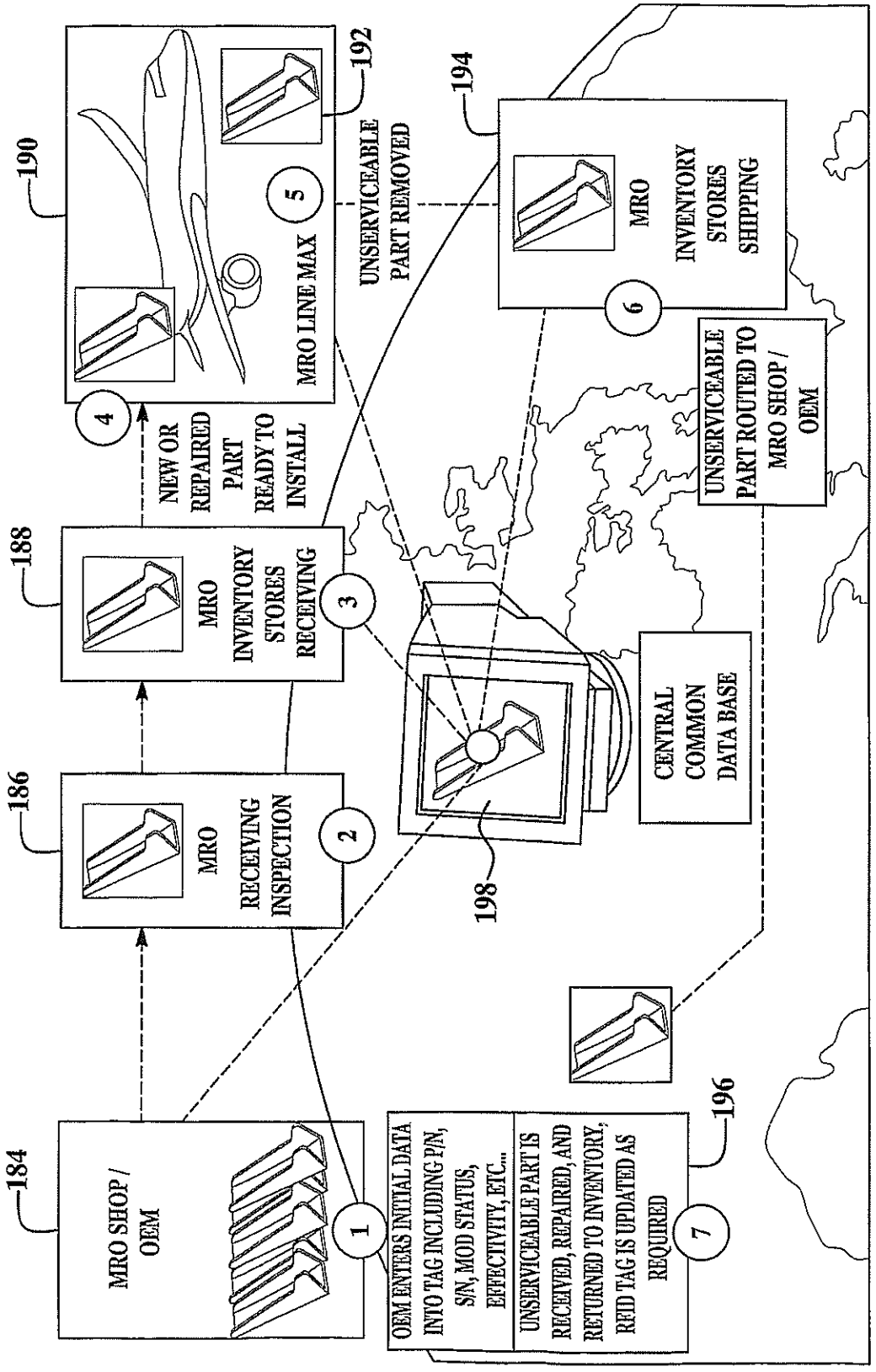

184
MRO SHOP / OEM
1
OEM ENTERS INITIAL DATA INTO TAG INCLUDING P/N, S/N, MOD STATUS, EFFECTIVITY, ETC...
186
MRO RECEIVING INSPECTION
2
188
MRO INVENTORY STORES RECEIVING
3
NEW OR REPAIRED PART READY TO INSTALL
4
190
MRO LINE MAX
5
UNSERVICEABLE PART REMOVED
192
194
MRO INVENTORY STORES SHIPPING
6
UNSERVICEABLE PART ROUTED TO MRO SHOP / OEM
CENTRAL COMMON DATA BASE
198
196
UNSERVICEABLE PART IS RECEIVED, REPAIRED, AND RETURNED TO INVENTORY, RFID TAG IS UPDATED AS REQUIRED
7

FIG. 11

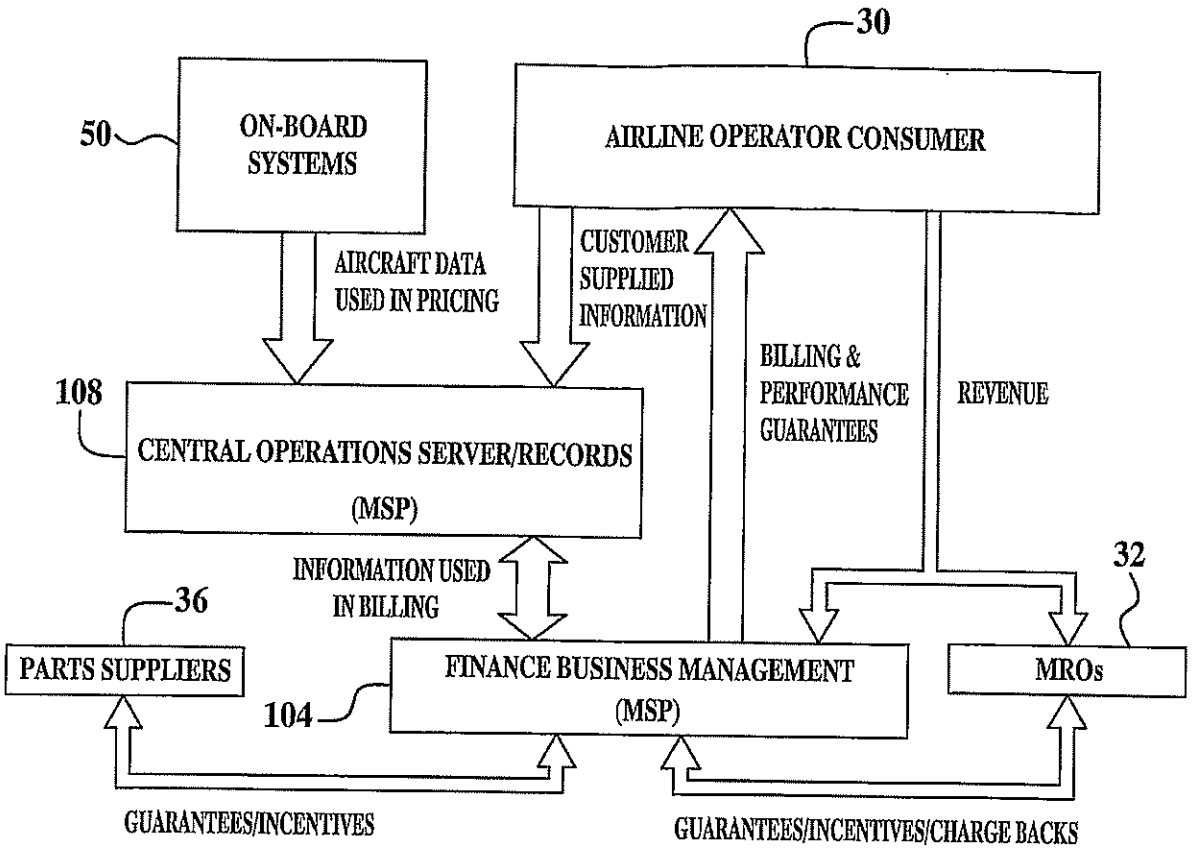

30
50
ON-BOARD SYSTEMS
AIRLINE OPERATOR CONSUMER
AIRCRAFT DATA USED IN PRICING
CUSTOMER SUPPLIED INFORMATION
BILLING & PERFORMANCE GUARANTEES
REVENUE
108
CENTRAL OPERATIONS SERVER/RECORDS (MSP)
INFORMATION USED IN BILLING
32
36
PARTS SUPPLIERS
104
FINANCE BUSINESS MANAGEMENT (MSP)
MROs
GUARANTEES/INCENTIVES
GUARANTEES/INCENTIVES/CHARGE BACKS

FIG. 12

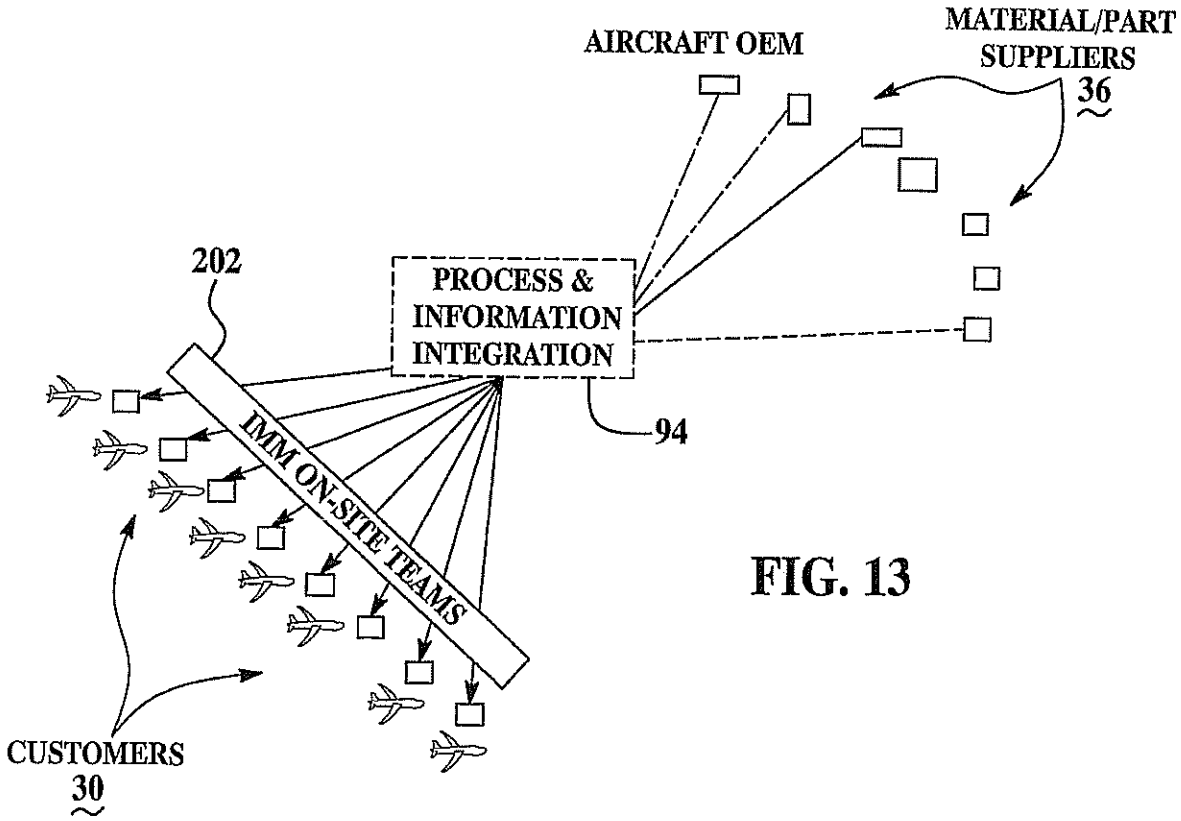

AIRCRAFT OEM
MATERIAL/PART SUPPLIERS
36
202
PROCESS & INFORMATION INTEGRATION
94
IMM ON-SITE TEAMS
CUSTOMERS
30

FIG. 13