FIG. 3 - DYNAMIC RESOURCE ALLOCATION PROCESS FLOW

RESOURCE REQUEST (1000)

ANALYZE REQUEST
Parse requirements & constraints (1001)

WAIT STATE

Wait Loop

RESOURCES AVAILABLE? (1002)

ERROR? (4001)

NO

YES

NO ERROR

Retry

QUEUE REQUEST
Add to priority queue (1003)

DIRECT ALLOCATION
Immediate resource assign (1004)

Retry

LOAD BALANCING SYSTEM (2000)

ERROR? (4000)

NO ERROR

OPTIMIZATION ENGINE
Multi-objective optimization (1005)

AUTO-SCALING SYSTEM (3000)

Workload Monitor (2001)

Migration Engine (2002)

Rebalancer (2003)

Threshold Control (2004)

Load Info

RESOURCE MAPPING
Map tasks to resources (1006)

Scale Info

Demand Predictor (3001)

Scale Controller (3002)

Capacity Manager (3003)

Resource Provision (3004)

EXECUTE ALLOCATION
Deploy & start execution (1007)

MONITOR PERFORMANCE (1008)

Performance Feedback