FIG. 2 - HYBRID ARCHITECTURE CONTROLLER TECHNICAL IMPLEMENTATION

ADAPTIVE RESOURCE ALLOCATION AND DECISION ENGINE

THREAT ANALYSIS PREPROCESSOR
(110)

Traffic Analysis (111)	Threat Classification (112)	Urgency Assessment (113)	Metadata Generation (114)

RESOURCE ALLOCATION DECISION ENGINE
(120)

Capacity Monitor (121)	Complexity Analyzer (122)	ML (123)

DECISION TREE (124)

CLASSICAL   QUANTUM

HYBRID

QUANTUM-CLASSICAL INTERFACE MANAGER
(130)

Protocol Handler (131)	Data Serialization (132)
Timing Coordinator (133)	Transfer Optimizer (134)

PERFORMANCE MONITORING & OPTIMIZATION SYSTEM
(140)

Latency Monitor (141)	Accuracy Tracker (142)	Resource Utilization (143)	Learning Engine (144)	Optimizer (145)

Alg 1: Routing Decision Tree (150)

Continuous Learning Feedback

Alg 2: Resource Allocation Optimizer (160)