FIG. 2 - CPU PRIORITY SCHEDULING TECHNICAL IMPLEMENTATION

MULTI-CORE CPU TEMPORAL DOMAIN SCHEDULING **CPU CORE 0 CPU CORE 1 CPU CORE 2 CPU CORE 3** (HYPERSPACE) (REALTIME) (SLOWTIME) (QUARANTINE) Nice: +10 Nice: +19 Nice: -20 Nice: 0 Priority: HIGH Priority: NORMAL Priority: LOW **Priority: LOWEST Security Processes** Standard Processes Suspicious Processes **Malicious Processes** (10)(20)(30)(40)PROCESS CLASSIFICATION AND ASSIGNMENT WORKFLOW CLASSIFICATION **DOMAIN SCHEDULER NEW PROCESS ANALYSIS ASSIGNMENT** CONFIG PID: 1234 Risk Assessment Nice Value Name Pattern (100) · Behavior Indicators Priority Level CPU Affinity (200)(300)(400) HYPERSPACE OPTIMIZATION TECHNIQUES **QUARANTINE RESTRICTION TECHNIQUES** • CPU Cache Optimization: Assign to cores with largest L3 cache • CPU Throttling: Single slowest core assignment only Memory Prefetching: MADV SEQUENTIAL hints for memory regions • Memory Limitation: 100MB maximum memory allocation • Interrupt Priority: Elevated interrupt handling priority • I/O Throttling: IOPRIO_CLASS_IDLE for all disk operations • Real-Time Scheduling: SCHED_FIFO policy for critical processes Network Restriction: Bandwidth limiting and connection limits • Resource Isolation: Dedicated CPU cores for security processes • Filesystem Access: Read-only access with monitoring (500)(600)**TEMPORAL DOMAIN PERFORMANCE METRICS** Hyperspace: 8.3x avg performance | Realtime: 1.0x baseline | Slowtime: 0.1x constrained | Quarantine: 0.01x isolated