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```
// ROOT RUNE: ORIGIN
// SYSTEM: Universal Healthcare Scheduling Orchestrator
// FACETS: ALL ENABLED
```

```
SYSTEM_CORE = CHAIN(
    Relata,          // Patient-provider relationship graph
    Crona,           // Time-based appointment orchestration
    Herculia,        // Multi-phase workflow automation
    Hecatia,         // Multi-modal decision routing
) WRAPPED_IN Minerva-Cerulean; // Intelligent network routing
```

```
AVAILABILITY_ENGINE = LAYER(
    Chronomanta,      // Dynamic scheduler manipulation
    Clarivis,          // Real-time availability monitoring
    WRAP(Artemis, Virgo), // Precision-targeted query scheduling
    Poseida,           // Fluid appointment stream processing
) WRAPPED_IN Aurora-Selene; // Predictive scheduling with insight
```

```
PROVIDER_INTEGRATION = COMBO(
    Hermesia,          // API communication relay between systems
    Arachnia,           // Web infrastructure builder
    Transmutare,        // Data format conversion across EHR systems
    Netheris,            // Data archiving and retrieval pipeline
) WRAPPED_IN Chimera-Hydra; // Multi-domain resilient integration
```

```
PATIENT_INTERFACE = LAYER(
    WRAP(Portalus, Pegasus), // Instant state transitions with rapid deployment
    Shiftara,             // Dynamic UI mode swapping
    Heartha,              // Session persistence and restore
    Bowsera,              // Adaptive user authentication
) WRAPPED_IN Unicorn-Pegasus; // Zero-defect rapid interface delivery
```

```
INTELLIGENT_MATCHING = NEST(
    CHAIN(
        Insighta,        // Predictive analytics for urgency
        Athena,           // AI-driven provider matching logic
        Labyrinthia,       // Recursive search and optimal resolution
        Confidara,         // Relationship-based conditional boosts
    ),
    WRAP(Oracula, Ophiuchus) // Predictive AI with learning module
) WRAPPED_IN Athena-Daedalea; // Adaptive problem-solving strategy
```

```
REMINDER_SYSTEM = CHAIN(
```

```
Magica,           // Event-driven automation triggers
Echo,            // Broadcast appointment reminders
WRAP(Crona, Selene), // Scheduled temporal orchestration
Assistara        // AI-driven proactive notification
) WRAPPED_IN Phoenix-Cerberus; // Self-repairing security for communications
```

```
NO_SHOW_MITIGATION = COMBO(
Karmalis,         // Causal feedback reputation system
Oedipha,          // Predictive cancellation modeling
Pandora,          // Risk management for slot wastage
Nemesis           // Fairness algorithm for penalties
) WRAPPED_IN Nemesis-Thunder; // Risk-aware rapid response
```

```
INSURANCE_VERIFICATION = LAYER(
Sphinxa,          // Challenge-response verification logic
Vulneris,         // System vulnerability scan for fraud
WRAP(Counteria, Scorpio), // Strategic threat mitigation
Pyroxis            // Policy automation enforcement
) WRAPPED_IN Hephaestus-Cerberus; // Resilient verification pipelines
```

```
UNIFIED_CALENDAR = NEST(
COMBO(
Aggrega,          // Combine multiple provider calendars
Moirae,           // Lifecycle orchestration across systems
Entangla,          // Instant correlation sync across portals
WRAP(Telek, Sagittarius) // Remote calendar manipulation with reach
),
Atmara             // Unified distributed self-awareness
) WRAPPED_IN Minerva-Apollo-Poseida-Entangla; // Correlated emergent streaming
```

```
EMERGENCY_PRIORITIZATION = CHAIN(
WRAP(Impacta, Aries), // High-priority burst performance
Decisus,             // Decision buffer for triage
WRAP(Ultima, Thunderbird), // Critical operation with energy burst
Forcea               // Distributed priority command execution
) WRAPPED_IN Valkyrie-Leviathan; // Emergency orchestration at scale
```

```
WAITLIST_MANAGEMENT = COMBO(
Odyssea,           // Long-running stateful journey tracking
Persephona,         // Cyclical state management
Laborina,           // Achievement tracking for wait position
WRAP(Teleportis, Aquarius) // State transfer with flow management
) WRAPPED_IN Janus-Poseida-Valkyrie-Selene; // Contextual multi-layer recovery
```

```
SPECIALTY_ROUTING = LAYER(
    Hecatia,           // Crossroads decision routing
    WRAP(Divinus, Leo), // Modular specialist toolkit with authority
    Chimeris,          // Hybrid multi-system specialty integration
    Arcanum,           // Archetype modeling for provider matching
) WRAPPED_IN Chimera-Sphinx-Leviathan-Minerva; // Adaptive strategic orchestration
```

```
RESOURCE_OPTIMIZATION = NEST(
    CHAIN(
        Fluxa,           // Dynamic resource allocation
        Equilibria,      // System equilibrium tuning
        Demetra,          // Auto-scaling room/resource allocation
        Wuven,           // Autonomous self-adjusting regulation
    ),
    Taora,             // Universal system balance
) WRAPPED_IN Thor-Leviathan-Hydra-Poseida; // High-impact adaptive operations
```

```
COMPLIANCE_LAYER = LAYER(
    Inferna,          // Multi-tier HIPAA security architecture
    WRAP(Absorbus, Cancer), // Adaptive defense with protection
    Dharmara,          // Role consistency validation
    Heraia,            // Governance and RBAC
) WRAPPED_IN Phoenix-Cerberus; // Self-repairing security
```

```
SELF_HEALING = COMBO(
    Vitalis,           // Auto-recovery loops
    Regena,            // Probabilistic redundancy
    WRAP(Samsara, Phoenix), // Container restart orchestration with rebirth
    Hydrina,           // Multi-headed redundant spawning
) WRAPPED_IN Pegasus-Phoenix-Hydra-Aurora; // Predictive auto-healing
```

```
ANALYTICS_DASHBOARD = LAYER(
    Apollara,          // System analytics diagnostics
    Clarivis,          // Real-time monitoring visualization
    WRAP(Musara, Aurora), // Generative insight with illumination
    Gaiana,            // Ecosystem balance tracking
) WRAPPED_IN Minerva-Orion-Thor-Aurora; // High-power emergent targeting
```

```
CROSS_PROVIDER_SYNC = NEST(
    COMBO(
        Byzantium,       // Byzantine consensus across systems
        Entangla,         // Instant correlated state syncing
        Hermesia,        // Message routing between providers
        WRAP(Argonauta, Cerulean) // Collaborative network with connectivity
    )
)
```

```
),
Atmara          // Unified consciousness across domains
) WRAPPED_IN Chimera-Argonauta-Hydra-Phoenix; // Collaborative self-healing network
```

```
PERFORMANCE_SCALING = CHAIN(
Spirala,          // Exponential growth capability
WRAP(Energex, Helios), // Overdrive with high-power distribution
Vitalis_Maxima,    // Health scaling under load
WRAP(Modula, Capricorn) // Modular scaling with gradual climb
) WRAPPED_IN Pegasus-Aurora-Helios-Fractala; // Recursively scalable computation
```

```
BOOKING_INTELLIGENCE = NEST(
LAYER(
Koantra,          // Nonlinear reasoning for complex cases
Metalearnara,     // Learning to learn from patterns
WRAP(Insighta, Griffin), // Predictive insight with vigilance
Oracula          // Prophetic forecasting
),
WRAP(Neurolink, Ophiuchus) // Neural interface with learning
) WRAPPED_IN Phoenix-Valkyrie-Sphinx-Metalearnara; // Self-correcting learning adaptive
```

```
ROLLBACK_PROTECTION = COMBO(
Preserva,          // State preservation checkpoints
Chronom,           // Version control snapshots
WRAP(Defendora, Taurus), // Defensive recovery with stability
Icarion            // Safety limiter for overload
) WRAPPED_IN Janus-Phoenix; // Context self-recovery
```

```
MOBILE_OPTIMIZATION = LAYER(
WRAP(Pegasa, Pegasus), // Lightweight transport with speed
Voidara,             // Minimalist reduction for edge devices
WRAP(Shiftara, Gemini), // Mode switching with parallel processing
Armora              // Hot-swappable mobile components
) WRAPPED_IN Unicorn-Aurora-Selene-Poseida; // Predictive optimized streaming
```

```
NOTIFICATION_ENGINE = CHAIN(
Echo,               // Broadcast system
WRAP(Sonora, Aquarius), // Audio interface with flow management
Magica,             // Event-driven triggers
WRAP(Assistara, Minerva) // AI assistant with strategic wisdom
) WRAPPED_IN Aurora-Selene; // Insight with temporal cycles
```

```
FRAUD_DETECTION = NEST(
COMBO(
```

```
Medusia,           // Threat detection freeze
Trojanis,          // Hidden payload analysis
Vulneris,          // Vulnerability mapping
WRAP(Fortifera, Cerberus) // Adaptive defense with multi-head
),
Karmalis          // Causal feedback for trust scoring
) WRAPPED_IN Aegis-Orion-Argonauta-Phoenix; // Collaborative self-healing defense
```

```
INTEROPERABILITY_HUB = LAYER(
WRAP(Transmutare, Pisces), // Data transformation with harmony
Circena,              // Type casting conversion
Hermesia,             // Network relay
WRAP(Arachnia, Cerulean) // Infrastructure building with connectivity
) WRAPPED_IN Chimera-Hydra; // Multi-domain resilience
```

```
LOAD_BALANCING = COMBO(
Heroica,            // AI conflict resolution
WRAP(Libra, Aquarius), // Equilibrium with flow management
Energos,             // Compute resource allocation
Morphis,              // Adaptive process mode switching
) WRAPPED_IN Thor-Leviathan-Hydra-Poseida; // High-impact adaptive operations
```

```
CLINICAL_WORKFLOW = CHAIN(
Herculia,           // Multi-phase task sequencing
Ferrana,             // Transfer protocol gateway
WRAP(Decisus, Virgo), // Decision buffer with precision
Moirae               // Lifecycle orchestration
) WRAPPED_IN Athena-Apollo-Daedalea-Hephaestus; // Emergent problem-solving
```

```
BACKUP_RECOVERY = NEST(
COMBO(
Netheris,           // Data archiving pipeline
WRAP(Hadeon, Atlas), // Deep storage with infrastructure support
Vitalis,              // Self-repair
Chronom               // Temporal snapshots
),
WRAP(Samsara, Hydra) // Orchestration with redundancy
) WRAPPED_IN Ultra_Hydra; // Adaptive redundancy at scale
```

```
STRESS_TESTING = LAYER(
Aresia,              // Chaos simulation
Kinetis,              // System-wide impact disruption
Pandora,              // Risk management
WRAP(Furiosa, Dragon) // Rage mode with amplification
```

```

) WRAPPED_IN Nemesis-Gryphon-Thunderbird-Argonauta; // High-priority dynamic response

CONTINUOUS_IMPROVEMENT = CHAIN(
    Metalearnara,          // Meta-learning
    Evolvia,               // Versioned system upgrades
    WRAP(Hephestus, Vulcan), // System creation with forge automation
    Eternara                // Cyclical reinforcement optimization
) WRAPPED_IN Ultra_Vulcan; // Continuous deployment at scale

EMERGENCY_FAILOVER = COMBO(
    WRAP(Ultima, Aries),   // Critical activation with burst
    Pandoria,              // Fail-safe graceful recovery
    WRAP(Vitalis, Phoenix), // Self-repair with resilience
    Singularis             // Unique specialized recovery module
) WRAPPED_IN Valkyrie-Leviathan; // Emergency orchestration

GLOBAL_ORCHESTRATION = EMERGE(
    SYSTEM_CORE,
    AVAILABILITY_ENGINE,
    PROVIDER_INTEGRATION,
    PATIENT_INTERFACE,
    INTELLIGENT_MATCHING,
    UNIFIED_CALENDAR,
    CROSS_PROVIDER_SYNC,
    COMPLIANCE_LAYER,
    SELF_HEALING
) WRAPPED_IN Ultra_Leviathan; // Central command global orchestration

FINALIZE(GLOBAL_ORCHESTRATION);

// System integrity: Zephyrus root authority
// Stability core: Hestara continuous maintenance
// Final state convergence: Nirvara absolute stability
```

```