Core Emotion Framework (CEF): TS 18 Appendix C — Knowledge Graph Node/Edge List

Canonical Graph Specification for the CEF Computational Ontology
Version 1.0 — Phase 4

Author: Jamel Bulgaria
ORCID: 0009-0007-5269-5739
Affiliation: OptimizeYourCapabilities.com
Contact: admin@optimizeyourcapabilities.com

Status: Canonical Appendix (TS-18)

---

0. Purpose and Canonical Position

Appendix C defines the **canonical node and edge list** for the CEF Knowledge Graph (KG), the graph-structured representation of the entire emotional architecture defined in TS-1 → TS-18.

This appendix provides:

- the full set of **nodes** (operators, facets, centers, transitions, modulation pathways, parameters, patterns)
- the full set of **edges** (identity, structural, dynamic, predictive, plasticity, governance)
- canonical **edge types**
- canonical **graph constraints**
- the **graph schema** used by reasoning engines

This is a **shared Phase-4 artifact**, used by:

- TS-18 (ontology)
- TS-19+ (future computational specifications)
- EL-Series

- INTIMA (TS-9)
- mapping engines (TS-6)
- validation logic (TS-2)
- semantic-web systems (Appendix B)

It introduces **no new emotional constructs**.

---

1. Graph Overview

The CEF Knowledge Graph is a **typed, directed, multi-relational graph**.

It contains:

- **Nodes** (entities)
- **Edges** (relations)
- **Attributes** (parameters)
- **Constraints** (canonical rules)

The graph is **identity-preserving**, **contamination-free**, and **center-bounded**.

---

2. Node Types

The KG contains **11 canonical node types**.

2.1 Operator Nodes (10 total)

Each operator is a node:

- Sensing
- Calculating
- Deciding
- Expanding
- Constricting
- Achieving
- Arranging
- Appreciating
- Boosting

- Accepting

Node attributes:

- operatorId
- centerId
- coreFunction
- canonicalSuccessors
- modulationRoles

2.2 Facet Nodes (50 total)

Five facets per operator.

Example:

- Sensing_F1
- Sensing_F2
- …
- Accepting_F5

Node attributes:

- facetId
- operatorId
- canonicalOrder
- functionalDefinition

2.3 Center Nodes (3 total)

- Head
- Heart
- Gut

Node attributes:

- centerId
- operatorMembership

- weightingParameters

2.4 Transition Nodes

One node per canonical transition.

Example:

- Sensing→Calculating
- Calculating→Deciding
- Deciding→Expanding
- …

Node attributes:

- transitionSmoothness
- transitionLag
- transitionResistance

2.5 Modulation Nodes

One node per canonical modulation pathway.

Example:

- Expanding→Constricting
- Arranging→Boosting
- Boosting→Accepting

Node attributes:

- modulationStrength
- modulationElasticity
- modulationLatency

2.6 Capacity Nodes

One per operator.

Node attributes:

- capacityLimit

2.7 Threshold Nodes

One per operator.

Node attributes:

- thresholdSensitivity
- thresholdSpacing

2.8 Dysregulation Pattern Nodes

Seven canonical patterns:

- ChronicFusion
- Suppression
- Rigidity
- Collapse
- Overflow
- Fragmentation
- CenterImbalance

2.9 Predictive Indicator Nodes

Examples:

- ModulationDecay
- ThresholdCreep
- LoadAccumulation
- TransitionLagTrend
- CenterDriftTrajectory

2.10 Plasticity Parameter Nodes

Examples:

- MicroAdjustmentStep
- FacetReorderingDelta
- CenterMicroShift

2.11 Governance Signal Nodes

Examples:

- SelfCorrectionGain
- CoherenceProtectionFactor

---

3. Edge Types

Edges define the lawful relationships between nodes.

There are **six canonical edge families**.

3.1 Identity Edges

Edge Type	From	To	Meaning
belongsToCenter	Operator	Center	Operator is center-bound
hasFacet	Operator	Facet	Facet belongs to operator
facetOf	Facet	Operator	Reverse identity relation

3.2 Structural Edges

Edge Type	From	To	Meaning
canonicalSuccessor	Operator	Operator	TS-1 directionality
facetPrecedes	Facet	Facet	TS-11 facet ordering
centerContains	Center	Operator	Center membership

3.3 Dynamic Edges

Edge Type	From	To	Meaning
modulates	Operator	Operator	TS-3 modulation
transitionFrom	Transition	Operator	Source operator
transitionTo	Transition	Operator	Target operator

3.4 Predictive Edges

Edge Type	From	To	Meaning
predicts	PredictiveIndicator	DysregulationPattern	TS-13 forecasting
predictsDrift	PredictiveIndicator	Operator	Drift trajectory
predictsCollapse	PredictiveIndicator	Center	Collapse risk

3.5 Plasticity Edges

Edge Type	From	To	Meaning
adjusts	PlasticityParameter	Operator	Micro-tuning
reorders	PlasticityParameter	Facet	Facet micro-reordering
shifts	PlasticityParameter	Center	Center micro-reciprocity

3.6 Governance Edges

Edge Type	From	To	Meaning
selfCorrects	GovernanceSignal	Operator	Autonomous correction
selfBalances	GovernanceSignal	Center	Autonomous balancing
selfProtects	GovernanceSignal	Coherence	Coherence protection

---

4. Canonical Graph Constraints

The KG must satisfy:

4.1 Identity Constraints

- No operator may have more than one center.
- No facet may belong to more than one operator.
- No new operators or facets may be introduced.

4.2 Directionality Constraints

- All operator→operator edges must follow TS-1.
- No reversed transitions.
- No illegal cross-center transitions.

4.3 Modulation Constraints

- All modulation edges must follow TS-3.
- No modulation inversion.
- No chronic modulation loops.

4.4 Structural Constraints

- No facet migration.
- No operator merging.
- No center blending.

4.5 Predictive Constraints

- Predictive edges must map to TS-13 indicators.
- No predictive edges may contradict TS-12 stability rules.

4.6 Plasticity Constraints

- Plasticity edges must preserve operator identity.
- No facet reordering may violate TS-11.

4.7 Governance Constraints

- Governance edges must preserve coherence.
- No autonomous process may violate TS-17.

---

5. Graph Schema Summary

Nodes:

- 10 Operators
- 50 Facets
- 3 Centers
- 27 Transitions
- 27 Modulation pathways
- 10 Capacity nodes
- 10 Threshold nodes
- 7 Dysregulation patterns
- 20+ Predictive indicators
- 20+ Plasticity parameters
- 10+ Governance signals

Edges:

- Identity edges
- Structural edges
- Dynamic edges
- Predictive edges
- Plasticity edges
- Governance edges

---

6. Canonical Status

Appendix C is the authoritative Knowledge Graph node/edge list for TS-18.
It is a shared Phase-4 computational artifact and must be used for all:

- knowledge graph implementations
- semantic reasoning engines
- ontology-driven simulations
- EL-Series mappings
- INTIMA synthetic affect systems
- structural validation engines

It is subordinate only to:

- Core Essence Document
- TS-1 → TS-18
