



## Experimental Validation

This section demonstrates the practical viability of CIF's formal mechanisms through empirical evaluation across production multiagent architectures. We present experimental setup (sec:exp-setup) and key findings (sec:key-findings). Detailed statistical analysis, ablation studies, and scalability metrics are provided in sec:statistical-validation, sec:sensitivity, sec:extended-ablation.

**Reproducibility:** Evaluation data generated by `scripts/run_full_evaluation.py` → `output/data/full_evaluation_results.json`. All results use deterministic seed=42.

## Experimental Setup

### Target Architectures

We evaluated CIF across six production multiagent systems representing diverse architectural patterns:

Table 1: Multiagent system architectures evaluated.