



Candidate Architectures

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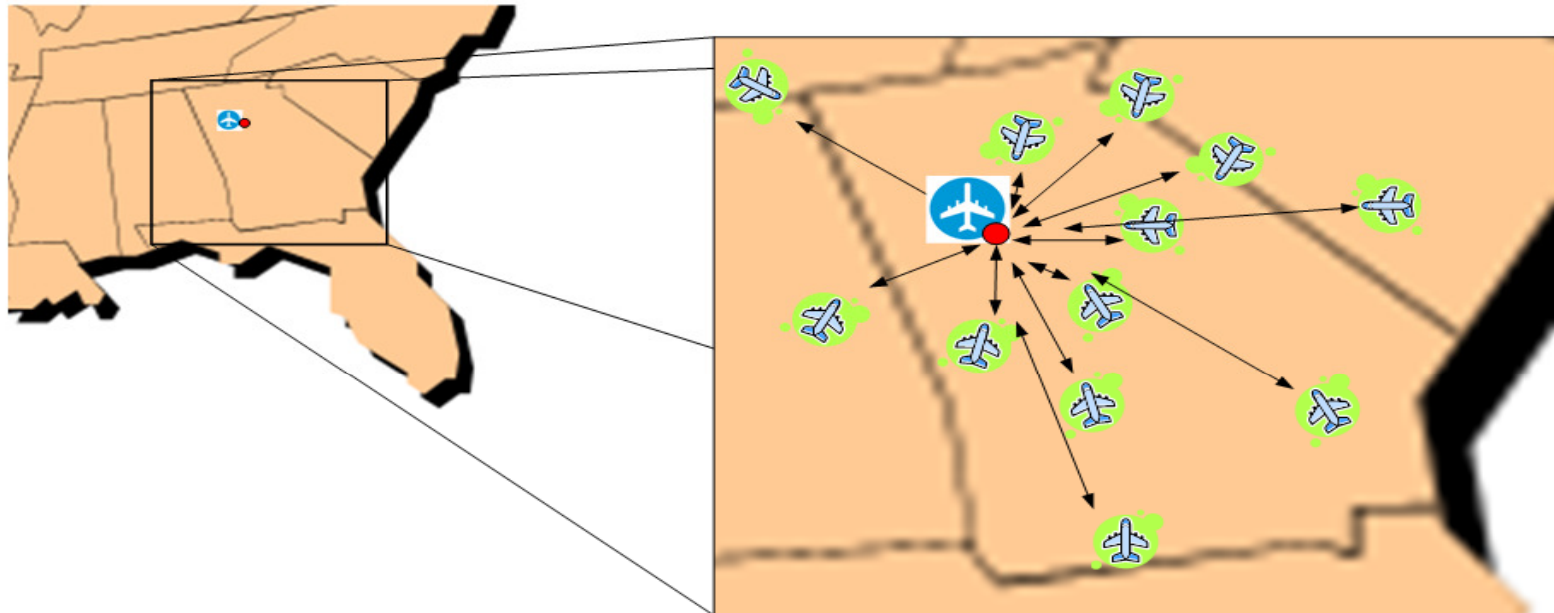


Candidate System Architectures

- Decentralized – Airport Control
- Centralized – Uber AOC
- Distributed Network



Decentralized – Airport Control



Candidate Architecture 3: Decentralized CTAAS

- Each major airport would have its own decentralized CTAAS system.
- The decentralized CTAAS systems would maintain communication with AOCs only from airlines with inbound aircraft.

NODE: 3

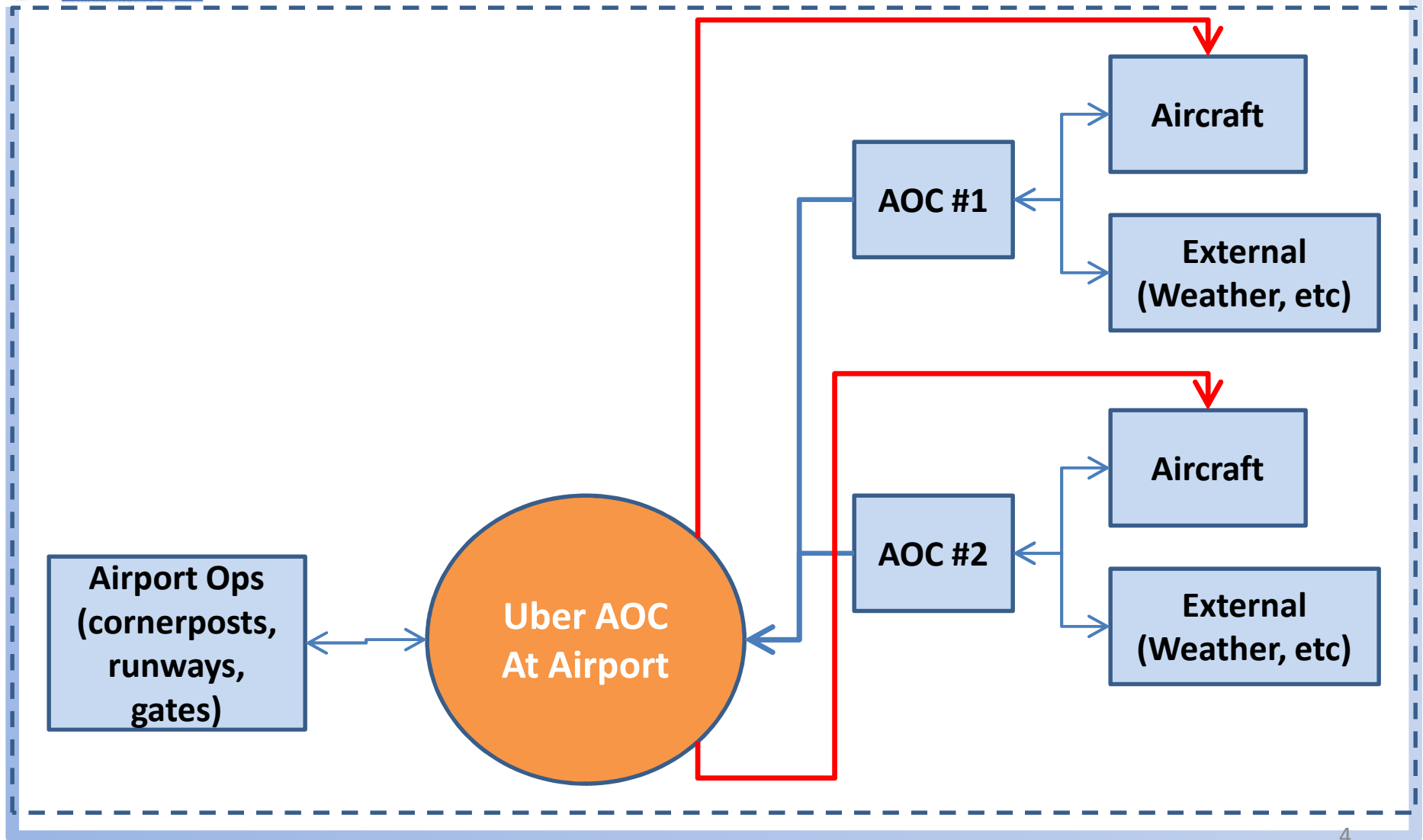
TITLE:

Candidate Architecture 3: Decentralized System

NO.: pg. 3

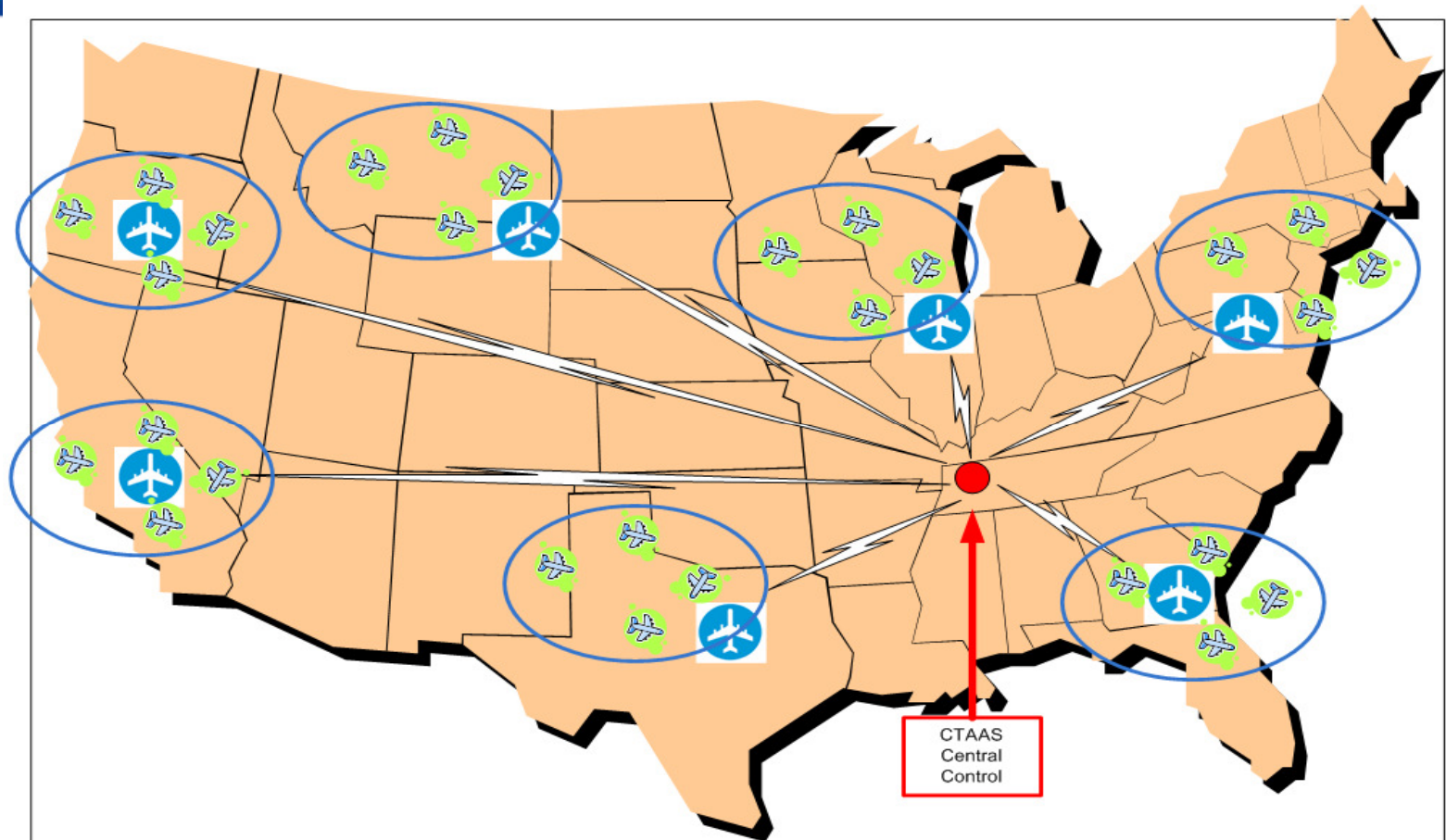


Decentralized – Airport Control





Centralized – Uber ATC



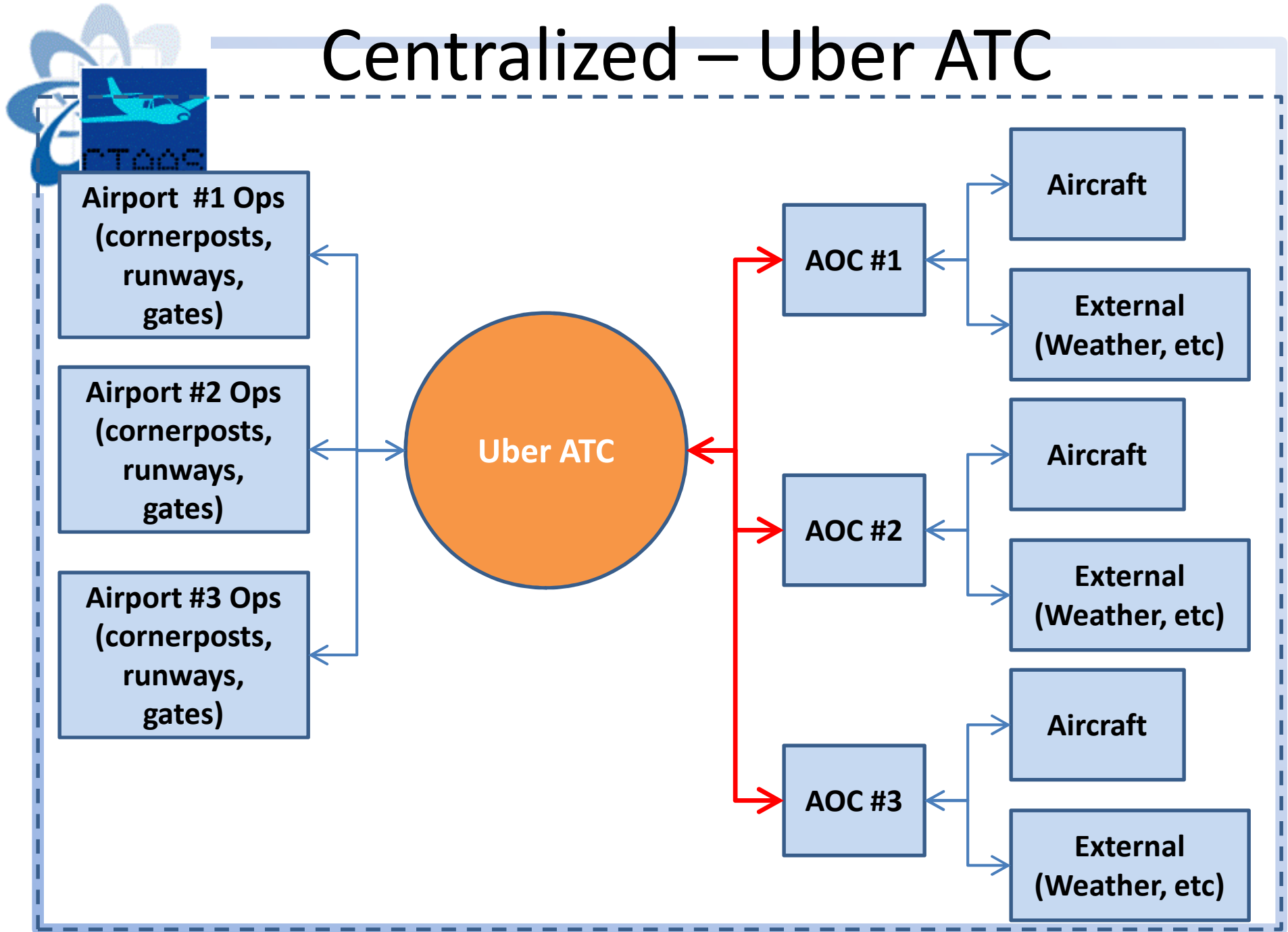
Candidate Architecture 2: Centralized CTAAS

- One centralized CTAAS control center coordinates sequencing of all arriving aircraft for all major airports in the continental U.S.
- The centralized CTAAS control center would communicate with the AOC for each airline that flies into each airport to provide flight guidance.

NODE: 2 TITLE:

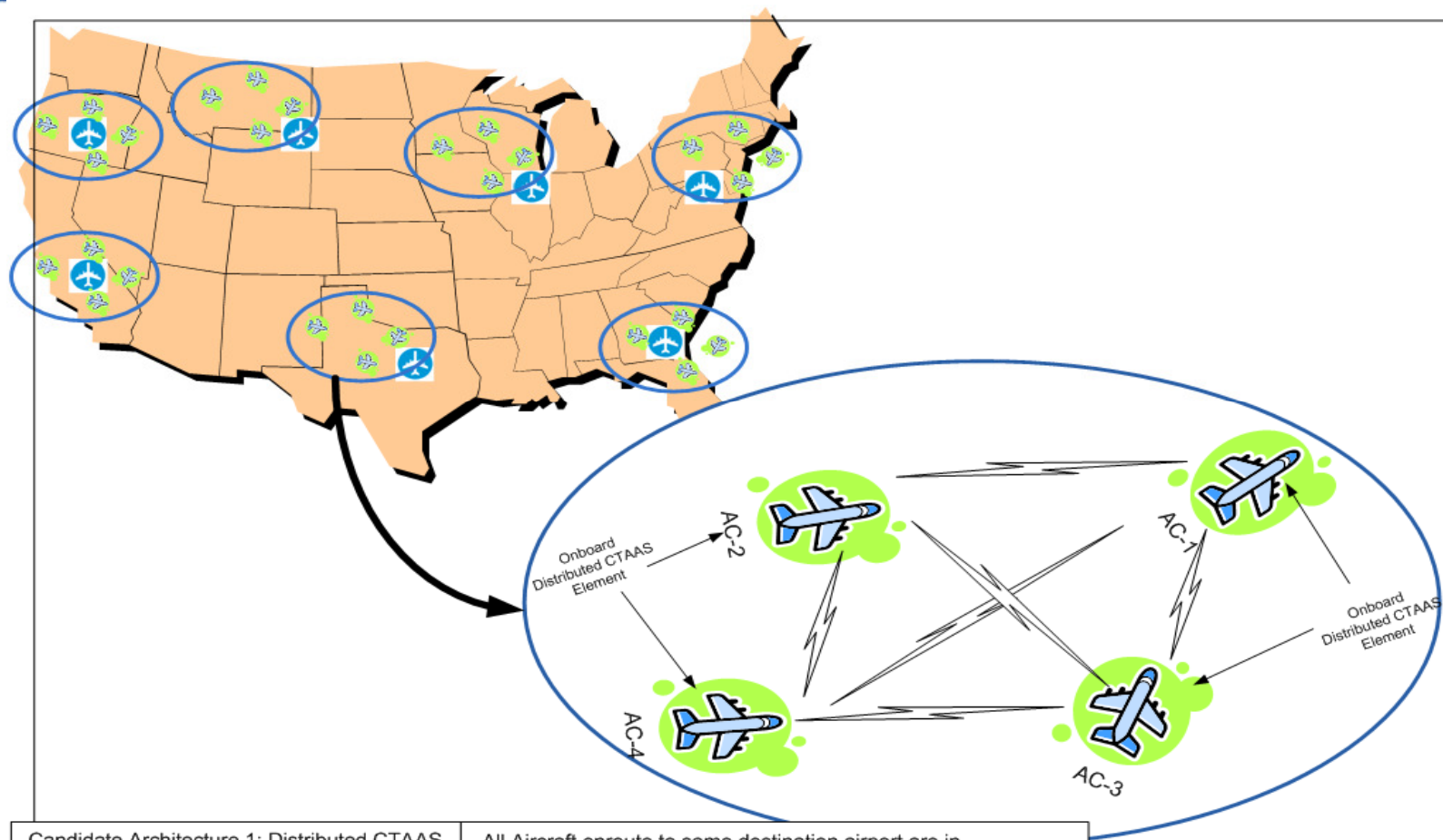
○ Airport/Regional Sequence Cluster

Centralized – Uber ATC





Distributed Network



Candidate Architecture 1: Distributed CTAAS

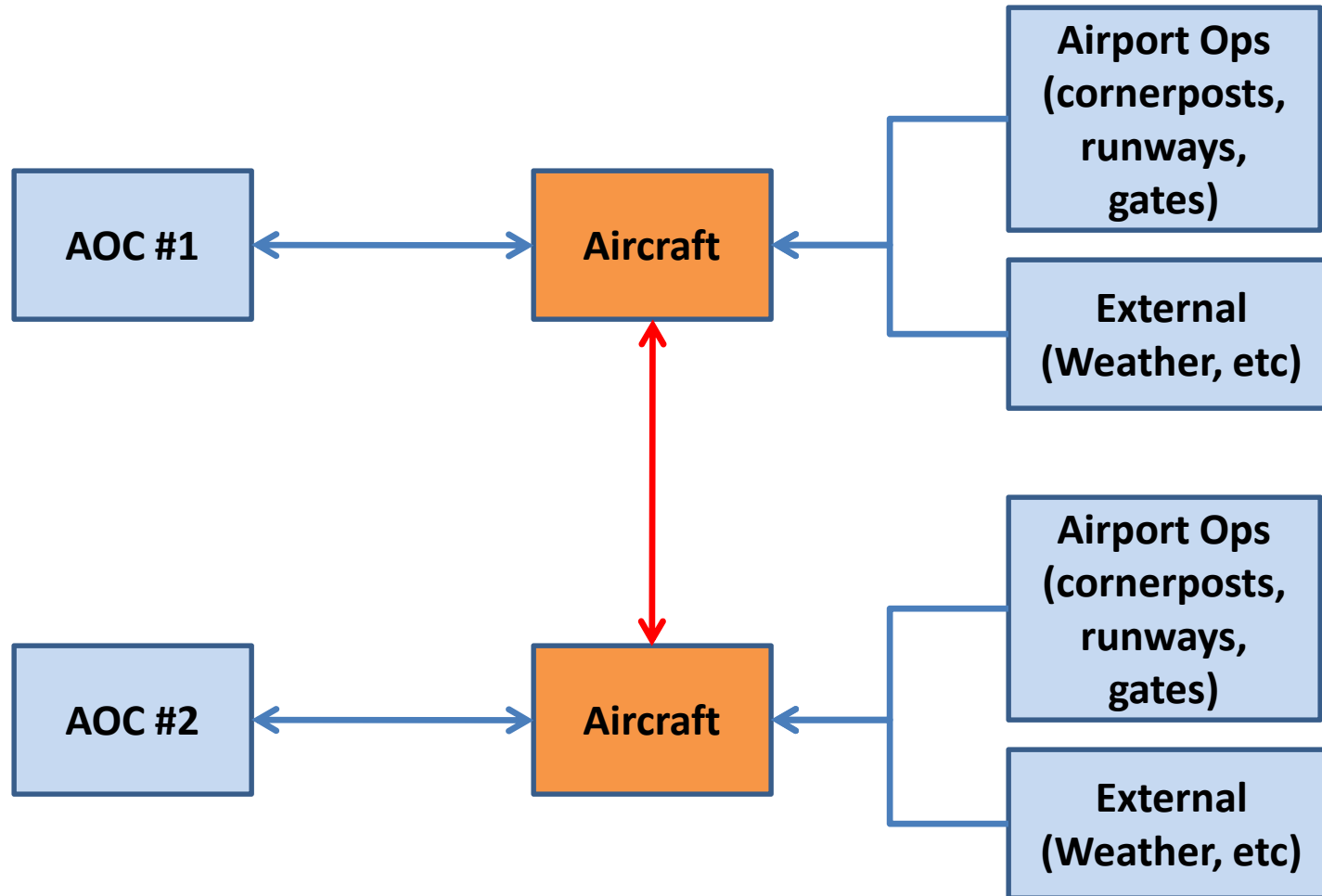
- All Aircraft enroute to same destination airport are in communication regarding flight characteristics, current location, speed, etc.
- Distributed CTAAS system will assign sequencing slots via collaborative decision making, and will self-regulate arriving aircraft to ensure correct arrival sequencing.

NODE: 1 TITLE:

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Distributed Network – Collaborative Sequencing





Architecture Selection

Architecture	COST	Safety	Optimal Utilizes Existing Resources	Low Workload	Convenience	Rise in Sales	Improves Operations	SCORE
Decentralized	3	4	3	3	5	4	4	26
Centralized	4	1	4	2	1	3	2	17
Distributed Network	1	4	1	1	4	2	1	14

5: 1:
Best Worst

Based on our analysis, decentralized architecture system works the best.