



# EVE Online: Quasar

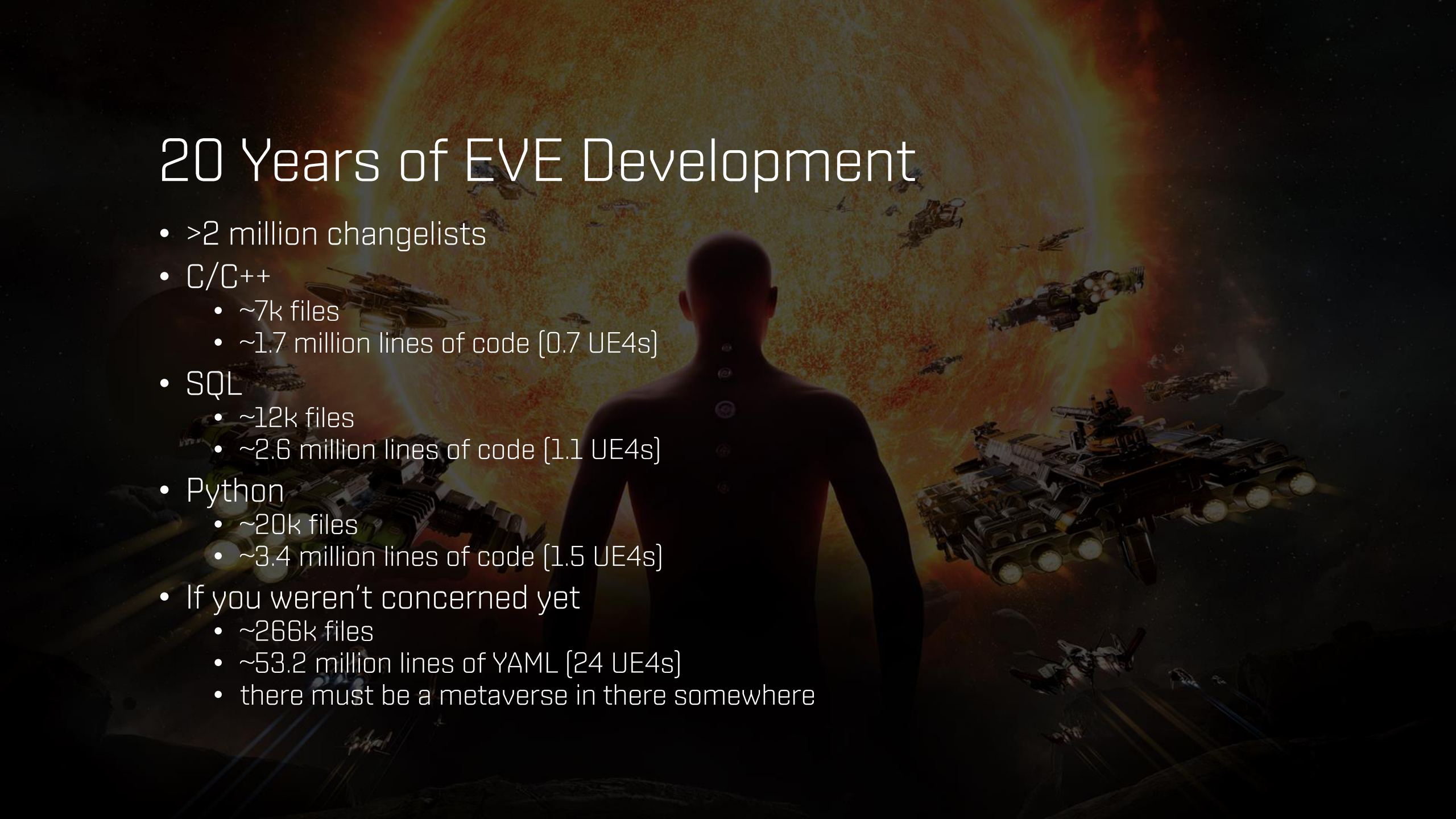
Putting more internet in internet spaceships



# Internet Spaceships

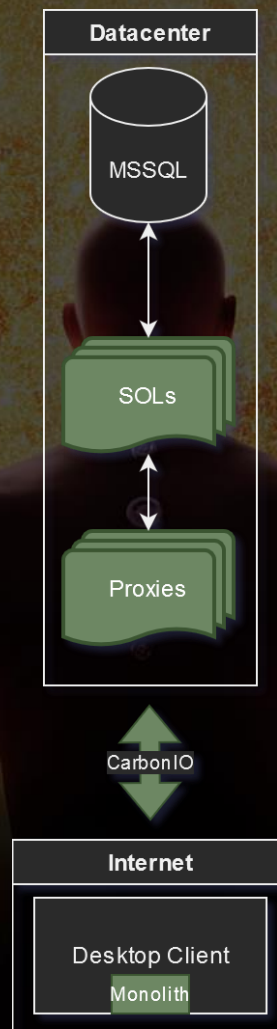
- Epic espionage stories
- Single shard sandbox MMO
- Player driven ecosystem
  - ~500,000 market transactions on a slow day
  - ~12 billion items a day (this is counting each bullet)
- Guinness World Record
  - 14-hour battle from October 6<sup>th</sup>-7<sup>th</sup> 2020 "Fury at FWST-8"
  - Largest multiplayer videogame PvP battle (8,825 players)
  - Most concurrent participants in a multiplayer videogame PvP battle (6,557 participants)

# 20 Years of EVE Development

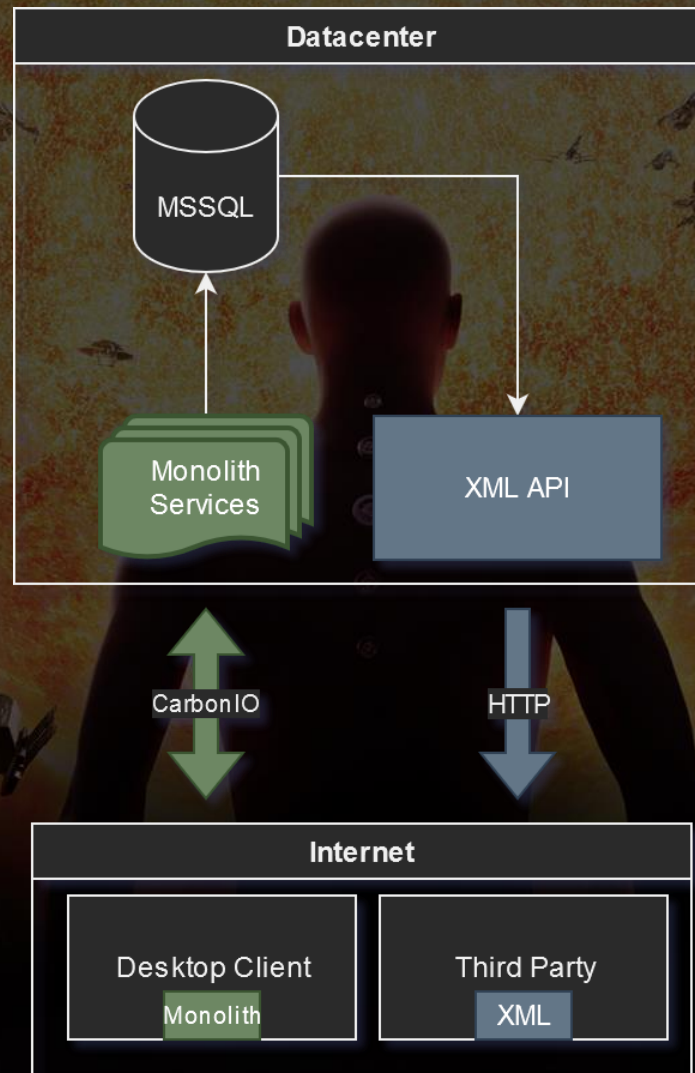
A person in a spacesuit is seen from behind, looking out at a vast space filled with numerous EVE Online ships. The ships are of various sizes and designs, some with large wings and others more compact. They are scattered across the frame, some appearing closer and larger, others further away. The background is a bright, fiery orange and yellow, suggesting a nebula or a distant star system. The overall scene is dramatic and emphasizes the scale of the game's universe.

- >2 million changelists
- C/C++
  - ~7k files
  - ~1.7 million lines of code [0.7 UE4s]
- SQL
  - ~12k files
  - ~2.6 million lines of code [1.1 UE4s]
- Python
  - ~20k files
  - ~3.4 million lines of code [1.5 UE4s]
- If you weren't concerned yet
  - ~266k files
  - ~53.2 million lines of YAML [24 UE4s]
  - there must be a metaverse in there somewhere

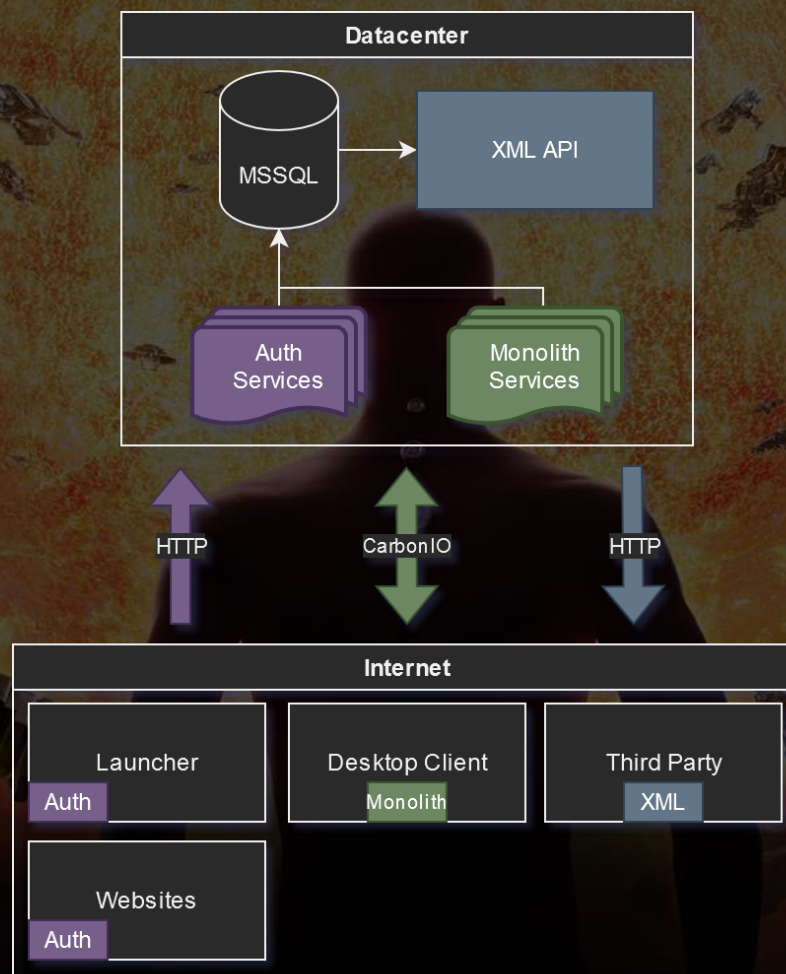
# In The Beginning



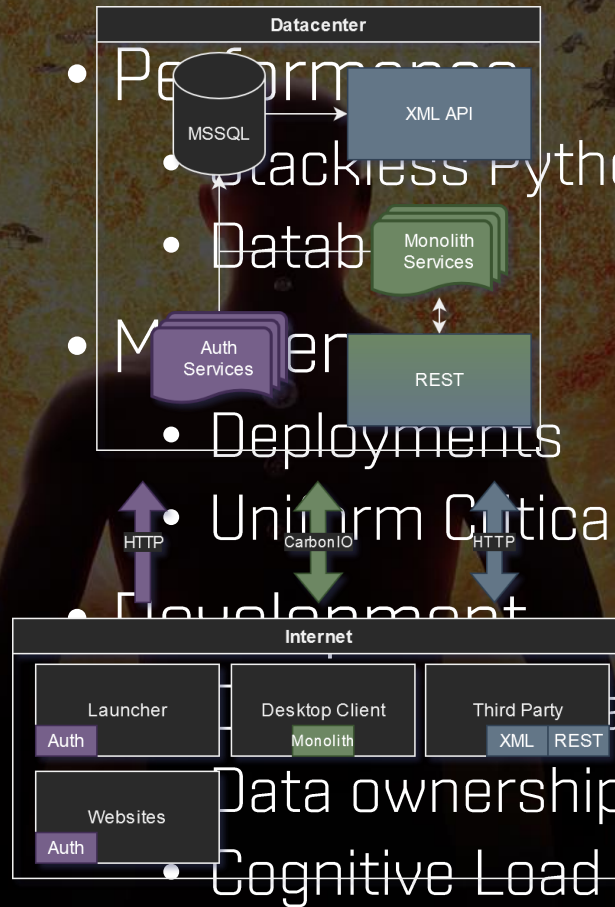
# Reaction



# "Web 2.0"



# Surface Area Grows



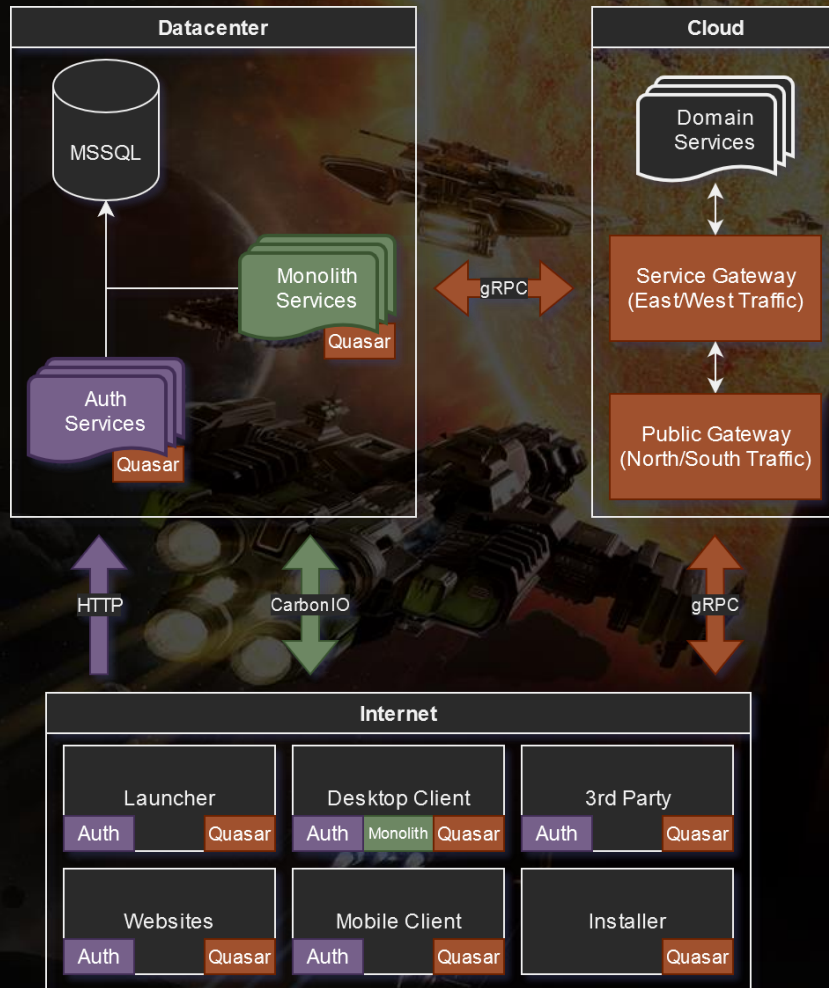
- Performance
- Stackless Python + GIL + CarbonIO
- Database
- Auth Services
- REST
- Deployments
- Uniform Criticality
- Development

Series  
Data ownership  
Cognitive Load

# Quasar's Infancy

- Eve Swagger Interface (ESI "easy")
- Kubernetes/Cloud
- Message Bus
- Protobuf
- gRPC
- Domain Services
- Performance
  - Stackless Python + GIL + CarbonIO
  - Database
- Maintenance
  - Deployments
  - Uniform Criticality
- Development
  - Domain boundaries
  - Data ownership
  - Cognitive Load

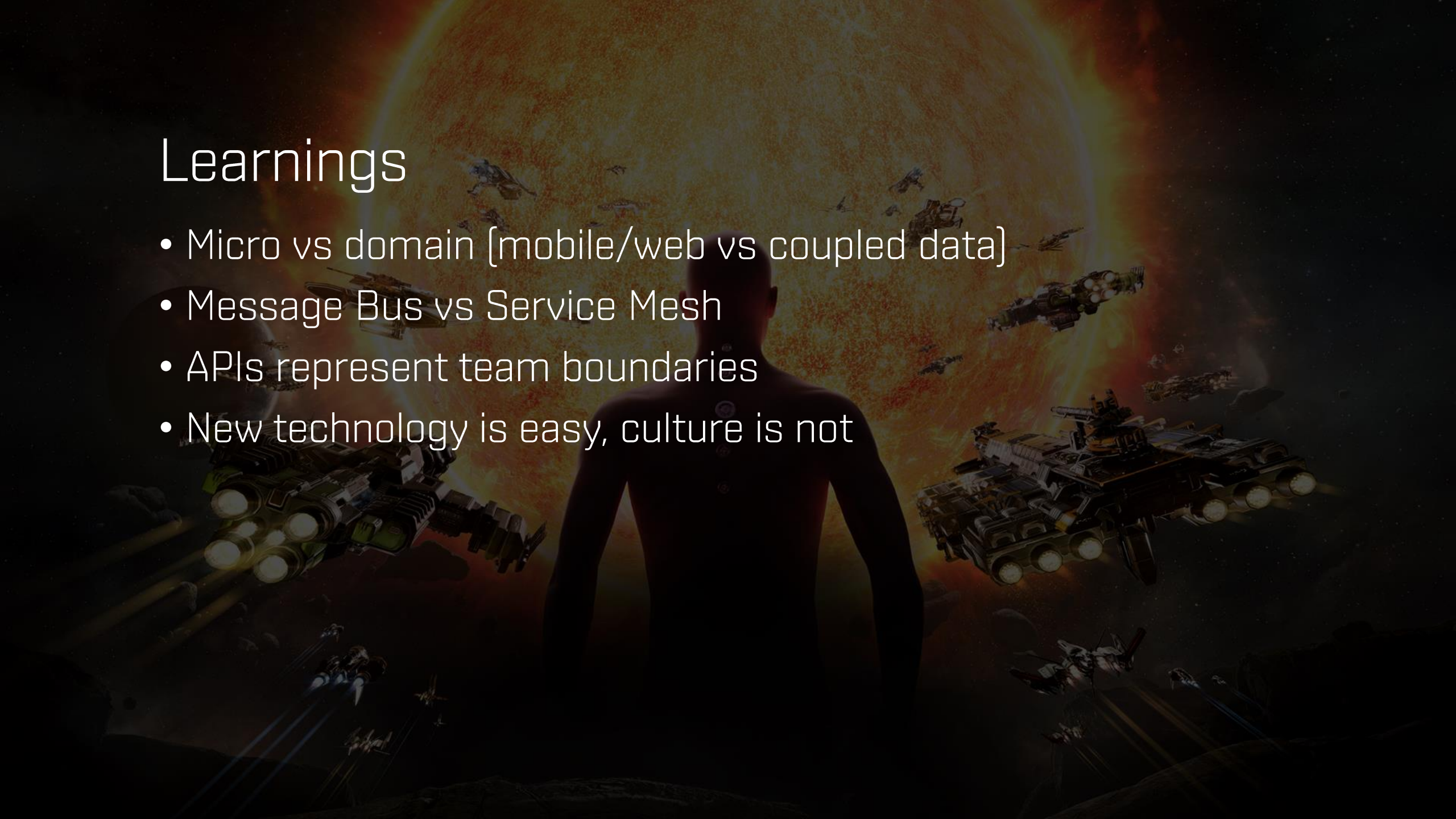
# Here and Now



- Proprietary -> Standards
- Message Bus Ecosystem
- Ubiquitous Language
- Domain Services

# Learnings

- Micro vs domain (mobile/web vs coupled data)
- Message Bus vs Service Mesh
- APIs represent team boundaries
- New technology is easy, culture is not



EVE<sup>®</sup>



F O R E V E R

Thanks!  
Fly Safe o7



Twitter: @ccp\_chimichanga  
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