

ACES OVERVIEW

Administrative Case Event System (ACES) – the Reactive Court System



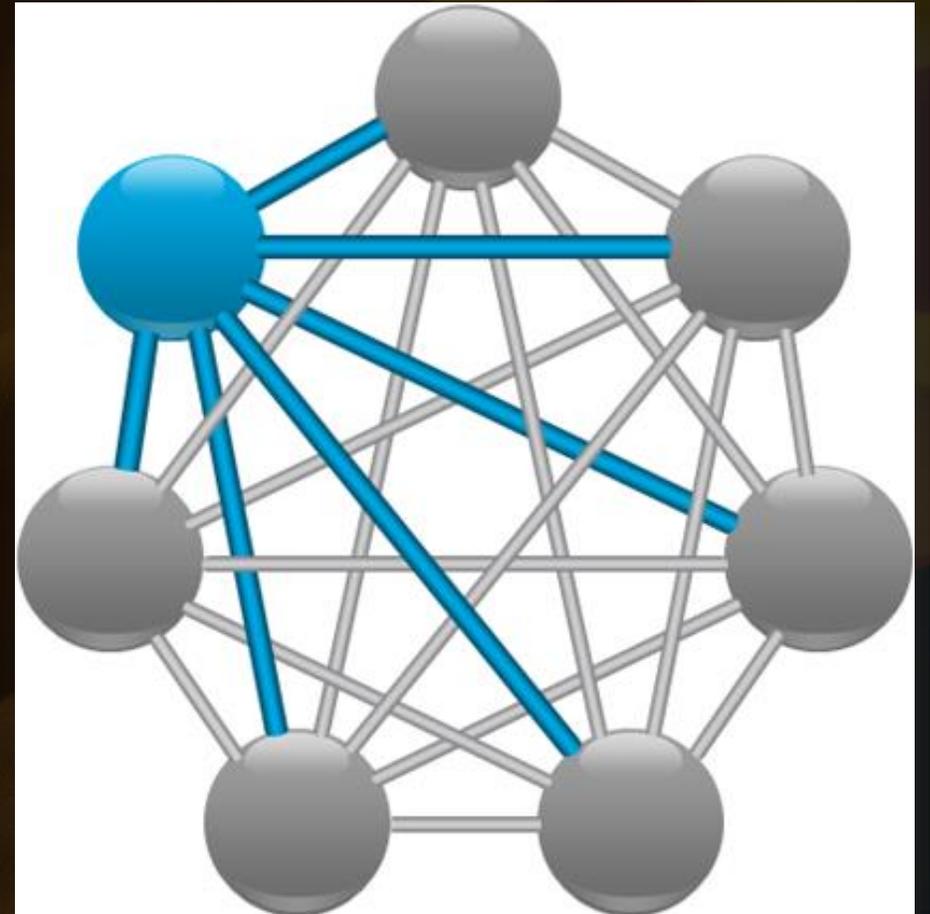
Steele Price
Chief Architect

WHERE WE ARE

Over 180 Courts, Hundreds of Applications

- Tightly Coupled
- Data Centric
- Extract, Transform & Load (ETL)
- Pseudo Data Warehousing
- Point to Point Connections
- Unstructured Message Channels

Entropy is the tendency of systems to become increasingly disordered.



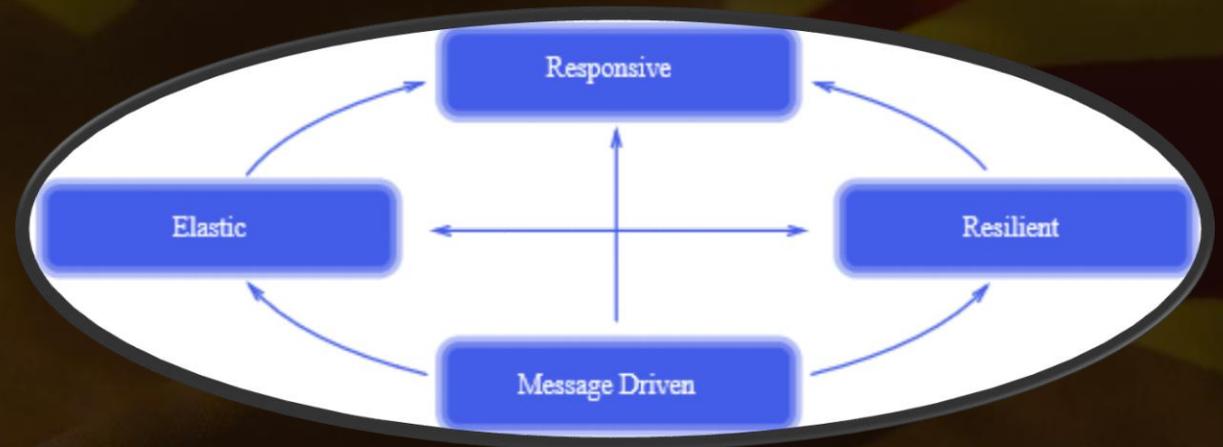
WHAT IS IT REALLY?



Big Ball of Mud

WHERE WE ARE GOING

- Message Based
- Stateless and Idempotent
- Event Sourcing
- Intent Driven
- Consolidated Read Models
- Micro Services
- Cloud Capable
- Commodity Hardware



REACTIVE

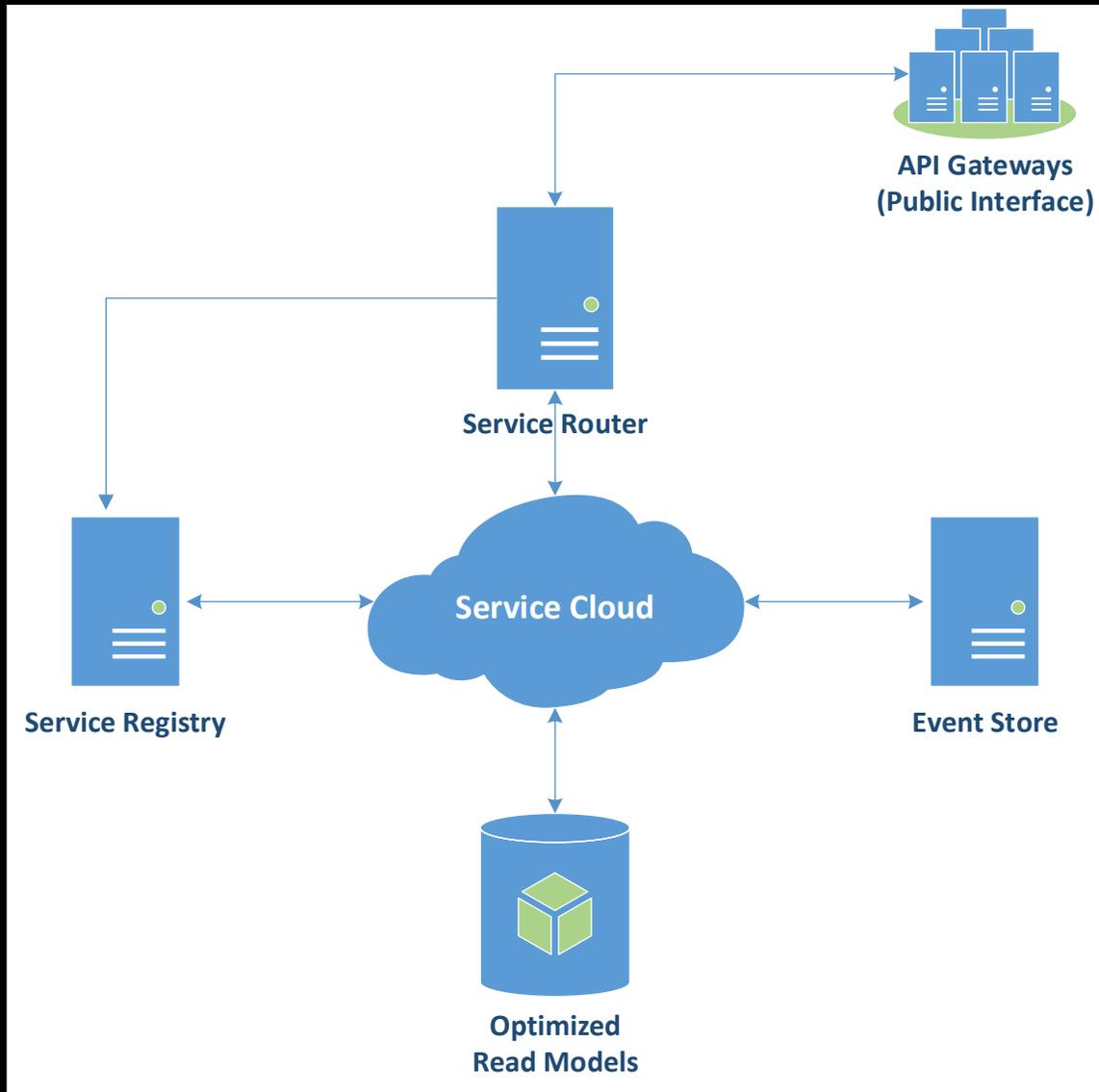
Flexible, Loosely Coupled and Scalable

WHO IS USING THIS MODEL?

- Amazon
- Google
- Microsoft
- Cisco
- eBay
- Walmart
- Intel
- Samsung
- Groupon
- BBC
- Credit Suisse
- more than 250 open source Akka applications in Github
- Many, many others



SYSTEM OVERVIEW



BUSINESS DRIVEN

Collaboration of Communication

- Bounded Contexts
- Ubiquitous Language
- Behaviors and Intent
- Stateless
- Asynchronous
- Independent Evolution

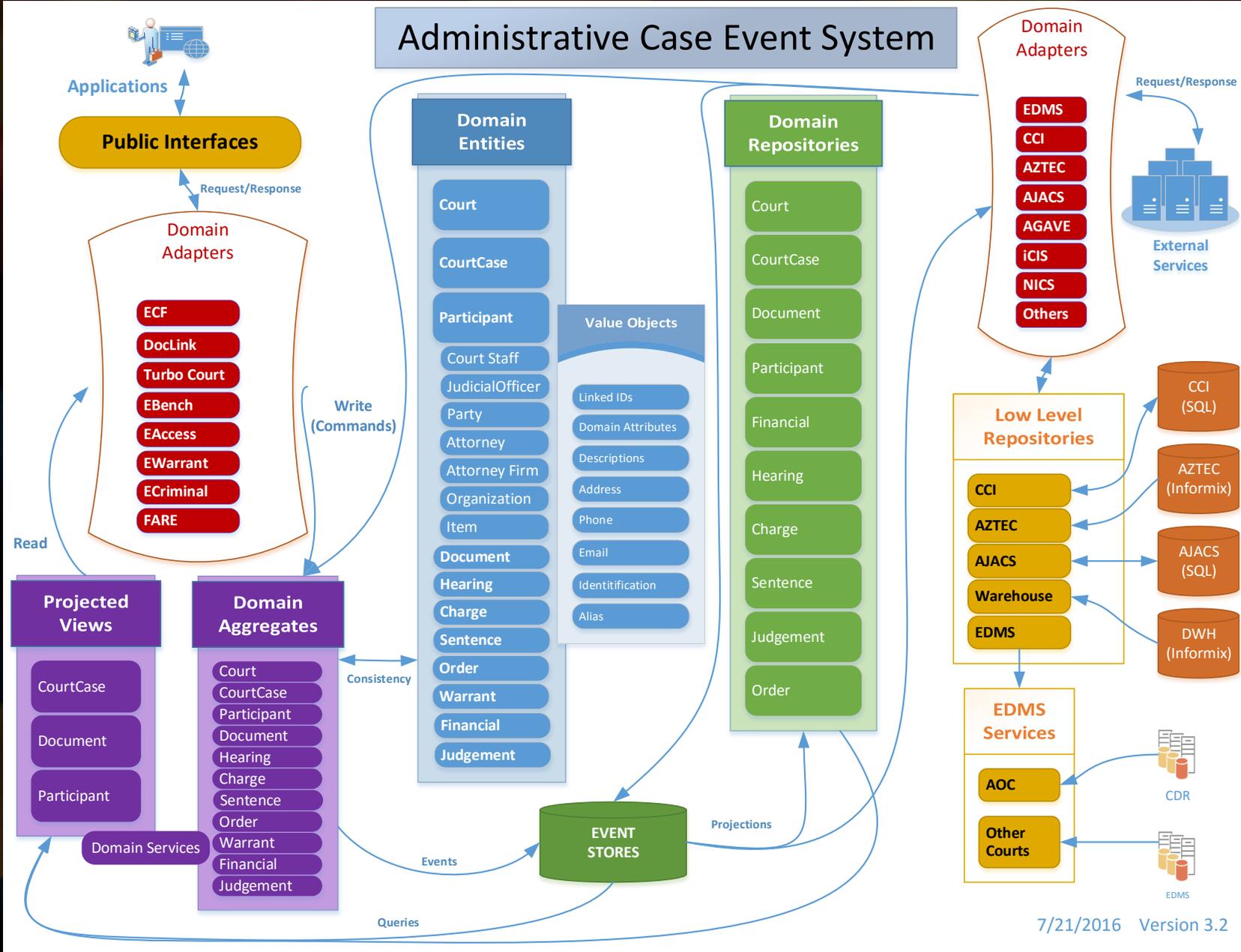


SERVICE ORIENTED

- Everything is a Service
- Services Self Register
- Service Registry provides discovery and health monitoring
- Security Matters
- Single Responsibility



Administrative Case Event System



DOMAIN ADAPTERS

Classic Patterns

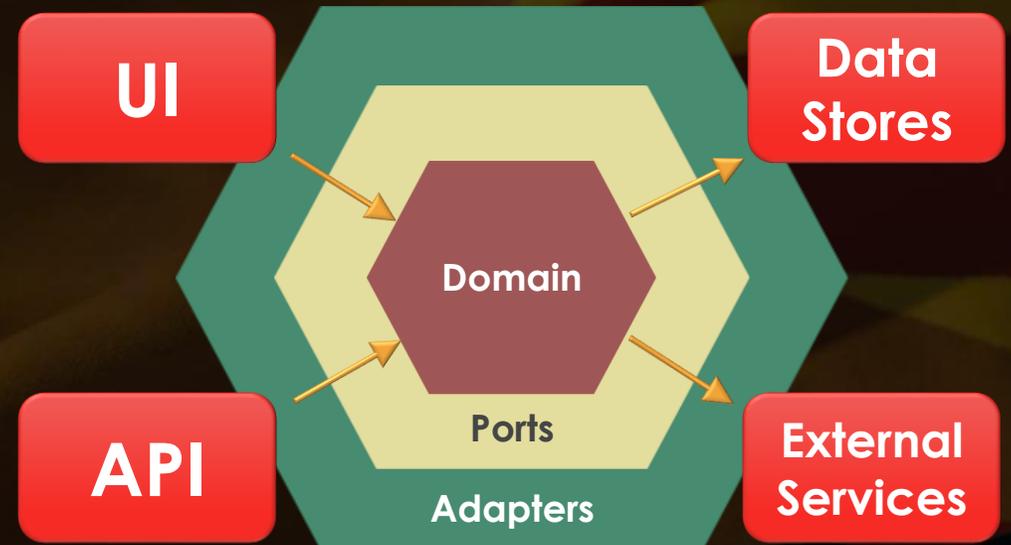
- Common Business Object Models don't scale
- Coupling is too tight
- Data Types can't be harmonized

Domain

- Ports are contracts, Adapters translate
- Mapping in a large system is a good sign because it demonstrates decoupling
- Business Rules can compose between systems

Modern Patterns

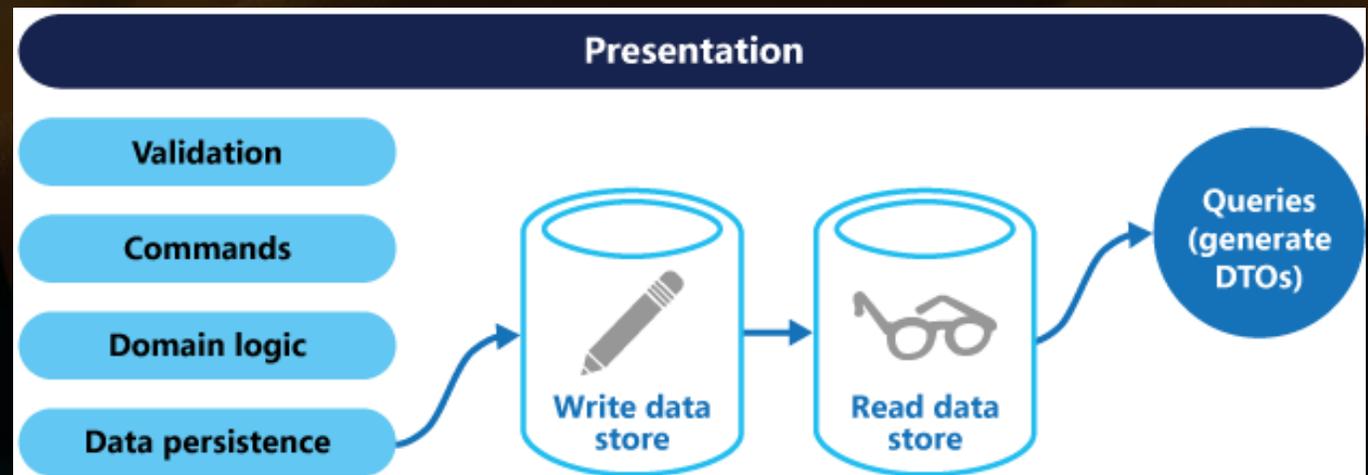
- Domain and Non-Domain systems are independent
- Messages provide a stateless communication path
- Asynchronous Behavior provides for disconnection



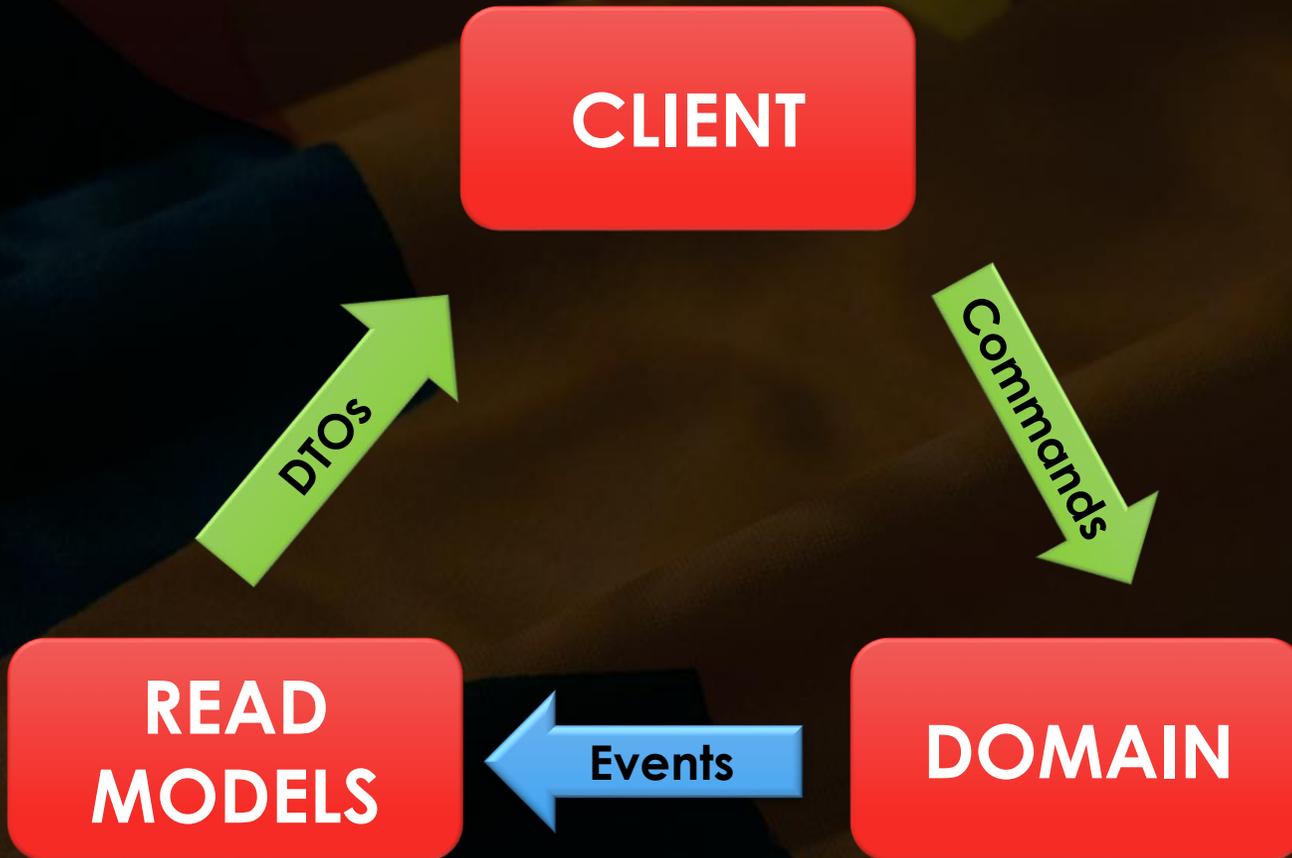
OPTIMIZED READ MODELS

Optimized for specific Business Needs

- Separated from system writes
- Non-blocking communication
- Intent is preserved



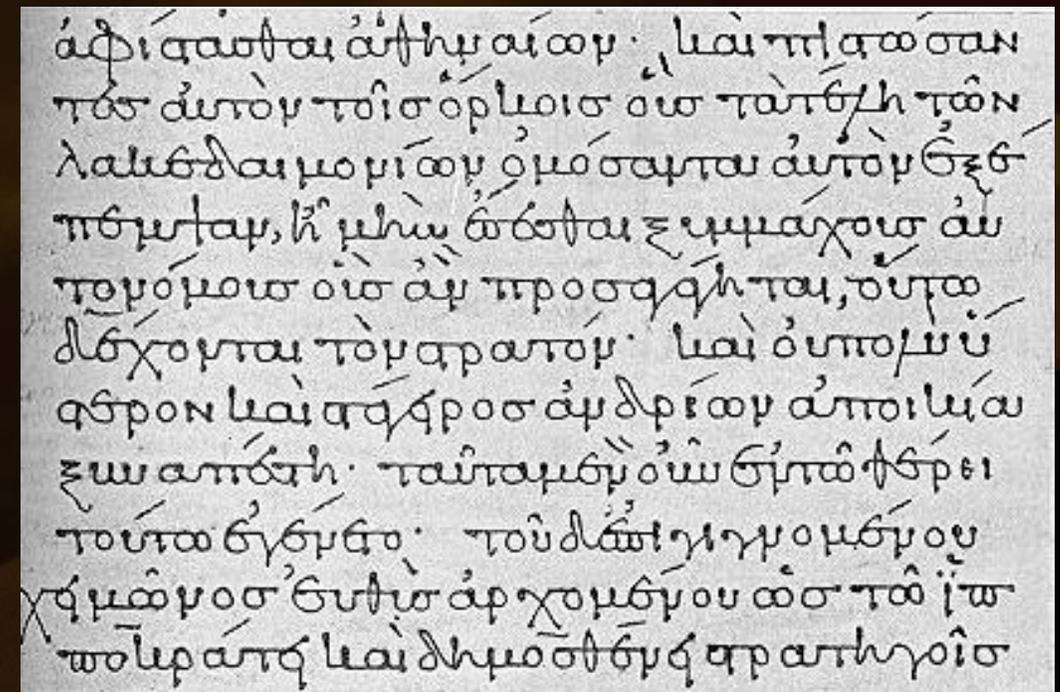
PUBLIC INTERFACES



PUBLISHED LANGUAGE

Separation of Internal and External Language

- Internal
 - Canonical Message Model
- External
 - Oasis ECF 4.01
 - NIEM
 - Custom Specifications



ἀφίεσθαι ἀθήμ' αἰορ· καὶ πηλώσαν
τὸς αὐτὸν τοῖς ὀρμιοῖς οἷο τὰ τέρη τῶν
λαϊσδαμομίον ὁμοσάτα αὐτὸν ἔξ
πόμετα, ἢ μὴν ἄσθαι ξυμμάχοις αὐ
τομόμοις οἷο ἂν προσάγῃται, οὕτω
δέχοιται τὸν ἀρατὸν· καὶ οὕτω μὲν
αἴσρον καὶ ἀγάρωσ ἀνδρείων ἀποιλία
ξω ἀπὸ τῆ· ταῦτα μὲν οὐκ ἐπιτῶ φέρει
τοῦτο ἐγέρω· τοῦ δ' αὖτε γηγομῶν
χάμωσ ἐπιτῶ ἀρχομῶν οἷο τῶ ἴω
πολιεράτῃ καὶ δημοσθῶν ἀρατῆροῖς

REFERENCES

- [Case Studies](#)
- [Domain Driven Design](#)
- [CQRS](#)
- [The Event Store](#)
- [AKKA](#)
- [Hexagonal Architecture](#)
- [Patterns of Enterprise Application Architecture](#)
- [SOA in Practice](#)