"Compile to Combat- 24 hours" End-to-End Micro Services Architecture

End-to-end architecture with micro web services - transforming our enterprise information environment

Compressed XML

Compressed XML

Teleport Site

NOC

Commercial Cloud w/XML Compression

USS UNDERWAY

Presentation

Application

Data

Sensors UV/AVs Link data Etc.

Most transactions happen on the ship, only data exchanged ship/shore
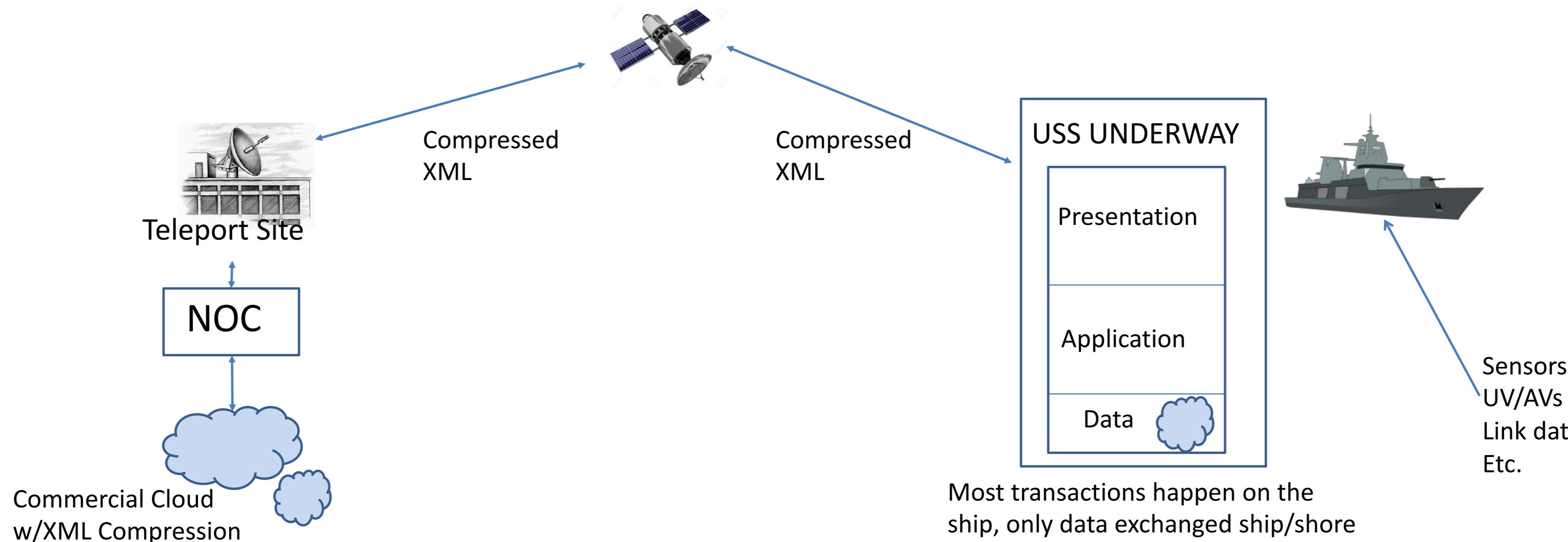
4 PILLARS	Use of Commercial Cloud	Automated testing of Web Services to include RMF	Shared Infrastructure	Data Standardization
Objectives:	• From development through automated fielding • They will be our "FEDEX" and will package up delivery of content for afloat (compressed XML), only those data "ordered up" by the ship • Big data analytics	• From "Compile to delivery on ship" – 24 hours all automated • Functional testing against Open standards compliant web Services development guidance and XML data standardization • Automated RMF testing, to include intel assessment of risk, inherit shared infrastructure accreditation	• Use CANES • Already accredited • Uses standard / approved Ports and Protocols • Drop "code not boxes" • Reduce attack surface	• XML Open Standard Data • eXML compression
Why it matters:	• Leverage commercial technology • Improved security • Data compression • Data analytics • Commercial Cloud afloat $ savings	• Reduce cost/time to field capability • Eliminate cybersecurity risks of legacy apps	• Drop code not infrastructure • Improve speed for fielding capability and cybersecurity solutions • Operate with 80% of needed info in denied space environment • Exploring afloat commercial infrastructure as a service	• Standardized data = date reuse by many, improved QOS, efficient use of bandwidth, can apply AI all lead to improved decision making, improve cross domain use etc.