



AMERGINT

What Do You Think That Cloud Looks Like?

GSAW 2020

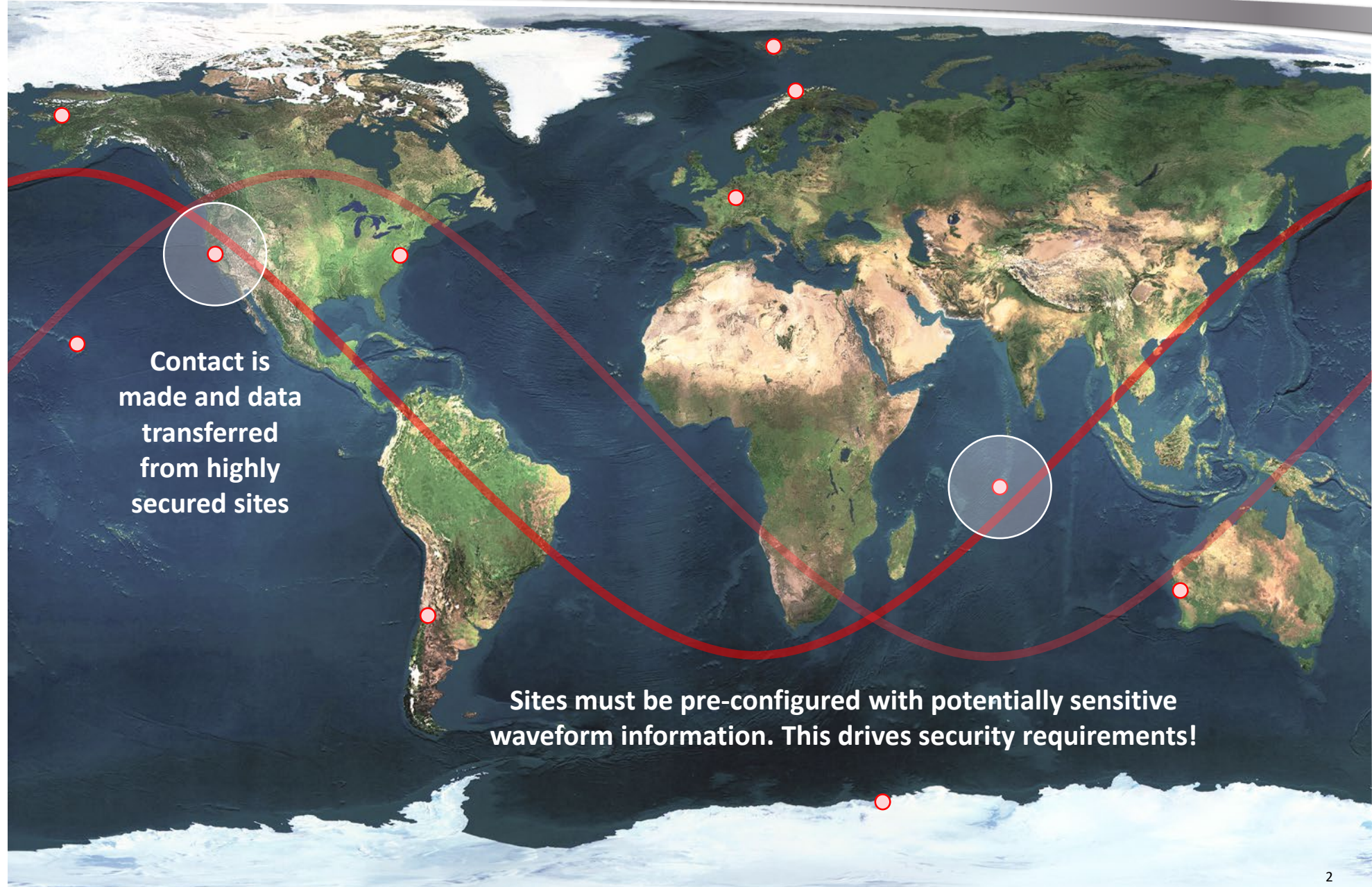
Authors:
Rob Andzik
Shayn Hawthorne



Demodulation

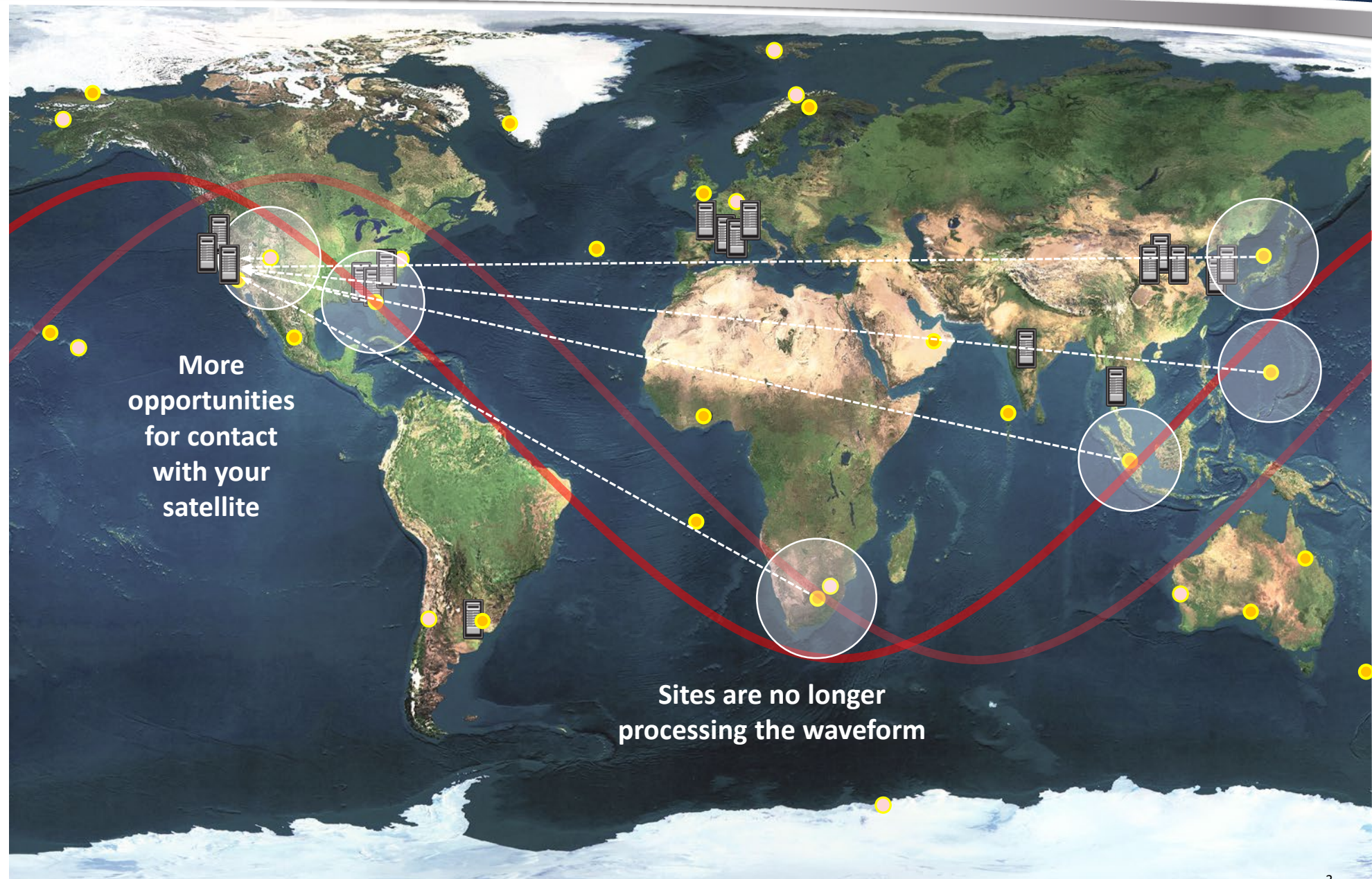
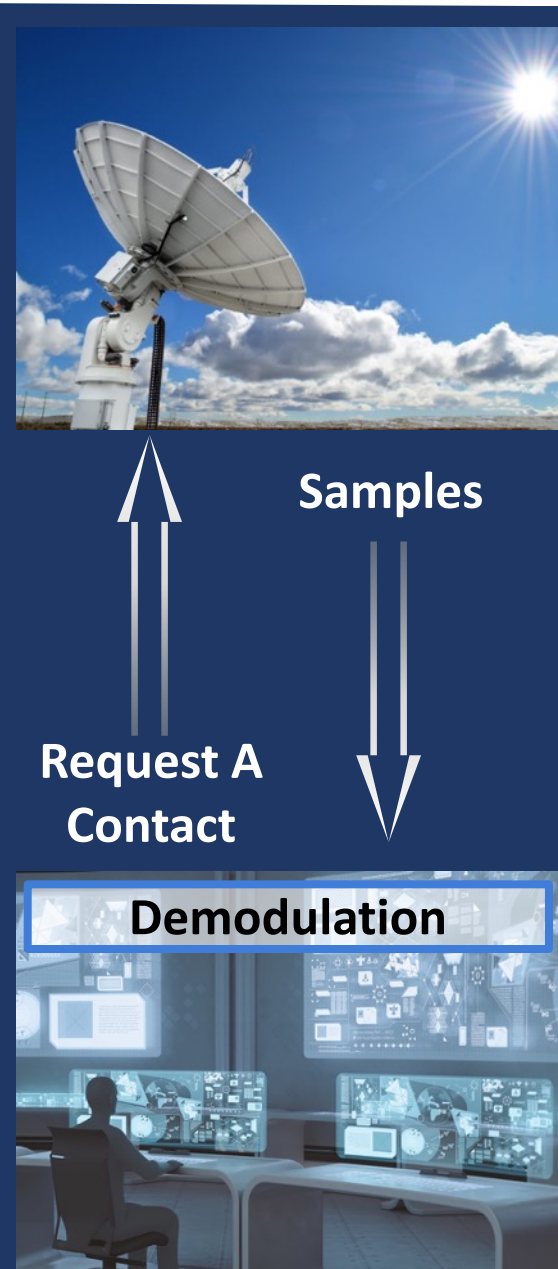
Bit Stream

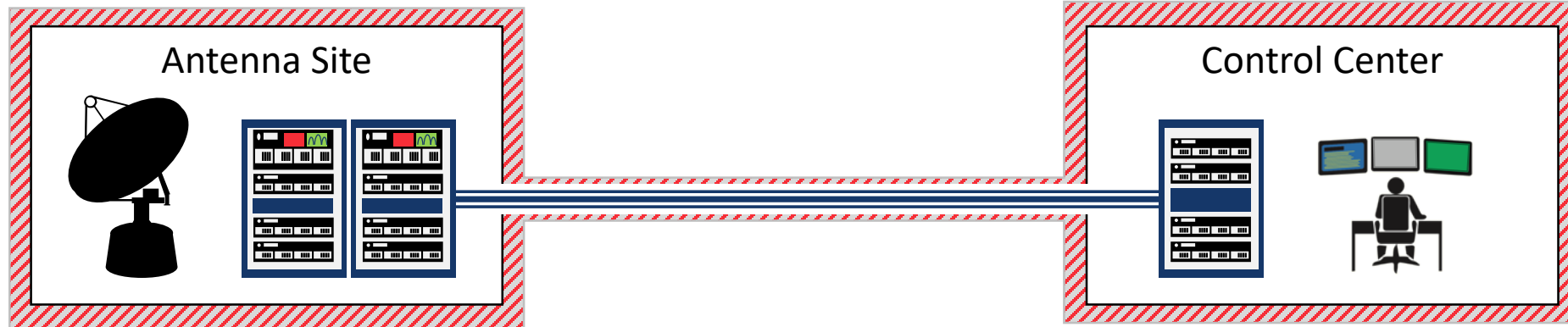
Waveform
Parameters



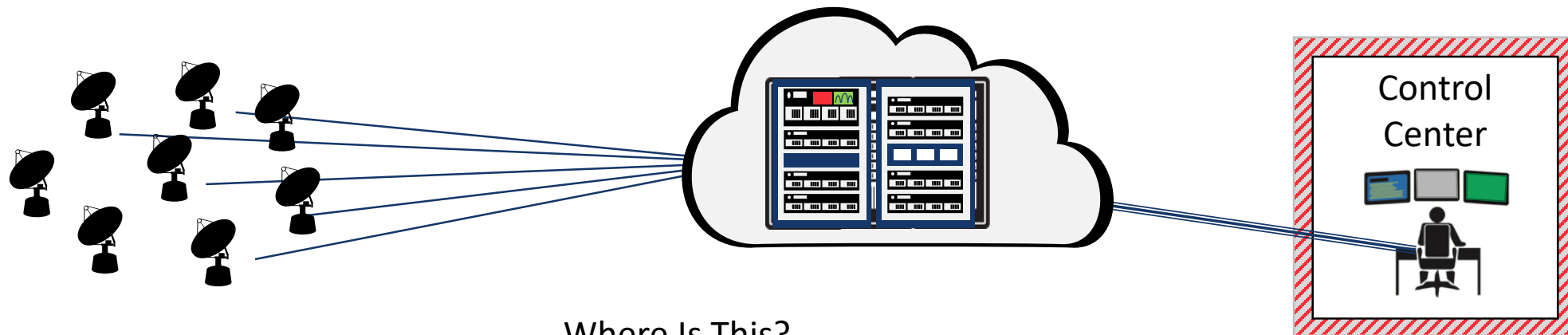
Contact is
made and data
transferred
from highly
secured sites

Sites must be pre-configured with potentially sensitive
waveform information. This drives security requirements!





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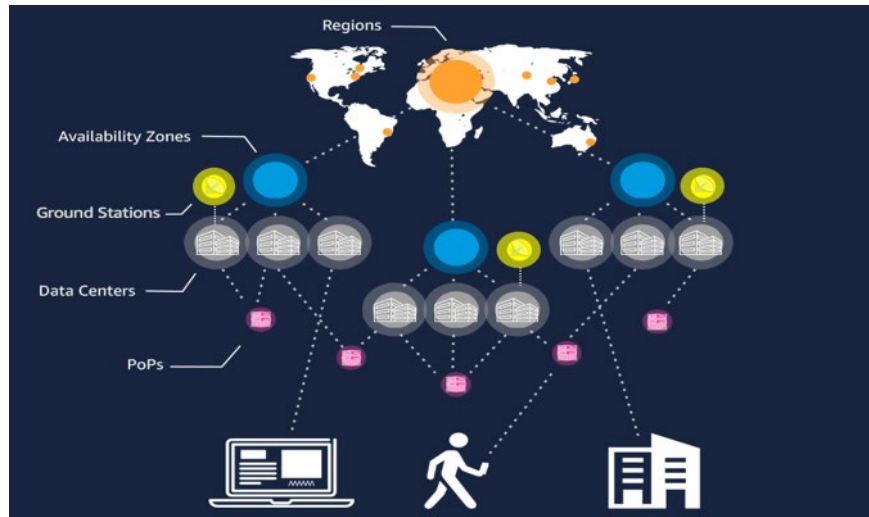
How Are These Controlled?

Where Is This?

Who Has Access?

How Do I Connect?

Easy to get
to your
data from
any region
in the
world



4 sites
operational

3 sites
90% complete

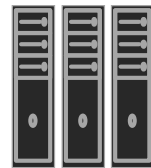
2 sites
in construction

3 sites
in planning

175 Fully Featured Services Running on 69 Availability Zones



Amazon EC2 for
command and
downlink data
processing
compute
power



Data Security

- Data is protected from the antenna throughout the AWS Cloud
- Data encrypted at rest and in transit
- AWS managed and operated network



Data

- Data in the cloud in 11 milliseconds
- Anywhere around the world in seconds
- Redundant 100 Gbps global network
- Baseband backhaul to AWS region of choice

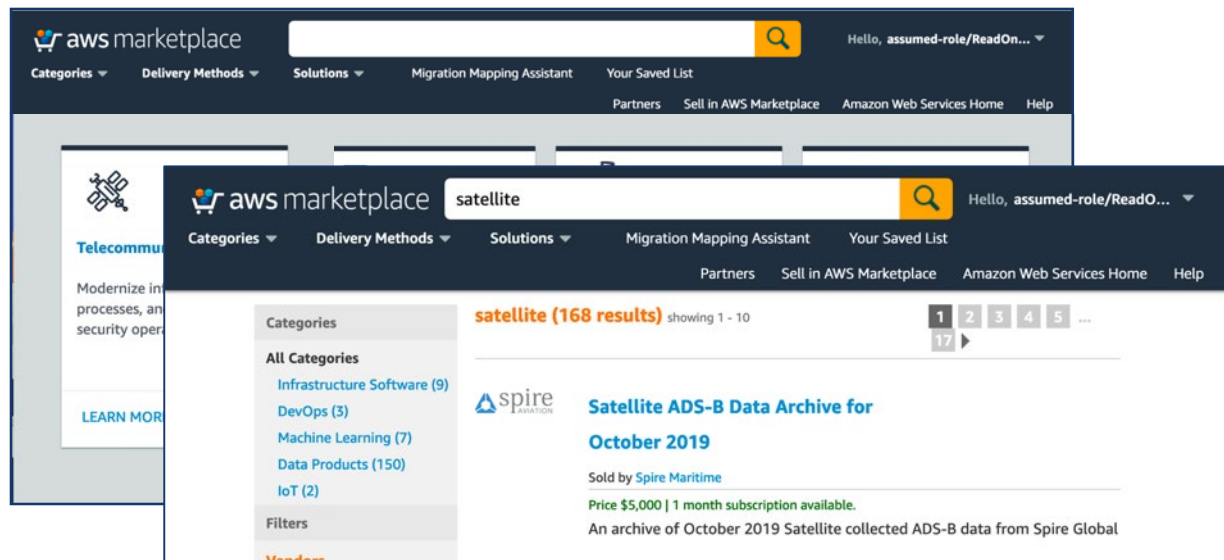


Physical Security

- Fences, ID scans, and electronic security
- Employee authentication
- Protection from accidental or intentional damage, and employee theft of data, etc.



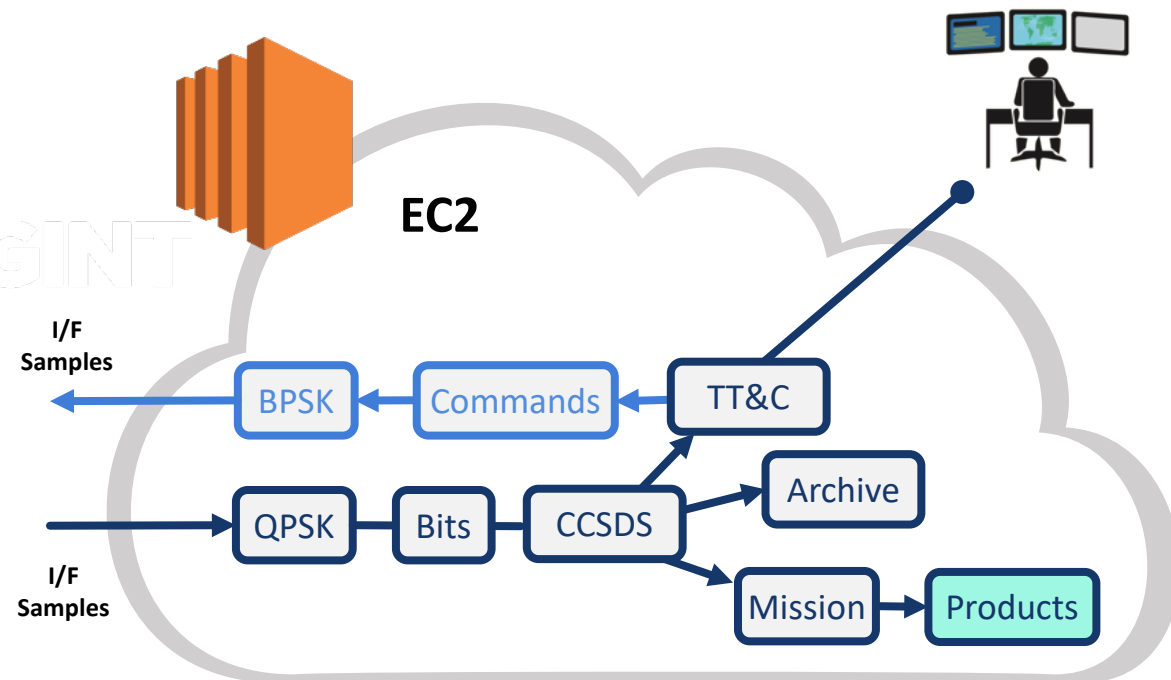
Amazon
Rekognition for
real time
imagery and RF
signal object
identification



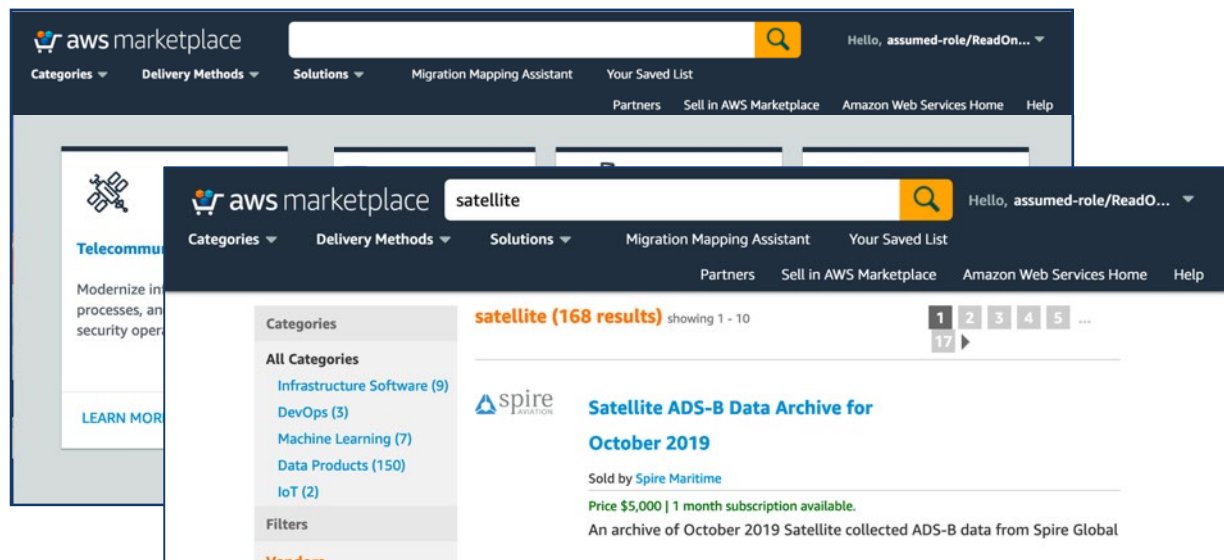
SENSITIVE BUT
UNCLASSIFIED



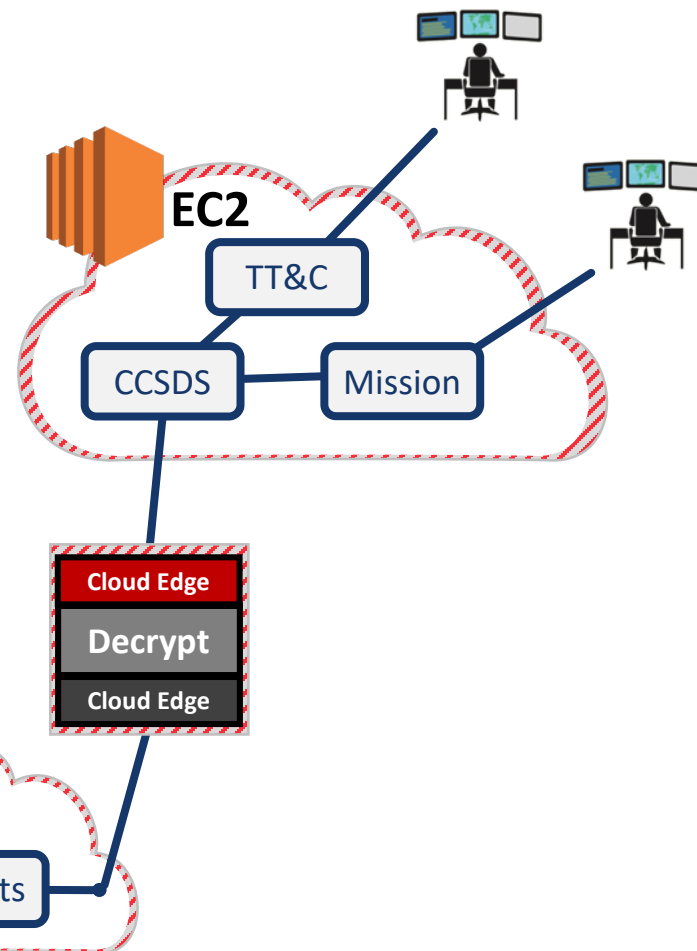
Assemble functionality from the marketplace or directly from vendors



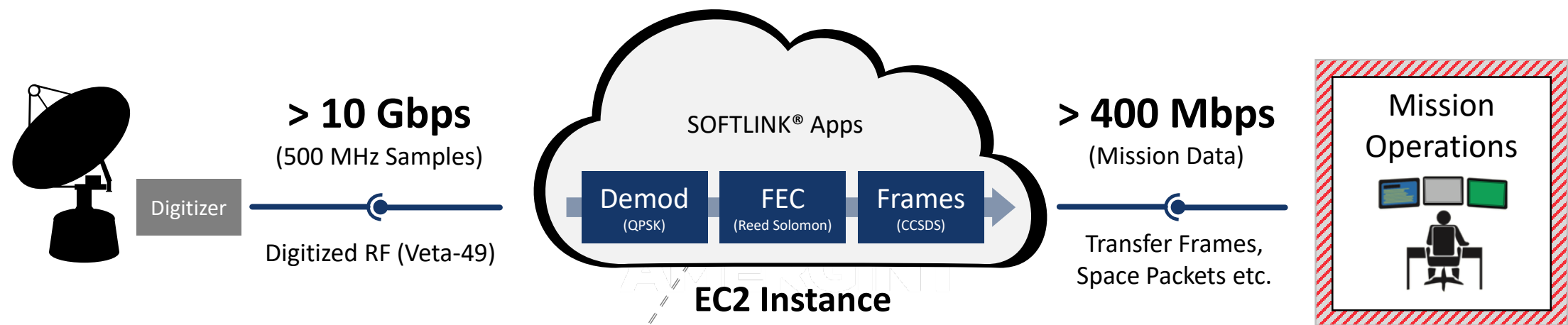
But What About Encryption?



SENSITIVE BUT UNCLASSIFIED



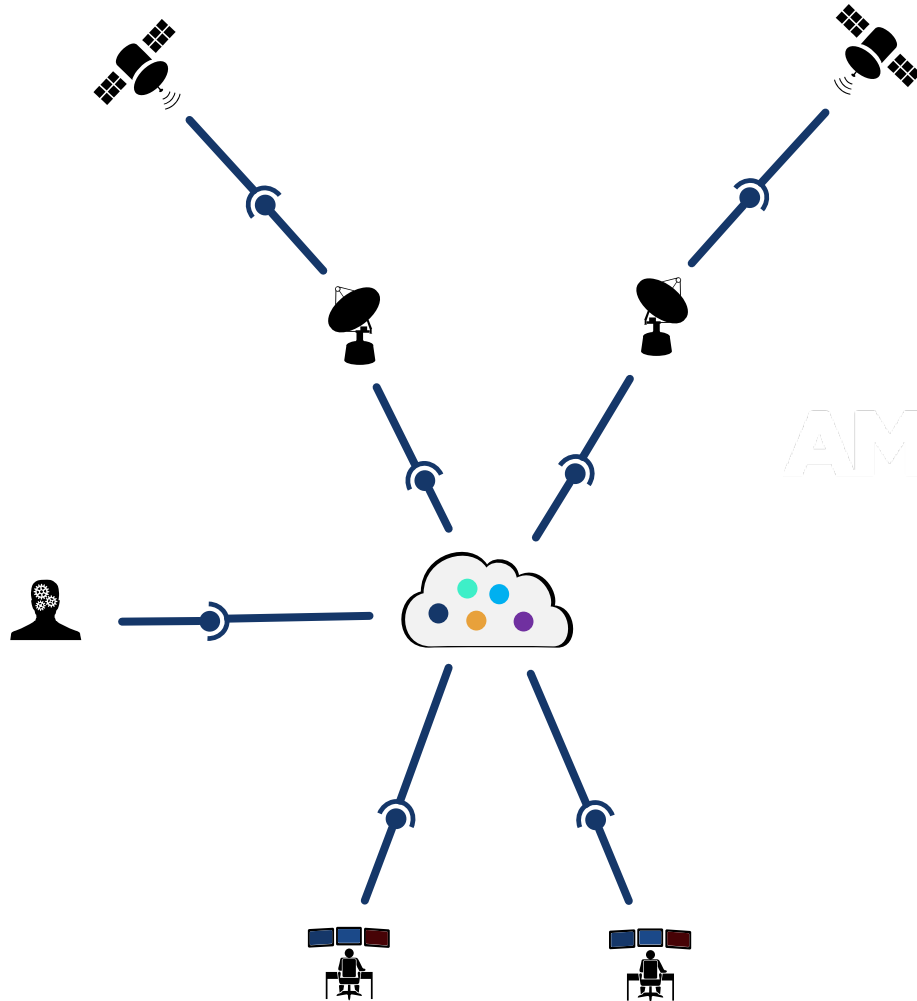
So what kind of processing capacity are we really talking about?



What
functionality is
available today?

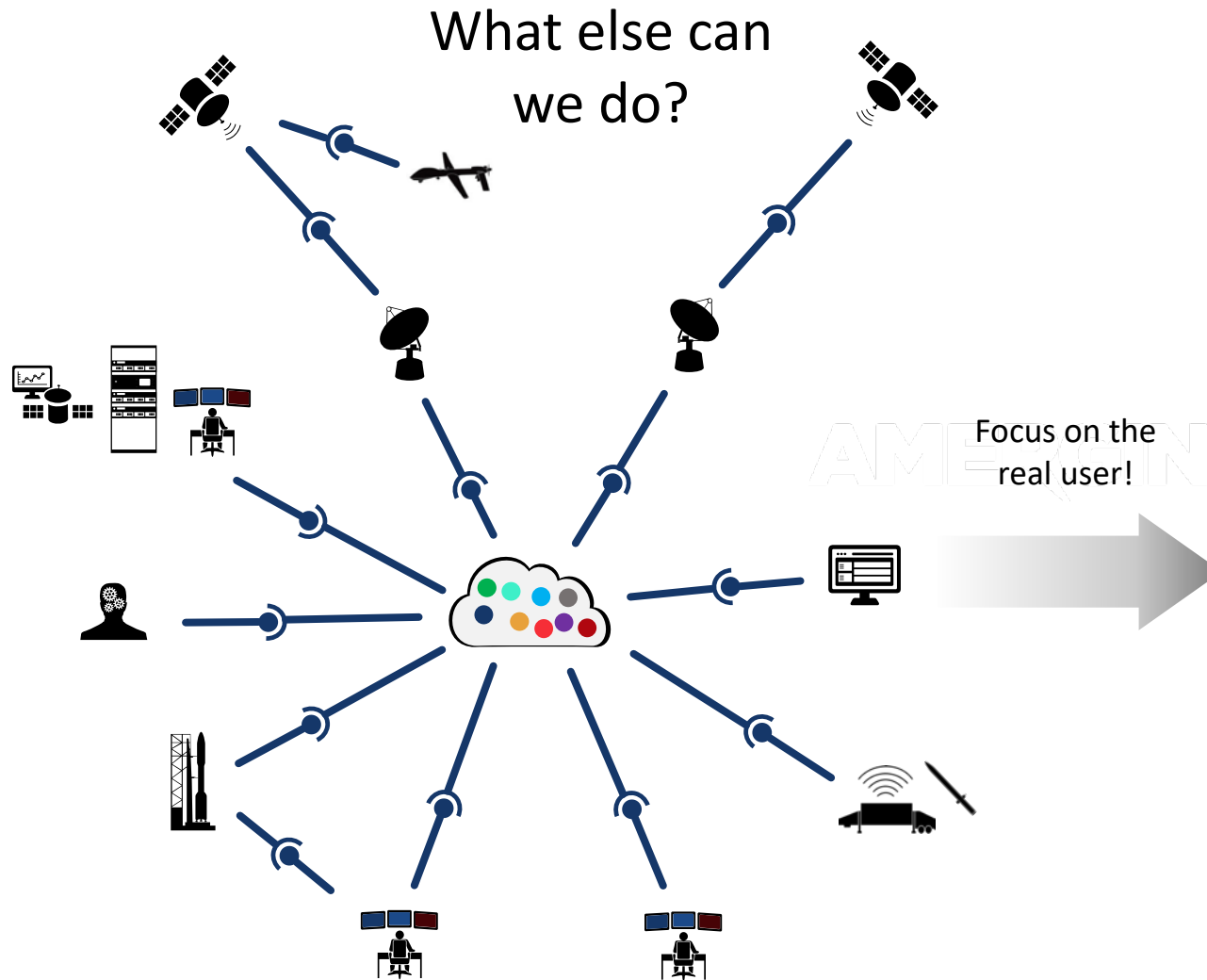
?							
PSK	BPSK	QPSK	8PSK	UAQPSK	SOQPSK	HDLC	
	FSK/AM	STDN	SOQPSK	Reed Solomon	I/F Recording		
CCSDS	TDM	IRIG-CH10	NRZ-L	NRZ-M	Bi-Phase	EXU	
BERT	Emulation	SLE	Commanding	AES Crypto	ADCCP	Emulation	
Satellite Buses							
Ball	SSL	NGIS	Lockheed	Airbus	Boeing	Thales	ISRO SSTL

... and much more!



Cloud Based Satellite Operations

- Well Positioned For New Satellite Missions
- Lift-and-Shift Legacy Programs
- Instantiate Capabilities On Demand
- Significant Reduction In Capital Expenditures
- New Innovation and New Markets



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Questions?

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