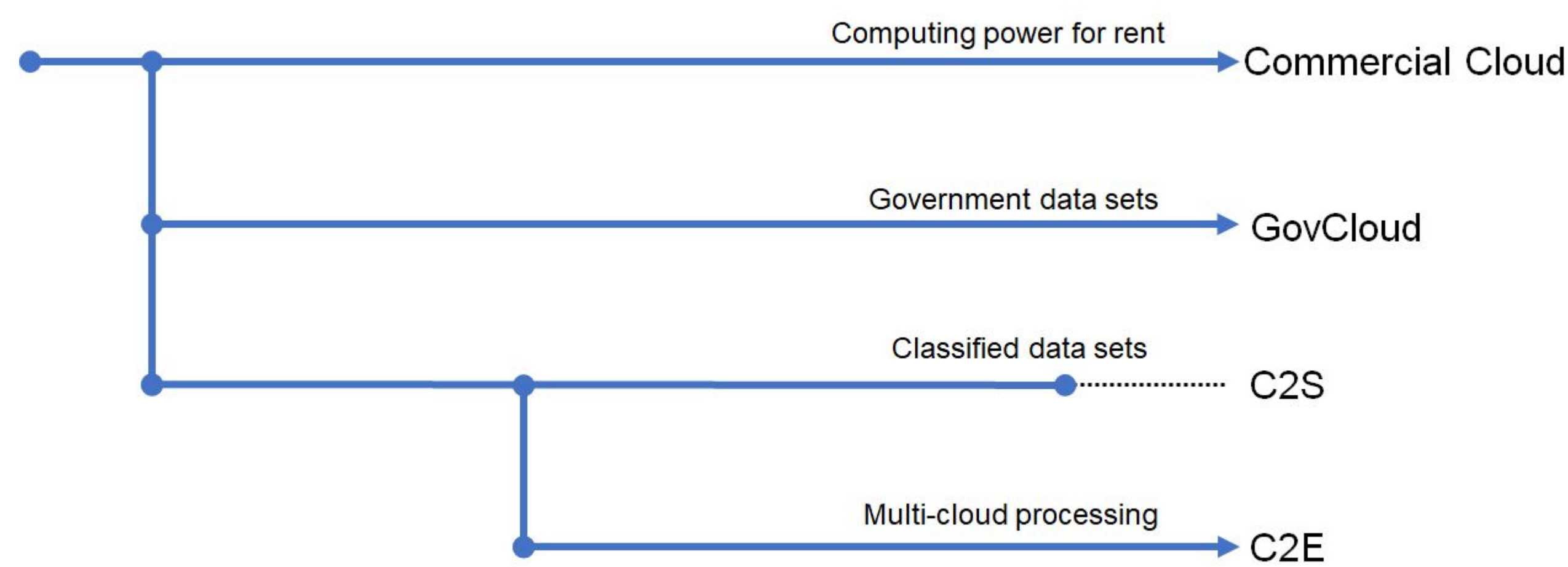# U on Up: Cloud Computing Across Classification Boundaries

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History of the Cloud
COMPUTING POWER FOR RENT

Introduction to the Cloud
PER-PROJECT ISOLATED RESOURCES

- Isolated environments
- Customizable structure
- Expandable resources

PER-PROJECT ISOLATED RESOURCES

Benefits of the Cloud
TRANSFER KNOWLEDGE, CODE, AND DATA

- The cloud works the same everywhere
  - Industry-wide acceptance of the cloud enables acquisition of the best talent
  - Cloud administration experience carries across classification boundaries
  - Massive availability of learning material - learn on unclassified systems, apply to classified systems
- Code transferability: Having a standardized interface enables developers to build and re-use production functionality with confidence
- Enables clear access control boundaries while enabling data sharing where it makes sense

An Ideal Path Forward
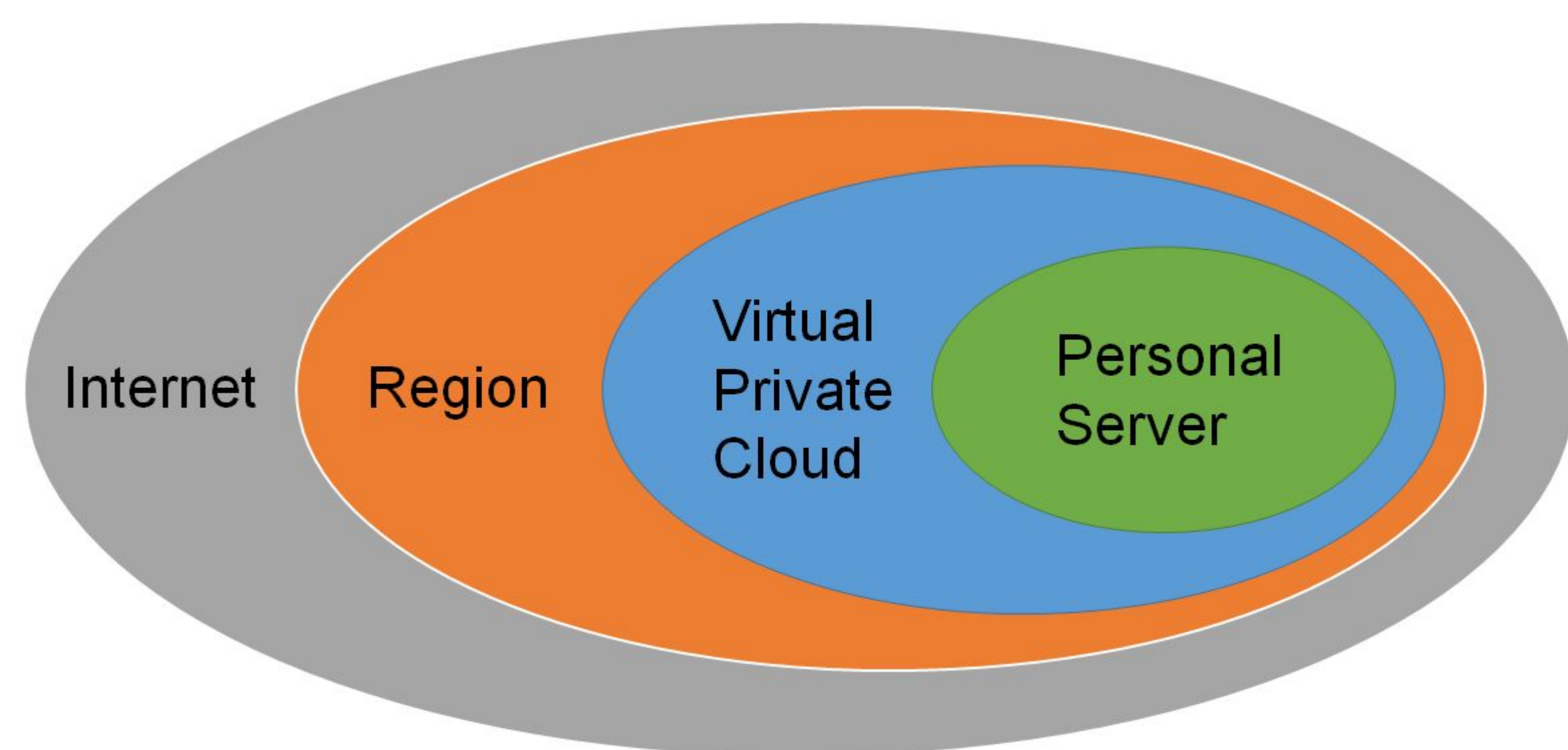### HOW CAN THE DEPARTMENT OF ENERGY USE THIS?

Cloud Capabilities
CLOUD USE DONE RIGHT ENABLES…

- Rapid response to sponsor requirements
- On-demand, automated creation of resources
- Standardized base environments
- Extensible project-specific environment customization
- Rapid R&D code development and data analysis
- Clear path from R&D code to production code that can be used by others
- Repeatability
- Minimization of effort
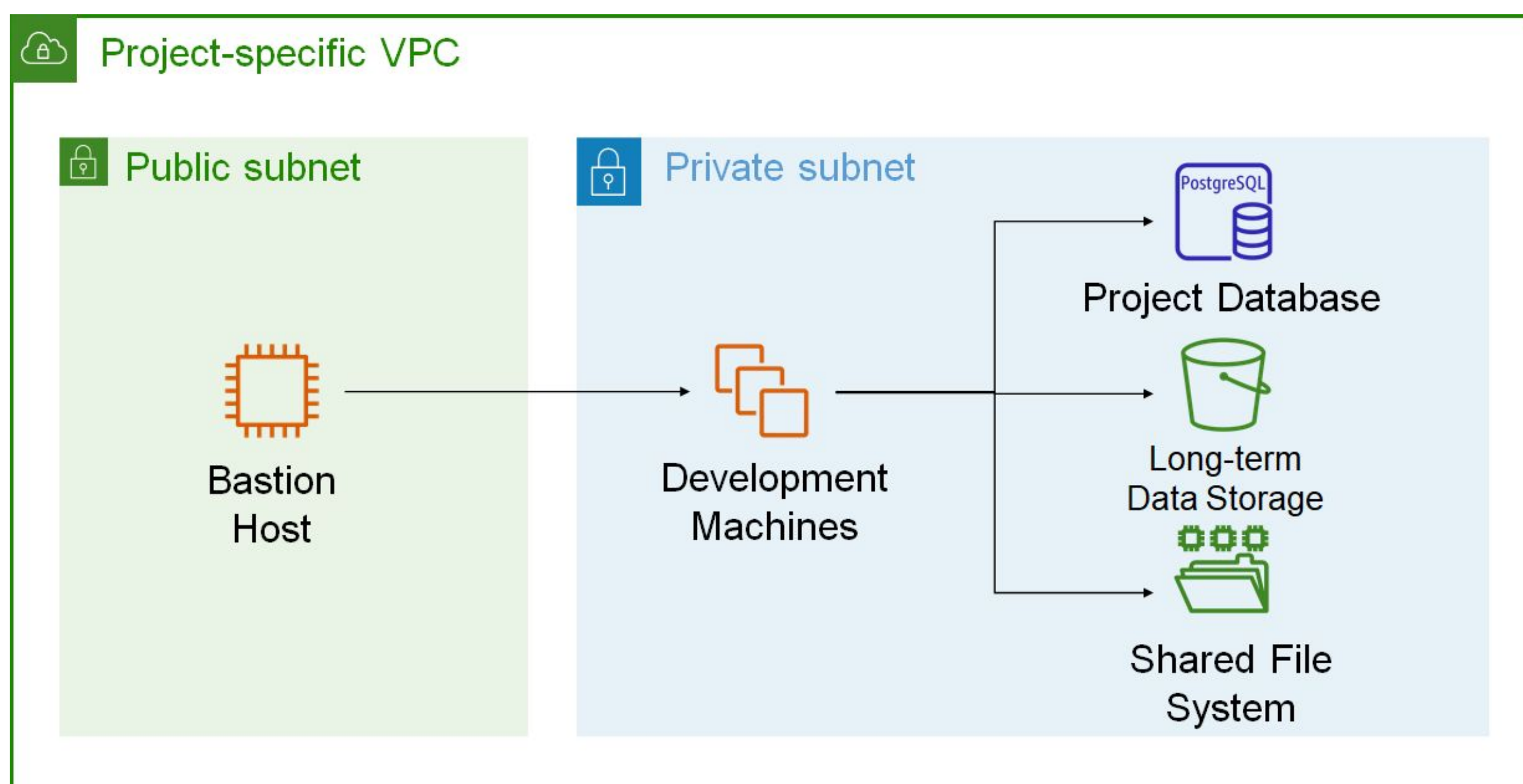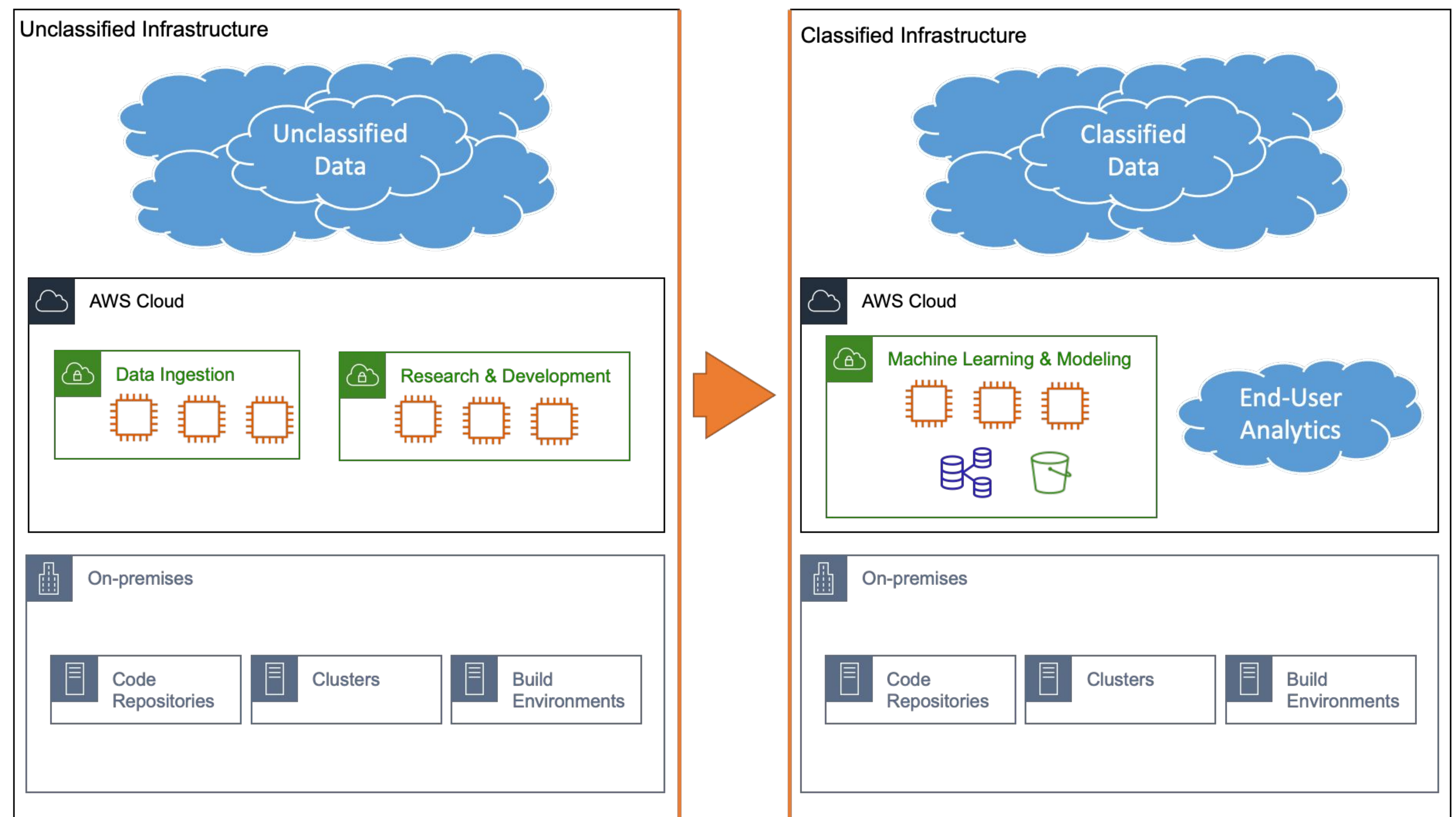- Takes advantage of ongoing GovCloud efforts