

# Characteristics of Big Data:

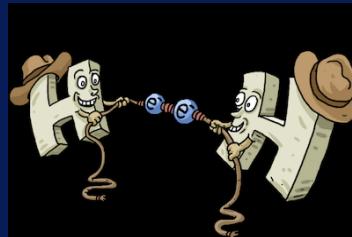
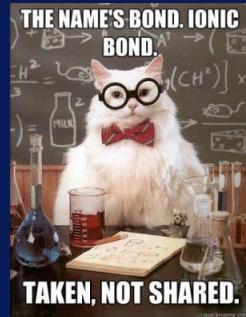
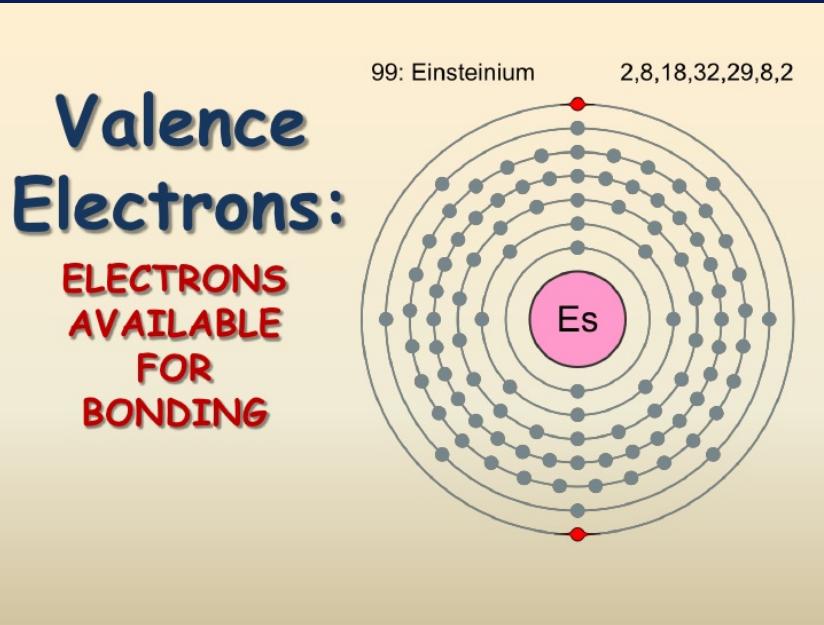
## Valence

# After this video you will be able to..

- Describe what valence means and how it relates to other Vs of Big Data
- Recognize when valence might become a challenging issue for a big data problem

**Valence == Connectedness**

# Valence – a Concept from Chemistry



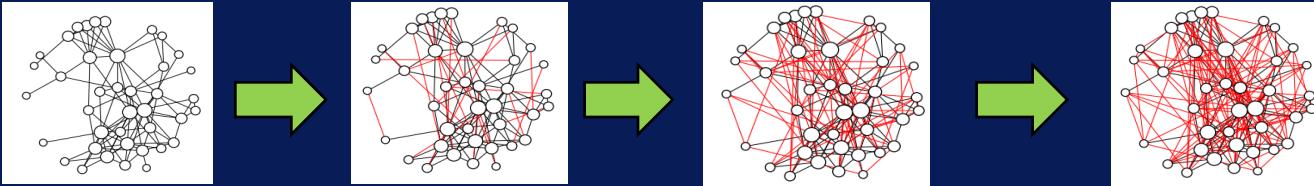
# Valence – Measure of Connectivity

- **Data Connectivity**
  - Two data items are connected when they are related to each other
- **Valence**
  - Fraction of data items that are connected out of total number of possible connections



# Why worry about Valence?

Valence increases over time



Makes the data connections denser

Organizational  
Behavior

As density increases,  
coordination and  
communication between  
participants grows and the  
promotion of shared behaviors  
and behavioral expectations  
increases the chance of  
stakeholders forming  
coalitions.

# Valence: Challenges

- More complex data exploration algorithms
- Modeling and prediction of valence changes
- Group event detection
- Emergent behavior analysis

