

# **The Naval Center for Cost Analysis (NCCA)**

## **Enterprise Software Initiative (ESI) Data Analysis Project**



**ICEAA Conference**

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# Agenda

**Project Overview and Background**

**Global ESI Trends Overview and Analysis**

**Product Level ESI Trends Overview and Analysis**

**Terms and Conditions**

**Way Forward**



## Project Overview and Background

- What is **ESI**?
- **Goals of ESI**
  - **Maximize economies of scale benefits**
  - **Reduce acquisition and support costs**
- **Provide flexible and easy-to-use Blanket Purchase Agreements (BPA)**



## Project Overview and Background (con't)

- **Why should a cost estimator care?**
    - Ubiquitous nature of COTS
    - COTS estimation lacks mathematical/statistical rigor
  - **How NCCA became involved?**
- ◀ ◦ Working group began Sept 2013
- Opportunity for a collaborative effort



## Global Trends Overview

- **Approximately 176,000 data records**
- **Data from 17 Agencies**
- **4.77 Billion Dollars**
- **Time-frame from 2002-2012**
- **A sample set of BPAs provided**



## Global Trends Analysis

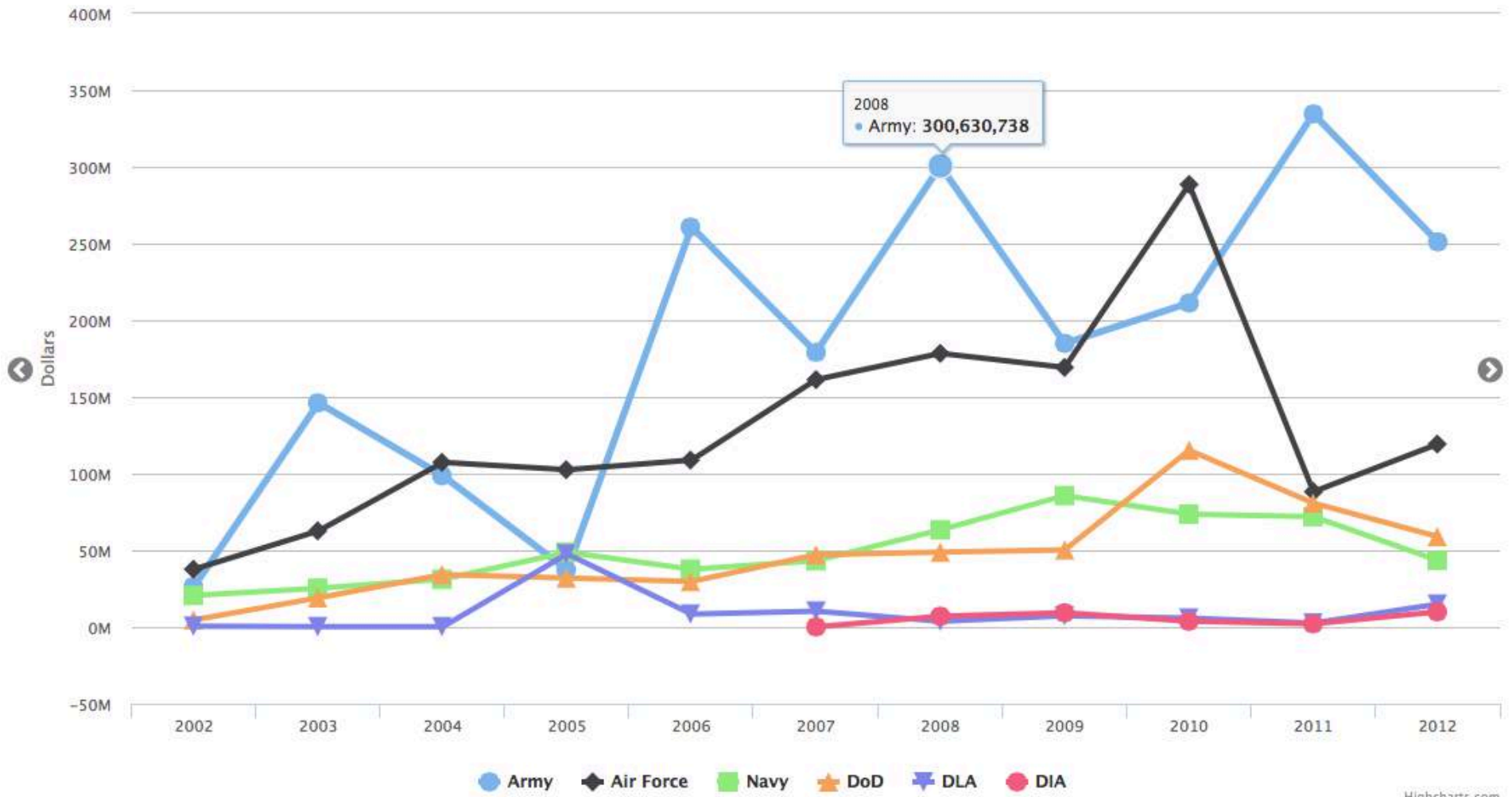
- **Data not normalized for inflation**
- **Data filtered and sorted by highest spending agency**
- **Combined like fields, example: "Agency\_name" vs "AgencyName"**



### ESI Sales by Year - 4.77 Billion - Total

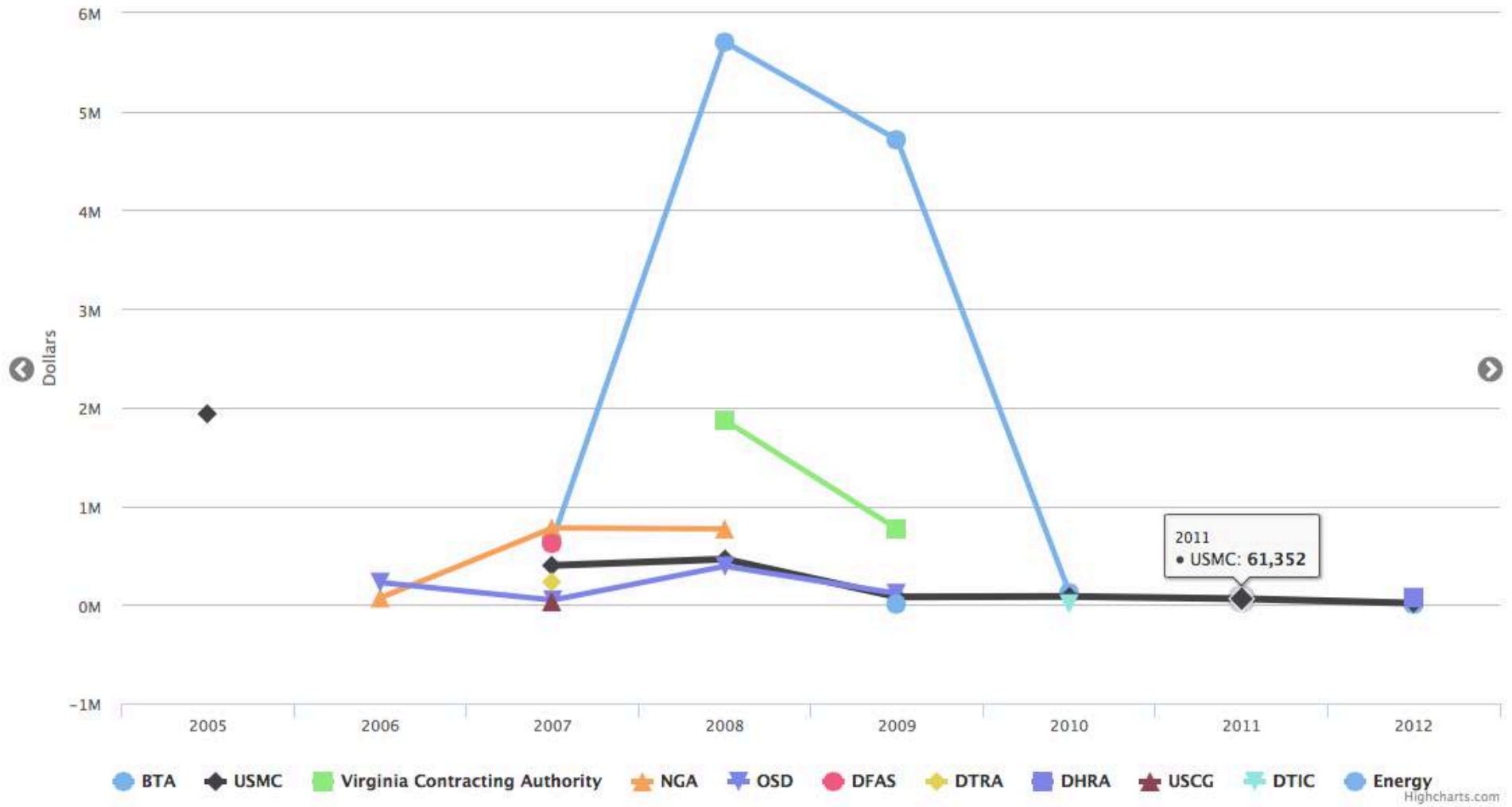


### ESI Sales by Agency (Top 6)





### ESI Sales by Agency (Remaining)

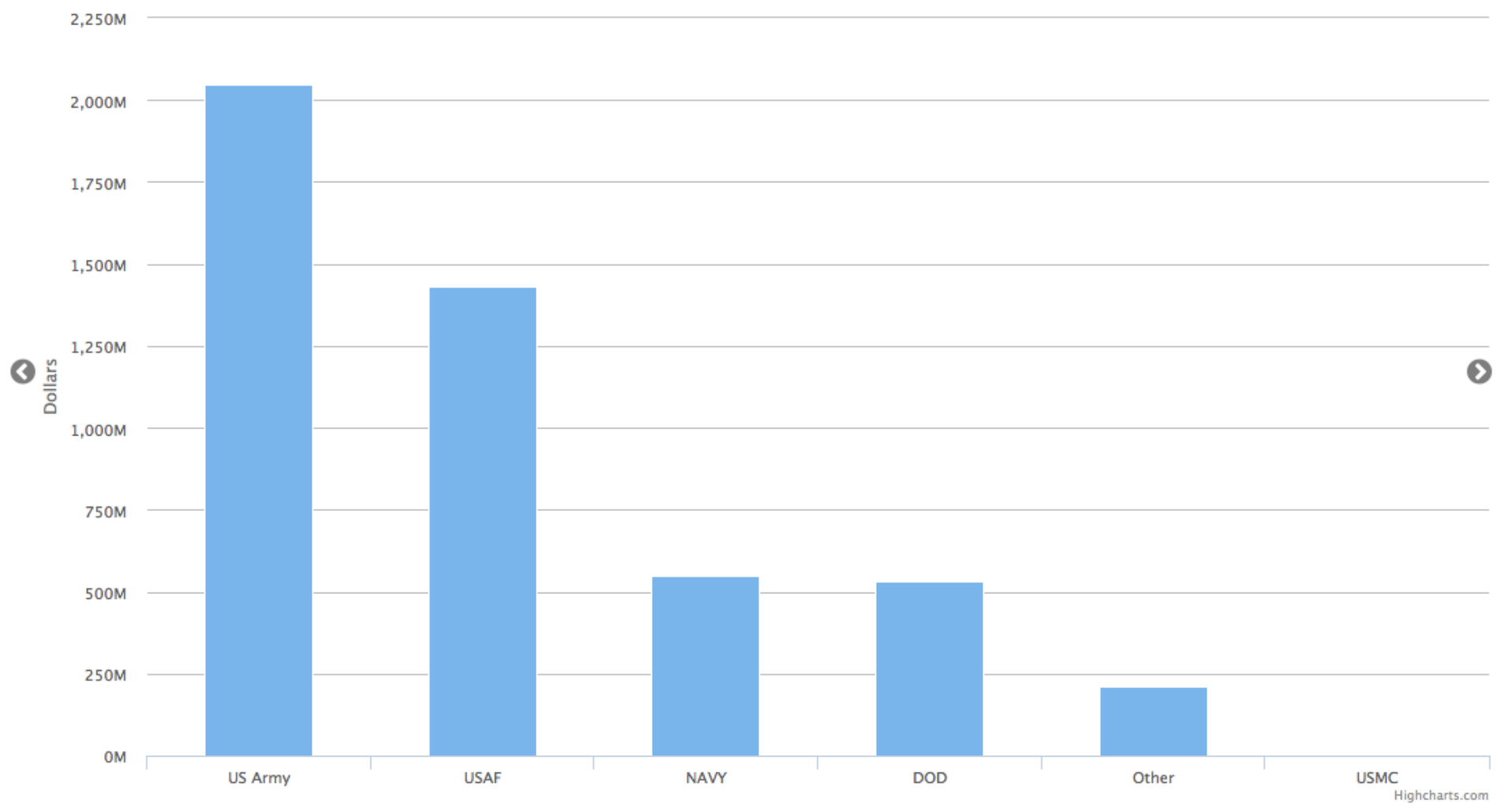


## Discussion of Previous 3 Charts

- **On total, ESI sales are increasing**
- **Smaller Agencies exhibit inconsistent patterns, possibly because:**
  - **Upfront purchase of COTS for new program start**
  - **Preference for more control of terms and conditions**
  - **Migration to alternatives (GSA)**

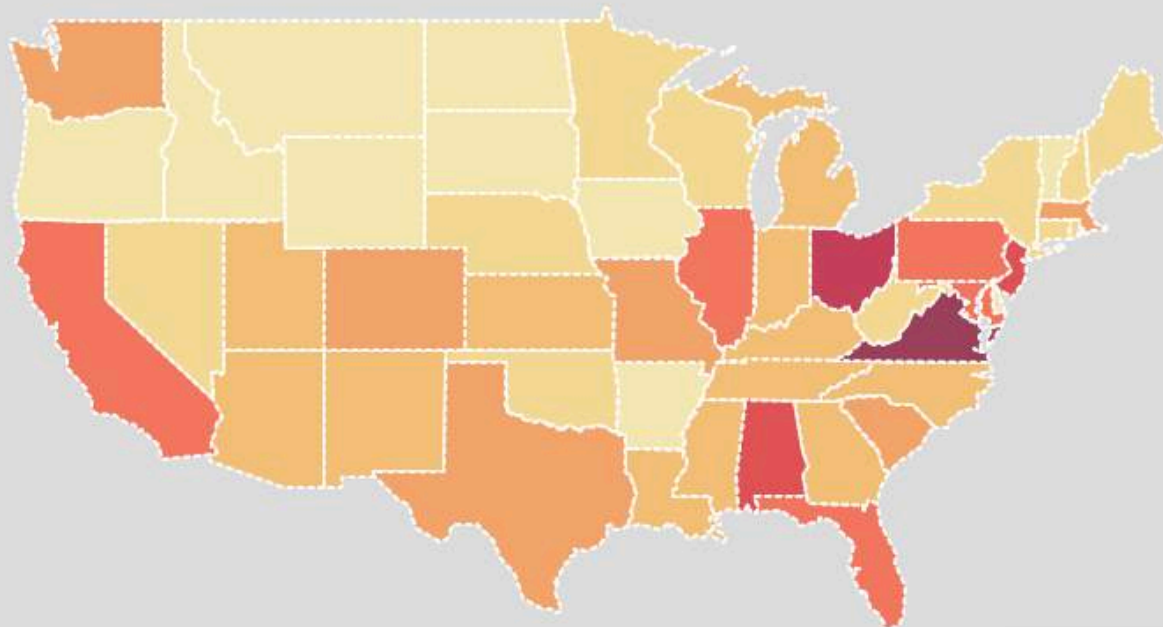


### ESI Dollars Spent by Agency (2002-2012)





ESI Sales (\$) By State FY02-FY11  
Hover over a state



## Product-Level Trends Overview

- **Sales price collected by ProductID**
- **4.77 Billion Dollars**
- **Timeframe from 2002-2012, depending on ProductID**

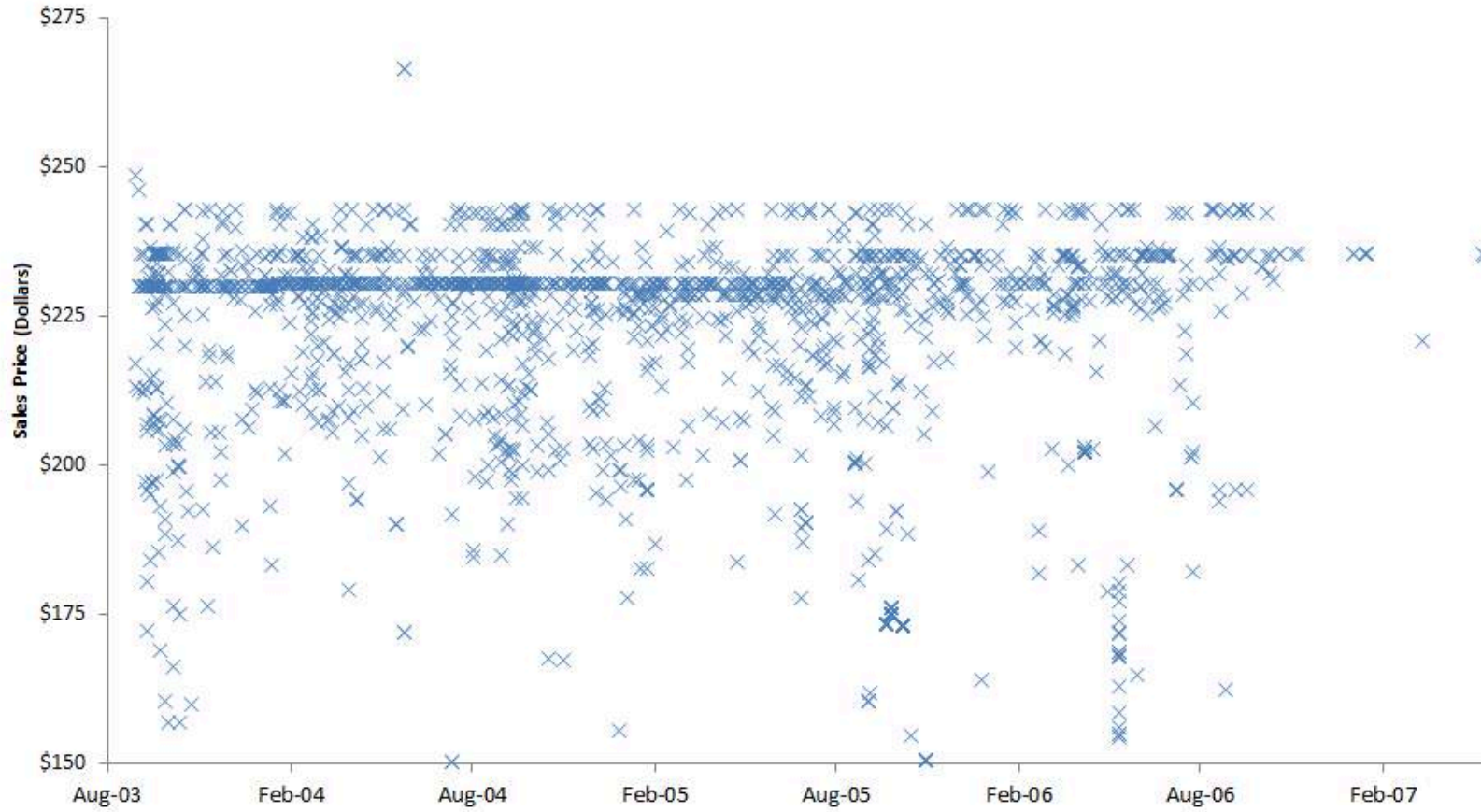


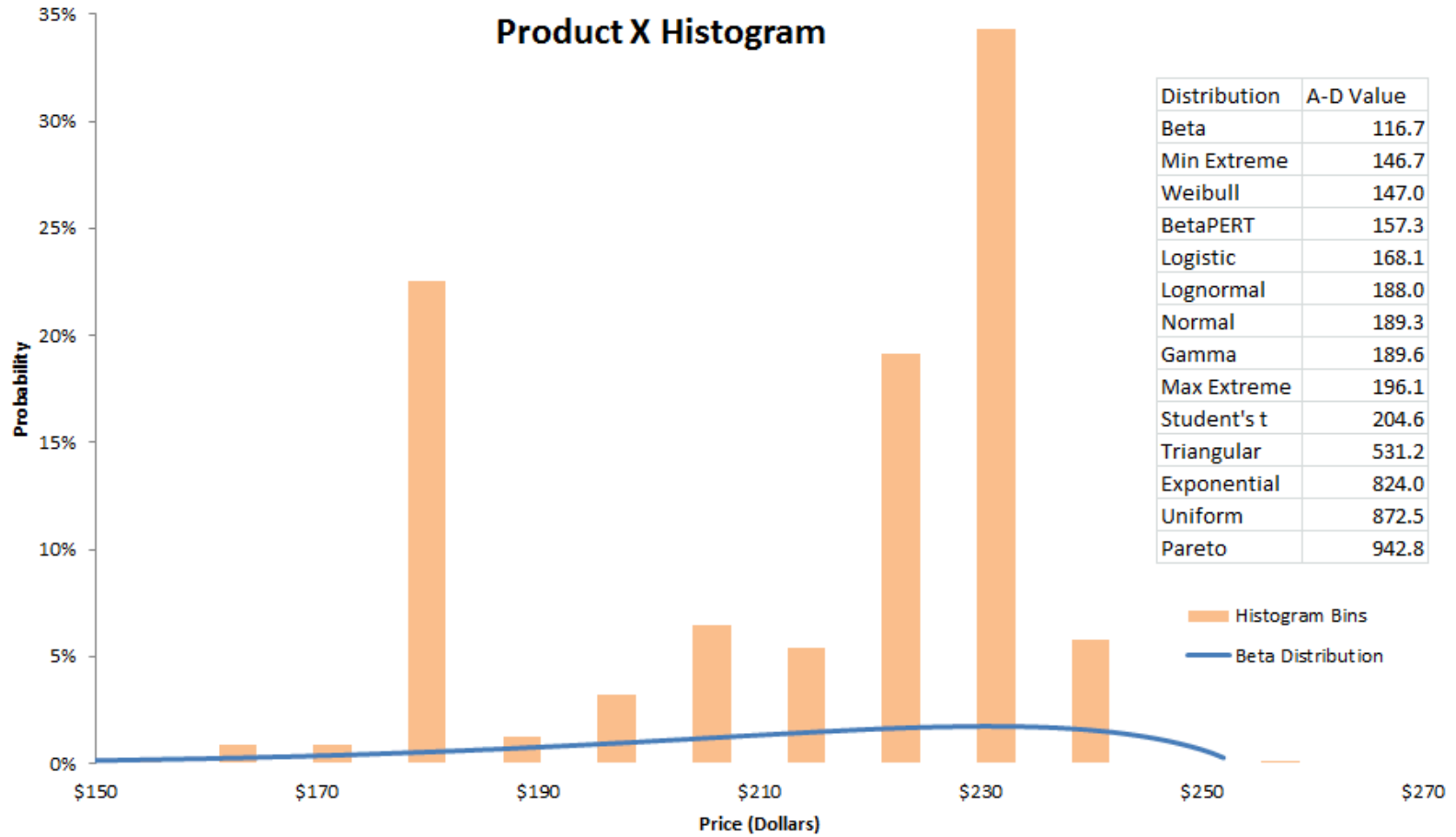
## Product Level Trends Analysis

- **Data not normalized for inflation**
- **Data filtered and sorted by: ProductID, SalesDate, UnitPrice**
- **Top products selected by "count" from ProductID**

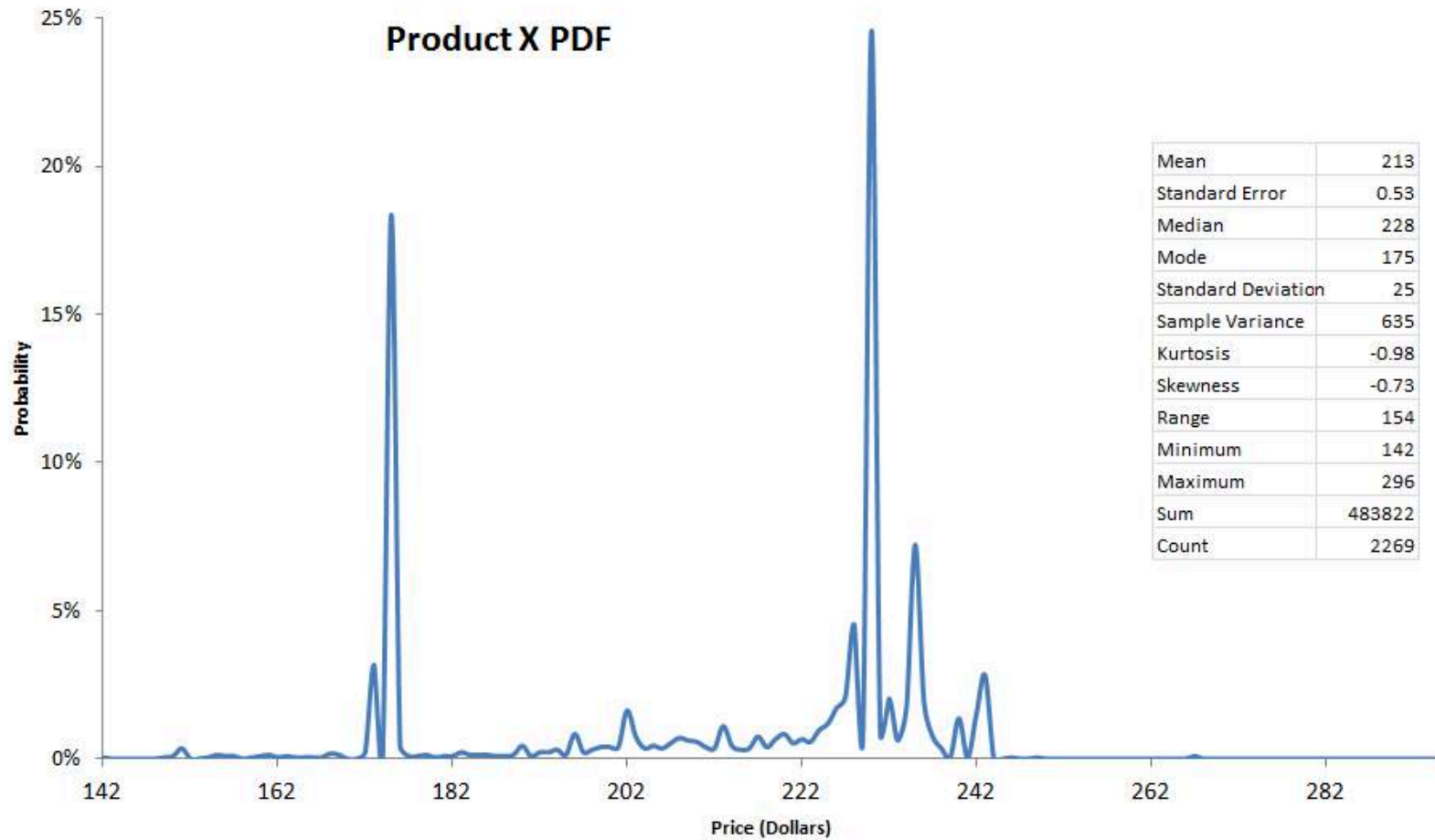


### Product X Scatterchart





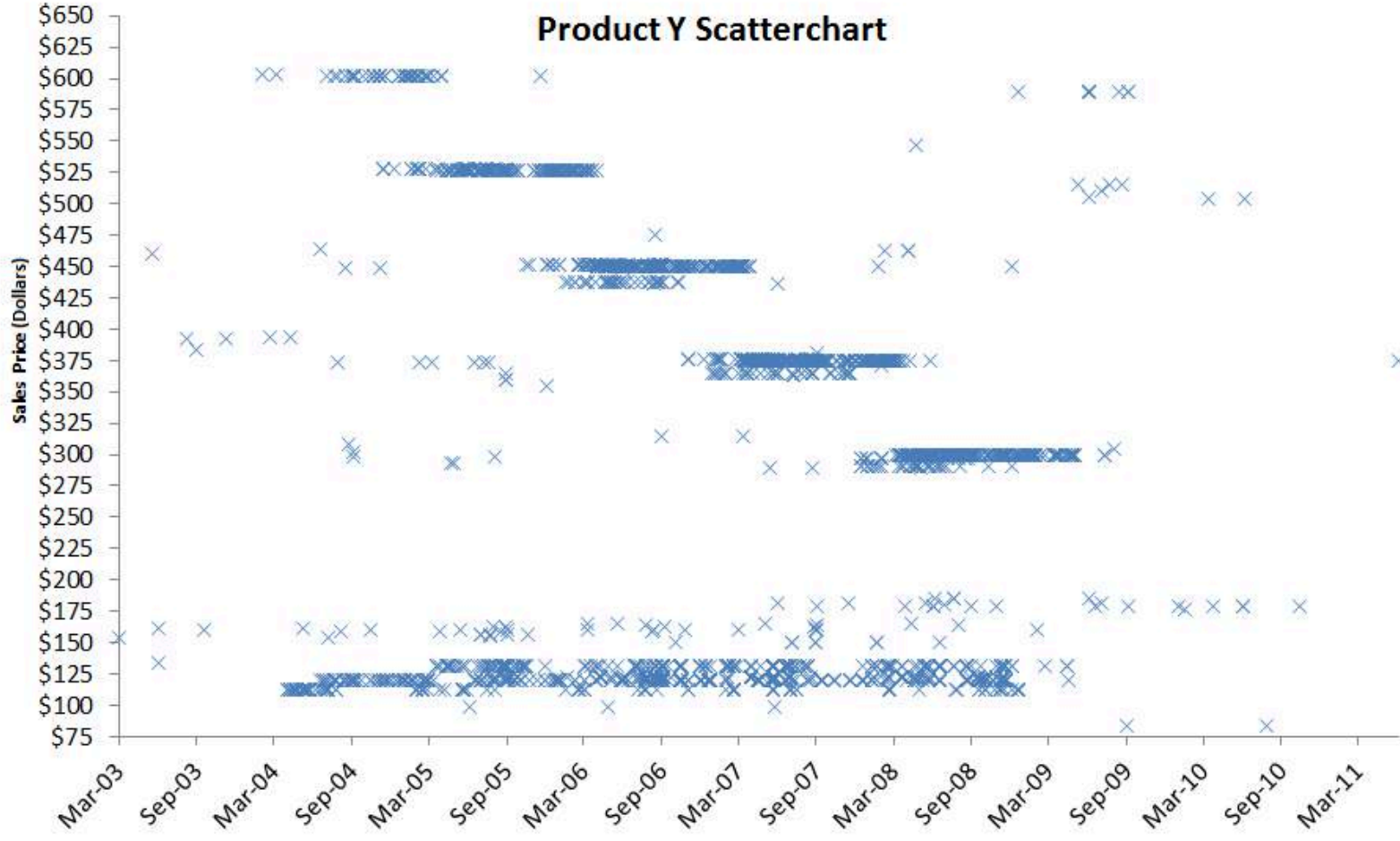


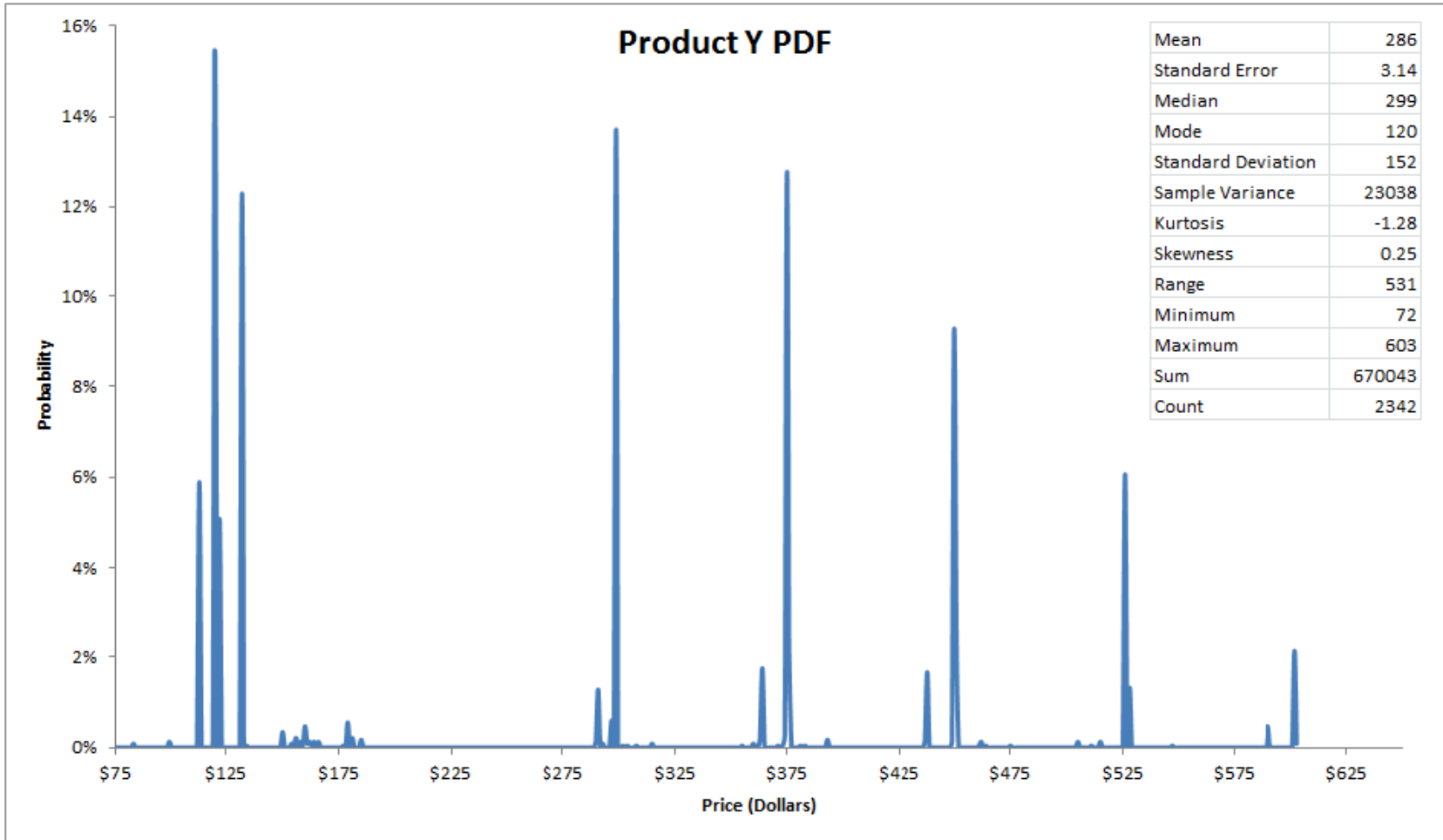


## Product X Discussion

- **Significant amount of uncertainty**
- **Beta distribution fits best, yet still a poor fit**
- **Two clear price points at \$175 and \$230**







## Product Y Discussion

- **Even greater uncertainty**
  - **Two Trends**
    - Price point starting at \$600 and dropping over time
    - Price point at \$100-\$125 steady over time
  - **Possibly a difference between annual and perpetual licenses**
  - **Suspect Product Y ID number represents different sets of terms and conditions**
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## Terms and Conditions

- **Perpetual -vs- Recurring Licenses**
- **Is maintenance included? What about support?**
- **Software Audit**
- **Transferability**
- **Warranty**
- **Resellers - ability to grant rights**
- **Derivative Works, Open Source, Embedded Software**

## Way Forward

- **Continue Data Analysis and Data Collection.**
- **Socialize results within communities of interest.**
- **Develop tool for cost estimating community.**

