TRUE PROGRAM SUCCESS '06

PRICE Systems U.S. Symposium
April 19-21
Sheraton San Diego Hotel & Marina
San Diego, CA

PRICE Systems HW Roadmap

Bruce Fad
Vice President
PRICE Systems, LLC

PRICE

Agenda

- TruePlanning Data Model
- Hardware estimating with TruePlanning
- Roadmap today
- FAQ

Activity Based Terminology

- Activity Based Terminology
  - Cost Object
    - Product or Service
    - Encapsulates Cost Estimating Relationships
    - Consumes activities at a computed consumption rate
  - Activity
    - Task or set of tasks required to deliver cost object
    - Relates to processes of cost object
    - Consumes resources at a computed consumption rate
  - Resource Pool
    - Resource or set of resources required for the execution of an activity
    - Labor or material
    - The things that actually cost money

The Data Model - what is it and why do we need it?

- Known as the ERD (Entity Relationship Diagram)
- Visual representation of the data in the problem domain
- Reflects pieces of data that the business cares about
- Describes the relationships between these pieces of data
- Provides a standard for communication about business model or methodology
- Provides a common modeling language for the development of cost models

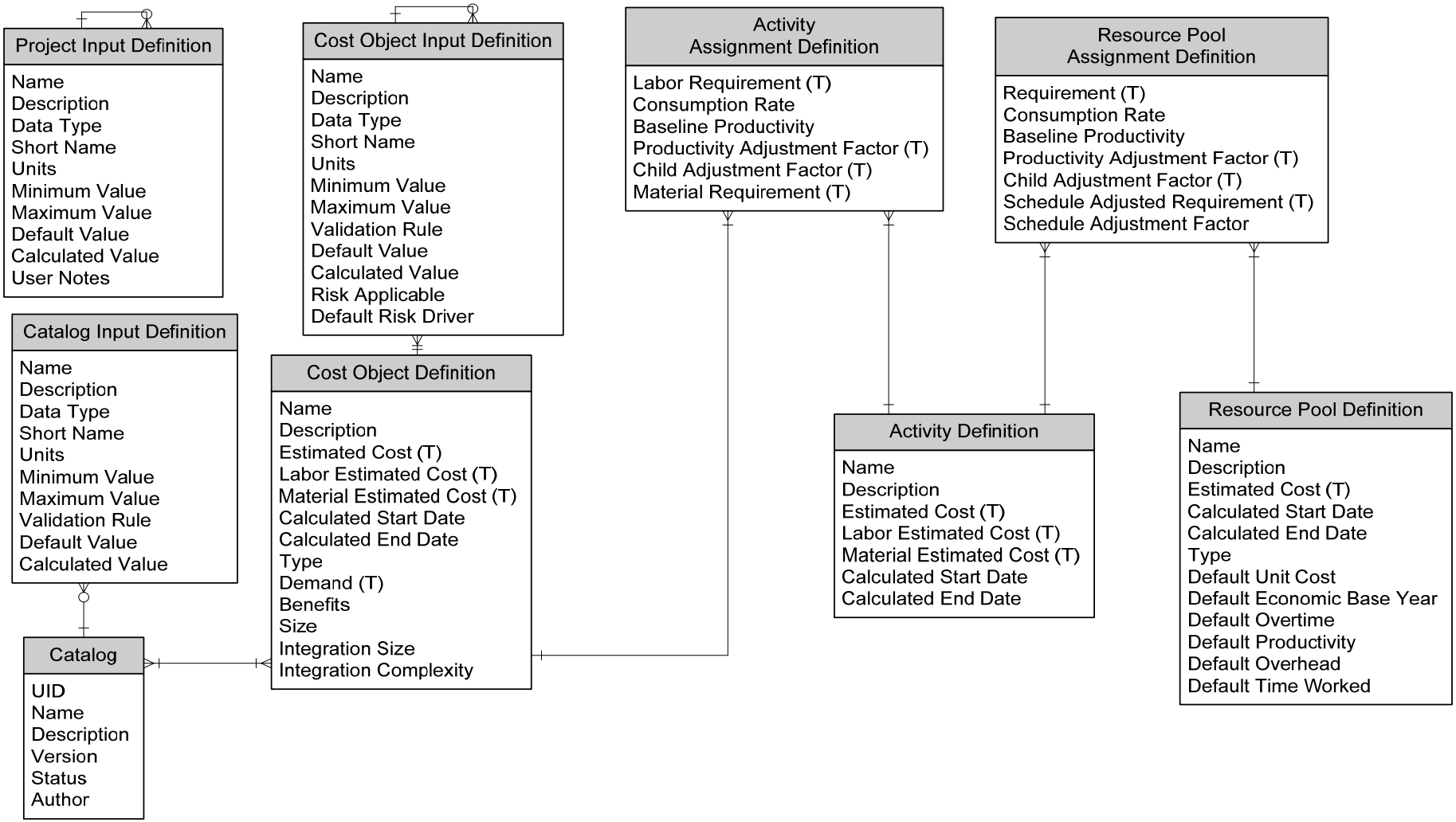
PRICE

Data Model

- The TruePlanning Data Model contains entities, relationships and attributes
- These entities, relationships and attributes tie back to the Activity Based Methodology
- An entity is anything in which the business has interest
- An attribute is a basic unit of information about the entity
- A relationship is a connection or a rule

PRICE

TruePlanning Data Model



PRICE

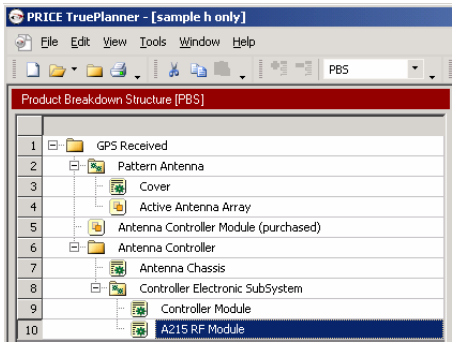
TruePlanning Data Model – the Rules

- AA_Requirement = AA_Multiplier x CO_Demand x CO_Size x AA_Consumption Rate
- AA_Consumption Rate = AA_Baseline Productivity x AA_Productivity Adjustment Factor
- RPA_Requirement = RPAMultiplier x AA_Requirement x RPA_Consumption Rate
- RPA_Consumption Rate = RPA_Baseline Productivity x RPA_Productivity Adjustment Factor
- RPA_Schedule Adjusted Requirement = RPA_Requirement * RPA_Schedule Adjustment Factor
- If CO=Parent, AARequirement = AA_Multiplier x CO_Demand x CO_Size x AA_Consumption Rate + AA_Child Adjustment Factor
- If CO=Parent, RPA_Requirement = RPAMultiplier x AA_Requirement x RPA_Consumption Rate + AA_Child Adjustment Factor
- Productivity Adjustment Factor = f(Inputs)
- Schedule Adjustment Factor = f(dates)
- Capacity = Resource Pool Requirement / Availability
- Demand =

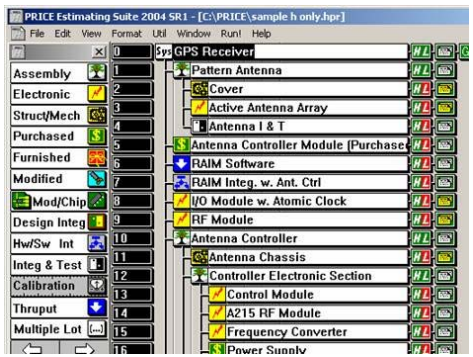
PRICE

Hardware Estimating Offerings

Multi-pronged approach to addressing hardware estimating challenges



1. PRICE H
   - Enhancements driven by customer requests
2. True H
   - Incorporates the best of PRICE H with hardware technology advances to develop best hardware estimating solution in the marketplace
   - Results consistent with but not equal to PRICE H



3. True PRICE H
   - PRICE H accessible through TruePlanning wrapper
   - Offers upgrade path for PRICE H users
   - PRICE H estimates in a TruePlanning framework allows for integrations and system level estimates
4. Convert PRICE H to True H
   - Import of PRICE H files with conversion to True H format

True H - what's new

- Structure and electronics combined in one component
- Expanded labor categories with labor allocated to specific resources
- Separation of assembly activities from component activities
- Interoperability with other True catalogs
- Throughput costs in labor hours or currency
- Demand over time
- System engineering focus

PRICE

Concept of separation

Hardware systems are modeled in three parts

1. Project Plan and Oversight handles Project level oversight and control activities such as Project Management, Quality Assurance, Configuration Management,

2. Assembly handles technical activities such as system requirements, system design, integration and test activities

3. Component level estimating
   - Activities to actually design and develop specific components
   - Hardware Component
   - Hardware COTS
   - Hardware Custom Built Component

PRICE

Universal Cost Objects

Designed to work with cost objects from any PRICE True Catalog

1. Project Planning and Oversight
   - All oversight activities that are not direct component development activities that occur during any project or program intended to deliver a product, system, service or capability
2. Assembly
   - Technical activities that occur during development of a system consisting of hardware, software, or some combination of hardware, software, and possibly other stuff

PRICE

Mapping PRICE H to True H

PRICE H	True H
Structure Electromechanical	Hardware Component
Purchased Furnished Modified	Hardware COTS Hardware Custom Built
Assembly	Assembly/Plan & Oversee
Design Integration HW/SW Integration HW/HW Integration	Assembly
Throughput	Purchased Goods & Services

PRICE

Universal Plan and Oversee Cost Object

- Activities
  - Initiation and Planning
  - Project Management and Control
  - Quality Management
  - Configuration Management
  - Vendor/Subcontractor Management
  - Write Documentation

- Resource Pools
  - System Engineering
  - Project Manager
  - Quality Assurance Analyst
  - Configuration Manager
  - Documentation Specialist
  - Product Manager
  - Support Engineering
  - Other Direct Costs

PRICE

Universal Assembly Cost Object

- Activities
  - Requirements Definition and Analysis
  - System Design
  - Design Integration
  - HW/HW Integration and Test
  - SW/SW Integration and Test
  - HW/SW Integration and Test
  - Verification and Validation

- Resource Pools
  - System Engineering
  - Business Analyst Labor
  - Project Stakeholder Labor
  - Design Engineering
  - Support Engineering
  - Test Engineering
  - Manufacturing Engineering
  - Quality Assurance Labor
  - Configuration Management Labor
  - Programmer Labor
  - Other Direct Costs

PRICE

Universal Assembly Focus on System Engineering

- Researching potential cost drivers for System Engineering Activities for Assemblies
  - Number of System Requirements
  - Number of Unique System Interfaces
  - Number of Stakeholders
  - Number of Operational Scenarios
  - Requirements Stability
- Plan is to extend capability to model system of systems

PRICE

True Hardware Component

- Activities
  - Development Engineering
  - Development Model Manufacturing
  - Development Tooling and Test
  - Production Engineering
  - Production Manufacturing
  - Production Tooling and Test
- Resource Pools
  - Design Engineering
  - System Engineering
  - Support Engineering
  - Assemblers
  - Fabricators
  - Test Engineering
  - Manufacturing Engineering
  - Materials
  - Tooling and Test Engineering
  - Tooling and Test Materials
  - Other Direct Costs

PRICE

Hardware Portion of Roadmap

PRICE

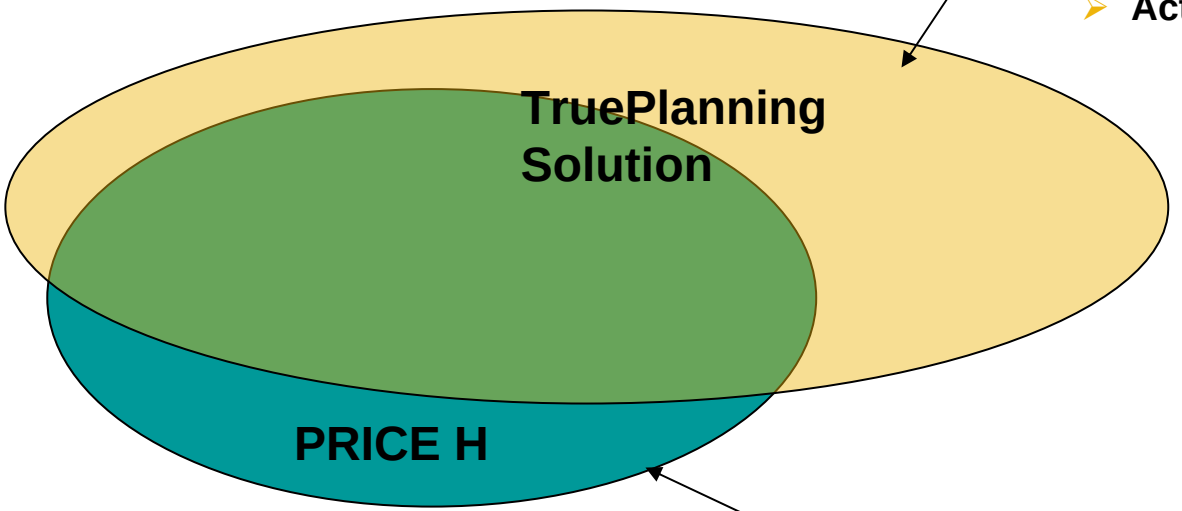
Frequently Asked Questions

- What will happen to PRICE H?
  - Continue to maintain and enhance
  - New features prioritized by customer requests
- How will PRICE handle the transition from PRICE H to True H?
  - PRICE H to True H webinars and training sessions
  - Education of customers (MoD, DoD, OSD, CAIG)
  - Migration of .hpr files to True platform
  - Template development
  - TruePlanning wrapper for PRICE H application
  - Validation of results

PRICE

FAQ: Will answers be the same?

- Integration with SW and other models
- System Engineering at component & assembly level
- Framework features
- Activity/Resource structure



- PRICE H core remains
- Fringe area behaviors addressed
- Relationships updated

PRICE

Frequently Asked Questions

- Why should I use True H?
  - Integration with software model and other estimating models
  - System and System of System estimation in common framework
  - Better distribution of labor resources
  - Focus on System engineering costs at Component, Assembly, System and System of System levels
  - Demand over time
  - Throughput in labor hours or currency units
  - Enhanced reporting and charting capability
  - Client / Server capability
  - Common set of features and utilities
    - Risk Analysis
    - Microsoft Project Interface
    - Other product interfaces
    - Calibration
    - Escalation

PRICE

Summary

- True H is designed to fit the TruePlanning ERD
- True H is designed to improve the time to effective use for new starters
- True H is an alternative to PRICE H, not necessarily a replacement for PRICE H
- True PRICE H will enable PRICE H devotees to reap the benefits of the TruePlanning estimating environment
- As with all roadmap themes, hardware cost modeling will be maintained and enhanced with agility

PRICE