Demonstrating IT’s Value Contribution

- The Value Measurement Imperative
- A Hierarchy of Value Measurement
- Developing Business Value Discipline
- Key Takeaways and Discussion
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## CIO Executive Board Teleconference Series

**Teleconferences for September–December 2005**

<table>
<thead>
<tr>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximizing the Value of Your Membership</strong>&lt;br&gt; September 1</td>
<td><strong>Applications Executive Council Update: Business Process Engineering</strong>&lt;br&gt; October 19, 20, 26</td>
<td><strong>Maximizing the Value of Your Membership</strong>&lt;br&gt; November 3</td>
<td><strong>Demonstrating IT’s Value Contribution</strong>&lt;br&gt; December 6, 8</td>
</tr>
<tr>
<td><strong>Building the IT Budget</strong>&lt;br&gt; September 13, 14</td>
<td></td>
<td><strong>Establishing an Enterprise Architecture Strategy</strong>&lt;br&gt; November 1, 2</td>
<td><strong>Infrastructure Executive Council Update: Process Optimization</strong>&lt;br&gt; December 7, 8</td>
</tr>
<tr>
<td><strong>Designing an IT Portfolio Management Toolkit</strong>&lt;br&gt; September 27, 29</td>
<td></td>
<td><strong>Building the High-Performance Workforce</strong>&lt;br&gt; November 16, 17</td>
<td><strong>Maximizing the Value of Your Membership</strong>&lt;br&gt; December 13</td>
</tr>
<tr>
<td></td>
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<td></td>
<td><strong>Enterprise Architecture Executive Council Update: Emerging Management Strategies</strong>&lt;br&gt; December 14, 15</td>
</tr>
</tbody>
</table>

*Registration information and audio for past teleconferences is available at [www.cio.executiveboard.com](http://www.cio.executiveboard.com)*
ROAD MAP FOR DISCUSSION

I. The Value Measurement Imperative

II. A Hierarchy of Value Measurement

III. Developing Business Value Discipline

IV. Key Takeaways and Discussion
**Short Measure**

*CIOs confront measurement and communication challenges as they seek to demonstrate IT value*

<table>
<thead>
<tr>
<th>Measuring Business Value Created by a Specific Technology Solution</th>
<th>Communicating IT Value to Business Peers</th>
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<tbody>
<tr>
<td><strong>Percentage of Respondents</strong></td>
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<tr>
<td><strong>Very Challenging</strong></td>
<td><strong>Very Challenging</strong></td>
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<tr>
<td>41%</td>
<td>8%</td>
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<tr>
<td><strong>Challenging</strong></td>
<td><strong>Challenging</strong></td>
</tr>
<tr>
<td>51%</td>
<td>41%</td>
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<tr>
<td><strong>Not Challenging</strong></td>
<td><strong>Not Challenging</strong></td>
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<td>4%</td>
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"In the grand scheme, as a business leader I don’t care whether IT gets credit for value creation, as long as the company gets the benefits, but I’d still like to be able to substantiate in a better way each of those projects on their own merits. I’d like to be in the position to show that a dollar spent on IT consistently yields a higher return than a dollar spent elsewhere."

CIO
International Manufacturer

\( n = 81 \) CIOs.

Source: 2005 CIO Executive Board survey; Deloitte & Touche.
Road Map For Discussion

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# A Hierarchy of Value Measurement Needs

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<thead>
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<th>Representative Measurement Challenges</th>
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| 4 Business Value Creation  | How do I measure the impact on revenue or costs of business projects supported by IT? | • Days of Inventory  
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• Productivity  
• Cross-Sales | Intel  
Finite Enterprise-Wide Value Metrics |
| 3 IT Project Portfolio Prioritization | How do I evaluate the relative enterprise value of competing projects from different BUs? | • ROI  
• Strategic and Architectural Fit  
• Real Options | Schlumberger  
Portfolio Prioritization |
| 2 Foundational IT Investment Justification | What is the business case for upgrading our data center? | • Risk Assessment  
• Capability Options | Delta  
Risk-Based Investment Scenarios |
| 1 IT Operational Performance Validation | What is the value of my help desk? | • Balanced Scorecard  
• User Satisfaction Survey | IT-Balanced Scorecards |

Source: CIO Executive Board research.
**Structural Attributes of the IT Balanced Scorecard Ideal**

*Six design principles of world-class IT balanced scorecards*

1. **Simplicity of Presentation**
   - Single page of key performance categories and metrics
   - Non-technical language for easy consumption by business sponsors
   - Limited number of metrics (10 to 20)

2. **Informed by Goals of Annual Plan**
   - Categories and metrics directly linked to strategies articulated in annual IT strategic plan
   - Provides insight into ongoing progress of strategy execution by tracking performance against goals

3. **Broad Senior-Level Ownership**
   - Representative cross-section of senior IT and business leaders involved in scorecard creation and metrics selection
   - Scorecard results are regularly reviewed by CIO and IT and business management

4. **Clearly Defined Metrics**
   - Each metric has a clear definition, agreed on by IT and the business
   - Companion scorecard document outlines metric definitions, assumptions, and collection methods

5. **Drill-Down Capability and Metric Context**
   - Scorecard allows for drill down into more granular data underlying metrics
   - Metrics annotated with source information and contextual explanation of variance or trends

6. **Links to Individual Compensation**
   - Achievement of balanced scorecard targets linked to individual compensation of IT leadership team

Source: CIO Executive Board research.
**Defining Risk-Driven Investment Scenarios**

*Delta evaluates proposed infrastructure investment scenarios based on the level of business value at risk*

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**Risk/Investment Trade-Off Analysis for Infrastructure Investments**

- **Unacceptable Risk**
  - Underinvestment increases the likelihood of critical systems failure
- **Optimal Investment Range**
  - Costs are fully justified by reduced business risk
- **Unaffordable Investments**
  - Additional investments fail to produce proportional reductions in risk

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**Practice Components**

1. **Standardized Risk Guidelines**
   - Server
   - Network
   - Storage
   - Desktop

2. **Scenario-Based Decisioning**

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*Source: Delta Air Lines, Inc.; Infrastructure Executive Council research.*

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*Source: Delta Air Lines, Inc.; Infrastructure Executive Council research.*
FROM ANTAGONISTS TO ADVOCATES

Risk-based investment scenario communication increases business ownership of infrastructure investment outcomes

Alternative Investment Scenarios

Scenario Risk Impact
Five-Year Horizon

Getting to the Right Conversations

“Once we described our need to refresh older technology in terms of how targeted investment could reduce business risk, our business leaders understood the ROI of infrastructure renewal. As a result, we were able to better allocate our investments across platforms and increase our level of investment in infrastructure.”

Brian Leinbach
Senior Vice President, Operations
Delta Technology, Inc.
Responsive IT Portfolio Prioritization

To enable portfolio prioritization, Schlumberger creates an IT project portfolio with principled project categories...

Schlumberger “Asset Classes” and Target Allocations

1. Confer competitive advantage, e.g., incubating new platforms or responses to competitors’ offerings.
2. Realize measurable business benefits (revenue generation or cost savings).
3. Optimize the use of existing IT assets and reduce IT costs.
4. Ensure legal or regulatory compliance.

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...and estimates the strategic, nonfinancial value of projects based around the following categories

Asset Class-Specific Value Drivers

<table>
<thead>
<tr>
<th>Representative Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Innovation</strong></td>
</tr>
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<td></td>
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<td></td>
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<tr>
<td><strong>Business Opportunity</strong></td>
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<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Mandatory</strong></td>
</tr>
</tbody>
</table>

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Source: Schlumberger Ltd.; CIO Executive Board research.
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Source: CIO Executive Board research.
Hurdles to Demonstrating IT Value

Phases of the IT Value Measurement Lifecycles

Define Metric

Deploy Measurement Process

Communicate Value Created

Unclear link between IT metrics and business outcomes

Limited process discipline around end-to-end value measurement

Value articulated in IT, not business terms

Lack of consistent metrics hinders value aggregation

No clear "owner" for value measurement activities

Foundational investments undervalued using traditional financial metrics

Intel

Finite Enterprise-Wide Value Metrics

Source: CIO Executive Board research.
There are only 18 ways to generate value for Intel...

**CXO-Level Business Benefit Scorecard**

<table>
<thead>
<tr>
<th>Benefits</th>
<th>“Value Dials”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash Cycle</strong></td>
<td>Days of Inventory: (Unit cash cost of one day inventory) x (days of inventory removed) x (WACC [15%])</td>
</tr>
<tr>
<td><em>Working Capital Reductions</em></td>
<td>Days of Receivables: (Dollar value of receivables) x (days of receivables removed) x (WACC [15%])</td>
</tr>
<tr>
<td></td>
<td>Days of Payables: (Dollar value of payables) x (days of payables added) x (WACC [15%])</td>
</tr>
<tr>
<td><strong>Efficiencies</strong></td>
<td>Headcount Reduction/Avoidance: (Number of H/C reduced or avoided) x (avg. burden rate for region and job type)</td>
</tr>
<tr>
<td><em>Expense Reductions</em></td>
<td>Headcount Productivity: (Number of employees affected) x (time) x (avg. burden rate for region and job type) x 50%</td>
</tr>
<tr>
<td><em>Cost of Sales</em></td>
<td>Headcount Turnover: (33% of annual burden rate/region/job type) x (number of H/C turnover avoided)</td>
</tr>
<tr>
<td><strong>Opening Markets</strong></td>
<td>System End-of-Life: Cost of maintaining legacy system</td>
</tr>
<tr>
<td><em>Profit Margin</em></td>
<td>Material Discount: (Prior material pricing) – (current pricing)</td>
</tr>
<tr>
<td><strong>Hardware/Software Avoidance</strong></td>
<td>Hardware/Software Avoidance: Total cost of the hardware or software avoided</td>
</tr>
<tr>
<td><strong>Efficiencies</strong></td>
<td>Unit Cost and Other Cost Avoidance: Actual unit cost reduction and/or quantified increase in margin, or total actual costs avoided</td>
</tr>
<tr>
<td><strong>System End-of-Life</strong></td>
<td>Factory Uptime (Optimization): (Value of product) x (volume increase)</td>
</tr>
<tr>
<td><strong>Scrap Reduction</strong></td>
<td>Scrap Reduction: Total value of scrap reduced or avoided</td>
</tr>
<tr>
<td><strong>Risk Avoidance</strong></td>
<td>Risk Avoidance: (Value of risk) x (probability of occurrence)</td>
</tr>
<tr>
<td><strong>Time-to-Market</strong></td>
<td>Time-to-Market: (Value of increased market segment share) x (number of weeks accelerated to market)</td>
</tr>
<tr>
<td></td>
<td>Opening New Markets: (Increased volume) x (average selling prices) x (margin)</td>
</tr>
<tr>
<td></td>
<td>Optimizing Existing Markets: (Increased volume) x (average selling price) x (margin)</td>
</tr>
<tr>
<td></td>
<td>Cross-Selling: (Increased volume) x (average selling price) x (margin)</td>
</tr>
<tr>
<td></td>
<td>Customer Excellence Program (CEP): Value of positive ratings that ensure Intel’s security in a market.</td>
</tr>
</tbody>
</table>

...and enterprise-wide standards these reliably estimate business benefits

**Key Benefits of Intel’s Enterprise-Wide Value Standardization**

1. **No Place to Hide**
   Metrics of project success are the same ones that appear on the CXO’s scorecard.

2. **Objectivity of Value**
   Direct comparability of business value and productivity across projects, business units, and time.

3. **Enhanced Data Integrity**
   Commonality of value drives efficiencies in metrics collection and reporting and enhances data integrity.

**Metrics Selection**

“How did we pick the 18? We reviewed business unit scorecards to find the metrics the company’s leaders track every day.”

Champ T. Merrick
Manager, IT Finance Group
Intel

Source: Intel Corporation; CIO Executive Board research.
Measurement from Start to Finish

Intel initiates projects by “baselining” value and defining measurement criteria, tracks benefits across the project life cycle, and obtains executive sign-off for results.

1. Up-Front Performance “Baselining”
   - Business unit metrics are used to establish current performance and a measurement exercise is undertaken to baseline productivity
   - Appropriate value dials are selected by business sponsors
   - “Metrics plan” are created—what will be measured, how it will be measured, who will do the measurement

2. Business Value Tracker
   - Estimates are entered into a central database of business case assumptions and value realization

3. Stage-Gate Value Updates
   - ROI calculation is reevaluated by the project manager at each stage gate
   - Resources are reallocated if the project value declines

4. Value Realization Tracking
   - Business sponsor signs off on validity of value measures
   - Can discount amount of value generated based on exogenous factors
   - Postdeployment value measurement exercise
   - Repeated across standard five-year cycle from project initiation

5. Executive Sponsor “Gut Check”
   - Business sponsor signs off on validity of value measures
   - Can discount amount of value generated based on exogenous factors

6. Value Roll-Up Report
   - CIO produces a quarterly roll-up of business value supported by IT
   - Business Unit GMs present the value of their IT portfolios annually to the executive committee

Source: Intel Corporation; CIO Executive Board research.
# The Periodic Table of Business Value

*Standardization enables visibility of application interdependencies across the portfolio*

## Portfolio-Wide Business Benefits by Project Type

<table>
<thead>
<tr>
<th>Application</th>
<th>Supplier Facing</th>
<th>Employee Facing</th>
<th>Customer Facing</th>
<th>Infrastructure</th>
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</thead>
<tbody>
<tr>
<td><strong>Value Dial</strong></td>
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<tr>
<td>Days of Inventory</td>
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<tr>
<td>Days of Receivables</td>
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<td>x</td>
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<tr>
<td>Headcount Reduction/ Avoidance</td>
<td>x</td>
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<td>x</td>
<td>x</td>
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<tr>
<td>System End-of-Life</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
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<td>Materials Discount</td>
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### Optimizing the Portfolio

1. **Highlights Overlapping and Conflicting Projects**
   - Identifies projects that are duplicative or have conflicting aims

2. **Tracks “Synergistic” Benefits**
   - Surfaces interdependencies among applications that drive an overall net impact on benefits

3. **Helps Focus Investment in Highest Value Areas**
   - Input into decision making on future project funding and resource allocation

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Source: Intel Corporation; CIO Executive Board research.
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**Key Takeaways**

- **Basic Principles of Scorecard Design**—Incorporate six key attributes in a balanced scorecard design: a concise set of top-level metrics expressed in non-technical terms; metrics devolved from the annual IT strategic plan; senior-level scorecard ownership; enterprise-standard metrics definitions; scorecard drill-down capability and metric content; and clear links between individual compensation and scorecard performance.

- **Comprehensive Value and Risk Estimation**—Evaluate programmatic risk and strategic value for large projects to capture critical value-related information beyond traditional ROI calculations and more easily surface tradeoffs around foundational investments.

- **Finite, Business-Relevant Measures of IT Value**—Define a finite, inclusive set of enterprise-wide metrics to capture the dollar value of IT investments; use the same metrics that the CXOs are measured against on their dashboards. This results in fewer ad hoc metric requests, increases objectivity of value measurement across projects and business units, and enhances data integrity.

- **Up-front Identification of Measurement Methods and Responsibilities**—Draft a “metrics plan” at the outset of business case development to identify which metrics will be used to value the project; establish a baseline for measurement; and determine what supporting data must be collected, how, and by whom. Empower this “referee” with a mandate to collect and report value data on a consistent basis, across a three- to five-year horizon.

- **Little Value in Parsing Technology’s Contribution**—Econometric models to parse IT’s contribution to value delivered do not yield any more actionable information; involve the CFO and project sponsor to make final judgments on IT’s contribution.
### Relevant CIO Executive Board Resources

<table>
<thead>
<tr>
<th>Focus of Value Measurement</th>
<th>Case Examples</th>
<th>Implementation Guides</th>
<th>Studies</th>
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<td><strong>intel</strong> Finite Enterprise-Wide Value Metrics</td>
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<td>CNA's Project Portfolio Prioritization Scorecard</td>
<td>Governance and Prioritization for Agile IT Organizations Practices to Inform Business Prioritization and Mobilization of IT Resources in Volatile Business Environments</td>
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<td>2 Foundational IT Investment Justification</td>
<td><strong>Delta</strong> Risk-Based Investment Scenarios</td>
<td>John Hancock's Business Capabilities Framework</td>
<td>Case Studies in Enterprise Architecture Migration Self-Funding Architectures to Advance Corporate Strategy</td>
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<td>American Express' IT Product and Services Catalog</td>
<td>IT-Balanced Scorecards End-to-End Performance Measurement for the Corporate IT Function</td>
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*These and other resources are available at www.cio.executiveboard.com*