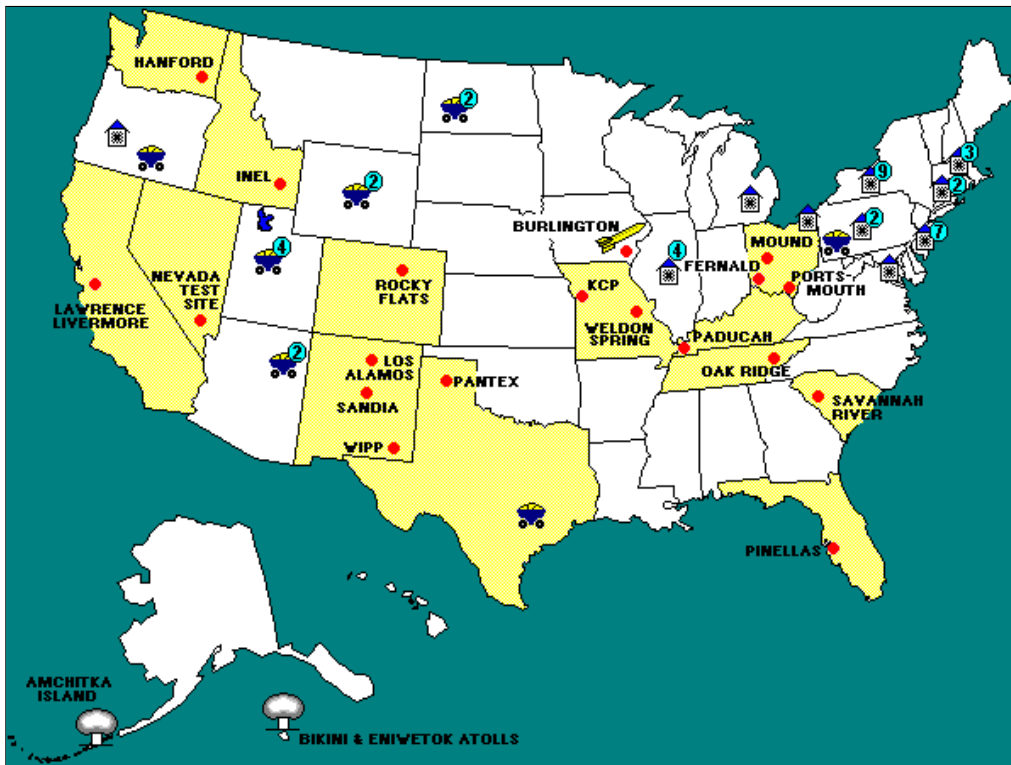


Thank you for the invitation to speak today on Balanced Scorecard and project management. I'm Glen Alleman from CH2M HILL. CH's primary focus is on technology and services to safeguard the environment.

I work in the communications group. Our Information and Communications Technology organization provides IT services primarily to the Department of Energy.



The communications group works in conjunction with the nuclear group for the Department of Energy. DOE owns and operates the Nuclear Weapons Complex in many locations across the US. Rocky Flats is one of those sites. The locations described in this slide represent the current Complex sites involved in some aspect of weapons production, research, or cleanup. We're on the cleanup end of the process.

The National Environmental Policy Act (NEPA) was signed into law on January 1, 1970, to address the need for an environmental policy to guide the growing consciousness and shape the national response to the legacy of the nuclear weapons complex. From this basis most of the environmental law regarding cleanup and disposal of nuclear waste has been derived.

A good history of the NWC can be found in *Building the Bombs: A History of the Nuclear Weapons Complex*, Charles R. Loeber, Sandia National Laboratories, SAND2002-0307P, United States Government Printing Office, ISBN: 0-16-067187-6



Our site is located at the base of the Rocky Mountains, along the Front Range just north west of Denver. This site is being restored to its original pristine environment in late 2005.

Our Customer Is Not Your Normal Commercial Business Producing Household Items, Consumer Products Of Business Items

- The Nuclear Weapons Complex (NWC) is a nationwide group of government-owned and contractor operated laboratories and production plants managed by the National Nuclear Security Administration under the U.S. Department of Energy.
- Rocky Flats Environmental Technology Sites (RFETS) was one of those plants.
  - ▶ It was shut down in 1989 in order to bring it in line with environment regulations.
  - ▶ It never restarted
  - ▶ Clean up and closure has been its mission since then
- This effort has been managed by Kaiser-Hill Company LLC
- Closure is scheduled for late 2005

The closure of the former nuclear weapons sites, is a half trillion dollar enterprise. DOE's Environmental Management budget for 2004 is \$7.2 Billion. The National Nuclear Security Administration's budget for FY 2004 is \$8.835 billion, for a combined total of \$16 billion.

Managing the IT portion of these projects is our core competency. IT in the past was not a critical success factor for safe site closure. Our experiences at Rocky Flats have shown that IT can now be seen as an integral component of the cleanup process. Although we are still a second order impact on cleanup, the safe, effective, and efficient closure can no longer proceed without modern IT processes.

## A Quick Background Of Our Business Environment, Clients And Business Model

- CH2M HILL is a \$2.2B project completion services firm
- Our current engagement is a \$12M annual IT services contract with the Department of Energy
- We provide information and communication technology (ICT) services to Rocky Flats Environmental Technology Site
  - ▶ The closure mission supports D&D efforts for all waste clean up
  - ▶ All activities are mission critical
- Steady reduction in budget and staff in support of closure is our "normal" business environment
  - ▶ Closure projects have accelerated cost reduction budgets until they reach ZERO
  - ▶ Our goal is to turn Rocky Flats into dirt, prairie dogs, and 10TB of data




I come to Balanced Scorecard not as a business executive but as a Program Management Office leader. My role in our IT organization is to turn our strategy into actionable outcomes. I participate in the development of strategy as a member of the executive management team. In the end though the PMO is on the delivery end of the objectives, portfolios and projects that make up the portfolios.

Our work environment is unique from the experience of most of you here. Our business is to go out of business – we manage the IT processes for DOE weapons plant closure projects. There 114 of these sites in the continental US, ranging from 650 square miles to small rooms in the basements of university physics departments.

These projects are like construction projects but in reverse. All the buildings, nuclear and chemical wastes, all the infrastructure, and any remnants of the site are removed, shipped to various sites or disposed of in some way. For our site at Rocky Flats all that will be left in 2005 is 6,500 acres of clean dirt, prairie dogs, and 10 TB of data.

### Information and Communication Technology (ICT), Balanced Scorecard, and Program Management

- ICT provides
  - ▶ Server and network operations
  - ▶ Applications
  - ▶ Desktop support
  - ▶ Telecommunications
  - ▶ Program Management Office
  - ▶ IT Governance
- Core ICT strategies
  - ▶ Use technology in place of labor
  - ▶ Never be an impediment to progress toward site closure
  - ▶ Withdraw services that follow closure processes
  - ▶ On Time / On Budget / On Scope



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The connection between our ICT operations at Rocky Flats and other closure sites and Balanced Scorecard involves our mission – close the site with the least cost, fastest schedule, without injuring or killing anyone, and without being on the critical path for any other project task.

This goal could easily be met with simple seat of the pants project management and maintenance and operations IT processes. The problems arise when our customers – those doing the physical removal of the site materials – come into the picture.

Like any real construction project, changing requirements is an everyday occurrence. Adapting to change is the mantra of any IT organization. But in order to adapt to change a foundation from which to make change is needed.

This is usually called “governance.” But governance alone is not enough. A strategy for adapting to change is required. This strategy needs to consider not only technologies and customers, but also the broader mission of the ICT function – which asks “why are we here?” and “what have you done for us lately?”

Inverting the Balanced Scorecard pushes strategy down into the organization to the project management level

- Many speakers here will be talking about using Balanced Scorecard to implement strategy up and down the organization
- Our approach includes the above, but also the use of BSC to improve the performance of a project based organization
- This is a Program Management Office view of BSC rather than a CXO view
  - ▶ This closes the gap between “vision” and “execution”
  - ▶ Where should dollars be invested to achieve value?
  - ▶ How can this delivered be measured?
  - ▶ How can investments be connected to strategy as well as the tactical side of PM?



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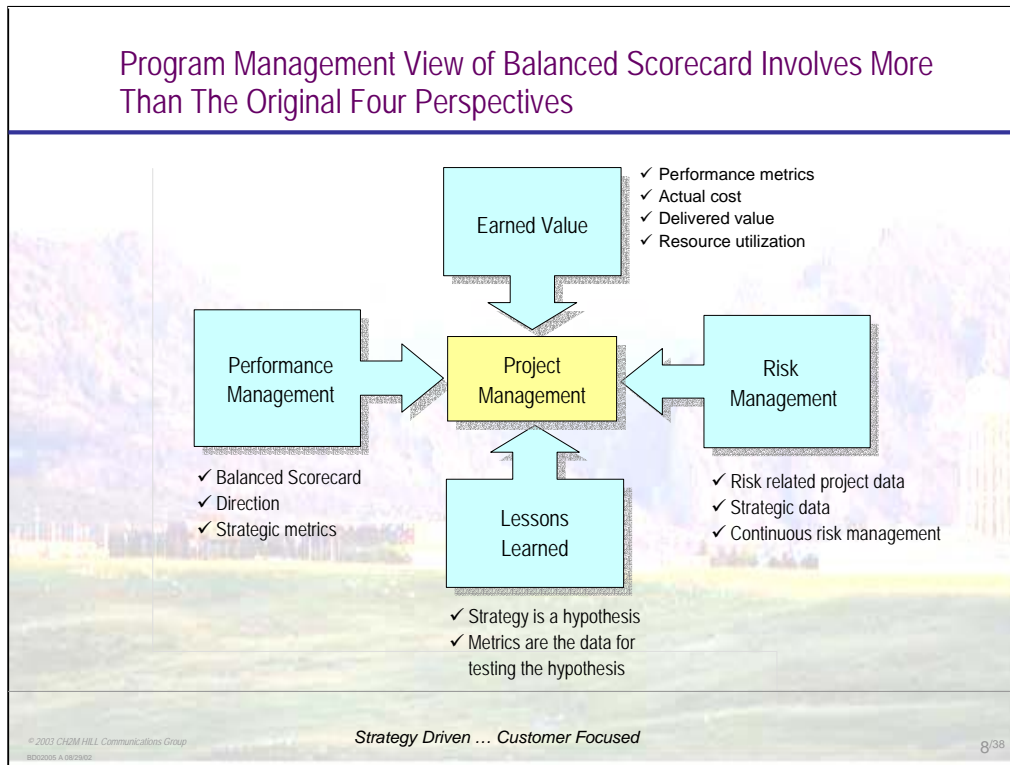
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Our approach to balanced Scorecard may be different than others. We did not start with some broad business goal – grow this company to a larger size. Ours started with the question “how can we provide more with less?”

Since we live in a project based operation, the second question was “how can we better deliver our projects to meet the strategic needs of our customers?”

This was an inside out view of Balanced Scorecard.

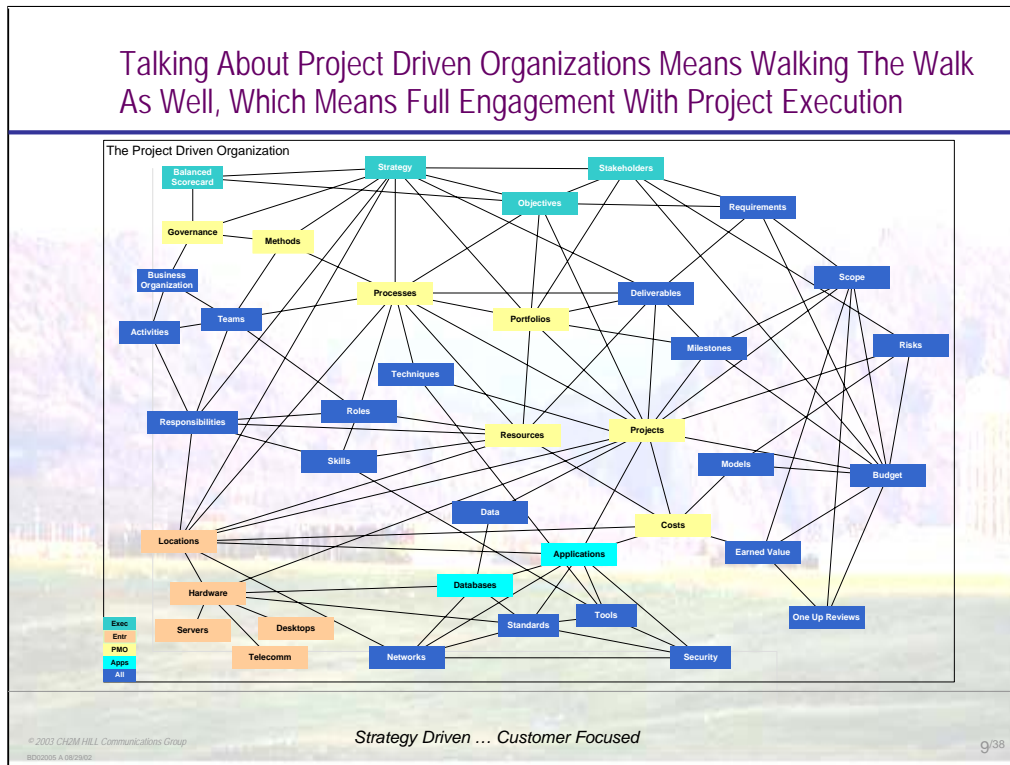




The forces on project management are show here. Let's take a quick tour for those not familiar with government contracting performance management practices. By the way these practices are applicable to any project management environment not just DOE and DoD. Especially in the software development world, where the question "when will we be done and how much will it cost" is asked everyday.

- Performance management is our balanced scorecard. I'll show one version later in the presentation.
- Earned value management is the core processes for managing projects. It asks and answers the question what is the cost at completion, when will we be done, and what have you delivered in terms of value for the money you've spent.
- Risk management is how adults do project management.
- Lessons learned is a core process improvement process. With looking back and asking free and frank questions about improvements, moving forward is difficult.





When someone uses the term “project management” they usually mean the planning of cost and schedule for the activities to deliver a product or service. But there are many other connections between projects and strategy. But first let’s look at the connections between the process of managing a project. Many activities are taking place besides cost and schedule. All influencing the outcome of the project and its support of a strategy

One Critical Understanding Missing From Many Strategy Discussions Is  
– “What Is Strategy In The Context Of IT Deliverable Projects?”

- Strategy creates fit among a firms activities
- The success of strategy depends on doing many things well, not just a few
- All things that are done well must operate within a close knit system
- If there is no fit, there is no strategy
- Without fit management becomes the search for operational excellence
- Improving operational excellence is necessary but it is not the same as strategy
- Managing fit is “strategic management”



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The approach to strategy usually starts with the Mickey Rooney school of management from “Babes on Broadway” in 1941 where Mickey says to Judy Garland, “Hey gang let’s put on a show.” The CXO comes to the business team and says “Let’s go get a strategy.” This is clearly not the right approach, but it happens more than you think.

First the definition of “strategy” is not well understood in the IT domain. People talk about architectural strategy, network deployment strategy, business development strategy, and shared services strategy.

Defining strategy in terms of hardware, software, and processes is not strategy – it’s operational effectiveness. Confusing these two is a common practice.

Next comes the simple minded belief that making strategy is a linear one step process. This is obviously not true, but many strategic process developments do not incorporate the “testing” parts of strategy making found in Balanced Scorecard. The participants make a strategy without the means to test their hypothesis. What they have done is simply created an experiment without any feedback from the laboratory. This is usually the start of a failed strategy process, leading to disappointment for all.

Strategy making must have hypothesis testing metrics. These metrics are used to “test” the strategy to determine if it is working. When the tests come in, the owner of the strategy can ask and answer one of two questions:

- Do I have the right strategy?
- Do I have the right tests to verify the strategy?

Both questions need to be asked and answered

So What Is Strategy And How Can It Be Deployed In A Project Management Context?

- Operational effectiveness involves continual improvement that have no trade off opportunities
- The operational effectiveness agenda is the proper place for constant change, flexibility, and relentless efforts to achieve best practices
- The strategic agenda is the place for making clear tradeoffs and strengthening the fit between the business components
- Strategy involves the continual search for ways to reinforce and extend a firms position and the delivery of value
  - ▶ This includes the IT "firm" within the business firm
  - ▶ As well as a department within the IT organization

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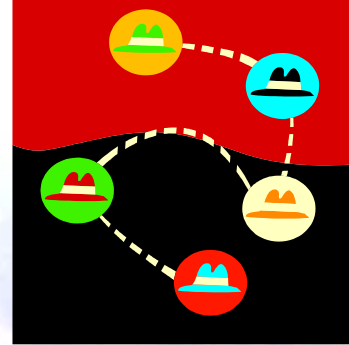
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The difference between strategy and operational effectiveness is critical to the deployment of Balanced Scorecard and the management of projects that fulfill the strategy.

Keeping these differences in mind at all times is as critical as discovering the various strategies.

### Strategy Is About Creating Fit Among The Various Components, Participants, And Forces Driving Of An IT Organization

- Fit creates incentives and the pressure to improve
- Poor fit means poor performance
- Poor performance exposed Weaknesses
- Increasing fit improves performance in other areas as well as target area of the improvement
- Strategy is making a hypothesis about a desired outcome, constructing the measures to test the hypothesis, deploying the experiment to test the hypothesis, then making adjustments based on the metrics



The concept of strategy as a hypothesis and the experiments to test the hypothesis may be new to many. But this approach puts strategy in a different light.

Strategy is not something you do then go off to execute the plan. It is a continuous feedback process. Always testing the strategy with metrics derived from projects.

A Framework For IT Strategy In The Absence Of Balanced Scorecard Fails To Answer Many Questions Needed For Success

- **What** – is the system made of?
- **How** – does the system work?
- **Where** – are the components of the system located relative to one another?
- **Who** – does what relative to these system components?
- **When** – do things happen in the system?
- **Why** – are various system choices being made?

- What is the information systems strategy?
- How is the information technology strategy?
- Who is the information management strategy?
- Why is the organizational strategy?

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One place to start building an IT strategy framework is with the following structure.

Asking questions about what, how, where, who, when, and why is critical to focusing the discussion on strategy and away from technology – at least in the beginning.

**There Are Four Elements Of IT Strategy That Must Be Present To Fully Assess The Connection Between Objectives And Projects**

<b>Organizational Strategy – WHY</b> <i>The wherefore and rationale for the strategy</i> Organizational components – chose the structure or design, management control systems and formal policies. Business Components – the corporate strategy concerned with mission. Strategic business unit strategy concerned with competitive advantage	<b>Information Technology Strategy – HOW</b> <i>The mechanism of the strategy</i> Scope – which technologies are to be formally included in the information strategy Architecture – the technology framework which drives, shapes, and control the Information technology strategy.
<b>Information Systems Strategy – WHAT</b> <i>The components of the strategy</i> Alignment – identify the applications required to support the business strategy Opportunity – search for innovative uses of IT to enable business to perform better	<b>Information Management Strategy – WHO</b> <i>The participants in the strategy</i> Roles – who has what responsibility for information resources and policies and actions Relationships – how are relationships built between the CIO and others to assure success over time

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There are four elements of IT strategy shown here.

Why

How

What

Who

Answering these questions is the starting point for building a strategy





### Balanced Scorecard And Project Management Are Natural "Soul Mates" In An IT Organization, But Connecting Them Is Difficult

- BSC provides a strategy focused view of the IT operation.
- Projects and Project Management provides a tactical view of the IT operation.
- Putting these two views together creates a synergy not found in the individual views
  - ▶ Tactics enable the fulfillment of strategy
  - ▶ Strategy validates tactical decisions
- Deploying these activities require a top-to-bottom rethinking of the IT organization
  - ▶ Projects must have meaningful measures
  - ▶ Ruthless pursuit of value must be a core management process
  - ▶ Viewing strategy as "hypothesis making" turns the organization toward "goal seeking" behaviors

By connecting BSC directly with project management, a bridge can be built for top to bottom execution. BSC without project execution leaves the details open. Project management with a strategy leaves open the "why" for each project.

In the end the work force needs to answer the question – "why are we here? What is the direct strategic purpose of the project I'm working on?"

Project Management Is More Than Managing Projects, It's About Managing The Right Projects, And Dropping The Wrong Projects

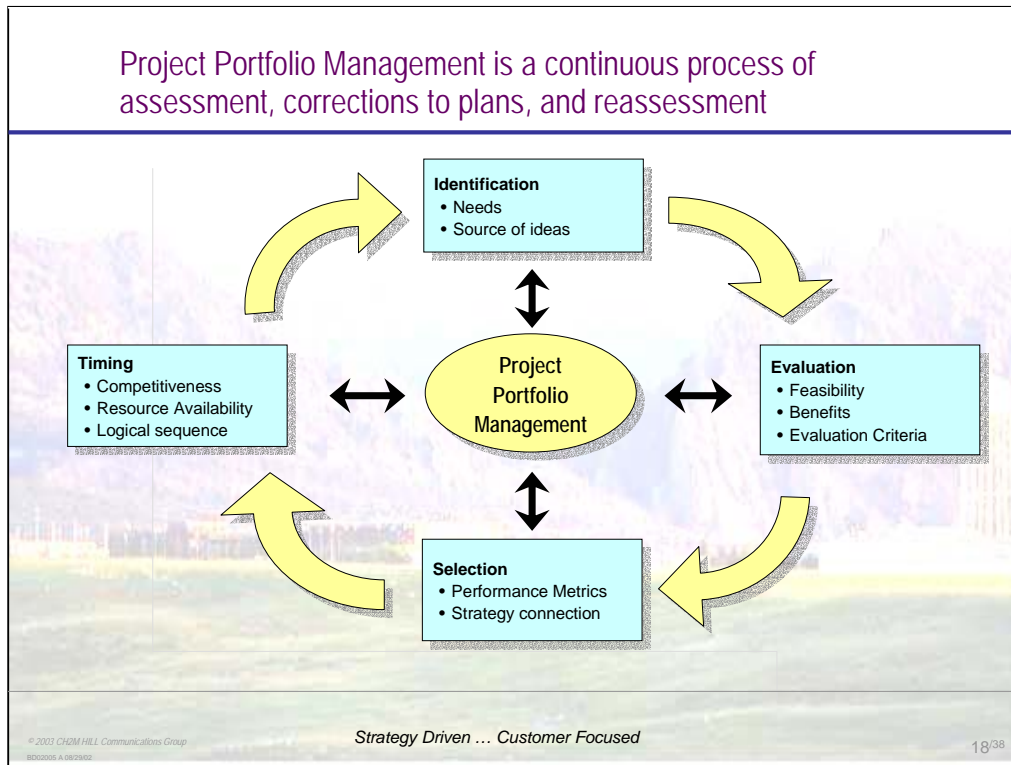
- Traditional view of a "project"
  - ▶ Defined start and end
  - ▶ Defined resources, cost, and delivered value
  - ▶ Customer, technology,
- Balanced Scorecard view of a "project"
  - ▶ What objective of the strategy does this project support?
  - ▶ If the project were implemented, what goals would be fulfilled?
  - ▶ When will the cost of the project be earned back by a specific objective in the strategy.
- These questions and their answers are also found in project portfolio management.

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Once project management concepts are connected with Balanced Scorecard, the answers to the previous questions can be provided.



Once projects are seen as the means to fulfilling strategy and strategy as the guiding force for projects, the project portfolio framework makes more sense. Assembling projects into portfolios without an overarching strategy adds little value.

The project portfolio approach many times starts with the desire to collect projects and provide a justification for the expenses. The real question to ask though is “why does this project exist?” The answer is “this project supports the following strategic initiatives.”

This seems so simple looking back through the Balanced Scorecard lens. But it is amazing how hard it is to come to the viewpoint without first starting with balanced scorecard. The purveyors of Balanced Scorecard and Project Portfolio Management software sometimes miss the simplest value – identifying the reason for a project’s existence by asking (yet again) “why are you here?”

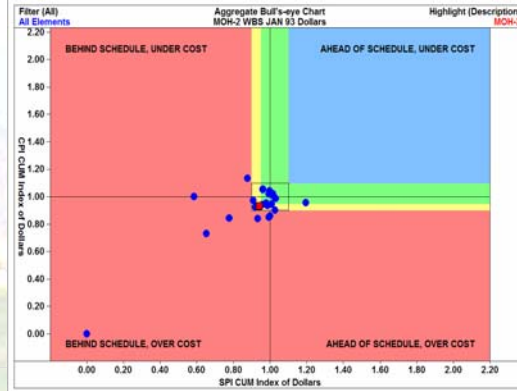
### Project Portfolio Management Is An "Implementation Process," But Alone It Is Not Sufficient To Answer The Strategy Questions

- PPM has many of the tools to answer the previous questions.
- PPM alone is not sufficient to assure success.
  - ▶ Project selection criteria are typically financial and technical.
  - ▶ Strategic impact analysis is needed as well.
- What are the units of measure of the "strategic impact?"
  - ▶ Economic value added?
  - ▶ "Real options" exercisable value?
  - ▶ Market opportunities?
- The business situation defines the units of measure
- But most importantly connecting strategy and tactics can be done through projects.

Project Portfolio Management (PPM) is an implementation process not a strategic process. PPM provides information (performance) about projects.

### Leading Indicators of Project Performance Are Needed Before Project Portfolio Management Can Be Deployed Successfully

- Portfolios can be “managed” through their performance metrics. Cost and Schedule variances as well as Estimate At Completion are “leading” indicators of project performance
- Static and dynamic trends show where the projects are headed
- The Bulls Eye chart provides an overview in a single picture how the portfolio is performing
- This chart and the BSC chart connects both ends of the problem.



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Success of project portfolio management depends on “leading indicators.” Without these, managing projects is like “driving in the rear view mirror.” It can be done, but when you run over something you don’t know it until its too late.

Earned Value Management Systems provide leading and well as trailing indicators for projects. Connecting these leading indicators to BSC satisfies ½ of the equation for developing metrics to test the strategic hypothesis.



Projectizing IT Organizations Is Harder Than It Looks, Everyone Has "Enlightened Self Interest" For The Use Of Their Budget

- The curse of the "level of effort" project
  - ▶ "Train watching" is a common term
  - ▶ As time passes resources are consumed, services delivered, but delivered value is not always measured.
- How to measure "value" of a project
  - ▶ Expected Monetary Value (EMV)
  - ▶ Project "profit," ROI, IRR, etc.
  - ▶ Opportunity costs
- These all have static monetary units of measure with little or no connection to strategy
  - ▶ It's the interaction between "value" and "strategy" that must be evaluated
  - ▶ Real Options is an approach to this connection

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Project Management and Projects have "enlighten self interest" as a core value. It is unlikely any project manager is willing to give up resources, funding, or scope for the higher good of the organization.

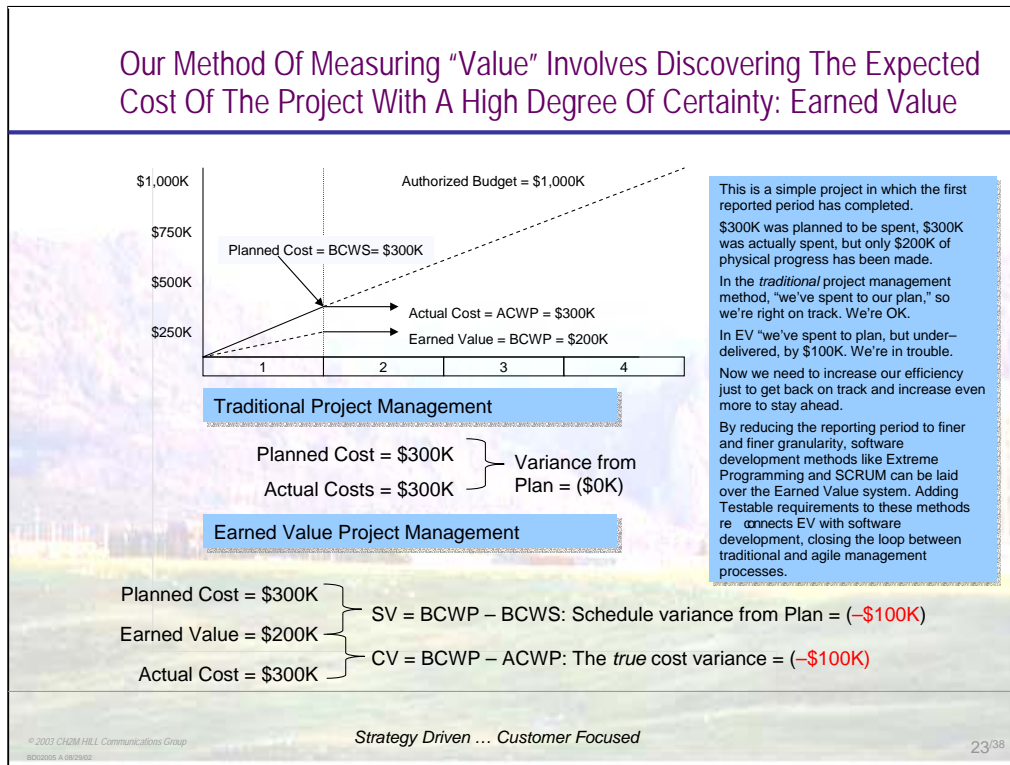
By focusing on the "strategic" view of projects, the project owners and managers are put in a position where they need to answer the question "what strategic value does your project bring to the table?"

What Is The "Value" Of Fulfilling A Specific Strategy And How Can This Value Be Monetized In The Same Units As Development Costs?

- There are many ways of measuring "value"
  - ▶ Expected Monetary Value
  - ▶ Earned Value
  - ▶ Real Options
  - ▶ Internal rate of return
  - ▶ Return on Assets
  - ▶ Payback Period
  - ▶ Return on Investment
  - ▶ Economic Value Added
- All these methods are useful, but care needs to be taken not to put too much "faith" in the absolute numbers
- The "value" aspects need to not only fit the strategic needs, they need to be acceptable to both the finance team as well as the customers

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The term "value" keeps coming up. The definition of value is usually vague and many times conflicting from various organizations. Establishing a common and agreed upon definition of the "value of a project" is critical. One place to look for a definition is in the "real options" domain. Here the value of the option is necessary prior to the exercise decision.



The value measuring method we use is Earned Value. We saw a bit of EV in a previous slide. Here's some more details. For IT projects EV is a powerful tool worth the initial effort to integrate into the portfolio management process.

Our Balanced Scorecard, Based On A Strategy Of "Going Out Of Business" On December 15<sup>th</sup>, 2005

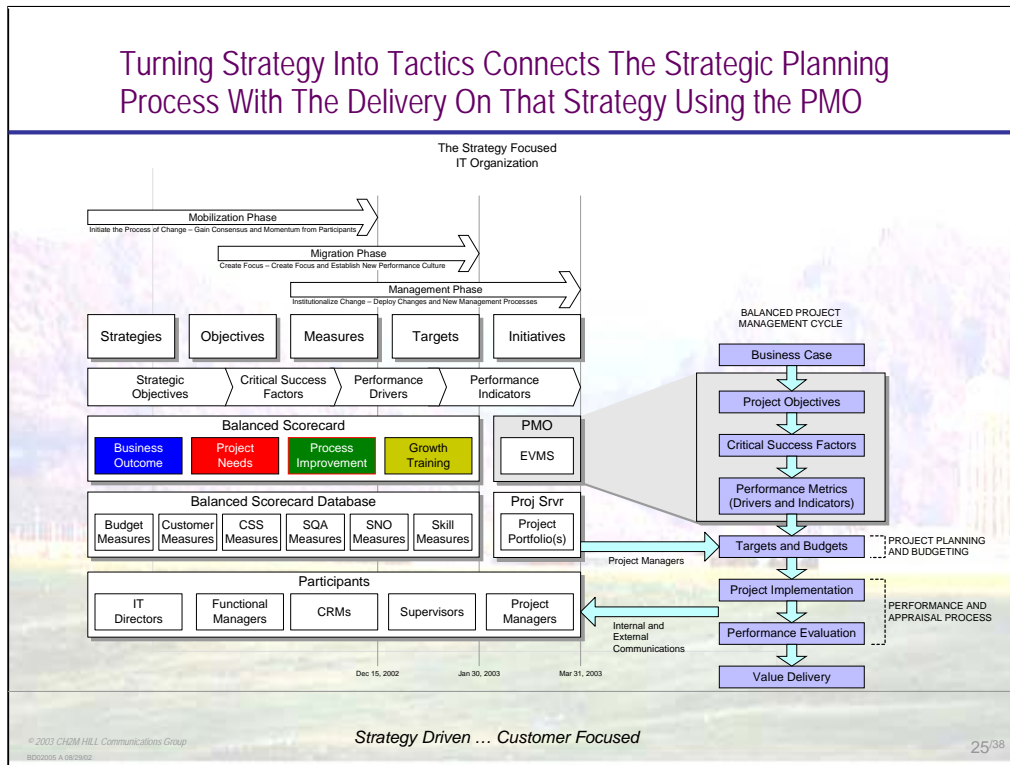
- Getting all participants accountable for the outcome is critical
  - ▶ Strategy is developed both top down and bottom up
  - ▶ Matrixed approach to projects, portfolios, and metrics – not dictated by management but collaborative development
- Projectizing all activities with specific measurements creates a focused team, but metrics must match the underlying behavior of the process
  - ▶ Bottom up cost and schedule estimates
  - ▶ Deliverables management continuous rather than stages

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Our balanced scorecard based on a closure strategy is an easy to understand set of objectives and metrics to guide and measure progress to plan.



Embedding Balanced Scorecard in the organization is a better approach than starting at the top and working down. What the people who do the work want to know is – “how is this going to help me do my job better?”

The introduction of Balanced Scorecard MUST show these benefits early in the process, or the end users will see this as just another gimmick cooked up by the MBA types.

### Assembling The Components Of Strategy And Tactics

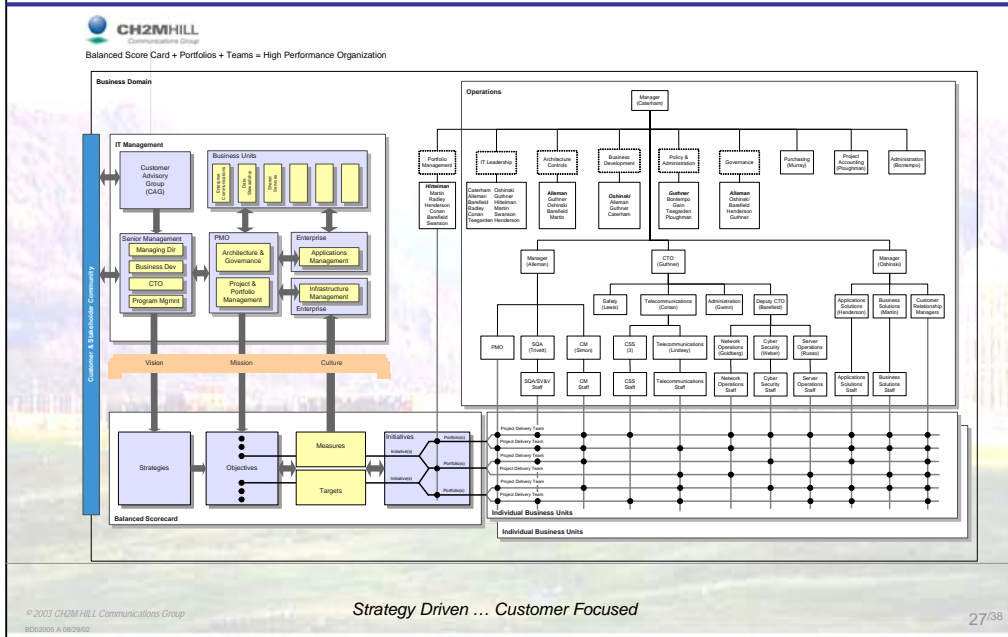
- Turning the strategy into projects requires a project oriented organization
- Project organizations start with changing the role of the functional managers
  - ▶ Self directed teams
  - ▶ Project Manager led teams
  - ▶ Functional manager led teams = level of effort teams
- Cascading strategy to the functional managers
  - ▶ Ownership of objectives now a a low level
  - ▶ Roll up the objectives from the bottom
  - ▶ Combine top down and bottom up



Combining Balanced Scorecard and project management takes work. But the pay off is worth the effort



## Organizing Around "Project Driven" Processes Means A Matrix Structure With Teams, Functional Managers, And Project Management



Here's our high level organization chart with BSC, traditional hierarchical line managers, and self directed teams.

Balanced Scorecard And Project Management Can Be Blended Together To Build A Powerful Tool For Managing IT Projects

- The Balanced Scorecard components are necessary but not always sufficient for success
- Matrix of components
  - ▶ Strategy map – tells the strategy story in one page
  - ▶ Objectives – describes the deliverables from the strategy
  - ▶ Measures – indicators of success
  - ▶ Targets – goals
  - ▶ Initiatives – collections of work efforts
  - ▶ Projects – tactical work packages

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The components of the Balanced Scorecard and Project Management approach include core processes and components. These components are ALL needed to make Balanced Scorecard and Project Management work.

The Hard Part Is When We're Asked To Manage Projects That Don't Fulfill A Strategy

- Connecting project costs with strategic value is critical
  - ▶ Two different units of measure
  - ▶ Two different spheres of influence – one looks outward, one looks inward
- Making visible the project's "value" to the strategy.
- Making the "value" of a project visible beyond cost and schedule.
- One approach is to use "earned value" to manage IT projects
- EV is commonly found in construction, aerospace and government contracting environments.
  - ▶ But in IT development?
- *The Balanced Scorecard is the place to start as well as end*

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Once Balanced Scorecard and Project Management have started down the path together it is important to unify the units of measure as well.

In Balanced Scorecard many of the units of measure will have business type attributes. The projects will be restricted to cost and schedule variances.

These can be tied together by associating cost and schedule variance to the specific business attributes. For example:

- What is the cost and schedule impact of not achieving the planned service turnaround rate for a customer support help desk? Can the business unit of measure be "dollarized" or shown to have specific schedule impact?
- What is the dollarized savings of moving from a fat client technology to a thin client technology for the desktop? The project that manages the rollout of thin client has cost and schedule variances produced from the earned value reports. Along with estimates at completion, probabilities of completion on schedule, etc. these metrics can be used in parallel with the Balanced Scorecard metrics of the benefits of the cost reduction strategy for desktop computing.

*Alignment Means "Actions Have Consequences"*

Alignment Actions	Alignment Consequences
Full engagement with the "customers" at the detailed level	→ Servicing the customer is a "strategy"
Aligning in "stages" by sorting out "going forward" applications	→ Identifying the value of each application.
Shared strategic objectives that start with the "customers" needs	→ Capturing needs is a continuous process.
Short-term tactical success means long-term strategic success.	→ Continuous building on success is a difficult and fulltime job
Knowing about the business, but not making the business decisions, this belongs to the "customers"	→ Having the customer "inside" the process, rather than as an external source of information.

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Like all good process improvement processes, understanding how actions create consequences is important. Without this understanding the actions will be taken – by following the instructions of the prescribed method. But those directing the actions will be surprised by the outcomes or consequences. With this surprise comes disappointment as well.

Our Balanced Scorecard Follows

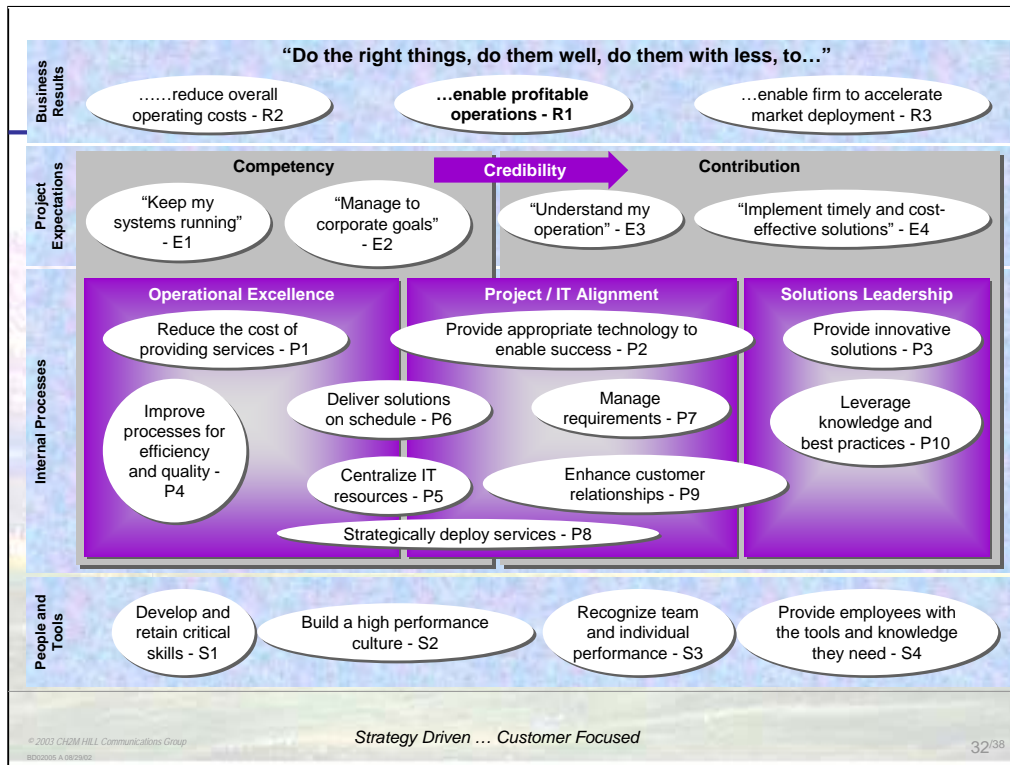
- This is a "traditional" BSC
  - ▶ Four levels
  - ▶ Bubbles, but no connecting lines of a map (too confusing)
  - ▶ Some partitioning of functions on a horizontal scale
- There are other way to represent the BSC
  - ▶ Simple lists with metrics and goals
  - ▶ Quadrants with everything on one page
- A current way is to list the objectives in a table, with metrics
  - ▶ Assign portfolios of projects
  - ▶ Cascade the Scorecard down to the functional manager level
  - ▶ Tie "every thing" to an objective even the level of effort projects

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The Balanced Scorecard currently in place at Rocky Flats is based on a traditional approach of decomposing the objectives into the four layers. This is a perfectly good approach, but we've learned more about cascading the scorecard since we made this one.



Here's our current scorecard



### Lessons Learned From A "Fresh" Assessment Of Our Current Balanced Scorecard – Continued Training And Consulting Is Needed

- Some of the goals are hard to create metrics for
  - ▶ "Manage requirements?"
  - ▶ Who get to say we're managing requirements?
- The customer wording is too soft at times, since the metrics for satisfaction are hard to come by in our environment
- "Strategically deploy services"
  - ▶ This is a tautology
- "Deliver solutions on schedule"
  - ▶ This is easy, and having a program office makes it easier
- "Keep my systems running"
  - ▶ This can be measured everyday

After attending some more training, working with the scorecard, talking through all our objectives, defending the not so obvious ones, and doing lots of reading, there are things we'd change.

The Risks To This Approach Are Numerous,  
Our Experience Includes ...

- Lack of time for the decision makers to focus on strategy
  - ▶ Having strategy sessions on a continuous basis is difficult
  - ▶ Running the business seems to come first
- Confusion between operational efficiency and strategy
  - ▶ This is a continual problem
  - ▶ Always ask "do I have options?" if so then it's strategy
- Difficulty in creating well defined metrics and connecting them to deliverables
  - ▶ Scalar metrics with defined "units of measure"
- Cascading the objectives down to the staff that can deliver the results
  - ▶ This is the hardest and where there is the most resistance

Along the way we also encountered problems with Balanced Scorecard. Nothing that would prevent us from using the approach or recommending it to others. Just that now we've got more experience – many times learned the hard way.

The Risks To This Approach Are Numerous,  
Our Experience Includes ...

- Once the strategy has been defined, loosing the picture focus and delving into the details
  - ▶ Continuous re-visiting of the strategy to test the hypothesis
  - ▶ Adjusting metrics and measures to increase the confidence in the hypothesis tests
- Becoming enamored with the “pretty pictures, charts and graphs”
  - ▶ The real measure is the improvement in the operational effectiveness of the organization.
  - ▶ This is the other half of strategy that needs to be delivered as well if not better
- Facing the reality that this is much harder than it looks
  - ▶ Strong convictions are needed to overcome objections
  - ▶ In the end delivery of the results **MUST** be done

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Staying focused in an IT environment is difficult. Doing it in a closure environment where budgets are being reduced, systems withdrawn and customers being put under continuous pressure to accelerate their work – creates further opportunities for mistakes and mis-steps.

The Balanced Scorecard School Of Management Is Not For The Faint Of Heart

- The individuals and teams should:
  - ▶ Be committed to making the scorecard process work across all levels of the organization
    - ▶ By-in has to be gained up and down the organization
    - ▶ Keeping the commitment is a full time job
  - ▶ Seek to close any gaps that open in the process in the same way they manage their daily activities
    - ▶ Make BSC a “project” like any other
    - ▶ Plans, budget, and deliverables
  - ▶ Understand that without the commitment and dedication, not only will Balanced Scorecard fail, the underlying business process will suffer as well.

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If you're going to start with Balanced Scorecard, take a deep and long look at your commitment. Although the benefits are certainly there the effort to bring them forward is greater than many think.

This is true of any change agent process. If it was easy then anyone could improve a firms performance.

## The Balanced Scorecard School Of Management Is Not For The Faint Of Heart

- The scorecard should:
  - ▶ Measure performance against goals
  - ▶ Determine if the goals are appropriate
  - ▶ Determine if the strategy or measures should be changed
  - ▶ Provide direct measurable outcomes traceable to the actions of individuals and teams
- These measures and metrics should
  - ▶ Have scalar units of measure: dollars, defects/1000, percentiles, etc.
  - ▶ Have metrics that are first order derivatives from the work process: quality, response time, budget compliance
  - ▶ Have independent variables that can be controlled which are connected to the dependent variables

Having a clear goal of what you expect from the Balanced Scorecard is important. Continually reminding yourself of these goals and benefits is just as critical.

### A Final Thought

*"One of the most dangerous forms of human error is forgetting what one is trying to achieve."*

*– Paul Nitze*

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