


## Problem Solving 2.0

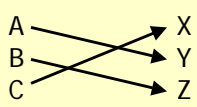
*The 8 Executive Tools for Solving  
Your Toughest Problems*

Jerry L. Talley  
*A Presentation for Renaissance Forum  
April 2005*



## How We Learned Problem Solving

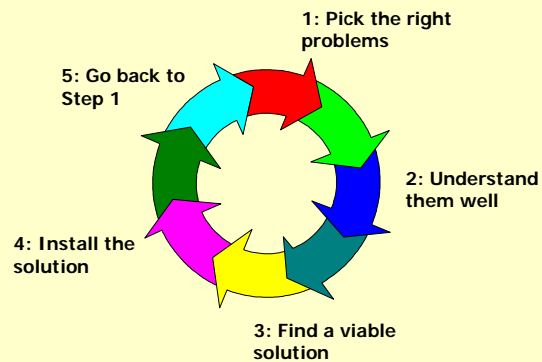
- You are in a room with 3 toggle switches: A, B, & C.
- Each switch controls 1 of 3 incandescent bulbs in another room: X, Y, & Z.
- The lights are out of sight, and you can only go into the other room to inspect the lights ONCE.
- How do you find out which switch controls which light?



- The problem is provided, not chosen.
- The problem is well bounded.
- All the information given is needed. . . and adequate.
- Nothing in the problem is "negotiable".
- The right answer will be obvious once identified.
- We're confident there *is* an answer!

## An Observation..

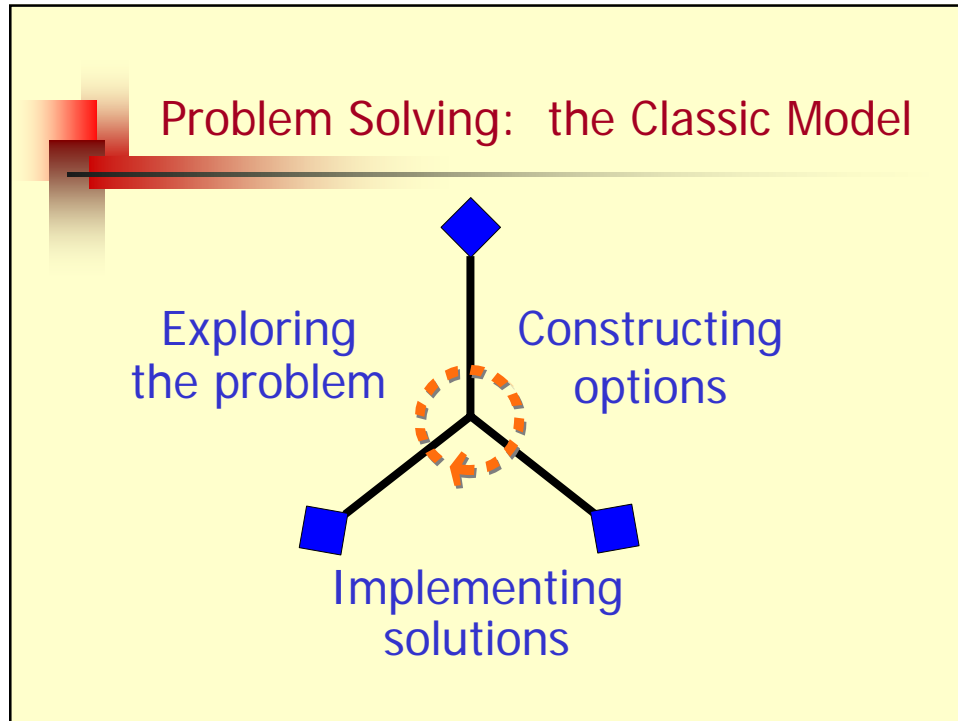
If you spend your day solving problems, then problem solving is your most important process



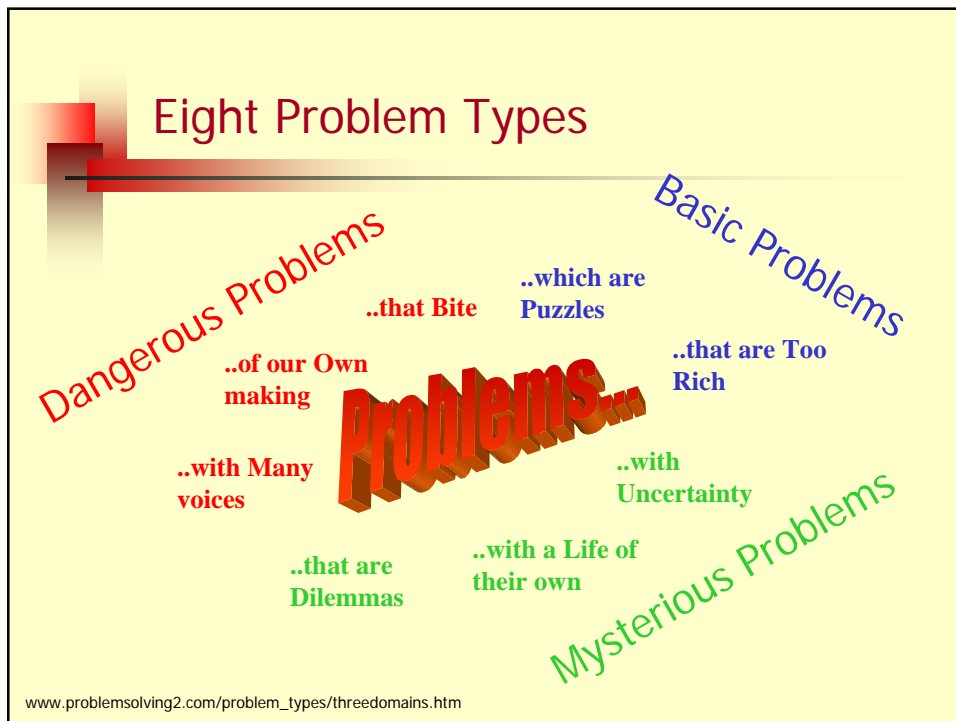
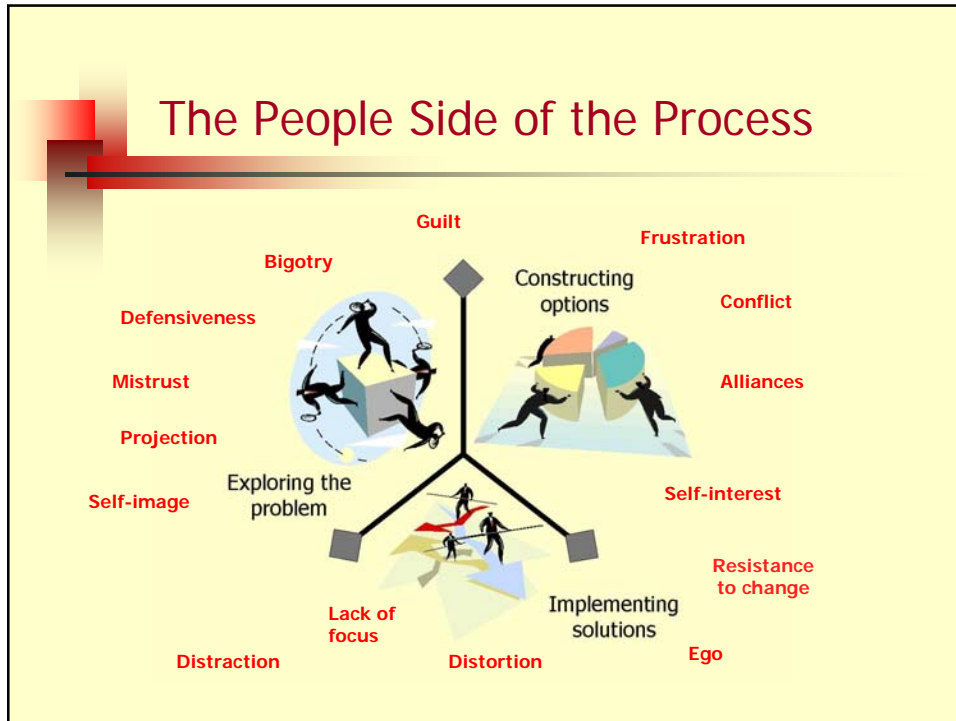
**Would it be worthwhile if you were just twice as good at it?**

## Problem Solving: The Colloquial Model

- Get curious
- Get overwhelmed
- Get desperate
- Do something! Anything! Now!
- If the solution doesn't work, do it more!
- If it still doesn't work, label the problem "systemic" or "cultural" or say "That's just part of doing business"



- ### Notes on the Classic Model
- The model is overly analytical
    - All the “people problems” are left to the facilitator to manage
  - The model presumes a homogeneity in the nature of problems; “one size fits all”
  - The model is neutral on the impact of an organizational context on the problem solving process
    - Levels of authority
    - Horizontal boundaries to communication
- How many types are there?
- What's the role of the leader?



## Problems that are Puzzles



### Definition

- Well bounded problems
- Variables mostly known ... and knowable
- Objective criteria for solution
- Mostly known methods for finding solutions
- Reusing a known solution is desirable
- Validity of solution obvious once found
- The relationship of the *parts* to the *whole* is clearly visible

### Examples

- Going to the Moon and back
- The Human Genome project
- Building a bridge across a river
- Creating a 1/2" disk drive
- Most process improvement efforts
- Optimizing resource flows in a complex supply chain
- Calculating critical path in project management

[www.problemsolving2.com/problem\\_types/puzzles.htm](http://www.problemsolving2.com/problem_types/puzzles.htm)

## Problems that are Too Rich



### Definition

- Vast number of options
- Non-objective criteria
- Choices require artistry or vision rather than expertise
- Reusing a known solution would be unacceptable
- There is an audience that has to believe in it, implement it, invest in it, or buy it...but can't do it

### Examples

- Crafting company vision
- Designing product appearance
- "Look and feel" of architectural design
- Website design; user interfaces
- "What do we want our community to be in 10 years?"
- "Honey, let's remodel the kitchen"

[www.problemsolving2.com/problem\\_types/toorich.htm](http://www.problemsolving2.com/problem_types/toorich.htm)

## Problems with Uncertainties

<p><b>Definition</b></p> <ul style="list-style-type: none"> <li>■ Major variables have unknown values...often unknowable by their nature</li> <li>■ The future has numerous probable branches</li> <li>■ Present choices depend on unknown future conditions</li> </ul>	<p><b>Examples</b></p> <ul style="list-style-type: none"> <li>■ Long range strategic planning</li> <li>■ Deciding whether to build a gas cracking plant</li> <li>■ Launching an eBusiness in 1990</li> <li>■ Project management               <ul style="list-style-type: none"> <li>■ Vendor performance?</li> <li>■ Dept head support?</li> <li>■ Creative tasks on schedule?</li> <li>■ Research results?</li> </ul> </li> <li>■ Family planning</li> </ul>
---	--

[www.problemsolving2.com/problem\\_types/uncertainties.htm](http://www.problemsolving2.com/problem_types/uncertainties.htm)

## Problems that are Dilemmas

<p><b>Definition</b></p> <ul style="list-style-type: none"> <li>■ Simultaneous commitment to seemingly incompatible but essential goals</li> <li>■ Efforts toward Goal A undermines Goal B</li> <li>■ Oscillations between unsatisfying extremes</li> <li>■ Often shows up as conflict between two departments</li> </ul>	<p><b>Examples</b></p> <ul style="list-style-type: none"> <li>■ Developmental assignments <b>and</b> project progress</li> <li>■ Centralized control <b>and</b> local customization</li> <li>■ Timely delivery <b>and</b> product quality</li> <li>■ Team development <b>and</b> timely project launch</li> <li>■ Principled action <b>and</b> politically viable programs</li> <li>■ Loan volume <b>and</b> portfolio safety</li> <li>■ Quality of patient care <b>and</b> Low cost of health care</li> </ul>
---	--

[www.problemsolving2.com/problem\\_types/dilemmas.htm](http://www.problemsolving2.com/problem_types/dilemmas.htm)

## Problems with a Life of Their Own



### Definition

- Unpredictable and uncontrollable dynamics of large numbers of independent actors
- Causal links are circular, reciprocal, or delayed
- System resistance to even desired changes
- Impossible to experiment; any change is permanent and may alter system
- Problem and the solution are recursively linked

### Examples

- Portfolio management
  - Personal agendas
  - Technology developments
  - Competitor behavior
- Labor markets
- Increasing sales force **reduces** amount of sales
- Oscillations in complex supply chains
- Sour company culture
- Using tax code to influence investment, savings, and spending

[www.problemsolving2.com/problem\\_types/lifeown.htm](http://www.problemsolving2.com/problem_types/lifeown.htm)

## Problems with Many Voices



### Definition

- Multiple constituencies have conflicting preferences for a common resource or circumstance
- Often represent enduring differences of perspective that will clash repeatedly in the future
- Political maneuvering of players often obscures critical information.

### Examples

- Negotiating product specs with a client
- Developers, environmentalists, residents, and gov't agencies trying to site a new freeway
- Urban development
- Selecting space allocation in a new facility
- Competing companies creating industry standards
- Infighting among departments

[www.problemsolving2.com/problem\\_types/manyvoices.htm](http://www.problemsolving2.com/problem_types/manyvoices.htm)

## Problems of Our Own Making



### *Definition*

- Conflicts created by our own naïve, arrogant, or unrealistic statements or beliefs
- Denial of the obvious
- Self-fulfilling prophecies

### *Examples*

- Demanding 60% growth in the face of 30% turnover
- Insisting your 14-yr old son show respect for his elders at all times
- Introducing TQM into a “command and control” culture
- Cutting the schedule by a month and reducing staff
- The Dot-Com bubble
- Assuming employees are only motivated by extrinsic rewards

[www.problemsolving2.com/problem\\_types/ownmaking.htm](http://www.problemsolving2.com/problem_types/ownmaking.htm)

## Problems that Bite



### *Definition*

- Long-standing, bitter friction
- Strong moral overtones
- Stereotypical thinking and action
- No consensus on the underlying issues
- Martyrs and icons
- Strong personalities shape the conflict

### *Examples*

- The Israeli-Palestinian conflict
- Ireland's religious wars
- Energy crisis in California in 2000
- The abortion debate in USA
- Labor-management relations in the US Postal system
- Hardware vs. software?

[www.problemsolving2.com/problem\\_types/bites.htm](http://www.problemsolving2.com/problem_types/bites.htm)

## Solving Problems that are Dilemmas

The Problem is the perception of incompatibility rather than synergy

The act of generating options tests a process needed for the ongoing management of the dilemma

Options have to include a process for maintaining working relations, protections again excesses, and structural supports

Solutions have to include a process for learning from future experience

Analysis has to identify the 2 paradoxical goals and the connective tissue that links them

Perceptions distorted by competitive conflict

Frequent reviews

Monitoring is aimed more at the relationships and learning potential than at any particular solution

Action Planning will be an ongoing involvement; the real need is for breakthrough solutions

## Solving Problems of Many Voices

The Problem identification has to surface the interests behind the positions.

Generating options presumes agreement on some "rules of engagement"

Participants need to be both honest advocates, *and* reasonable negotiators

The final outcome need not be satisfying to everyone, but it should not inordinately take advantage of anyone

Analysis has to separate out any empirical aspects on which everyone can agree.

Perceptions of conflict are heightened by posturing and threats.

Reviews require impartial observers

Monitoring may surface needs to revise the agreement, but hopefully not re-open the full debate

Action Planning has to include some mechanism for enforcement as well as more traditional project planning

## Problem Types: a summary

- The problem type encapsulates directions for *how* to resolve it, what *roles* are most useful, and what a *solution* would look like.
- Presuming the wrong problem type is often a fatal error.
  - At the very least, it wastes time and goodwill.
- TAMING is only effective when NAMING and FRAMING are sound.
  - Good problem solving is not just a skill
  - It is a system to be embedded

## Problem Solving in Organizations

Picking the right problems to solve based on clear link to vision, mission, and strategic plan.

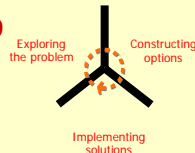
Queuing up the organization to solve the problem.

Looking for solutions.

**Naming**

**Framing**

**Taming**



[www.problemsolving2.com/process/theprocess.htm](http://www.problemsolving2.com/process/theprocess.htm)

## Naming

Picking the right problems to solve based on clear link to vision, mission, and strategic plan.

- What are the symptoms of concern?
- Are these *all* the symptoms we should look at? Could the underlying problem be bigger (or smaller) than we thought?
- What's the consequence if we don't solve this problem? What part of our strategic plan is at risk?
- Why do you imagine things have gotten this bad? What's the relevant history or context for looking at the problem?
- How might the leadership have contributed to this problem?
- How fast do we need to address this? Today? This week? This quarter? This year?
- How big a solution do we need? Just Jack? All of Finance? All Supervisors? The senior team? The whole company? Our industry?

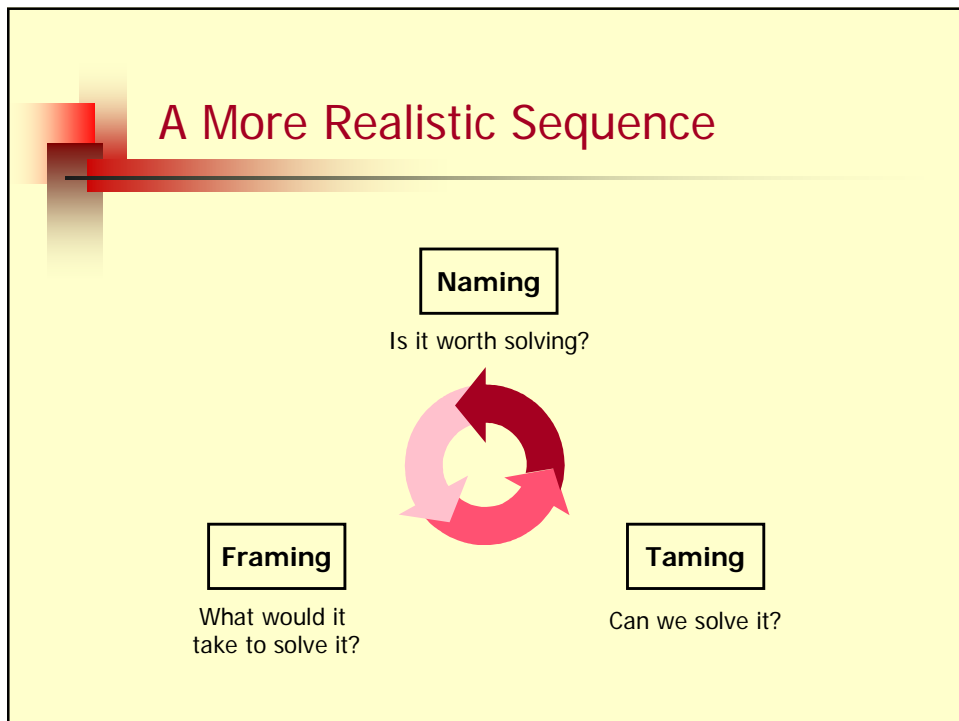
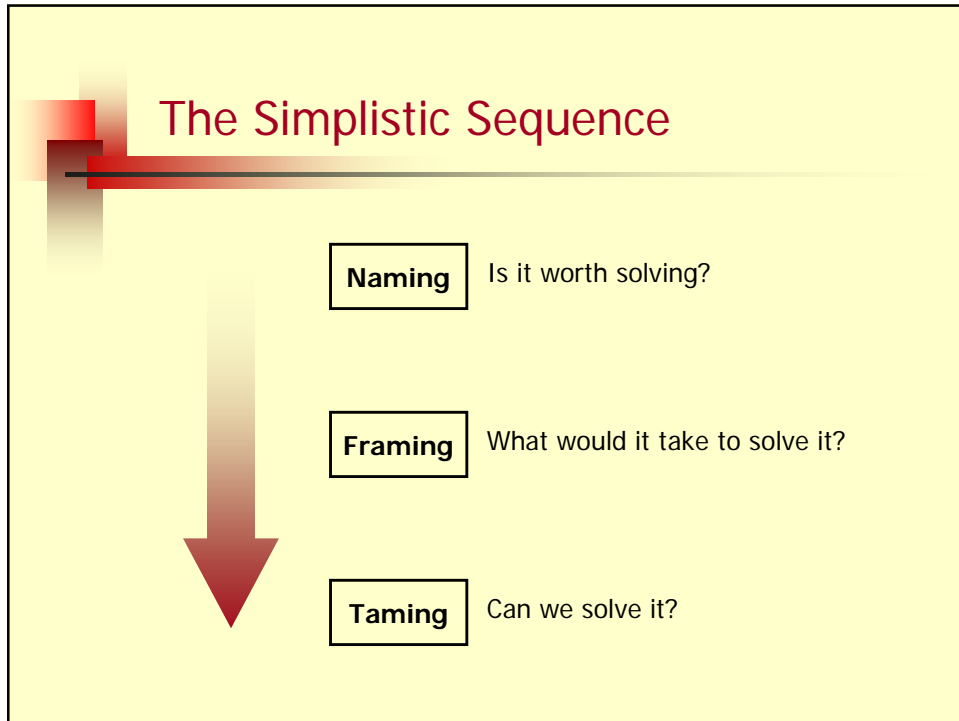
*No reference to the solution!*

## Framing

Queuing up the organization to solve the problem.

- What is the essential nature of the problem (its type)?
- Are there other secondary types in play?
- What type should frame our entry into the problem?
- How does that type outline a strategy for solving the problem?
- Given the type, what are the components of a complete solution?
- Who needs to be involved?
- What's the deliverable we want? How fast?
- What's the strongest role for the leader to play in solving this problem?

*A frame for the solution!*

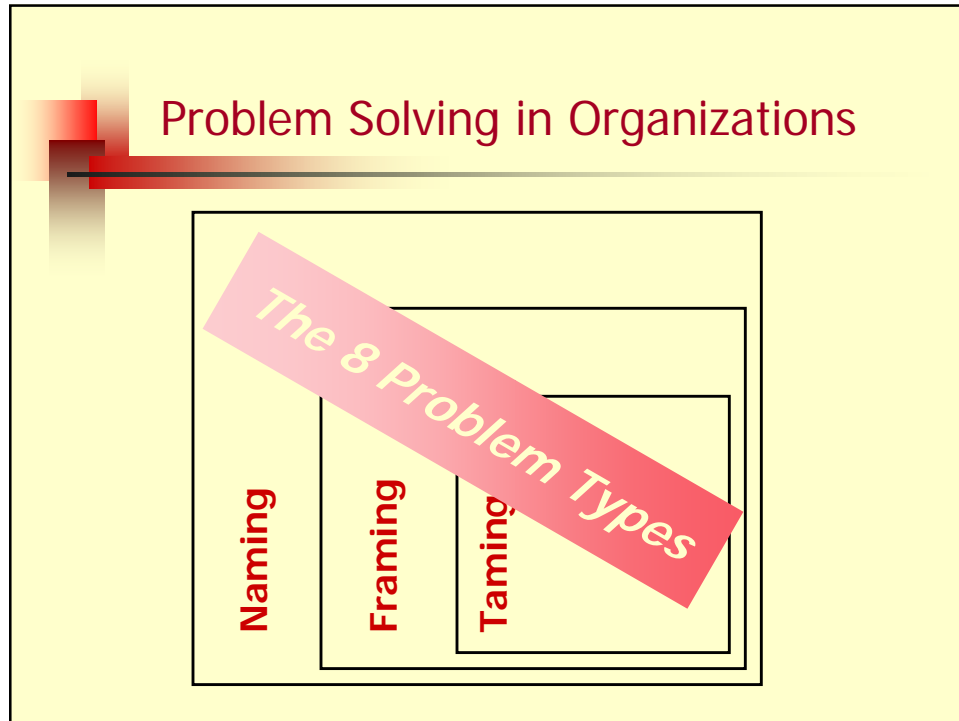


## Framing: Resisting Colloquial Problem Types

- Individual Performance Failure
  - Skills Deficit
  - Inadequate Motivation
- Communication Failure
- Personality Conflict
- Confusion on Roles and Responsibilities
- Personal Power
- Institutionalized Power
  - "Whoever has the gold, makes the rules"
- Process Improvement
- They presume the nature of the *solution*
- Distort a thorough exploration of the problem
  - Usually too low level
  - Prematurely directs attention to a solution
  - Discussion focuses on implementation rather than on understanding

## Problem Solving 2.0: 8 types

- **Puzzles**
- **Too Rich**
- **Uncertainties**
- **Dilemmas**
- **Life of their Own**
- **Many Voices**
- **Own Making**
- **Bites**
- Focus on the nature of the *problem*, not the intended solution
- Structure a process most likely to find the best solution
- Clarify the role of the leader as well as any neutral facilitator



Thank you

Jerry L. Talley  
*JLTalley & Associates*

*www.JLTalley.com*  
*www.ProblemSolving2.com*  
650.967.1444  
*Jerry@JLTalley.com*