

Methodology Implementation

- more than meets the eye

Dr. Glenn A. Stout
Hewitt Associates

Glenn A. Stout, Ph.D.

- Quality and Methods Manager, Hewitt Associates for 1.5 years
 - Just implemented methodology for 200 team members
 - Currently working on rolling new methodology to 3,000 team members
- Previous to that, 10 years as technology consultant – The Revere Group
- Speaker at IBM Rational User Conferences 9 times in past 8 years – Quality and Requirements (Just got word I will be speaking this year as well on Quality)
- Currently run Chicago Rational User Group (400 members)
- President of Global Rational User Group Council (13,000 users worldwide)

Topic

- Process & Methodology is easy...
*organizational change management –
that is HARD!!!*
- This presentation will walk thru a “combined” case study of some methodology roll-outs experienced by the speaker

3

The methodology of creating a methodology (at least the most important steps)

- Get requirements (yes, there are requirements for a methodology)
- “Read” the culture
- “Map” your methodology
- GET HELP!!!!
- Create/Borrow your methodology
- Create training
- Pilot
- Adjust
- SHOW BIZ!!!!
- Roll-out
- Questions

4

Rules of the Road

- While we do have time for questions at the end – if you need a quick clarification during the presentation – please ask
- However, if it looks like we are going to go down a “side path,” we will table it quickly and come back to it as time permits.

5

Opening Comment

Sometimes I wish I taught “brain surgery”

Why?

- Well, it seems that when I want to roll out a new SDLC – when I am teaching that - everyone has some level of experience, good or bad habits, but certainly an opinion of what works, does not work, and they absolutely feel that they know how to do my job better than I can.
- But if I were teaching “brain surgery,” people would pretty much just sit there and listen!!
- On the other hand, Methodology is not “brain surgery” – but rolling it out in the wrong ways, when adoption is not happening – makes it feel like it.

6

Get Requirements

- What type of software does the company create?
 - Static Web Sites?
 - Software for the landing gear for military aircraft?
- What type of development?
 - Lots of “new applications?”
 - Lots of “enhancing existing applications?”

7

Get Requirements (continued)

- What are they doing now?
 - “back of the envelope”
 - “currently CMMi Level 2”
- How far do they want to stretch?
 - “just do something repeatable”
 - “want to reach CMMi Level 5”
- How quickly?
 - “before our next big project next month”
 - “before the end of next year”
- What has worked before?

8

Vision – This is an example Vision Statement

- Repeatabe, Predictable, Flexible (but not Optional) Software Development Lifecycle versions that are based on a common Framework
- Embedded with uncompromising approaches for Requirements Gathering and Quality Assurance
- With clear touch points to the accepted Project Management Methodology
- Measurable by the use of Quality Review Points
- Easily supported by an array of SDLC tools

9

Examples of some requirements

- Example from real client (kind of a mix of requirements and guiding principles):
 - Light, Repeatable, “Medium Ceremony” approach
 - Can’t have a “one size fits all” approach – be flexible!
 - “Just Enough” methodology
 - Clear roles, clear process, clear deliverables
 - Everyone knows “what to do” – “when to do it” and “how to do it”
 - Ability to “scale” the SDLC to account for risk & effort variances is required
 - Artifacts do not have items in them that nobody will ever read
 - Must be supportable by widely available off-the-shelf tools that will require minimal customization due to the methodology selected

10

More ways to look at requirements (example)

- SDLC “Light”
 - Light Ceremony
 - “Just Enough” documentation necessary to get the job done
 - Bias towards Waterfall – to support lower risk, and shorter timeline projects
 - Strong match for the majority of the current development work at COMPANY
 - Will ease team members into using a process in the near term
 - Similar to existing informal processes
 - Learning curve and organizational change will have a lower impact
- SDLC “Standard”
 - Moderate Ceremony
 - Large projects generally require distribution of work across teams and departments which adds complexity to the projects
 - Heavier documentation and rigor in process required to manage and mitigate risk
 - Bias towards Iterative – aggressively attacking higher risks early in project
 - Quality Assurance is infused throughout the lifecycle
 - Provides the ability to produce meaningful, demonstrable progress during a long term project

11

Note: JEM

- It was at client (from the prior slide) where I “invented” the name **JEM** for a methodology
 - **Just Enough Methodology**
- The name works for internal staff – but maybe not so good if your work has external customers – they want more than “Just Enough” – in most cases anyway!

12

“Read” the culture

- What is your typical development team member like?
 - Long timer – “we tried something like this 4 years ago – didn’t work then either”
 - Newbie – “my old company did it better”
 - Buddy - “I have been telling the boss for a year to use my method – let me know where I can help you – I have a lot of material here”

13

“Read” the culture

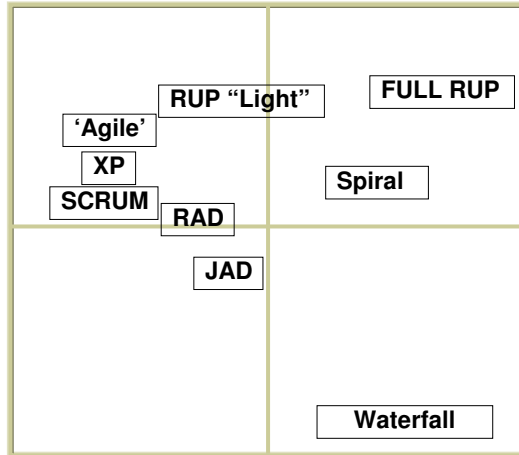
- What is their velocity of change?
 - If they have a “consultant” mentality – could change fast.
 - Corporate culture – medium to slow
 - Depends on size of group you are changing
- Who are the key people you have to convince?
 - There are always 1 or 2 people, where if you convince them – everyone will come along
 - Generally very easy to figure out who they are

14

“Map” your methodology

Iterative
Risk-Driven
Continuous integration
and testing

Waterfall
Few risks, sequential.
Late integration and
testing.



What methods you include, as well as where you map them is not an exact science. However, it gives you a good “feel.”

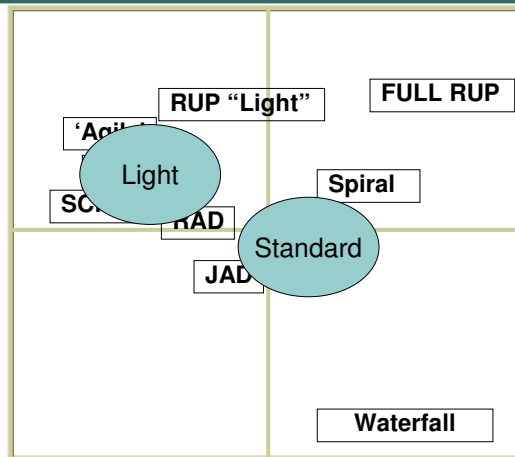
Low Ceremony
Little Documentation
Light Process
Product-Based

High Ceremony
Well Documented
Traceability
Plan-Based

“Map” your methodology

Iterative
Risk-Driven
Continuous integration
and testing

Waterfall
Few risks, sequential.
Late integration and
testing.



Low Ceremony
Little Documentation
Light Process
Product-Based

High Ceremony
Well Documented
Traceability
Plan-Based

“Map” your methodology

- Then, look under the area you have mapped, and see that the characteristics of the methods listed match with what you think are your requirements.
- You can then either directly “use” a methodology you mapped on top of, or take the best parts of several while creating your own.

17

GET HELP!!!!

- If you are going to create your own...
 - I am quite sure that most of you could sit in a room, by yourself or with a good team, and create a methodology
 - BUT – chances are that nobody will use it
- SO – you have to INVOLVE THEM

18

GET HELP!!!!

- **SDLC Council**
 - Call it what you want, but get some representatives from each area to contribute to the SDLC
 - Bring together the lead BA, lead tester, lead developer, etc.
 - Also bring the Project Managers into this as well – as THEY will be the ones that will really be responsible for adoption.

19

QUICK TANGENT...

- Do you “embed” project management activities, such as resourcing, status reports, communication plans, etc. into the SDLC?

20

QUICK TANGENT...continued

- In my experience this is not a best practice – as the Project Management Methodology is generally created and maintained separately
 - However, that is not an absolute.
- One answer is to include the PM activities as they relate to the SDLC
- Additionally, you can add so-called “touch points” to and from the SDLC and PM Activities
- If you strongly couple PM tasks and SDLC tasks, while possible, it limits scalability of both, and changes to either have a larger impact.

21

Create/Borrow your methodology

- Most methodologies are “open” and there are artifacts, etc. available
- Most of the time, you need to customize
- At the end of the day, you are going to have steps such as “Gather Requirements” – “Unit Test” – etc.
- It comes down to exactly how you want to do those, and with what level of ceremony

22

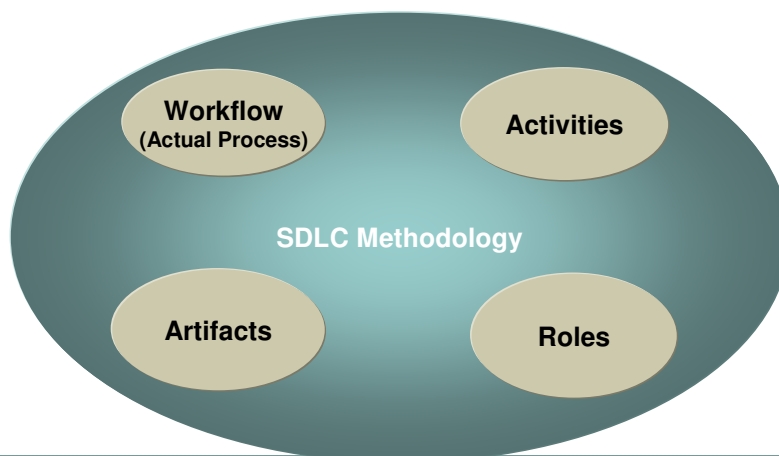
Another Tangent - Methodology

- The next few slides are a “primer” on how to create your various flavors of methodology, if you indeed need to do that.
- This all falls under the category of “create/borrow” your methodology

23

Methodology Components

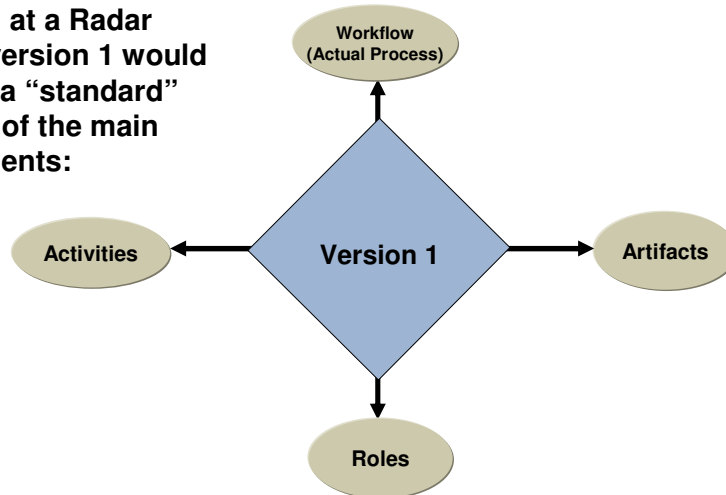
Regardless of what methodology is used, it is made up of the following components (optimally):



24

Methodology Components

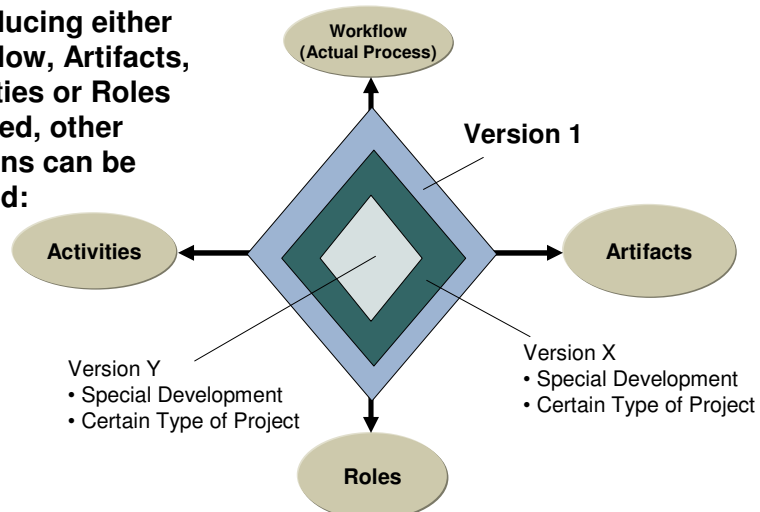
- Looking at a Radar graph, version 1 would contain a “standard” amount of the main components:



25

Methodology Components

- By reducing either Workflow, Artifacts, Activities or Roles involved, other versions can be created:



26

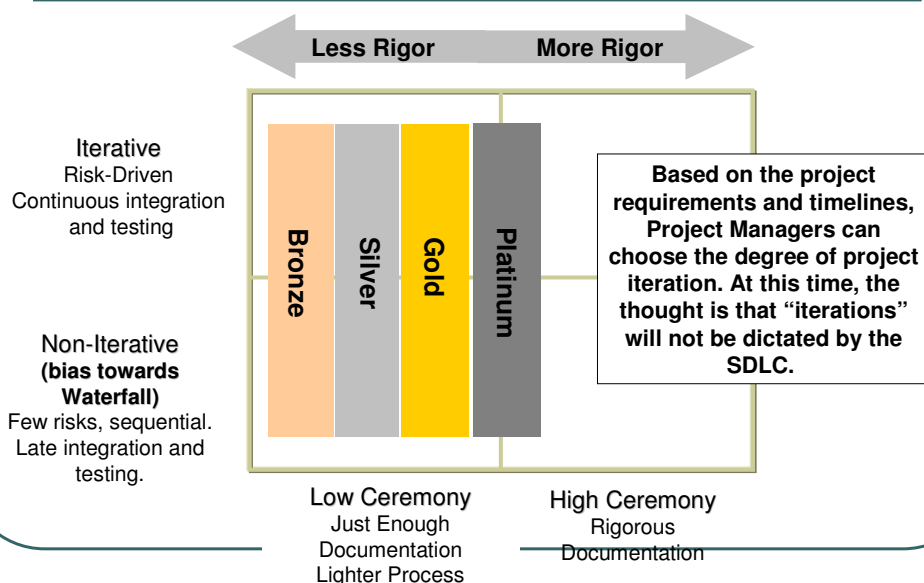
Case Study – 4 Versions of the Methodology are required

- Requirements of what versions are needed – based on a review of the projects currently being worked on at the company.

JEM Version	Comments
JEM: Platinum	<ul style="list-style-type: none"> Highest level of rigor, relative to the other versions Generally for any application that is brand new, nothing currently exists. Generally for projects of higher risk or complexity, regardless of size, but should be used if the project is very large, regardless of risk or complexity. Major upgrade or implementation.
JEM: Gold	<ul style="list-style-type: none"> Used for a medium to heavy level of rigor Generally for larger enhancements or maintenance, with “normal” risk and perhaps normal to high complexity.
JEM: Silver	<ul style="list-style-type: none"> Contains a medium amount of rigor Generally used for a project that is on a scheduled roll-cycle, or application has been in place for a while, and a few small enhancements are required, or a “point” release. Normal level of risk and normal complexity
JEM: Bronze	<ul style="list-style-type: none"> Lowest level of rigor, but a process is still followed Generally a smaller project, getting something fixed or taken care of quickly. Not generally part of a larger initiative. Very low risk and complexity

27

Methodologies (Based on multiple factors)



To configure the JEM—use these criterion

- For each project , these factors will be identified.
- Then, once determined, the appropriate JEM version will be used for the project.

Risk	Complexity	Timeline	Size	Methodology Used
High	High	Not Normal	Large	JEM: Platinum
Normal	Normal	Normal	Medium	JEM: Gold
			Small	JEM: Silver
			Very Small	JEM: Bronze

You need to determine what it means to your team what "high risk" is, etc.

29

JEM Selection Table

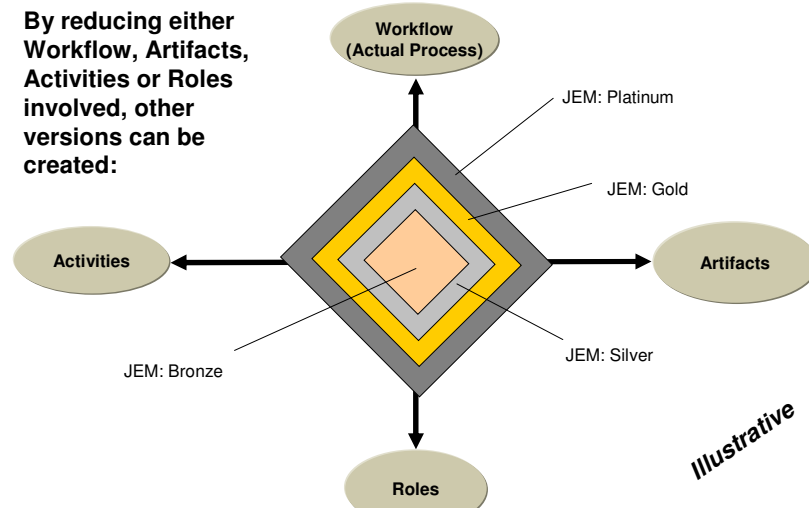
ID	Risk	Complexity	Timeline	Size	Methodology
1	Normal	Normal	Normal	Large	Platinum
2	Normal	Normal	Normal	Medium	Gold
3	Normal	Normal	Normal	Small	Silver
4	Normal	Normal	Normal	Very Small	Bronze
5	High	High	Not Normal	Large, Medium or Small	Gold
6	High	High	Not Normal	Very Small	Silver
7	High	High	Normal	Large	Platinum
8	High	High	Normal	Medium, Small, or Very Small	Gold
9	High	Normal	Not Normal	Large	Gold

Example – not complete

30

Methodology Components

By reducing either Workflow, Artifacts, Activities or Roles involved, other versions can be created:



31

By the way – what are we creating?

- You can deliver a methodology in various ways – but what you need to create are (including but not limited to):
 - Roles Descriptions
 - Process Workflows (swimlane diagrams)
 - RACI Matrices
 - Detailed Activity descriptions
 - Artifact Templates (WITH EXAMPLES!!!)

32

Create training

- What training do you need?
- Advice:
 - 25% on Process – 75% on “skill-based” activities
 - The fact that we “gather requirements” is good – but “how” we do it is more important
- Create “tracks” of training – and develop training directed to each particular role

33

SDLC Courses (example)

Course Name	Requirements Team	Development Team	Quality Assurance	Project Lead
0. SDLC Kickoff	X	X	X	X
I. Lifecycle Overview	X	X	X	X
II. Lifecycle Details	X	X	X	X
III. Gathering Requirements	X			
IV. Detailing Requirements	X			
V. Creating Use Cases	X			
VI. Test Script Creation	X	X	X	
VII. Reading and Interpreting Requirements		X	X	
VIII. UAT Process	X		X	X

34

Pilot

- Like any other new process, if you can pilot it, get feedback, and incorporate it
- More likely you will have “unofficial” pilots – so-called “early adopters” – which serves as a pilot just as nicely
- Either way works.
- Challenges are that project beginnings do not line up with pilot times, so what sometimes happens is that “any new project after x date uses the new method.

35

Adjust

- Based on the pilot, SDLC Committee feedback, etc. – you may need to make adjustments to the deliverables
- You may also have to adjust the training accordingly – based on methodology changes
 - If you kept your training to be 25% process and 75% skill-based – your changes will be minimal

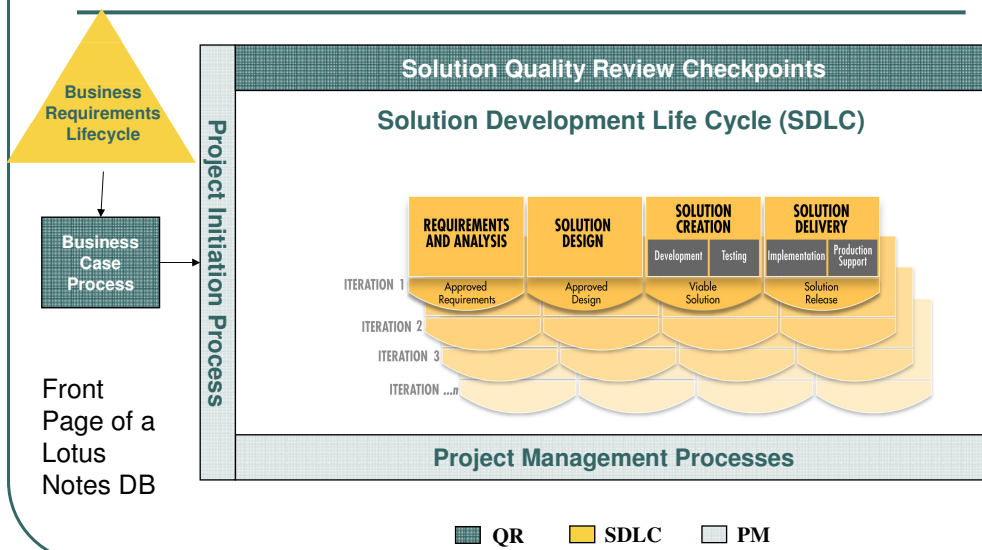
36

SHOW BIZ!!!!

- How do you “present” this to people?
- Do you deliver a pretty binder? (this works surprisingly well if done right, and your team is not “thousands”)
- Some sort of database?
- Website?
- Methodology delivery tool? (Method Composer) (Glenn will demo if we have time!)
- Whatever it is – “Branding” is very important
- If they can’t find it, and it is not easy, they won’t do it

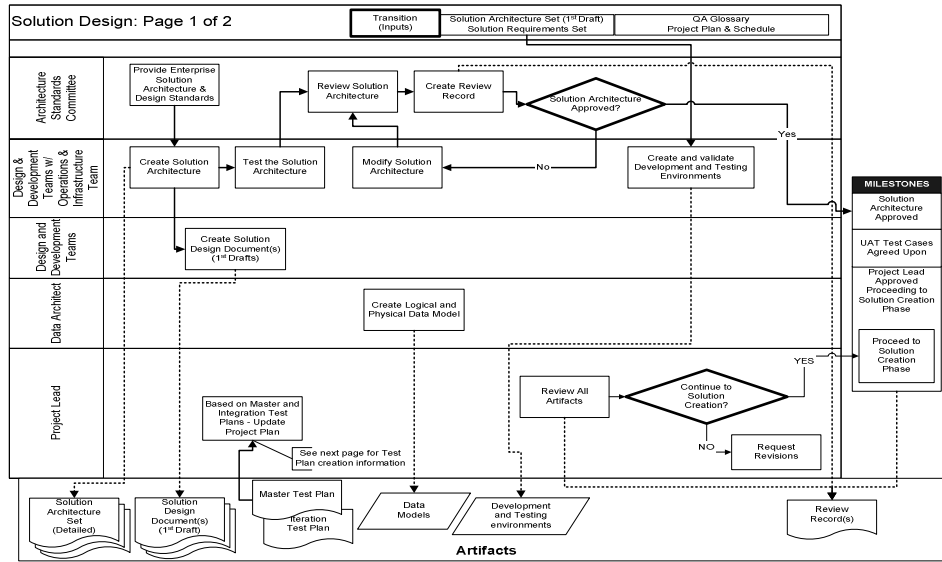
37

Interrelationship of SDLC, QA and PM



38

Solution Design: Example



JEM Configuration

Activity	Phase	Role	Artifact	Platinum	Gold	Silver	Bronze
JEM2: SOLUTION DESIGN	Solution Design	Transition Input	Solution Architecture Set (1 st Draft) Solution Requirements Set. QA Glossary Project Plan and Schedule	X	X	X	X
JEM2.1: Provide Enterprise Solution Architecture and Design Standards	Solution Design	Architecture Standards Committee	None	X	X	O	O
JEM2.2: Create Solution Architecture	Solution Design	Design and Development Team, Infrastructure and Operations Team	Solution Architecture Set (Detailed)	X	X	O	O
JEM2.3: Create Solution Design Document(s) 1st Drafts	Solution Design	Design and Development Team	Solution Design Document(s) (1 st Drafts)	X	X	X	X
JEM2.4: Test the Solution Architecture	Solution Design	Design and Development Team, Infrastructure and Operations Team	None	X	O	O	O
JEM2.5: Review Solution Architecture	Solution Design	Architecture Standards Committee	None	X	X	O	O
JEM2.6: Modify Solution Architecture	Solution Design	Design and Development Team, Infrastructure and Operations Team	None	X	X	O	O

Solution Design—Detailed Artifacts List

(R)esponsible – (A)ccountable – (C)onsult – (I)nformed

RACI MATRIX	Roles						
	Arch Stan. Comm	Design and Dev Team with Ops and Infra	Design and Development Team	Testing Team	Usability Analyst	Requirements Team with Business Owner	Project Lead
Solution Arch Set (Detailed)	A	R	C		I		
Solution Design Docs (1 st)		C	R		C		A
Master Test Plan		C	C	R	C	C	A
Iteration Test Plan		C	C	R	C	C	A

41

Roll-out

- Who needs to be trained?
- How many in each “track?”
- Where is your audience?
 - In-person training is best
 - “web-based” instructor led
 - “record/playback” training –good for long term, new people coming on board can just listen
- Should have multiple sessions for each class
- Be sure to get “buy in” from managers on how much training you can have a single person go to in a week (2 hours? 4 hours? Would they rather have you do 2 full days and be done with it, for example?)

42

Roll-out - tips

- Have a “absolute” date where people need to start using the new process
- If you do a binder, have them bring binder to class, and provide a pre-hole-punched set of materials that they can place right in their binder

43

Governance

- Project by project – audit with the project managers on their level of adoption
- Check for “review points” or other ways to ensure SDLC activities are done
- Put it in people’s performance plans that they need to follow the process
- Leadership sponsorship is KEY
- Meet with the SDLC Committee Monthly
- Treat it like an application – roll out “maintenance” to the methodology “quarterly” or so
- Show up at Unit Meetings – create “BA lunch and Learns” and talk about it – go to the QA Unit meeting with some questions on how they are doing things – be around!
- Tools help

44

Finally – be passionate, but realistic

- Most people would rather have their teeth scraped than learn methodology
- Most will not be enthused
- Let your passion show – believe in it
- When it comes right down to it – methodology is adopted project by project, unit by unit, person by person

45

Research Note

- After I created this presentation, I found the WhitePaper from Forrester Research – “How Do We Build Software? Let Us Count The Ways” – Carey Schwaber
- Not sure if you need log in access, but this is a good paper. I could have peppered additional material into this presentation based on it, but felt it better to have both stand on their own.

46

Questions

