



Our CMMI Journey

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BT and NHS

Since the NHS was founded in 1948, BT has been one of its leading suppliers of communications and IT services. As part of its work with the NHS today, BT is playing a prominent role on the National Programme for Information Technology.

BT is responsible for the national database that contains key information about a patient's health and care. It is also building the national broadband network that securely connects all NHS sites across England. In the capital BT is responsible for introducing new IT systems and services.

BT and NHS

- Historically: BT has been a supplier of telephony to the NHS and other healthcare organisations
- Today: BT is a supplier to the National Programme for IT (NPfIT)
- The vision: BT to become a world-class health supplier
- The reality: We now have 18 Process Areas at Capability Level 3.

Our CMMI Journey.

A Game of Two Halves



Agenda

- Why We Adopted CMMI.
- Our Initial Challenges
- The Spine Journey
- Lessons Learnt
- Conclusion
- Some Quotes
- Questions

Why We Adopted CMMI?

It is becoming the norm for our Customers to require their Suppliers to be at least CMMI Level 3.

Enablement of the Spine Programme to have a controlled, repeatable, organisational, end to end approach to systems integration and delivery.

Enablement of a scalable delivery organisation that is potentially portable to other BT large systems development/integration activities.

Delivery of performance benefits through achievement of CMMI Level 3 in each of the following general categories:

- Improved schedule and budget predictability
- Development of standard deliverables of a known quality
- Reduced cycle time
- Increased productivity and return on investment
- Improved product and process quality and decreased cost of delivery
- Increased customer satisfaction
- Improved employee morale

The First Half

Lesson: Pick your team carefully.....



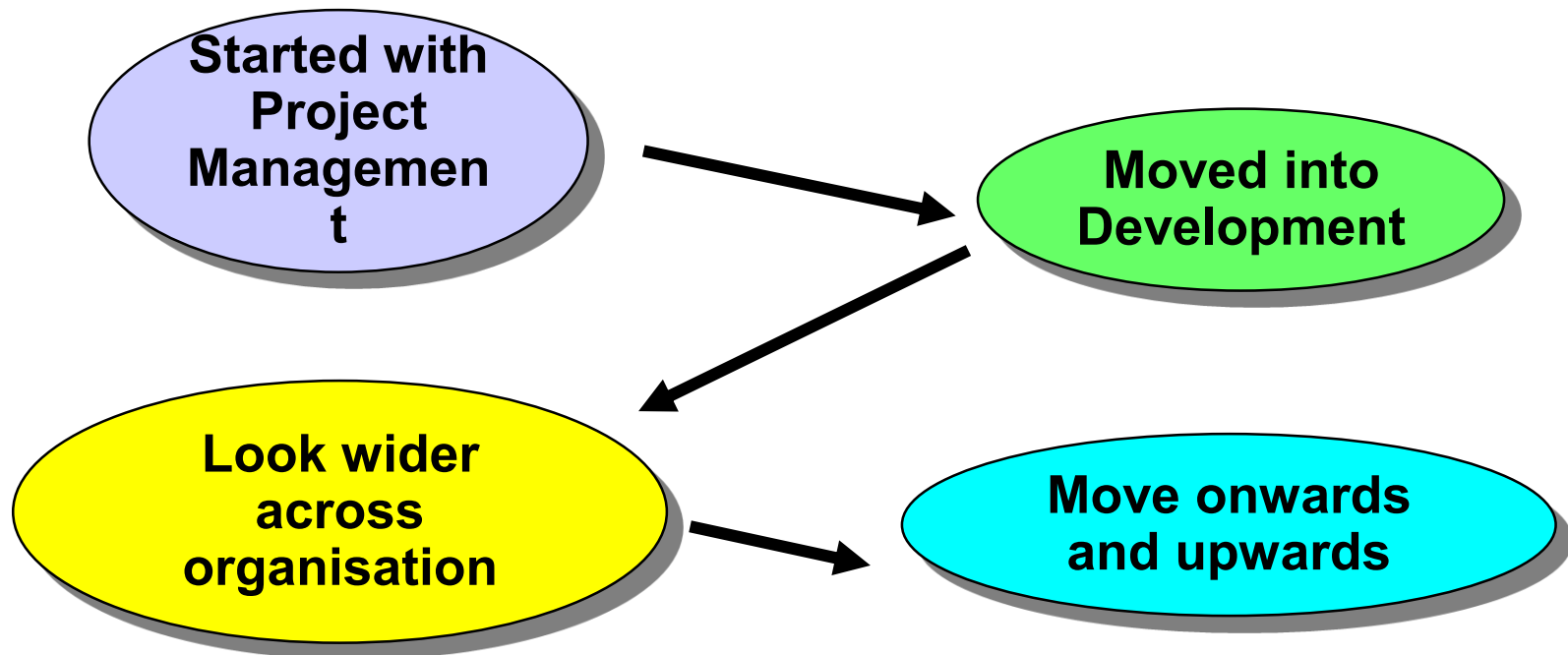
Our Initial Challenges

- Managing management's expectations on timeframe.
- Finding the right people to resource the CMMI Project.
- Making the right internal resources available.
- Establishing the appropriate priority against delivery focus.
- Explaining why we are doing it when we already successful.
- Moving away from 'hero' culture.

Our Initial Challenges

- Stopping people protecting the “way I work”.
- Getting Process Owners to take real ownership.
- Integration with wider BT Process & Tool initiatives.
- Spine Releases were 2 per year with an 18 month life cycle.
- High proportion of contract staff, partner staff and consultants.
- Offshore Development Partners who were in theory Level 5.

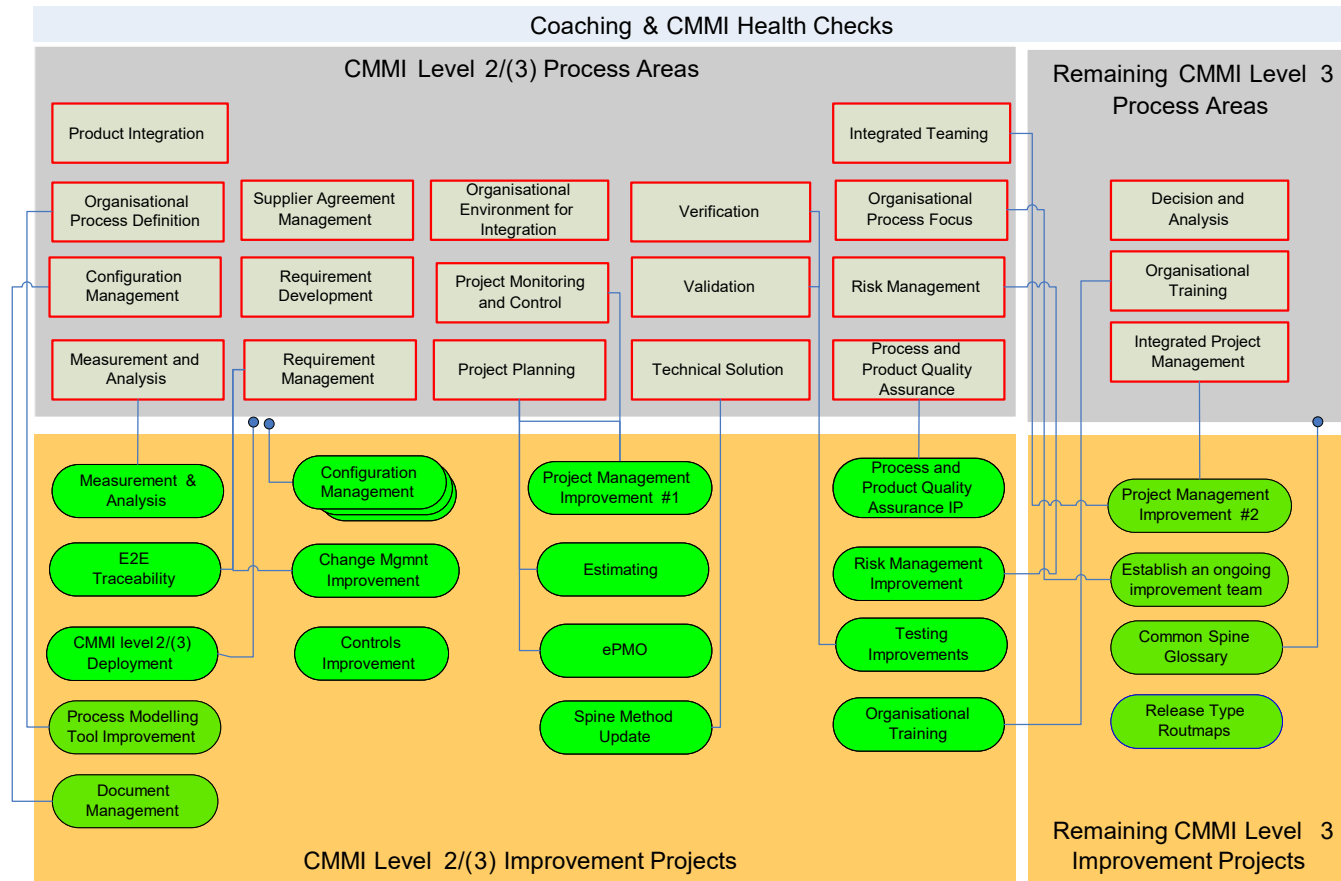
How We Adopted CMMI



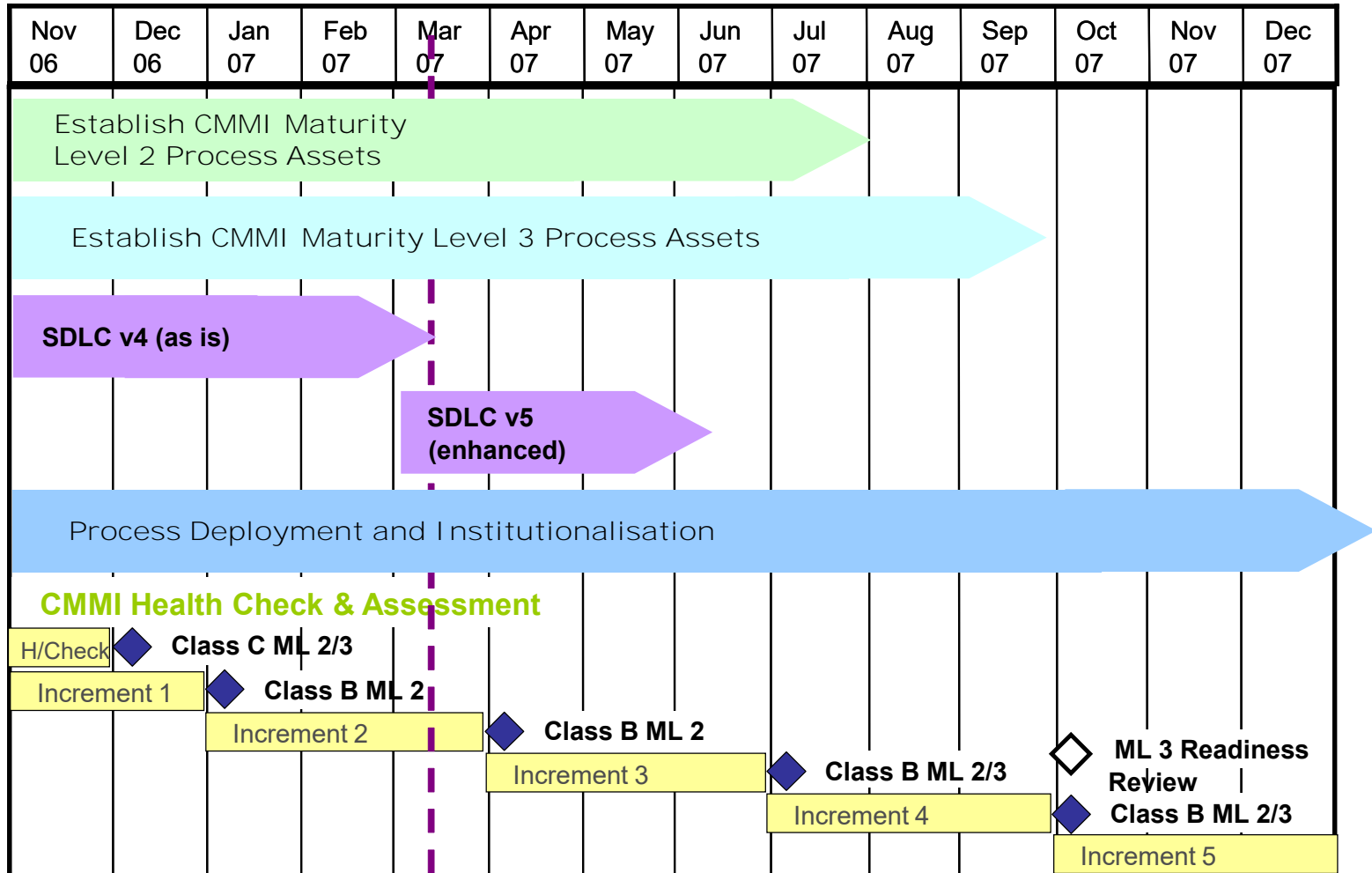
SPINE Method was the focal point, not CMMI Process Areas

The Route Spine tool

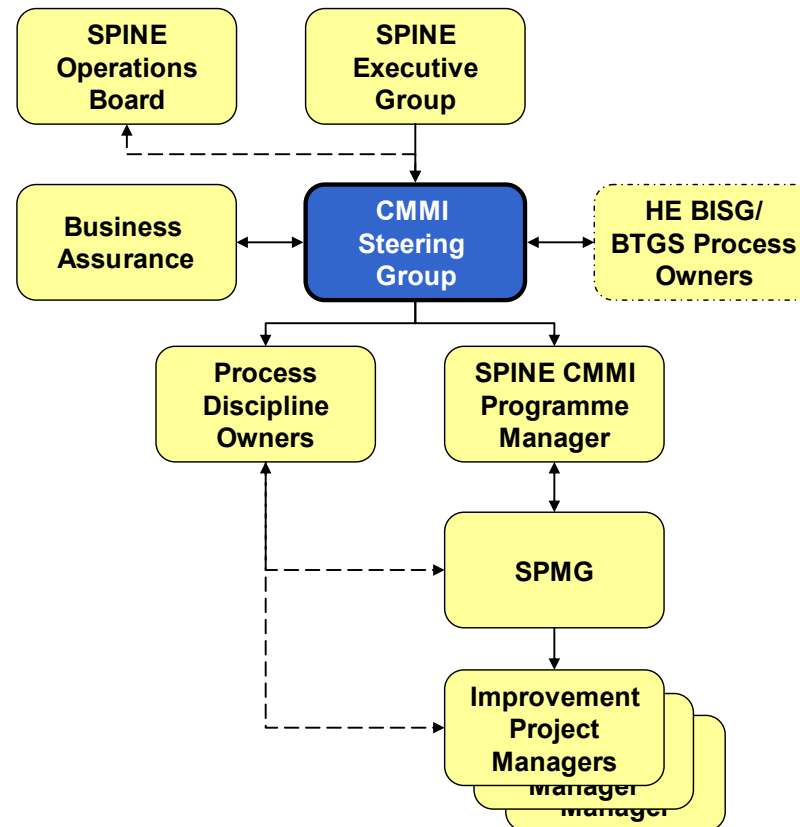
November 2005 Baseline Class A Appraisal



2006/2007 CMMI Project Roadmap



2007 Process Organisational Structure

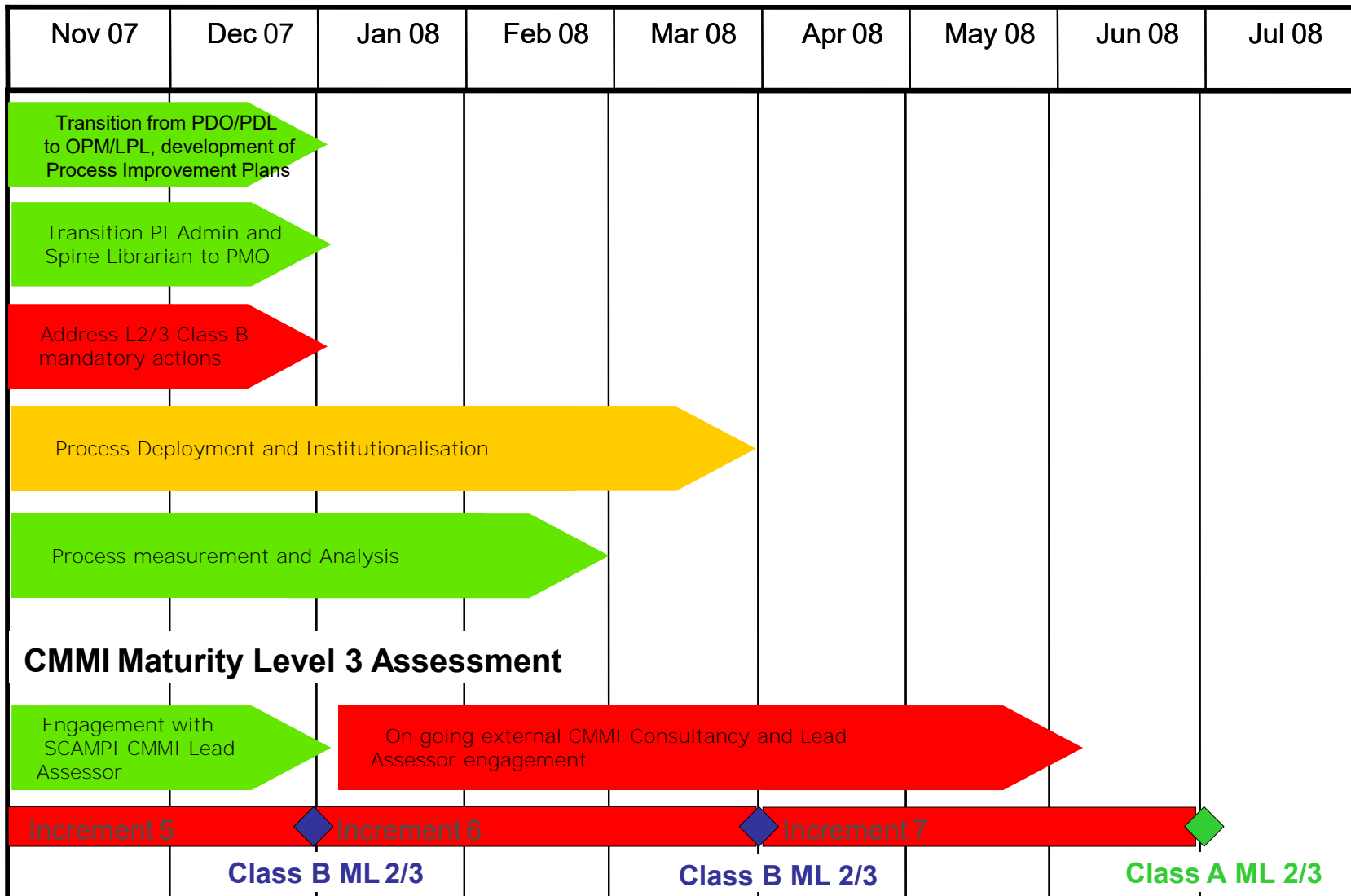


Half Time

Lesson; The games not over until the Referee blows the whistle.



2007/2008 CMMI Project Roadmap



The Best Laid Plans Of Mice & Men

- In January 2008 things started to change?
- The Programme re-organised, Directorates merged and our processes needed revision to reflect these changes.
- We moved from CMMI-DEV v1.1 to V1.2 so our processes needed revision to reflect the new model.
- In parallel all the CMMI Process Consultants left as it was believed that all the processes required were in place.
- The Business Assurance Team left the programme and took up other challenges within BT.
- Plus the common view was that the 'Job Was Done' we had been appraised as 'Operating at Maturity Level 3' – the reality was that this meant nothing.

The Second Half

Lesson; Find someone who's done this before and sign them up.



April 2008 – Good2Go For Level 3

Senior Management re-stated their commitment to CMMI and attainment of Level 3.

- CMMI back on the Agenda.
- CMMI on the Balance Scorecard.

Programme Wide Communications.

- Good2Go for Level 3 Launched.
- Poster campaign.
- ‘Fun’ Process Events using LAMRI pigs and flakes.

Business Assurance re-launched.

- BA Manager had done this before and was a Lead Appraiser.
- CMMI expert as number 2.
- Embedded Assurance Roles and Responsibilities defined.
- Process Bundle Audits pre-requisite to CMMI Appraisals.

April 2008 – Good2Go For Level 3

New Strategy to attain Level 3 Published.

- Continuous Appraisals – ‘Step by Step’.
- Don’t formally Appraise until Confidence is High.

New Improvement Plan published.

- 90 Day Plan.
- Not an Improvement Project.
- BAU Process Improvement Requests.

New Improvement Governance Structure implemented.

- Business Improvement Steering Group
- Spine Process Assurance Management Group.
- Operational Process Owners/ Process Leads - Roles Defined/Trained.
- PIR Board.

April 2008 – Good2Go For Level 3

Commitment Made to Annual Training Needs Analysis.

- Training Manager recruited also a PPA Lead Appraiser.
- Strong Sponsor support for training.

Spine Method Lives and Breathes.

- Enhanced to reflect feedback.
- Monthly Releases with focussed Communications.
- Extended to integrate OnePMO.

Merged SPAL and SDLC.

- Integrated Process Asset Library.

Tailoring Guidelines extended

- Process Tailoring.
- Product Tailoring.

April 2008 – Good2Go For Level 3

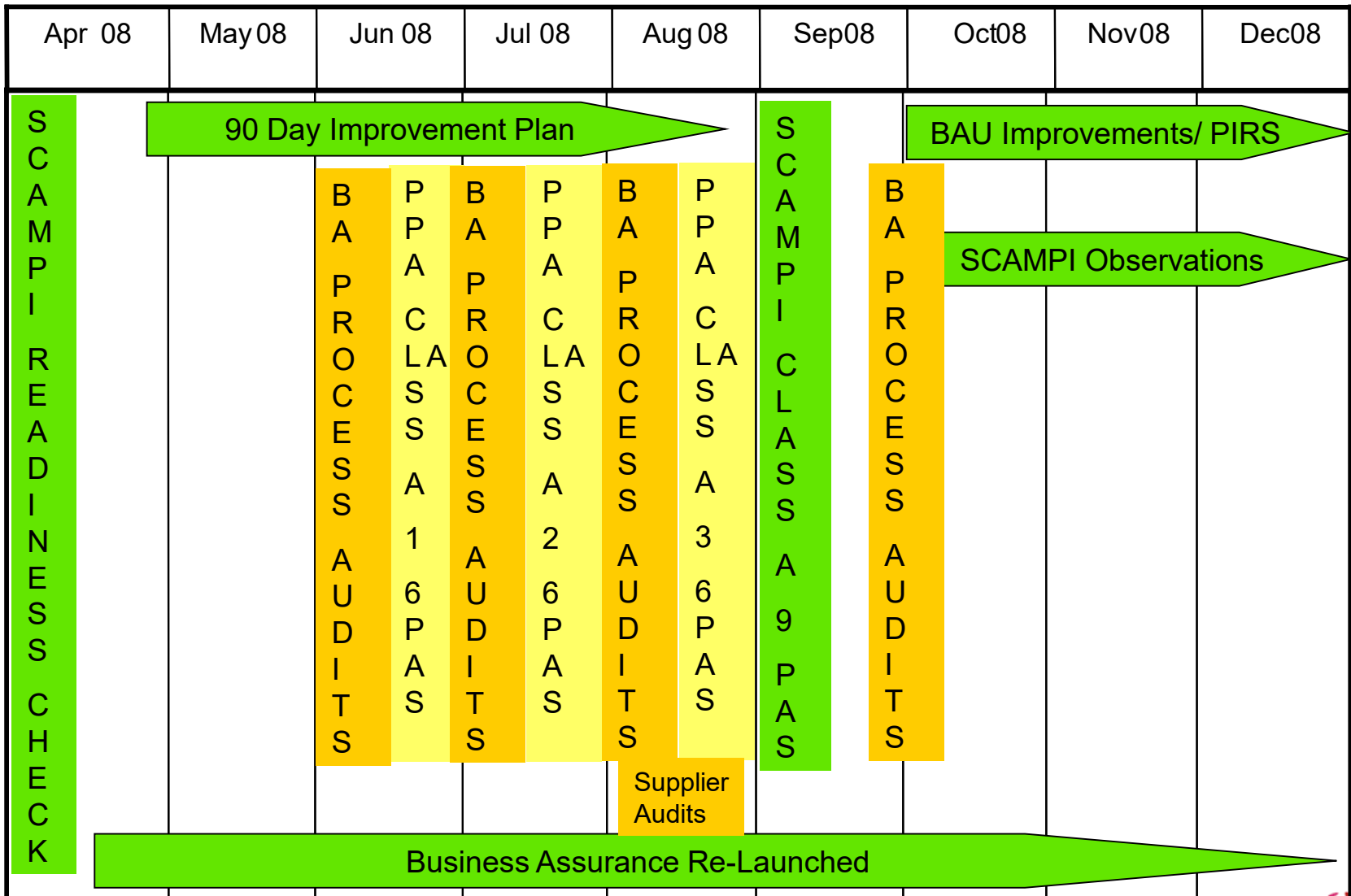
V1.2 Gap Analysis

- Additions Addressed including Work Environment Standards.

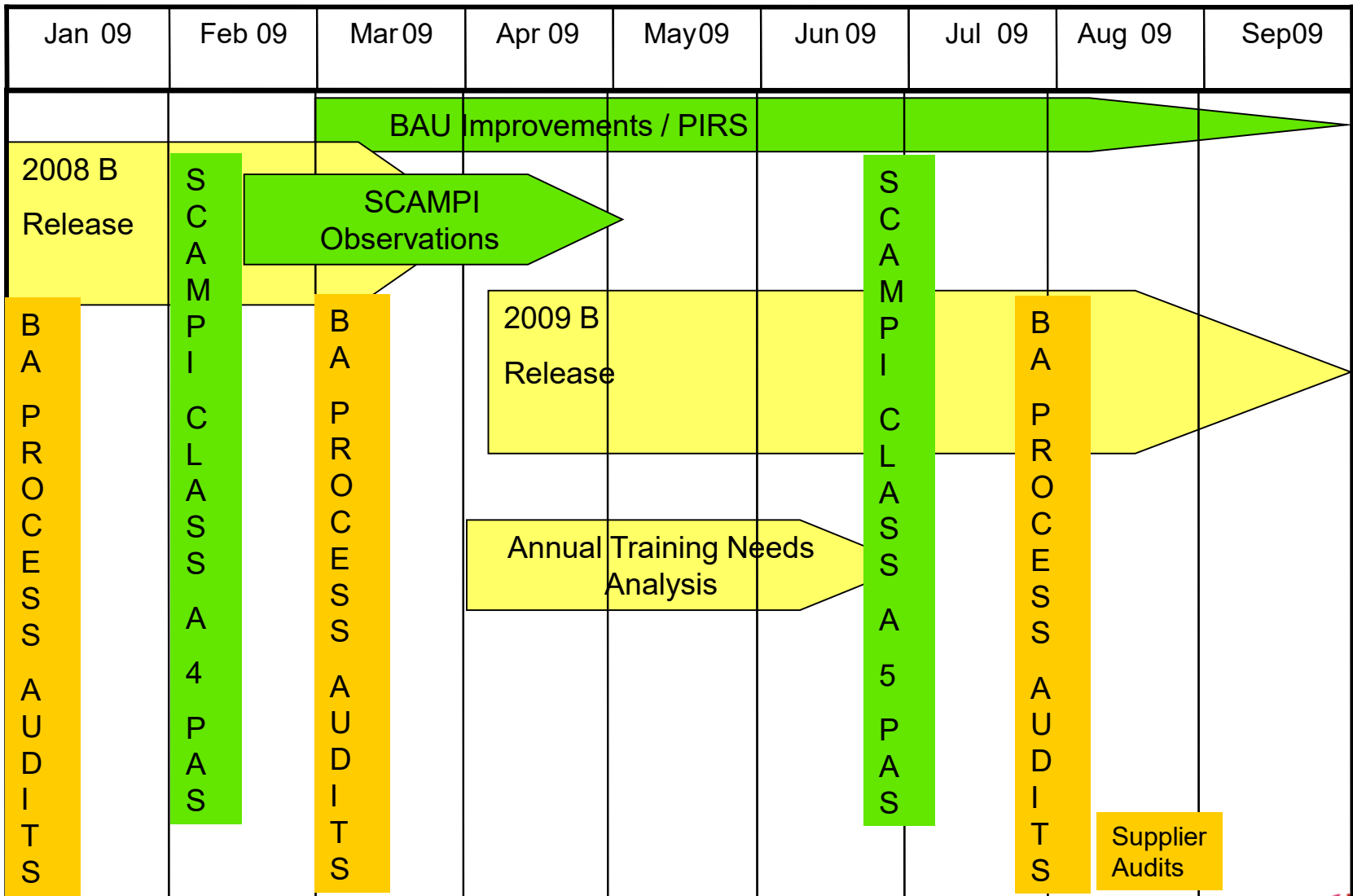
Definition of roles and responsibilities per process and per product extended.

- RACI per Process
- PARCI per Product.

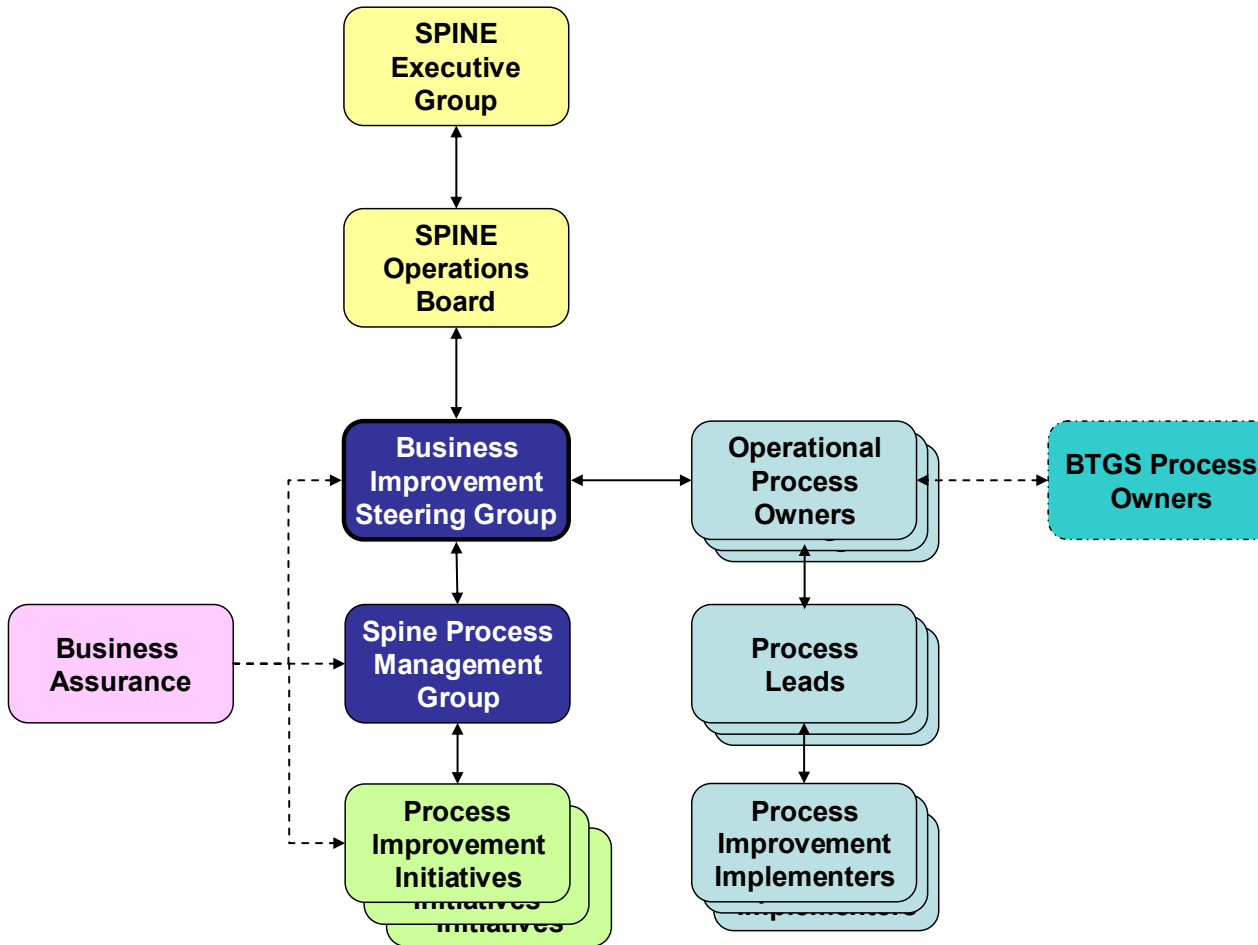
2008 – Good2Go Roadmap



2009 – Good2Go Roadmap



2008/09 – The Process Organisational Structure



The New Challenges We Faced

- No Process Consultants to do the work.
- Migration from PPA Appraisal Method to SCAMPI Appraisal Method.
- Switch of Lead Appraiser from PPA to SCAMPI.
- Switch of SCAMPI Lead Appraiser for final Appraisal.
- Migration of PMO from Long Term SME Contractors to Tech Mahindra.
- Downsizing of Programme and loss of Process Owners/Process Leads.
- Appraisal timing was dependent on Release Schedule.
- Appraisal timing was dependent on Annual Training Needs Analysis.

Lessons Learnt

Find someone who has done this before, has the scars and learnt the lessons.

Define the Process Architecture and Process Assets you need at the outset.

Align Process Owners/ Leads around process groups/discipline, not around CMMI Process Areas.

- Map the CMMI Process Areas the process groups/disciplines and instil the CMMI model expectations in the method.

Don't make the Improvement Project SME the project manager

- They spend time managing not fixing.

Have a higher ratio of 'fixers' to 'Lead Assessors/Assessors'.

- If nothing else it reduces the cost.

Focus attention on building the method, not on CMMI.

- People use and do the method, they don't use and do CMMI.

Lessons Learnt

Employ the practices that the method espouses in the method production

- Walk the Walk.
- Treat the process asset library (method) as a product:
 - Requirements
 - CM/change control
 - Project planning and monitoring
 - Risk reduction
 - Incremental releases by iteration the method production process

Understand the difference between Project and Product artefacts

Those that do own the method, the Process Leads/Owners govern it for them

- This ownership means they will follow it

Lessons Learnt

Use a process authoring and publishing tool

- We didn't

Architect and design the method to be useable, accessible and maintainable

- If not, it won't be used.

Build use of the method to attain CMMI level into objectives, not CMMI level achievement

Measure

- Process definition – does the method meet the CMMI expectation?
- Process implementation – do we have evidence of the process being executed?
- Complete the PIID as you go.

Lessons Learnt

Order of Approach for ML3, concentrate efforts

- Engineering Processes will be in good shape (it's what you do) – except Peer Reviews under VER
- Configuration Management underpins everything (GP2.6) but can be difficult and expensive to institutionalise (may require specialist assistance)
- Decision Analysis Resolution – most decisions are made by Senior Management and they are in that position because of their ability to make decisions, but they don't write it down
- Measurement & Analysis – required a number of iterations to get it right
- Stakeholder Management
- Be aware of integration of Process Areas into Generic Practices.

Some Quotes From Our Management

BT Major Programmes Practice's Director of Programmes quotes....after two years

“What turned out to be a £2m investment repaid itself by a factor of 10 within 18 months.”

“We used to deliver releases in a hero culture and it was hard work and ridiculous hours, now they go in and no one notices.”

“We delivered 20 out of 20 releases on time or ahead of schedule.”

“Cost of releases have fallen as has the defect count. One release had a zero defect count!”

“Customer confidence in BT is higher then ever and has led to £100m additional revenue.”

Head of PMO quotes

We have downsized the PMO from over 70 people to under 30. At the same time taking on more responsibility.

The clear process definitions have allowed us to the transfer of roles from expensive consultants and contractors to offshore Tech Mahindra people.

Some Quotes From Our People

... Maturity of Spine Method...

... Lack of noise in PMO ...

...Nothing sent out the door by mistake...

...Robust proven engineering method...

...Historically we could not measure now we can ...

... 2008B cleanest release to date...

...Level of control has improved...

...Proper Governance in place...

... Less chaos more control...

... Role descriptions a god send...



... Spine Method is used and enhanced...

... Don't invent process from scratch ...

... PIRs are processed...

... Move from bedlam 4 years ago to a controlled environment ...

... Everybody works to one Method...

... Stakeholder management there is increased rigour...

... Project start up is better ...

...Quality Gates are good we know where we are in the life cycle...

The Final Whistle

Lesson; Start planning for the new season.



Our Next Steps

We have five 'way forward' options under consideration.

The recommendation is:

- We perform six monthly Class B Appraisals to ensure focus on process continues.
- We adopt CMMI-SVC into our new PMO Organisation.

Conclusion

After three years Spine now has 18 Process Areas at Capability Level 3.

In reality we moved 18 Process Areas from CL0 and CL1 to CL3 in 16 months.

On the journey we learnt a lot of lessons which we are now ready to share.

BT is now considering becoming an SEI Partner and establishing a CMMI Practice and offer CMMI services externally.

Leveraging both internal and partners capabilities we plan to offer:

- SEI SCAMPI Appraisals & SEI Training.
- PPA Appraisals and Training.
- Subject Matter Experts in each Process Areas.
- Process Improvement Programme Managers.
- Level 3 compliant Processes

Questions



BT Health



Bringing it all together