

Control Costs, No Control Costs More!

Whether or not you believe that the 'recession' is over it is very clear to everyone that there are hard times ahead. Everyone is talking of 'budget cuts' and how every effort must be made to ensure 'maximum profitability' if they are to survive.

So here we are with unrealistic targets, unachievable goals and insufficient resources. Nothing new there then!

Well there is something new. This time they mean it! It's not just a fad, or a passing phase or management game. This time it's real. This time we are running scared. This time we cut and hope we get away with it. Don't we?

NO! This is an all too familiar trap. The argument about how much it costs to do things properly compared to how much you can save if you just, 'do things', has recently been brought into focus, around the world, as man-made disasters affect every one of us.

From Oil spills to financial meltdown, controls are needed for safety, to meet legislative requirements and to ensure quality but when the costs of implementing controls are established, eyebrows are raised and red lines drawn across profit forecasts. 'Control Costs!' is heard from the boardroom and the cry for cuts becomes loud and irresistible.

So what happens?

Well, this leads to a reduction in controls down to an 'affordable' level. This, in turn, leads to problems arising through lack of control which costs the organisation more money.

This increases the overall costs so we look to make savings and reduce overheads by reducing control. This loop repeats until so much money is being spent on treating the symptoms of poor control that the very existence of our organisations is brought into question.

So why does this happen?

Sometimes these costs can be significant because of the sheer size and complexity of your organisation.

Sometimes they seem prohibitive and are viewed as just "not worth it" as the returns are often not perceived in terms of traditional investment payback that is if they are perceived at all.

In these circumstances we have to ask ourselves one question.

What is the cost to my business if something goes wrong?

Count the cost of delivering the wrong thing. The time that is wasted as resource is diverted from production to rushing around trying to find out what went wrong, why it went wrong, where the error actually is and how to get things back to where they were before it went wrong.

Count the cost of lost customer confidence. Future contracts that are not awarded, damage to the company image, existing contracts not renewed, penalty clauses put into effect and as recently seen, punitive legislative penalties as well as damages claims and court cases where members of the public are affected.

Count the cost of poor quality control. Products requiring recall, damaging publicity, internal resource required to record, analyse and respond to customer complaints, costs of replacing faulty items, and re-issuing the products.

All the above costs do not exist if they do not occur, if they do occur the cost can be beyond all expectation.

Ok, you've frightened me now, so how do we get out of this trap?

We implement the right amount of control and we do that by using something called 'Configuration Management (CM)'

I'm sure, but what is CM and how do I justify it in a recession?

CM Justification in a Recession

To be able to justify CM we first have to explain what it is. This is not because it is a complicated area or requires too much expertise but because over time CM has come to mean different things to different people.

So, what is Configuration Management?

Configuration Management (CM) is a term given to the procedures followed, and control imposed, upon an item that an organisation considers important.

This is a very generic definition so let's drill down a bit to see what things live under this "CM" umbrella.

Configuration Identification

A Configuration Item (CI) can be anything at all. Yes, absolutely anything!

I can see from that puzzled look on your face that my definition is not helping but it is important to realise that all organisations, of all types, have CI's because they all have things that are important to them that they want to hold information about and protect.

It may not be the same CI for an IT company as the organisation next door that manufactures Kettles but it is a CI none the less.

So how do we decide what a Configuration Item is then?

Look at your business and think about what is 'important' to it. By, 'important' I mean something that if you lost it, or it went wrong, or was delivered incorrectly, or didn't work etc. that it would cause a problem for you.

No-one likes problems so it's likely that you already have procedures in place to test the item before it goes to full scale manufacturing or in the case of software, before it is released or with a document, before it is published.

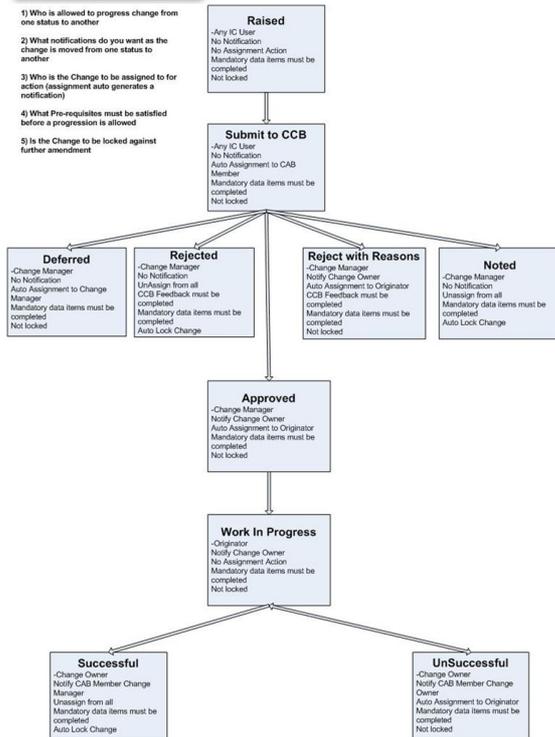
It's also likely that you are recording information about the item, who created it, when it was done, who tested it, what the tests consisted of, the serial number allocated, invoice number. Client data, audit information and so on and so forth

As you store this information you realise that what you are doing is tracking the CI from the moment it is created to the time it becomes obsolete (known as the items life cycle or workflow), who is allowed to perform these actions (known as Access Control) and under what circumstances (business processes).

So, you can see that anything can be a "Configuration Item". They can be physical items like hardware, engineering components and manufactured items, electronic items such as documents or software files and even virtual items that we create to 'fill in the gaps' and make sense of the world around us.

The only rule is that it has to be something that is of importance to your business.

OK, I get the idea; I know what a Configuration Item is. I have a lot of them and of all shapes and sizes. How do I control all these things?



Change Management

Identifying what you want to control and keep information about is just the first step. Once you have established that you have some items that are so important to you that you want to keep them as Configuration Items (CIs) then, you also have to consider how you are going to make sure that the correct procedures are followed to ensure these items are protected and that any changes to them are recorded for Audit purposes. This is known as "Change Management".

Typically, change to an item is managed by recording all the details about the change on a "Change Request" (CR) form.

NB: This is usually where people tend to start being confused. We have coined the term Change Request but others are probably used to terms such as, Problem Report, Maintenance Report, Off Specification Report, Request For Change (RFC) or one of many other terms organisations tend to use to mean..... 'a description of a change, to an item, that someone believes is necessary'.

Also typically, these Change Requests (CRs) have to be approved by someone and consequently your business will have a procedure to handle them. Perhaps along the lines of, Raised by, Considered and then either Approved or Denied. This means that Change Requests also have a lifecycle (or workflow).

OK, I've got it now. Configuration Items are things I want to control and Change Requests are things that help me control them because I can use the Change Request to describe how a Configuration Item is to be changed, why it is to be changed and who approved the change. Is that it? What's the big mystery?

Release Management

There is no big mystery to Configuration Management but we still have not finished looking at all of its aspects so let's turn to Release Management.

The term "Release Management" generally comes from the software development aspects of CM where a group of configuration Items were collected together and "Released" on an unsuspecting world. Well, not quite unsuspecting but anyone who uses software and has seen the amount of trouble a new "Release" can cause will know exactly what I mean.

However, Release Management can be applied to any group of Configuration Items that your business considers need to be controlled and manipulated together, as a group. Generally speaking Documents are 'Published'. Manufactured items are 'Delivered' and software is 'Released' but whatever term you use does not change the fundamental activity. That of letting, what you have constructed out to the people you want them to go to, i.e. 'Releasing' them.

For instance, a web site is made up of a number of pages of code, text & graphics that must be organised and used together to make it work correctly. Similarly, an electric kettle is made up of a number of items such as, its body, the electrical element and its plastic handle which must also be organised and used together to make it properly.

How do we make sure that the right bits are used to make the item work? We link the changes that are described on the Change Requests to the Configuration Item to tell us what the CI should look like and how it should perform and then we use Release Management to ensure that it is built correctly, tested and sent out to the right people.

Wait a moment. Are you telling me that if I build kettles, and use Configuration Management that all my Kettles will be built correctly, tested and sent out to the right people? And if I build nuclear power stations or hospitals they will be built correctly? In fact if I do anything at all that CM will help ensure it's done correctly?

Yes, absolutely I am, subject of course, to your procedures being defined, communicated, adhered to and correctly followed by the individuals and teams concerned. By this I mean that CM can't stop a person making mistake, anyone can type in the wrong word in a document for example but it can make sure the mistake is caught as early as possible and help ensure the mistake does not cost as much to rectify.

Interesting but we are very good here, everything you've mentioned already happens here. Nothing you have said so far convinces me that I need CM.

OK, but remember, that what I have described so far is still not everything under that CM umbrella I mentioned at the start. Let's have a look at;

Management Information

CM is not only about storing information about things; it's also about presenting that information to you in a form you can easily use.

This includes statistical information about the Configuration Items themselves (How many kettles of what model have been sent to New York in the last 3 months and how many have been returned as faulty, been replaced or damaged and so on) and what changes were made to them (Plastic Handles were replaced by rubber ones for better grip), why those changes were necessary (3000 complaints were made via the Change Requests) and from there, identify trends, costs and become more proactive to ensure the same thing does not happen again.

For example:

If you have a problem or perhaps a product recall is required, with CM you have the ability to find out precisely which product models were built with which components, why they were changed, what the change was and who made the change. That's a lot of very useful information enabling you to respond more quickly and more accurately than you would otherwise be able to do.

Product recall? So that's how manufacturers are able to identify what to call back. By using the information in their CM system?

Essentially, yes! They have to identify which items failed, they investigate why they failed when they didn't before, in other words, 'what's changed' and then take the corrective action.

Audit & Compliance

Finally, who did what, when and why is vital information for today's organisations. Many are compliant with today's standards and legislative requirements, Sarbannes-Oxley, ISO & MIL standards come to mind. Others are striving towards these standards and still others just want to be able to prove to their shareholders and the various

Government Revenue Services that the correct records are being held and the business is operating in a controlled manner.

Configuration Management provides the mechanisms to meet all of these standards and many more because it is all about ensuring that what is done is properly considered, authorised, carried out and delivered to the best of our abilities.

Hmmm...So if I understand all this correctly what you are saying is that Configuration Management is a framework which we can use to ensure that we have:

- A secure repository for those items that are important to us to make sure we never lose them and that should anything happen we have all the information we need to re-create them.
- A record of everything that we have done, who did it and why it was done to help us analyse what is driving us to change the way we do business and to ensure compliance across the board
- Controls in place to make sure only correctly authorised people do appropriately authorised tasks.
- The right information to be able to identify trends and weaknesses and therefore take corrective action more quickly and more accurately.
- The right processes and procedures in place to operate in a controlled manner.
- The knowledge of what was delivered how, when, why to where and to whom.

Most certainly, indeed, you can start to see not only what Configuration Management is but also, why you must have it.

I've already got procedures, masses of them. Isn't CM just another set of procedures and bureaucracy?

It is true that you are likely to have a number of manual or partially automated procedures and processes in place to help you do everything I have talked about. It is also true that there is always room for improvement. CM is all about improvement.

Improving our ability to respond to change, to act appropriately, to allocate resources correctly and even meet the most stringent of legislative requirements.

Even if you feel you are doing very well in all these areas you may well be concerned that they are not being done as quickly and easily as you might like.

There are many organisations out there working hard and diligently, sometimes spending hours & hours 'fire fighting' simply because they lack the information to tell them where the problem actually lies. CM provides that information.

Yes I see the possibilities CM keeps my costs down by helping me to ensure:

- Change is performed in a controlled manner.
- Change is accurately described, assessed for impact and then acted upon.
- What you deliver to the client is known in terms of its constituent parts.
- What you believe you have delivered is actually what was delivered.
- Should you need to regress to a previous version of an item you have all the information you need to do so quickly and efficiently.
- Your procedures and build processes are enforced in the manner you require to meet your legal and moral obligations.
- Security is as rigorous as it is required it to be.
- You are able to work on different versions of a Configuration Item at the same time, merge the work later on and build a new composite object.
- Information is available to Management for Historic, Audit and Statistical purposes.

So what do I need to do?

- Review your current procedures to ensure they meet your requirements.
- Identify any new processes for recording, assessing and making changes.
- Document and communicate the resultant changes to your current business process to those who are to use it.
- Invest in flexible software that doesn't cost an arm and a leg (such as [Intasoft's AllChange](#) or if you are only interested in Change Management, [IntaChange Enterprise](#)) to support your process, record your information and help you analyse the results.

It's true that control costs but without it we have chaos and as recent events around the world have shown, chaos costs more!