

## A-FIRM Structure Configuration Management

By [Carlos Casanova](#)  
K2 Solutions Group, Inc.



ITIL V3 incorporates emerging best practices for a Configuration Management System (CMS) modeled upon a federated set of Configuration Management Databases (CMDB). For most IT shops that may seem a very daunting obstacle to surmount. But, by looking beyond the task at hand, we can find guidance in several places – including architectural systems, automotive designers, and even mountain-climbing expeditions.

Whether you are constructing a high-rise building, an automobile, or planning to climb a mountain, they all require a solid foundation upon which to build, and, in all three cases, the capability of the framework determines the success you will achieve in your effort.

The framework needs to be strong, but yet flexible enough to handle the environment in which it operates. A high-rise must handle high winds without crumbling or letting its inhabitants feel the sway, and an automobile frame needs to absorb potholes while still providing a smooth ride to its passengers. The framework for a mountain climbing journey is an intangible one that leads the climber through the necessary support camps where he or she makes adjustments on the ascent to the summit.

A successful IT system such as a CMS has some of the very same characteristics of the above frameworks. It must be able to adjust as external forces push upon it. It needs to absorb the impact of unexpected shifts that regularly occur in IT, and it needs to progress on a journey through areas where it will receive input that will help it to adjust for the next stage of the journey.

A firm structure is vital for the success of any Configuration Management System (CMS) effort, and such a structure can be called an A-FIRM structure.

### A-FIRM

A-FIRM stands for *Architect, Federate, Integrate, Reconcile* and *Merge*.

The "FIRM" portion of A-FIRM is an iterative cycle that never really ends because IT is constantly changing. The framework of the CMS needs to be flexible but strong in order to adapt to the demands of environment around it.

If properly architected, it should not require drastic foundational changes but instead just modifications to accommodate disruptive technologies, such as the impact of the introduction of server virtualization.

### To the Top

As I describe each component of the A-FIRM structure, I will use a mountaineering metaphor.

Mountaineering expeditions come to mind because the construction of a CMS is very much like a challenging journey up the face of a mountain. When an individual or team decides to climb a mountain such as K2 or Everest, they need to carefully assess the situation at each stage of the climb. They need to make sure that each team member and support person clearly understands all aspects of their mission and is ready to adjust the plan given the constantly changing weather conditions.

A failure at any point by any person can have fatal consequences for all of the members embarking on the journey. The environment is constantly changing and each stage must account for it. Sometimes it means heading back down the mountain to replenish supplies or to find a new route; other times it means forging ahead quickly before conditions

worsen.

Everyone in IT faces the challenges of constant change and dependency on others. In IT, our fatal consequences however are not life threatening. They can, however, become career threatening if you get it wrong. You need to take the lead and set a path for your ascent.

## **A-FIRMIing the Ascent**

Below is a very brief description of each component in the A-FIRM structure. Use it to better understand the various components of your CMS implementation journey.

**A – Architect:** Architect and map out your ascent before actually setting out on your climb. If you do not do this, you will be lucky to reach a base camp from where to launch your serious climb.

**F – Federate:** Determine which camps may already be well established along your climbing route and which you can leverage on your ascent. These are components that you must factor into your long-term solution and are vital to any success you achieve.

**I – Integrate:** You will not be able to carry all your supplies on your journey so seek out others who can provide insight and assistance. Be on the lookout for those who may have already succeeded in partial ascents and can work with you to reach the peak. There will be times where you will have to leverage these for short periods of time until you can find a more sustainable long-term solution to accomplish that portion of your climb.

Compared to Federated components, these components are ideally just short-term solutions. They may be able to mature into a long term-federated solution, or they will need to eventually be replaced by a different long-term solution.

The key is to recognize which of these two categories they fall into. Wrongly assess a short-term stopgap measure as a long-term solution, and you may die on the mountain during your climb because of faulty or incomplete data provided by them.

**R – Reconcile:** This will likely be one of your most challenging tasks because you will undoubtedly face many situations where you need to make a critical decision armed with less-than-ideal data. These decisions will make or break your entire ascent. Choose the wrong data and your team dies on the climb; choose the right data and you have a chance to succeed. Notice that there are no guarantees of success even if you choose the correct data.

**M – Merge:** Over time, you will identify situations and groups that you can combine to provide more reliable data and/or support you on the next leg of your ascent. You need to carefully execute these mergers to ensure you do not negatively impact the value you are seeking to achieve. Eliminate the wrong data or people, and you endanger the entire mission. Do it properly and you reach the peak faster, with less risk and at a lower cost.

## **Summary**

When setting out on your CMS journey, be sure that you invest the necessary time in planning your route, assessing the environment, and anticipating potential changes. Make sure that you hold true to your original design and adjust accordingly only after careful examination of the implications on the remainder of the journey. Learn from every stage of your journey and factor what you have learned into your future stages.

You can build a CMS that meets your organizations needs but you must start with A-FIRM structure.