# **Federated Decision Making**

By Roy Zuniga July 2011 Duvall, WA

The people feel disconnected from the decision of government made so far away that impact their daily lives. The question comes up, then, of whether the delegate model we have today can be replaced with something better? How can we make decision making local and still address regional issues? One option is a Federated Decision Making model. What is it and how does it work?

*Federated Decision* is about networking decisions stakeholders at the level required by the nature of the decision. This concept is an evolution of the Scrum development model as it applies to federations of projects. If a group can solve its own challenges, other nodes need not know about the internal dynamics of the group. The information flowing out to the network has to do with priorities that are important to the local group. The rest of the nodes either care or don't. If they do, there is a response. If they don't, the node's priorities are neglected. In order for other nodes to be interested, therefore, the priorities have to be relevant and good for the whole. The precise dynamics of this remain to be worked out. However, one can imagine a system based on the self-interest of the collective. Abstracted out, it looks something like this:



It's really quite simple. Members of group 1, i.e. A, B, C and D, are as self-sufficient as possible. If a member needs something from the group (1), it bubbles up the request to a backlog. The request includes a value proposition. The members periodically discuss what's in the interest of the group, stack rank all the work items individuals A, B, C and D have proposed (if anything). Because there's an innate sense of equity, excessive pain for one is addressed because next time the issue might be excessive pain for another. The work items are stack ranked and the team then decides what it can do itself. Whatever

the group cannot build or fix is bubble dup to the next level, and so on. The process is recursive outward:



So now, group 1, which is composed of A, B, C and D, is not a member of group I, which is composed of 1, 2, 3 and 4. Exactly the same dynamic happens. Each member bubbles up needs, which are assessed with equanimity in mind and the collective stack ranks the requests. How does member 1 asses the backlog of Group I? Since it is composed of A, B, C and D, does that mean that each of these has to consider the issues individually? The short answer is *yes*, and that potentially poses a scalability problem which we address in detail later in this document. This diagram illustrates the recursion in decision making:



# **Federated Decision Making**

The 'representative' bodies that govern us today can be broken down into two functions:

- 1. **Decision** the capability to choose a direction, which may or may not be associated with the resources to implement.
- 2. **Execution** the ability and process to execute upon a program whose direction is given by the decision function.

By and larger our representatives are not listening only to the people. They are also heavily influenced by lobbyists. In some cases, like the waiver of the Clean Air Act as it relates to natural gas drilling with hydraulic fracturing, the decisions of politicians have been extremely harmful to the environment and citizens. Federated Decision making is a way to model alternate decision making so it can be adopted. The roles of government would then shift to:

- **Decision support** research and context published to citizens so they can make informed choices. This support is done once items are on the backlog. In other words, the agenda is established by the people, and the government then provides additional information about cost, feasibility, risks, etc. all the classic project management functions.
- **Execution management** instead of owning execution, officials are stewards of the execution under performance review. The distinction might not immediately be obvious, but it is very important. Too often today, execution is managed like a family business, with buddy-buddy backroom deals. What we want is significant control over the sourcing of staff, and the ability to hold them accountable with full disclosure of their activities.

In other words, our representatives would get decisions, not delegated power to make decisions. They are essentially replaceable like contractors; they are on a term and can be fired for good reasons. So how do these execution specialists get their direction? A further exploration of the dynamics of federated decision making will help.

# **Decision Loop**

The following diagram outlines a node on the federated decision process:



ID	Step	Description
A	Action Request	A Member of the group submits a request for something the group should address
В	Stack Decision	A decision is made by the Steward function (C) on whether to admit the request into the Backlog (E), relate it to an existing item, or send it back to the requestor for more information. The request is checked for required attributes and a preliminary ranking is also assigned.
С	Steward Function	One or more people who assess incoming requests based on domain knowledge and the Principles and Constraints (D).
D	Principles and Constraints	Established by the group to guide the Steward Function (C)
Ε	Initiative Backlog	The stack ranked list of items to be considered by the members (H) of the group. The Items near the top require additional information (F) for more informed decision making.
F	Item Details	Information required for decision making, implementation, background, etc.
G	Execution Decision	Decision event when the top items are pulled from the backlog for evaluation. Rank is evaluated and adjusted. Information is used to make the assessment. There are two phases, assessment of intent and assessment of execution viability. In the first, the group uses all resources at its disposal, collectively and individually, to determine if the proposed item should be taken as a want or need, or the request is trashed (L). If it passes the first phase, the item is considered for viability. The fundamental question is can it be done locally? There are principles that

		govern that decision (Dollar efficiency is not the primary criteria.) If it can be done locally, it will be done locally.
		If not, and it is a want and not a need, it is postponed or trashed. If the group needs it and it can't be done locally, the request is attributed for evaluation at the next level (J).
Н	The Group	A collection of stakeholder units. At lower nodes in the Federated Decision
		chain, these are people. At higher levels, the members are groups.
Ι	Decision	This is the technology piece enables federated decision making possible.
	Infrastructure	Through it members are able to review backlog items, relevant
		information, ask for clarification, contribute, start discussions, get
		consensus and give a thumbs up to initiatives. They can also reject them
		with qualifications if pagagaawy
-		with qualifications if necessary.
J	Escalation Message	Whatever can't be handled locally is sent up the decision ladder with a
		value proposition that is relevant to the next group.
К	Execution Process	If an initiative is accepted, it is marked as approved, ranked and
		prioritized in the backlog for the execution team to pick up.

Once escalated, the whole process is repeated at the higher level.



#### **Federated Decision Scenarios**

Let's have a look at some concrete examples of how *federated* decision making can work.

#### Scenario 1: Young Family Wants a Playground

The Smith family has three children under 12 and no swing set. They don't have a big yard and would rather have the kids play in a larger space with other children as well. The neighborhood has a park, but no shared playground. Since there are other families in the area, they decide it's time to change that.

According to the principles of Federated Decision they first look within their own group, the family. They ask the two questions:

- 1. Do we want to do this?
  - The answer is a resounding 'yes'. It's good for the kids, for social interaction, but it must be done right to meet certain safety standards.
- 2. Do we have the sources and will to implement locally?
  - The answer is 'no'. They can't afford what is envisioned. Besides, Dad works a lot and can't give it the focus it requires to be done in a timely fashion.

The outcome, therefore, is escalation. So it's gone through this path in the first loop:



Note that all the elements are present, even if an informal state. For example, the Steward Function (Mom and Dad) have criteria to evaluate the idea, it's just not formalized in a document necessarily. The

higher level the group, the more important it is to formalize the functions, criteria, backlog and decision documents.

The request now goes to the next level, which is the Neighbors' Association, which has adopted the same pattern. They ask the same questions:

- 1. Do we want to do this?
  - The answer is a resounding 'yes'. It's good for the kids, for social interaction, but it must be done right to meet certain safety standards.
- 2. Do we have the sources and will to implement locally?
  - There are enough families to support the initiative and the vote indicates people will contribute to make it happen.

Because the group adopted the measure, the request ends at the neighborhood level. No need to escalate any further. Decisions and execution remain as local as possible.



#### Scenario 2: Farmer in Dry State needs more water

In this scenario, a farmer in a dry state needs more water. The cities have drained the old resources and he's not going to be able to raise cattle and produce a crop without restoration of the water supply. He goes through the process on the farm, and it is agreed they both need it and they can't solve the problem. And so the request goes up the layers:



Each level asks the same two questions, 'Do we want or need this?' and 'Can we do it locally?'

- 1. The Farm answers yes to both they initiated the request.
- 2. Other farmers in the town also want it, but they are powerless to fix the problem.
- 3. Likewise, the County doesn't have the ability to affect the change.
- 4. The State's resources can no longer cover the local population.

The problem cannot be solved locally at any level within the State. Consequently, it gets bubbled up to the Regional level, where a wet state steps up to provide water because it is in their interest to import grain and beef, and export apples and wine. Agreement is reached and the project moves into execution.

Note that the higher up in the chain the request goes, the more sophisticated the decision mechanism has to be. At the Farmers level, the kitchen table might suffice. At the town level, it's conceivable the process could be done in with hearings and spreadsheet voting. However, as it goes up the chain to the County, State and Regional levels, technology infrastructure is needed for the great numbers of impacted stakeholders to weigh in. They need access to the research and facts as many levels down as necessary. They should be able to communicate with the original proponents or any level in between. The voting record should be traceable and the system should be dynamic enough so that new information can cause people to adjust their positions, add new requirements or opt in our out of the process.

## **The Dynamics of Federated Decisions**

Federated decision making sounds great if we assume the voting process just works. Does it? We don't yet know the answer, but one thing is clear: we can figure it out. We have the tools to effect change.

A key feature in this model is the federated voting process. In the standard diagram, this corresponds to the highlighted area:



It's the infrastructure and process that gets people informed and captures their votes on initiatives from the backlog.

There are three aspects to making this work:

- I. The Right Level: Avoiding Escalations
- II. The Right People: Scoping the Voting Population
- III. The Right Information: Effective Analysis and Voting

## I. The Right Level: Avoiding Escalations

One helpful phenomenon will be what the 'gravity' that keeps issues local. The whole system will not scale if too many issues get escalated, which we often see in today's government. National leaders are discussing the minutia of very local projects, and government is bloated with professional processors and slowed by pork barrel bills. The new system has to be better.

If escalations go up to regional or national levels, the number of stakeholders who are potentially involved is huge. Escalations have to be kept to a relatively low percentage. Thankfully, the issue 'gravity' we can build into the system will help. For example:

- 1. **Bounce-back** if issues are rejected or more information is required, the more local group will learn to do everything possible to deal with problem locally.
- 2. **Backlog latency** the more issues go into the backlog, the longer it will take to get new issues processed. Good member behavior is to treat the backlog as sacred space, and not just throw every peeve and want into it.
- 3. **Redundancy** chances are that if it is an issue for one community, it is an issue for others. Deduping processes will correlate like issues and merge duplicates.
  - This requires strong tagging and algorithms for detecting similar issues.
- 4. **Bundling** coalitions of nodes can band together and skip the escalation process.
  - This requires the formation of ad-hoc groups whose members may be distributed geographically and not co-located (local to each other). This fosters local solutions and is *not* remote delegation, although the group decision may require compromise based on remote interests.
- 5. Strong stewardship solid analysis at the start can prevent issues from reaching a vote.
- 6. Knowledge base infrastructure for logging and finding solutions can help avoid escalations.
  - This has to include a strong feedback loop so that new learning finds its way back to the original articles and the contributors who are still interested.

## II. *The Right People*: Scoping the voting population

This area will be a target for abuse because it is the most critical and political. If you scope the decision makers, you shape the decision. We can't have everyone involved in every decision so there has to be an effective way to divide and conquer. Here are some tactics:

- 1. **Opt-in/opt-out** There may be certain areas some people don't have time or want to think about.
- 2. Auto vote preparation some may trust the judgment of the group or a topical group and throw their vote can be queued automatically. They just have to confirm.
  - For example, a group based on ideology may develop that technical is not a voting stakeholder but who may articulate a position on a topic. Voters may opt into having their vote align with the recommendation of this group.
  - To avoid the risk that these ideological groups become entrenched in the machinery, they have to be kept outside of the voting process. They can influence, but there is no 'party candidate' because we're not voting for a representative. We're hiring researchers and project managers in government who are under performance review. We the people are the ones who make the decisions.
- Stakeholder Affinity escalations may flow to a virtual group who can solve the problem without involving extended numbers of people. For example, if artists need a regional art center, that doesn't have to involve as many stakeholders as other topics, like allocation of road funds.
  - Network nomination can help here, i.e. the idea that a core group can expand its own membership.

## III. The Right Information: Effective Analysis and Voting

Once the voters are identified, getting them information and access to subject matter experts will be very important to making the right decision. Key elements to consider are:

- Proper attribution of the requests in order to determine relevance, backlog items should be tagged with the perceived priority and severity, risk and impact of not fixing it, cost, resources required, urgency, decision time frame, whether it is a need or a want and identification of criteria for groups who can solve the problem.
- 2. **Deadlines** the federated model is dynamic and iterative, so lack of closure is a risk. Milestones and deadlines must be defined, and some of these can be auto-generated based on the type of issue and learning from historical precedence.
- 3. **Second opinion** an *individual* voter may want the opinion of someone who is not a voter. This decision support person can quickly be given access to the associated information.
  - Likewise the *group* may want the opinion of known subject matter experts.
- 4. **Non-voter chimes in** someone may feel they should be a stakeholder and want to influence the process, either by contributing a 'friend brief', or asking to be included in the voting process.
- 5. **Request for research** information may be missing, key questions are being asked and more research should be done, either by the dedicated researchers or a SME network.

- 6. **Threshold voting** voting doesn't have to happen all on a given day. There may be a threshold defined as a percentage or number of votes, and when it is reached, the measure passes.
  - Because there is no voting date, this will change the nature of advertising campaigns designed to influence the voters, by the way.
- 4. **Party voting** a more formal version of stakeholder affinity where a group has formed an identity by some criteria or ideology or charter. These voters will tend to vote in blocks. As much as we want everyone to think about all decisions that are relevant to them, the reality is not everyone will engage and would rather align to one or more parties to have votes prepared for them.
  - To be clear, the individuals still vote; the party just prepares the vote for them.
- 7. **Topical task forces** there may be clusters of issues that would benefit from a unified strategy.
- 8. **Value loop** in-flight learning has to flow back into the group. There may be assumptions that are discovered to be false based on changing information as the issue develops; revelations can change the votes.
  - For example, if *threshold voting* is used, anyone can change their vote as long as it is open.
- 9. **The moral loop** as the group learns lessons, their values and moral may evolve. These updates can go back and change the shared stories and myths, which are updatable. This is a side topic for Community Mythology discussion.
- 10. **Conditional voting** the population may impose certain conditions before their votes are cast. Some of these may be:
  - Dependencies on other votes/outcomes. For example, approval of water allocation to a dry state may depend on ratification of a commitment to build the infrastructure by a stakeholder entity.
- 11. **Dependency chains** to better educate voters and to facilitate conditional voting, a mechanism for establishing

These are a few dimensions that if properly accounted for can make the whole model work effectively. There is a strong technology component to this, and a lot of demand for activity – and hopefully transition commerce – will develop out of this model. There will be short term pain for those who have to transition of out the broken model we have today. As you can see however, there are many new jobs and roles to be filled to make this happen. The first step is to model the system and prove it out by shadowing current decision making by a pilot population. If the model proves useful, it can be adopted by governments as an alternate means of getting decisions made that is rooted in the real-time will of the stakeholders impacted by the decision.

-- Roy Zuniga