

ISSUE:

Currently the only means of representing repetition in CDL is to use the workunit 'repeat' attribute to specify a condition to determine whether the workunit should be re-evaluated (subject to its guard condition). This also means that effectively there are two conditions being evaluated to determine whether the subsequent iteration should be performed.

The problem with this is that it assumes that the condition regarding the repetition is observable. If we want to observe the fact that 'x' "foo" messages will occur before we receive a "bar" message, where we have no way to observe the value of 'x', then we could not model this.

PROPOSAL:

Separate the concept of repetition from the conditional construct (workunit), so that it can optionally have an expression associated with it.

For example,

```
<repetition condition="....." >
  <interaction operation="foo" />
</repetition>

<interaction operation="bar" />
```

OR

```
<repetition>
  <interaction operation="foo" />
</repetition>

<interaction operation="bar" />
```

Both mean effectively the same - the first simply provides additional guidance on the condition that is controlling the loop - but ultimately (in this situation) the repetition would be observed to have terminated if a 'bar' message is detected.

BENEFITS:

- (1) Normalization of repetition - making it explicit.
- (2) Observable repetition can be modeled.
- (3) More complex semantics can be modeled.