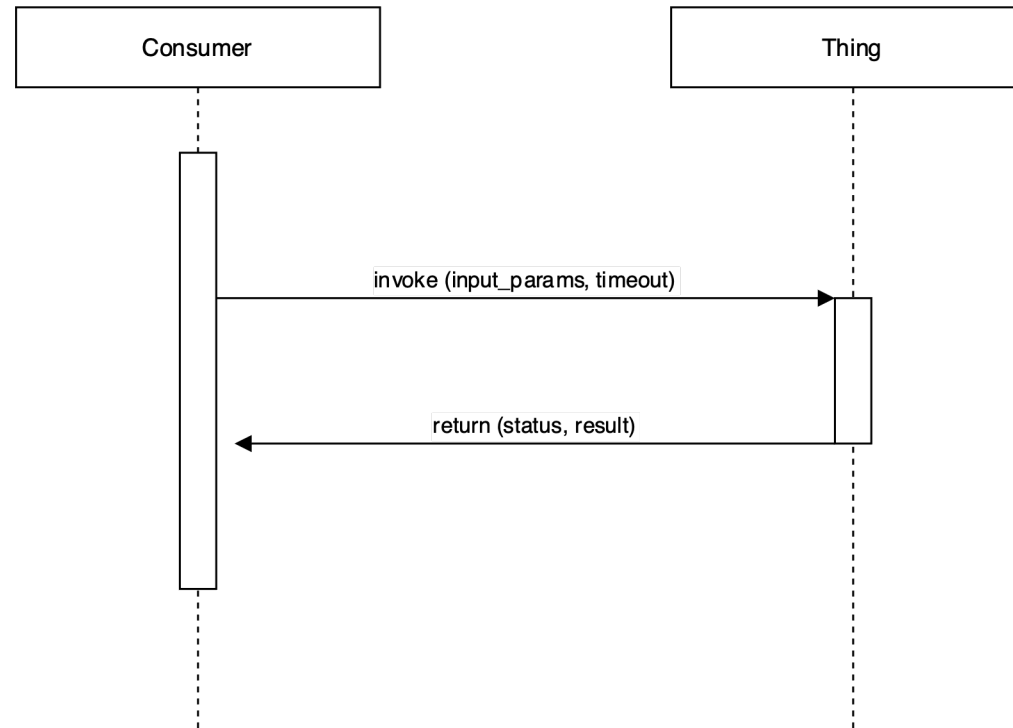


# WoT Action Model

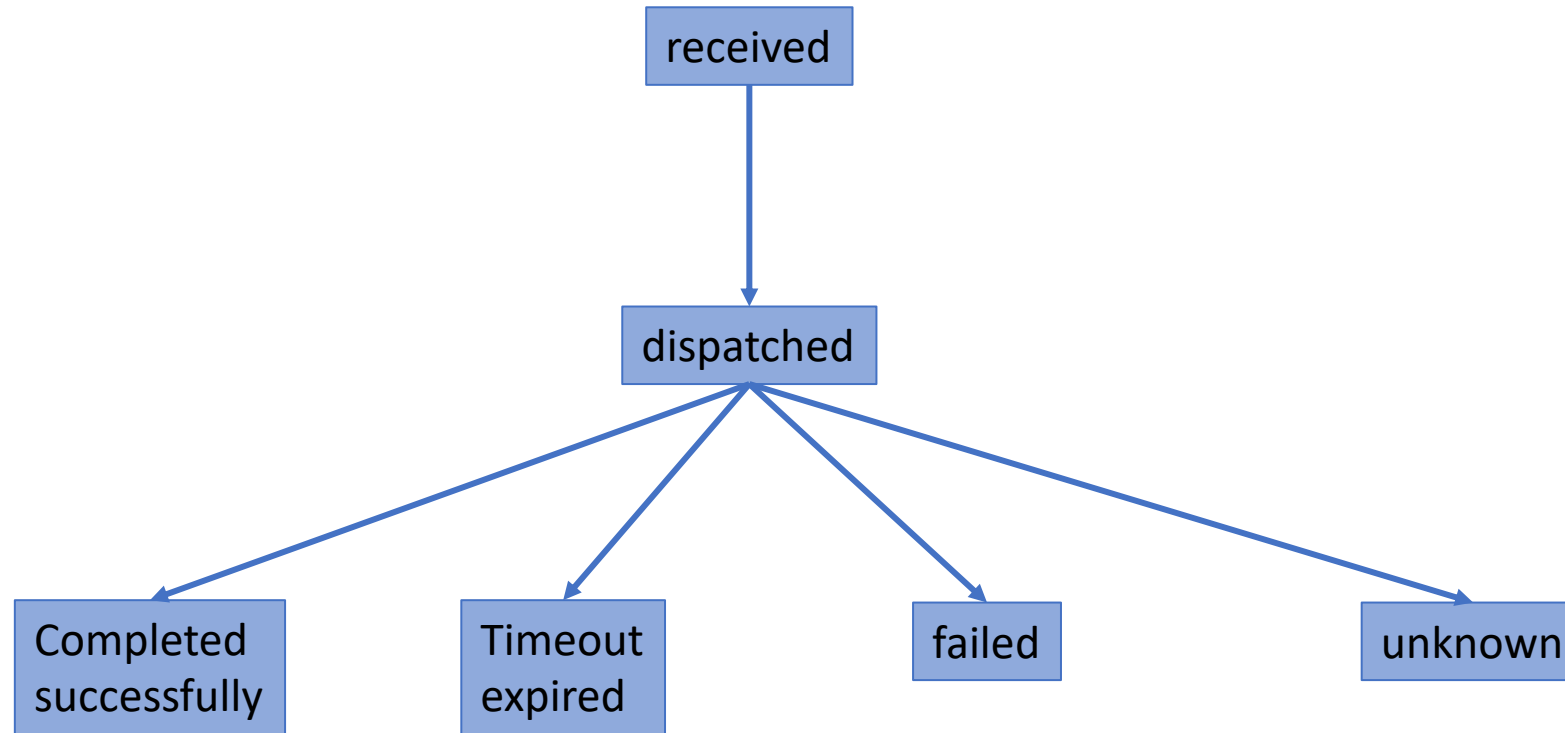
Michael Lagally

30 June 2021

# Action ~ Remote Procedure Call



# Execution states of an action



# Action status

completed : boolean

id: unique action id

requestTime: - time when the action request has been received

responseTime: - time when the action response has been sent

status: [

"RECEIVED" – action request has been received

"DISPATCHED" – action has been dispatched (e.g. to a subsystem)

"COMPLETED" – action has completed

"EXPIRED" – action is expired

"FAILED" – action has failed

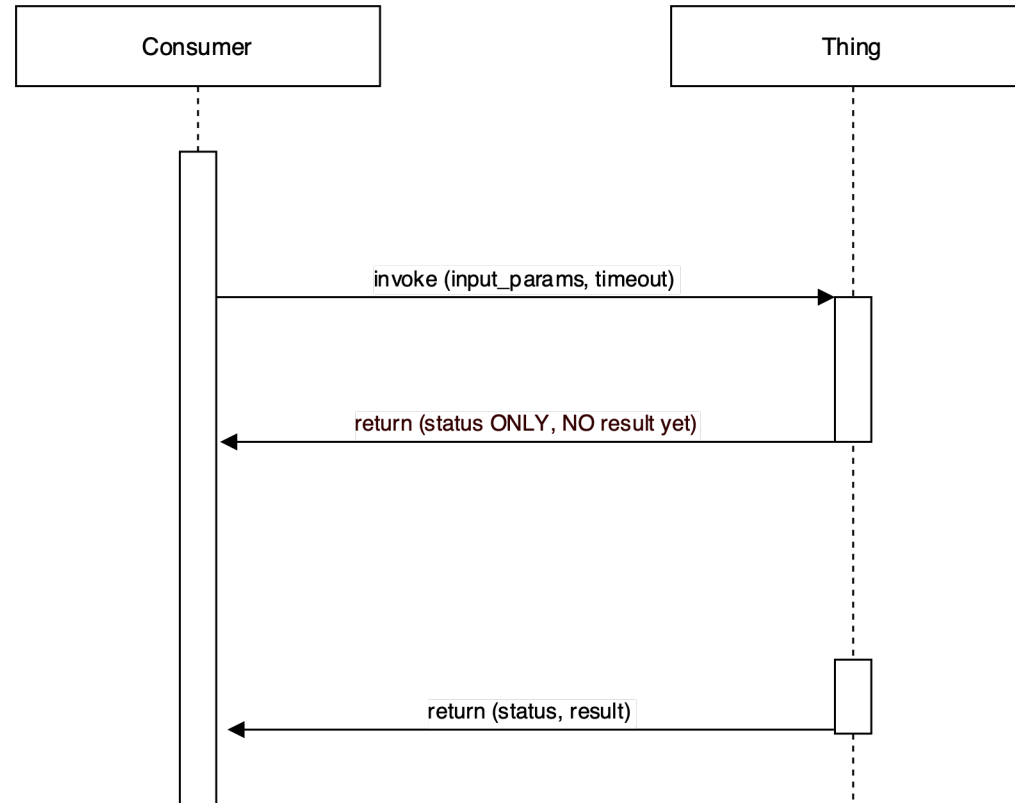
"UNKNOWN" – action status is unknown

]

result: JSON object with the response

statusUrl: query the status of a an action

# Long running actions



# Cancellation of actions

RPCs cannot be cancelled, a remote procedure is atomic.

The TD does not offer an explicit mechanism to cancel an action.

Some long running actions may be conceptually cancellable, this depends on the implementation of the “remote procedure” in the thing.

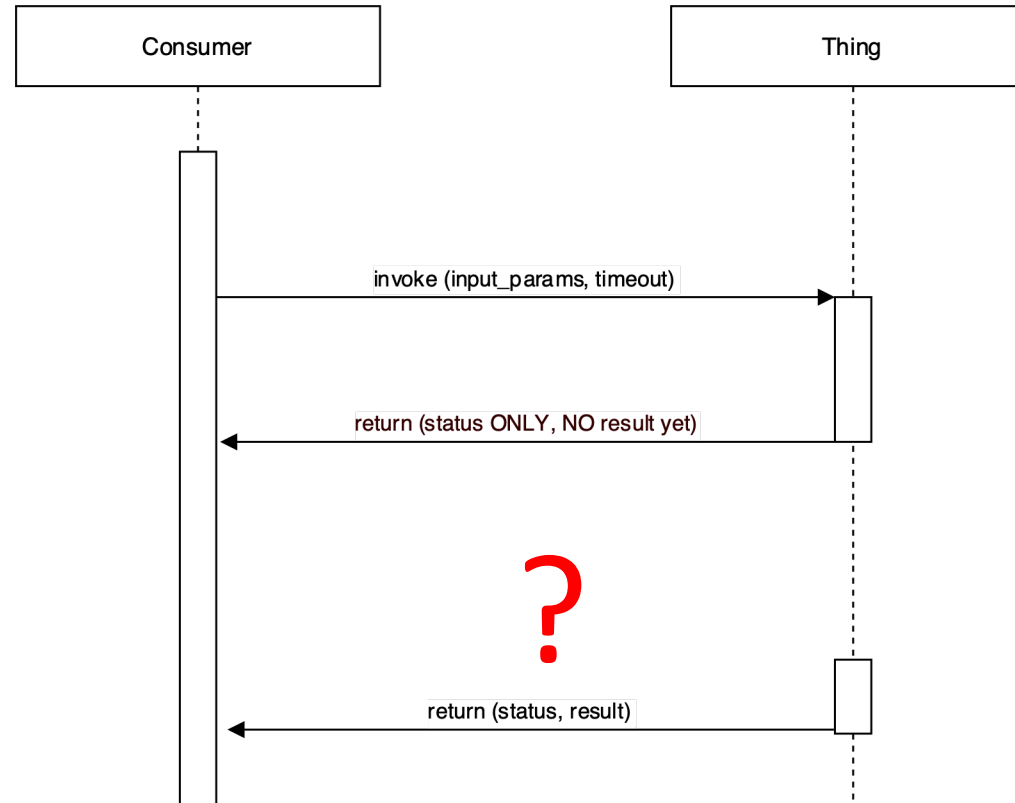
A generic cancel mechanism introduces complex action semantics.

Significant implementation burden.

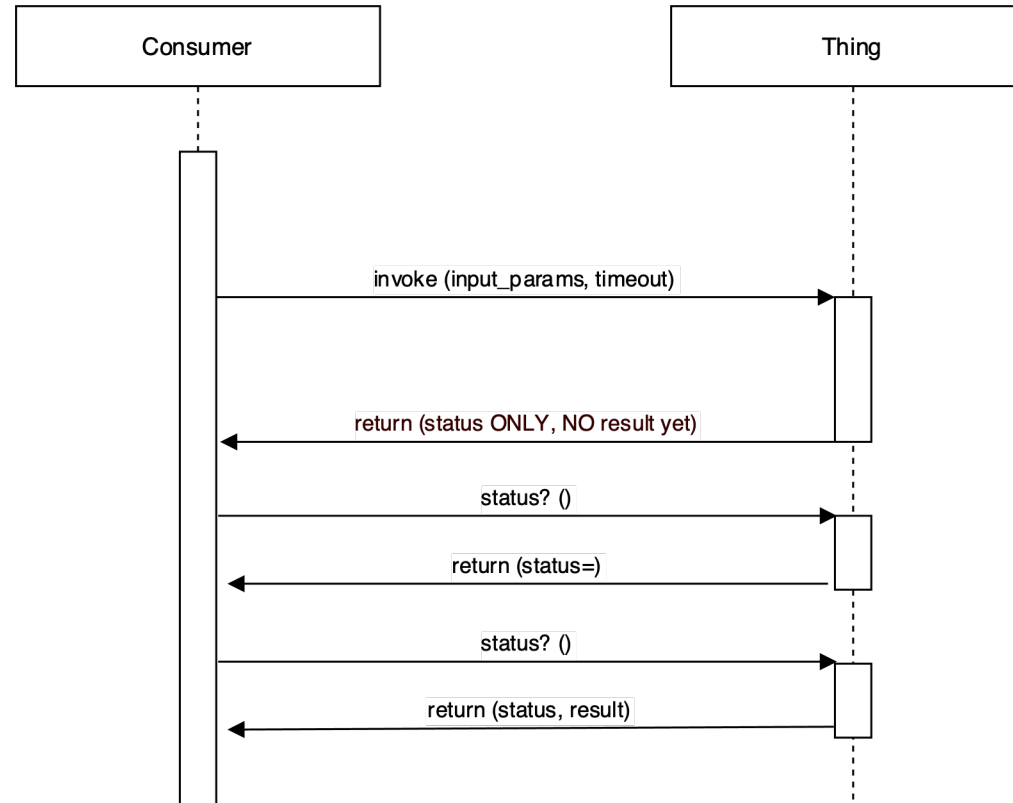
Potentially negative interop impact.

If cancelling of actions is required, a dedicated cancel operation can be modeled, the profile can define naming conventions.

# Long running actions - how to get the result?

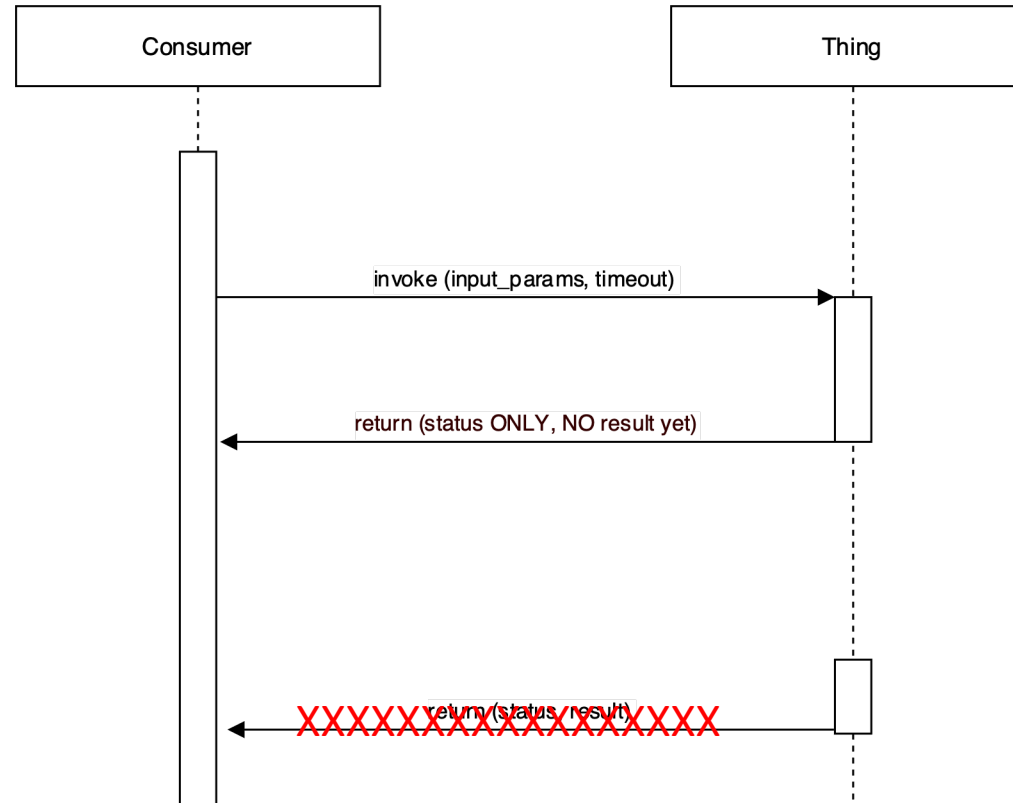


# Long running actions - Polling

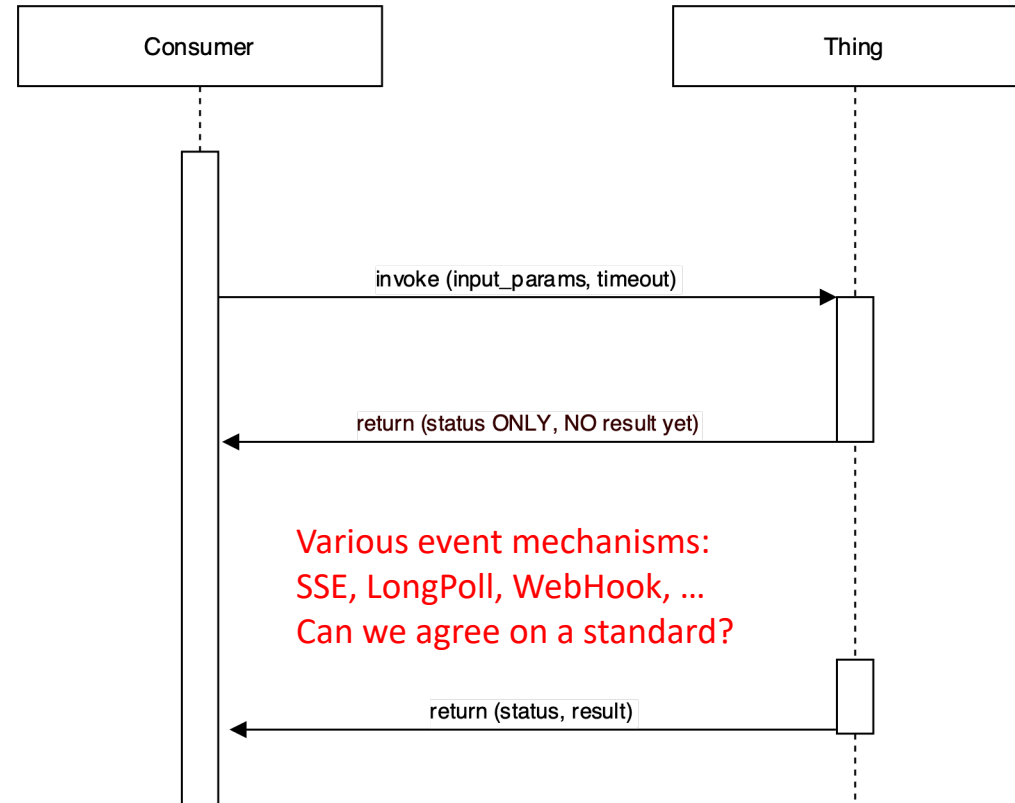




# Long running actions - timeout



# Long running actions - how to get the result?



# Action queues

Action queues are a list of actions that are processed on a server.

Processing is typically done in FIFO sequence.

The impose a specific implementation model on actions.

Some model limitations, e.g. processing of cancellations, emergency stop.

They go beyond the scope of WoT.