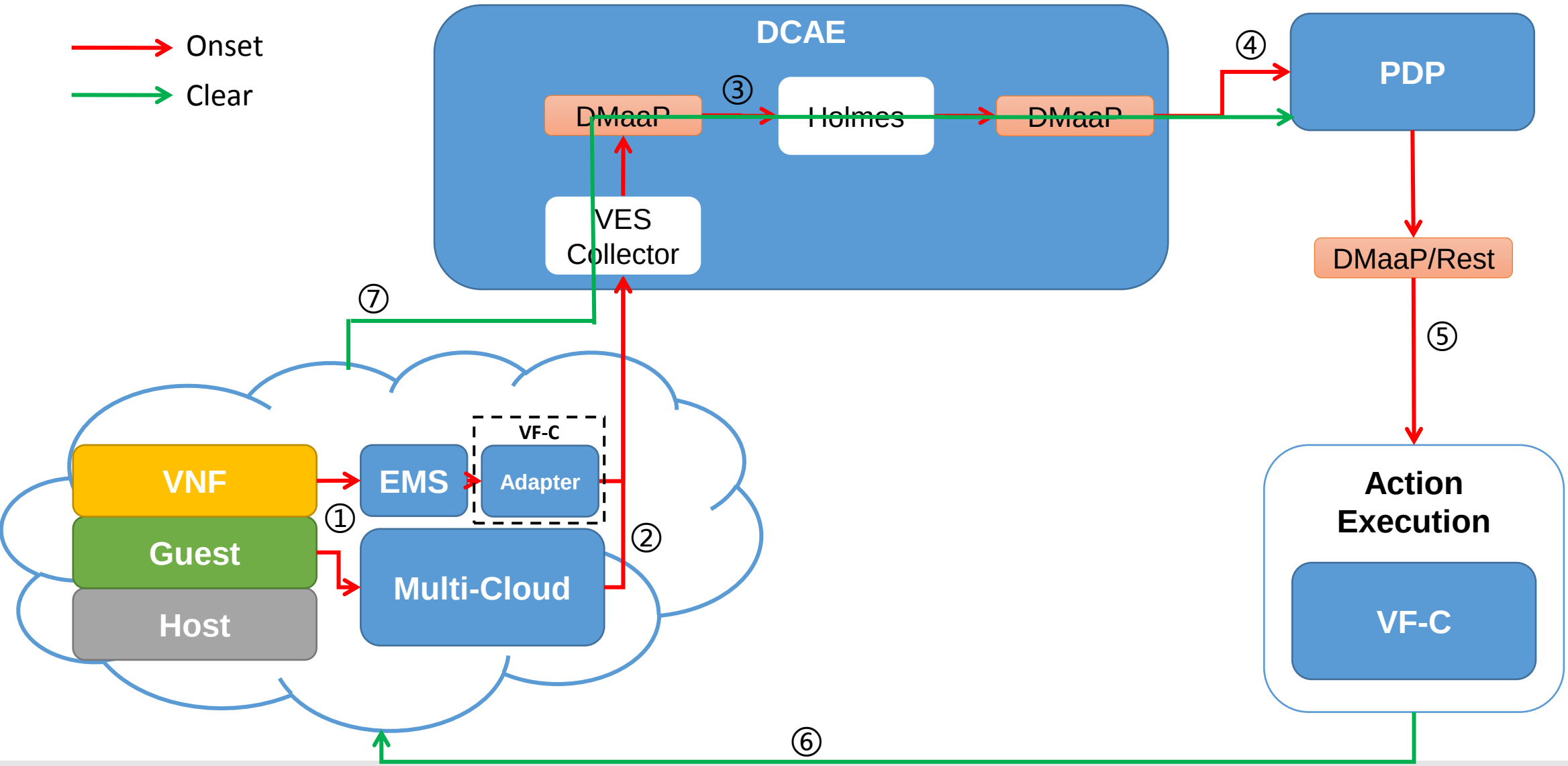
VoLTE Use Case Control Loop Automation

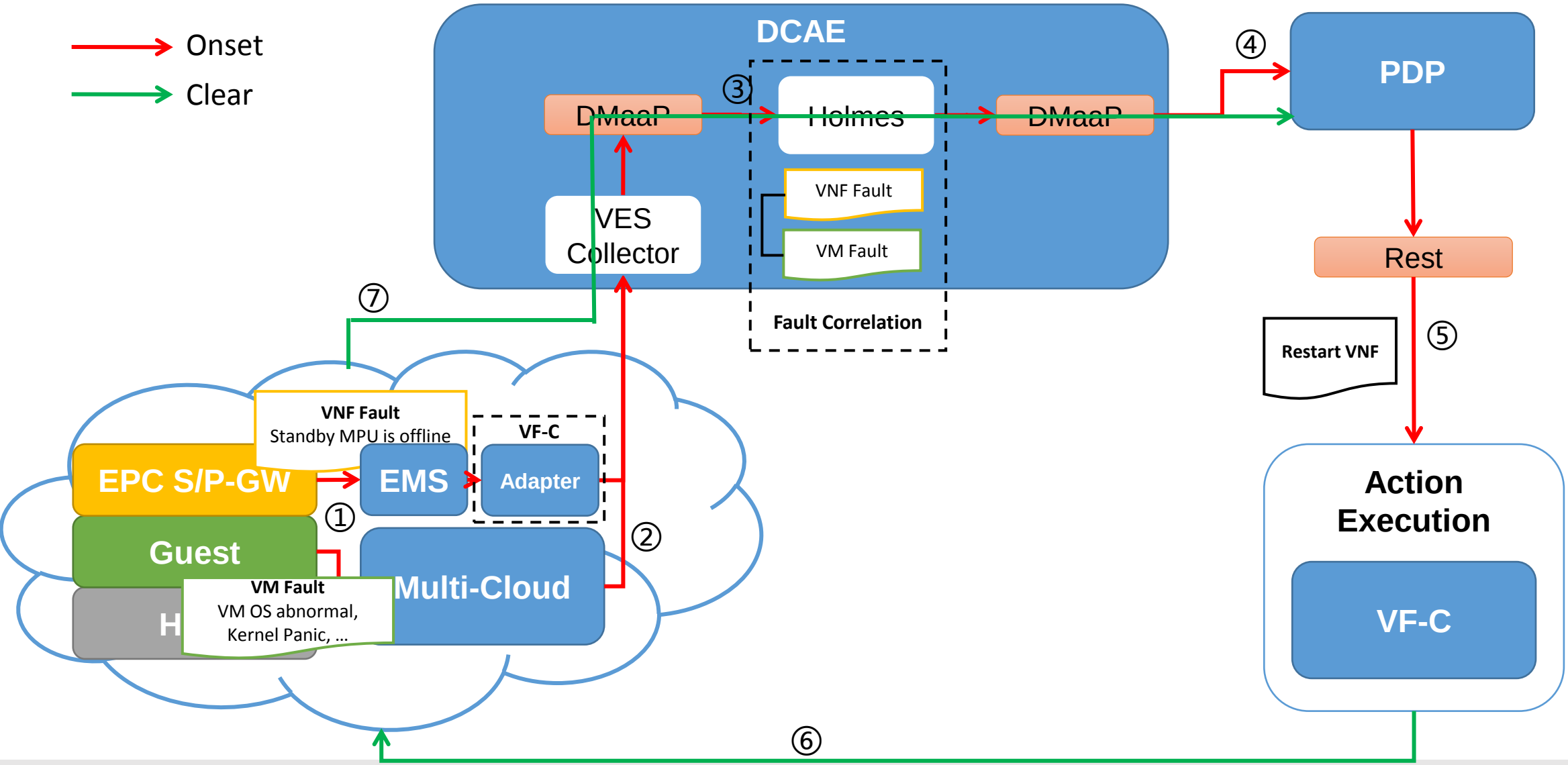
Aug., 2017

Description

Story


Onset
Clear
DCAE
DMaaP
③
Holmes
DMaaP
④
PDP
VES
Collector
DMaaP/Rest
⑤
⑦
VF-C
VNF
EMS
Adapter
①
②
Guest
Multi-Cloud
Host
Action
Execution
VF-C
⑥

Example for R1



Story

	Fault	Action
VNF	VNF Fault EPC S/P-GW – Standby MPU is offline	Restart VNF
Guest	VM Fault VM OS abnormal, Kernel Panic, VM does not send a heartbeat to an external watchdog service for a long time.	
Host		

Fault Correlation – refer to Holmes rule

```java
public class VesAlarm{
    private String eventId;
    private String sourceId;
    private String specificProblem;
    private long startEpochMicrosec;

    // getters and setters are ommitted for brevity
    ...
}
```

VES Format
eventId
sourceId
specificProblem
startEpochMicrosec

```
// Alarm specific problems used in the following rules:
// specificProblem
// Standby_MPU_offline
// No heartbeat, VM is not available

// the entity of the rule
rule "SameVNF_Relation_Rule"
salience 120
no-loop true
    when
        $root : VesAlarm(
            $sourceId: sourceId, sourceId != null && !sourceId.equals(""),
            specificProblem in ( "No heartbeat, VM is not available" ),
            $eventId: eventId)
        $child : VesAlarm( eventId != $eventId,
            CorrelationUtil.getInstance().isTopologicallyRelated(sourceId, $sourceId),
            specificProblem in ("Standby_MPU_offline"),
            this after [-60s, 60s] $root)
    then
        DmaapService.publishResult(...);
end
```

sourceId is the key to do the correlation among different layers.