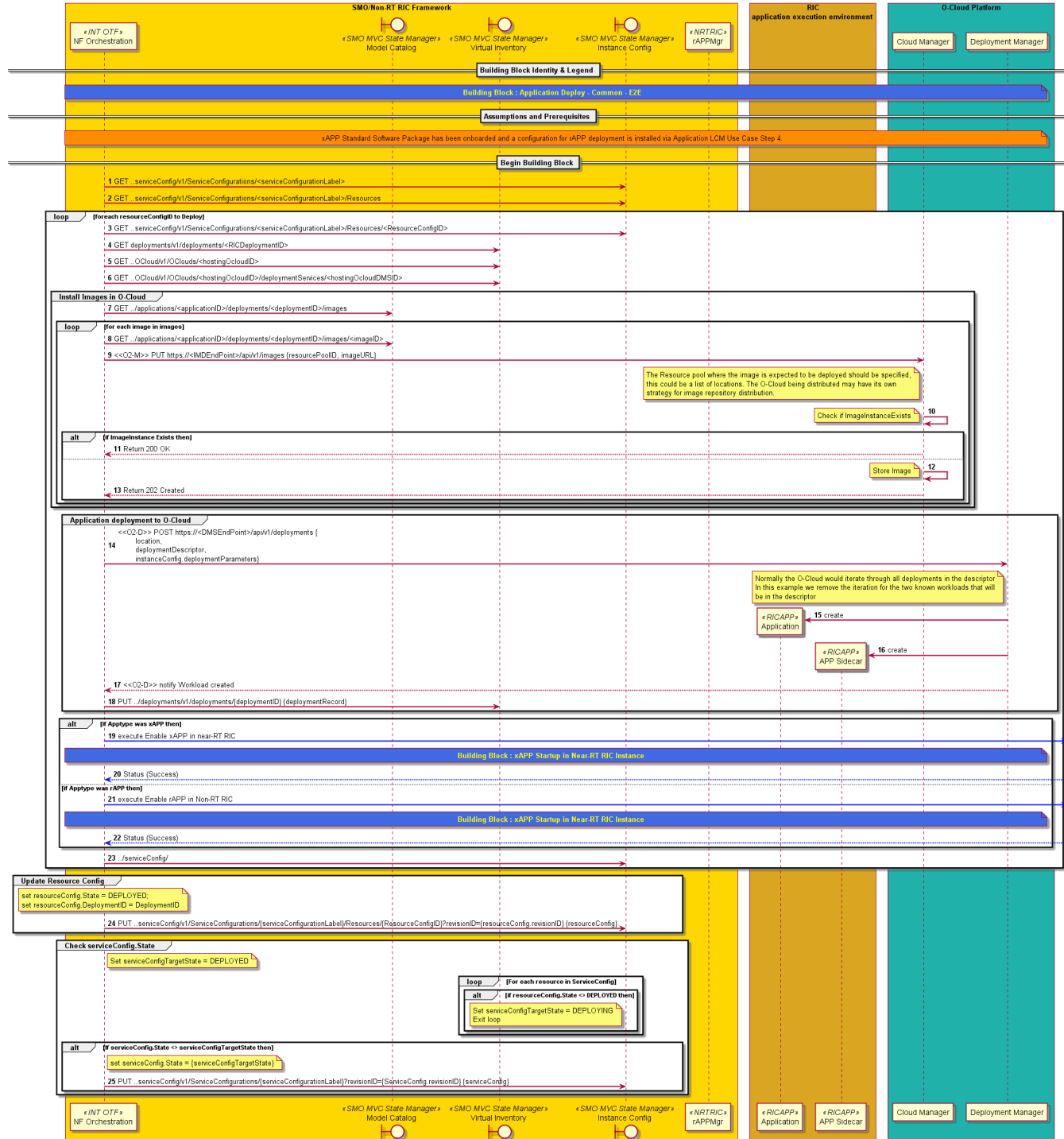


# Cherry App Deploy - Common - E2E

## Sequence Diagram



@startuml  
Autonumber  
Skinparam sequenceArrowThickness 2  
skinparam ParticipantPadding 5  
skinparam BoxPadding 10

Box "SMO/Non-RT RIC Framework" #gold  
participant NFO as "NF Orchestration" <<INT OTF>>  
Boundary MC as "Model Catalog" <<SMO MVC State Manager>>  
Boundary VI as "Virtual Inventory" <<SMO MVC State Manager>>

```
Boundary IC as "Instance Config" <<SMO MVC State Manager>>
Participant AppMgr as "rAPPMgr" <<NRTRIC>>
end box
```

```
Box "RIC\application execution environment " #goldenrod
  participant App as "Application" <<RICAPP>>
  participant Sidecar as "APP Sidecar" <<RICAPP>>
end box
```

```
Box "O-Cloud Platform" #lightseagreen
  participant IMS as "Cloud Manager"
  participant DMS as "Deployment Manager"
End box
```

== Building Block Identity & Legend ==

```
note over NFO, DMS #royalblue
**<color: yellow>Building Block : Deploy Application - Common - E2E </color>**
end note
```

== Assumptions and Prerequisites ==

```
note over NFO, DMS #darkorange
xAPP Standard Software Package has been onboarded and a configuration for rAPP deployment is installed via Application LCM Use Case Step 4.
end note
```

== Begin Building Block ==

```
NFO -> IC : GET ../serviceConfig/v1/ServiceConfigurations/<serviceConfigurationLabel>

NFO -> IC : GET ../serviceConfig/v1/ServiceConfigurations/<serviceConfigurationLabel>/Resources

loop foreach resourceConfigID to Deploy
NFO -> IC : GET ../serviceConfig/v1/ServiceConfigurations/<serviceConfigurationLabel>/Resources/<ResourceConfigID>

NFO -> VI : GET deployments/v1/deployments/<RICDeploymentID>

NFO -> VI : GET ../OCloud/v1/OClouds/<hostingOcloudID>

NFO -> VI : GET ../OCloud/v1/OClouds/<hostingOcloudID>/deploymentServices/<hostingOcloudDMSID>
```

Group Install Images in O-Cloud

```
NFO -> MC : GET ../applications/<applicationID>/deployments/<deploymentID>/images
Loop for each image in images
  NFO -> MC : GET ../applications/<applicationID>/deployments/<deploymentID>/images/<imageID>

  NFO -> IMS : <<O2-M>> PUT https://<IMDEndPoint>/api/v1/images {resourcePoolID, imageURL}
  Note left of IMS
  The Resource pool where the image is expected to be deployed should be specified,
  this could be a list of locations. The O-Cloud being distributed may have its own
  strategy for image repository distribution.
  End note
```

```
IMS -> IMS :
Note left : Check if ImageInstanceExists
```

```
Alt if ImageInstance Exists then
  IMS --> NFO : Return 200 OK
Else
  IMS -> IMS :
  Note Left : Store Image
  IMS --> NFO : Return 202 Created
End if
end
End
```

Group Application deployment to O-Cloud

```
NFO -> DMS : <<O2-D>> POST https://<DMSEndPoint>/api/v1/deployments {\n\tlocation, \n\tdeploymentDescriptor, \n\tinstanceConfig.
deploymentParameters}
```

```
Note left of DMS
Normally the O-Cloud would iterate through all deployments in the descriptor
In this example we remove the iteration for the two known workloads that will
be in the descriptor
End note
```

```
DMS -> App ** : create
```

```

DMS -> Sidecar ** : create

DMS --> NFO : <<O2-D>> notify Workload created

NFO -> VI : PUT ../deployments/v1/deployments/{deploymentID} {deploymentRecord}

End

Alt if Apptype was xAPP then

    NFO -[#blue]>] : execute Enable xAPP in near-RT RIC
    note over NFO, DMS #royalblue
        **<color: yellow>Building Block : xAPP Startup in Near-RT RIC Instance </color>**
    end note
    ]-[#blue]-> NFO : Status (Success)

Else if Apptype was rAPP then

    NFO -[#blue]>] : execute Enable rAPP in Non-RT RIC
    note over NFO, DMS #royalblue
        **<color: yellow>Building Block : xAPP Startup in Near-RT RIC Instance </color>**
    end note
    ]-[#blue]-> NFO : Status (Success)

End if

NFO -> IC : ../serviceConfig/
End

Group Update Resource Config
Note over NFO
    set resourceConfig.State = DEPLOYED;
    set resourceConfig.DeploymentID = DeploymentID
end note

NFO -> IC : PUT ../serviceConfig/v1/ServiceConfigurations/{serviceConfigurationLabel}/Resources/{ResourceConfigID}?revisionID={resourceConfig.revisionID} {resourceConfig}
End

Group Check serviceConfig.State

    Note right of NFO
        Set serviceConfigTargetState = DEPLOYED
    End note

    Loop For each resource in ServiceConfig
        Alt if resourceConfig.State <> DEPLOYED then
            Note left of IC
                Set serviceConfigTargetState = DEPLOYING
            Exit loop
            End note
        End if
    End
    Alt If serviceConfig.State <> serviceConfigTargetState then
        Note right of NFO: set serviceConfig.State = {serviceConfigTargetState}
        NFO -> IC : PUT ../serviceConfig/v1/ServiceConfigurations/{serviceConfigurationLabel}?revisionID={ServiceConfig.revisionID} {serviceConfig}
    End if
end

@enduml

```