

RanListManager Design

RanListManager

- An optimization suggestion (**APPROVED**) - instead managing a list of `[]*NbIdentity`, manage a map of `[string]*NbIdentity`, where key is inventoryName and value is the nbIdentity.

RanListManager

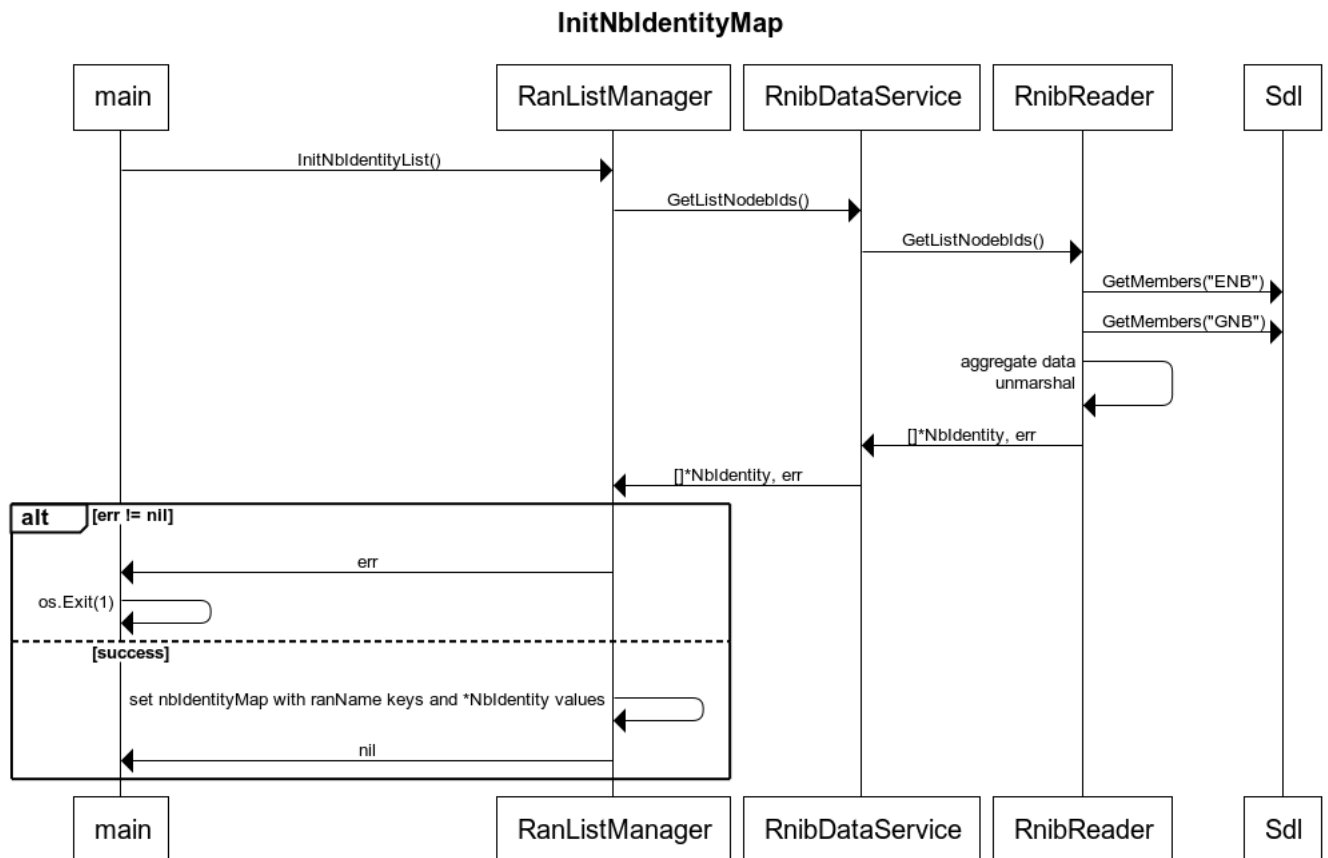
```
type RanListManager struct {
    rnibDataService services.RNibDataService
    mux sync.Mutex
    nbIdentityMap map[string]*NbIdentity
}

type IRanListManager interface {
    InitNbIdentityMap() error
    AddNbIdentity(nodeType entities.Node_Type, nbIdentity *entities.NbIdentity) error
    UpdateNbIdentityConnectionStatus(nodeType entities.Node_Type, ranName string, connectionStatus entities.
ConnectionStatus) error
    RemoveNbIdentity(nodeType entities.Node_Type, ranName string) error
    GetNbIdentityList() []*entities.NbIdentity
}
```

InitNbIdentityList



- Triggered on **application init**, fetches nb identity list from DB and populate nbIdentityMap data member.
- mib error `os.Exit(1)`



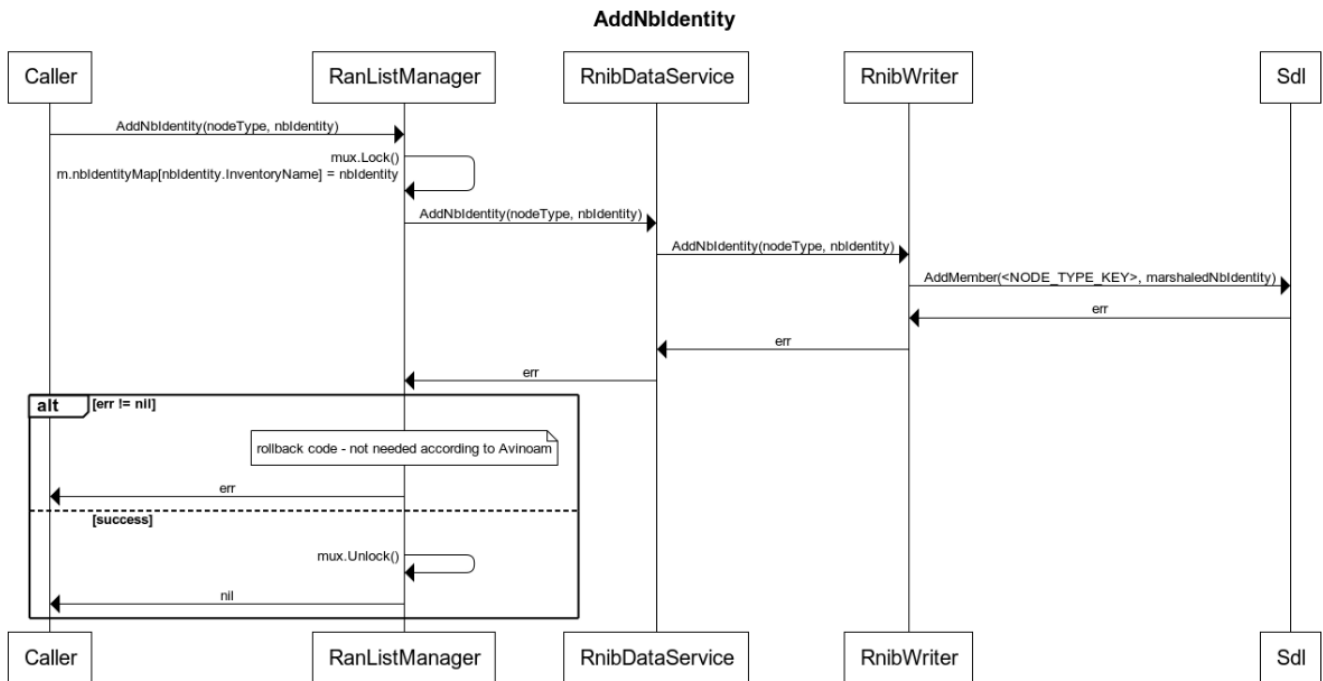
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AddNbIdentity

i *SaveNodeb* Calls will be followed by a *ranListManager.AddNbIdentity(nodeType, nbIdentity)* call.

AFFECTED FLOWS

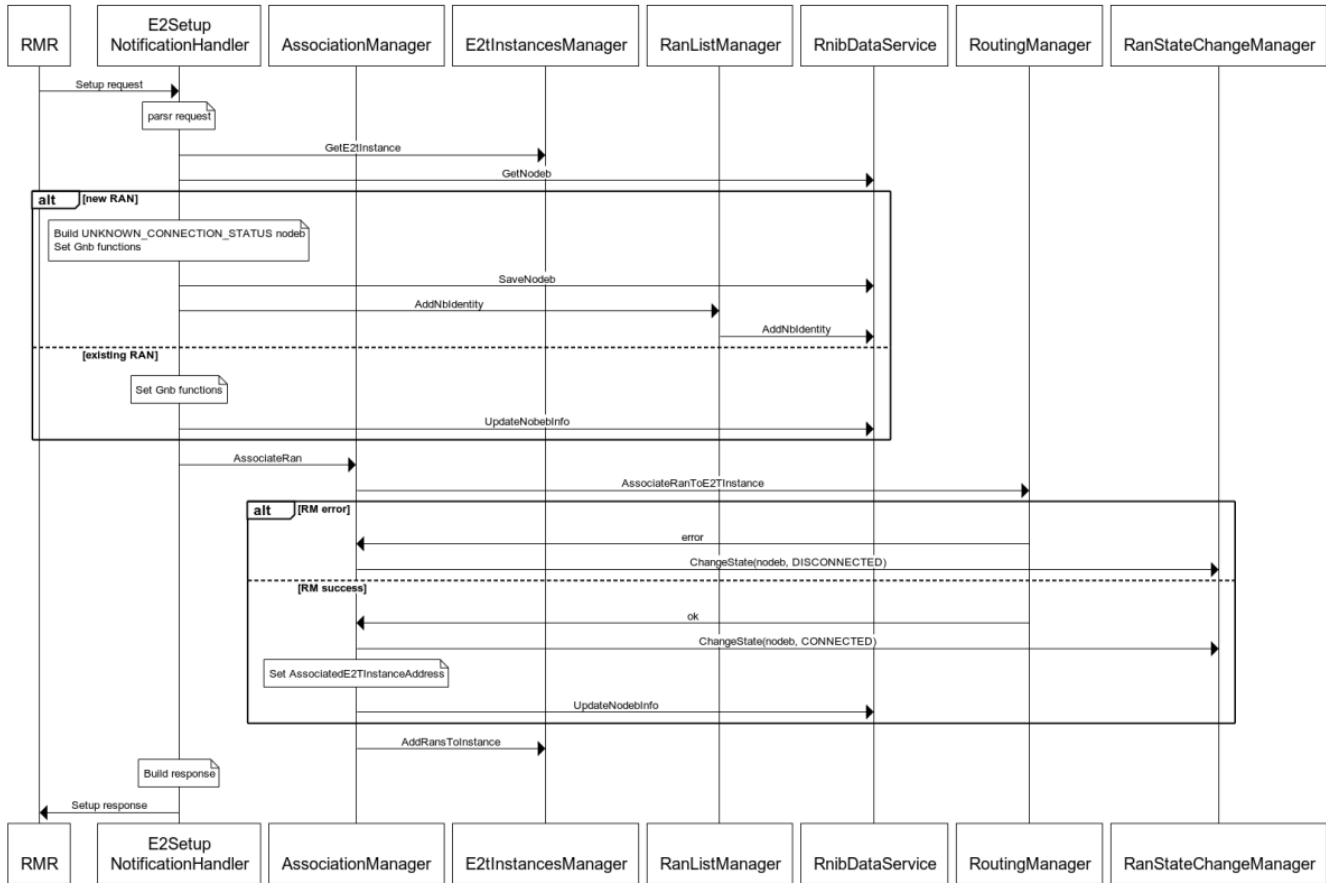
- Add Enb REST API
- E2 Setup Request coming from NW



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Add Enb REST API

E2 Setup Flow

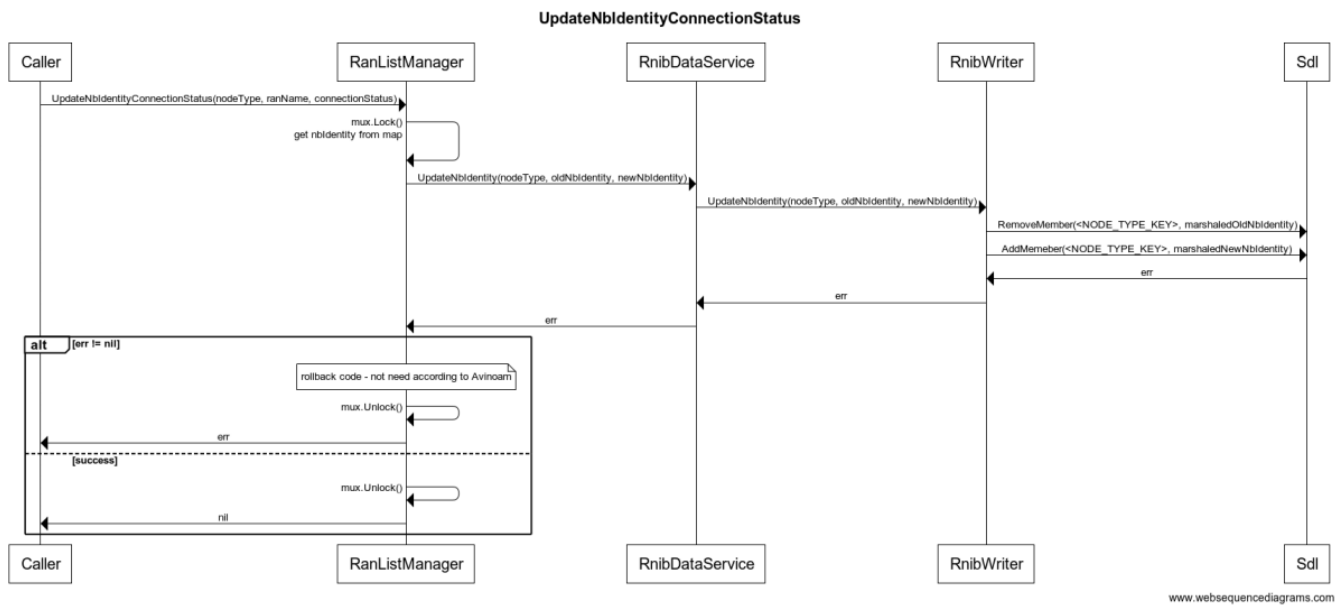


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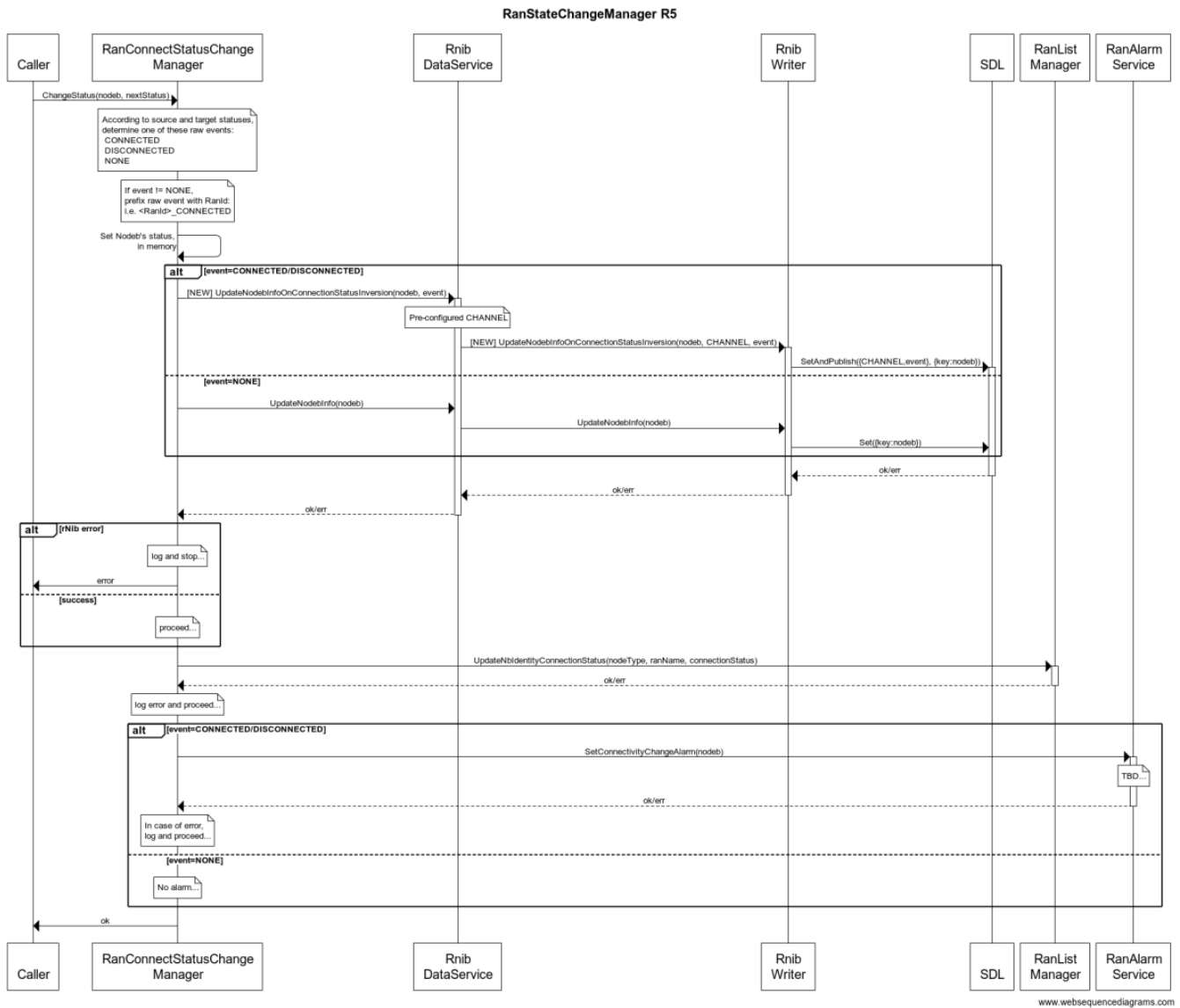
UpdateNbIdentityConnectionStatus



- Affects the call to `RanStateChangeManager.ChangeStatus` in the following flows: Lost Connection | E2T Init | E2T Shutdown | E2 Setup | Red Button
- Does not affect Update Enb since it's always DISCONNECTED



RanStateChangeManager



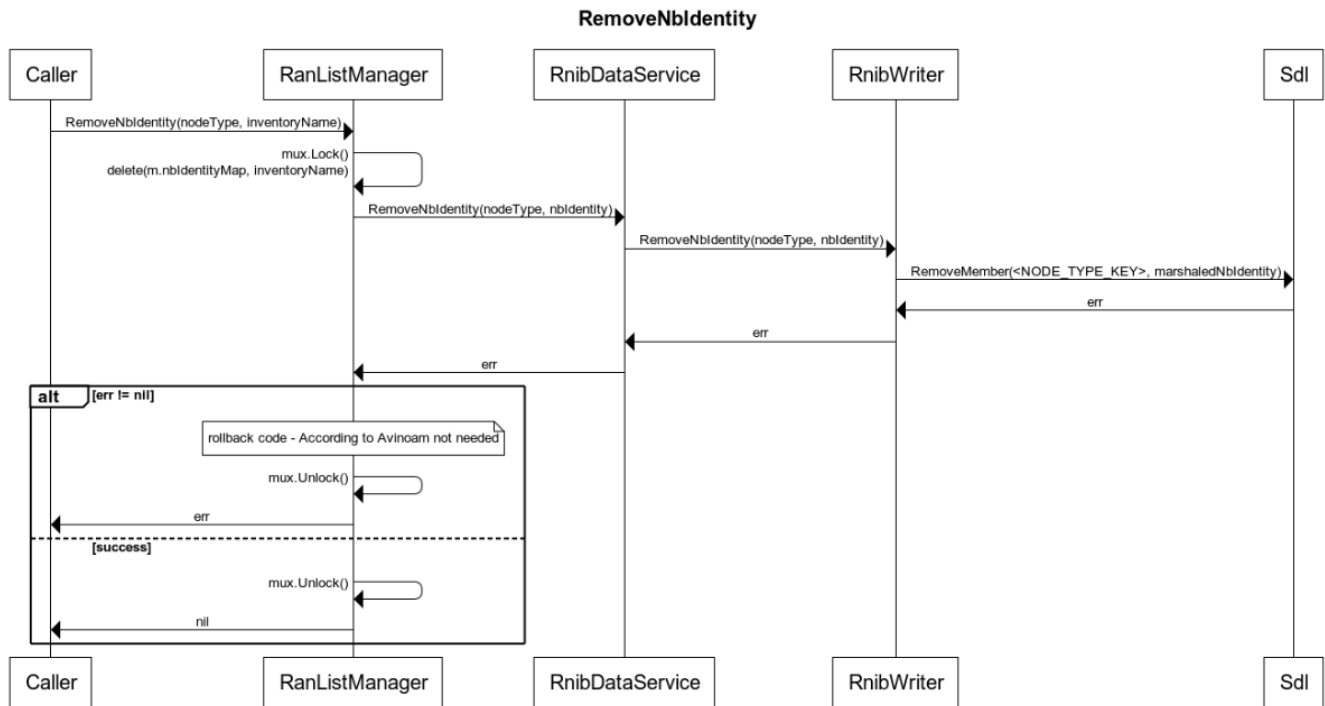
RemoveNbIdentity



- *RemoveEnb* call will be followed by *ranListManager.RemoveNbIdentity(nodeType, nbIdentity)* call
- Currently, there's no *RemoveGnb* method (there's only *RemoveServedNrCells*)

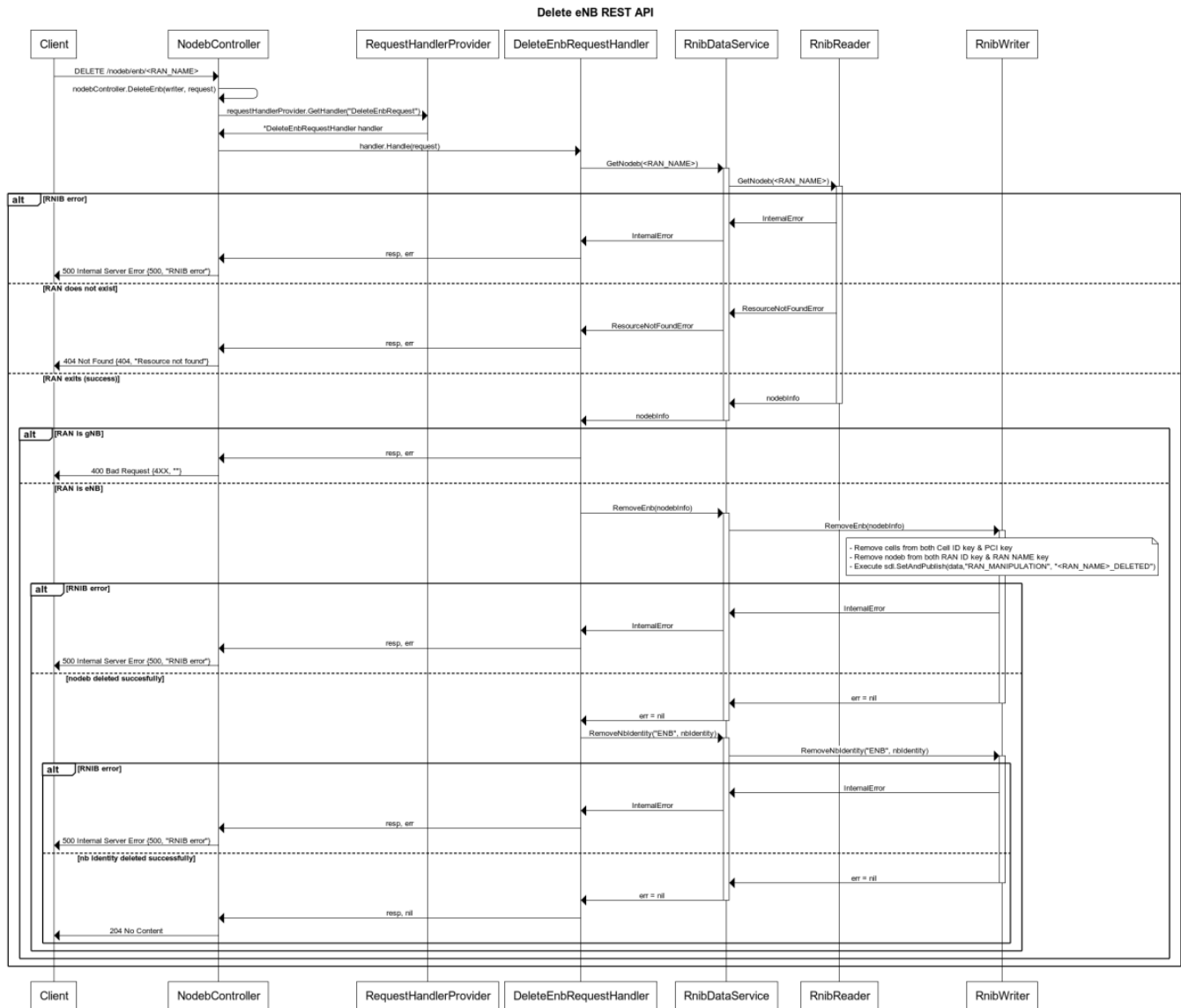
AFFECTED FLOWS

- Delete Enb REST API



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Delete ENB REST API



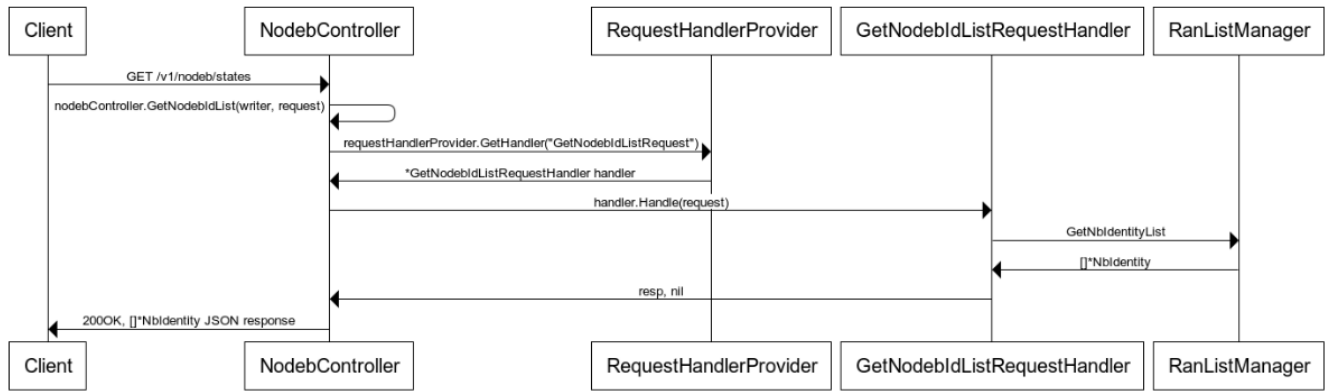
GetNbIdentityList

- Returns the in-memory nbIdentity list (iterate map values and append to a []*NbIdentity slice)
- Affected flows: Get Nodeb Ids REST API & Red Button

Get Nodeb States REST API

- Change url from /v1/nodeb/ids to /v1/nodeb/states
- Add ConnectionStatus property to NbIdentity proto (already pushed)
- Get nbIdentity list from memory instead of DB

Get Nodeb States REST API

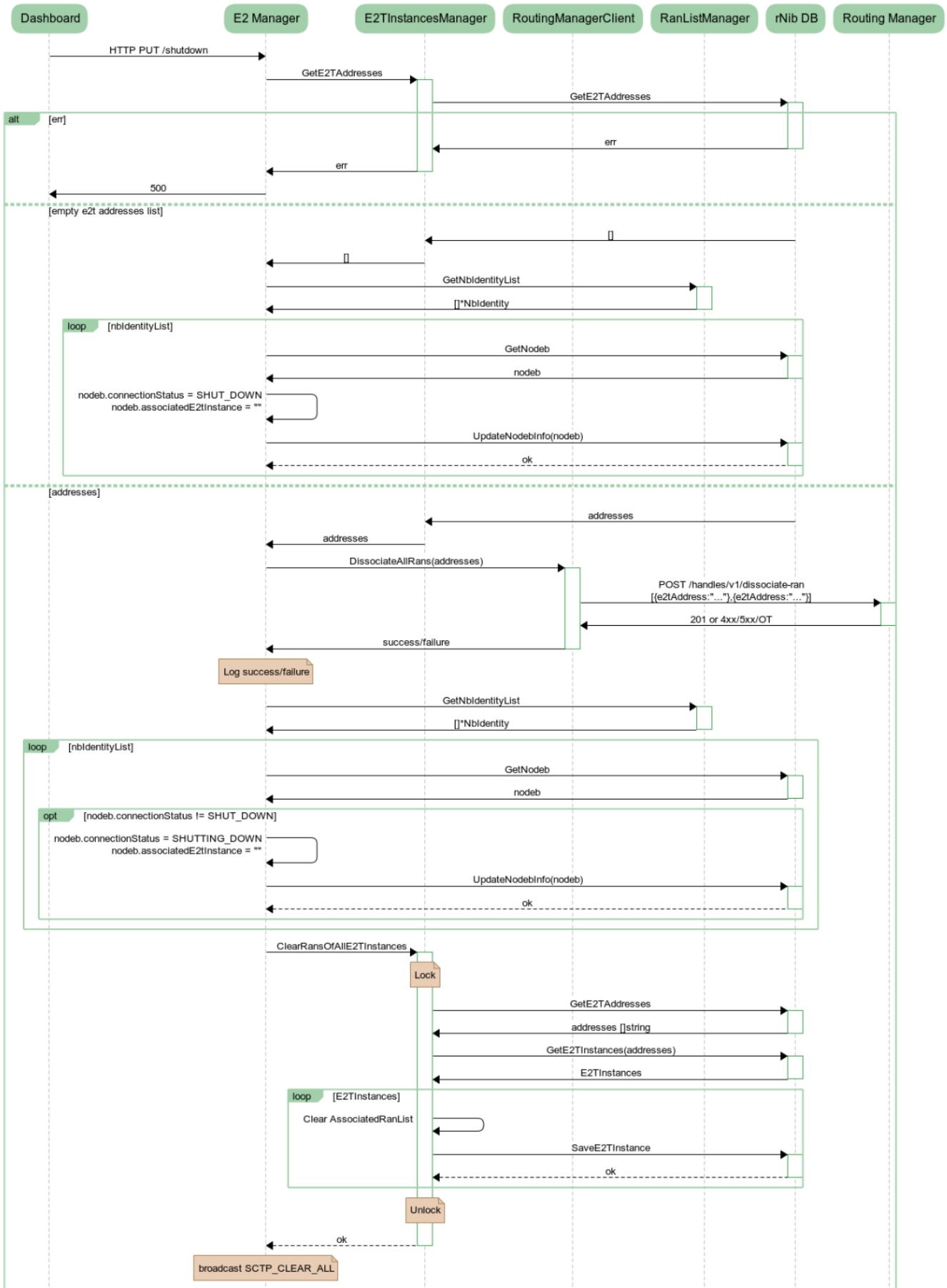


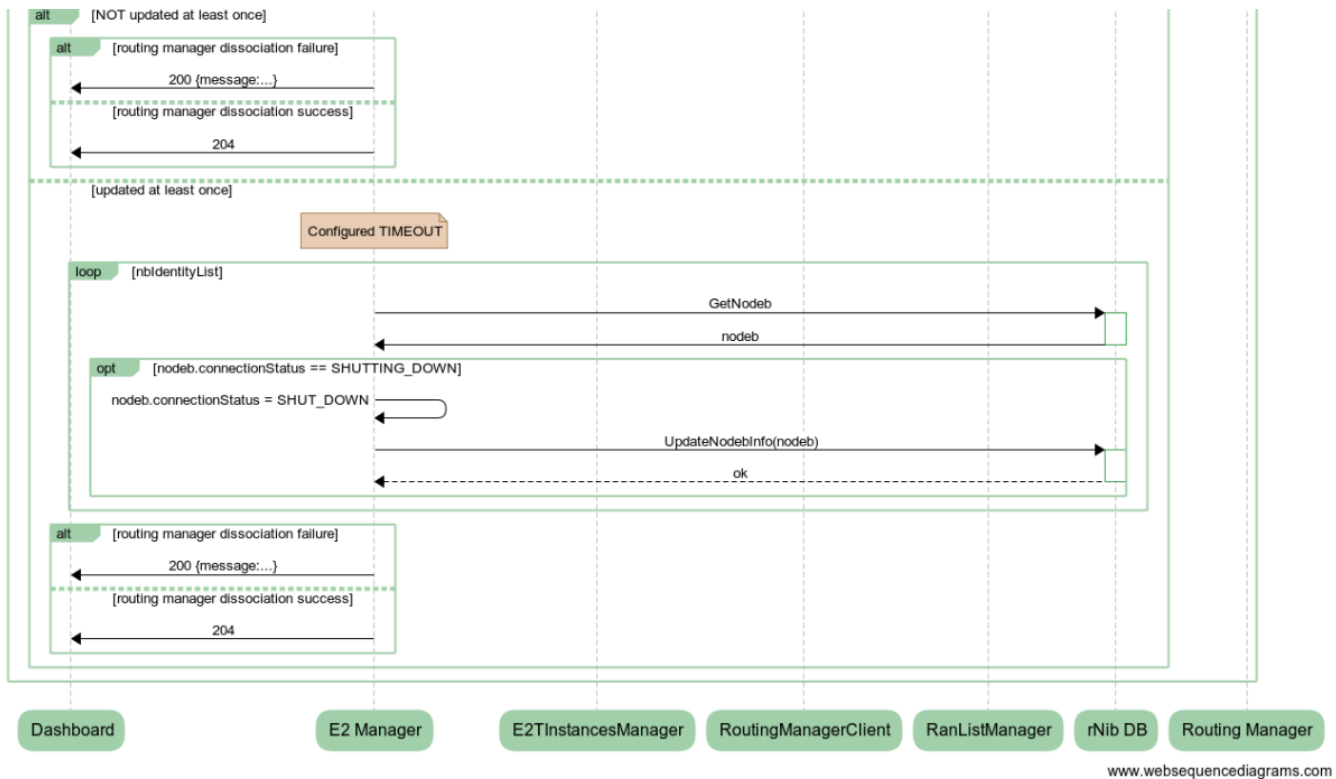
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Red Button REST API

- Similarly, get nbidentity list from memory instead of DB

Red Button flow





RnibWriter Changes

Modify

We shall modify the following methods:

- SaveNodeb(nbIdentity *entities.NbIdentity, nodebInfo *entities.NodebInfo) error
 - Change signature to: SaveNodeb(nodebInfo *entities.NodebInfo) error
 - Modify implementation:
 - Remove UNKNOWN nodeType handling (reason: setup is now deterministic)
 - Remove save nbIdentity code - it would be called sequentially externally
- RemoveEnb(nodebInfo *entities.NodebInfo) error
 - Modify implementation:
 - Delete remove nbIdentity code - it would be called sequentially externally

Add

```

AddNbIdentity(nodeType entities.Node_Type, nbIdentity *entities.NbIdentity) error
UpdateNbIdentities(nodeType entities.Node_Type, oldNbIdentities []*entities.NbIdentity, newNbIdentities []*entities.NbIdentity) error
RemoveNbIdentity(nodeType entities.Node_Type, nbIdentity *entities.NbIdentity) error
  
```

RnibReader Changes

Modify

We shall modify the following methods:

- GetListNodebIds() ([]*entities.NbIdentity, error)
 - Remove UNKNOWN nodeType handling (reason: setup is now deterministic)

Optimization suggestions

- Instead of managing a **SET** in REDIS DB, manage a **HASH** (read more: <https://redis.io/topics/data-types> | <https://redis.io/topics/memory-optimization>)