```
nd_comp_init_thm  THM

⊢  ∀NDA:NDA(Alph;St). NDA([<I(NDA),[]>])⊢ I(NDA)
| by Unfold `nd_valcom` 0 THEN Unfold `nd_comp_init` 0
|
|\
| 1. Alph : Type
| 2. St : Type
| 3. NDA : NDA(Alph;St)
| ⊢  I(NDA) = 1of(hd([<I(NDA),nil>]))  by Reduce 0
|
|\
| 1. Alph : Type
| 2. St : Type
| 3. NDA : NDA(Alph;St)
| 4. i : ℕ(||[<I(NDA),nil>]||-1)
| ⊢  δNDA
|    (1of([<I(NDA),nil>][i])
|    ,hd(rev(2of([<I(NDA),nil>][i])))
|    ,1of([<I(NDA),nil>][(i+1)]))  by Reduce 4
|
|\
| 1. Alph : Type
| 2. St : Type
| 3. NDA : NDA(Alph;St)
| 4. i : ℕ(||[<I(NDA),nil>]||-1)
| ⊢  2of([<I(NDA),nil>][(i+1)]) = rev(tl(rev(2of([<I(NDA),nil>][i]))))
|   by Reduce 4
|
|\
| 1. Alph : Type
| 2. St : Type
| 3. NDA : NDA(Alph;St)
| ⊢  ||[<I(NDA),nil>]|| ∈ ℤ  by Reduce 0
|
|\
| 1. Alph : Type
| 2. St : Type
| 3. NDA : NDA(Alph;St)
| ⊢  1of(hd(rev([<I(NDA),nil>]))) = I(NDA)
|   by RecUnfold `reverse` 0 THEN Reduce 0
|
.\
. 1. Alph : Type
. 2. St : Type
. 3. NDA : NDA(Alph;St)
. ⊢  2of(hd(rev([<I(NDA),nil>]))) = nil
.   by RecUnfold `reverse` 0 THEN Reduce 0
END
```