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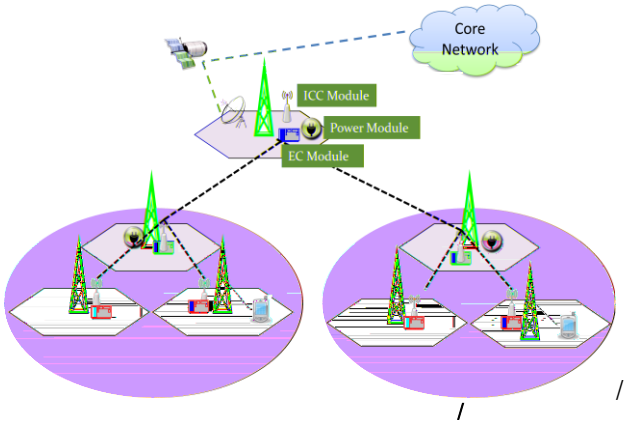

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1.3 CCN /

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(Forwarding Tree) [7]

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Given a forwarding tree *T(V, E), D, P, S* where

- ={ |=1,2,…, is the set ofsurvival base stations and isolated base stations.
  - ■ 1 is the root node that has an external link (survival base station).
- ={ | is the link of (,) and , }
- ={ | is the traveling time of (,) and , }
- ={ |s is a permutation of , =1,…, !} is the set of CCN construction schedules.
- ={ ( )| ( ) is the time at which node has be repaired in the schedule and , }
- ={ ( )|=1,…, , +}, ( ) is the profit of , if node is constructed at time , = ( ) .

The CCN deployment scheduling antecessor constrained problem is to find , such that

Maximize Σ ( ) =Σvi (( ))

Subject to must be constructed before , if is the antecessor of .

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CCNDS-AC

CCNDS-UC

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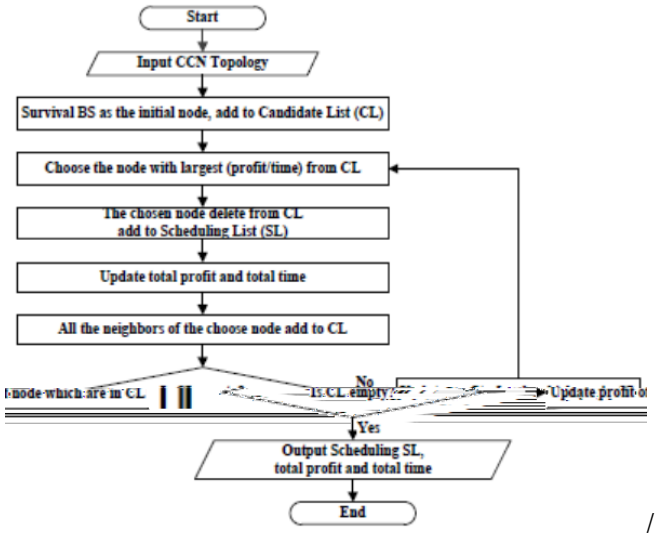
Given a forwarding tree *T(V, E), D, P, S* where

- ={ |=0,1,2,…, is the set ofsurvival base stations and isolated base stations.
  - ■ 1 is the root node that has an external link (survival base station).
  - ■ v0 is the CCN headquarter
- ={ | is the link of (,) and , }
- ={ | is the traveling time of (,) and , }
- ={ |s is a permutation of , =1,…, !} is the set of CCN construction schedules.
- ={ ( )| ( ) is the time at which node has be repaired in the schedule and , }
- ={ ( )|=1,…, , +}, ( ) is the profit of , if node is constructed at time , = ( ) .

The CCN deployment scheduling antecessor constrained problem is to find , such that

Maximize Σ ( ) =Σvi (( ))



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3.2 DS-UCB

Deployment Scheduling Unconstrained Backtrack Algorithm (DS-UCB) 些 CCNDS-UC

Backtracking

CCN

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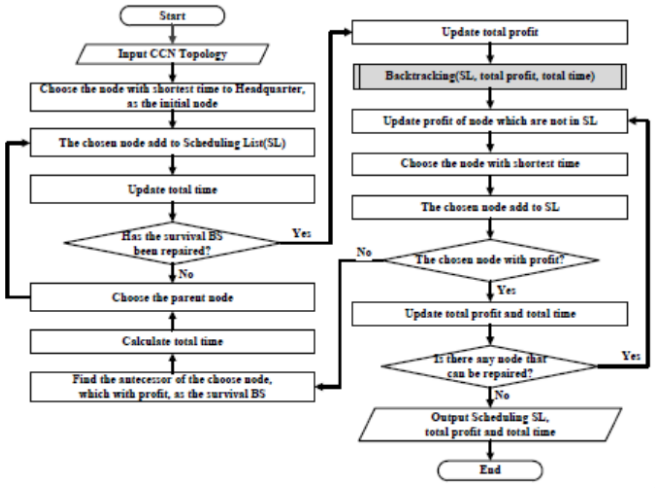

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DS-ACG DS-UCB [6]

DS-G CCN

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[6]

DS-ACG DS-UCB

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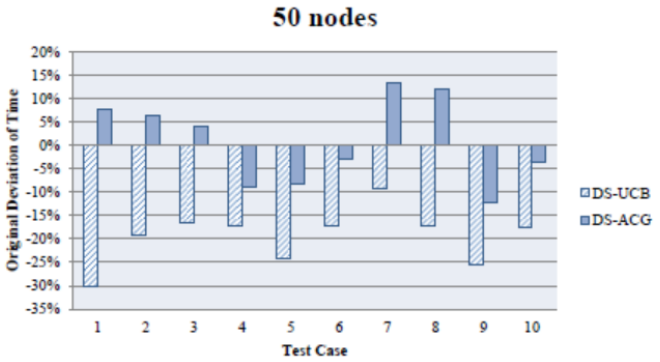
DS-ACG DS-UCB DS-ACG DS-UCB

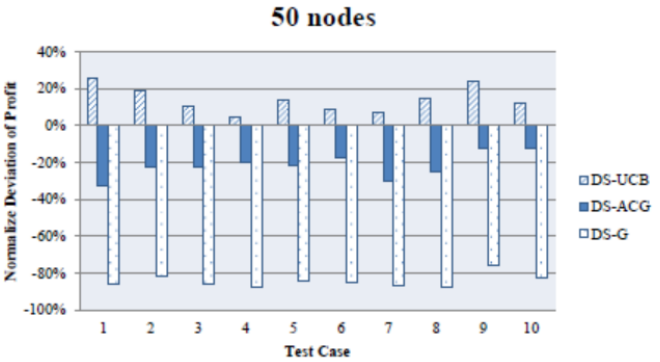
DS-UCB

19.4% ( )



v p/St p /uc t/D/ st 8/

16.66%



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DS-ACG

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G pseudo optimal solution DS-ACG CCN

Normalize Deviation of Profit DS-G CCN

52.67%

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(Contingency Cellular Network CCN)

CCN

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Single Machine Scheduling Problem

NP-Hard 何

DS-ACG DS-UCB

DS-ACG CCN

DS-UCB

DS-ACG DS-UCB

DS-G DS-UCB

19.4%

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) CCN

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