

SON in 3GPP Release-8

Self-configuration

Three stages of SON

Self-Configuration

- Plug and Play (PnP)
- Faster Rollout
- Consistency
- Licensees, Hardware Inventory and Software build
- Efficient resource utilization

Self-Optimization

- Mobility Robustness Optimization (MRO)
- Mobility Load Balancing (MLB)
- Minimization of Drive Testing (MDT)
- Fast and proactive parameter optimization
- Increased Network performance

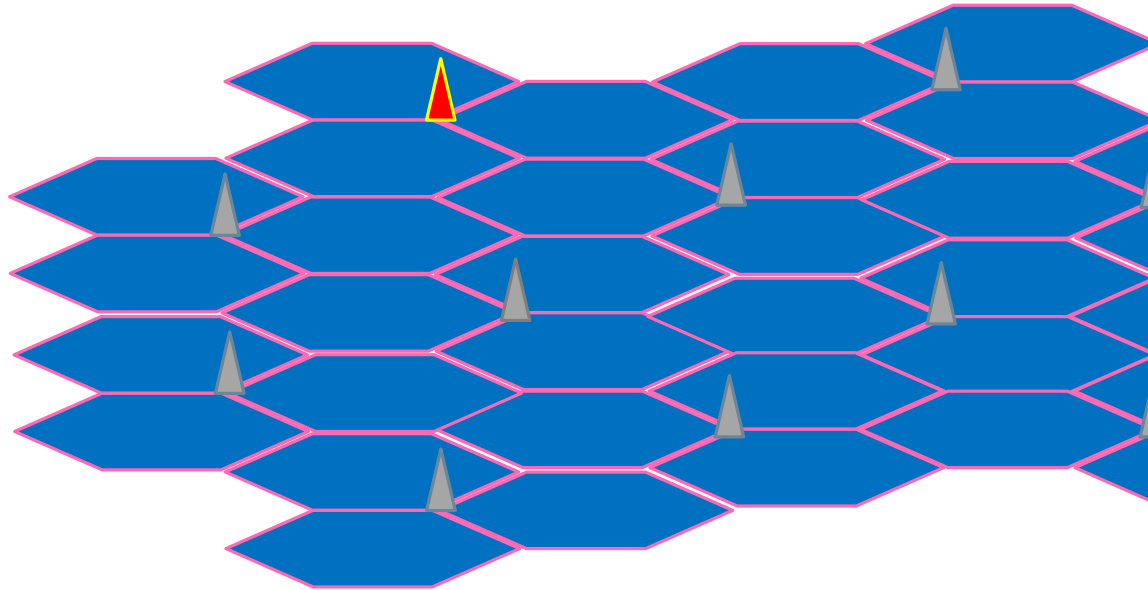
Self-Healing

- Fast, autonomous failure mitigation
- Continuous performance monitoring
- Faster Network maintenance
- More efficient resource utilization, less effort

SON Features in Release-8

- Release-8 focused on eNodeB self-configuration.
- The following features have been defined in Rel-8
 - Automatic Neighbour Relationship (ANR) management
 - Automatic Physical Cell Identity (PCI) assignment
 - Automatic Inventory
 - Automatic Software download
 - Mobility Load Balancing (MLB)
- ANR and MLB will be discussed in detail in future videos

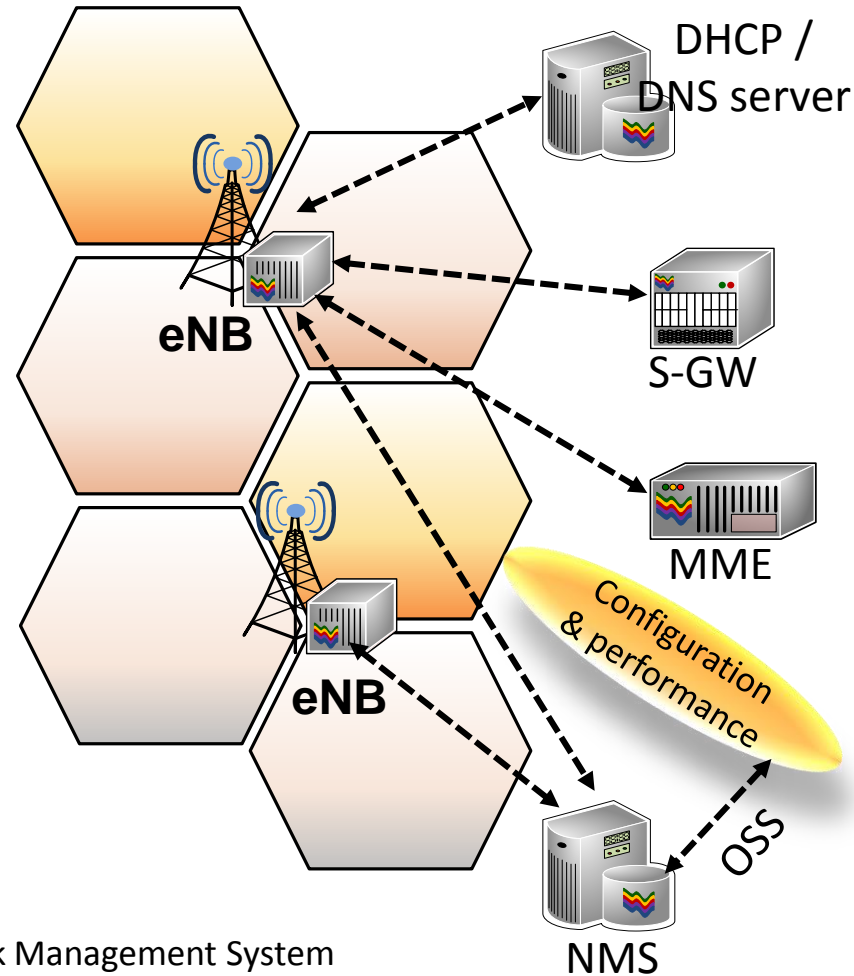
Self-Configuration Example



- When eNodeB is switched on for the first time, it requires minimal information as following:
 - Domain name of NMS
 - Domain name of its MME's
 - Domainname of S-GW
- eNodeB contacts the NMS:
 - Downloads the software (if required)
 - Download configuration parameters
 - TAC, PLMN identities, global cell id, power info
 - The Physical cell Id can be assigned or automatic

NMS – Network Management System
MME – Mobility Management Entity
S-GW – Serving Gateway

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- eNodeB contacts the NMS:
 - Downloads the software (if required)
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 - TAC, PLMN identities, global cell id, power info
 - The Physical cell Id can be assigned or automatic
- Run S1 setup to establish connection with MME's

NMS – Network Management System
MME – Mobility Management Entity
S-GW – Serving Gateway

3GPP SON Specifications

- 3GPP TS 32.500: Self-Organizing Networks (SON); Concepts and requirements
- Self-Configuration
 - 3GPP TS 32.501: Self-configuration of network elements; Concepts and requirements (Specific use cases for Self Establishment of a new eNodeB)
 - 3GPP TS 32.511: Automatic Neighbour Relation (ANR) management; Concepts and requirements
- Self-Optimization
 - 3GPP TS 32.521: Self-Organizing Networks (SON) Policy Network Resource Model (NRM) Integration Reference Point (IRP); Requirements
 - Also, TS 32.522, TS 32.523, TS 32.525, TS 32.526
- Self-Healing
 - TS 32.541: Self-Organizing Networks (SON); Self-healing concepts and requirements

Thank You

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