

# 3GPP SON Series: SON in 3GPP Release-9 *Self-optimization*

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# Three stages of SON

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## 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

# Self-Optimization Use Cases

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- Support for a centralized optimization entity
- Neighbour list optimization
- Interference control
- Handover parameters optimization
- QoS-related parameters optimization
- Load balancing
- Common channels optimization
- Radio parameters optimization for home nodes
- Transport parameters optimization
- Routing optimization
- Energy saving
- SON in core networks

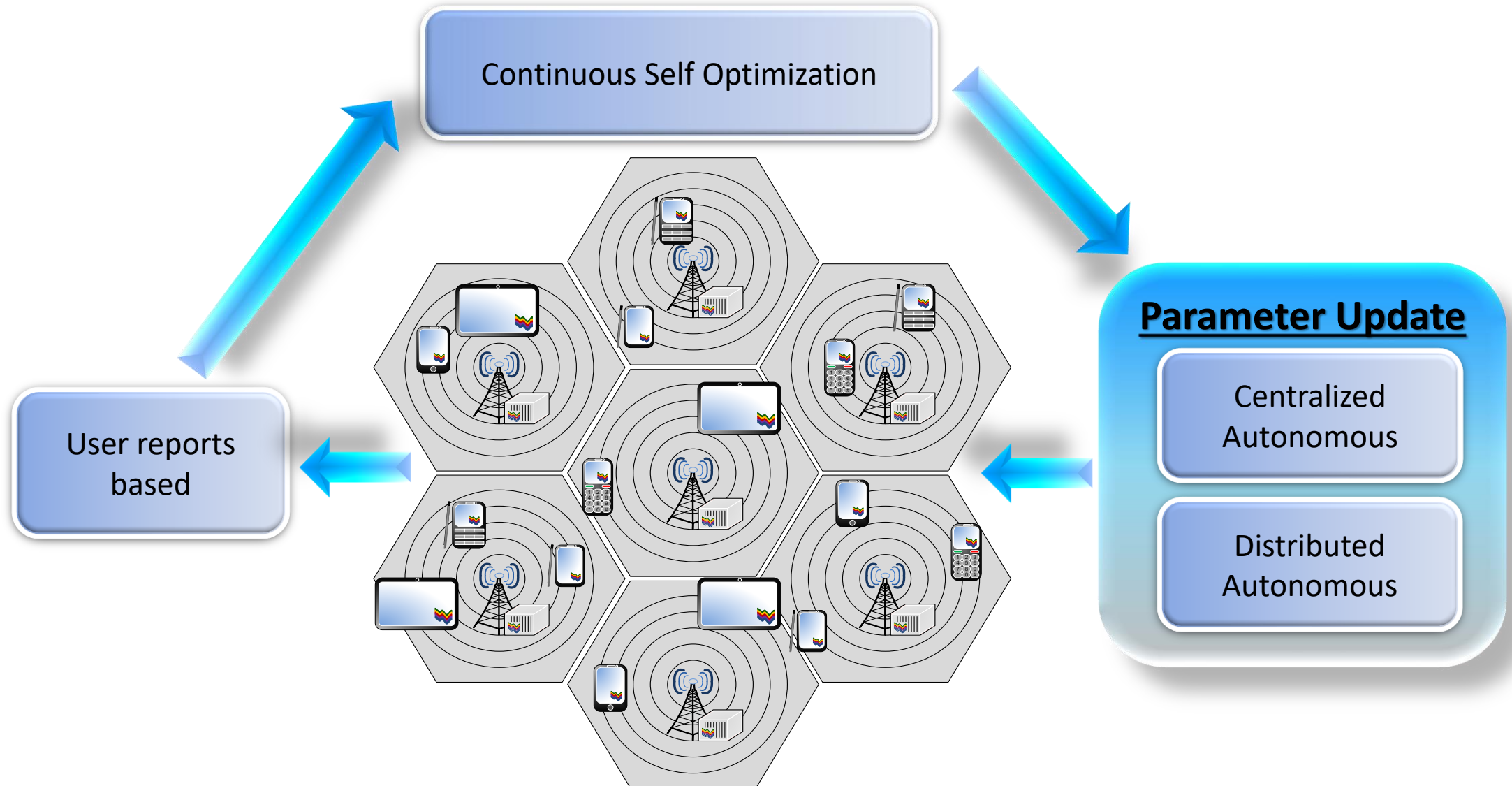
Source: Ericsson SON Workshop, 2012

# SON Features in Release-9

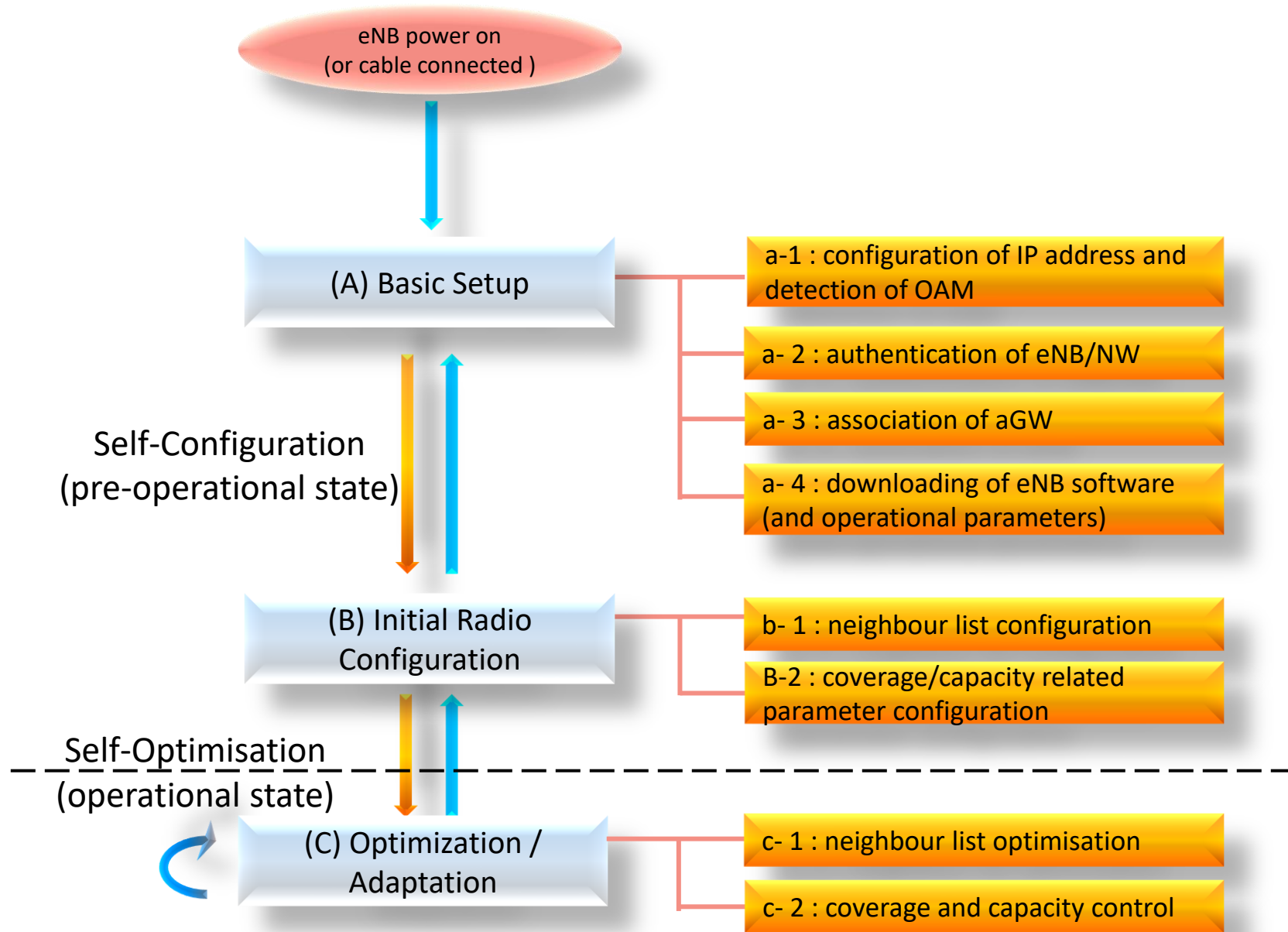
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- Release-9 has been focused mainly on Network Optimization procedures.
- The following features have been defined in Rel-9
  - Mobility Robustness (MRO) and Handover Optimization (HO)
  - RACH Optimization
  - Load Balancing Optimization
  - Inter-Cell Interference Co-ordination (ICIC)
- Load Balancing Optimization was just discussed as part of MLB
- ICIC was covered earlier as well

# How does Self-Optimization work?



# Self-configuration / Self-optimization support and inter- operability



# References and Further Reading

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- From 4G to 5G: Self-organized Network Management meets Machine Learning by Jessica Moysen and Lorenza Giupponi ([link](#))
- Self-Organizing Networks (SON) in 3GPP Long Term Evolution by Sujuan Feng and Eiko Seidel, Nomor Research ([link](#))
- Self Organizing Networks for 3GPP LTE by Aderemi A. Atayero, Oluwadamilola I. Adu, and Adeyemi A. Alatishe ([link](#))
- 3G4G: Self-Organizing Networks / Self-Optimizing Networks ([link](#))
- The 3G4G Blog: SON ([link](#))

# Thank You

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