

OpenSAF™

The Open Service Availability Framework



GOAHEAD

OpenSAF4.0 Cluster Membership Service

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24-5-2010
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Presentation Outline

- What is the need for rewriting CLM in OpenSAF4.0
- Features of OpenSAF4.0 CLM
- Functional Components CLM
- CLM operational Flow in PLM enabled Cluster
- CLM operational Flow in non PLM Cluster
- CLM usage in OpenSAF subsystems

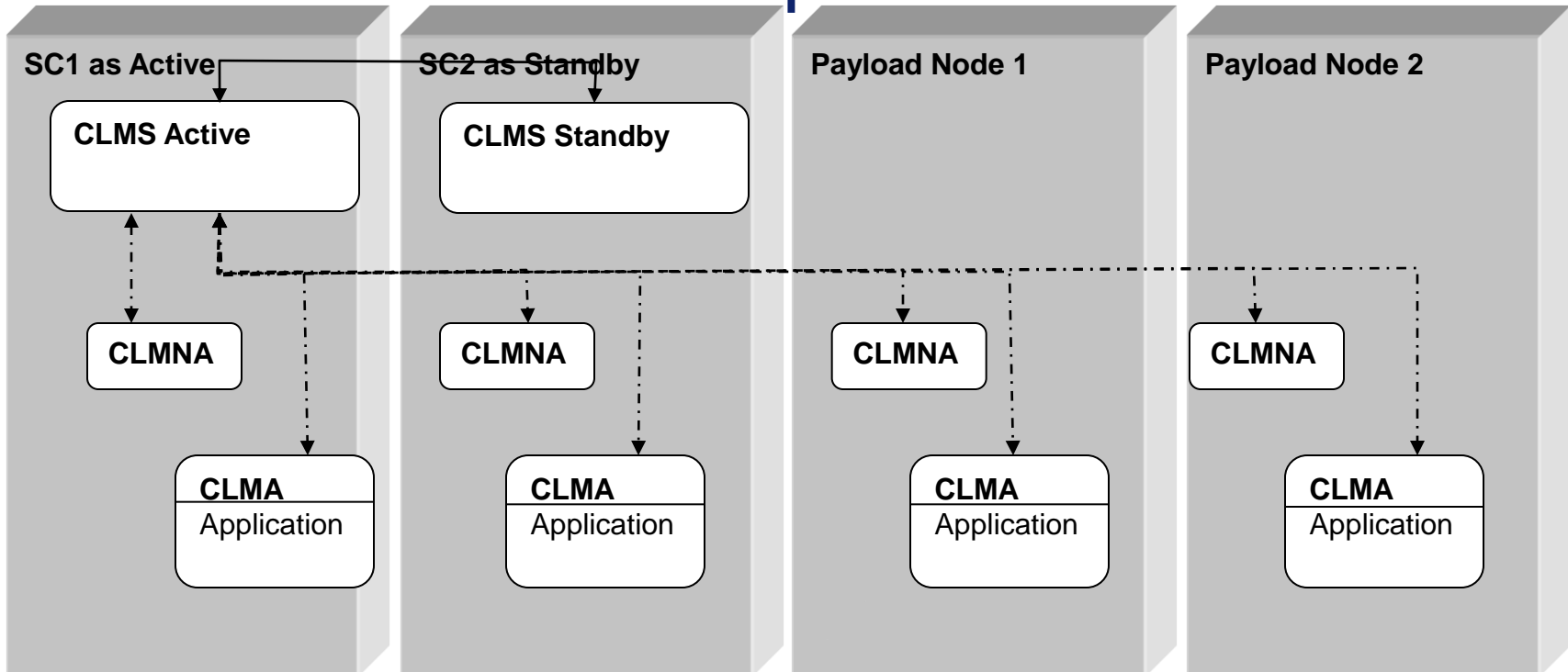
Need for rewriting CLM in OpenSAF4.0

- In OpenSAF3.0 cluster membership discovery is based on the heartbeating between Availability service parts (Avd – Avnd)
- Availability Service is a combined implementation of AMF and CLM.
- With this implementation Administrator can not have independent CLM node and AMF node view.
- Can not Support AMF node restarts, Admin operations on independent CLM nodes.

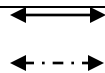
Features of OpenSAF4.0 CLM

- Full Compliance to CLM B.04.01
- Supports CLM node discovery in PLM and Non PLM environments.
- Discovery of the PLM enablement in the system through EE configuration in the imm.xml

Functional Components of CLM

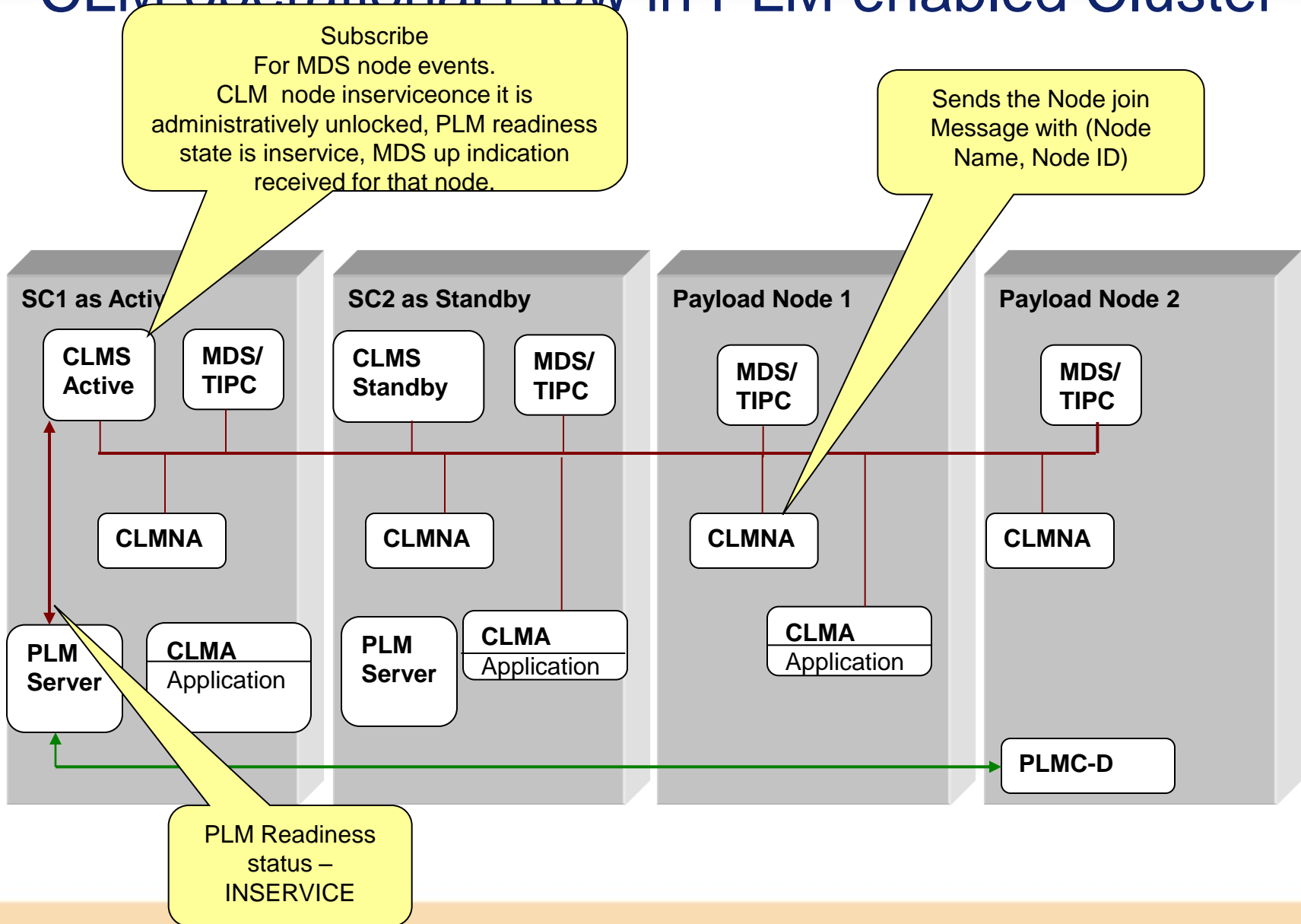


CLMS:CLM Server
CLMA:CLM Agent
CLMNA: CLM Node Agent
SC: System Controller



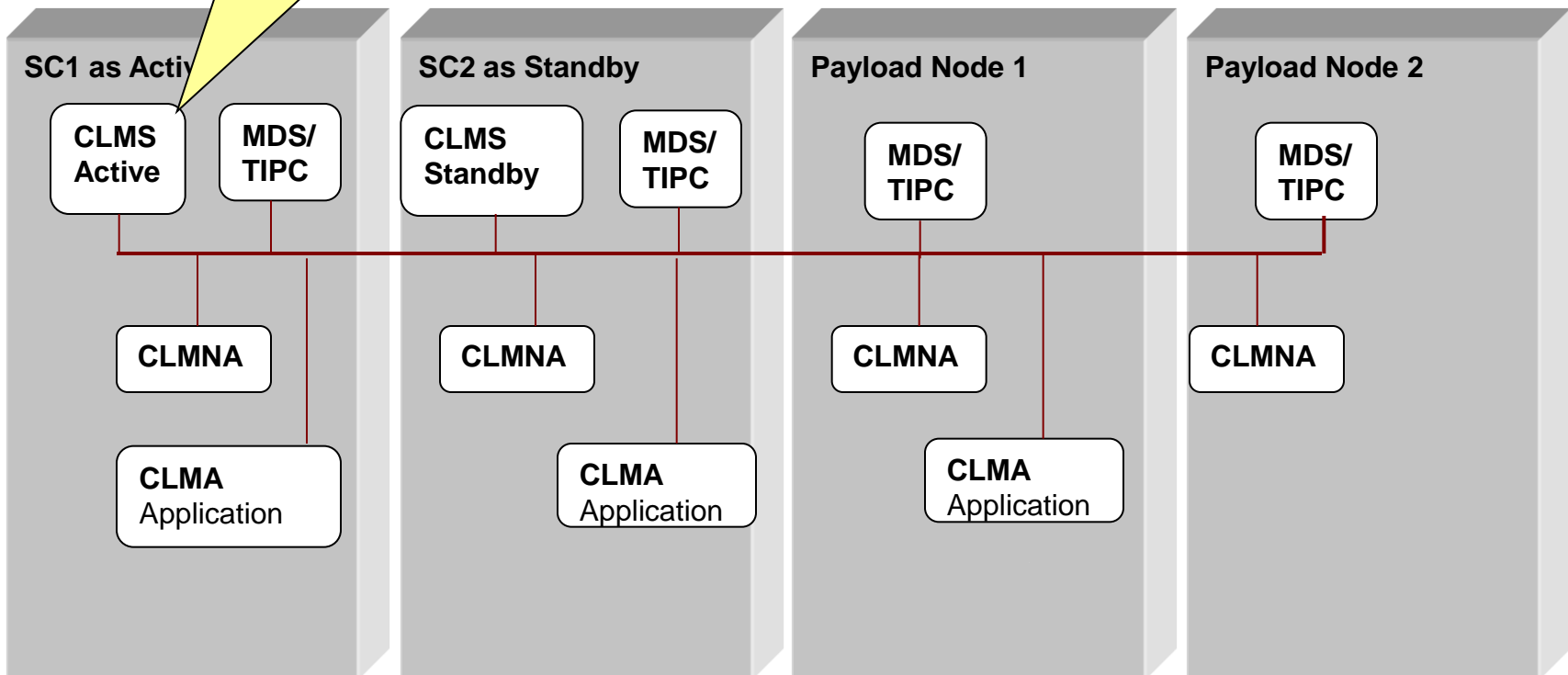
Communication Path (CLMSv)
Communication Path (MDS/TIPC)

CLM operational Flow in PLM enabled Cluster



CLM operational Flow in Non PLM Cluster

Subscribe
For MDS node events, CLM node is
administratively unlocked.



CLM usage in OpenSAF subsystems

- All the other SAF services are CLM subscribers.
- Each OpenSAF service subscribe to local node. It provides the node availability information to all the agents on the node.
- Agents provide service to the applications only if the node is part of the cluster.
- AMF Director and AMF node Director subscribes to the CLM subscription Callbacks. CLM tracking is initiated when the controller node gets Active Role. When Avd goes to quiesced state it calls track_stop.
- gracefully terminate all services on the effected node.
(SA_CLM_CHANGE_COMPLETED, LEAVE)
- If it is a abrupt node leaving then failover for all services on that node is initiated by AMF.

Thank You!