

LISP Single-Hop DHT Mapping Overlay

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[draft-cheng-lisp-shdht-01](#)

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What's LISP SHDHT?

- LISP SHDHT is a LISP Control Plane proposal based on DHT strategy
 - i.e., a mapping database provides mapping information lookup service for sites running LISP
- Properties of DHTs
 - Self-Configuration
 - Self-maintenance
 - Scalability
 - Robustness
- LISP DHT vs ALT
 - According to [“Evaluation of LISP+ALT \(and DHT\) performance \[IETF 75th\]”](#)

What's LISP SHDHT?

- Main Characters of LISP SHDHT

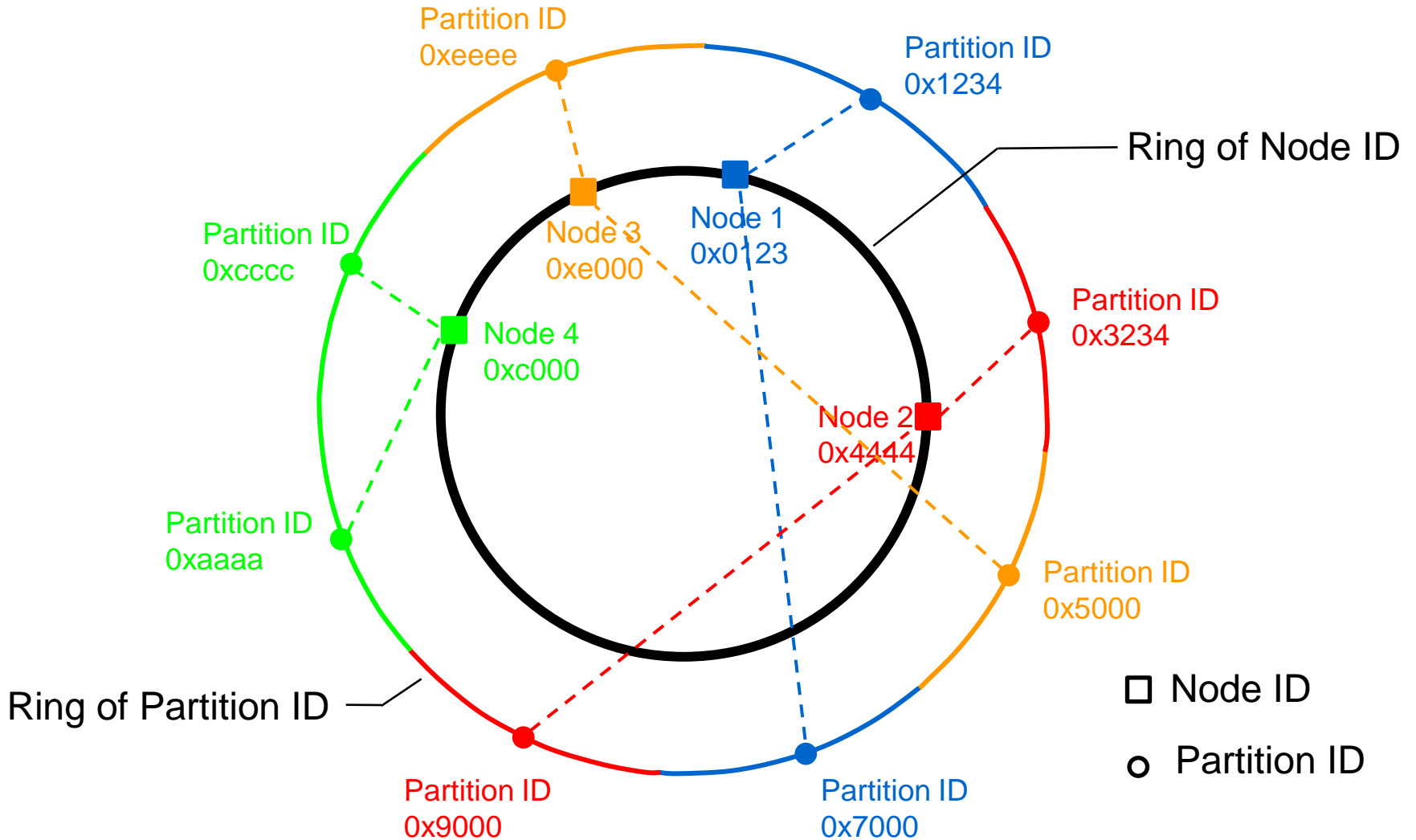
- ◆ **Single Hop — Lookup Efficiently**

- Each SHDHT Node maintains routing information for all other SHDHT Nodes.

- ◆ **Load Balance — Avoid Node Overload**

- **Node ID:** Each SHDHT node has a unique Node ID which identifies the physical node.
 - **Partition ID:** Each SHDHT node could maintain multiple Partition IDs which represent the assignment of hash space.

SHDHT Overview

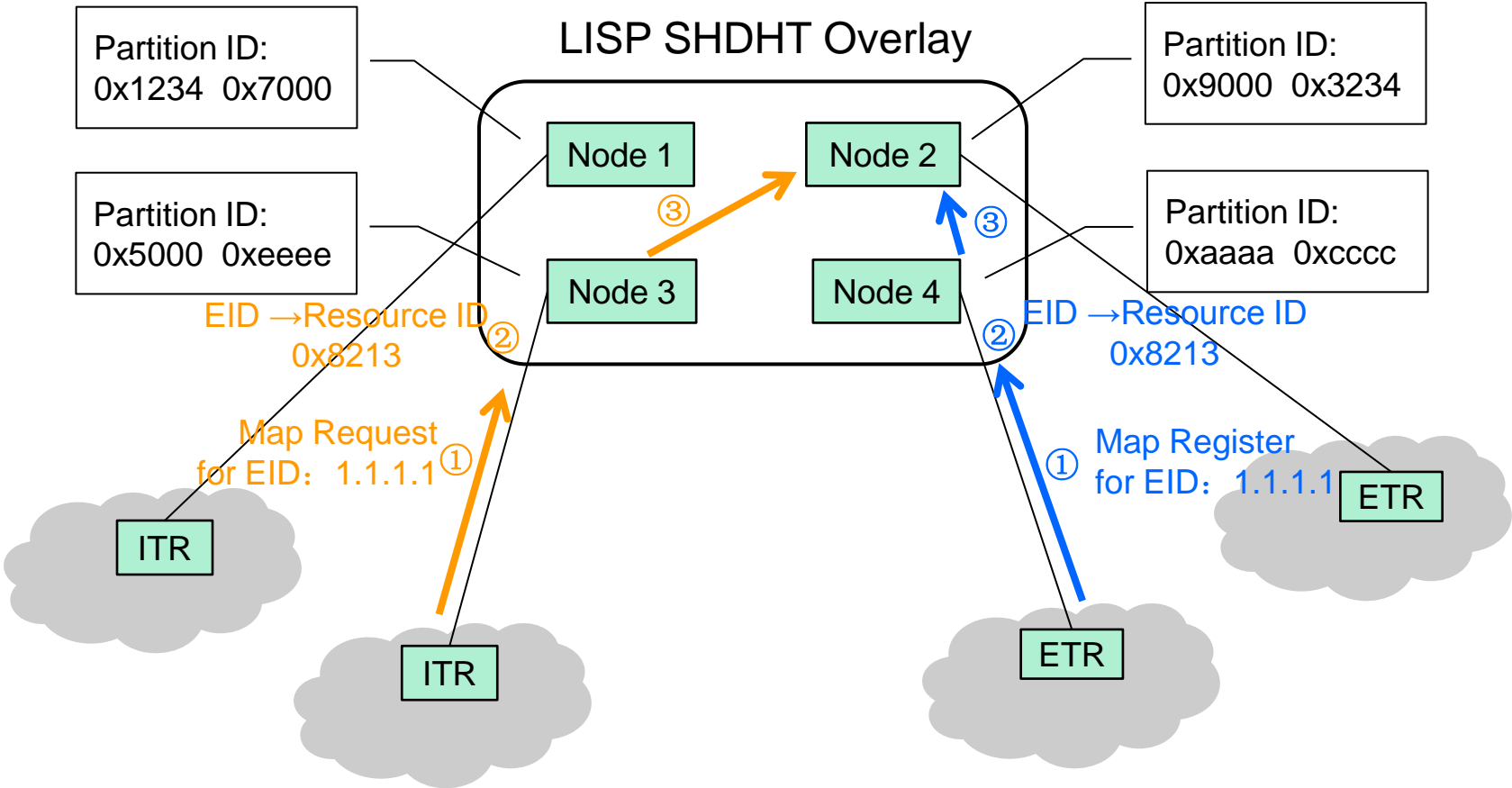


Node Routing Table

Partition ID	Node ID	Node Address
0x1234	0x0123	10.0.0.2:2000
0x3234	0x4444	10.0.0.3:2000
0x5000	0xe000	10.0.0.4:2000
0x7000	0x0123	10.0.0.2:2000
0x9000	0x4444	10.0.0.3:2000
0xaaaa	0xc000	10.0.0.5:2000
0xcccc	0xc000	10.0.0.5:2000
0xeeee	0xe000	10.0.0.4:2000

Each node maintains the same Node Routing Table which contains routing information for all SHDHT Nodes located in the same SHDHT overlay.

LISP SHDHT Operations



Next Steps

- Deployment Considerations
- Security Considerations
- LISP SHDHT Efficiency Verification

- Comments/Feedback?