

Consensus Roadmap for Radix Public Network

Last updated: Thursday, February 28, 2020

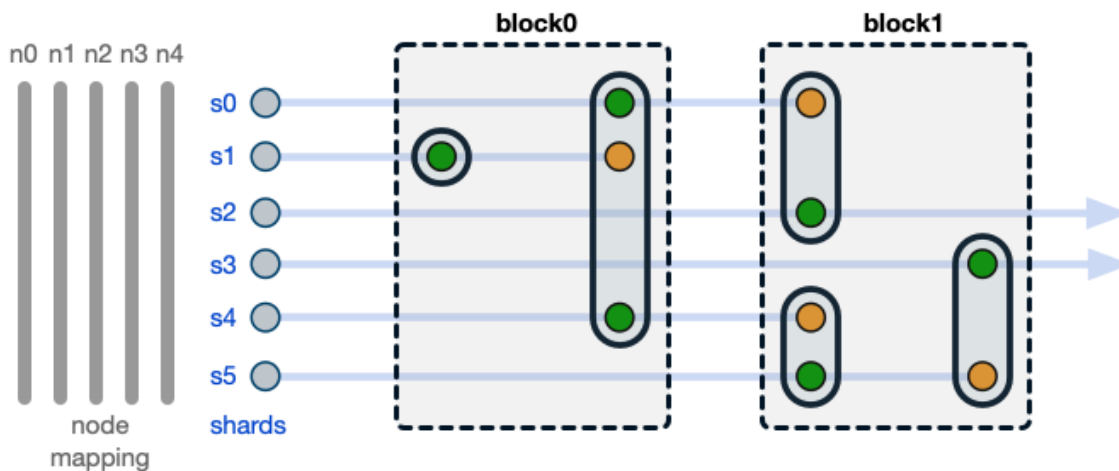
Cerberus is the consensus protocol designed for the Radix Public Network. The full Cerberus protocol will enable a parallelized network capable of very high transaction throughput. Our first Radix Public Network release, RPN-1, will not implement the full Cerberus protocol, but instead a simplified, unsharded version that will allow us to deploy a network with maximum confidence.

(An overview of the development plan for RPN-1 can be found [here](#).)

Our current plan is to follow RPN-1 with network releases RPN-2 and RPN-3 that will progressively layer in the full functionality and throughput capability of Cerberus. This roadmap briefly summarizes the primary consensus design features of these three anticipated network releases. A roadmap for application layer functionality using the Radix Engine is independent of the consensus roadmap and is not considered here.

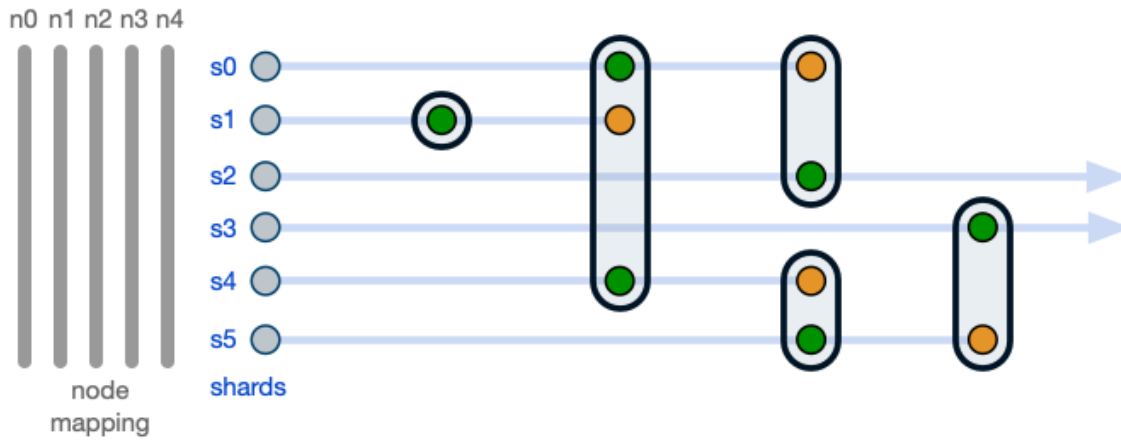
This roadmap is a current snapshot of thinking and is very likely to change in the course of development.

RPN-1 (in progress)



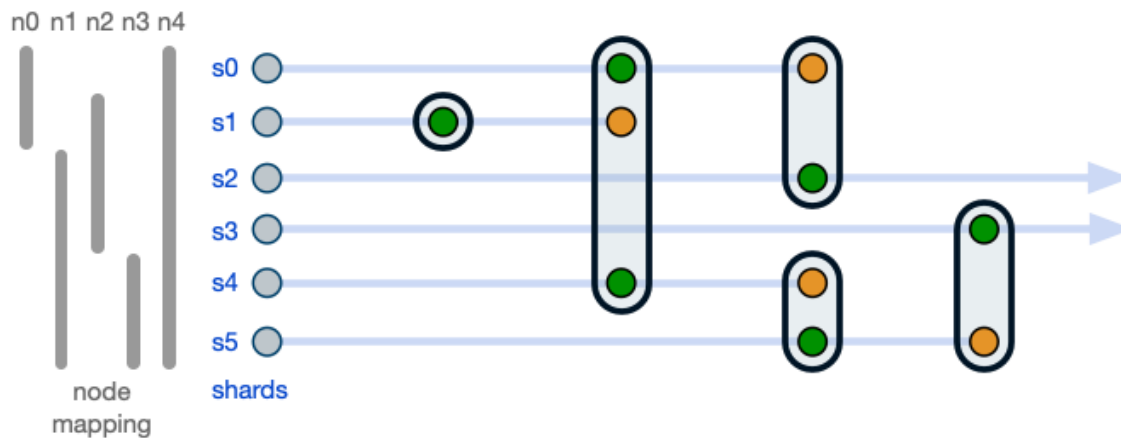
Goal	Deploy BFT 3-phase commit foundation for Cerberus
Data Structure	Functionally unsharded, with Atoms (structured for later sharding) grouped into global blocks
Validator Node Set Size	Fixed, minimum 100
Node Mapping	All nodes mapped to all shards
Sybil Protection	DPoS

RPN-2



Goal	Deploy sharding of Atoms within Cerberus, increase throughput
Data Structure	<i>Fully sharded to introduce parallelization of consensus</i>
Validator Node Set Size	Fixed, minimum 100
Node Mapping	All nodes mapped to all shards
Sybil Protection	DPoS

RPN-3



Goal	Deploy full Cerberus, achieve linear scalability
Data Structure	Fully sharded, as in RPN-2
Validator Node Set Size	<i>Unlimited</i>

Goal	Deploy full Cerberus, achieve linear scalability
Node Mapping	<i>Nodes mapped dynamically</i> to shards for hardware parallelization while maintaining per-shard overlap for security
Sybil Protection	DPoS or potential alternative if available