

Release Themes

Apache Ranger is getting a lot of momentum in the open source community, and 0.5 release promises to be a bigger step towards the vision of providing comprehensive security for Hadoop. The 0.5 release is focused on the following areas

Release Theme	Description	Benefit to users	Apache JIRA#	Documentation Link
Extensibility - Ranger Stacks	Complete re-architecting of Ranger to enable adding new plugins easily using JSON specification	Easily add custom plugins and use Ranger to centralize security across multiple datastores	 RANGER-203 - Framework to extend Ranger security to new components in a pluggable way RESOLVED	Ranger Stacks - How to add a custom plugin?
Hooks for dynamic access control	Users need to support dynamic access control conditions such as geo, time etc	Users can add dynamic rules in addition to existing static RBAC policies. Dynamic controls give users greater flexibility in managing security policies, also provides a framework for potentially achieving attribute based access control (ABAC)	 RANGER-256 - Enable pluggable way to add context data to request RESOLVED	
Authorization and auditing support for YARN	Provide ability to manage queue level authorization within Yarn and also audit jobs submitted to Yarn queue	Users can manage Yarn ACLs along with other Hadoop components in a single UI. Yarn is defacto standard for resource management for big data, and more applications are being enabled to run over Yarn. Ranger support for Yarn adds a layer of security	RANGER-248	
Authorization and auditing support for Kafka	Manage Kafka authorization policies in Ranger and also audit Kafka	Like Yarn, users can manage Kafka security through the centralized security console that other Hadoop components are using. Kafka is being adopted for real time streaming use cases and Ranger integration for Kafka enables it be adopted faster in security conscious environments.	 RANGER-246 - Add support for Authorization and Auditing of Apache Kafka CLOSED	
Audit Optimization	Couple of things 1. We would want to summarize audit at source, to handle high volume audit scenarios such as in Kafka or HBase 2. Include Policy id in the audit logs	Ranger audit would included audit data from newer integrated components such as Kafka and Solr. With audit summarization, we would be able to manage audit volumes for large event systems like Kafka while still maintaining the traceability required by auditors and compliance teams	 RANGER-276 - Add support for aggregating audit logs at source CLOSED	
Metadata tags and tag based policies	As complexity of data increases, it is important to classify and tag data it is coming into Hadoop. This feature provides a method to create security policies based on the metadata tags	Users can classify data as "sensitive" or "PII" and then would be able to create policies in Ranger at a tag level. Ranger can then automatically enforce policies for any resources classified under that tag	 RANGER-274 - Add support for TAG based policies RESOLVED	
Ranger support for HDFS Transparent Encryption	HDFS Transparent was introduced in Hadoop 2.6. The encryption feature included a key provider interface and open source KMS. More details can be found here Ranger would provide an implementation of open source KMS, with credential and keys stored in a server	Users can potentially use HDFS encryption integrated with Ranger KMS in a production scenario, enabling them to identify sensitive data and encrypt them. Encryption adds a layer of security and is a must in many compliance driven environments	 RANGER-247 - Provide scalable/HA Hadoop KMS to support Hadoop TDE RESOLVED	
Query audit stored in HDFS	Currently, Ranger portal provides UI for querying audit data stored in RDBMS. Ranger introduced storage of audit logs in HDFS as part of 0.4 release. In this release, Ranger is moving away from storing audit logs in RDBMS and enabling audit query directly over HDFS data	HDFS storage of audit provides a scalable model for storing audit data and have security built to protect the data. This feature provides users an easy method to query audit logs using Solr	 RANGER-253 - Add support for audit reporting for the data stored in HDFS OPEN	