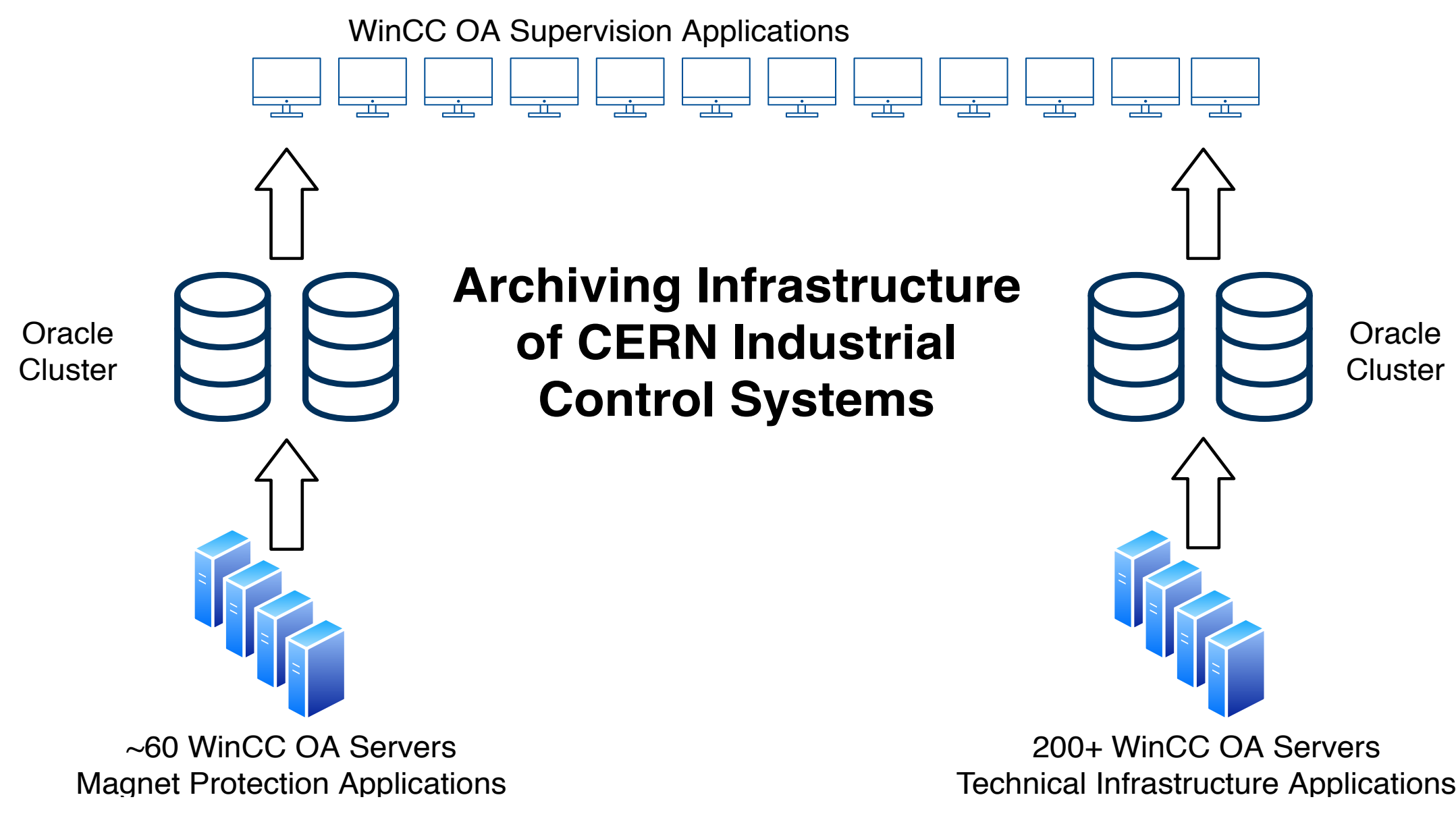


## CONTEXT



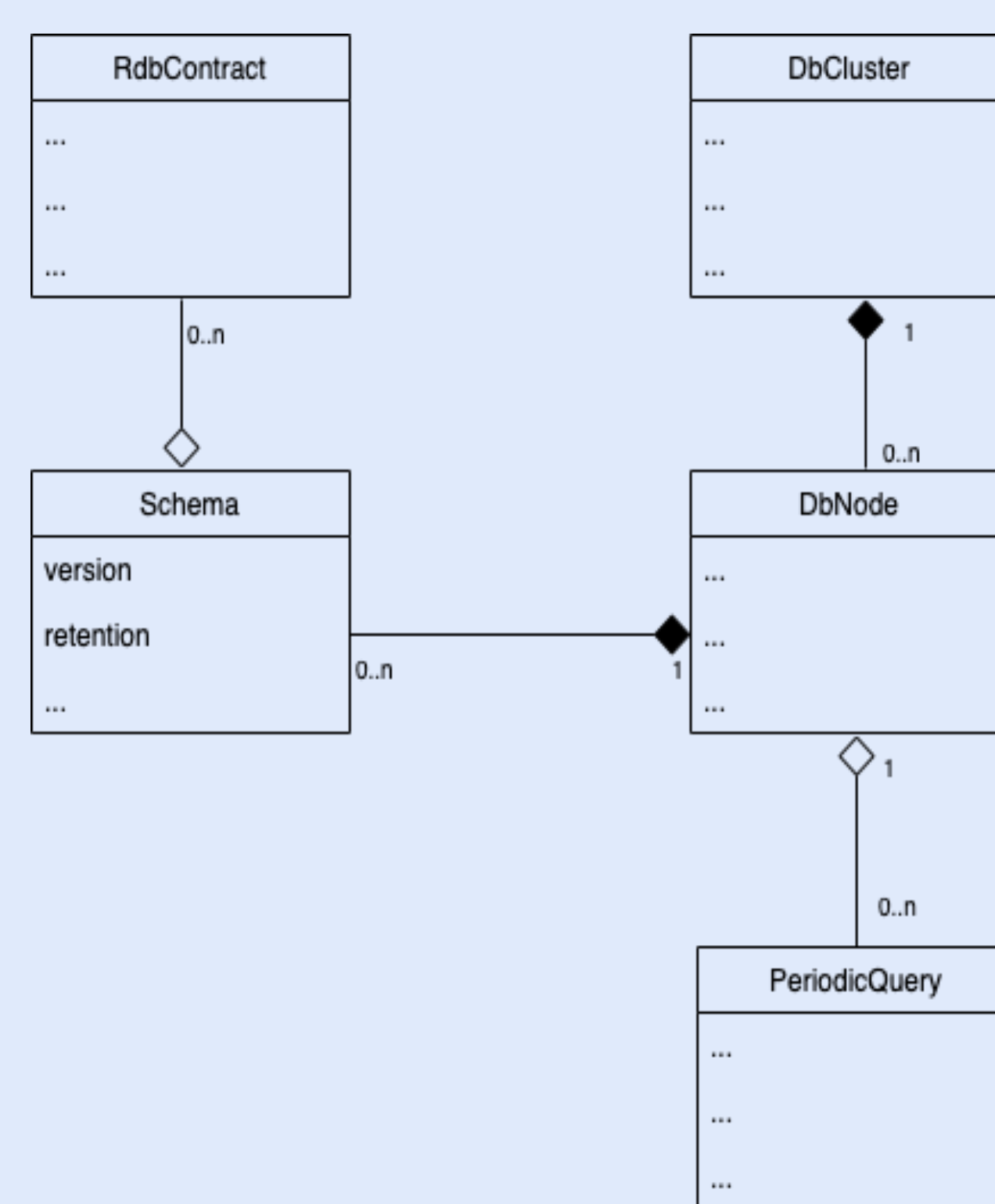
## REQUIREMENTS

- Inventory**
  - List of schemas
  - Schema version
  - PL/SQL packages
  - Archiving groups
  - Retention policy
  - Partition policy
- Configuration**
  - Retention policy
  - Partition policy
- Archiving Contract**
  - Number of data archived per day
  - Contract monitoring
  - Contract modification
- Performance Monitoring**
  - Detection of long standing queries
  - Detection of blocking sessions
  - Detection of schema errors

## APPROACH

- Archiving infrastructure is a "primary process" to monitor
- Need for a supervision application
- Based on software stack developed for industrial control systems (WinCC OA, JCOP, UNICOS)
- Internal know-how, ease of integration to CERN eco-system

## DEVICE MODEL



## DATA ACQUISITION

- Based on WinCC OA CTRL managers
- Dedicated manager to auto-discover schemas on cluster
- Dedicated manager to monitor each DB instance
- Dedicated manager compute and enforce contracts

## INSTANTIATION

- 250+ schemas monitored
- ~15 configuration attributes per schema
- 135+ archiving contracts
- 10+ periodic queries for performance monitoring
- 5 CTRL managers to perform the inventory, performance and contract monitoring

## MONARC HMI



## USE CASE EXAMPLES

### SCHEMA TUNING

- Identification of schemas with long standing queries
- Analysis of problematic queries (types, properties)
- Configuration of different archive groups to improve performances
- Optimization of partition schemes depending on the type of queries

### MASS CONFIGURATION

- All CV applications need to extent their data retention period from 1 year to 3 years
- 30+ Oracle schemas impacted requiring 60+ individual SQL queries
- Use the inventory and configuration modules of MONARC to update the schemas in a couple of clicks

### NOISY APPLICATIONS

- Archiving contract consistently violated by one application
- Most of the archived events come from a handful of signals
- Creation of a specific archive group for the *noisy* signals
- Definition of custom retention policy for the new group to limit the total amount of data