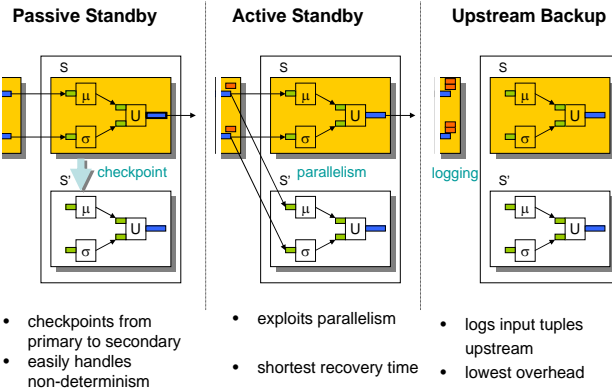


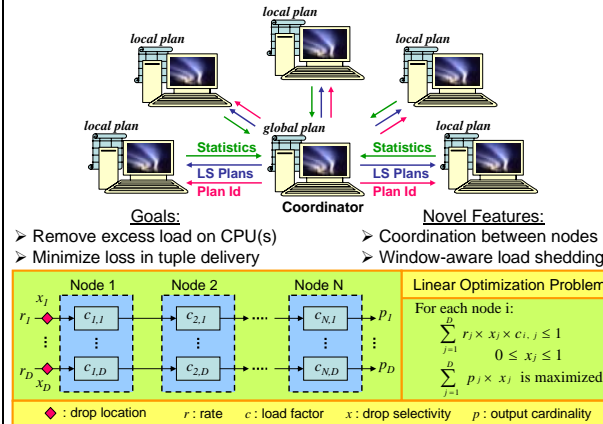
Distributed Operation in the Borealis Stream Processing Engine

D. Abadi, Y. Ahmad, H. Balakrishnan, M. Balazinska, B. Berg, U. Çetintemel, M. Cherniack, J. Hwang, W. Lindner, A. Maskey, O. Papaemmanouil, A. Rasin, E. Ryvkina, M. Stonebraker, N. Tatbul, Y. Xing, S. Zdonik

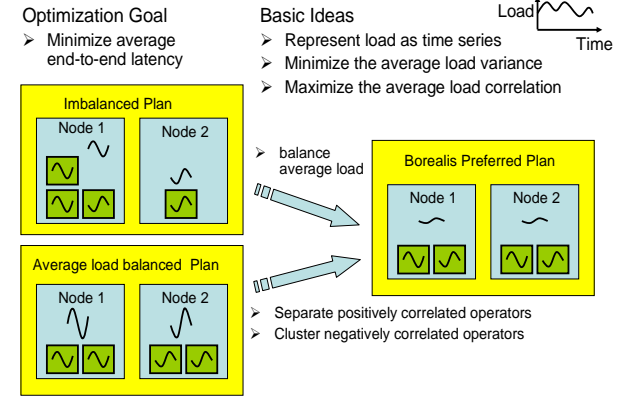
High-Availability Techniques



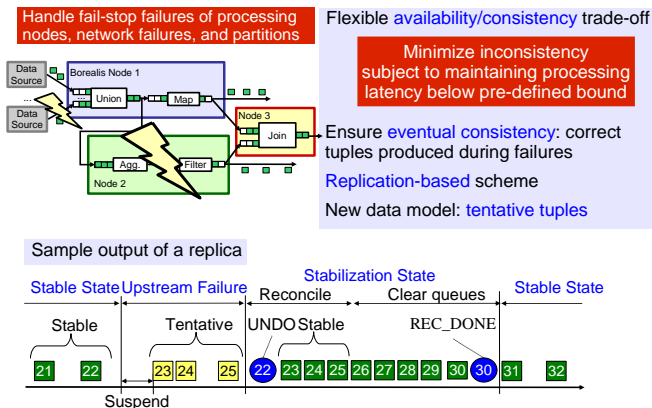
Distributed Load Shedding



Correlation-Based Load Management



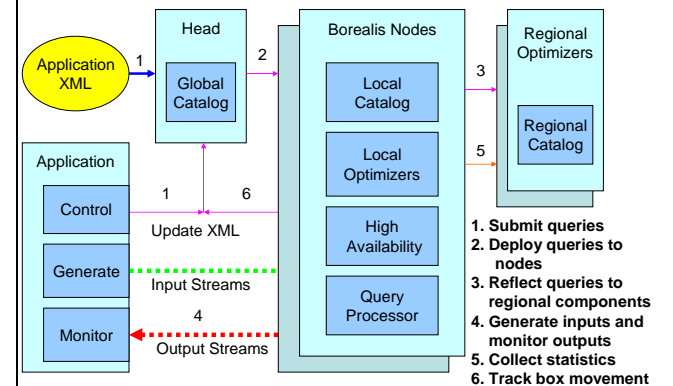
Fault-Tolerance



System Overview

- A distributed stream processing engine
- Dynamic and scalable optimization
 - Load balancing + load shedding
 - Network-aware operator placement + distribution
 - High availability
 - Tolerance to node + network failures
 - Dynamic revision of query results
 - Corrections from sources + from failure recovery
 - Dynamic modification of query networks
 - Content-based dissemination of query results
 - Server and sensor network integration

Architecture



<http://nms.lcs.mit.edu/projects/borealis/>

