



数据技术嘉年华

// Data Technology Carnival

开源 · 融合 · 数智化 — 引领数据技术发展 释放数据要素价值

DM openGauss PolarDB PostgreSQL MongoDB DB2 SQLite
OceanBase GreenPlumCassandra MariaDB Hive HBase Teradata

Memcached Sybase HANA

Aurora

MySQL SQL Server Redshift CouchDB

Oracle RedisDynamoDB Gbase Redshift CouchDB

GoldenDB AIsSQL CynosDB OpenBase QuantumDB

ESGynDB AnalyticDB SequoiaDB ArkDB

UXDB CloudTable TSDB HUABASE HighGoDB

HashData Huayisoft

GreatDB KingDB LongDB ChronusDB RadonDB

MogDB Shentong Megawise TeleDB SinodB

Palisade

TalDB GeminiDB TDengine ArgonDB

PDW HotDB Server OushuDB Gridsum ZETA

skysTSDB Kingwon TrendDB Cedar DragonBase

OSCAR Claims X-DB iBASE HaisqlJmemcached

Oracle MySQL SQL Server Redshift CouchDB

GoldenDB AIsSQL CynosDB OpenBase QuantumDB

ESGynDB AnalyticDB SequoiaDB ArkDB

UXDB CloudTable TSDB HUABASE HighGoDB

HashData Huayisoft

GreatDB KingDB LongDB ChronusDB RadonDB

MogDB Shentong Megawise TeleDB SinodB

Palisade

TalDB GeminiDB TDengine ArgonDB

PDW HotDB Server OushuDB Gridsum ZETA

skysTSDB Kingwon TrendDB Cedar DragonBase

OSCAR Claims X-DB iBASE HaisqlJmemcached

Oracle MySQL SQL Server Redshift CouchDB

GoldenDB AIsSQL CynosDB OpenBase QuantumDB

ESGynDB AnalyticDB SequoiaDB ArkDB

UXDB CloudTable TSDB HUABASE HighGoDB

HashData Huayisoft

GreatDB KingDB LongDB ChronusDB RadonDB

MogDB Shentong Megawise TeleDB SinodB

Palisade

TalDB GeminiDB TDengine ArgonDB

PDW HotDB Server OushuDB Gridsum ZETA

skysTSDB Kingwon TrendDB Cedar DragonBase

OSCAR Claims X-DB iBASE HaisqlJmemcached

Oracle MySQL SQL Server Redshift CouchDB

GoldenDB AIsSQL CynosDB OpenBase QuantumDB

ESGynDB AnalyticDB SequoiaDB ArkDB

UXDB CloudTable TSDB HUABASE HighGoDB

HashData Huayisoft

GreatDB KingDB LongDB ChronusDB RadonDB

MogDB Shentong Megawise TeleDB SinodB

Palisade

TalDB GeminiDB TDengine ArgonDB

PDW HotDB Server OushuDB Gridsum ZETA

skysTSDB Kingwon TrendDB Cedar DragonBase

OSCAR Claims X-DB iBASE HaisqlJmemcached

Oracle MySQL SQL Server Redshift CouchDB

GoldenDB AIsSQL CynosDB OpenBase QuantumDB

ESGynDB AnalyticDB SequoiaDB ArkDB

UXDB CloudTable TSDB HUABASE HighGoDB

HashData Huayisoft

GreatDB KingDB LongDB ChronusDB RadonDB

MogDB Shentong Megawise TeleDB SinodB

Palisade

TalDB GeminiDB TDengine ArgonDB

PDW HotDB Server OushuDB Gridsum ZETA

skysTSDB Kingwon TrendDB Cedar DragonBase

OSCAR Claims X-DB iBASE HaisqlJmemcached

Oracle MySQL SQL Server Redshift CouchDB

GoldenDB AIsSQL CynosDB OpenBase QuantumDB

ESGynDB AnalyticDB SequoiaDB ArkDB

UXDB CloudTable TSDB HUABASE HighGoDB

HashData Huayisoft

GreatDB KingDB LongDB ChronusDB RadonDB

MogDB Shentong Megawise TeleDB SinodB

Palisade

TalDB GeminiDB TDengine ArgonDB

PDW HotDB Server OushuDB Gridsum ZETA

skysTSDB Kingwon TrendDB Cedar DragonBase

OSCAR Claims X-DB iBASE HaisqlJmemcached

Oracle MySQL SQL Server Redshift CouchDB

GoldenDB AIsSQL CynosDB OpenBase QuantumDB

ESGynDB AnalyticDB SequoiaDB ArkDB

UXDB CloudTable TSDB HUABASE HighGoDB

HashData Huayisoft

GreatDB KingDB LongDB ChronusDB RadonDB

MogDB Shentong Megawise TeleDB SinodB

Palisade

TalDB GeminiDB TDengine ArgonDB

PDW HotDB Server OushuDB Gridsum ZETA

skysTSDB Kingwon TrendDB Cedar DragonBase

OSCAR Claims X-DB iBASE HaisqlJmemcached

Oracle MySQL SQL Server Redshift CouchDB

GoldenDB AIsSQL CynosDB OpenBase QuantumDB



中国DBA联盟
All China DBA Union



墨天轮

Memcached Sybase HANA
DM openGauss PolarDB PostgreSQL MongoDB DB2 SQLite
OceanBase GreenPlumCassandra MariaDB Hive HBase Teradata



数据技术嘉年华

KluStron高可用和容灾技术体系

演讲人：丁奇



中国DBA联盟
All China DBA Union



墨天轮

OceanBase GreenPlumCassandra MariaDB Hive Hbase Teradata

Memcached Sybase HANA

Aurora
MySQL SQL Server Redshift
Oracle MySQL SQL Server Redshift
OSCAR Claims X-DB IBASE Haisql Memcached
SkyTSDB Kingwon TrendDB Cedar DragonBase
PDW HotDB Server OushuDB Gridsum ZETA
TaifDB GeminiDB TDengine ArgonDB
Pala
MogDB Shentong TeleDB Sinodb
GreateDB KingDB LongDB ChronusDB RadonDB
UXDB CloudTable TSDB HUABASE HighGoDB
HashData Huayisoft
ESGYNDB AnalyticDB SequoiaDB ArkDB
GoldenDB AllSQL CynosDB OpenBase QuantumDB
Base Kingbase TimesTen
MySQL SQL Server RedshiftSQL H2 LevelDB Percona
Oracle RedisDynamoDB Gbase Redshift CouchDB

LevelDB Percona TBase Kingbase
Sinodb DynamoDB Gbase Redshift CouchDB
GreenPlum DM openGauss PolarDB
TDB Neody Informix OceanBase
Aurora TDSQL H2 Memcached Sybase HANA
Cassandra MariaDB Hive Hbase Teradata
PostgreSQL MongoDB DB2 SQLi

HybridDB Kudu Greenplum

HUABASE HighGoDB Huayisoft

AMADB UXDB CloudTable TSDB CDS

TaurusDB ESGYNDB AnalyticDB SequoiaDB

CynosDB OpenBase QuantumDB ArkDB

TimesTen K-DB GoldenDB AllSQL

HybridDB Kudu Greenplum

LongDB ChronusDB RadonDB

UXDB CloudTable TSDB HUABASE HighGoDB

HashData Huayisoft

ESGYNDB AnalyticDB SequoiaDB ArkDB

GoldenDB AllSQL CynosDB OpenBase QuantumDB

Base Kingbase TimesTen

MySQL SQL Server RedshiftSQL H2 LevelDB Percona

Oracle RedisDynamoDB Gbase Redshift CouchDB

AuroraHive HBase Teradata MogDB

Memcached Sybase HANA

DM openGauss PolarDB DB2 SQLi

OceanBase GreenPlumCassandra MariaDB Hive

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

UXDB UXDB CloudTable B

目录

CONTENTS

01

数据库HA的基础实践

02

跨IDC金融级可用性的挑战

03

Klustron高可用体系

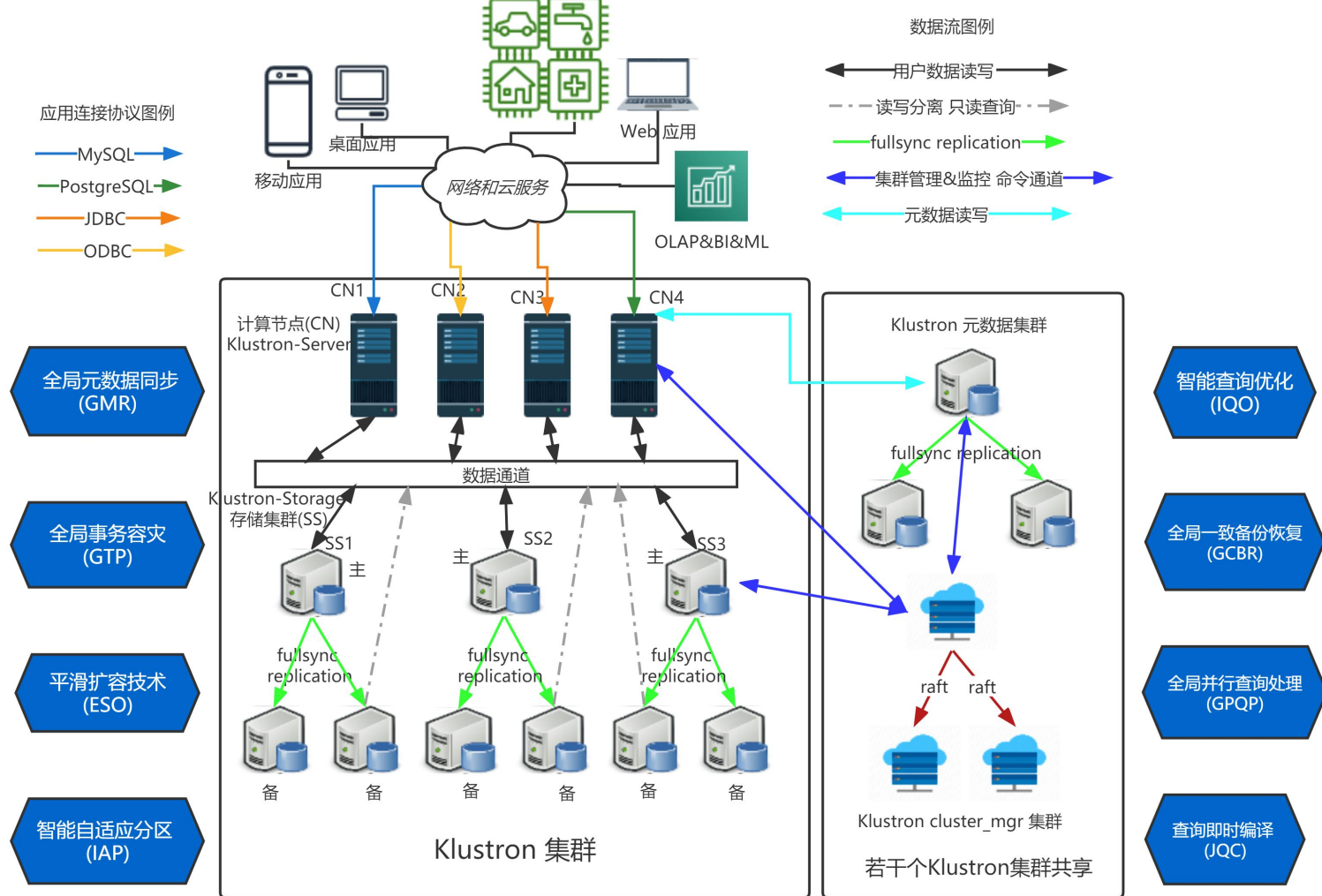
04

2023数据技术嘉年华



- 物质基础：没有单点
 - 多副本
 - 延迟处理
- 逻辑基础：及时切换
 - 探测能力
 - 切换能力

Klustron 架构图



- 类SemiSync机制的原理和存在的问题
 - 确保事务日志在系统中至少保存两份
 - 问题1：不是很“确保” -- ACK时机
 - 问题2：两份也不够 -- 跨IDC容灾需求

ACK时机的选择

ACK时机	可靠性排名	性能排名
收到binlog ack (semisync)	3	2
备库 relaylog 落盘ACK (Klustron FullSync)	2	1
备库apply log后ack (实时强同步)	1	3

ACK备库数目及对象

ACK备机数目及对象	跨节点可靠性	跨IDC可靠性
只支持1个，随机备库（semisync）	确定	不确定
支持配置多个，且支持分组（Klustron FullSync）	确定	确定

shard镜像

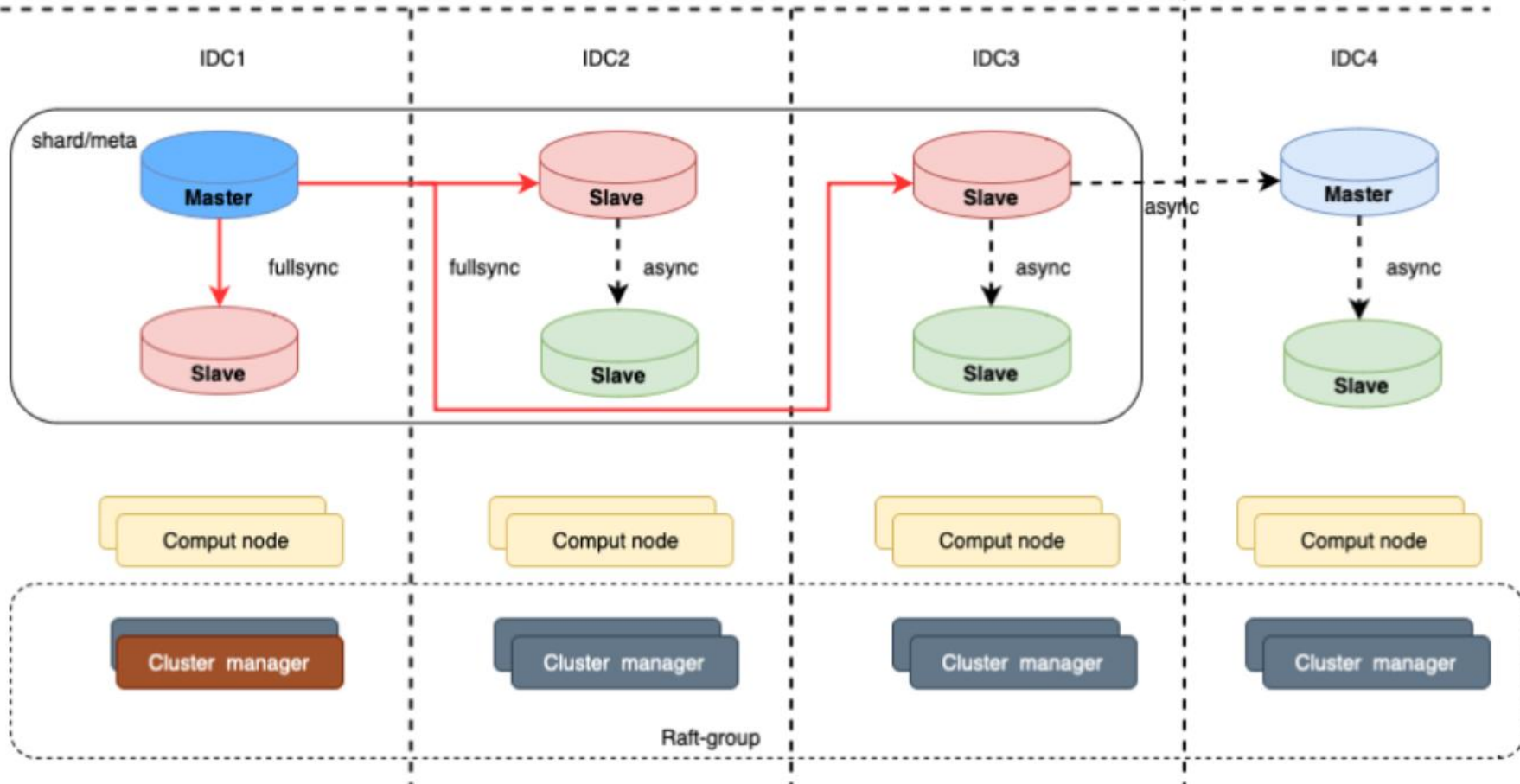
双向复制

单元化

主动切换

深圳

北京



THANKS FOR WATCHING

[illegible]