



Network Transformation

K2VIEW » *Data without delay.*



CASE STUDY OVERVIEW #NTCM100

Leading digital video provider solves dispatch problem, saves millions and improves customer experience

SOLUTION → Network Transformation

INDUSTRY → Communications

Fabric integrates network and customer operations data in real-time to avoid unnecessary dispatches to customer's home.

CHALLENGE

High costs and customer inconvenience caused by unnecessary tech dispatches.

SOLUTION

K2View Fabric integration of real-time network & customer data, coupled with logic to identify outages & drive proactive, and informed actions.

RESULTS

- ~\$50M in estimated savings Year 1.
- Breakeven ROI in just 2 weeks!

- Lack of a network outage alarms on fiber between video HHs & the Central Office was driving poor customer experience & call center and dispatch costs.
 - \$500M spent dispatching techs for video network issues (many unnecessary)
- Critical data that could be used to predict and prevent the issue locked in multiple legacy systems.
- No platform linking customer and network operations data to drive real-time informed action.
- Data as a Service solution combining real-time customer and network data.
- Micro-services layer to expose data to call and operations centers
- Fabric logic analyzes outage alarms status for all households serviced by the same fiber.
- Call centers are notified not to dispatch to customer location using screen pops and the responsible crew is dispatched to fix the problem.
- Estimated savings of \$50M in unnecessary dispatches in year 1 alone.
- Improved customer experience identifying root cause of failure and avoiding trouble customer call time and coordination of technician visit.
- Masking data enabled business analytics functions to move offshore reducing costs by 75%.
- Rapidly deployment of new rules based on fabric infrastructure

© 2017 K2View. Proprietary & Confidential.



CASE STUDY TECHNICAL OVERVIEW #NTCM100

Leading digital video provider solves dispatch problem, saves millions and improves customer experience

SOLUTION → Network Transformation

INDUSTRY → Communications

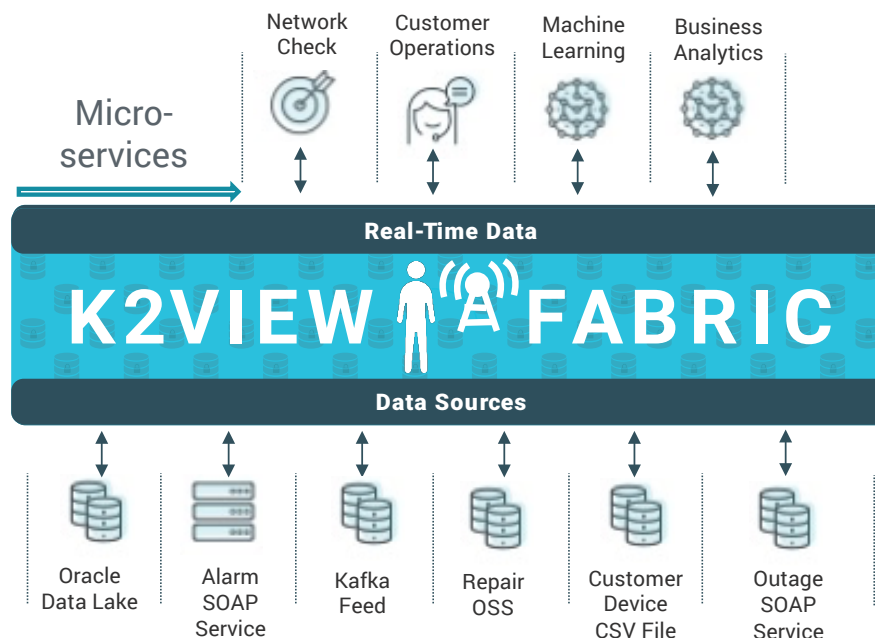
K2View Fabric cracked the code on network data, combining it in real-time with customer data and exposing via micro-services for operational use.

CONFIGURATION

- Micro-DB per Customer
- 10K Network micro-DBs
- 3 TB of data in Fabric
- 2 Data Centers
- 6 Nodes
- 48 Cores

SOURCES

- Customer, inventory, and Order data
- Network alarm feed
- IPTV alarm feed
- Alarm correlation
- Customer equipment data



- Token-driven access to Fabric micro-services
- Designated as a mission-critical system
- Real-time correlation of alarms w/network levels
- Real-time correlation of alarms w/customer data

STATS >>

- 10K updates/day
- 200M alarms/month
- 75K records/day

© 2017 K2View. Proprietary & Confidential.



CASE STUDY OVERVIEW

#NTCM102

Top U.S. video provider's network topology problems solved

SOLUTION → Network Transformation

INDUSTRY → Communications

Fabric stitches together disparate data from legacy network systems and provides built-in micro-services capabilities for improved network topology & faster development cycles

CHALLENGE

Network data trapped and scattered across legacy systems made it difficult to manage outages in a timely or proactive manner.

SOLUTION

K2View Fabric as single data layer across all network data systems.

RESULTS

- Improved customer experience & revenues
- Shortened development cycle



- Connecting network data scattered across legacy systems was a complex, manual process.
- As a result, it took too long to respond to unplanned outages and planned outages resulted in lost revenue because it was difficult to identify and notify impacted customers
- Fabric as a single data layer across all network systems to:
 - Orchestrate complex network data
 - Eliminate complex integration
 - Replace current micro-services solution
- Improved customer experience & revenues
- Built-in micro-services capabilities shortened development cycle, reduced hardware required, and improved agility.
- Reduced time for invocation of a single micro-service from 153s to sub-second response time.

© 2017 K2View. Proprietary & Confidential.



CASE STUDY TECHNICAL OVERVIEW #NTCM102

Top U.S. video provider's network topology problems solved

SOLUTION → Network Transformation

INDUSTRY → Communications

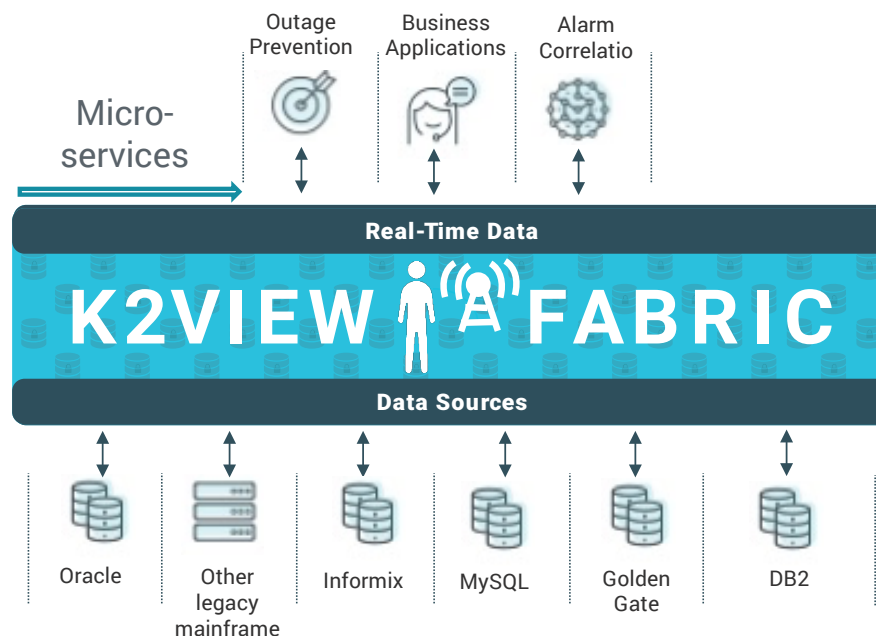
Fabric stitches together disparate data from legacy network systems and provides built-in micro-services capabilities for improved network topology & faster development cycles

FABRIC CONFIGURATION

- 88M Inventory micro-DBs
- 480M Circuit micro-DBs
- 3 TB of data in Fabric
- 2 Data Centers
- 6 Nodes
- 48 Cores

SOURCES

- Multiple Network Inventory Systems
- Acquired over time through acquisitions
- Legacy Mainframe, Golden Gate Replication, RDBMS



MAJOR FUNCTIONS

- Integration of network topology across systems
- Extension of circuit and inventory data via micro-services
- Provide an agile mS architecture development platform

STATS

- Improved performance from minutes to fractions of seconds for each micro-service call
- Reduced development time
- Reduced development cost
- Reduced cost of planned and unplanned customer outages

© 2017 K2View. Proprietary & Confidential.



CASE STUDY OVERVIEW

#NTCM101

Major US Telco provider chooses Fabric to drive its back-office network digital transformation

SOLUTION → Network Transformation

INDUSTRY → Communications

Fabric powers digital transformation with microservices-based access to network data

CHALLENGE

Improving performance and maintainability of legacy Oracle-based architecture to better serve internal clients.

SOLUTION

Deployed K2View Fabric as an end to end, ingestion, stitching synchronization and exposure of data

RESULT

Simpler end-to-end architecture with dramatic performance improvements

Challenge

- Back-office organization must provide real-time access to network circuit and inventory data
- Complex and resource-intensive data consolidation process with slow business reactivity

Solution

- K2View Fabric created a network-centric consolidated view of the network data
- Current micro-services duplication & enhancement were connected to Fabric API layer (re-using existing SQL code)

Results

- Real-time unified stitching of circuit data.
- Micro-services deployment cycle reduced to a days with 100x faster micro-service performance!
- Operating costs reduced via elimination of all customized Java application services into a centralized Fabric framework



CASE STUDY TECHNICAL OVERVIEW #NTCM101

Major US Telco provider chooses Fabric to drive its back-office network digital transformation

SOLUTION → Network Transformation

INDUSTRY → Communications

Fabric powers digital transformation with microservices-based access to network data

POC ARCHITECTURE HIGHLIGHTS

- 100K Circuits micro-DBs
- 100K Inventory micro-DBs
- 500GB of data in Fabric
- 1 Data Center
- 1 Node
- 8 Core

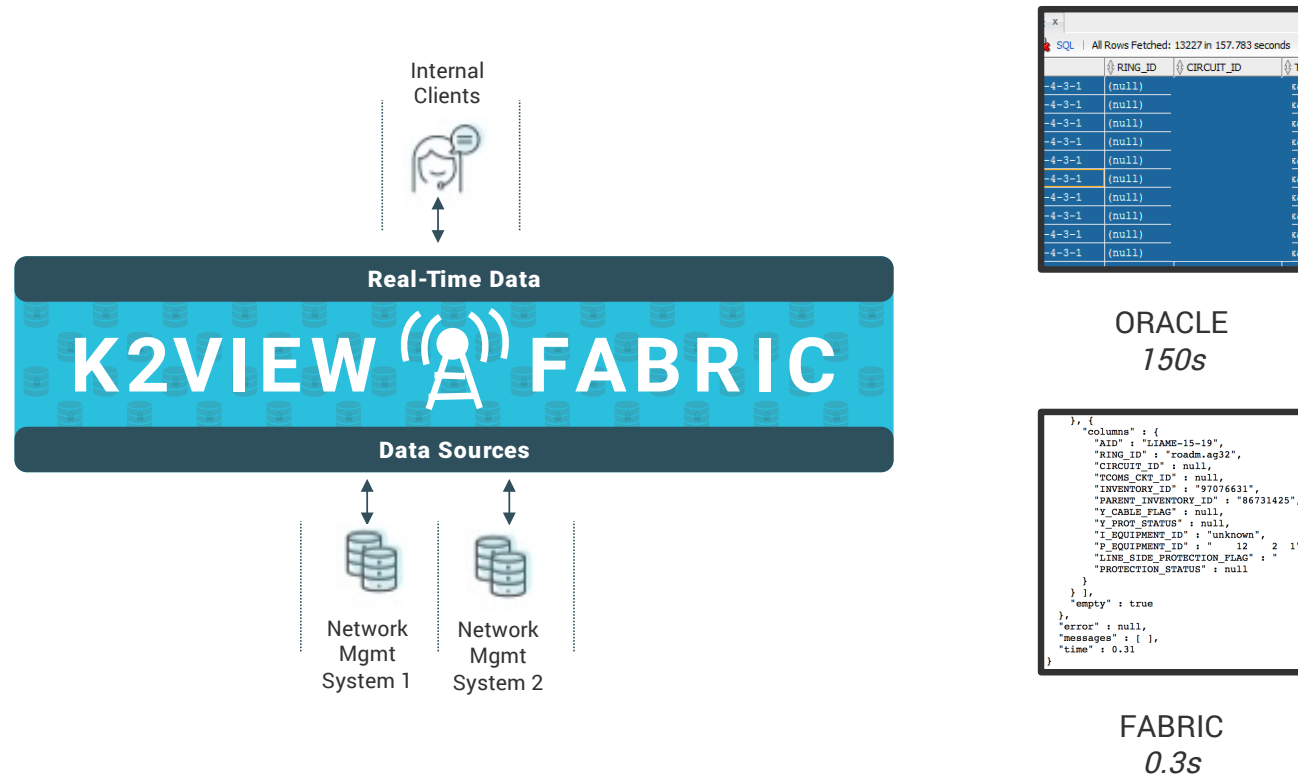
PERFORMANCE IMPROVEMENT

Current

- Average response time: 120 s
- Time to complete 1000 calls: 33 hours

Fabric

- Average response time: $1/50 = 0.02s$
- Time to complete 1000 calls: 20 seconds



SQL | All Rows Fetched: 13227 in 157.783 seconds

RING_ID	CIRCUIT_ID
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)
-4-3-1	(null)

```
{
  "columns": {
    "AID": "LIAMS-15-19",
    "RING_ID": "roadm.ag32",
    "CIRCUIT_ID": null,
    "TCOMS_CKT_ID": null,
    "INVENTORY_ID": "97076631",
    "PARENT_INVENTORY_ID": "86731425",
    "Y_CABLE_FLAG": null,
    "Y_PROT_STATUS": null,
    "I_EQUIPMENT_ID": "unknown",
    "P_EQUIPMENT_ID": "12 2 1",
    "LINE_SIDE_PROTECTION_FLAG": "PROTECTION_STATUS": null
  },
  "empty": true
},
{
  "error": null,
  "messages": [ ],
  "time": 0.31
}
```