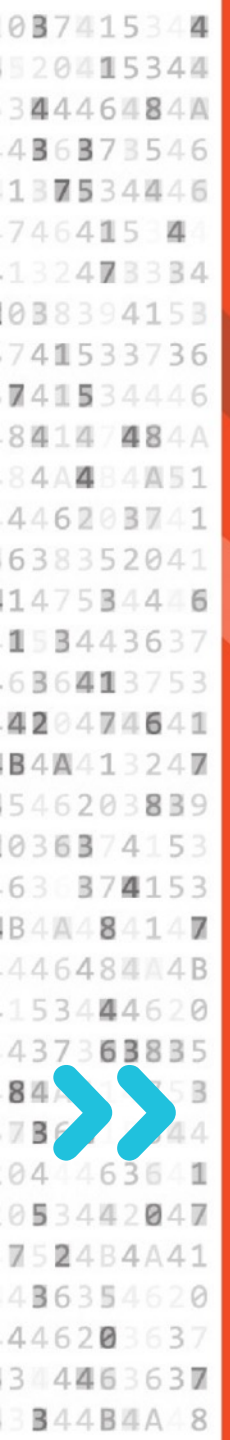
Fabric Case Studies

K2VIEW

Data without delay.



Digital Transformation

CASE STUDY OVERVIEW DTCM101

Customer Data Hub delivers unified experience for North American wireless company to meet merger deadline

SOLUTION → Digital Transformation

INDUSTRY → Communications

K2View Fabric solution delivered in just 3 weeks, besting other options by 6 months.

CHALLENGE Merger deadline to achieve common customer operations for $5B acquisition.	• $5B acquisition of 2 wireless competitors • Desire to move to common systems but needed an immediate solution to serve all customers across the combined channels to meet government mandates for the merger. • Previous partners failed, leaving only weeks to deliver a solution.
SOLUTION K2View Fabric integrating data across 3 companies to create a Customer 360 solution supporting sales and service for 15M across 1000 retail stores.	• K2View Fabric as the single source of customer data across the three companies. • Sourced data across acquired companies in real-time, exposing it for retail and call center. • Supporting 15M customers in 1000 locations.
RESULTS Met merger deadline and achieved cost savings in excess of $2.75M.	• **Speed:** Solution was delivered in just 3 wks • **Strategic Value:** Protected $5B investment by meeting government requirements • **Cost Savings:** Saved $2.75M in infrastructure and manual work, and accelerated achievement of merger synergies.

CASE STUDY TECHNICAL OVERVIEW DTCM101

Customer Data Hub delivers unified experience for North American wireless company to meet merger deadline

SOLUTION → Digital Transformation

INDUSTRY → Communications

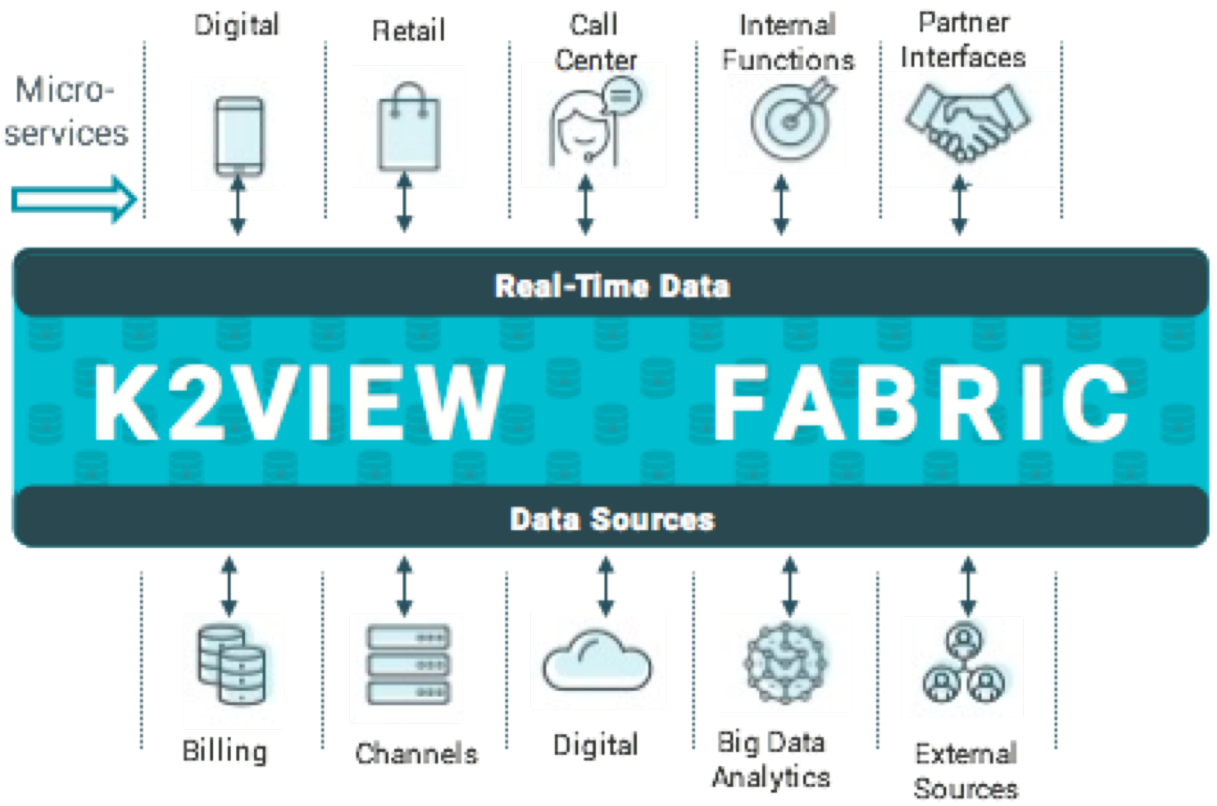
K2View Fabric integrated data across legacy and new systems and deployed an embedded web-services layer to enable micro-services architecture

ACCESS

- Micro-service
- 1000 retail stores
- 1500 calls/secon

CONFIGURATION

- 20M micro-databases
- 5 nodes
- 8 cores
- Replication factor 3



Results:

- No impact on legacy systems
- 100% availability since deployment
- New sources and channels added in days

CASE STUDY OVERVIEW DTCM102

Customer 360 view created for self-service portal in 3 days

SOLUTION → Digital Transformation

INDUSTRY → Communications

Global media & entertainment brand wins big with customers while cutting costs

CHALLENGE

Poor customer self-service experience due to significant latency issues associated with retrieving data for portal from scattered systems.

- Customer data was scattered across multiple countries and systems
- Customer had poor experience with self-service portal because of significant latency
- Issues with data retrieval
- Legacy architecture, costly licensing fees and long development cycles were creating a high TCO

SOLLUTION

K2View Fabric integrated data from across multiple countries & systems to improve customer self-service experience & cut costs.

- **Speed:** Quicker time to market and improved customer experience
- **Know your customer**: A normalized, 360 master view for 1M customers was created in 3 days
- **Performance:** Data latency from core systems was cut from minutes to milliseconds
- **Cost-Savings:** Immediate and on-going cost reduction of more than $5M/annually
- **Efficiencies:** Customer Care cost reduction; efficient development; licensing fee savings

RESULTS

Customer 360 view created in 3 days; improved experience; >$5M saved annually

- K2View Fabric was implemented to integrate and store data from three countries and a number of legacy technologies
- Customer-facing applications were integrated directly into Fabric
- Data masking was applied to appropriate data to improve security

CASE STUDY TECHNICAL OVERVIEW DTCM102

Customer 360 view created for self-service portal in 3 days

SOLUTION → Digital Transformation

INDUSTRY → Communications

Fabric integrated data across multiple countries and systems, then deployed an embedded web-services layer to enable a positive self-service experience

ACCESS

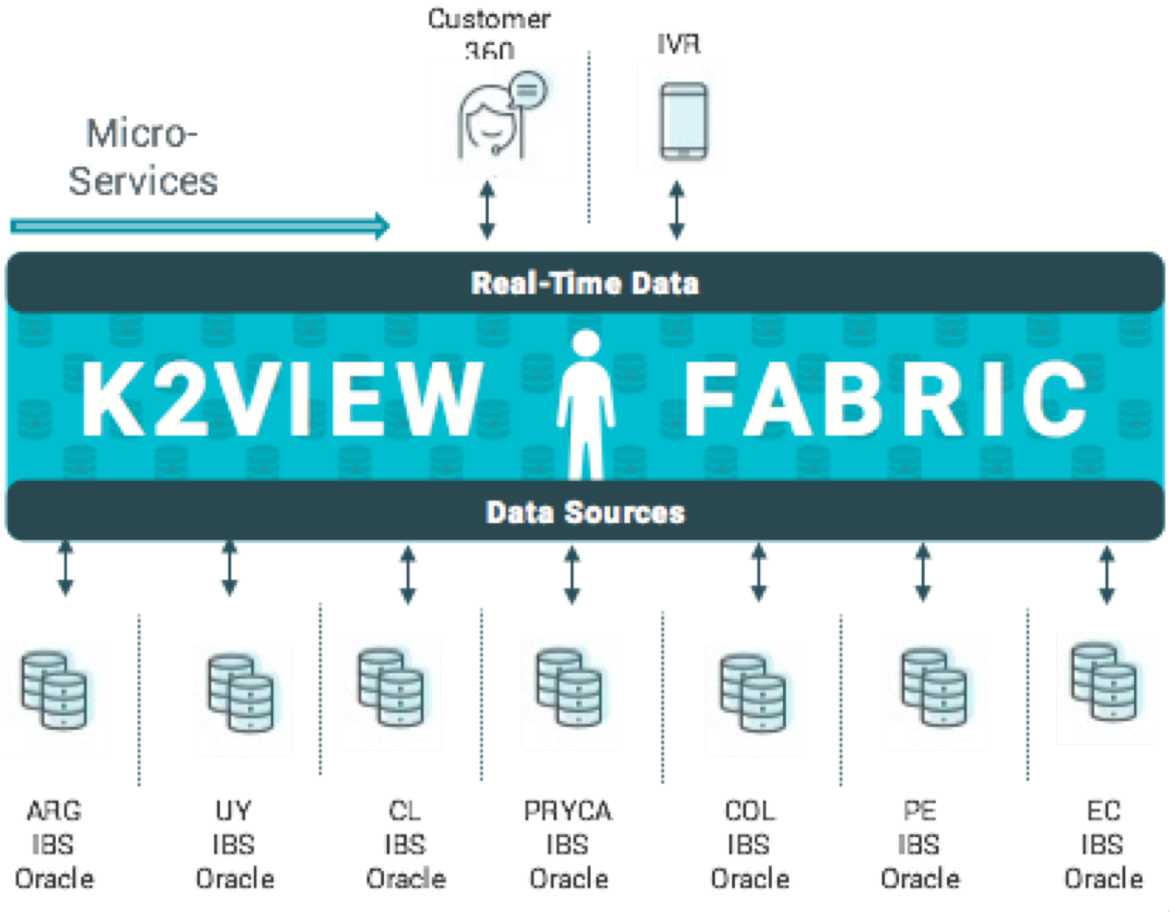
- Micro-service
- Rest API
- 1.3 WS/hr

CONFIGURATION

- 20M micro-databases
- 3 data centers
- 1 Cassandra cluster
- 9 nodes
- 72 cores
- Replication Factor 3

SOURCES

- Real-time synchronization
- 7 distinct sources of data
- Across multiple countries.



- No impact on legacy systems
- 100% availability since deployment
- New sources and channels added in days

CASE STUDY OVERVIEW DTCM103

Fortune 10 Telecom deploys Fabric DaaS, providing real-time access to customer information

SOLUTION → Digital Transformation

INDUSTRY → Communications

Fabric powers digital transformation with micro-service based access to customer data.

CHALLENGE

Replacing Oracle DB with 200B records to improve performance, reduce cost, and improve time to market.

Challenge

- Massive centralized customer DB was costly and slow to maintain and couldn't keep up with the demands of the business.
- DB was the single gateway to data for 120M customers and had become a bottleneck.
- Big data and MDM solutions wouldn't work because data had to be current.

SOLUTION

Deployed a fully distributed Data as a Service solution providing operationall access to customer facing channels

Solution

- Access and organize data from 100's of systems into 120 customer micro-dbs.
- Replace 500 Oracle stored procedures with simplified web-services.
- Enterprise access via micro-services.

RESULT

Dramatic improvement in performance and time to market for new services.

Results

- **Performance:** Fabric performance is orders of magnitude faster than the existing solution.
- **Strategic Value:** Client adopting Fabric as the foundation for their transformation to a micro-services based architecture.
- **Cost Savings:** Fabric will reduce the hardware infrastructure size and cost by 80% and dramatically reduce the time and cost for new projects.
- **Speed to Market:** New services delivered in days vs 6 months average TTM.

CASE STUDY OVERVIEW DTCM103

Fortune 10 Telecom deploys Fabric DaaS, providing real-time access to customer information

SOLUTION → Digital Transformation

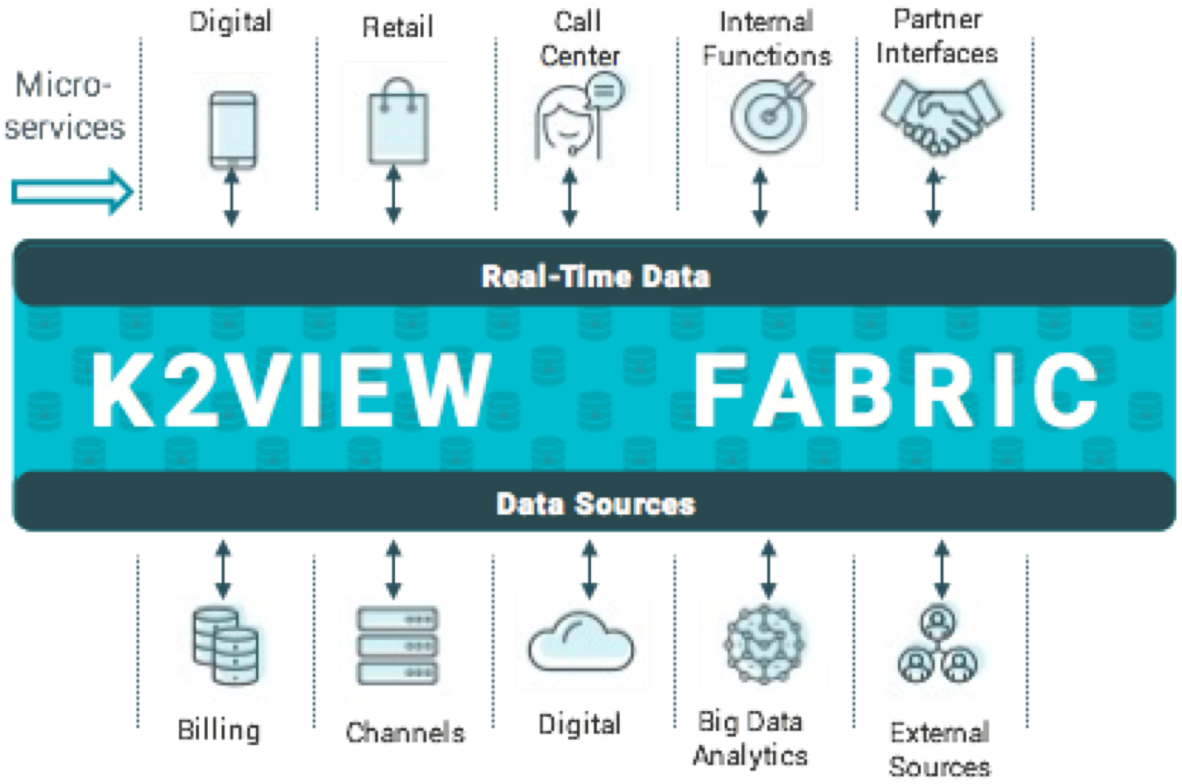
INDUSTRY → Communications

Fabric modernized IT's delivery of customer data by mobilizing data from hundreds of systems and exposing it through micro-services

ACCESS
- 500+ webservices
- Enterprise Bus
- All front-end applications
- 5B calls/month

CONFIGURATION
- 120M micro-databases
- 3 Data Centers
- 84 Nodes
- 672 Cores

SOURCES
- 100s of systems
- Golden Gate
- Data Router
- FTP



Statistics:

- 10k simultaneous calls in 26 milliseconds
- Fabric performance is 5 orders of magnitude faster
- Running on commodity HW

CASE STUDY OVERVIEW DTCM104

K2View Fabric take's Israel's largest player from zero to Customer 360 to support M&A activity in just 3 months

SOLUTION → Digital Transformation

INDUSTRY → Communications

Fabric integrates data from multiple systems to support Salesforce transformation

CHALLENGE

M&A data integration from multiple complex sources to support cloud-based Salesforce transformation effort.

Challenge:

- Israel's largest quad player operator (3M customers) acquired one of the 3 biggest ISPs
- Customer Data spread over large number of complex legacy systems & sources
- Needed to implement transformation to new CRM Salesforce Cloud application (Vlocity)

SOLUTION

K2View Fabric to integrate, store and expose data as an end-to-end Customer 360 solution.

Solution

- cloud application (Vlocity) and IVR to create an end-to-end Customer 360 solution
- Real-time sync updated products, services, financial & Billing information
- Implemented by customer with minimal support

RESULTS

End-to-end implementation in just 3 months to support Salesforce transformation

Results

- **Speed:** E2E implementation based on multiple complex systems in just 3 months
- **Ease of Implementation:** Simple integration with Salesforce cloud application (Vlocity)
- **Performance:** 400 TPS with real-time sync for ~150 tables running on 3 nodes (6 cores each)

CASE STUDY TECHNICAL OVERVIEW DTCM104

K2View Fabric take's Israel's largest player from zero to Customer 360 to support M&A activity in just 3 months

SOLUTION → Digital Transformation

INDUSTRY → Communications

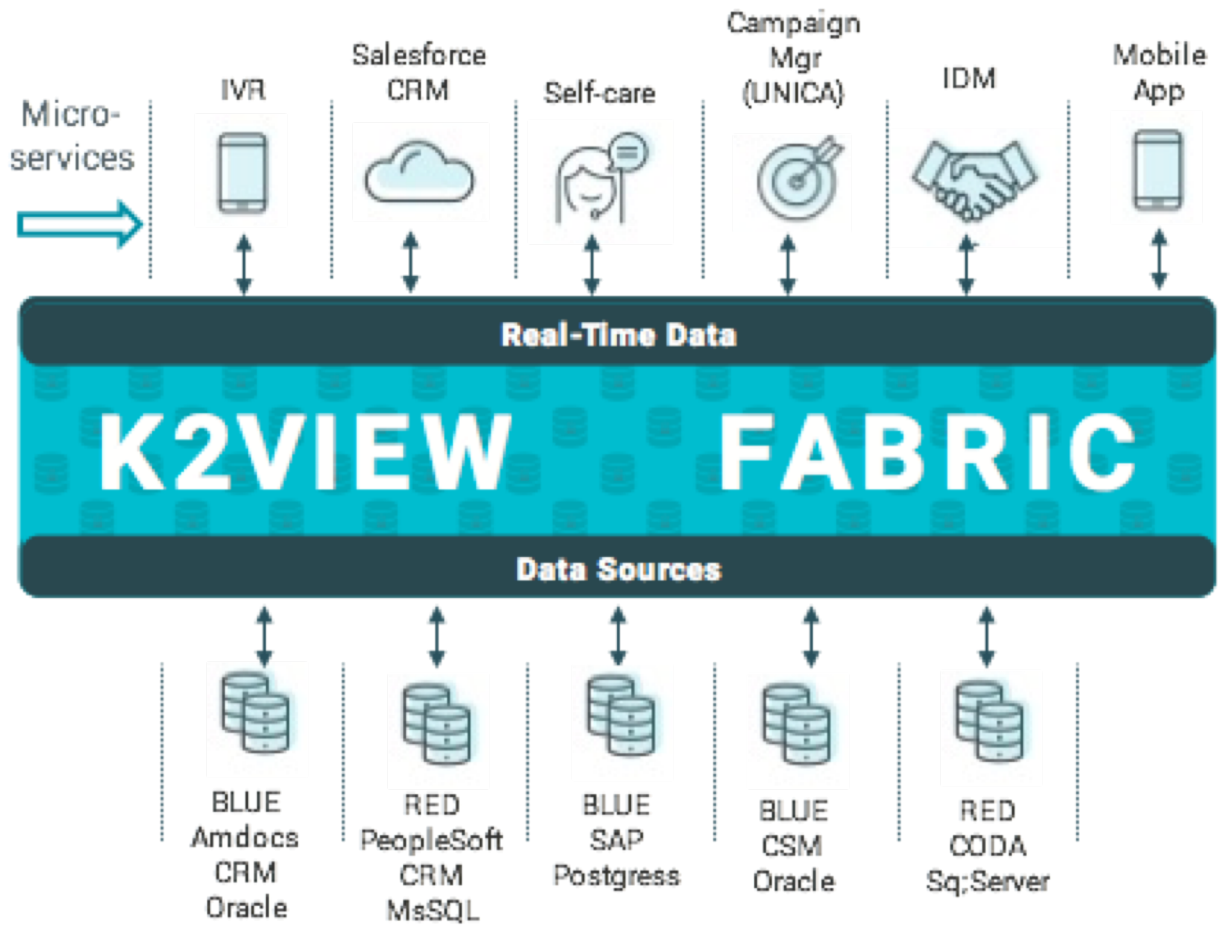
Fabric brings together complex data from multiple source systems to support lightening-quick Salesforce transformation effort.

CONFIGURATION

- 6 business entities
- 1 Cassandra cluster
- 1 data center
- 4 nodes
- 24 cores

SOURCES

- 5 source systems (Phase 1)
- 9 source systems total
- Billing, Account, Product, Case, Network and Business account data



EXPECTED PERFORMANCE >>

- 500 TPS
- Response time <200MS

CASE STUDY OVERVIEW #DTCM105

Modernizing applications & data service layers using a micro-services approach

SOLUTION → Digital Transformation

INDUSTRY → Communications

K2View Fabric delivers big cost savings and improved speed to market, performance & security for Major U.S. Telco

SITUATION

Rising costs associated with updating hardware, software and licenses for legacy systems with limited agility

- Customer required to update legacy hardware, software and licenses at escalating costs.
- Current data infrastructure outdated and the processes being run (SQLs, Real-Time) also outdated and have not been reviewed for redundancy in the last 10 years.
- Current process to update the platform with multiple vendors required every 3 to 5 years minimum.
- K2View Fabric solution presented an opportunity to stop the required upgrading of multiple platforms and vendors by implementing a micros-services approach.

SOLUTION

K2View Fabric as data overlay to legacy systems that organizes data around what matters, then rapidly exposes it to micro-services layer

- Client's processes converted to modernized micro-services through the use of K2View Fabric's proprietary approach to:
  - Organizing data around the business entity
  - Storing it in individually-encrypted micro-databases that are refreshed in real-time
  - Then rapidly exposing the data to the client's multiple external applications that use the platform via Fabric's auto-generated web services

RESULTS

- Cost savings projected at >$15M every 3-5 years
- Improved agilty
- Improved performance
- Improved security

- Solution delivers modernized development through micro-services, unlimited scale, improved performance and security.
  - K2View solution runs on 80% fewer cores, generating significant savings
  - Speed to market, agility significantly improved
  - Individually-encrypted micro-database methodology virtually eliminates risk of mass breach
  - Cost savings projected over $15M every 3 years to 5 years in reduction of modernizing platform

CASE STUDY TECHNICAL OVERVIEW #DTCM105

Modernizing applications & data service layers using a micro-services approach

SOLUTION → Digital Transformation

INDUSTRY → Communications

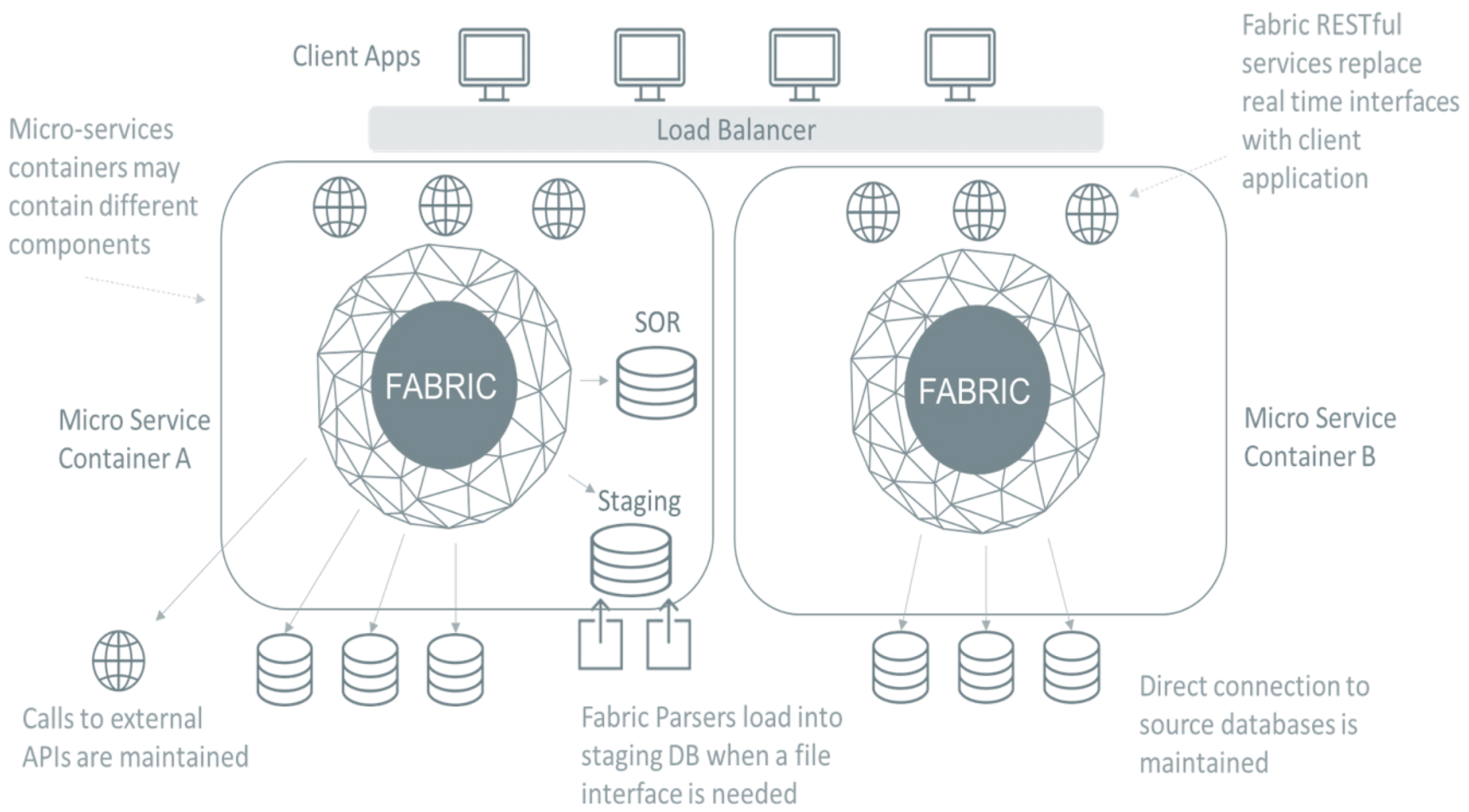
K2View Fabric delivers big cost savings and improved speed to market, performance & security for Major U.S. Telco

FABRIC CONFIGURATION

- Fabric as real-time data overlay to legacy systems
- Separate micro-services containers may hold different components
- Fabric RESTful services replace real-time interfaces with client applications

RESULTS

- Savings – >$15M every 3-5 years; runs on 80% fewer cores
- Improved performance
- Improved security due to individually-encrypted micro-database structure
- Improved speed to market



CASE STUDY OVERVIEW #DTCM107

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

SOLUTION → Digital 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 #DTCM107

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

SOLUTION → Digital 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

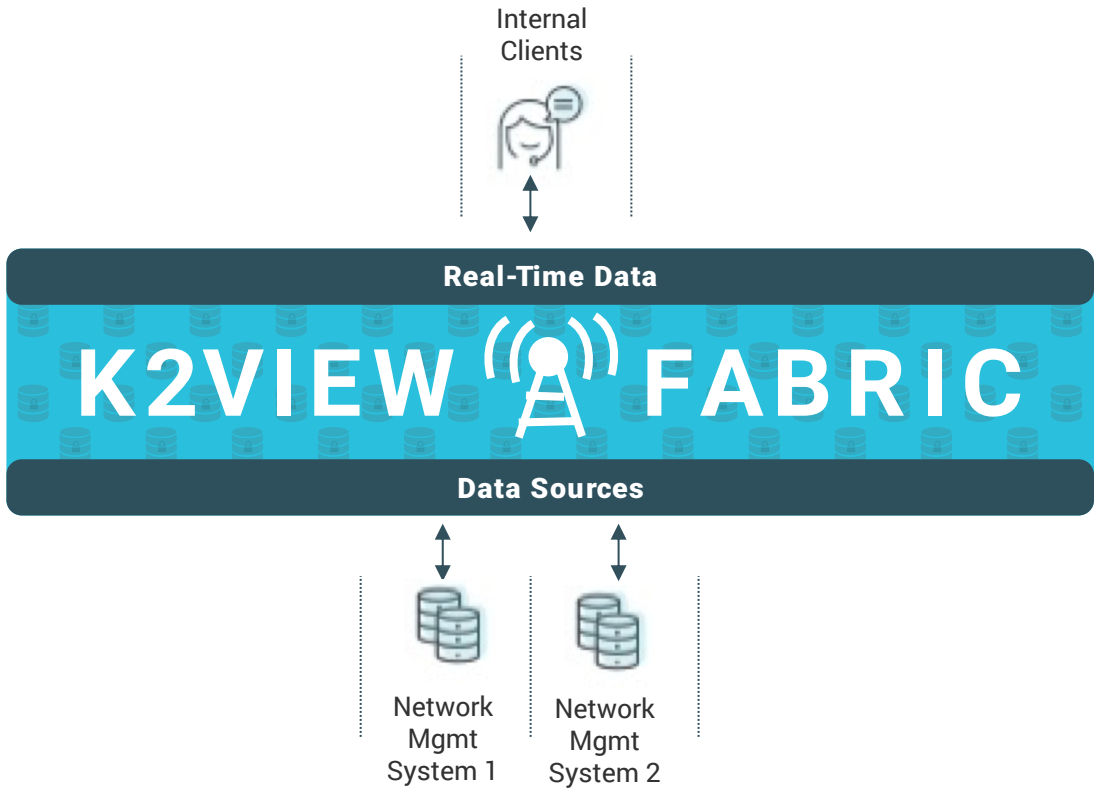
PERFORMANCE IMPROVEMENT

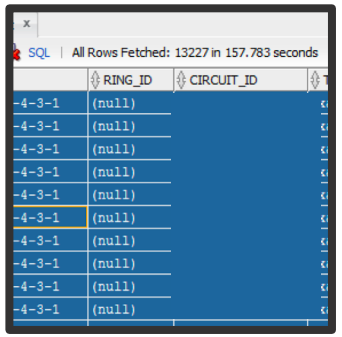
Current

- 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





ORACLE
150s

FABRIC
0.3s

CASE STUDY OVERVIEW #DTCM106

K2View Fabric wipes out archiving & purging woes

SOLUTION → Digital Transformation

INDUSTRY → Communications

Major Telco decreases TCO while drastically improving performance

CHALLENGE

Major Telco needed to more cost effective, better performing archiving & purging solution.

SOLUTION

K2View Fabric rules-based decisioning, purging and Fabric layer archiving solution.

RESULTS

TCO slashed by 75% while drastically improving production performance.

- Major Telco needed to purge & archive data from production systems to improve performance, decrease cost & usability of production.
- Archiving needed be consistent & performed at the customer level

- K2View created a rules-based purging process to simplifying complex decision-making.
- The solution archived data in Fabric, for easy re-usability

- Cost of ownership decreased by over 75%
- Production performance improved
- Running upward of 48,000 rules per second on each instance

CASE STUDY OVERVIEW DTFS201

K2View Fabric delivers data from silo-ed systems to fuel self-service portal for >2M payment processing merchants

SOLUTION → Digital Transformation

INDUSTRY → Financial Services

Improves customer experience while reducing call center costs & metrics

CHALLENGE

Create a real-time self-service portal to improve customer experience and provide unified view of the customer funds/portfolio.

SOLUTION

K2View Fabric as integrated, real-time data layer across 8 systems to power self-service portal solution.

RESULTS

Real-time 360-degree customer view for self-service portal in just 3 months.

- Merchants required to call into service desk, creating poor experience an high operational cost
- New customer insurance & saving information data requirements driving self-service needs
- Legacy systems not integrated; lengthy, capital-intense modernization required

- Fabric as the integrated data layer across 8 systems
- Real-time on-retrieval updated funds information
- Front-end using Fabric's API layer as middleware
- Login Verification & data analyzation with BI tools
- Self Service Portal build on top of Fabric for > 2M merchants

Results

- ROI of over $10M over 3 years
  - Lower Development and Implementation costs
  - Reduced calls and Average handle time for reps
  - Less Merchant Churn

Cloud Enablement

CASE STUDY OVERVIEW CEFS200

K2View Fabric eliminates Fortune 100 financial service company's privacy concerns around cloud storage

SOLUTION → Cloud Enablement

INDUSTRY → Financial Services

Delivers highly secure, integrated data layer to power Salesforce implementation

CHALLENGE

Assemble the data from multiple systems in the cloud to power Salesforce implementation, while avoiding privacy risks.

SOLUTION

K2View Fabric as integrated, real-time data layer that stores each customer's record as an individually encrypted micro-database.

RESULT

Risks of mass data breach virtually eliminated via a solution with rapid time to market

Challenge

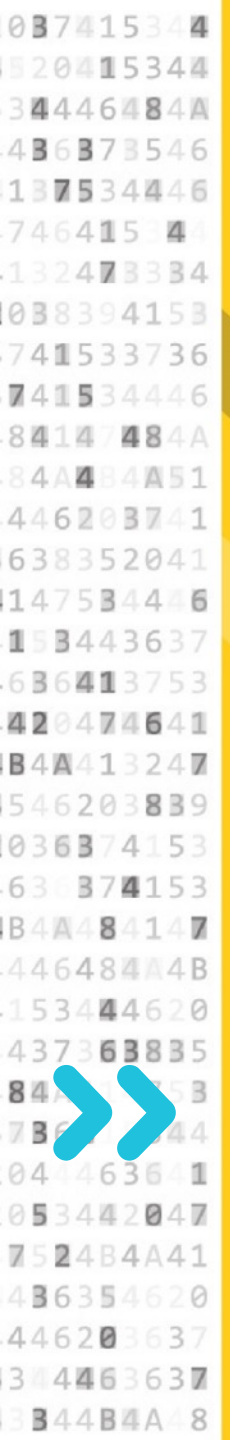
- Fortune 100 company moving to Salesforce
- Major privacy concerns around cloud storage of customer data
- Costly migration & on-going synchronization into Salesforce
- Security challenges/risks

Solution

- Fabric used to store salesforce.com data using in-network cloud
- Fabric provides real-time integration with source data and secure web layer integration with Salesforce

Results

- Data exposed to public cloud through highly secure Fabric web-service layer; Production system are never directly exposed
- Each customer record is its own individually encrypted micro-database, virtually eliminating risk of mass data breach
- Easy integration with multiple sources & Salesforce
- Salesforce accesses data through linearly scalable platform



Network Transformation

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.

- 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.

SOLUTION

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

- 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.

RESULTS

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

- Estimated savings of $50M in unnecessary dispatches in year 1 alone.
- Improved customer experience identifying route 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

CASE STUDY TECHNICAL OVERVIEW #NTCM100

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

SOLUTION → Network Transformation

INDUSTRY → Communications

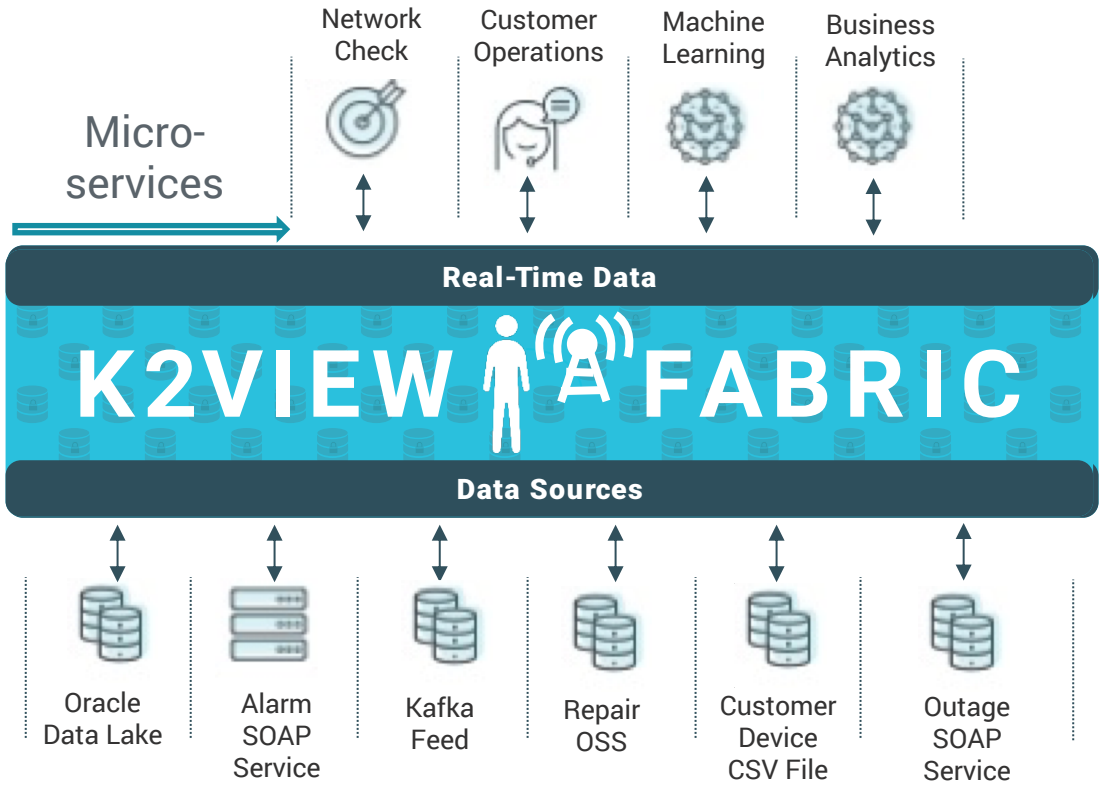
K2View Fabric cracked the code on network data, combining it in real-time with customer data and exposing via micro-services for operational use.

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

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 as 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.

CASE STUDY TECHNICAL OVERVIEW #NTCM102

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

SOLUTION → Network Transformation

INDUSTRY → Communications

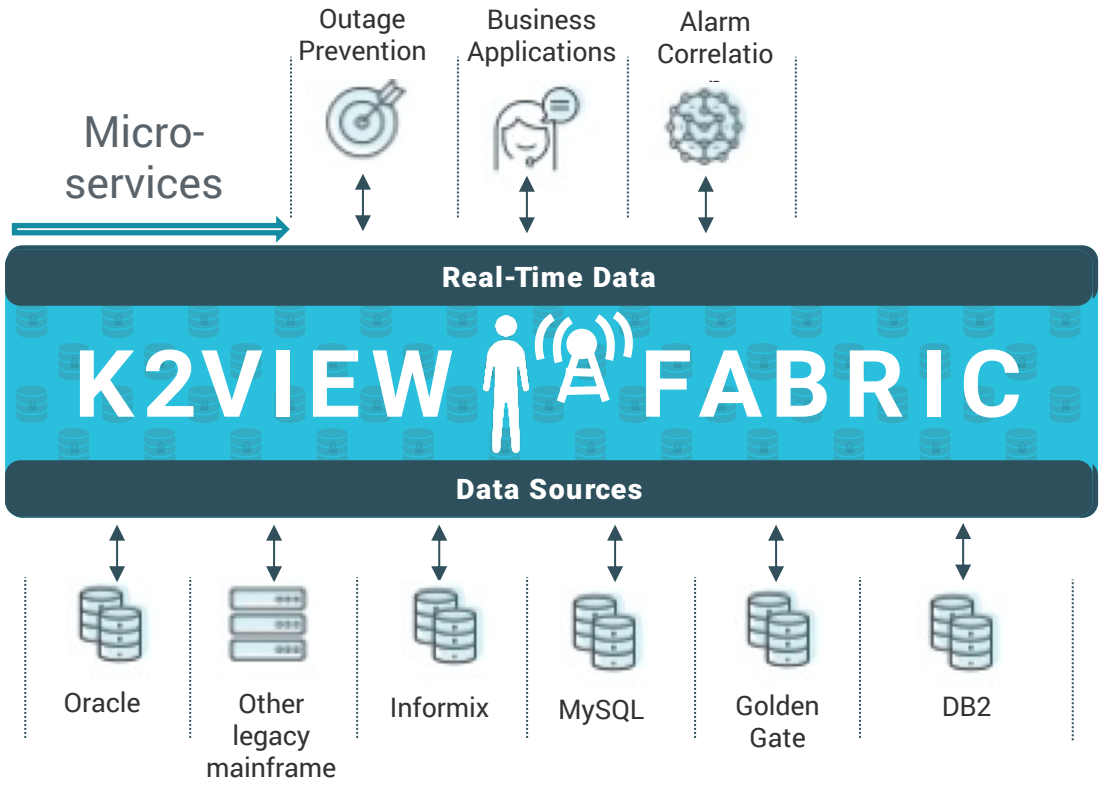
Fabric stitches together disparate data from legacy network systems and provides built-in micro-services capabilities for improved network topology & faster development cycles

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

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

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POC ARCHITECTURE HIGHLIGHTS

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PERFORMANCE IMPROVEMENT

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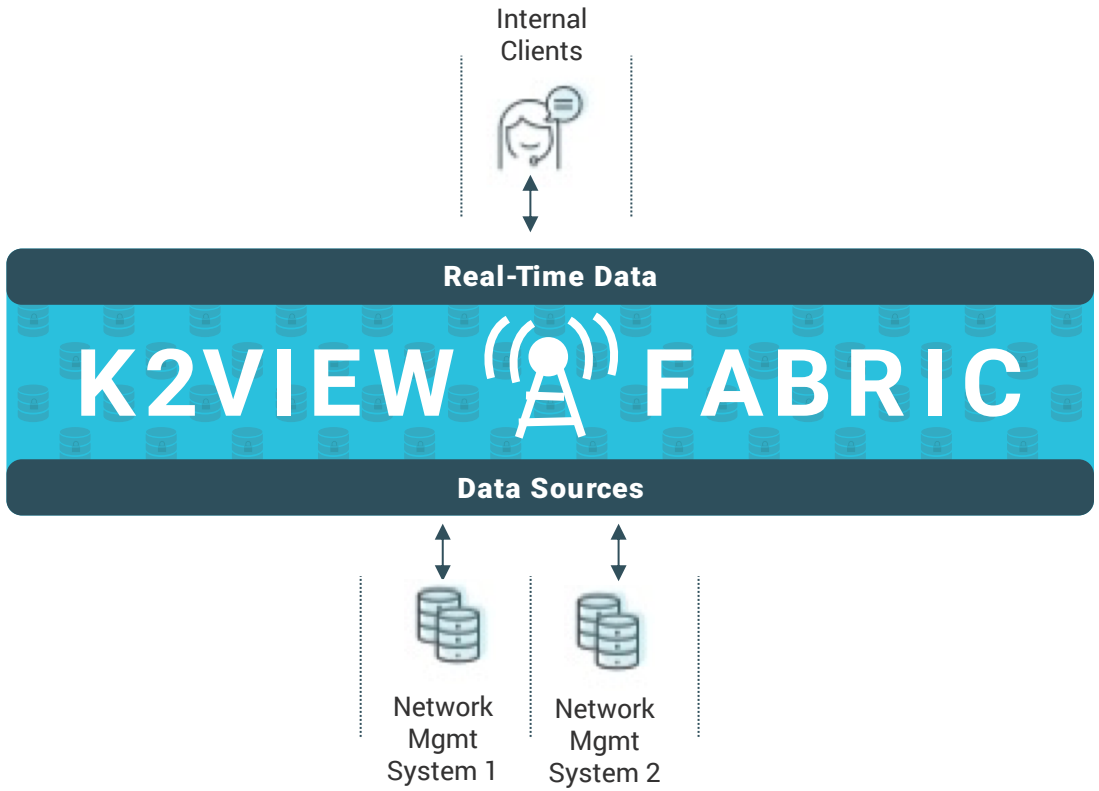
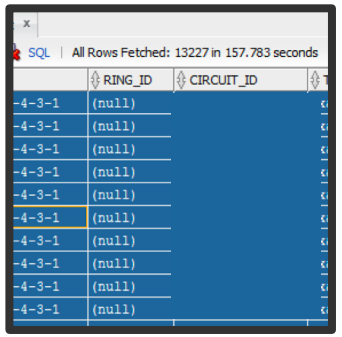




ORACLE
150s

FABRIC
0.3s

Data Orchestration

CASE STUDY OVERVIEW DOFS200

K2View Fabric eliminates Fortune 100 financial service company's compliance headaches

SOLUTION → Data Orchestration

INDUSTRY → Financial Services

Eliminates manual processes to drive efficiencies and improved system performance - in just 3 days

CHALLENGE

Consolidate data from multiple source systems and to create more efficient, real-time compliance reporting.

- Major US Bank executing daily compliance reports on Sybase
- IT infrastructure change from Sybase to multiple sources
- Needed solution that could consolidate data from multiple sources & create efficiencies
- Had tested other distributed data platforms with poor performance results

SOLUTION

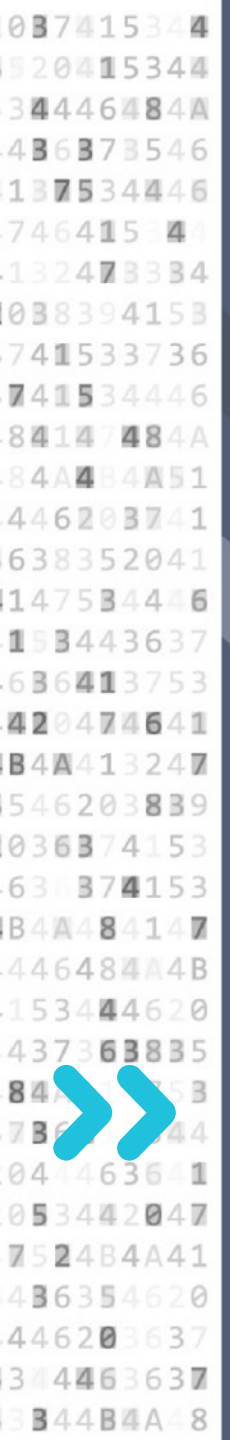
K2View Fabric as integrated, real-time data layer between ever-changing source systems and compliance team, as well as real-time compliance report generation.

- Fabric as the integration layer from ever- changing source systems to compliance
- Real-time on-retrieval compliance rules and report generation, replacing a previously manual reporting process.

RESULT

Real-time compliance reporting to replace previously manual processes and drive efficiencies.

- **Time to Market:**
  - Complex implementation in just 3 days
- **Innovation:**
  - **R**eal-time compliance like never before possible
- **System Performance:**
  - Execution performance improved by 1500%
  - Integration performance improved by 3000%



Test Data Management

CASE STUDY OVERVIEW TDCM100

K2View Fabric Test Data Management solution improves Major U.S. Telco's speed-to-market by 80%

SOLUTION → Test Data Management

INDUSTRY → Communications

Resources previously required to execute manual processes also reduced by 30%

CHALLENGE

Cost & speed-to-market challenges with current test data management processes

- Process to create, secure and provision data for testing was cumbersome, lengthy & manual.
- This was negatively impacting:
  - Speed to Market for Development Cycles - Typically 30-45 days just to make test data available
  - Budgets - Costs to support TDM were rising & budget cuts were required to bring them in-line.

SOLUTION

K2View Fabric Test Data Management

- K2View Fabric TDM solution
- Easily integrated with existing tools and apps, to automate manual processes around collecting, securing & provisioning test data

RESULT

80% improvement in speed-to-market

- TDM process automation improved speed to market by 80%
- Self-service test data creation in minutes
- Reduction in resources needed for manual processes
- Simple, one time configuration