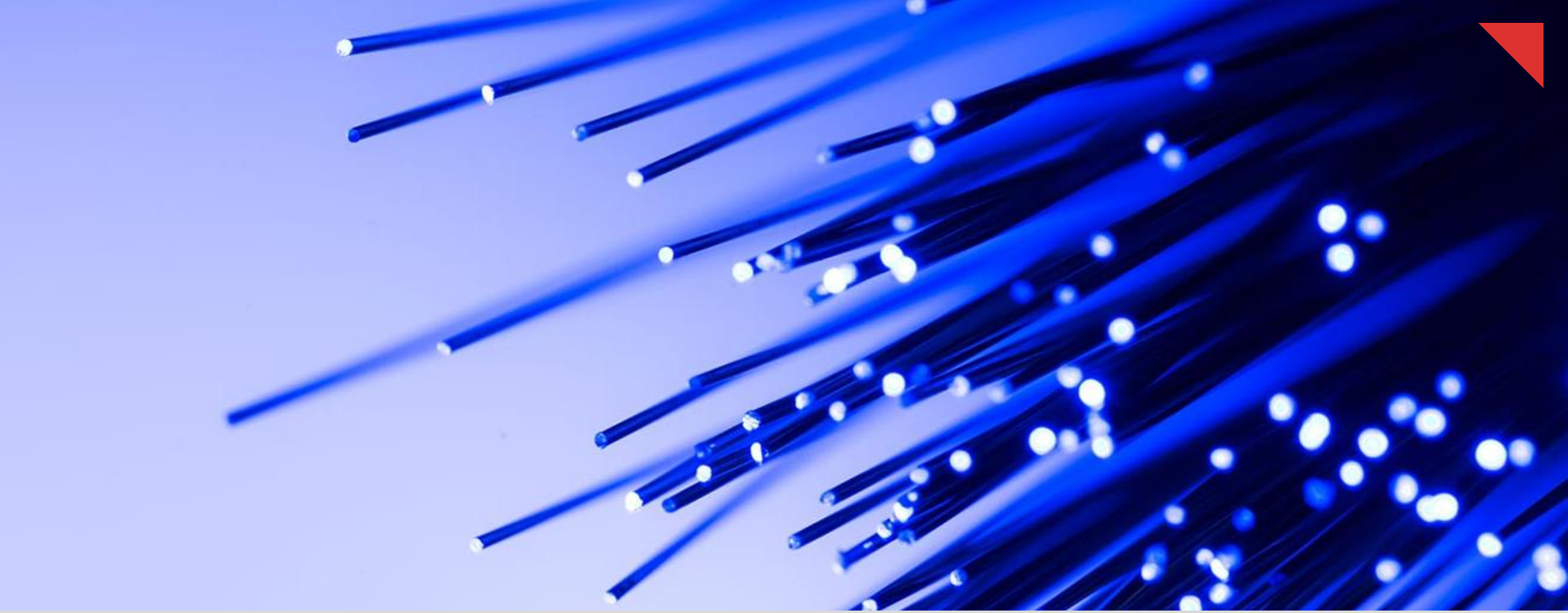

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Chase Extraordinary

Zero-touch Service Assurance Framework for High-speed Internet

Credits

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67% of customers who contact their Digital Service Provider's customer service report broadband issue – E&Y

Reduction in broadband speed is a major concern to customers

26% Customers who contacted customer service reported inconsistent internet speed causing work from home issues during the pandemic

Broadband customers regularly confront issues and contact their service provider

67% Customers who contacted customer service in the last 12 months reported connectivity performance issues

Switching propensity rises dramatically if better quality and speed are guaranteed by other DSPs

43% Guaranteed internet speed improvement increases switching propensity

Good customer service is a critical element to value creation

32% Customers are willing to pay more for internet speed in return for good customer service

Good customer service is a key factor for customer loyalty

Consumers consider good customer service as an important factor for switching providers **37%**

Source : E&Y Report

360⁰ proactive service assurance for connectivity services is key to value creation and customer loyalty.

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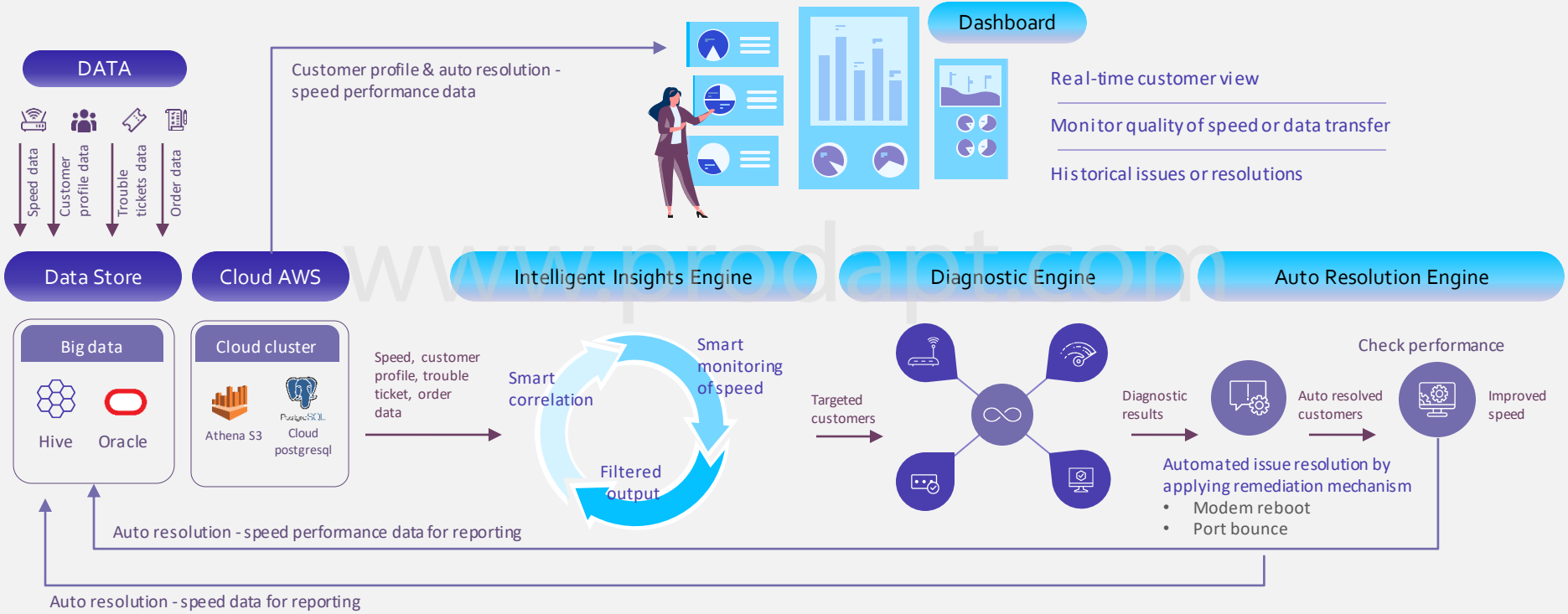
Move from manual and reactive to cloud-based proactive service assurance

Intelligent Insights Engine | Diagnostic Engine | Auto Resolution Engine | Dashboard

Zero-touch service assurance framework enables continuous remote monitoring to proactively detect connectivity issues and provide automated resolution resulting in higher customer satisfaction



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Transform overwhelming customer data into actionable insights with intelligent insights engine

Intelligent Insights Engine | Diagnostic Engine | Auto Resolution Engine | Dashboard

Smart monitoring of speed

- Monitor customer's current speed data on an hourly basis.
- Use data science software platforms like Rapidminer, Alteryx, KNIME, which analyzes event patterns in real-time and compares those to expected behavior.
- Set up thresholds, based on business needs which can be expanded-
  - Customers with less than 80% of their current vs. billed speed
  - Rate of speed decline in the last 24 hrs. and 1 hr.
    - 20% for SMB
    - 40% for residential

Smart correlation

- Correlate the speed trend with historic customer data.
- Check if there are past tickets raised, customer complaints, or pending orders.
- Python-based correlation engine to create a pipeline for these data and decide target customers for performing the diagnostic procedure.

Filtered output

- Generates genuine, actionable targeted customer list.
- Goes as a feed into the diagnostic engine.

Implementation approach in a leading DSP in North America helped **customers improve service quality by 60-70%**

Import data

Retrieve customer's details like current speed, upload speed, download speed, and the trouble ticket.

Smart monitoring for exploratory data analysis

- Perform statistical analysis and correlation between data sets to arrive at the insights.
- Visualize the rate of speed decline in reference to the last 24 hrs.

Retune model based on insights derived

Speed threshold can be revisited

Benefits

Proactively address customers' performance issues

Service quality improved by **60-70%**

Reduction of alerts/trouble tickets by **45%**

Issue resolution time reduced from **72 hours to 1 hour**

Recommendations

Use data science software platforms like Rapidminer, Alteryx, and KNIME for accelerating and smart monitoring implementation

Smart correlation avoids acting more than once on the same problematic customer

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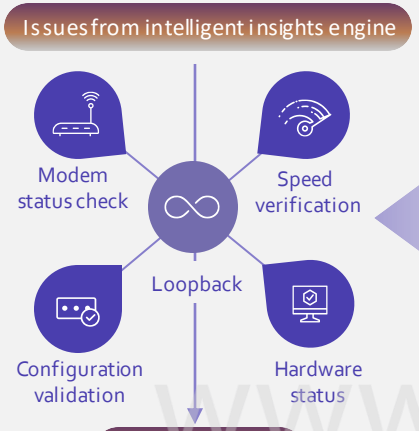
Use the diagnostic engine to classify connectivity issues so that the right resolution can be actioned

Diagnostic Engine



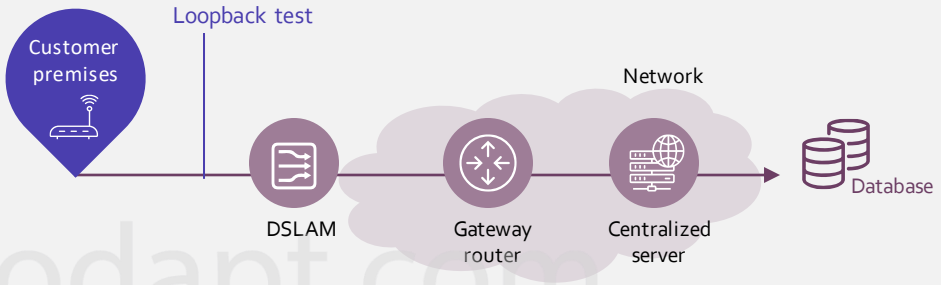
Category 1 : Port bounce
Category 2: Modem reboot

Auto resolution

Category 3: Issue cannot be resolved through automation. E.g., hardware failure, parent device performance issues, connectivity issues, over-provisioning, etc.

Service request/Auto ticket creation

Loopback testing



Use Python scripts to perform loopback test and classify resolution steps like port bounce and modem reboot

The test also identifies issues that cannot be auto resolved remotely

Loopback testing types

- Basic service availability test
- Verify service after port bounce test

Recommendations

- Use M-curve report to identify linear usage time
- Dynamic speed diagnostic system & reporting
- Proactively check the service operation for high profile customers

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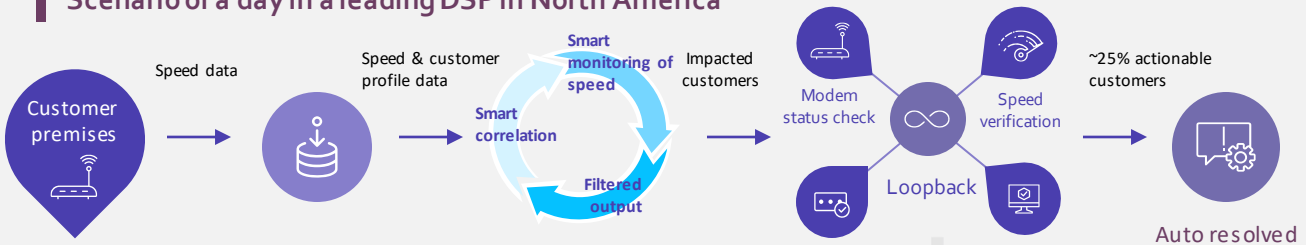
Execute autonomous actions to quickly fix speed issues

Auto resolution engine can resolve **45-50%** of connectivity performance issues when implemented correctly

Scenario of a day in a leading DSP in North America



Residential & small-scale customers are targeted

- Customer's data like current provision speed, trouble ticket
- Orders
- Internet devices data

- Monitor & compare the speed with set threshold
- Correlate with any past tickets

Perform test and classify issues

For Category 1
Modem reboot (15% customers)

For Category 2
Port bounce (5% customers)

For Category 3
Issue cannot be resolved through automation. Service request/auto ticket is created

45% of customers observed speed improvement after auto-resolution

The above approach is by using data science tools like Rapidminer, Alteryx, and KNIME

Create sets of remediation actions like modem reboot and port bounce to improve speed issues based on the categories identified.

Actions are triggered when an alert meets specific criteria.

Automatic trigger tasks such as incidents creation, change requests, security incidents, field service work orders, or customer service cases can also be created for issues under category 3.

Recommendations

Do the modem reboot only during the maintenance window so that customers are not interrupted

Resolution status verification to check the performance of closed-loop post remediation

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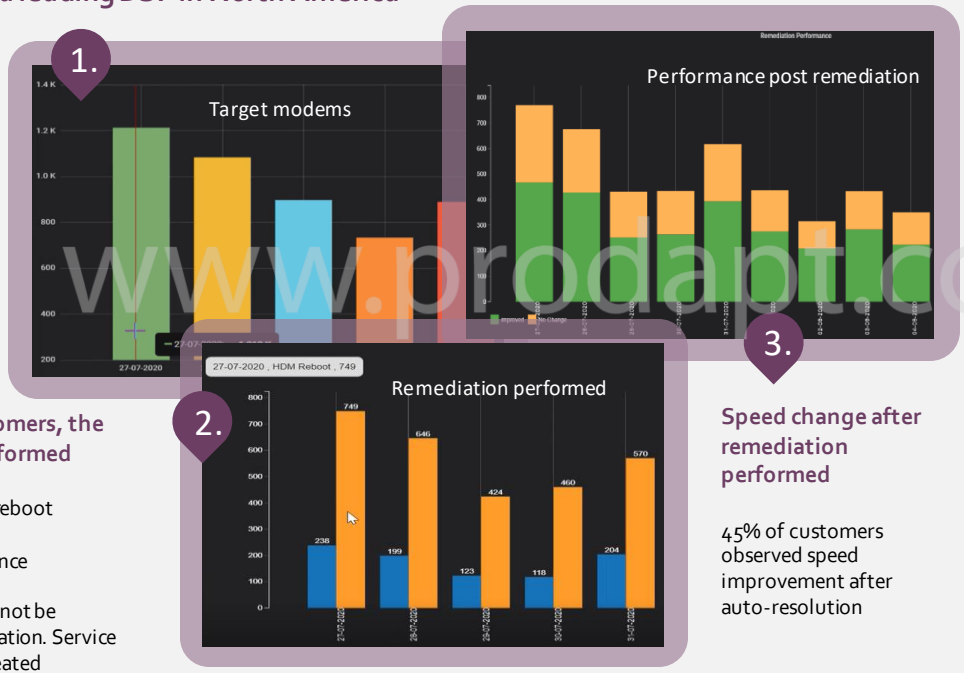
Leverage advanced analytics techniques on data to tap into rich insights through dashboards

Intelligent Insights Engine | Diagnostic Engine | Auto Resolution Engine | **Dashboard**

Analytics and interactive visualization platform can **help DSPs query, visualize, alert, and understand** key metrics to **proactively resolve connectivity issues**

Scenario of a day in a leading DSP in North America



Customers targeted each day based on business needs

Set up thresholds, which can be expanded-

- Less than 80% of current speed vs. billed speed
- Rate of speed decline is 20% (SMB) & 40% (residential)

Of ~25% actionable customers, the following actions are performed

- For category 1: Modem reboot (~15% customers)
- For category 2: Port bounce (~5% customers)
- For category 3: Issue cannot be resolved through automation. Service request/auto ticket is created

Speed change after remediation performed

45% of customers observed speed improvement after auto-resolution

Use analytics and interactive visualization applications like Grafana, Dynatrace, AppDynamics, etc., which help visualize data, seamlessly define alerts, thresholds and generate meaningful insights.

Create custom dashboards with operational and business insights that matter most.

Recommendations

Monitor efficiency of the process

Provide a real-time view of high impacted customers, remediation steps, performance, percentage improvement in speed, outages, current and historical issues

Build useful insights for further business actions like upselling and cross-selling for marketing

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Benefits achieved by a leading DSP in North America after implementing automated broadband speed assurance framework

A leading DSP in North America faced major challenges in the service assurance process, which led to poor customer experience (CX).

Implementing the recommended approach as discussed in this insight resulted in the following benefits.

18-20%
improvement in NPS score

Solved **25%**
of speed issue through auto resolution

Speed improved for **45%**
of customers

Issue resolution time reduced from **72** hours to **1** hour

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THANK YOU!