
Disrupting network operations in multi-vendor environments

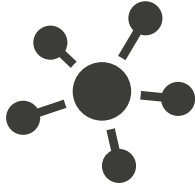
Increase control of the network operations while lowering OPEX

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Table of Contents

1. Introduction	p3
2. The traditional approach	p4
3. Disrupting the traditional approach	p5
4. Results	p7
5. Case Study 1: OpEx reduction	p8
6. Case Study 2: Strict SLA compliance	p9
7. Case Study 3: Proactive O&M	p10
8. Case Study 4: Proactive 3G improvement	p11
9. Case Study 5: Alarm noise reduction	p12
10. Next steps	p13

Introduction



Growing network

Telecom operators are challenged by the constant growth in network complexity driven by multi-system and multi-vendor dependencies which create time-consuming and complex troubleshooting scenarios.



User experience impact

The constant ping-pong between siloed support organizations and reactive nature of the support services, creates an eco-system in which slow degrading trends are ignored and downtimes end up increasing with direct impact to customer experience.



OpEx challenges

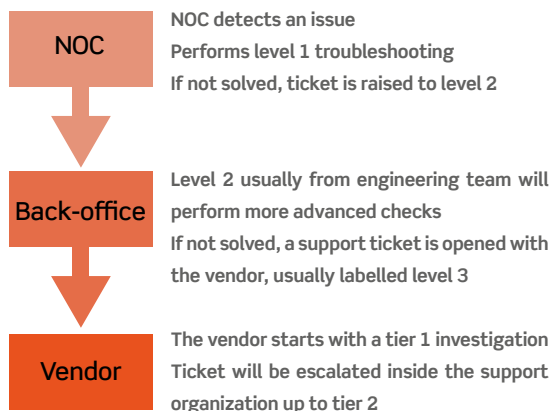
As data consumption grows and customers demand a better experience at similar prices, operators are struggling with increasing operational costs from multiple support contracts and at the same time challenged by reduced internal capabilities due to organization downsizing.

The traditional approach

Overview

Traditionally, telecom network operations are characterized by a 3 level support model with:

- Level 1: First level monitoring and support usually delivered by a Network Operations Center (NOC)
- Level 2: Second level support delivered by a backoffice support team or directly by the engineering staff
- Level 3: Level 3 network support provided by the hardware vendor under a support contract.



High Cost

The cost associated with these vendor contracts is usually based on a % of the installed base or by volume of cases usually with a minimum cap to keep the support at a high price. The operator has little leverage to negotiate these prices due to the vendor dependency.

Low Quality

Contrary to what is promised, the support contracts previously provided by local experts, who knew the networks in detail, are now moved to global support centres in low cost countries supporting multiple other customers. These support organizations typically provide a 3-tier support model:

- Tier 1: First level of contact for the support organization, typically less capable than the operator level 2 staff

and often with language constraints/barriers.

- Tier 2: Second level support and experts in the product identified as probable root cause but usually not familiar with the customers' network.
- Tier 3: These are the absolute experts from the vendor with experience troubleshooting and developing the actual solution/product and are only involved in exceptional cases.

Although for emergency situations, the operator may be able to push escalations through the vendor tiers, it's common that high, medium and low priority cases are dragged through level 1 unless the operator's internal staff constantly push and follow-up with the vendor, wasting precious time of the operator qualified resources that may impact end-users.

This high cost/low quality will continue to degrade as vendors struggle to create new revenue streams and compensate with further cost cutting, often in the support organization size or quality.

Reactive in Nature

Traditional support services are reactive in nature. As the global support organizations are dealing with multiple customers, they're only engaged upon escalation of an already existing problem, and the time to resolution will usually depend on the size of the support contract and escalation pressure from the operator support organization.

Multi-Vendor Ping-Pong

For complex multi-vendor issues where it is not clear which node/product is faulty, operators have open several tickets to solve one unique service outage. In these cases, the support delivery is characterized by highly unsatisfactory performance as vendors seek to absolve their products from issues by blaming other vendors equipment for issues.

Tickets are typically opened and closed and passed from vendor to vendor with little to no cooperation between the support structures. The time to resolution is usually much higher than the issues require and often operators' network quality is questioned publicly, in particular on social media.

Disrupting the traditional approach

Disrupting the model

There is a Future Mode of Operation (FMO) which MNOs can adopt which covers the full scope of network support, by splitting the current scope of level 3 into an operator led level 2.5 support and a much smaller equipment vendor L3 support.

There are many benefits to this model, from cost savings to churn decrease as described in more detail below. Overall, the outcome is better network quality with increased customer satisfaction at a lower cost.

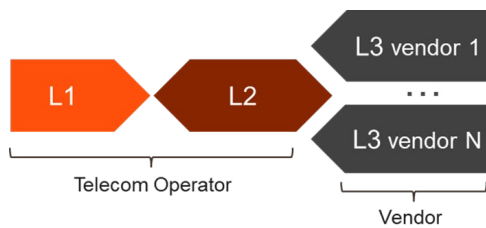


Figure 1: Traditional vendor support model

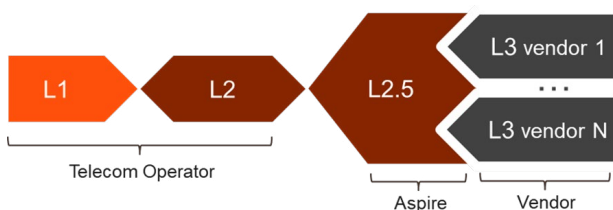


Figure 2: The new model

Lower OPEX

Once the operator is no longer dependent solely on the vendor, there is now a leveraged position to renegotiate the costly support contract based on much smaller volume of tickets.

Level 2.5 will handle 80% to 90% of the cases that would typically go to the vendor.

Knowing the number of cases you escalate today, Aspire can help you identify the savings.

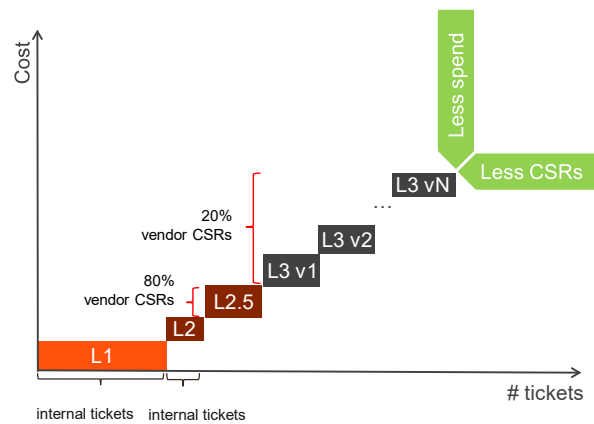


Figure 3: Less requirements for vendor support

High Quality

Aspire's L2.5 support is the equivalent in expertise of the vendor tier 2 which are dedicated to the vendor's network and will gain knowledge of your network environment.

More Proactive, Less Reactive

In this model, the L2.5 support drives:

- Proactive O&M and automation with focus on automated checks and resolution of smaller issues that have potential to grow into service outages
- Utilization of automation tools to backup, perform configuration checks and automate resolution of selected alarms
- Conduction of routine audits to assess focus areas

One Point of Escalation

- No more Ping-Pong between vendors - Multi-vendor tickets are managed centrally by one entity acting as the unbiased independent liaison and arbitration

Disrupting network operations in multi-vendor environments

between vendors and in most cases (80% to 90%) resolving the issue without even involving the vendor, leaving to vendors only software or hardware related issues.

- One SLA to rule them all - One SLA that will be used for any vendor, so no more multi-vendor penalty calculation. Flagging and documenting SLA breaches for the small amount of cases in which the vendor is involved is done centrally.
- Simple Operation - Clear lines of responsibility in terms of resolutions primarily evident in complex multi-vendor issues.

Other Benefits

- Enhancement of the internal staff competence in the front office and back office.
- Tuning of nodes for alarm reduction removing unnecessary noise.
- Support in network interventions and integrations or pre-intervention activities like FNI implementation, MOP review, post-intervention babysitting, therefore reducing ad-hoc intervention and integration cost.
- A partnership relation with 'can do' attitude with a truly committed partner.
- Consultancy of existing processes and set of tools.

Results

By applying the disruptive network support model, operators have been able to:

1. Reduce network support OpEx, boost internal competence, consolidate multiple vendors contracts & adopt service centric SLAs
2. Adapt processes and introduce proactive ways of working to pre-empt recurring network incidents to occur
3. Proactively assess network utilisation, nodes health-checks and improve network performance
4. Automate entire process flows, reduce the dependency of humans and improve execution quality and time
5. Adopt machine learning and advanced orchestration to extract further improvements from network

54%

reduction of
network support
OpEx

100%

incidents resolved
within SLA

57%

reduction on raised
incidents due to
early fault
detection

86%

reduction of
network
management
alarms

25%

proactive
improvement of
user throughput

Case study 1: OpEx reduction

Problem

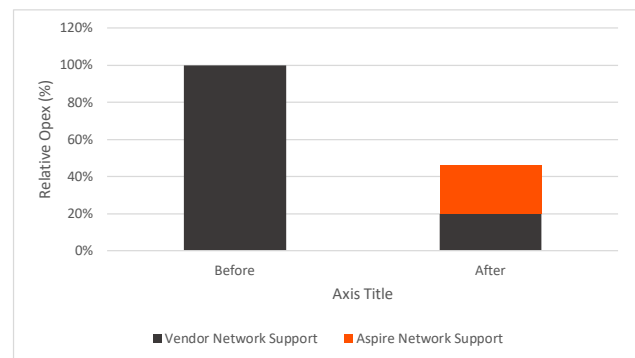
- Operator decided to swap vendor and legacy network support fee remained unchanged
- New vendor network support fee was to kick-in sometime during the swap
- Reducing vendor footprint with no consequent reduction on network support fee
- Large number of CSRs to vendor that should be handled by operator

Solution

- Design of an optimal network support organisation for all vendors & domains in scope (RAN, Tx, Core, OSS, IP, Core, Charging, VAS & LI)
- 'Top notch' on-site and remote teams with broad E2E experience across vendors and domains
- Strong drive for automation, re-engineered processes and pre-emptive measures to increase efficiency
- Clean up Network Management Systems and Fault Management System

Benefit

- Substantial reduction of required legacy vendor network support
- Better SLAs than legacy vendor
- 54% overall OpEx reduction for legacy network support on a volume-based contract



Case study 2: Strict SLA compliance

Problem

High priority and business impacts emergency escalation need to be resolved within strict SLAs (RAN, Tx, Core, OSS, IP, Core, Charging, VAS & LI)

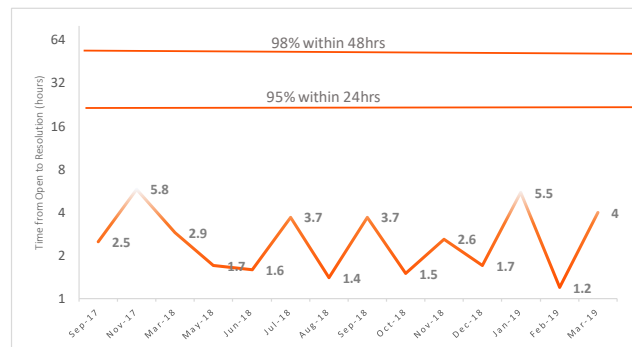
Solution

Innovative approach to Network Support services:

- Highly skilled Front Office team as first line of support for smart assessment and assignment of each incident supported by experienced engineering team with high E2E expertise
- Constant collaboration and communication across domains
- Operators customised software solution for incidents full cycle management

Benefit

100% incidents resolved within SLA, across all domains
Fast turnaround timelines: Emergency time average 2.7h



Case study 3: Proactive O&M

Problem

Large amount of network incidents across all domains requiring significant resources for network support

Solution

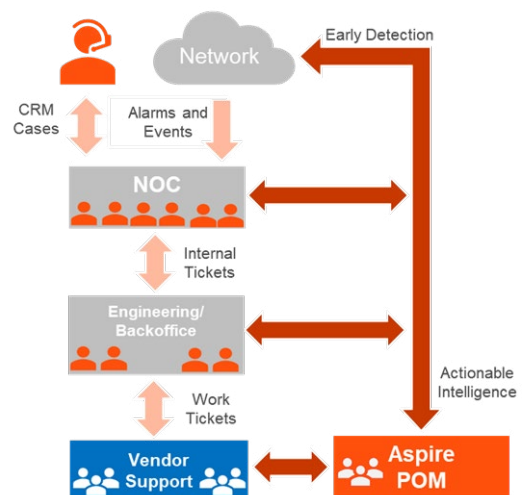
Introduction of Proactive Operation & Maintenance (POM), aiming to:

- Prevent any event which has the potential to result in a fault or outage from happening
- Dedicate a specific team for POM
- Implement new operation model with use of AI for early detection of degradations and quick automated actions leading to fewer customer complaints and fewer network tickets

Benefit

- 57% reduction on raised incidents due to early fault detection
- Reduction in escalations and emergency incidents
- Improved network performance
- Potential reduction in personnel required for 'firefighting' activities
- Deployment of 'best practice' in the network

57%
reduction on raised incidents due to early fault detection



Case study 4: Proactive 3G improvement

Problem

Network degradations detected via Proactive KPI monitoring

Cause

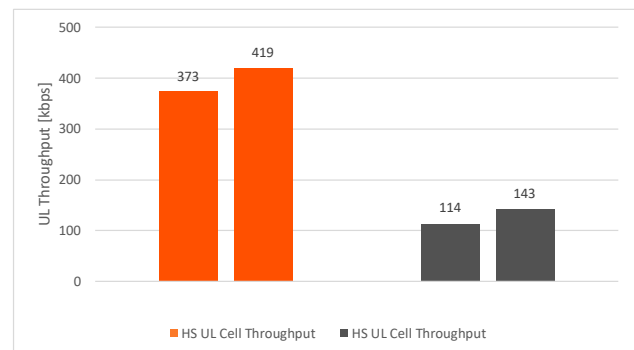
Sub-optimal parameters settings were preventing the operator from delivering a better data service

Solution

New configuration proposed in order to improve the 3G uplink throughput

Benefit

Uplink user throughput improved by 25.2% across the whole 3G network



Case study 5: Alarm noise reduction

Problem

Excessive alarm count on the operator Fault Management System (FMS) resulting in the server exhausting memory every few weeks

Cause

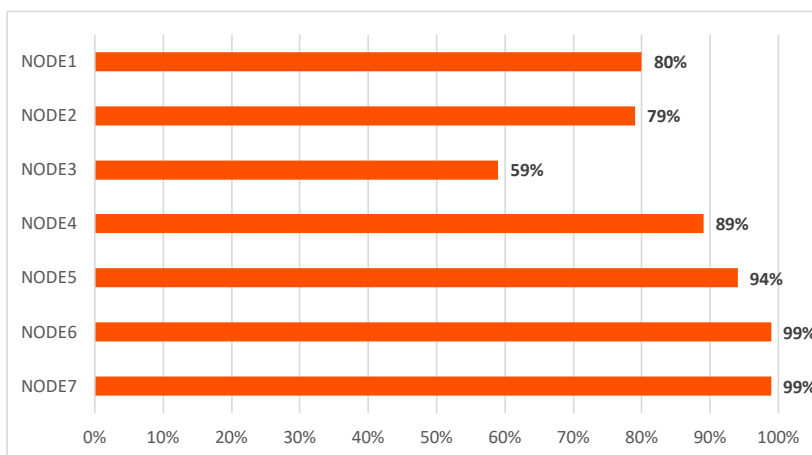
Multiple nodes were sending large number of events frequently as output including alarms not relevant to the operation

Solution

Tuned the alarm definition files to send only relevant alarms/events to the system and remove old unused nodes in the operator system

Benefit

- 86% overall reduction in alarms across several nodes
- Easier to troubleshoot issues if incident occurred
- Increased efficiency leading to faster resolution times of 'real issues'



Next steps

Aspire developed this model of operations after years of engagement with different operators and identifying the traditional network support model as low quality and high cost.

This problem was exacerbated with operators due to increase of multiple vendors for CapEx optimization. As vendors seek to retain control of network expertise in order to maintain dependency and leverage, operators can be fixed with multiple expensive contracts and non-business aligned SLAs in which each vendor passes on responsibility of the issues to the next.

Not only does this lead to an inefficient use of the operator resources that spend more time pushing cases to vendors, but it ultimately leads to more network downtime, customer complaints and churn.

Engage with Aspire Technology now

What if in one go, you could improve the quality of your network support, regain control of your network operations and yet decrease operational costs? Whether it's a mobile or fixed network issue, end-to-end or function specific, Aspire have a novel approach to your problem.

Talk to our network support specialists and understand how you could evolve to a future mode of operation. Aspire can perform a free audit based on your current FM data and help you build your business case to disrupt your operations support model.

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