JUNIPER NETWORKS | Engineering Simplicity

eGuide

Advanced Monitoring and **Analytics for Your Data Center**

Make sense of your data to avoid flying into adverse operational conditions

Step 3 of the series: **How to Architect the Right Data Center, Right Now**

April 2020

Advanced Monitoring and **Analytics for Your Data Center**

When data center architectures extends beyond even moderate amounts of sophistication and complexity, it becomes a daunting challenge for operators to understand what is going on using common tools and processes alone.

For example, when something is broken, operators need to see all potential issues in real time. The problem isn't a lack of monitoring and associated dashboard; it's that there are too many.

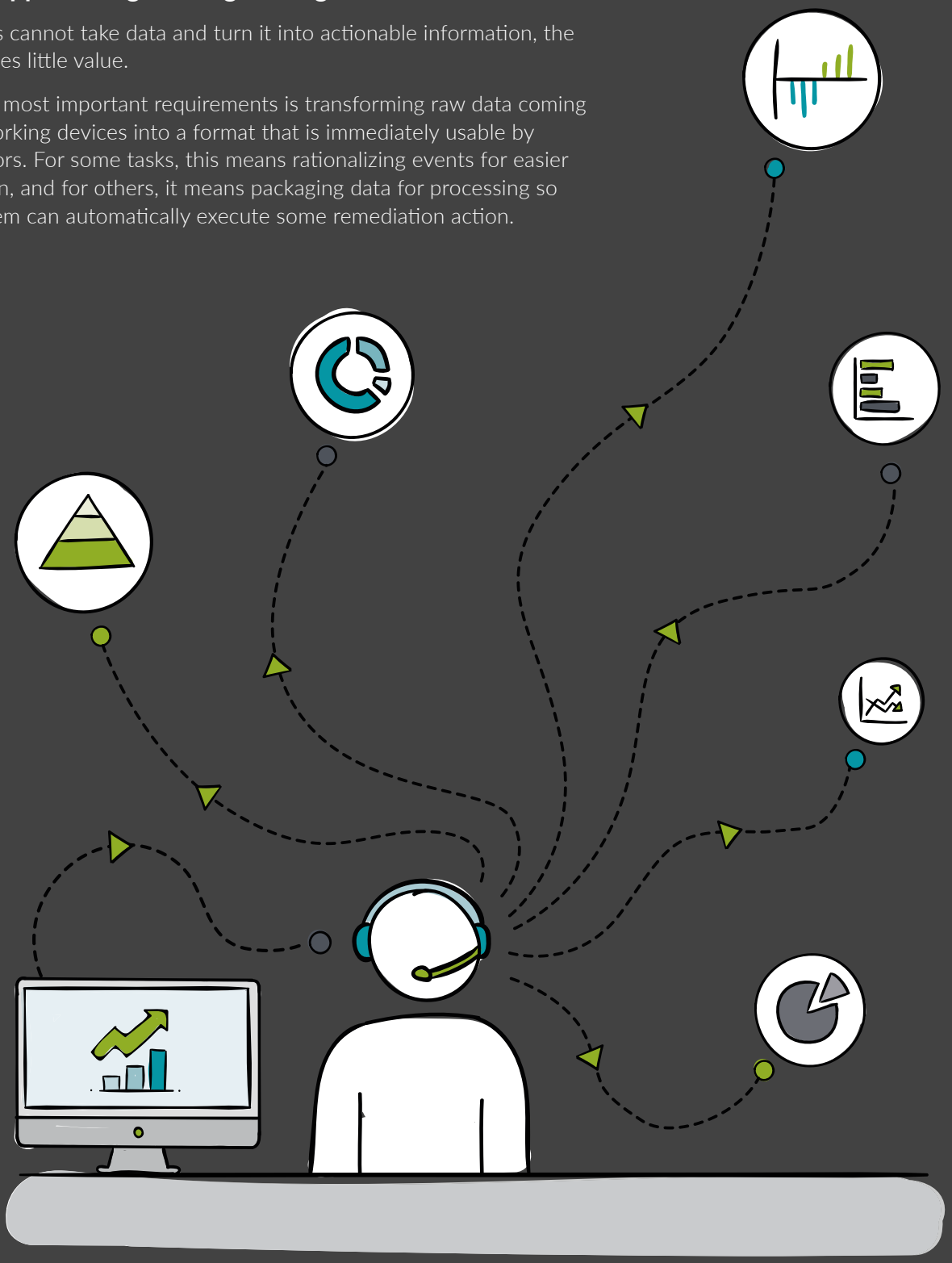
In that moment, operators could find themselves consulting a dozen dashboards split across different tabs. Correlating issues becomes a manual process, and they have to do event correlation visually.

So the real problem is no longer about having enough data — it's about gleaning meaningful insight from the data you have, and usually, there is simply too much to take in.

Multi-tier network data center architectures that support various applications dictate that operators need to collect data to support the gathering of insight.

If operators cannot take data and turn it into actionable information, the data provides little value.

One of the most important requirements is transforming raw data coming from networking devices into a format that is immediately usable by the operators. For some tasks, this means rationalizing events for easier visualization, and for others, it means packaging data for processing so that a system can automatically execute some remediation action.



In a modern data center, operators need to manage both hardware and virtual endpoints as well as legacy and new devices.

While newer and virtualized resources require operators to understand their network conditions in real-time using streaming telemetry, traditional monitoring technologies such as SNMP may suffice for legacy resources.

Virtual devices generally have virtual networks, otherwise called overlays, associated with them. So it's also essential to correlate what is happening in the overlay with the underlying fabric, especially in cases where multipathing is utilized.

Visibility cannot be limited to individual domains.

For many existing deployments, unifying visibility poses a significant technological obstacle. Because modernized data centers are typically more complex, a single platform that operators can rely on to monitor, analyze, and automate various resources is needed. Further complicating the transition is the fact that many data centers are becoming more automated. Since the basic premise of automation is to see something and do something, this puts a premium on centralizing, monitoring, visibility and expanding the surface area of what can be observed and acted upon in a consistent way. The objective should be to reduce the need for users to discover problems.

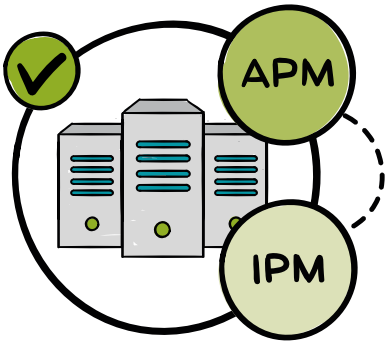
Over time, the platform must automatically learn the network and device performance profiles, detects faults, and facilitate preventative remediation in real-time at scale.

Closed loop automation can even remediate issues before the operator has a chance to act, providing consistent application performance, even in the face of network device failures.

Checklist

Use this checklist to ensure you consider the key aspects of data center network monitoring and analytics.

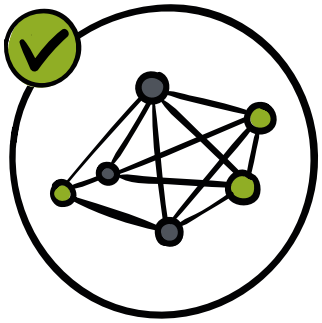
SNMP is no longer sufficient. Look for real-time, streaming telemetry solutions.



Workloads and workflows are the reason data centers exist. Make sure your solution does both application performance monitoring (APM) and infrastructure performance monitoring (IPM).

A telemetry solution that baselines your data center will cut down on alert fatigue by only alerting you to anomalous behavior.

Make sure your telemetry system uses a standard and open network communications model to collect data from multiple vendor devices.



To future-proof your telemetry system, make sure it offers open APIs for automation.

AppFormix Data Sheet

For more detail on your key data center monitoring and analytics considerations, see our data sheet, **AppFormix Network Monitoring and Analytics with Streaming Telemetry**, which you can **download now.**

Getting Started Today

Choose from the other guides available in this series to find out more about how to architect the right data center, right now.
Step 1: Reduce Complexity in the Data Center With the Right Architecture: click here
Step 2: Security Considerations When Redesigning Your Data Center Network: click here

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Information correct at time of publication (April 2020).