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Nimble Storage InfoSight for VMs, a step forward in infrastructure analytics

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EXECUTIVE SUMMARY

Nowadays, speed of reaction is one of the most important characteristics of any modern IT infrastructure. Business needs change continuously and having the right information, at the right time, to support strategic decisions, is the best an IT manager can do to actively contribute to the competitiveness of an organization. At the same time, having a clear vision of what is happening is fundamental for solving issues before they impact the business. Staying always one step ahead of potential issues, thanks to the right analytics and support tools, can dramatically help to ease infrastructure management and improve overall infrastructure SLA.

To achieve these goals you can't rely on traditional tools. The quantity and quality of data to collect over time is massive and its value is directly proportional to the number of concurrently monitored infrastructures. In fact, most of the insights come from the correlation and comparison of the same measurement in different situations and infrastructures. Furthermore, building an on-premises data analytics system to just monitor your sole infrastructure does not make sense at all, but leveraging the cloud with an as-a-Service consumption model makes it very accessible and easy to use, even to the smallest of end users. Most importantly, the intelligence generated by the system is based on real world data from all systems deployed across the globe.

Hypervisor and VM-level real time data is a key to get the finest granularity when it comes to analyze workloads and resource consumption.

Cloud-based hardware infrastructure analytics is only the first step. A few of the most advanced solutions are already climbing up the stack and they are now collecting data coming from upper layers. For example, Hypervisor and VM-level real time data is the key to getting the finest granularity when it comes to analyzing workloads and resource consumption. With this kind of approach, the granularity offered by extensive data collection and an effective data visualization, it is much easier to obtain an end-to-end view of your

infrastructure from many different perspectives. Analyzing the situation becomes much easier both for real time troubleshooting as well as for planning and forecasting.

Nimble Storage Infosight enables end users to achieve these objectives. Already a game changer in the way system administrators look at their storage system, with the latest release it is now capable of providing deeper insight into what is happening at storage as well as network and compute layers. Its smart data visualization and easy to use cloud-connected interface allow users to explore and analyze all aspects of the infrastructure in a real-time, giving the System Administrator a powerful tool to proactively answer many more questions and identifying problems or potential issues in real time. The same information which can be easily leveraged by IT managers to support business decisions about the future of the whole infrastructure.

BUSINESS NEEDS PROACTIVE IT

Every single business nowadays is moving much faster than in the past and if you want to stay competitive and efficient, all components of your organization must react very quickly to any hint of change, and this is particularly true for IT. Unexpected business expansion is usually accompanied by periods of contraction in a sort of coiled spring effect. Agility is the standard baseline now, but if you want to be one step ahead, IT must be proactive.

IT is always challenged

Challenges for IT come from many different fronts and services are now offered globally 24/7 with mobile users accessing them anytime from anywhere. These users do not accept any kind of service disruption which can impact their activity or business operations.

Traditional storage systems are not smart enough to understand what is happening around them.

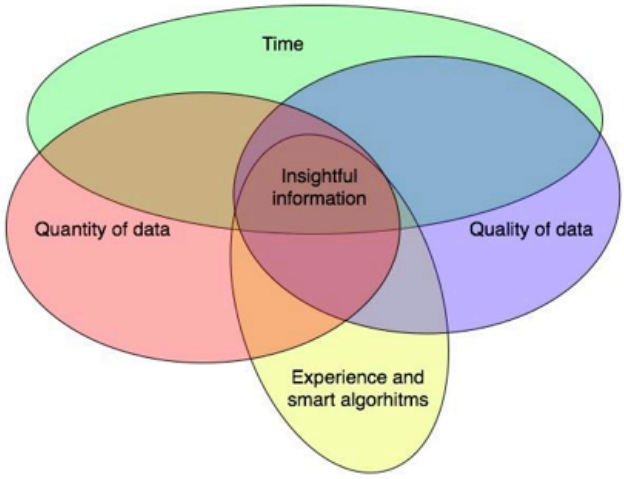
Traditional IT solutions are simply no longer enough to cope with this scenario at a reasonable cost. In fact, traditional storage systems struggle to manage multiple workloads at the same time and, above all, they are not smart enough to understand what is happening around them. Even the most advanced systems in this category, propose a limited set of analytics tools capable of leveraging only a very limited set of collected data points without the ability to make comparisons with other systems. As a direct consequence, the System Administrator is severely limited in its activity and spends most of the time trying to understand what and where the problems are instead of solving them.

Too much activity and lack of proactivity

When it comes to monitoring and managing the whole IT infrastructure, traditional storage systems, with all their design limitations, represent a real bottleneck which slows down system administration activity while giving shortsighted vision of future issues and needs.

In order to take rapid action, especially during troubleshooting, you need a real-time detailed picture of what is happening around you. Data, from different sources (storage, networking, VMs and hypervisor for example), must be collected and collated to create a complete and clear graphical representation of resource consumption with respect to user and application requirements.

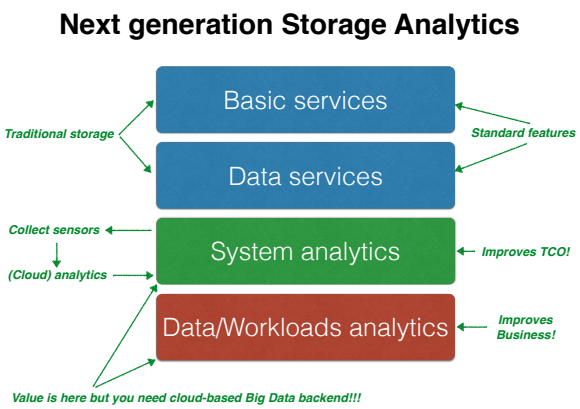
The first, and one of the most important parts of this process, can be found in the granularity of end-to-end data collection. A characteristic usually absent in traditional storage systems because they are not designed to read, store and compute so many sensors. For example, the lack of a Big Data analytics backend, impossible to implement on-premises and useless without a consistent amount of data to compute, makes it very difficult to deliver next generation features.



As happens for weather forecasts: quantity and quality of data sensors, associated with consolidated measured experience in time and smart algorithms, are the key to produce valuable insights, prevent potential issues and deliver precious forecasts for the future health of an IT infrastructure.

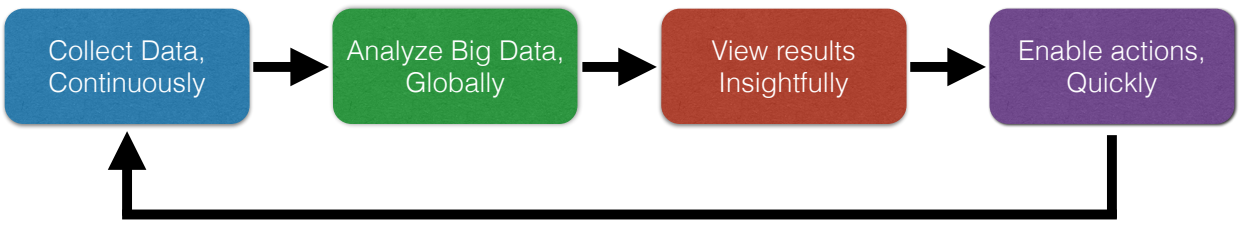
WHY CLOUD-BASED SMART ANALYTICS ARE CRITICAL

Cloud-based big data analytics has been a game changer in storage systems monitoring and management: it's like moving from an Excel spreadsheet to a relational database.



Nimble Storage Infosight, the most advanced solution in the market at the moment, is a vivid example of what I'm talking about. Each system in the field collects about 70 Million sensor data points per day and it sends them to Nimble's Big Data infrastructure. It's not only about the quantity of data but it's mostly about the fact that they can be simultaneously compared to similar measurements taken on thousands of other systems and give you a map of where you are compared to the rest of the world!

InfoSight opens a world of opportunities for both the end user and the vendor. It integrates pro-active support, capacity planning, best practices notifications and more to drive up efficiency, anticipate problems and manage the lifecycle of the array at best. This solution helps Nimble and its customers to prevent issues,maintain storage health and predict future needs.



Furthermore, collected data helps developers and engineers to improve the products much faster under all of these aspects and find the best solutions for end users before they even ask for them.

Cloud-based storage analytics is a continuous seamless process that brings constant visible improvements both in terms of TCO and IT strategy.

An AI-like assistant but for Enterprise Storage

A cloud-based analytics system, like infosight, isn't a voice-activated service of course, but this analogy helps to understand its role in the datacenter. It's thought up to deliver the right information when it is needed and give the best indications when asked.

Integration with other components of the stack makes this kind of solution particularly helpful:

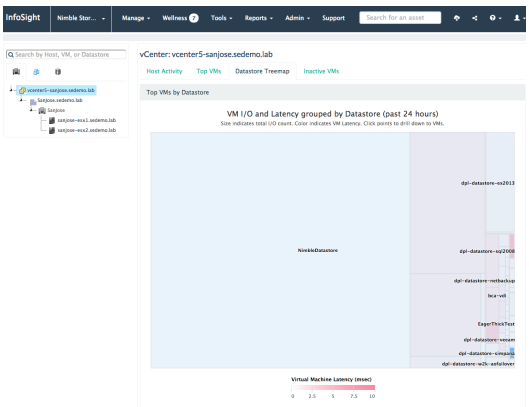
- by sending notifications when something isn't going as expected,
- by opening support tickets for you before a problem occurs,
- by giving insights to optimize the configuration or forecasting future resource consumption.

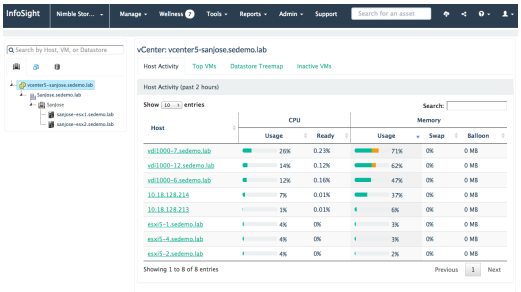
You can think about it as a virtual personal assistant for the System Administrator.

WHY NIMBLE STORAGE INFOSIGHT FOR VMS IS A STEP FORWARD

Nimble Storage Infosight, thanks to the recent introduction of a new set of features, is now capable of going much deeper than in the past and analyzing VM-level data. New integration with VMware vSphere allows to harvest real-time data from the hypervisor platform and its guests, enabling a whole set of new functionalities particularly useful for rapid troubleshooting and better resource management.

New empowered per VM data collection produces rich information about each single VM, its resource consumption and associated workload. When this new piece of information is put into relation with data coming from the storage device, the System Administrator obtains a clear end-to-end view of all the components taking part in the overall infrastructure utilization and can react immediately by taking adequate action.

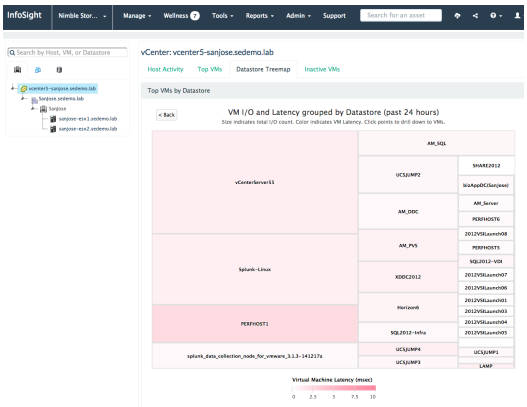




Intuitive data visualization is a fundamental part of InfoSight and it is designed to get what you need to know at first glance. The already good InfoSight web UI has been further improved and new interactive data charts, which now provide a graphical weighed visualization of hot spots generated by VMs, have been added.

Interaction, is another key point of InfoSight for VMs. In fact all the data charts are interactive and aware of the context. Every single operation, from the mouse passing over a specific

zone to a click on a “high temperature” area, produces other valuable information and allows a fast drill down to find the cause of an issue.



The product is very flexible and the same collected data and charts can be used the other way around. In fact, knowing all aspects of each VM allows users to visualize all the metrics and identify wasted resources. Just by sorting VM data differently it is possible to locate idle VMs as well as underutilized storage resources or, similarly, Bully VMs which consume a lot of resources, creating contentions and impacting performance of their neighbours. In fact, this feature is very helpful to save resources on both storage and compute nodes while preventing future resource contention and problems. In meeting aggressive SLAs in virtual environments, these VM-level insights are critical.

BOTTOM LINE

Nimble Storage InfoSight is demonstrating a great level of maturity and the features added with the latest release are very helpful to:

- give a prompt response to business when problems occur;
- maintain the infrastructure at its maximum efficiency at all times;
- proactively solve issues, before they become evident;

The core value of the product is intact, but it's amplified by the per VM data harvesting. It simply brings even more value by extending visibility throughout the stack, thereby helping Nimble maintain clear leadership with this kind of solution.

Nimble Storage InfoSight is the first product on the market to bring Cloud-based Big Data analytics to storage systems for a broad range of end users. The SaaS-based model, on which this application is delivered, helps Nimble to continuously improve the product without impacting end user activity and keeping them constantly up to date with latest functionalities.

Final note

Cloud-based big data analytics should be one of the first features to look at in depth when considering a new storage infrastructure. If well implemented, like in the case of Nimble Storage, it automates many support activities and is very helpful in day to day system administration, lowering the overall storage TCO. Nevertheless, information gathered from this type of platform can be extremely useful for IT managers, helping them to make strategic decisions and keeping the infrastructure efficient and under control with minimal effort.

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Why Juku

Jukus are Japanese specialized cram schools and our philosophy is the same. Not to replace the traditional information channels, but to help those who make decisions for their IT environments, to inform and discuss the technological side that we know better: IT infrastructure virtualization, cloud computing and storage.

Unlike the past, today those who live in IT should look around themselves: things are changing rapidly and there is the need to stay informed, learn quickly and to support important decisions, but how? Through our support, our ideas, the result of our daily interaction that we have globally on the web and social networking with vendors, analysts, bloggers, journalists and consultants. But our work doesn't stop there, the comparison and the search is global, but the sharing and application of our ideas must be local and that is where our daily experience, with companies rooted in local areas, becomes essential to provide a sincere and helpful vision. That's why we have chosen: "think global, act local" as a payoff for Juku.

Author

Enrico Signoretti, Analyst, trusted advisor and passionate blogger (not necessarily in that order). Having immersed into IT environments for over 20 years, his career began with Assembler in the second half of the 80′s before moving on to UNIX platforms (but always with the Mac at heart) until now when he joined the "Cloudland". During these years his job has changed from deep technical roles to management and customer relationship management. In 2012 he founded Juku consulting SRL, a new consultancy and advisory firm highly focused on supporting end users, vendors and third parties in the development of their IT infrastructure strategies. He is constantly keeping an eye on how market evolves and continuously looking for new ideas and innovative solutions. You can find Enrico's social profiles here: http://about.me/esignoretti