ITOS

THE NEXT GENERATION OF TRAFFIC MANAGEMENT BUILT FOR THE CLOUD

UNDERSTANDING YOUR TRAFFIC

Think of your online performance as if it were a GPS system. Constellix headquarters are located in the DC metropolitan area, which boasts the nation's worst rush hour traffic. So, we are very familiar with using GPS applications multiple times a day to get where we need to be on time.

Now, what if you wanted to go somewhere, but while you are mid-route there is an accident in the way. How would you know? Would you be alerted, or would you have to keep checking your GPS while you're driving? And most importantly, how does this even apply to online performance?

Think of this traffic situation as if your end-users were trying to access your website a certain way, but something goes wrong and they can't use that way anymore. Maybe you're just not routing efficiently, or there is an issue with one of your service providers, or worse you're under attack.

In order to solve this problem efficiently, you need to have a monitoring system in place to detect service impacting issues. But this is where a lot of admins stop or delayed. Once you're alerted, you need to immediately make changes in order to fix the issue. The best way to do this is by using an integrated monitoring and management solution, so you can make informed decisions on how to reroute your traffic efficiently.

"20% of small businesses have a major IT accident resulting in downtime every five years... 25% of these small businesses will have to close for good!"

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INTELLIGENT ANALYTICS

Let's keep running with this analogy... You have been alerted that there is an accident ahead that will cause an appreciable delay, or even block your route altogether. Let's think of this accident as if it were a location in your network that is underperforming. It can be a single server or a whole data center. You will need to find a new way to reroute your query traffic around the issue while attempting to keep resolution times as low as possible.

But it's a little more complicated than just rerouting traffic to the next nearest node. Rather, you will need to find the route with the best connectivity. Does your new route use the highest performing enterprise providers (ISP's or CDN's)? There are other factors too, like will you be sending traffic to a highly populated server that can't handle the weight of your traffic? And most importantly, once you have made your decision... how will you monitor your end-users to ensure their performance has improved?

An ITOS solution delivers real-time metrics of a user's network and even shows how individual end-users are experiencing the issue. This way, you can take the analytics and determine the best method to reroute traffic on an individual end-user basis. Say only clients accessing your site from mobile browsers are having issues or only clients using one ISP are having performance degradation... you can engineer custom solutions for these clients and them use monitoring to make sure the changes worked!

"You can use Real-User Monitoring (RUM) or Real-Time Stats (RTS) to analyze and even predict latency in your end-users' networks."

ROUTE WITH PRECISION

We can even go a step further, by adding an AI, or Artificial Intelligence. These tools can analyze the situation, suggest alternate routes, and then implement the best solution… all of this without having to lift a finger. This technology has the ability to prevent end-users from ever suffering any negative effects of network issues or even entire data center outages.

If we take this back to our GPS analogy, ITOS solutions are like having your own GPS system that sees traffic in real-time, provides you with intelligent insights into how to get to your destination the most efficient way, while continuing to seek out faster routes while you are driving, and predict gridlocks and reroute you so that you are never affected.

Pretty amazing right? The future of ITOS would be like having an autonomous, self-driving car with built-in GPS that can make these routing decisions and then implement them for you. That's the true power behind ITOS: integrated monitoring, analytics, and intelligent traffic routing.

These revolutionary services arose from the demands of system administrators who were struggling to use multiple services from different providers to achieve just a portion of the visibility ITOS offers. The movement was then catalyzed by the exponential growth of the Internet of Things and cloud-based infrastructure.

Admins quickly realized the future of tech would require integrated services to truly see the full picture of their networks and end-users. There are a few ITOS inspired platforms emerging, which strive to meet all of these needs. Constellix, for one, was engineered solely from admin requests and user feedback for an integrated platform.

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WHAT'S THE DIFFERENCE?

We are often asked what is the difference between ITOS and traditional management solutions like NPM, APM, IPM, and DDI. These industries have offered traffic management, monitoring, and analytics solutions for years now; so why is ITOS better?

APM (Application Performance Management) offers end-to-end visibility of users within an application. APM services offer some really insightful analytics which can help admins optimize their apps. However, these solutions are limited to only the application layer.

NPM (Network Performance Management) is a step in the right direction, offering enterprise level management of how clients are routed. This is helpful for large companies with international audiences. However, these services lack granularity or optimization of third-party service routing (like ISP's or CDN's).

DDI (DNS, DHCP, and IP address management) is a very mature industry which helps admins optimize their backend infrastructure, like DNS. Again, a step in the right direction but these services lack integrations between monitoring, analytics, and actual traffic routing. This disconnect has historically proven to have drastic consequences.

> **"Businesses that take an end-to-end approach are more likely to have highly satisfied end-users"**

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> **"Outages can cost between $82,200 to $256,000 for a single event... that's more than $200 every minute your server is down!"**

OVERCOMING BLINDSPOTS

The "secret sauce" behind ITOS' successes comes from its synergistic foundations. Admins who use traditional solutions often have to worry about blindspots, or gaps between looking at analytics and implementing configurations. Most blindspots are caused by uninformed changes to user configurations, which can make or break a business during the course of a single outage.

Without analytics to back up your changes, you're basically shooting blindly at a moving target. This is stone-age thinking, and can even worsen issues and prolong outages. Another blindspot we have seen is some admins choose to optimize their network performance based on rules of thumb. These generalizations may work for some businesses, but typically don't reflect the true user experience. Cloud-based infrastructure demands a constant stream of real-time data and performance metrics in order to capture true end-user behavior and traffic flows. Integrated ITOS platforms are able to use this information to make real-time suggestions for optimizing traffic flow for all of your users.

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IMPLEMENTATION

As more organizations move their traffic and infrastructure to the cloud, the demand for ITOS grows. The industry was recently valued at $80 million in 2016, with anticipations to triple by 2020 to $350 million. Industry experts at Constellix are urging admins that now is the time to begin implementing cloud monitoring and management systems like ITOS, to avoid any issues that come with moving to the cloud.

You're probably wondering, how do you go about incorporating ITOS as a part of your organization's traffic optimization strategy? There are a few steps you need to take to make sure you pick the best platform for your needs. First, you will need to evaluate your own organization and determine what you want to improve. This could be how well your network performs or end-user routing.

Then, look for providers who offer both monitoring (with analytics) and traffic management services, preferably with integrated functionality. There are many different services available, which can seem a bit overwhelming. Some providers take advantage of this and misconstrue some features as essential when they are really just add-ons to pad a commissions check. Do your due diligence and research the different services and providers.

Determine for yourself which of these services your organization needs, for example: do you want to validate SLA's from your ISP, CDN, or other third party service providers? Then you will want to look for Real-User Monitoring. Do you want to monitor for location-based issues, and then be able to make instant changes to your network? Then you should be looking for customizable monitoring checks, and GeoIP routing services.

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NOW IS THE TIME

The only way to achieve total visibility and management of your entire Internet constellation is to choose an ITOS solution. With the massive push to migrate to cloud infrastructure and increasing performance demands from end-users, now is the crucial time to implement ITOS.