

NetYCE Shifts Balance for Network Configuration Control

Network Management in the Age of Cloud

The effects of the Cloud computing revolution have been unmistakable across all IT disciplines, and the network is no exception. First, new focus is being placed on network efficiency, as Cloud-connected resources now must be able to count on flawless delivery as never before, wherever those resources reside. Second, the move towards an internal private Cloud model represents an evolution of traditional IT infrastructure and applications into true services, bringing along with it the need to re-evaluate and industrialize management technologies and practices in order to de-risk an increasingly fluid, dynamic environment.

The ultimate goal of any IT organization, whether they have made the move to internal Cloud or not, is to provide applications and services that are available and perform at or above levels expected by the consuming audience, whether they are internal users, customers, or business partners. The network's role in this equation is to provide the delivery substrate between and amongst clients and hosts, both in local and long-reach settings, with predictability and reliability. And while monitoring the network helps to make sure operations occur within expected parameters, the process really starts with proper attention to how network elements are configured.

Traditional approaches to managing the configuration of network devices, commonly known as Network Change and Configuration Management (NCCM), focus on scanning network devices, capturing the existing configurations, and then managing change from that point forward. This could be called an "as-is" approach to NCCM, and unfortunately is limited in the ability to create, distribute, provision, and enforce adherence to standard configuration designs. As a result, changes made to configurations out in the field are often not recognized in a timely manner and may have seriously undesirable side effects before being discovered. This is of particular concern to those responsible for enforcement of governance policies, where any breach, however small, can be hugely costly to the organization. Further, any hope of truly automating NCCM is bedeviled by the lack of consistent skills and consistent designs.

The YCE Platform – A New Angle on Configuration Control

Based in the Netherlands, NetYCE saw an opportunity to take a completely different approach to the problem. Rather than try to force-fit configuration compliance into an "as-is" approach, it was much more logical to start from the other end of the problem, and create configurations by modeling customer designs using templates on a central system. These would become the only available configurations for network devices under management. This shift means the network would run "as-designed" and as defined per the organization's priorities and policies. No changes would be allowed on the fly in the field – all would have to be made through the centrally controlled platform.

This approach solved some of the major issues facing network operations today. First, it eliminated the availability and performance risks of unsanctioned changes being made to devices in the field. Second, it provided a means to standardize configurations, improving both stability and performance predictability across the network. Third, it provided an assured means for enforcing governance policies that were becoming increasingly essential to upper layers of IT and business management. And finally, such an approach would inherently lend itself to automation.

The challenge was to build this in a way that could scale to large environments and could credibly handle multi-vendor mixes. The NetYCE team met this challenge by implementing the YCE Platform, designing it to be highly scalable and highly flexible to accommodate consistent representation of device

configurations. This was accomplished via a modeling system which leverages vendor-independent templates coupled with parameterized CLI on the back end, combined with a variety of automated workflow mechanisms. The platform puts network engineers in full control by automatically creating configurations based on their own designs, and automation is further applied on the distribution and provisioning end of the process. The solution also includes fully integrated IP address management, structured around multiple plan definitions, along with a set of open APIs for integrating with external DNS, DHCP, IPAM, and vendor-specific element management or even multi-vendor NCCM systems.

The YCE Platform has yielded remarkable benefits, including lower personnel costs, faster new technology rollouts, and lower error rates due to configuration changes.

Interestingly, NetYCE developed this product and incubated it within an ideal environment – the live production network of one of the top international European banks. This organization saw the need to move towards proactive configuration design enforcement, and realized that no other NCCM solution on the market could offer this across a broad

range of device types and manufacturers. The YCE Platform has now been in the field since 2002, regularly being tuned and improved to meet the needs of this world-class operations setting, and thus must be considered a mature product even though it is just now reaching broad market availability.

Key Benefits

The results of this approach have been remarkable, as experienced by NetYCE's lead customer. Error rates in configuration changes within the production environment have been slashed. The need to have highly trained network engineers directly implement configuration changes has been eliminated entirely, and changes are now made overnight unattended or are even initiated directly by help desk personnel. Rollout of new services is greatly accelerated and is occurring flawlessly, at least from the network perspective. The overall result for the business has been improved, proactive control of the network resulting in better predictability and reliability, ultimately delivering lower cost of operations and increased agility.

EMA Perspective

Networking practitioners are only beginning to come to the realization that the Cloud revolution is going to change their world forever. But that is precisely what is happening. ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) research indicates that all of the same standard practices used in traditional, non-virtualized, non-Cloud settings will be carried over into the new realms, but there is another external force at hand. All IT planners and operators, networking included, need to make the fundamental shift from reactive control to proactive control if they hope to meet expectations and keep pace with the onslaught of change.

Solutions like NetYCE's YCE Platform represent a new approach that EMA believes will become increasingly common as IT strives to remove operational risk from service delivery infrastructures. By proactively distributing and enforcing verified configuration designs across the network layer, a major source of concern and potential instability is eliminated from the operations equation entirely. Organizational standardization is the key to this improved stability, and NetYCE offers a unique approach to taking control of the network in a way that few other solutions will be able to match anytime in the near future.

About EMA

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