InSync Automation Engine – Whitepaper

Businesses today are heavily disrupted by innovative business models and new entrances. In order to keep up with pace and to grow, businesses require to respond to customer needs immediately. Superior customer experience, market readiness and responsiveness have become increasingly important. In order to stay ahead of the game, businesses need to be agile and innovative. This is where technology can support businesses to become market ready and innovative. Ability to manure changes on a timely, consistent and precise manner is a vital factor in becoming market ready and this is where automation plays a crucial role.

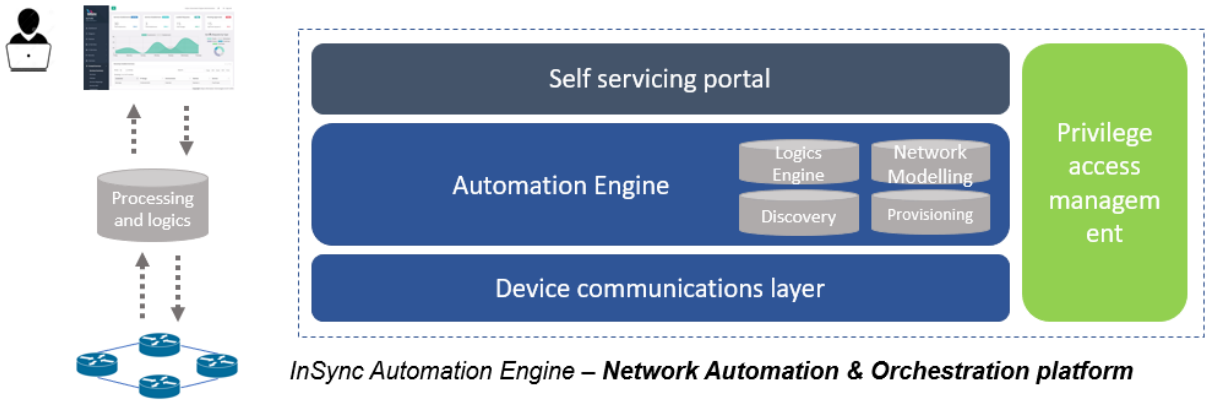
InSync automation engine offers solutions across network lifecycle that helps businesses improve its efficiency, build capacity and manageability. It has multiple out of the box use-cases across enterprises and can also be used for custom purpose use-cases. It is a software platform purpose built for network automation and orchestration. Underneath the platform is a powerful python-based core that runs on virtual environment for flexible deployment across both on-prem or cloud. Platform consist of four key pillars as described below.

Device communications layer: This layer consists of adaptors that can communicate with devices over standards such as NETCONF, SSH, APIs in a vendor agnostic way. Both read and write functions for monitoring, discovery and provisioning are enabled and executed through this layer.

Automation Engine: This is the core of InSync's automation engine and consist of functions such as processing of data collected through 'Device communications layer', network and network services modeling, general and custom build logics, policy framework and schedulers.

Self-servicing portal: This is the external facing portal that is used by both administrators and service users. In addition to its web-based user interface, this layer also consists of gateways that connects to third-party applications such as ticketing systems through north bound interfaces.

Privilege access management: Purpose of this module is to manage the administration of the software, store files, logs and to manage user privileges.



*InSync Automation Engine – **Network Automation & Orchestration platform***

For an enterprise, the usage of InSync Automation Engine has two applications as below;

- **Network Automation & Management-** InSync automation engine can manage multivendor networks and thereby giving a centralized portal for network administrators to manage networks. Some of the manual routine work such as configuration backups, bulk-configuration provisioning, state comparison and similar network management related tasks can be automated through the platform. Further device management tasks such as inventory, configuration, upgrades and backups can be managed through the platform.

- **Routine task automation –** Large number of tickets are made with IT division in a typical large enterprise environment requesting access to services on permanent or temporally basis. Requirements could come from both business users as well as from developers. These requests are fulfilled manually by the network administrators by logging in to respective devices. This routine manual operation can be automated with InSync's automation engine as the platform supports automation of these tasks through automated service activation of network and systems.

In both applications InSync automation engine will provide dashboards and visualization capabilities which gives vital information for network administrators and CIOs. With the dashboards, IT division can track pending tasks, fulfilled tasks, issues, analyze requests, identify anomaly which are critical insights for IT.

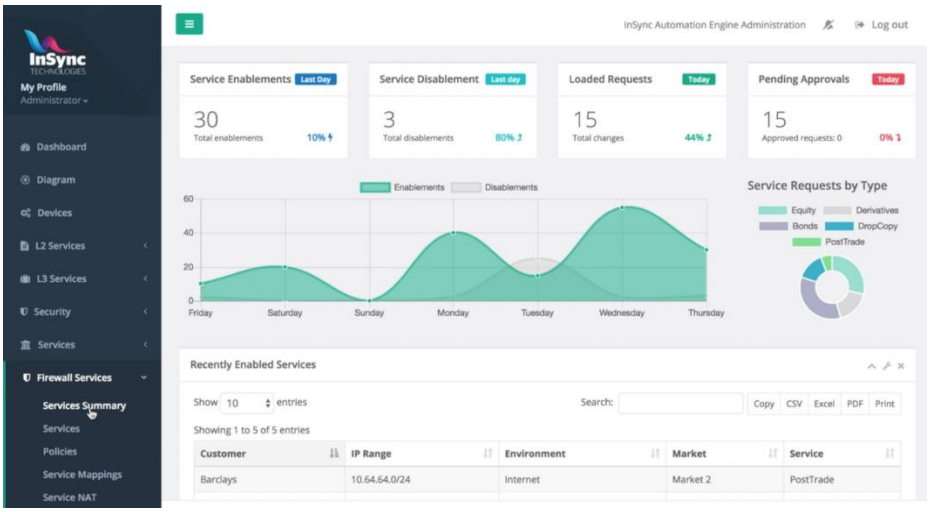


Figure 1: Dashboards for critical insights

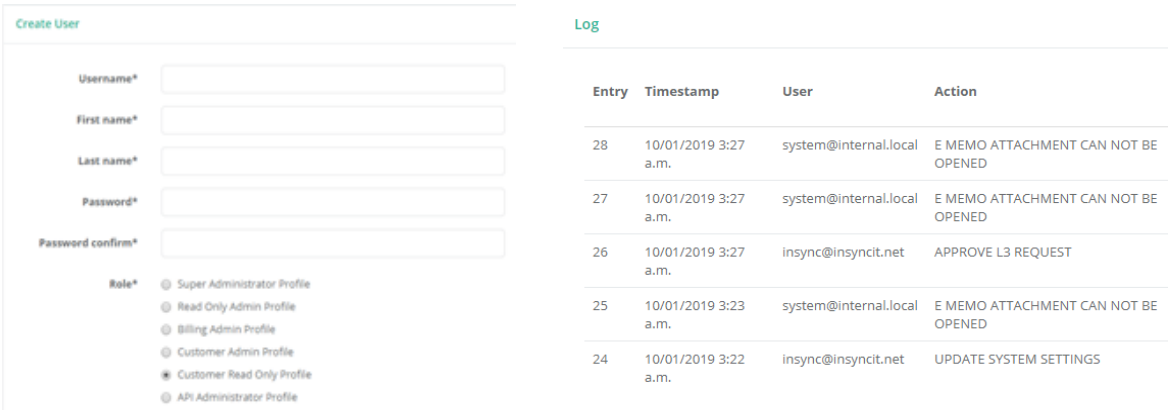


Figure 2: Role based access & detailed logs

Software features

- Loosely coupled, modular architecture
- Role based access for privilege management
- Self-servicing portals and dashboards
- Ticketing system integration with REST API & integration with third party provisioning applications
- Supports services provisioning and workflow automation
- Supports state discovery & monitoring
- Customizable GUI based web interface
- Reporting and alerting
- Topology view
- Vendor agnostic
- Integration with systems such as DNS, DHCP, AAA

Use-cases for enterprises

Service automation & management of branch networks

Business organizations with branches such as banks, insurance, retail, etc have large number of branches that constitute a branch network. Each branch will have a branch device that connects it to the business's private network over WAN. Management of branch devices happens manually making it a time-consuming task. With InSync automation engine, life-cycle management of branch network devices can be performed centrally, configurations and services can be performed enabled centrally through the web portal at one go as opposed to manual repetitive intervention. E.g. QoS configuration in all branch routers.

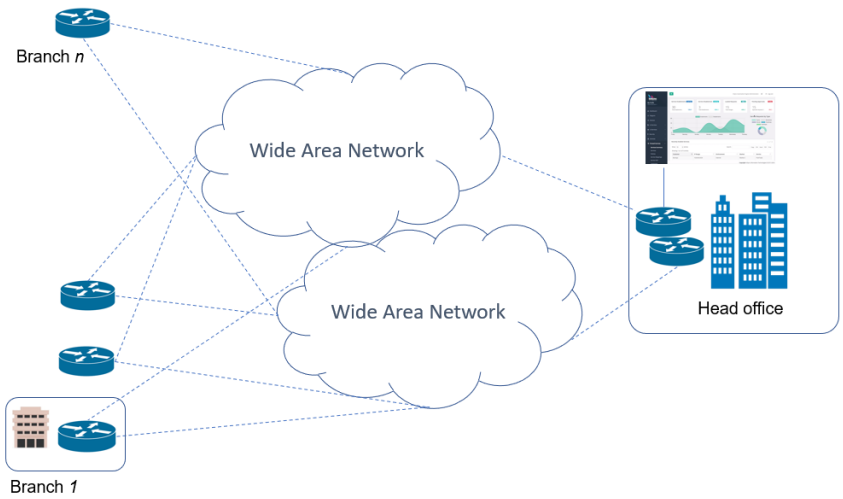


Figure 3: Centralized automated management of WAN routers

Capital market solution

Market data access – Capital markets serves large number of brokers handling thousands of market data feeds. Timely access to market data is crucial for brokers for business decisions and therefore enabling access on demand plays a key role in trading business. Market data is nothing but a multicast feed that's enabled or disabled by firewalls at the exchange based on business needs of brokers. In a high frequency trading environment (HFT), hundreds of enablement requests come on daily basis to provide market data access to brokers. This is a routine task handled by network engineers on daily basis and a manual process that involves business requirement translation to technical requirement. InSync's network automation solution for capital markets help exchanges to automate market data access provisioning for greater efficiency, responsiveness, accuracy and visibility.

Market data access requires connectivity that's created on on-demand basis. This requires site to site connectivity between exchange and brokers which is a time-consuming manual routine job. InSync automation engine automates this process by giving out of the box workflows for enabling disabling VPN tunnel provisioning.

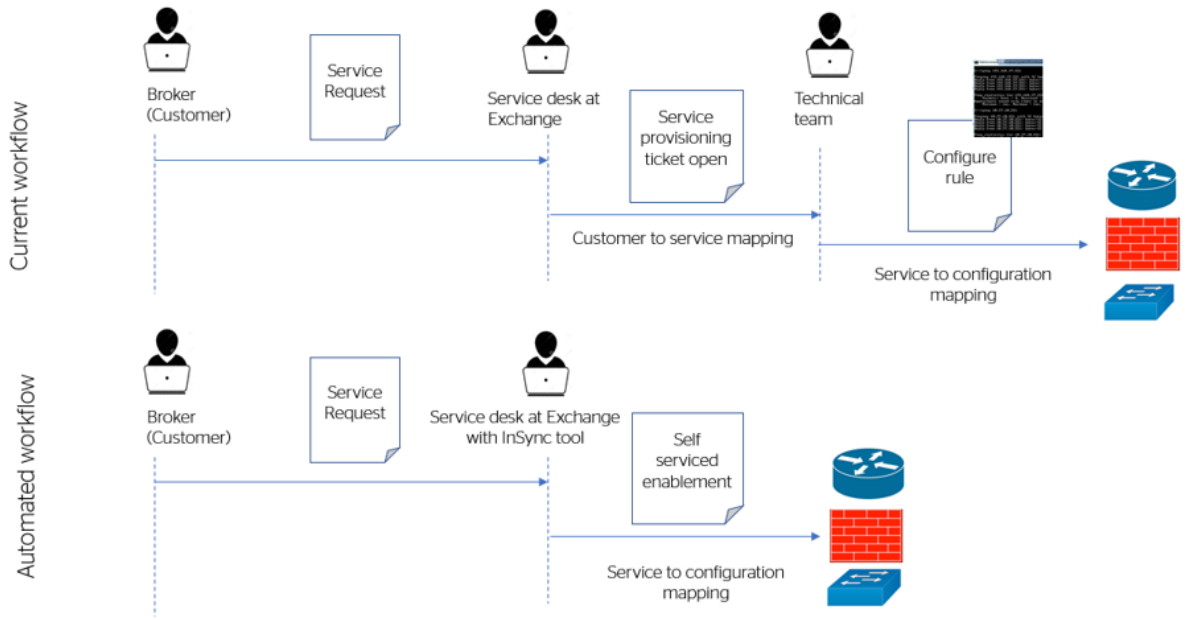


Figure 4: Capital markets use case for provisioning

Workflow automation for enterprise IT service enablement requirements

Workflows are quite common in the networking field. Mostly workflows are initiated with a business user demanding a service fulfillment, that subsequently converts to a technical requirement. As with any workflow, multiple stakeholders and approvals are involved making it a time-consuming operation. InSync automation engine can automate these workflows giving both business and admin portals to self-provision routine workflows. What was previously done manually, can now be run autonomously brining more efficiency and accuracy. Since automated workflows are performed on a systematic basis, it brings a great deal of simplicity for troubleshooting and diagnosing issues.

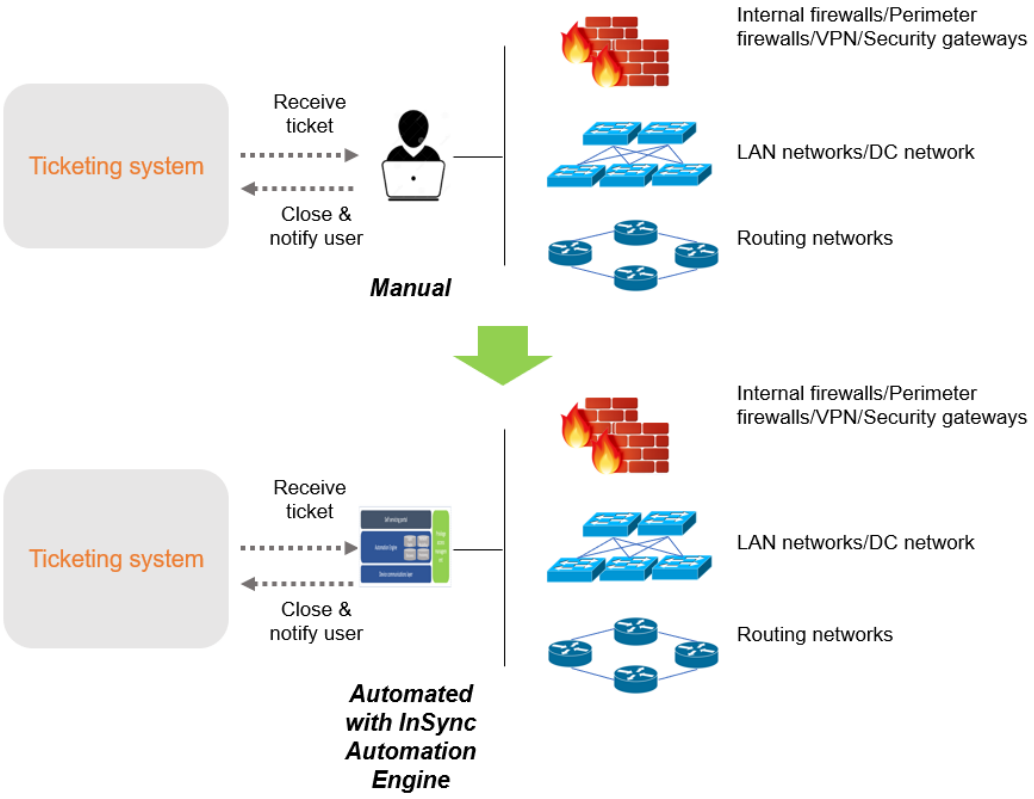


Figure 5: Workflow automation

For more information

Contact info@insyncit.net, visit www.insyncit.net. InSync information technologies is a specialized IT services provider in the field of networking & network automation. InSync believes in building networks autonomous and self-run.