

Visionael Service Management

Introduction

The Visionael Automation Suite enables the automation of services across multiple types of networks, linking the three interlocking dimensions of next-generation offerings: customers, networks and services. The new Visionael Service Management module is a critical component to the Suite. It offers an unprecedented level of automation for manual processes and repetitive tasks associated with the definition, creation, provisioning and activation of next generation services rolled out in both legacy and MPLS enabled networks.

Visionael Service Management is designed for Service Providers, Managed Service Providers and large Enterprises that market and operates virtualized services to the corporate and residential market, and wants to get ahead of their competition in regards to service time to market, provisioning and activation efficiency and accuracy

Visionael Service Management significantly reduces the complexity in defining, instantiating, provisioning and activation of configuration-heavy next generation services, and, if integrated with the appropriate databases for customer and contract management, simultaneously associating customers with the consumption of physical and logical resources through a contract and a service by:

- Ensuring an accurate representation of the network and its logical resources
- Instantiating defined services with little or no manual interaction
- Retrieval, storage and parsing of configurations residing in all relevant network elements, allowing detailed audit capabilities regarding network changes
- Dynamically relating administrative data with technical data, allowing a detailed representation of physical and logical resource consumption and availability.
- Accurately provisioning of services by allowing next available resource of the various relevant entities to be reserved for the service instance, and release of resources at service termination.

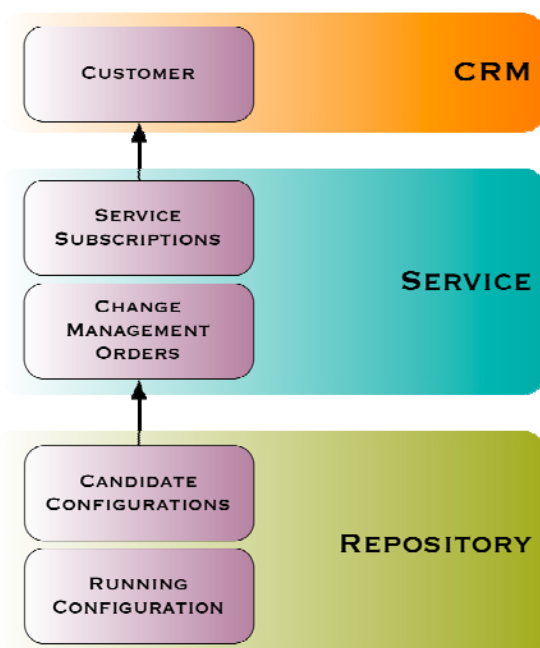
Overview

Since Service Providers around the globe address different markets and have different ways to accomplish differentiation in their product and service offerings an OSS solution must be equally flexible to the variances between the providers.

Visionael addresses this partly by its automation layer and its key products Systems Orchestrator and Workflow Automation Manager, where service providers can build customized workflows reflecting their environment and their specific service offerings.

To further remove complexity in the pursuit of competitive advantage in service creation and time to market, Visionael has introduced a service-modeling framework, which allows service providers to define service templates, constituting a service catalog spanning over multiple vertical applications (see below).

The model can be passed around in automation workflows and furthermore be pushed to the activation framework, which in a transaction safe manner enables the services in the network. The activation framework is responsible for the transactions against



the network, and for vendor specific template substitution, as the service model is abstract and vendor agnostic.

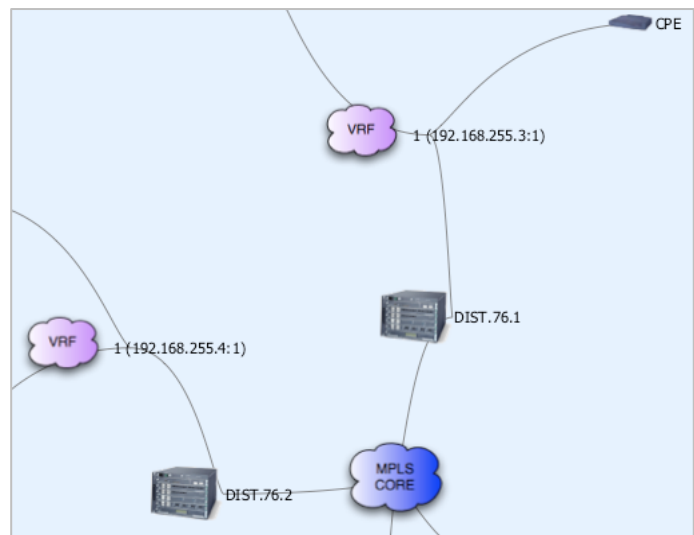
The service-modeling framework also provides an easy integration point for partners or end-customers in that they can decorate service models in separate namespaces, allowing service composition of services that the Visionael Suite perhaps doesn't natively support with business logic.

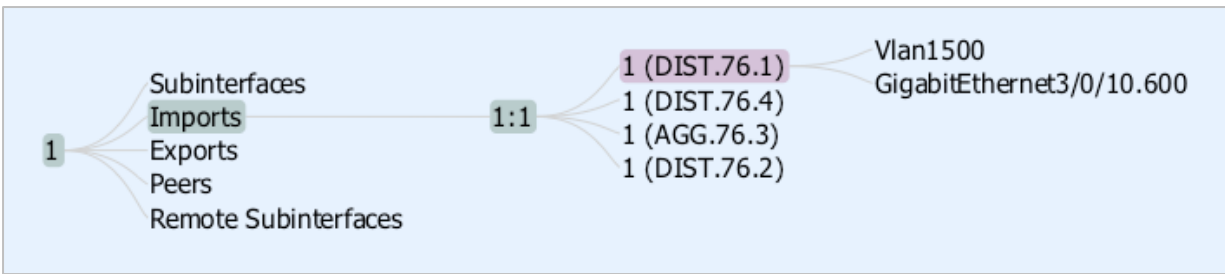
The additional information in the service model can then be used by the activation engine to populate vendor specific configuration templates with data that is bound to the specific service.

The key elements of the model are the candidate configurations that represent non-committed changes to the network elements. These candidates allow both provisioning components and third-party systems to isolate roll out and change-management requests in transactional entities. The candidate configurations are also treated as "latent units of work" to be carried out in the network by the activation engine. When activation has been successfully performed, the candidate configurations can be committed to the running configuration in the repository. By using this approach, Visionael Service Management provides both a southbound and a northbound NETCONF API as defined in RFC 4741.

Feature examples

- Complete and standardized documentation of the network and the services implemented in it.
- Elimination of human factor-related errors, and the ability to prove it to customers.
- Ability to enable configuration intensive and complex add-on services to general service offering.
- Automatic provisioning of resources (VRFs, RDs, RTs, VLANs etc.)
- Ability to monitor and audit the delivery/activation process in detail, providing a foundation for communication with customers.
- Uniform name standards on interfaces, descriptions, classes etc.
- Rapid service roll out- and activation process
- Enabling complex configuration tasks to be performed by technically non-proficient staff, such as customer support, by means of process automation.
- The ability to visualize the net to different parts of the organization.
- Enabling customer involved provisioning
- Design logics inherent in the provisioning and activation processes, like overbooking, maximal number of customers, QoS-thresholds).
- Ability to perform configuration tasks related to temporarily inaccessible network elements.
- Foundation for report generation to support the decision process regarding future network expansion, design of new services etc (Business Intelligence).





Product features

Service Management extends the Visionael Automation Suite by adding the capability to manage logical services and associated objects in a structured way. Visionael Service Management is SOA compliant and designed based on the principles defined by Telemangement Forum's NGOSS. Furthermore, it is based on the following standards:

- Java EE 5
- Glassfish/JBoss

Integration capabilities

Visionael Service Management can be integrated to other components in the OSS environment either through direct business-tier integration using the ESB over a myriad of transport protocols, or through the use of the automation engine, which has native capabilities for third-party system integration in its workflows.

The integration capabilities serve both message driven (asynchronous) and connection-oriented (synchronous) integration.

The integration capabilities provided by the automation tier also provides queue handling, resource locking, resource logging etc. This allows the OSS engineer to examine bottlenecks in workflows that require external resources for their fulfillment.

By building on top of the Java EE specifications a multitude of middleware functionality is provided such as queue handling, logging, debugging etc.

The EJB3 paradigm adhered to by Visionael allows for straightforward exposure of business tier components over ESB using a myriad of protocols such as Web Services and CORBA.

The business tier components in the Visionael Suite are designed to be combinable using the automation engine, or as part of an SOA environment where other OSS and BSS systems may use services that are published by Service Management.

Furthermore, the automation engine may incorporate synchronous and asynchronous communication with other SOA enabled OSS/BSS system or even with legacy systems providing some sort of standardized communications protocol.

By utilizing the middleware capabilities provided by the Java EE application servers, the service provider can make use of standardized methods for maintenance and operations of the environment within their IT department.

Being deployed in a Java EE environment also provides capabilities for clustering and load balancing using multiple servers.

Services

Visionael Service Management provides business logic for defining, instantiating, provisioning and activating services based on the following standards:

- MPLS based L3VPNs (RFC 2547)
- MPLS based L2VPNs
- MPLS based Pseudo Wires
- Physical and logical PE interface termination (GE, SDH/SONET and ATM)
- VLAN's (QinQ etc)
- QoS Management
- DSLAM Management (VLAN assignment and port activation)
- Routing Management
- LSP and TE Management
- CE / CPE configuration hosting and provisioning
- IPv6
- Access list management

In addition to the business layer functionality to discover, reconcile, manage, provision and activate services based on the above standards, multiple sample web pages and Visionael Systems Orchestrator flows are also provided for a quick and painless implementation of customer specific service handling.

The Visionael Service Management web portal

The portal, representing what most users of Service Management will see in their daily work, is a modern approach to solving a very complicated issue: combining an arbitrary set of products towards an audience of an arbitrary set of roles.

Instead of creating a new front-end for every new vertical product and technical domain, the content of the portal is not directly defined by the vertical products, but what roles that are using it.

A vertical application and its domain(s) may be very wide, and the roles associated with the domain may be many. These roles may however be interested in totally different aspects of the domain, such as service delivery, resource allocation, low level management etc.

A business process within the domain, may furthermore involve tasks for many different roles, creating a symbiosis between the portal and the automation layer.

Furthermore, many visualization aspects contain combinations of several vertical products, as customers, such as GVT, often will combine them to realize what he consider is a service.

System requirements

Visionael Systems Orchestrator, version 2.3 or newer.

Operating systems

SUN Solaris 9 or 10

Databases

PostgreSQL 8 or Oracle 10

Other software requirements

JBoss 4.2 or Glassfish 2

Hardware requirements

CPU: Sun Sparc 1.5 Ghz 4 core/CPU

RAM: 4GB Minimum, or maximum supported by OS

Hard disk: 40GB 7200rpm or better. Striped drive. RAID not required.

Client software requirements

Mozilla Firefox, Apple Safari or Microsoft Internet Explorer.

Visionael Corporation provides best-of-breed software and services that allow telecommunications service providers, network outsourcers, enterprises and government organizations to automate the rollout of network services over IP networks and to accelerate time-to-revenue or productivity. With Visionael software, network operators can more quickly design, provision and activate next-generation services—including voice, data, mobile and video offerings—all while reducing the complexities of managing large, advanced networks.

For more information, please visit www.visionael.com or call ...+1 650-963-0960

