CRAMER
Amdocs OSS Division

MPLS IP VPN SERVICE SOLUTION

MPLS IP VPN OVERVIEW

The outlook for IP VPNs remains extremely strong – MPLS IP VPNs revenue grew 38% to $10.9 billion in 2006 (Infonetics – Feb. 2007). MPLS IP infrastructure and MPLS-based offerings are as high a priority among telecommunications providers as they are for their business customers – many of whom are facing the challenge of migrating from legacy technologies, such as Frame Relay and ATM to MPLS VPNs. Service providers view MPLS IP VPNs as an important opportunity to phase out older networks, reduce costs and to support real-time connectivity services.

FULFILLMENT CHALLENGES FOR IP VPNS

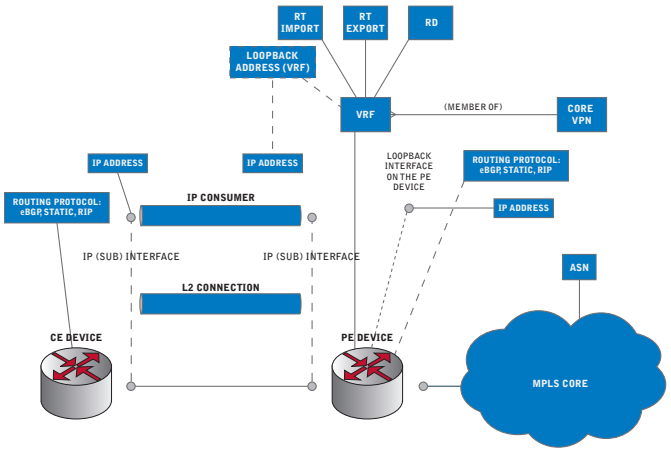
Relatively new technologies such as MPLS and Carrier Ethernet are having an enormous impact on the way service providers are offering connectivity services to their business customers. The end goal is to be able to solve the NGN paradox of being able to offer a greater diversity of services and yet doing so more quickly and giving the customer more control over the end service. These new technologies are providing the opportunity to take advantage of very flexible Internet paradigms and to combine them with some of the business requirements offered in legacy private networks to deliver new 'adaptive networking technologies.' Of course, they must also do so in a way that delivers enough incentive to the service providers to make the transition worthwhile. Therefore, achieving satisfactory levels of cost of ownership for the new systems is as important a consideration as the new revenues that they deliver.

IP VPN SERVICE SOLUTION

The MPLS IP VPN Service Solution provides a rapid, pre-configured deployment of Cramer OSS products specifically targeted at this technology, and forming part of a set of complementary technology-specific Service Solutions. The pre-configurations are delivered as supported product including a supported upgrade path.

Taken as a whole, the Service Solution delivers productized end-to-end Fulfillment and comprehensive Resource Management, from order to activation of IP VPN services. The MPLS IP VPN Service Solution provides customer access to an MPLS IP VPN at a Provider Edge (PE) device. It enables the configuration of a PE device on a per-order basis. Customers will then be able to connect to the VPN over this port.

The MPLS IP VPN Service Solution will perform the configuration of BGP/MPLS VPNs, where those VPNs are compliant with the RFC4364 specification (formerly RFC2547). It concentrates on the fulfillment process of adding a new customer to a VPN. It also performs the activation required at a PE device to permit the customer to connect in to the VPN to create a new VPN leg. This is illustrated in the following figure.



MPLS IP VPN/BROADBAND SCENARIO

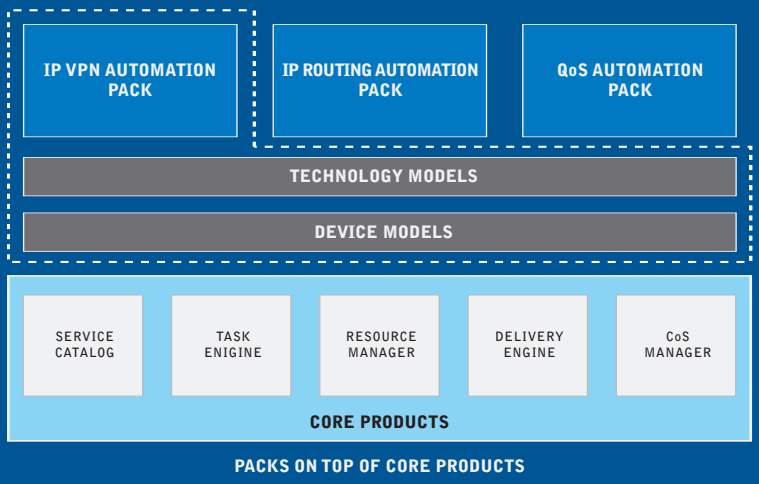
To enable faster deployment and lower total cost of ownership of solutions, Cramer, Amdocs OSS Division, has developed a set of pre-configured productized processes. These provide the ability to deliver an end customer service such as broadband with minimal modification.

MPLS IP VPN AUTOMATION PACK

The solution delivers pre-integrated Broadband specific Order Decomposition, automated Service Design/Assign, Network Resource Management and Implementation/Activation. All or some of the components can be taken according to the Service Provider's pre-existing OSS landscape.

The Automation Pack is used to automate the assign and design of the service within the Cramer OSS Suite. This pack receives the order from the BSS systems and allocates the resources to the service. These packs are generic to equipment vendors, however they are technology-specific. Therefore you would expect different packs to cover different technologies for a service. The MPLS IP VPN Automation Pack provides customer access to an MPLS IP VPN at a Provider Edge (PE) device. The Automation Pack will enable the configuration of a PE device on a per-order basis. Customers will then be able to connect to the VPN over this port.

THE DIAGRAM BELOW SHOWS THE PACKS AND THE RELATIONSHIP WITH CORE PRODUCTS AND MODELS. THE DIAGRAM ALSO SHOWS WHAT IS PROVIDED WITH THE PACK USING THE DOTTED LINE.



PACKS ON TOP OF CORE PRODUCTS

THE PACK CONTAINS THE FOLLOWING:

> Order decomposition

> Service design and assign

> Configuration data and templates (meta-data)

> Automation code

> Product documentation

They are delivered on a core, proven foundation of Cramer OSS products, including:

> Cramer's core Resource Management products (Resource Manager and options, Task Engine, Delivery Engine, Service Catalog)

> Cramer's core Fulfillment products covering Activation and Data Integrity Management products (Activation Engine, Discovery Engine, Sync Engine)

The pack includes a number of equipment vendor device models and technology models that support the service. These are to be provided with the pack as a set of common components. This meta-data is provided using the Cramer best practices.

MPLS IP VPN ACTIVATION PACKS

The Activation Packs take the design from the Automation Pack and configures a set of devices from a specific number of equipment vendors. The Activation Pack either talks directly with the devices or via the EMS or NMS.

The MPLS IP VPN Activation Packs are designed to work in concert with the MPLS IP VPN Automation Pack to provide a vendor-specific implementation of the vendor-neutral services designed by the Automation Pack.

The MPLS IP VPN Activation Packs contain the following:

> The device-specific implementation of the MPLS IP VPN Activation Pack framework

> The generic interface definitions implemented by the MPLS IP VPN Activation Pack

> The MPLS IP VPN service-specific implementation that makes use of the generic interfaces defined in the framework

SOLUTION BENEFITS

> Rapid deployment – The Broadband Service Solution can be implemented in a matter of a few months from start to go live. This is largely due to the fact that the solution provides over 80% of the processes out of the box with only minimal additional configuration required.

> Proven technology that scales with your operation - The pre-configurations are founded on extensive field experience of solution deployment, enabling new solutions to be implemented from installation to operation in weeks, with around 80% of the configured solution provided out of the box.

> Lower deployment cost and risk – Rapid deployment also translates into lower implementation costs and risks. Risk is also minimized because most of the deployment, as supported by the packs, is already proven, based on the experience of multiple existing deployments.

> Keep in step with technology changes – The packs not only encapsulate the fulfillment and discovery processes as packs but also incorporate new technologies as they emerge so through upgrade, the broadband pack supports future proofing against technology updates.

> Lower Total Cost of Ownership – Because the packs productize the majority of the fulfillment processes for a particular broadband technology and because they address new technologies, the through life costs of maintaining the system are significantly reduced.

> Reduced fallout rates and operational costs – Through pre-integrated end-to-end products, increased automation and a complete data integrity management solution.

> Platform for further service fulfillment - Because it is supported by a universal network model, this approach can easily be augmented using other packs to provide additional fulfillment solutions, e.g., Carrier Ethernet and IPTV.

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