



# EMC Smarts Solution for IPTV

## Managing IT to meet business goals

### The Big Picture

- IP technology, the workhorse of data transmission and a low-cost alternative for voice, is now being adopted as a powerful platform for delivering broadcast TV and video-on-demand to consumers. For service providers, completing the voice-data-video triple play cements customer loyalty and opens profitable service opportunities.
- Market potential is enormous. According to an August 2005 report in OSS Observer, the number of IPTV subscribers worldwide will grow from 2.2 million at the end of 2005 to 28 million in 2010.
- IPTV depends on complex technologies with intricate interdependencies between network infrastructure, applications running on servers, and delivered services.
- The EMC Smarts Solution for IPTV helps service providers ensure service availability and performance. Powerful modeling, analysis, and cross-domain correlation, plus a scalable and distributed architecture, make EMC Smarts uniquely capable of managing these large, complex environments.

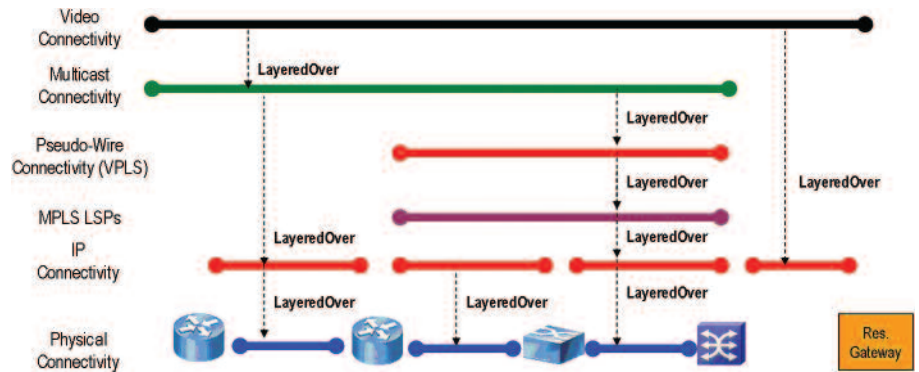
### Business Challenges

One of the greatest challenges operators face as they deploy IPTV infrastructures is ensuring reliability and quality of service. These complex new services must be supremely reliable from day one and are doomed to failure if consumers experience lower levels of service than they have enjoyed using competing existing services such as cable or satellite.

Three factors make management of these infrastructures particularly difficult:

- Video service delivery places ultra-high bandwidth demands on networks and related applications as they handle the acquisition, storage, access, and delivery of media to consumers.
- In production environments, IPTV platforms may include tens of thousands of servers, dealing with many petabytes of information, with delivery networks serving millions of subscribers. These systems will be among the largest and most complex networks ever deployed.

- Networks supporting IPTV rely on multiple layered technologies and protocols, such as optical transport, MPLS, multicast, IP, and Ethernet. Because the layers are interdependent, problems in a lower-level protocol can spread to the upper-layer transport. To assure service delivery, operators must be able to rapidly pinpoint and resolve the problems that threaten service delivery.



**Layered IP TV Environment**

To meet these challenges, silo management strategies that use hundreds of disparate tools must give way to unified solutions that offer a complete understanding of all problems in the network and their impacts on other domains and on services. These solutions must provide:

- Automated root-cause and impact analysis across the many network and application technologies that comprise the IPTV infrastructure
- Cross-domain correlation to determine the impact of a problem in one domain on another domain (for example, an IP problem is caused by an optical problem)
- Scalability to manage the world’s largest and most complex infrastructures
- Performance to cope with high alarm volumes and burst rates

### Solution Description

The EMC® Smarts® Solution for IPTV gives service providers a complete top-to-bottom and end-to-end solution for managing the complex infrastructures and delivery networks required for IPTV.

Powerful, patented technologies enable EMC Smarts to model complex IPTV infrastructures, including the interdependencies between underlying networks, servers, and the applications they host, and the services they support. Automated root-cause analysis eliminates alarm storms while cross-domain correlation recognizes how outages or degradations in one domain impact related domains, so the right team is assigned to work on the right problem the first time. The EMC Smarts solution also includes business impact analysis, which enables service providers to consistently meet service-level agreements by prioritizing corrective action on the problems that matter most to the business.

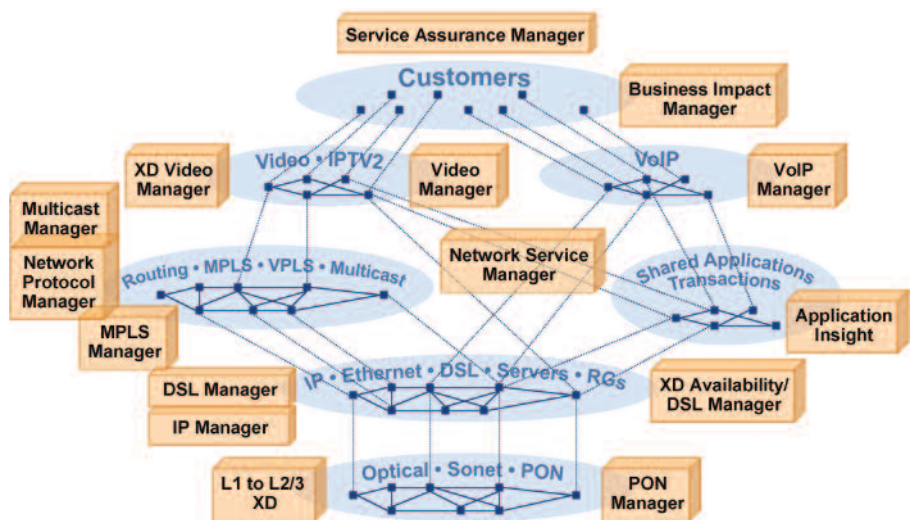
Equally important, the powerful architecture that drives all EMC Smarts solutions is highly distributed and scalable. EMC Smarts scalability advantages have been proven repeatedly in the marketplace, managing the world’s largest and most complex enterprise and service-provider infrastructures. Today, EMC Smarts is in a leadership position in IPTV management, working with key vendors and operators to manage some of the largest IPTV deployments in the world.

---

## Solution Components

The EMC Smarts Solution for IPTV combines individual Smarts products with IPTV-specific components. Depending on the service provider's exact requirements, the EMC Smarts Solution for IPTV may include:

- **Network Infrastructure Management:** IP Availability Manager, Network Protocol Manager, Multicast Manager, MPLS VPN Manager, Optical Transport Manager
- **Service Infrastructure Management for health of hosts and applications:** Server Performance Manager, Application Connectivity Monitor
- **IPTV Platform Management:** EMC Smarts Adapters to integrate with hardware and software components of the video solution
- **Service Assurance:** Service Assurance Manager, Business Impact Manager
- **Storage Management:** Comprehensive management of storage systems and the network



IPTV Architectural Diagram

## Solution Value

EMC Smarts' patented technologies deliver a powerful solution for seamless, integrated management of service, delivery, and network infrastructure for IPTV. The features and functionality of this solution deliver significant business benefits to IPTV operators.

## About EMC Smarts

EMC Smarts plays a crucial role in developing an information lifecycle management strategy by automating the management of network systems. With EMC Smarts software solutions, enterprise, service provider, and government organizations gain unprecedented insight into the end-to-end health of their network systems and how it affects the business. This information allows them to:

- Increase IT performance and availability
  - Align IT with the business
  - Identify instantly what to fix through automated root-cause and impact analysis
  - Adapt automatically to changing environments
  - Reduce management costs dramatically
  - Manage IT across multiple tools, domains, and silos
-

Use Case	Operator Value
<p><b>Provides a comprehensive management solution for the entire IPTV service infrastructure and delivery network</b></p>	<ul style="list-style-type: none"> <li>• Gives operators end-to-end, top-to-bottom visibility into the health and status of the service-delivery environment</li> <li>• Reduces costs and improves productivity by unifying management across technology silos</li> </ul>
<p><b>Automates root-cause and impact analysis and correlates events across technology domains</b></p>	<ul style="list-style-type: none"> <li>• Pinpoints service-affecting problems quickly and accurately</li> <li>• Reduces time-to-repair for optimal service availability and performance</li> <li>• When outages do occur, help desk staff can be given accurate information on what is wrong and when it will be fixed</li> <li>• Eliminates rules-writing</li> <li>• Avoids finger-pointing between network and application groups, so the right teams can get to work immediately to resolve problems that matter to business</li> </ul>
<p><b>Automatically updates analysis and topology models as the infrastructure changes</b></p>	<ul style="list-style-type: none"> <li>• Reduces total cost of ownership by eliminating rules maintenance and ongoing development</li> <li>• Minimizes operator intervention since EMC Smarts products synchronize automatically with topology data sources</li> </ul>
<p><b>Integrates seamlessly into service providers' OSS environments</b></p>	<ul style="list-style-type: none"> <li>• Supports open APIs so EMC Smarts solutions can receive topology and events from any source, and supply topology and results of analysis to any destination</li> <li>• Protects operators' investments in existing management tools</li> </ul>
<p><b>Focuses on service delivery and customer experience instead of on network devices</b></p>	<ul style="list-style-type: none"> <li>• Calculates the business impact of technology problems based on user-defined parameters, so operators can focus corrective action on the problems that matter most to business</li> <li>• Promotes consistent compliance with service-level agreements</li> </ul>



EMC Corporation  
 44 South Broadway  
 White Plains, NY 10601  
 1-914-948-6200  
 In North America 1-866-462-4274  
 In Europe +44 (0) 20 8758 6750

EMC<sup>2</sup>, EMC, Smarts, and where information lives are registered trademarks of EMC Corporation. Other trademarks are the property of their respective owners.

© Copyright 2006 EMC Corporation. All rights reserved. Published in the USA. 5/06

Solution Sheet  
 So050.1

## Getting Started

To learn more about how the EMC Smarts Solution for IPTV can positively impact your business and IT operations, contact your local EMC or EMC Smarts sales representative, or visit our website at [www.EMC.com](http://www.EMC.com).