

To attract customers and increase subscriber loyalty, Communications Service Providers (CSPs) are actively pursuing Triple Play — Voice over IP, broadband Internet access, and IPTV. Of the three services, IPTV presents CSPs with the greatest competitive and operational challenges.

In order to support the diversity of services and devices required by IPTV and to realize its promise of high-quality, user-controlled entertainment, information, and communications, CSPs must address fundamental fulfillment, assurance, and content management issues. NetCracker's IPTV solution, combined with its Services Ecosystem approach, gives CSPs proven techniques to manage those issues.

The Competitive Scene

CSPs are facing intense and unprecedented competition to attract and retain customers. One of the main sources of competition is Cable Service Providers. Their VoIP offerings — and the voice offerings of wireless carriers — are dramatically reducing CSP market share.

Capitalizing on the knowledge that service bundles attract and retain customers, Cable Service Providers are also creating Triple Play bundles. At present, cable operators have the advantage over traditional CSPs because they have been deploying TV services for decades and are now adding the relatively easy components — VoIP and Internet access.

CSPs need to deploy video services quickly to create an equivalent Triple Play bundle — and doing so requires them to overcome significant business, technical, and service delivery challenges. To deploy IPTV successfully, CSPs must:

- Build a partner and services ecosystem for content acquisition and management
- Upgrade network infrastructures to provide high-quality, high-bandwidth access
- Transform fulfillment and assurance operational environments to support mass market rollouts

IPTV Challenges

To support the diversity of services and devices required by IPTV and to realize the promise of high-quality, user-controlled entertainment, information,

and communications, CSPs must address the following core service delivery issues:

- Managing diverse content from multiple providers
- Delivering on-demand, interactive services
- Managing and measuring the customer experience and service quality across complex service offerings
- Managing efficiently a large-scale infrastructure that reaches directly into end users' homes

NetCracker can help CSPs overcome these challenges.

Solution Description

NetCracker introduced its Triple Play Industry Solution in May 2007 — including the first version of its IPTV solution — and has deployed it at leading Tier 1 CSPs worldwide. From its Triple Play deployments, NetCracker has developed a deep understanding of the challenges that CSPs face implementing IPTV.

NetCracker's IPTV solution, combined with its Services Ecosystem approach, gives CSPs proven techniques to manage IPTV fulfillment, assurance, and content and partner management issues. The solution takes a holistic approach that:

- Addresses the need to manage CPE diversity, home network provisioning, just-in-time fulfillment, and the use of TV as an ordering portal.
- Maps services to performance and fault management data, provides an understanding of service dependencies, and delivers end-to-end assurance.

- Enables the centralized management of content catalogs that contain rule-based offerings to support a range of technical and regulatory parameters. The solution also enables the centralized management of customer offers and correlation between customer profiles.

These approaches support significant CSP projects that involve infrastructure and service delivery transformations. The solution sets the stage for the development of a robust Services Ecosystem.

Infrastructure Transformation

NetCracker's IPTV solution supports access network transformation projects, including those that focus on:

- Migrating the management platform and all network domains to IP technology
- Reconfiguring the current infrastructure to meet business needs. Examples include the replacement of ADSL with VDSL, expansion of the TCP/IP channel, improvement of broadcast server performance, and optimization of its network location.
- Laying new fiber for access level network partitions like FTTx or xPON
- Enriching existing product bundles with IPTV, including fixed-mobile TV delivery

The NetCracker IPTV solution seamlessly integrates new and legacy network partitions, thus minimizing infrastructure expenditures and instituting uniform service provisioning processes across technology-specific domains.

Service Delivery Transformation

NetCracker's IPTV solution supports end-to-end automated IPTV service fulfillment including all operations from order entry to resource activation. The fulfillment process decreases the number of order fallouts and errors and speeds service delivery, resulting in higher customer satisfaction. The NetCracker solution keeps detailed network infrastructure records all the way down to the STBs.

Video channels, channel packages, and other content-related service components can be modeled. Moreover, the NetCracker solution supplies detailed and up-to-date information about allocated network resources and runs sophisticated service assurance processes to achieve a higher customer Quality of Experience.

Services Ecosystem

In the emerging Services Ecosystem, CSPs, content creators, distributors, and others, buy and sell service elements from each other in order to create unique services. In the IPTV ecosystem, an explosion of customized video content can be bought, sold, and distributed among multiple providers.

To manage this complex environment, CSPs must deploy processes and solutions to manage content sourcing, syndication, and delivery — along with the necessary QoS.



“With the combination of fulfillment, assurance, content, and partner management, NetCracker's IPTV solution takes a holistic approach that helps Service Providers focus on the attributes that drive customer acquisition, satisfaction, and retention. NetCracker's ability to manage Network and IT resources from a single platform, their highly successful OSS transformation projects, and their new focus on creating a Services Ecosystem have made them market leaders.”

Elisabeth Rainge, Director of Network Software, IDC

Solution Components

NetCracker's IPTV solution is composed of several modules that are integrated seamlessly and cover a wide range of operations and business processes. The NetCracker IPTV solution modules include:

Order Management

The Order Management module supports service order handling and lifecycle management, including order capture, validation, decomposition, and forwarding to service provisioning. The module can interface with a corporate portal and can manage the Product Catalog for the creation of bundled or standalone IPTV products. The Order Management module also hosts customer repository and subscription management information. Rules and restrictions can be applied to content groupings, such as age-specific prohibitions or channel grouping by language.

Service Inventory

The Service Inventory module manages service configuration and topology information and provides powerful tools to abstract IPTV services from the underlying infrastructure, thus allowing CSPs to integrate service fulfillment and assurance processes across regions or affiliated companies.

Service Provisioning & Activation

The Service Provisioning & Activation module processes service orders, generates work orders, and sends activation scripts to network management systems and network elements using standard protocols. The module helps to maximize automation of the IPTV fulfillment process.

Resource Inventory

The Resource Inventory module serves as a consistent, accurate source of IPTV infrastructure data for the entire OSS/BSS environment. The module supports both logical and physical layers. Each device and circuit has a precise physical model linked to its logical role. Logical inventory management allows heterogeneous network architectures to be viewed as a single entity, enabling end-to-end IPTV service fulfillment. For example, TCP/IP throughput, port occupancy, IP addresses and ranges, and security-related traffic separation can be managed across all networks.

Customer Impact Analysis

The Customer Impact Analysis module supports service quality management and service problem management by analyzing failures in signaling paths, transport lines, video compression elements, multicast routers, and other infrastructure elements. The analysis reveals the highest priority network problems that need to be eliminated by increasing redundancy or reliability. The module integrates easily with fault management and traffic management systems.

Solution Benefits

NetCracker offers Service Providers comprehensive solutions configured to meet their specific needs. Working with its customers, NetCracker takes a strong customer focus, holistic view, and solution-based approach:

- NetCracker has a strong focus on the customer and the customer's success. We work closely and collaboratively with our customers and partners, taking accountability for successful system implementations.
- NetCracker takes an end-to-end, business-centric view of the customer's operations needs, not a technology or single process view.
- NetCracker works with its customers to understand their unique business challenges and to identify the

most appropriate solution and implementation strategy. Our Global Solution Delivery teams — unrivaled experts in telecom and NetCracker's product suite — configure and deploy the software to meet customer needs and provide training to ensure successful adoption.

The NetCracker IPTV solution enables Service Providers to:

- Create flexible and unique IPTV content bundles using the Product Catalog's easy configurability
- Significantly reduce errors and order fallout as a result of end-to-end fulfillment process automation
- Improve Quality of Experience using the solution's comprehensive fault analysis and its correlation to impacted services and customers
- Take a comprehensive network view of all technology domains using consistent and accurate Resource Inventory data and its relationship to deployed services
- Manage resources and plan capacity end-to-end