

NetCracker Design & Planning

Design & Planning Challenges

Today's communications market is characterized by a fast-changing customer demand that requires a Communications Service Provider (CSP) to deploy new converged services and bundles with a high Quality of Service (QoS). A CSP needs to extend, upgrade, and modify its network to stay ahead of the competition.

The common method of producing these network enhancements and updates involves the use of disparate and highly specialized network-design and engineering tools. This approach, however, has a key shortcoming—it is impossible to achieve a tight information flow between these tools and multiple sources of data originating from OSS/BSS

systems and the network itself.

Additionally, these tools frequently focus on the design aspect rather than on deployment and the proper coordination of deployment activities. These limitations create a major disconnect between “network as designed” and “network as built.”

With networks becoming more complex, with accelerating upgrade schedules, and with the need to get the infrastructure in place to deploy converged services, most CSPs have been forced to look beyond the existing set of design and planning tools available in the market.

The NetCracker Design & Planning Module

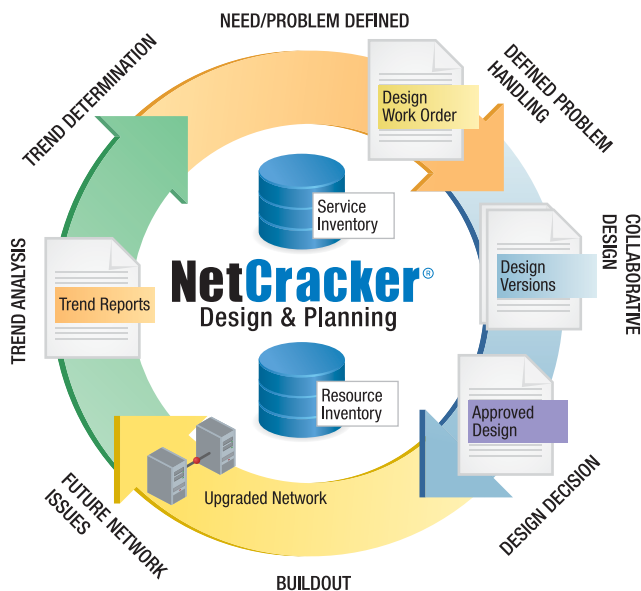
The NetCracker Design & Planning module provides a comprehensive set of capabilities to develop, design, and plan changes and upgrades for various network technologies including ATM, FR, SONET/SDH and PDH, WDM, FTTx and xDSL, IP networks, MPLS, VLAN, VPLS, and mobile networks.

The NetCracker Design & Planning module sources information from the Resource Inventory module and delivers:

- A comprehensive mechanism for multiple, collaboratively planned configurations in both change and design versions
- Powerful trend analysis reporting
- Generic forecasting capabilities
- Advanced GUI design capabilities with version highlighting

The sourcing from Resource Inventory enables end-to-end visibility into all the key elements necessary to design and build the most optimized network for a given set of services.

These elements include: all network assets, facilities, logical and physical connectivity, address and number assignments, geo-spatial locations, and offices and points of presence. The access to this comprehensive data empowers network designers with the right information to make design decisions that result in improved quality of design and the reuse of assets.



The Design & Planning module does not replace the mature engineering design and planning products that are used for solving complex, technology-specific engineering tasks that require mathematical modeling and simulation.

The Design & Planning module enables trend analysis and forecasting capabilities that allow for proactive network expansion planning so that business stability and profitability are not affected. The trend analysis capability focuses on capacity utilization trends across all aspects of network configuration and deployment. Some examples include:

- Facility and channel utilization trends
- Address space utilization trends

Managing different network configuration versions allows for the collaborative planning of infrastructure extensions based on centralized resources in the inventory. This provides an up-to-date, as-built, network configuration model.

The design and implementation process management capability gives planning, engineering, and design teams three key benefits:

- Work order management
- Design and implementation process templates that define process flows

The Design & Planning module provides:

- Sophisticated graphical design, which ensures an easy-to-produce and comprehensive representation of the whole network or a detailed rendering of network items that are subject to planning, including color coding for planned changes, filtering, and arranging by version.

Integration with Specialized Tools

Rather, the Design & Planning module integrates with these products to provide consistent and comprehensive data feeds, and imports back calculation results, representing them as a version configuration change.

Trend Analysis Reporting

- Slot and port utilization trends
- Floor space, site space, and rack space utilization trends
- HVAC and power consumption utilization trends
- Statistics on service fulfillment and network development processes and other information

Trend analysis reporting allows a business to be one step ahead of escalating resource jeopardy situations before service delivery is affected.

Network Planning and Versions Support

Flexible dependency rules between the dates of a planned change, the assignment of planned resources for future connectivity and services, and the ability to validate the design in context of infrastructure and service installation dates are provided.

Process Management

- Seamless integration of design and planning processes with other day-to-day processes such as service delivery, maintenance and support, consistent scheduling, and optimization of the workforce load.

Extended GUI

- A set of documents for the field engineers and other teams, who require off-line access to design information for approved implementations. These documents include representations of planned changes on topology views, rack population diagrams, connectivity changes, equipment reconfiguration, and many others.

Benefits of NetCracker Design & Planning

- Analyze trends in network usage to recognize and remedy potential capacity shortages in advance to prevent SLA violations
- Coordinate planning, design, and build-out activities through one system to minimize capital expenses and optimize the use of the workforce while ensuring continuity of service delivery
- Forecast and optimize network OpEx and CapEx spending and improve profitability
- Design alternative implementations of new services using unified and comprehensive network models, which enable the most strategic and financially suitable network version to be created

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