



Intelligent Network & Application Performance Management

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## Quick Reference

# Network Impact & Performance Assessment

Featuring the BLAST Performance Analysis® services

### What is a Network Impact & Performance Assessment?

A Network Impact & Performance Assessment (NIPA)(aka a 'Network Readiness Assessment' or 'NIA') is a pre-deployment analysis and modeling exercise that provides projections of the bandwidth usage impact a new or migrated application will have on the network infrastructure, as well as application response time performance at each remote user location.

The goal of a NIPA is to decrease risk, minimize costs, and ensure successful implementations and optimal performance by *making sure the network is ready for the application , and the application will perform well across the network .*

### Network Performance Assurance

From NIPA network impact projections WAN links with insufficient bandwidth to support the new application traffic loading can be identified and 'right-size' upgraded *before* the app is rolled out to avoid bandwidth-related performance issues with the new application, as well as avoiding the risk of adversely affecting existing applications and network services if WAN links become saturated from the new traffic.

### Application Performance Assurance

NIPA modeling outputs also provide projections of average end-user response times for the new application(s) at all of the remote user locations. If an application is not particularly network efficient, or there is high network path latency or insufficient WAN bandwidth between some user locations and their data centers the response times may become unacceptable - the NIPA flags these locations and identifies the source of the performance issue so remedial actions can be taken *before* the application is implemented. NIPA data can also help set or validate performance expectations to affected business units and management.

### Integration of Performance Management Disciplines

A NIPA is not a 'network management' activity; rather, it is a 'performance management' activity that combines analysis data from the network and applications to supplant and bridge the gaps between network and application disciplines.

### What is needed to accomplish a NIPA?

NIPA models require 5 basic types of data which are obtained by conducting a **BLAST Performance Analysis®**. 'BLAST' is an acronym representing five key performance analysis services and guiding principals for performance management:

- B** - Bandwidth usage data
- L** - Latency across the network path from users to app servers
- A** - Application performance metrics
- S** - Server processing times for various activities and loadings
- T** - Transaction rates - the number of active / concurrent users over time



**Bandwidth:** Bandwidth data is used to establish how much bandwidth is currently available, how much the new applications will consume, and how much is left. If an upgrade is needed on some of the links to support the new traffic loading, recommendations will be made that will right-size the links - not too much bandwidth (which wastes money), not too little (which affects performance). A BLAST-compliant bandwidth review employs a statistical analysis tool which provides increased accuracy and our [Time of Day Analysis™](#) reporting, a 24-hour view of typical usage levels.

Support from the business may be needed to provide network diagrams and details on the network infrastructure. Access to client network management systems or BLAST-compatible reports from these systems will be required to accurately establish the existing bandwidth utilizations to all of the in-scope sites.

**Latency:** Latency measurements are taken (using standard ICMP 'Ping' tests) between the hosting data center(s) and each of the user locations; during the latency tests 'Average Effective Throughput' measurements will also be taken to confirm bandwidth allocation and usage expectations.

**Traceroutes** are also conducted during the latency measurements from the data centers to the end-user locations to confirm appropriate routing and that all in-path WAN links are definitively identified for inclusion in the analysis.

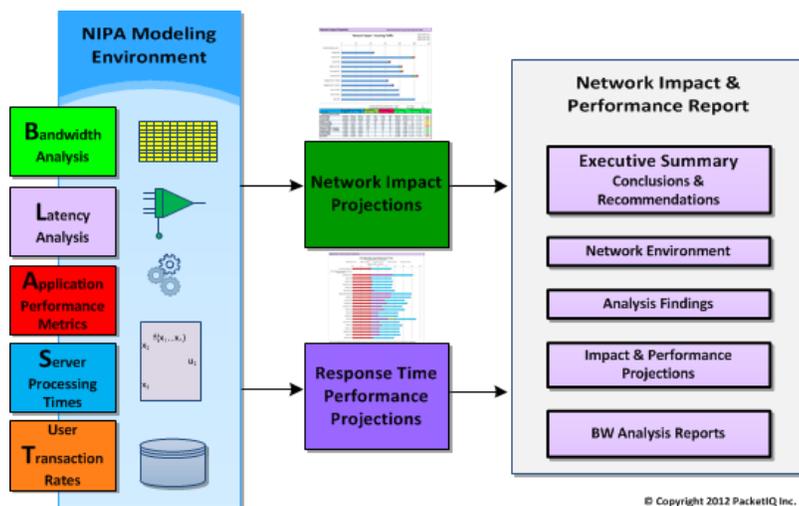
**Application:** One of the fundamental requirements for the NIPA model is a specific set of performance metrics for the application's client-server interactions (packets, bytes, 'App Turns', client & server processing times, user 'think times', etc.); these are obtained by performing an Application Performance Analysis (APA), which is a packet-level analysis of the network packets sent to and from a workstation while a user is performing a set of typical activities with the application as guided by a pre-prepared 'Test Script'. These packets are captured in packet trace files, then exported and processed with specialized software. The APA process is also ideal for troubleshooting performance issues with existing applications or pre-purchase performance validation of new software or in-house development.

**Server:** Server processing times are affected primarily by hardware capabilities, application design and settings, and user loading; processing time metrics are extracted from the packet captures taken for an Application Performance Analysis, and supplemented with server-side data if available.

**Transaction Rates:** The number of concurrent users using an application affects network loading and server processing times. If measured / logged user concurrency data is not available, estimated concurrency derived from a percentage of the total user counts per location can be used.

### What will I get from a Network Impact & Performance Assessment?

A NIPA combines data from the BLAST Performance Analysis in a modeling environment that produces network impact and response time performance projections. **The NIPA deliverable includes a summary of the network environment, findings from the BLAST analysis, aggregate network impact and response time projections for each user location, and Conclusions and Recommendations in an Executive Summary to help ensure a successful deployment.**



### Value & ROI

The goal and value of a Network Impact & Performance Assessment is to a) verify network conditions and identify any WAN links that are running with excessive utilizations, or may do so upon deploying a new or migrated application; b) right-size any links that need upgrading, and c) identify and rectify any potential application response time issues - \*before\* the application is deployed and becomes a support nightmare and embarrassment for the project team, or worst case has to be backed out or abandoned - any of which can drive costs well beyond the allocated time and dollar budget.

The cost of a typical NIPA is a small part of the overall project budget; the short and long-term savings that may be realized by provisioning optimal bandwidth allocations, negating avoidable issues with application performance and reliability as well as the tangible costs of poor user satisfaction and productivity make choosing to perform a NIPA an easy decision - not to mention the increased confidence and peace of mind it provides to project managers, CIO/IT Directors, support teams, and project sponsors.