

# Scaling the PuNDIT Project for Wide Area Deployments

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In today's world of distributed scientific collaborations, there are many challenges to providing reliable inter-domain network infrastructure. Network operators use a combination of active monitoring and trouble tickets to detect problems, but these are often ineffective at identifying issues that impact wide-area network users. Additionally, these approaches do not scale to wide area inter-domain networks due to unavailability of data from all the domains along typical network paths. The Pythia Network Diagnostic InfrasTructure (PuNDIT) project aims to create a scalable infrastructure for automating the detection and localization of problems across these networks.

The project goal is to gather and analyze metrics from existing perfSONAR monitoring infrastructures to identify the signatures of possible problems, locate affected network links, and report them to the user in an intuitive fashion. Simply put, PuNDIT seeks to convert complex network metrics into easily understood diagnoses in an automated manner.

At CHEP 2016, we plan to present our findings from deploying a first version of PuNDIT in one or more communities that are already using perfSONAR. We will report on the project progress to-date in working with the OSG and various WLCG communities, describe the current implementation architecture and demonstrate the various user interfaces it supports. We will also show examples of how PuNDIT is being used and where we see the project going in the future.

## Tertiary Keyword (Optional)

Monitoring

## Secondary Keyword (Optional)

Computing facilities

## Primary Keyword (Mandatory)

Network systems and solutions

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