GAMMON Quarterly Report for GTA.

December 2013.

Introduction

The Georgia Measurement and Monitoring (GAMMON) project provides quantitative data about network performance at selected K-12 school districts around Georgia.

Funding is provided by: The Georgia Technology Authority (GTA), the Georgia Tech Office of the CTO, and the Georgia Tech Research Institute (GTRI).

This report covers activities for October 1 to December 30.

Deliverables

The project plan included the following milestones in October, November, and December. The overall theme for the quarter was "Continued Implementation."

- Continue Development of Tools.
- Continue ongoing interactions with K-12 districts to quantify the effectiveness.
- Initial release and publication of software.
- Present initial findings to IT staff and evaluate effectiveness of tools.
- Prepare and deliver monthly verbal reports to GTA.
- Write written quarterly report for GTA.

Discussion of Deliverables

In addition to the deliverables listed above, another student was hired to investigate making the Pythia tool more useful for the GAMMON participants.

Development of tools continued, mainly examining the back-end integration into the perfSONAR platform. The front end was redesigned, and discussed below.

The PI traveled over 1,000 miles meeting with IT directors, managers, and staff at participating districts. It is clear that GAMMON serves a useful purpose. The intent of the travel was to collect informal feedback but the input will be formalized and the project will create a survey to gather feedback from non-participating sites too, and produce a short report. One quote is included below.

> "I encourage you all to use a tool such as GAMMON to find the bottlenecks in your network. We have worked hard on our infrastructure, but we still get complaints from users and we're still finding issues that need to be fixed." - William Sperin, Technology Director, White County School District.

There was a conference call at the end of October and a presentation at the GAETC conference in November to serve as verbal reports, and this document is the quarterly written report.

GAMMON Deployment

In addition to the participants listed in the first quarterly report, Stephens County School System and Oconee County Schools have joined the project. Their servers are expected to be operational in January. Fulton County Schools, Gainesville City Schools, and Douglas County School System joined the website to observe the tool development. It was also suggested that Banks County School System might be interested in joining the project.

The North Georgia Network (NGN) installed their own server and began running some examples tests. They also expressed an interest in adding IPv6 tests.

The GAMMON team is exploring opportunities for further funding to expand the project next year. The software will be available for anyone to use, but the need to support for the hardware and the desire to have an extra pair of eyes to review the results suggests that there would be wide interest in a supported program.

Discussion of Tool Development

The primary goal for this stage of the GAMMON project is to integrate the tools identified in the first quarter as useful to the participating districts in their support of the network and network-based applications. In this context, integrate means having the tools work on the perfSONAR platform, and also compliment each other toward an understanding on the network performance. The integration of the tools also requires an easy-to-use front-end.

Application monitoring with Nagios has been added to the list of tools.

Figure 1 shows the initial release of the GAMMON Dashboard. The tools discussed in last month's quarterly report, along with new tools, appear as widgets on the dashboard. Each widget is self-contained, that means each district can customize their dashboard and add/remove tools that are most useful to them.
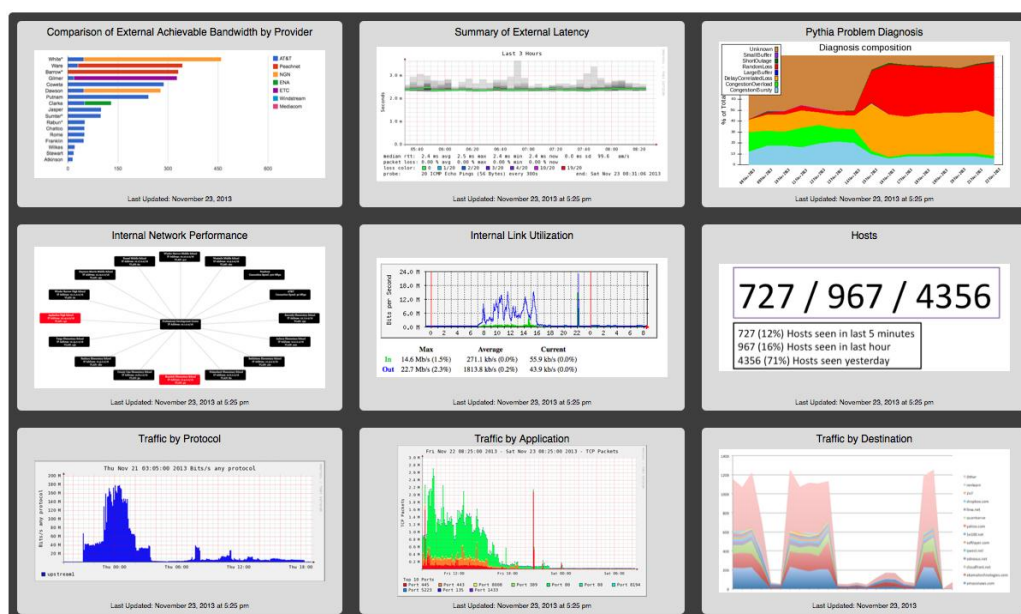

Figure 1: First Prototype of the GAMMON Dashboard.

Further Work

This report briefly summarizes the activities in October, November, and December 2013. Development will continue during the next six months. The final product will be an easy-to-use interface with numerous tools providing powerful insight into the participating districts network and application performance.