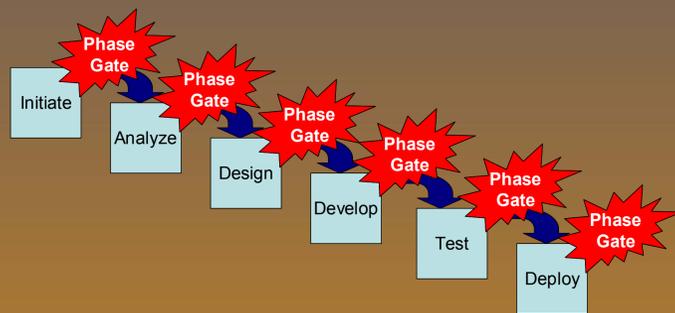


ITS Graphical Report Maker Project

Background

- RIT ITS Systems Management is responsible for the generation of real time data, historical data, and graphs plus reports on the capacity, availability and responsiveness of ITS supported services.
- Data is used to show ITS systems performance to customers, support staff and RIT leadership to assist in making technical and business related decisions.
- Currently ITS utilizes many commercial off the shelf (COTS) products to perform these tasks and even though these tools are adequate for technical and engineering staff use, they lack ability to show system wide status and performance in a method deliverable to end-users and management.

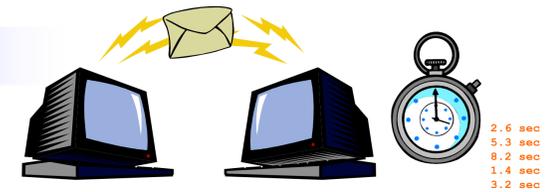
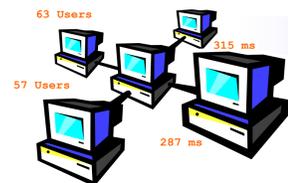
Project Development Process



- Following the ITS Project Management methodology, the project deliverables were divided up into 6 phases.
- At the completion of each phase, a phase gate was held between the customer and the project development team to present current risk management, the deliverables due, and a presentation of the current status.
- After a successful phase gate, project management and the development team signed off on the deliverables and proceeded to the next phase.



Project Sponsor: Rochester Institute of Technology - Information & Technology Services
 Project Contact: Mark Kimble, Telecommunication Services
 Faculty Advisors: Dr. James Vallino, Dr. Stephanie Ludi
 Group Members: Adam Buehler, Cheng-Train Chiou, John Myers, Cesario Tam



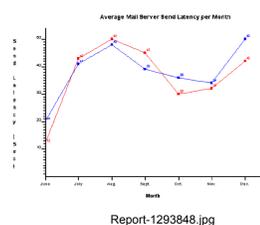
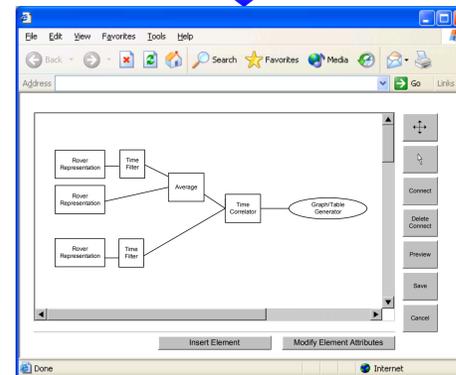
Network Performance Database

Scope of the Project

- To provide a new medium to generate graphical reports for upper management review and technical analysis.
- To provide the ITS staff the ability to generate graphical reports using the data from the provided database.
- To allow around-the-clock, online access to all reports that have been prepared in advance and executed on-the-fly.

Technology Comparison

- Evaluated the following architectural choices:
 - Standalone Java Program
 - Java Thin-Client using Web Services
 - Java Thin-Client using Remote Method Invocation
 - Java "Smart Client"
 - JavaServer Pages
 - Java Applet
- Documented tradeoffs and rationale for final decisions (Java Thin-Client with RMI).
- Our technical assessment will provide ITS with guidance for making similar decisions in the future.



Month	Latency
5546	4554
564	546456
564	4564
6545	45645
5645	56456
456544	5456
5456456	45645

Report-1293848.csv

1. Network Performance Data Collection

- Using external software packages, various metrics regarding network performance and system status are collected and placed into an ITS controlled database.
- The Graphical Report Maker (GRM) system reads this database for up-to-date table information and queries for the latest performance data when creating a new graph.

2. Equation Construction

- From a web client interface, the user can create an equation that will be used to query the database and process the raw data into a more usable format.
- Equations might have filtering of time stamps into a more accurate state, averaging two metrics at a specific time, or correlating two dependent variables in order to graph properly.
- Reports that can be executed must begin with a query to the database and end with an element that produces either a graph or a table of data.

3. Report Execution

- The user can generate a graph from any defined report.
- The web interface allows interactive changes to a graph's visual characteristics.
- The scriptable interface allows external program to generate reports, for instance, at timed intervals.

4. Data Exportation

- Once a report has been executed, whichever representation of the data was chosen at report creation time is then exported outside of the system.
- The JPEG image of the graph or a table of processed data can both then be displayed on a web page for all to view.