NDIA
CMMI® Technology Conference
Denver, Colorado
November 13-16, 2006

The Unseen Benefits of the Change Request Process

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Georgia Tech Research Institute (GTRI) Overview

- **Unit of the Georgia Institute of Technology**

- **1200+ employees**

- **70% of research employees hold advanced degrees**

- **Wide variety of products**

- **Customers include federal and state government; and industry**

- **Competitively bid projects range greatly in size and duration**

- **More Info:** **http://www.gtri.gatech.edu/**
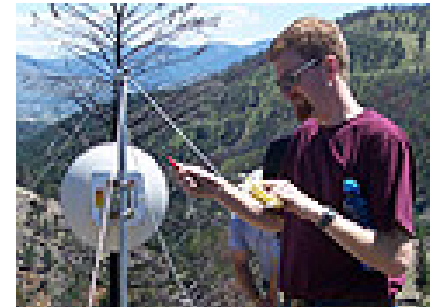
Topics to Cover

- **What is a problem report**
- **What a problem report is not**
- **Why problem reports are a good thing**
- **How problem reports fit into your development process**
- **Problem report lifecycle**
- **Types of information to collect**
- **Problem report metrics**
- **Summary**

What is a Problem Report?

- PR, SPCR, Bug, OCR, CR, EPR, ECR…

- Project requirement

- Creates a paper trail

- Documents changes at any point in development cycle

- Easy PM tool (How are we doing?)

- Part of release documentation

- Business development tool

What is a Problem Report?

- **Part of the CMMI v1.2 Configuration Management Support Process Area ML2**

- **Specific Practice: SP 2.1 *Track Change Requests***

- **Typical Work Product: Change Requests**

- **Subpractices:**

  1. **Initiate and record change requests in the change request database.**

  2. **Analyze the impact of changes and fixes proposed in the change requests.**

  3. **Review change requests that will be addressed in the next baseline with the relevant stakeholders and get their agreement.**

  4. **Track the status of change requests to closure.**

What a Problem Report is Not

- **Not optional**

- **Not a personal performance indicator**

- **Not a singular project tool**

- **Not a contest**

- **Not only for S/W**

  - **Documentation**

  - **Systems/Hardware**

  - **COTS**

 - **Subcontractors**

  - **Process**

Why Problem Reports are a Good Thing

- **Great communications tool**
- **Provide a status snapshot**
- **Manage clients and subcontractors**
- **Issues don't get lost**
- **Help control the product**
- **Bring new hires up to speed**
- **Business development**
- **Help make informed decisions**

How Problem Reports Fit Into the Development Cycle

- **At what point during the process should problem reports be written**

- **Who should see problem reports**

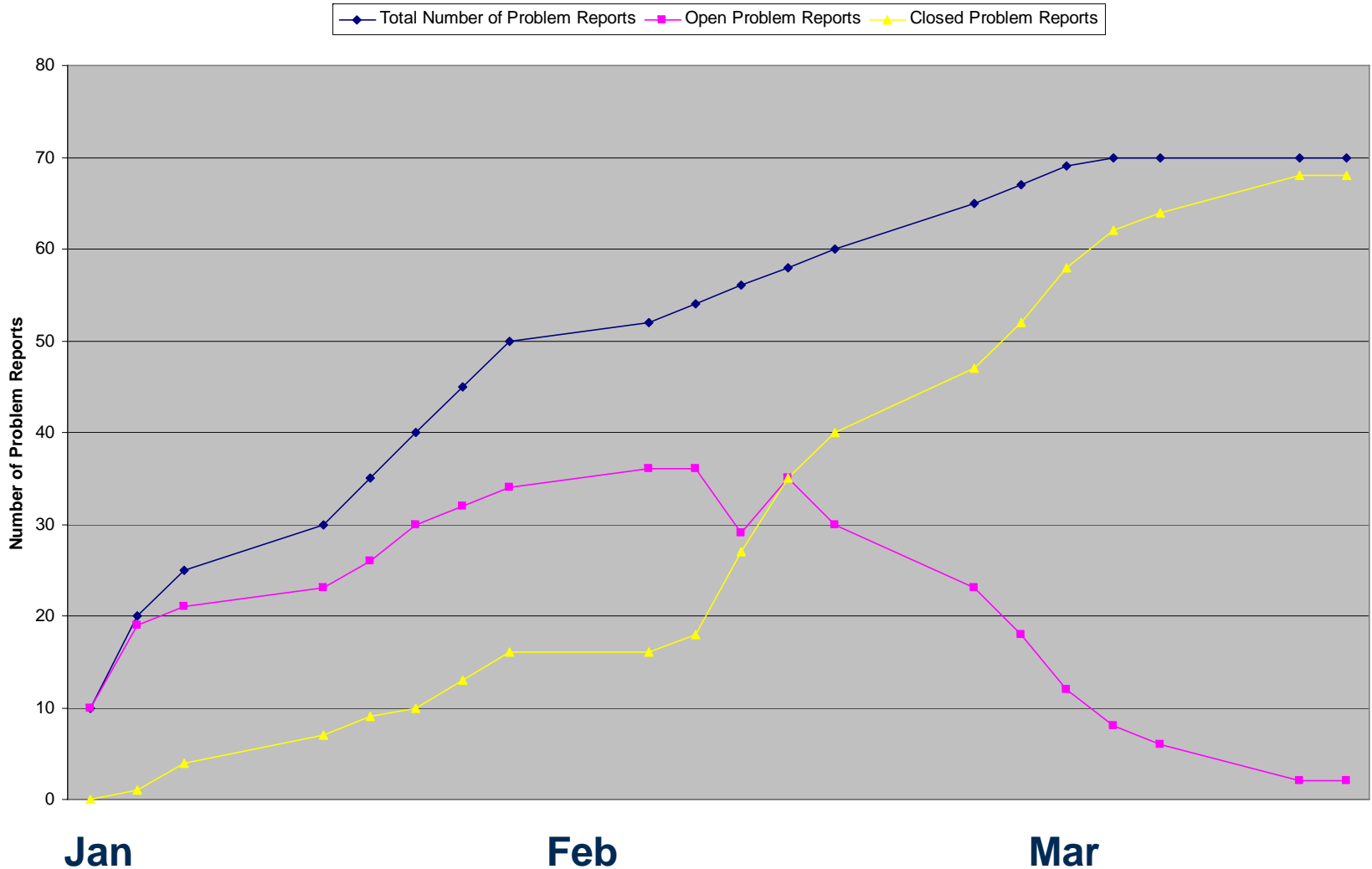# Problem Report Lifecycle
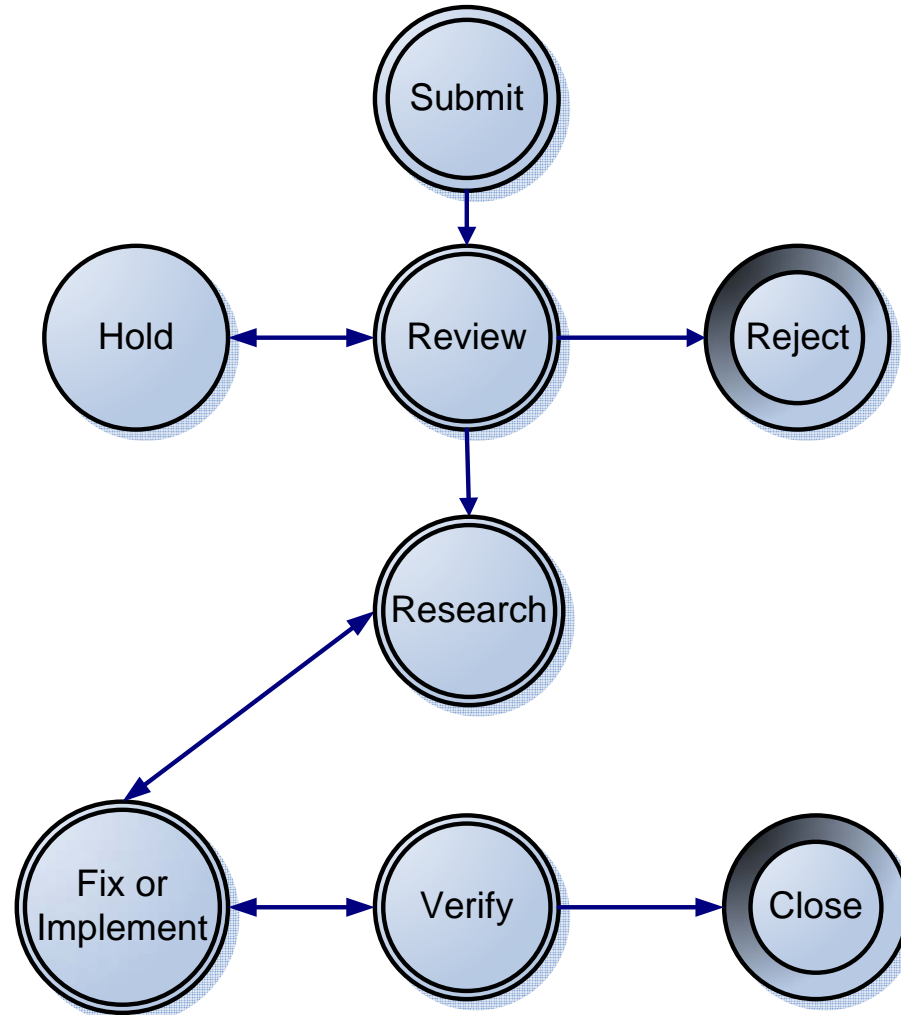
Types of Information to Collect

- **Unique ID**

- **Description**

- **State of problem report**

- **Functionality or application**

- **Where in the process it was written**

- **Severity**

- **Priority**

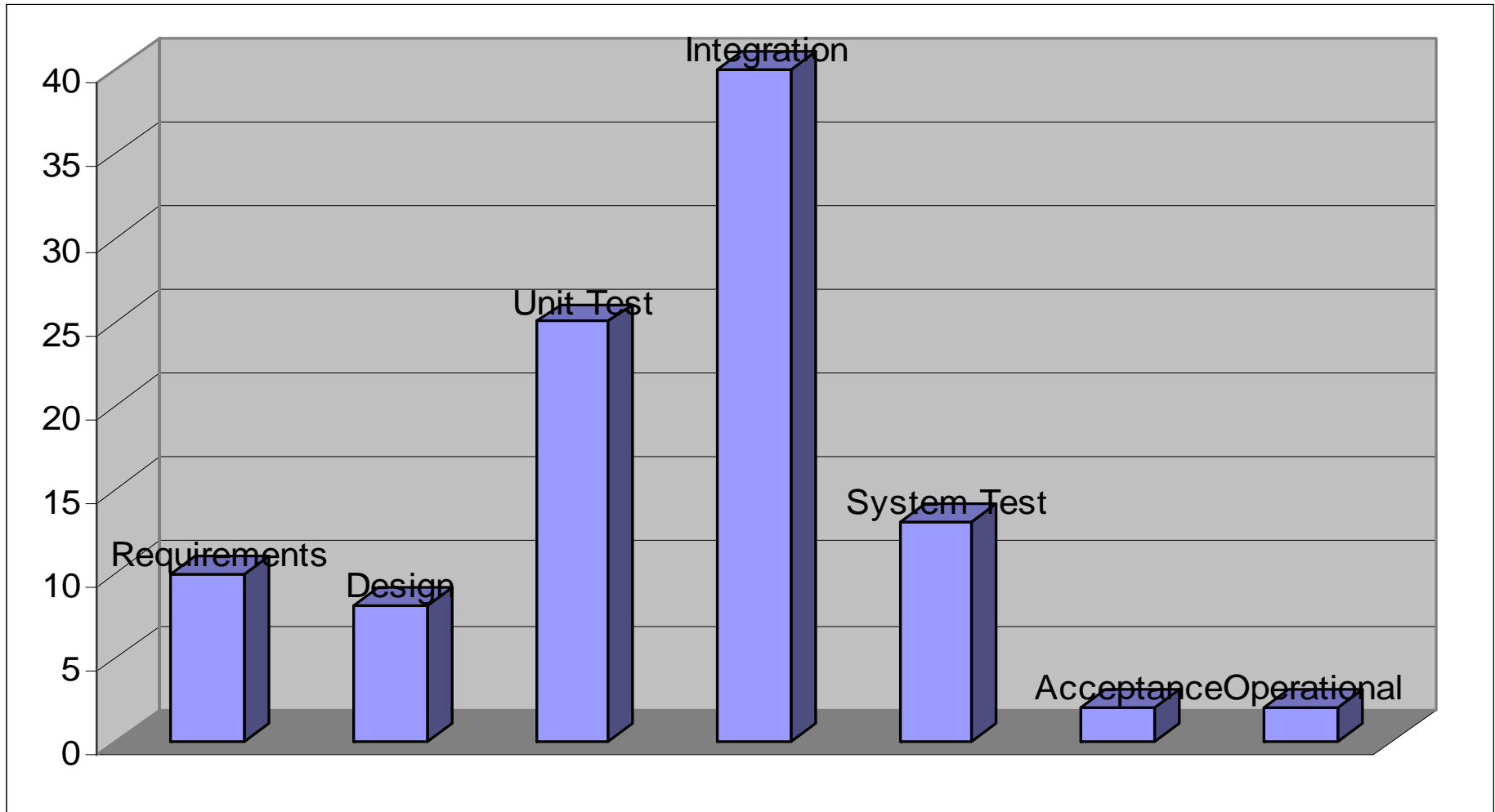- **Dates**

- **Estimations**

Problem Report Metrics

- **Open vs. closed**

- **Where defects are introduced**

- **Closure rate**

- **Days to verify**

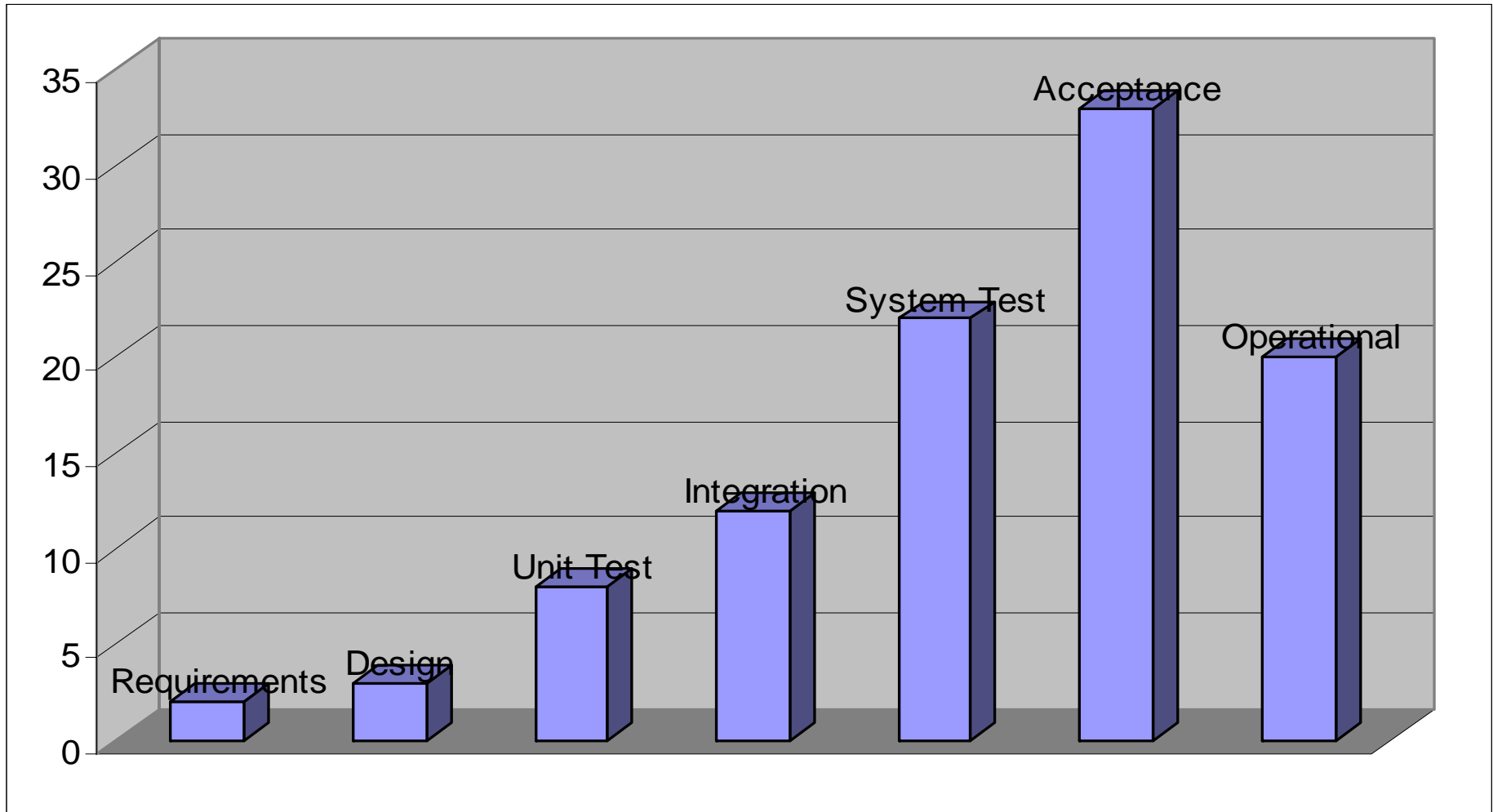- **Open per function or application**

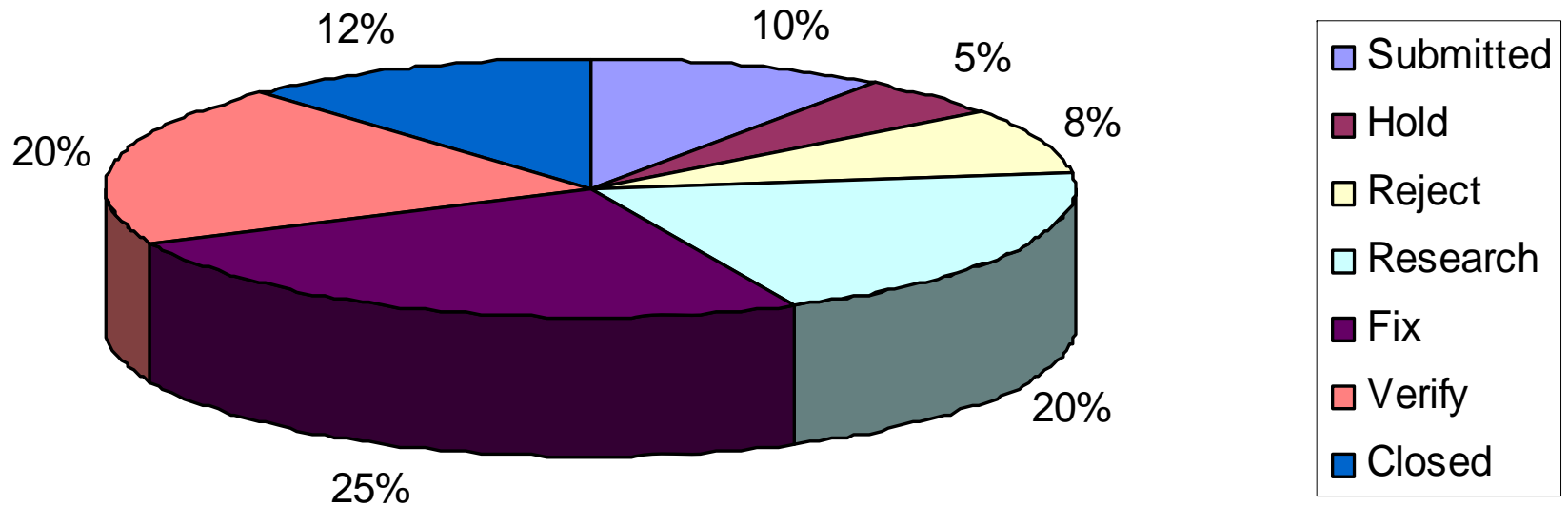- **When defects are found**

Problem Report Closure Rate

Legend: Total Number of Problem Reports — Open Problem Reports — Closed Problem Reports

Y-axis: Number of Problem Reports (0–80)

X-axis: Jan, Feb, Mar

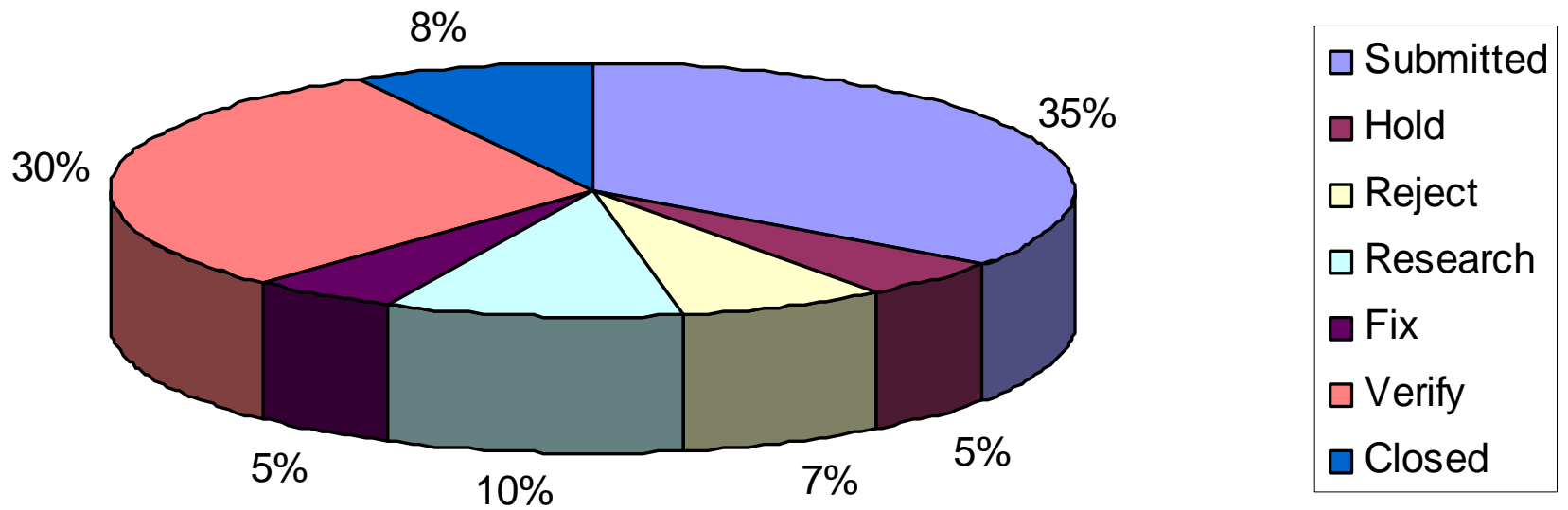# Problem Report Graphs - Where Found
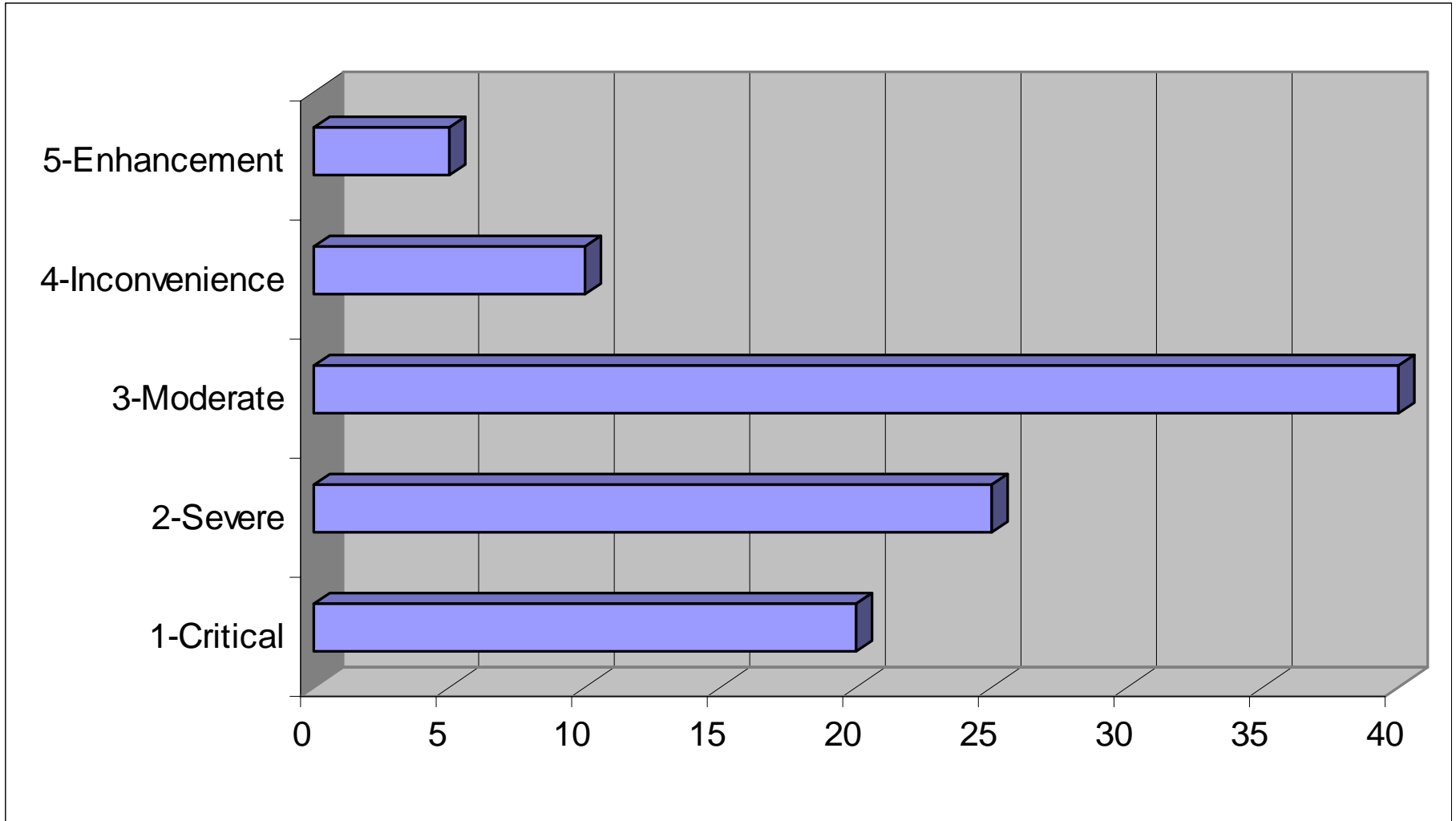
Problem Report Graphs - Where Found

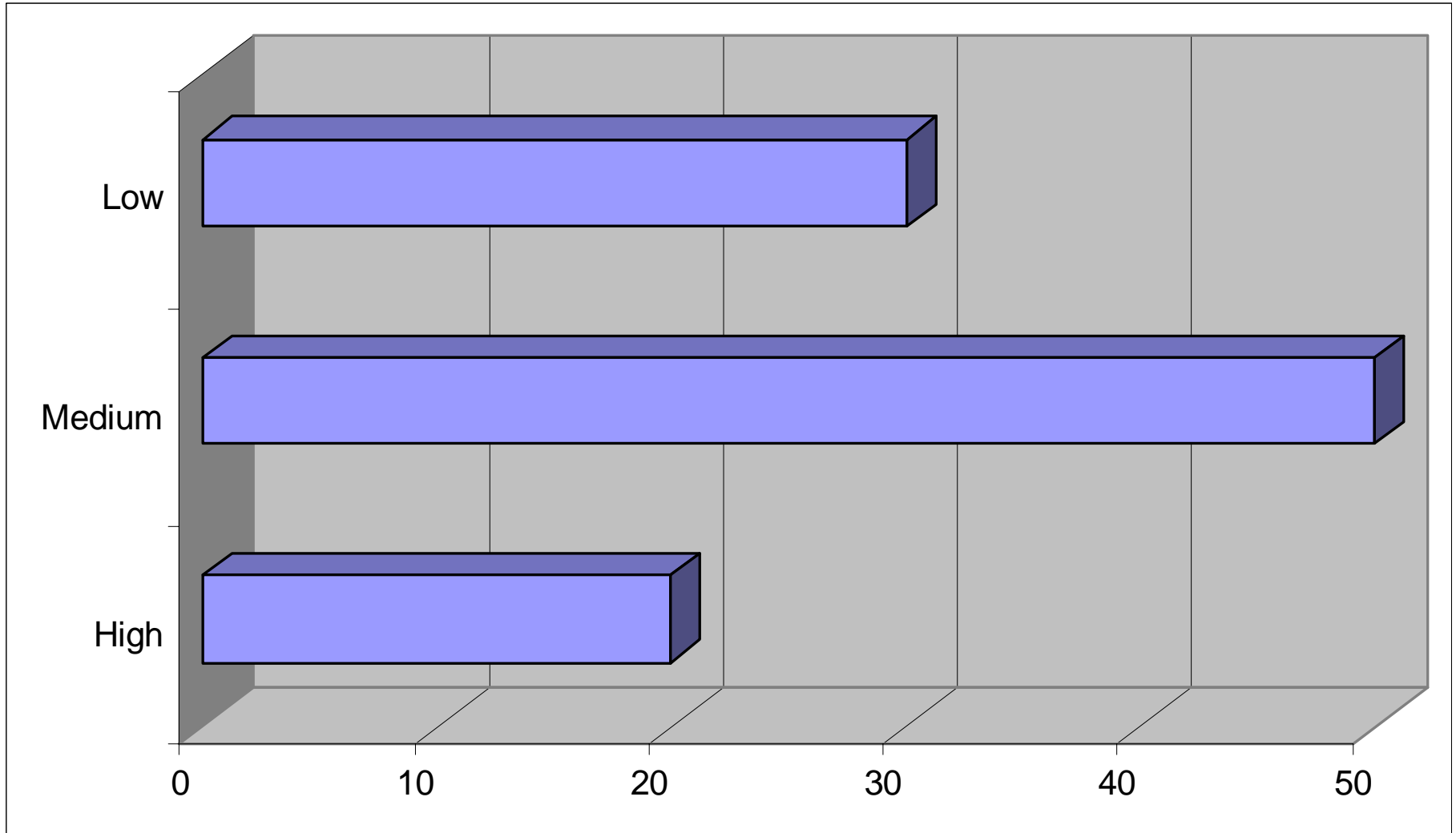# Problem Report Graphs – Status

Problem Report Graphs – Status

Problem Report Graphs – Severity

Problem Report Graphs – Priority

Excuses

- **Takes more time to document the change than to actually make it**

- **This will reflect poorly on my work**

- **I don't want the customer to know what our problems are**

- **Stop writing problem reports so we can release**

Summary

- **Simple way to gain project insight and make informed decisions throughout**

- **Good project communications tool**

- **Helps keep things under control**

- **Don't misuse**

- **"Tool" should support your process and needs. Consider things like web interface, queries, report generation, customization or integration**

Questions?

Contact Information

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- **More Info about GTRI:**

  http://www.gtri.gatech.edu/