



# Design Approach Review

## GUARDIAN

(General User AleRt Display pANel)

AWIPS Build OB4

MDL

Tom Filiaggi  
July, 2003



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# GUARDIAN

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## AGENDA

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- P Overview
  - P DataFlow
  - P Software Design
  - P (Data Handling)
  - P Graphical Interface
  - P Installation
  - P Performance
  - P Testing
  - P Hardware Resources
  - P Responsible
  - P Documentation
  - P Schedule
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## Overview

### P Background

- ▶ Currently, the AWIPS users can receive messages from various software in various forms with little control.
- ▶ Anecdotal evidence suggests that users are rather unhappy about how AWIPS software developers have chosen to notify them of various real-time issues, including:
  - Overwhelming audio
  - Unnecessary pop-ups
  - Lack of “pertinent” information (which is, of course, subjective)
- ▶ The growing number of meteorological monitors is quickly running out of space on the D2D tool bar.



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## Overview

### P Implementation Strategy

- ▶ Develop a new communicator to allow the user to filter what software messages they receive.
- ▶ Develop a new communicator to allow the user to define how they wish to be notified of messages with varying sources and priorities.
- ▶ Have a persistent process running on each workstation that utilizes general AWIPS IPC methods.





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## Overview

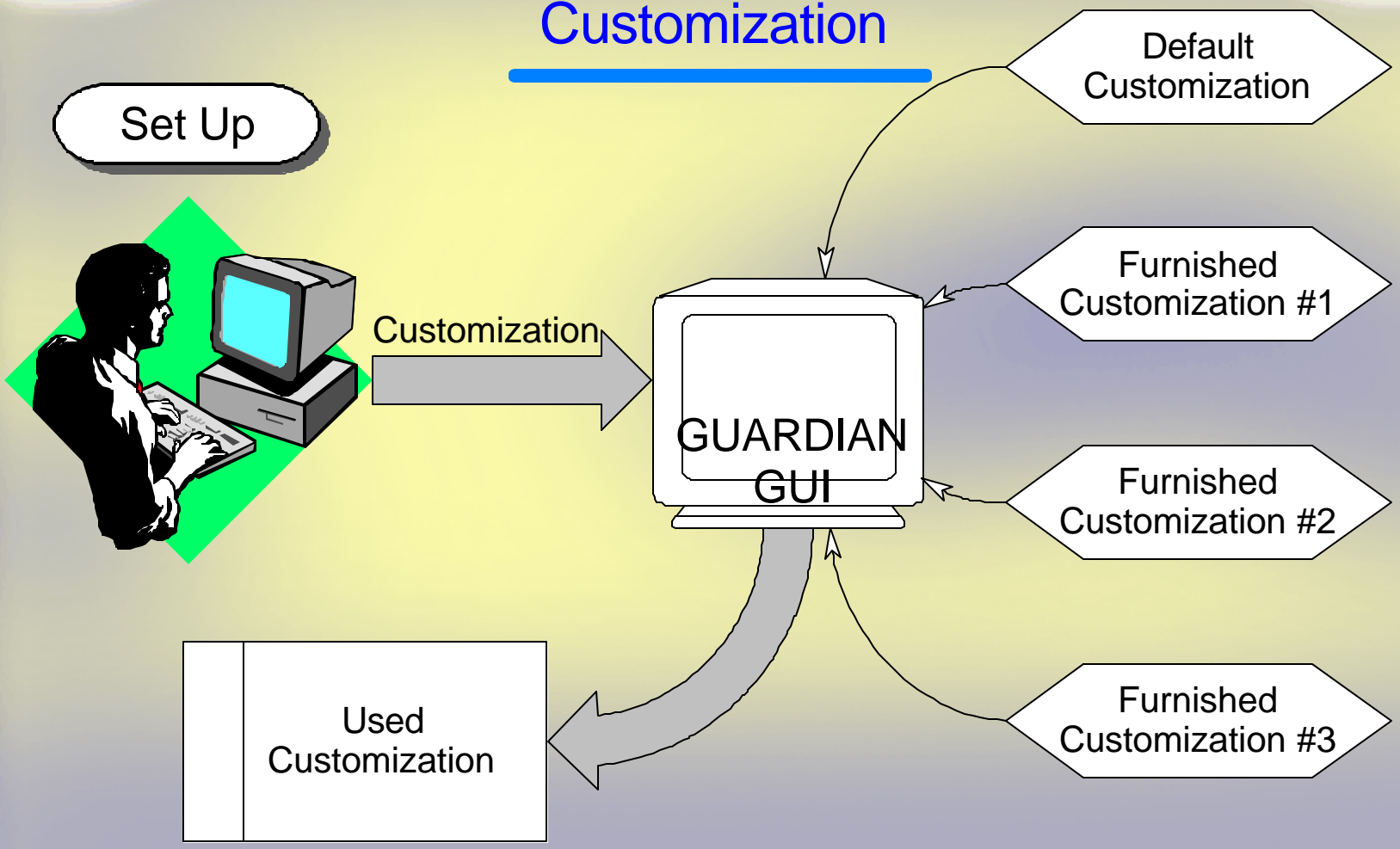
### P The General User Alert Display Panel will:

- ▶ Provide a vehicle to communicate messages from software to the user. These messages can be:
  - From meteorological monitoring software
  - System health alerts
  - Radar ingest messages
  - Based on Informix Triggers
  - Messages from **any** other client application . . .
- ▶ Provide methods to allow users to configure how these messages get communicated: blink, beep, pop-up, or even run an action script or play a sound file.



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## Customization



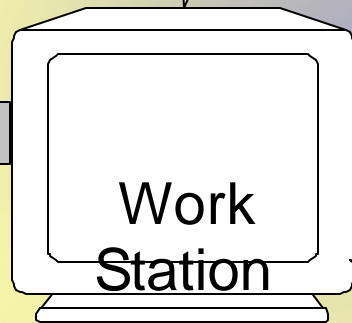


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## Message Receipt

Message Receipt



Process

Application

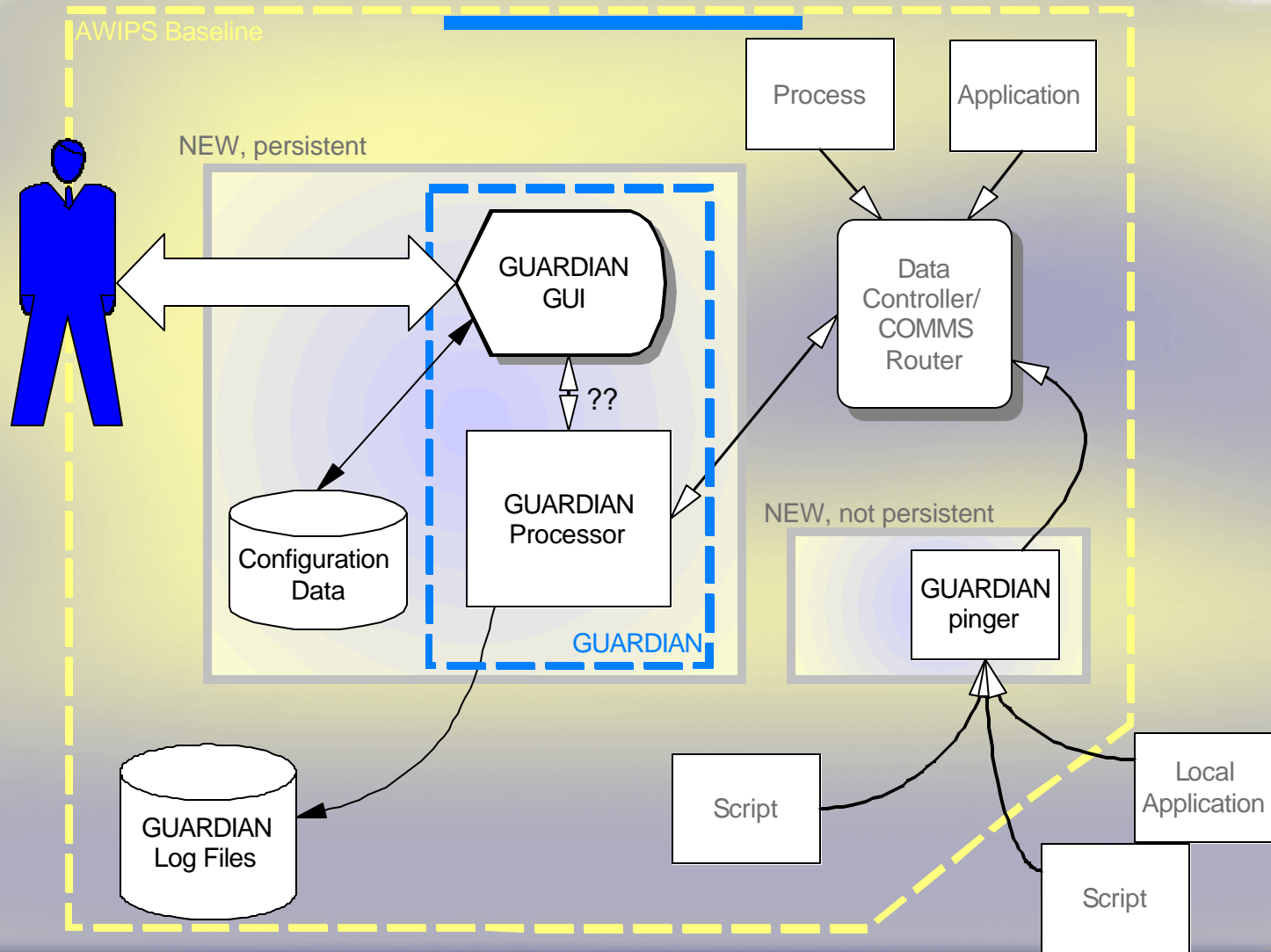
Local Application

Script



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## Data Flow







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## Software Design

### P - Programming Languages used

- C++
- TCL/TK
- Perhaps shell script

### P COTS usage

- TCL

### P Machine Specific Dependencies

- LINUX (no plans for HP compliance)

### P Service APIs Required

- none



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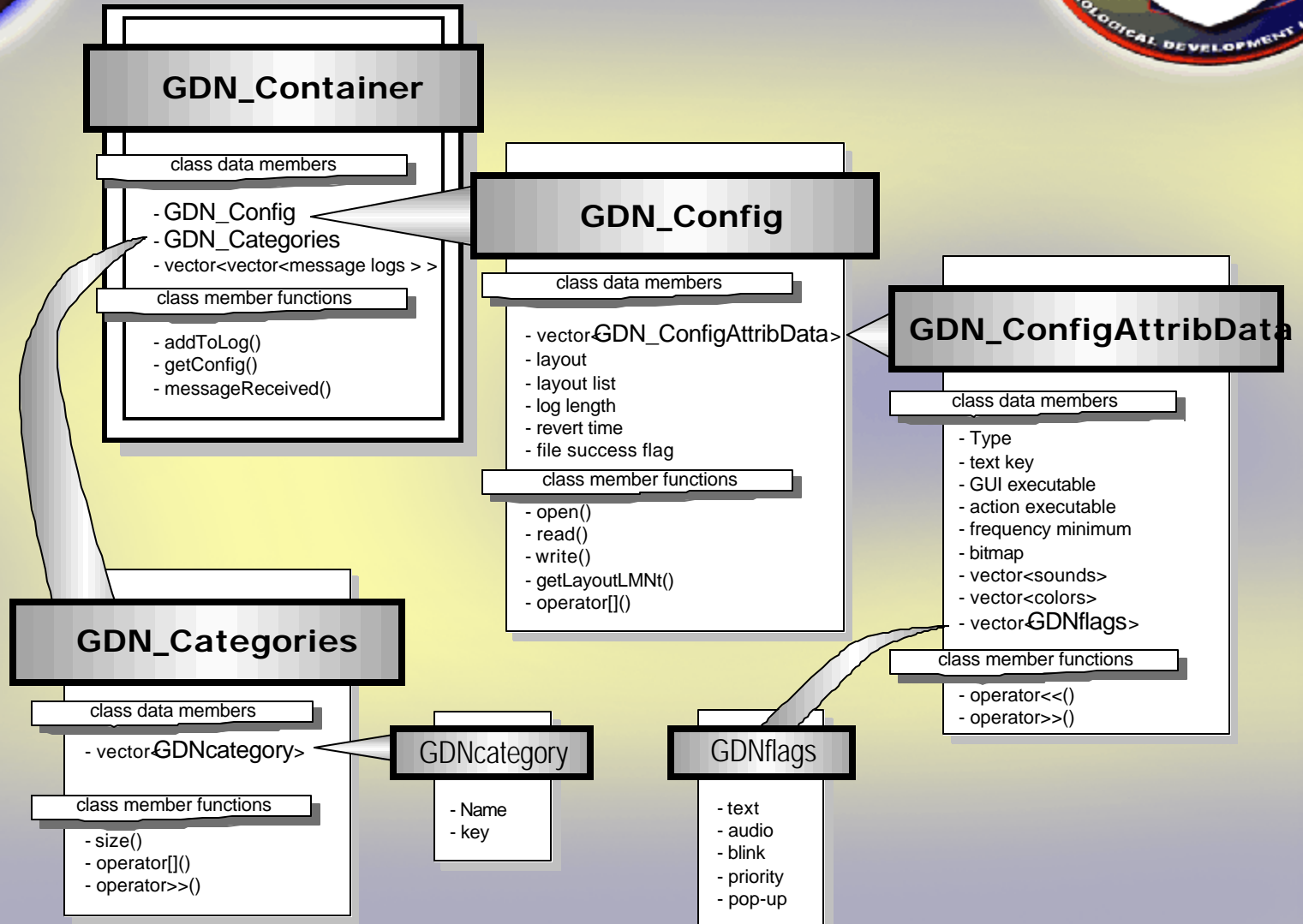
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## Software Design

- P Use C++ foundation, with Tcl Interpreter.
- P Use AWIPS IPC: registration and message handling.
- P Use comprehensive configuration data, to provide user-friendly flexibility.
- P Attempt to use one executable which will handle all of the above items.
- P Run on each workstation to allow workstation-specific configuration.



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## Graphical User Interface

- P **Must** remain “on top”, above all other windows!
- P **Must** occupy minimal screen-estate, due to ‘on top’ status!
- P Provide flexible methods to configure how messages get conveyed to the user.
- P Provide customizable GUI appearance.
- P Provide methods to store and retrieve configurations.
- P Provide a small number of default settings, to ensure ‘out of the box’ use. Examples of such modes could be:
  - ▶ “Severe Weather”
  - ▶ “Forecast”
  - ▶ “System Monitor”
  - ▶ “Text WorkStation”




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## Graphical User Interface


SC SS LA (5)Text of the message goes here.

FF FW (4)Text of another category of message goes here?


SC SS LA FF FW (3)Text of the message goes here.

File    Apply    Save    Retrieve    Exit

SOURCE	PRIORITIES							
	high	0	1	2	3	4	5	low
FFMP		<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>SCAN</b>		<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WWA_1		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WWA_2		<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
	audio:	scream wav	help au	1	1	0	0	
	action:	gun.sh						
	background/img:	doom jpg	help gr	mush png	#9954ac	green		
	foreground:	red	yellow	#9954ac	#9954ac	#af7d5e		

Interval:     Bitmap:

LAYOUT

	1	2	3	4
quad	SCAN	MISC	FFMP	
log_length:	10	20	15	

Revert Time:





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## Installation

- P **Need to start GUARDIAN upon log-in!** Log-in files will need to be edited.
- P **No** changes to National Metadata files
- P **No** changes to site-modified metadata files
- P **No** changes to runtime setup files
- P **No** expected cron usage
- P **No** new runtime disk partitioning / directories anticipated being created
- P New runtime metadata files created: Configuration files
- P **No** core runtime system services changes anticipated
- P **No** new COTS / freeware runtime packages anticipated



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## Performance

- P Assessment of performance
  - ▶ Minimal new CPU load
- P Assessment of shared services with new design
  - ▶ Expected increase in IPC Comms traffic.
- P **No** anticipated issues with algorithmic performance
- P Disk I/O usage to be determined
- P **No** anticipated use of remote shell, rcp, or other such system calls



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## Testing

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- P Internal Testing: NHDW, NHDA
  - P Alpha test: Yet to be determined, but have had several volunteer WFOs.
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## Hardware/Resource Usage Design

- P **No** new Hardware or mods to existing hardware required by this item
- P Additional Disk Space
  - ▶ Log space will depend on degree of use. May be significant.
- P **No** anticipated use of Omniback/ tapedrive
- P **No** anticipated use of the WAN
- P **No** anticipated use of the SBN
- P **No** potential problematic use of special hardware resources



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## Assignment of Responsible Individuals

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### P Main Developers

- ▶ Tom Filiaggi - MDL: Lead
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## Schedule

- P Prototype Preparation
  - ▶ Fall, 2003
- P User Interface Review & Alpha Testing
  - ▶ November, 2003
- P End of Development
  - ▶ January, 2004