



Tru64 UNIX Performance
Monitoring: collect

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Agenda

- Overview
- Collecting performance data
- Analyzing data and displaying results
- Advanced techniques

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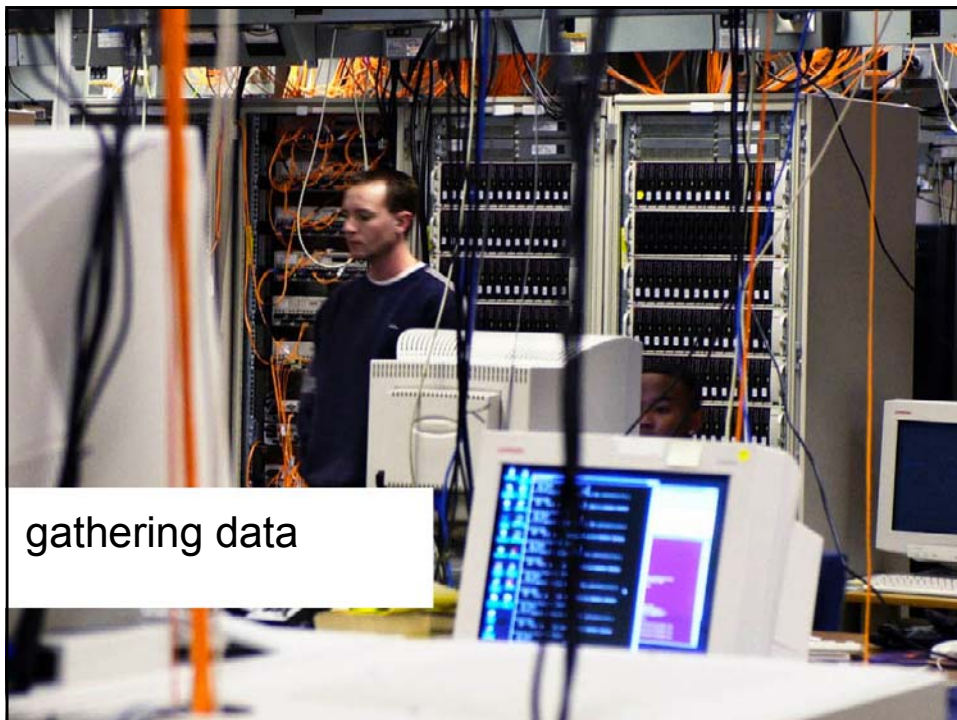


Overview

- Collects operating system data under HP Tru64 UNIX
 - either interactive mode or historical mode
- Tightly integrated associated tools:
 - collgui
evaluate data gathered by collect using collect, cfilt, and gnuplot
 - cfilt
extracts arbitrary values from the output of collect
- Has become the standard tool for Tru64 UNIX performance monitoring

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Collect Features

- Records specific operating system data
 - Display data in text format
 - Store it in compressed binary format
 - Any set of the subsystems be included or excluded
 - A collection interval can be specified
- Plays back data files
- Automatic start on boot with logfile rollover and cleanup
- Automatic termination after a given time or a specified number of collection intervals

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Example: collect

```
# collect -f collect_data -a
Initializing (10.0 seconds) ... done.

#### RECORD      1 ...

^C
Ouch!

# collect -p collect_data.cgz
```

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Select Subsystems to be monitored

```
# collect -s [pmdtlncfqyh]
# collect -e [pmdtlncfqyh]
```

- **p** process statistics
- **m** memory usage
- **d, t, l** disk, tape, LSM statistics
- **n** network
- **c** CPU statistics
- **f** file system
- **q** message queues
- **y** tty
- **h** header information

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Collection Interval

- Use **-i** to specify a time value in seconds for
 - the collection interval
 - the process interval
- Collect is designed to use less than 1% of system resources if sampling is performed at 30-second or greater intervals

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Automatic Starting on Boot

- Collect can be configured to start automatically on boot: Useful for continuous monitoring
 - `/etc/rc.config` values:
`COLLECT_AUTORUN`
`COLLECT_ARGS`
 - Default values are:
`-i60,120`
`-f /var/adm/collect.dated/collect`
`-H d0:5,1w`
`-W 1h -M 10,15`
- `collect_init@07-Apr-00:05:02.cgz`

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collgui

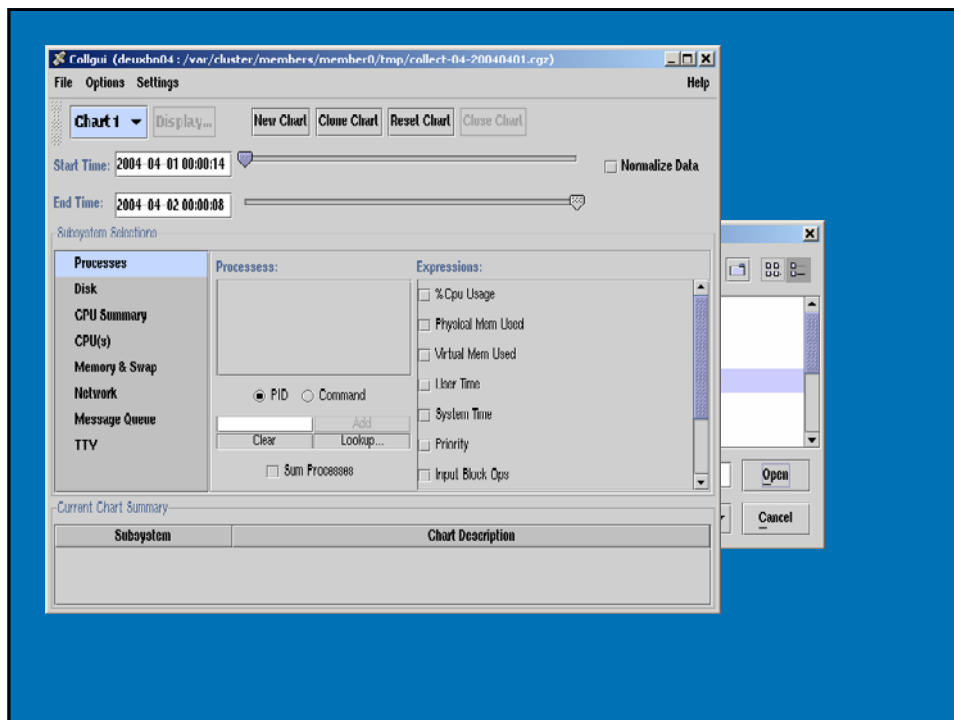
- GUI used to analyze collect data
- Uses cfilt to filter extracted data
- Simply to use, even without detailed knowledge of cfilt

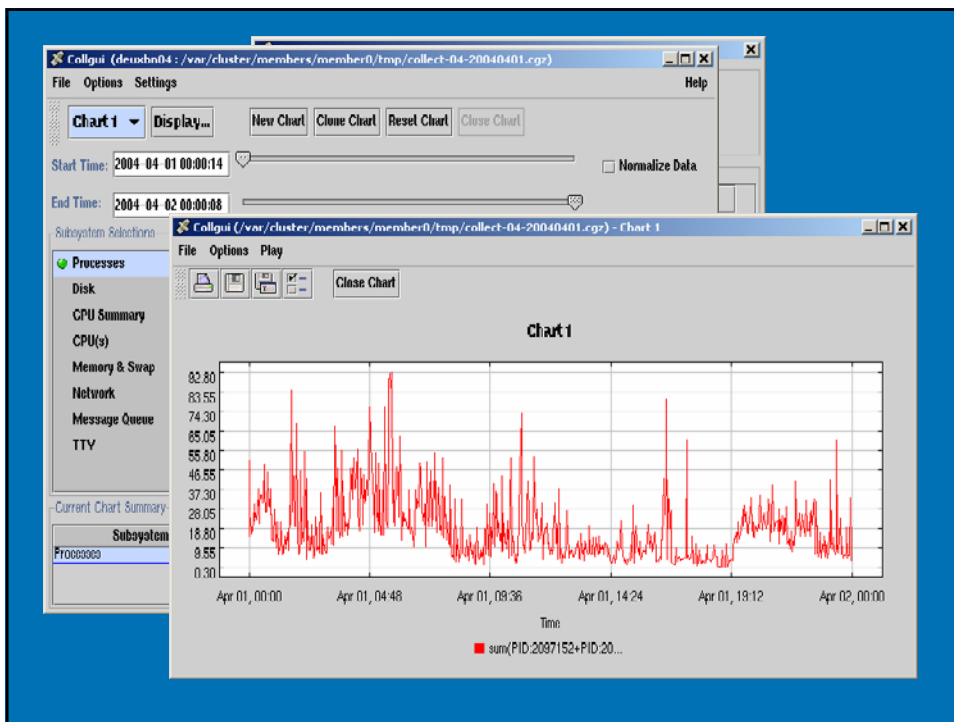
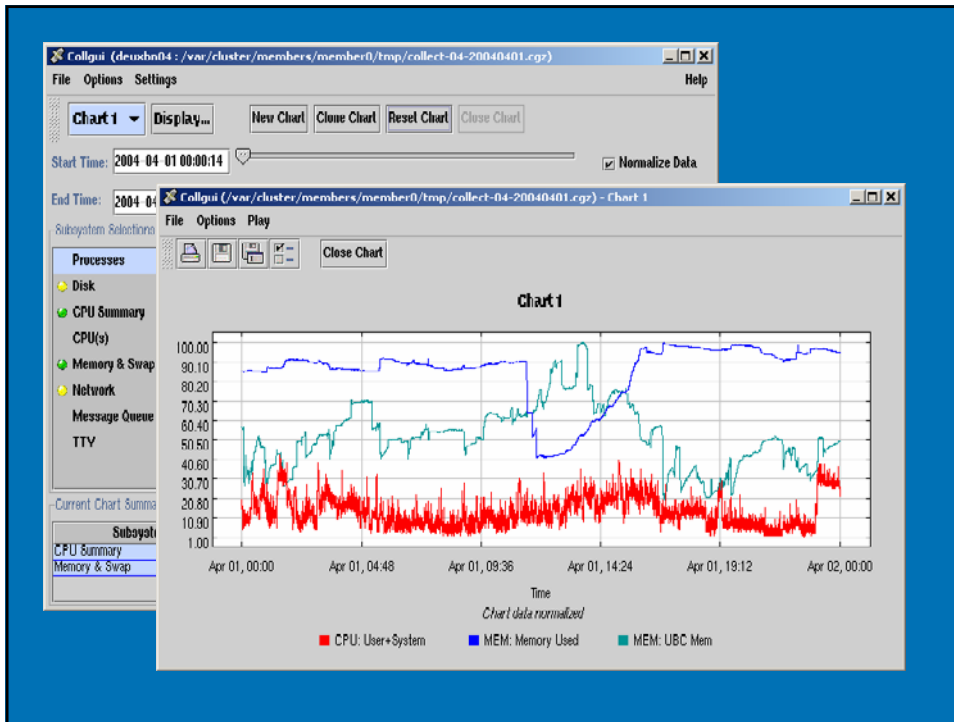
```
# collgui collect_output_file.cgz &
```

```
# collgui -live collect_output_file.cgz &
```

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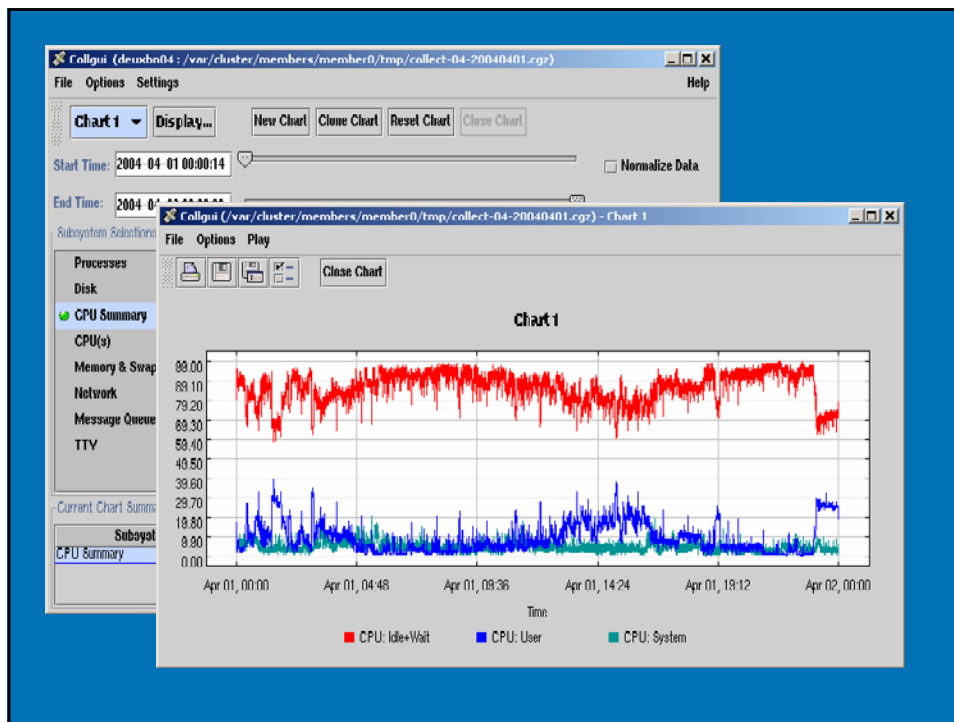
Getting an Overview

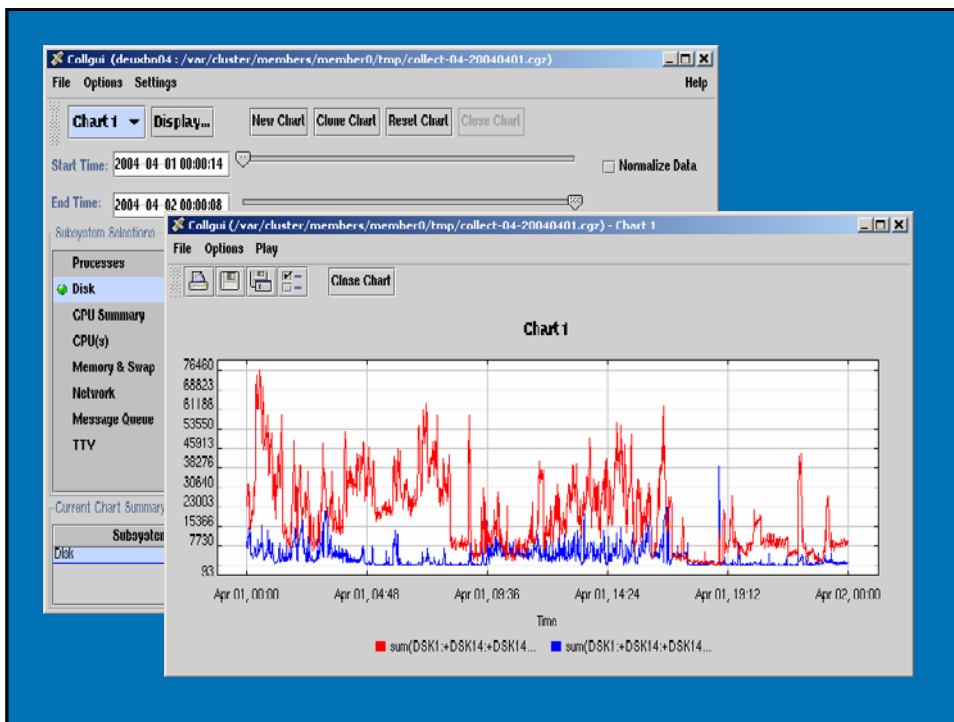
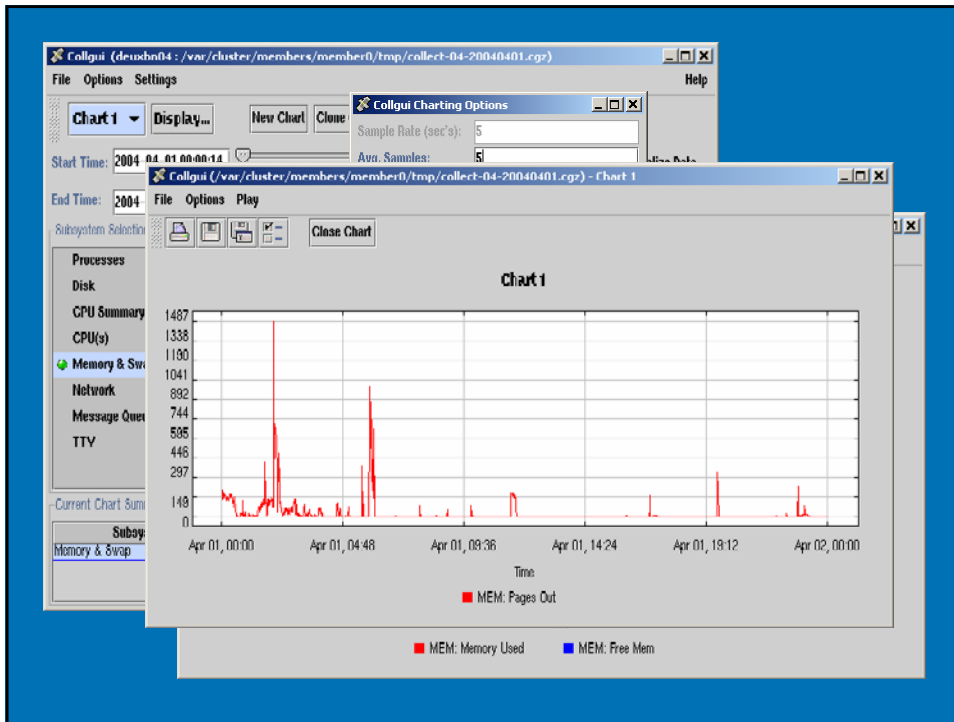
- Get collection details

```
# collect -p collect_file.cgz -sh
```
- CPU summary:
 user, system, idle
- Memory usage
- Disk I/O
 if there are a lot of disks, check overall transfer first
- Network I/O
 for each interface

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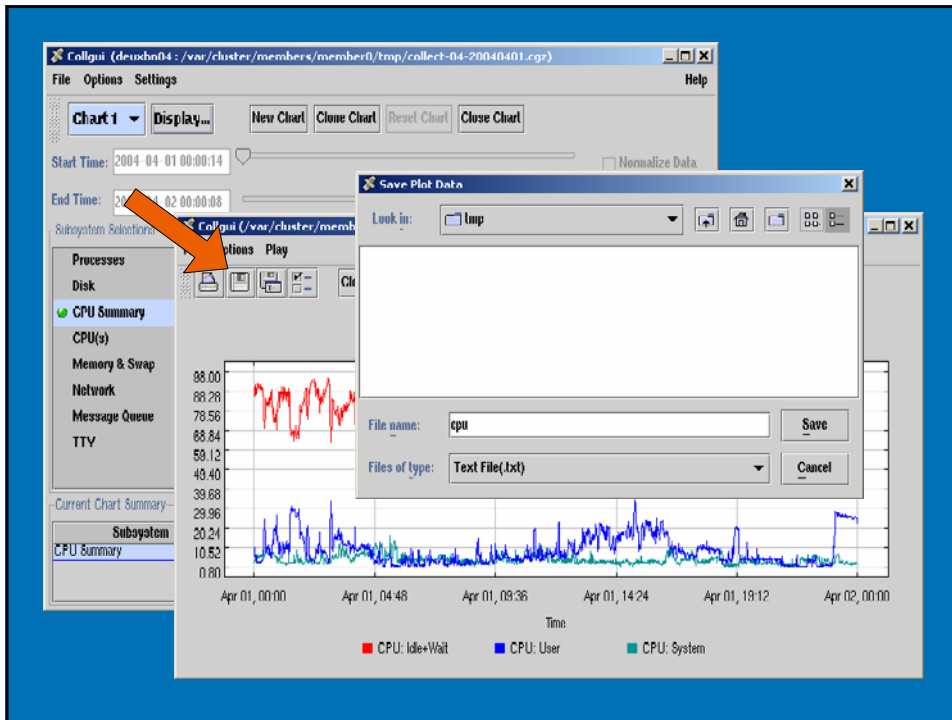






Exporting Data

- collect can be used to export data to other applications (e.g. to be plotted in Excel)
- Feature has been included in the new GUI



cfilt

A filter for Collect

```
# cfilt [-aN] [-f [input-file] \
[expression] [expression ...]] [-p]
```

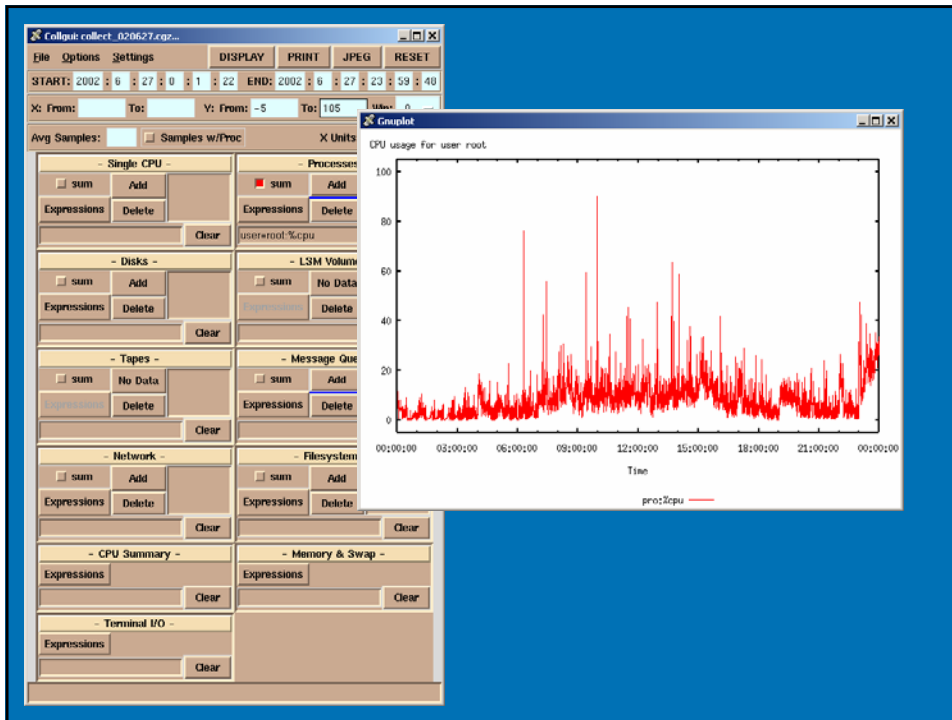
Examples

```
# cfilt -f ... cpu:sys:user:idle
```

```
# cfilt -f ... \
`dis+:name=dsk1,dsk2:rkb/s+wkb/s`
```

```
# cfilt -f ... `pro+:user=oracle:%cpu`
```





Example



- Automatically start collect after each reboot
- Run collect as a cron job to extract performance data to text file
- Setup scripts that use any graphic tool (e.g. gnuplot) to draw graphs.
- Setup a central system (e.g. a WebServer) to hold output of all monitored systems

