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(54) **INTERFACING EXTERNAL METRICS INTO A PERFORMANCE MANAGEMENT SYSTEM**

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(58) Field of Search 709/223, 224; 714/47

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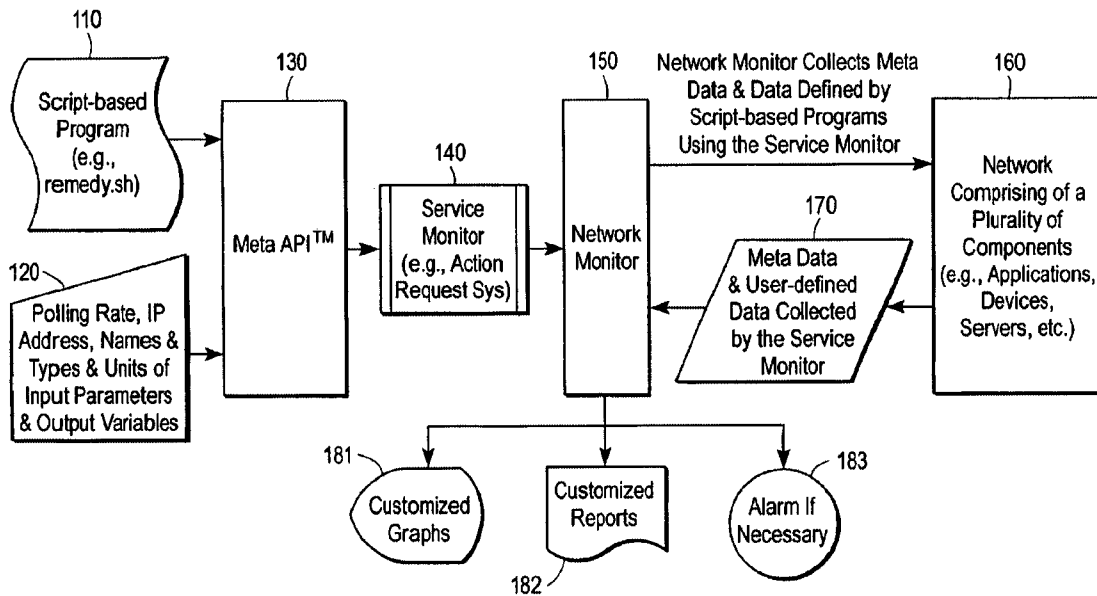
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(57)   **ABSTRACT**

A method and apparatus for network management is described. In one embodiment, a method comprises collecting performance data having accompanying meta data including information defining the performance management data and information indicating operations to be performed on the performance management data, and generating output data for display using collected performance management data according to the information indicating the operations to be performed on the performance management data.
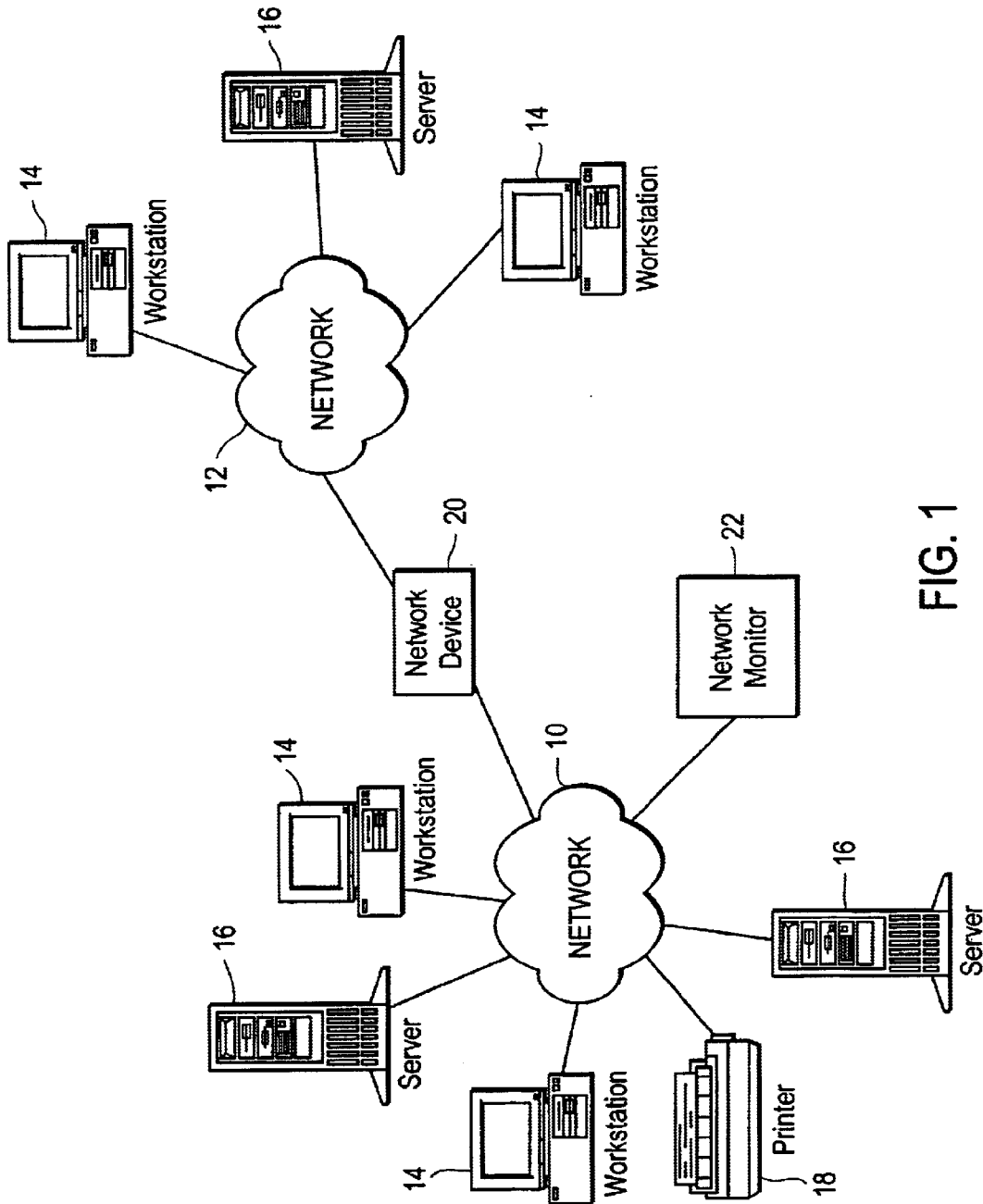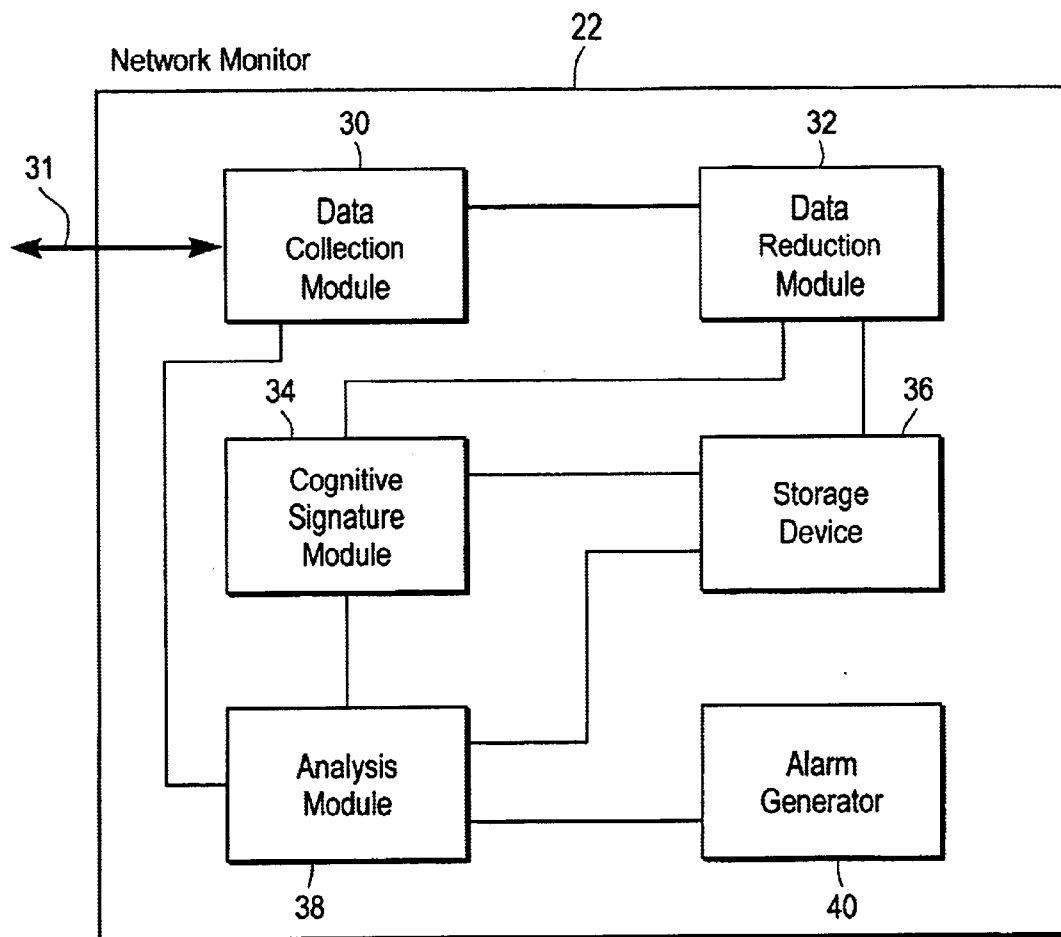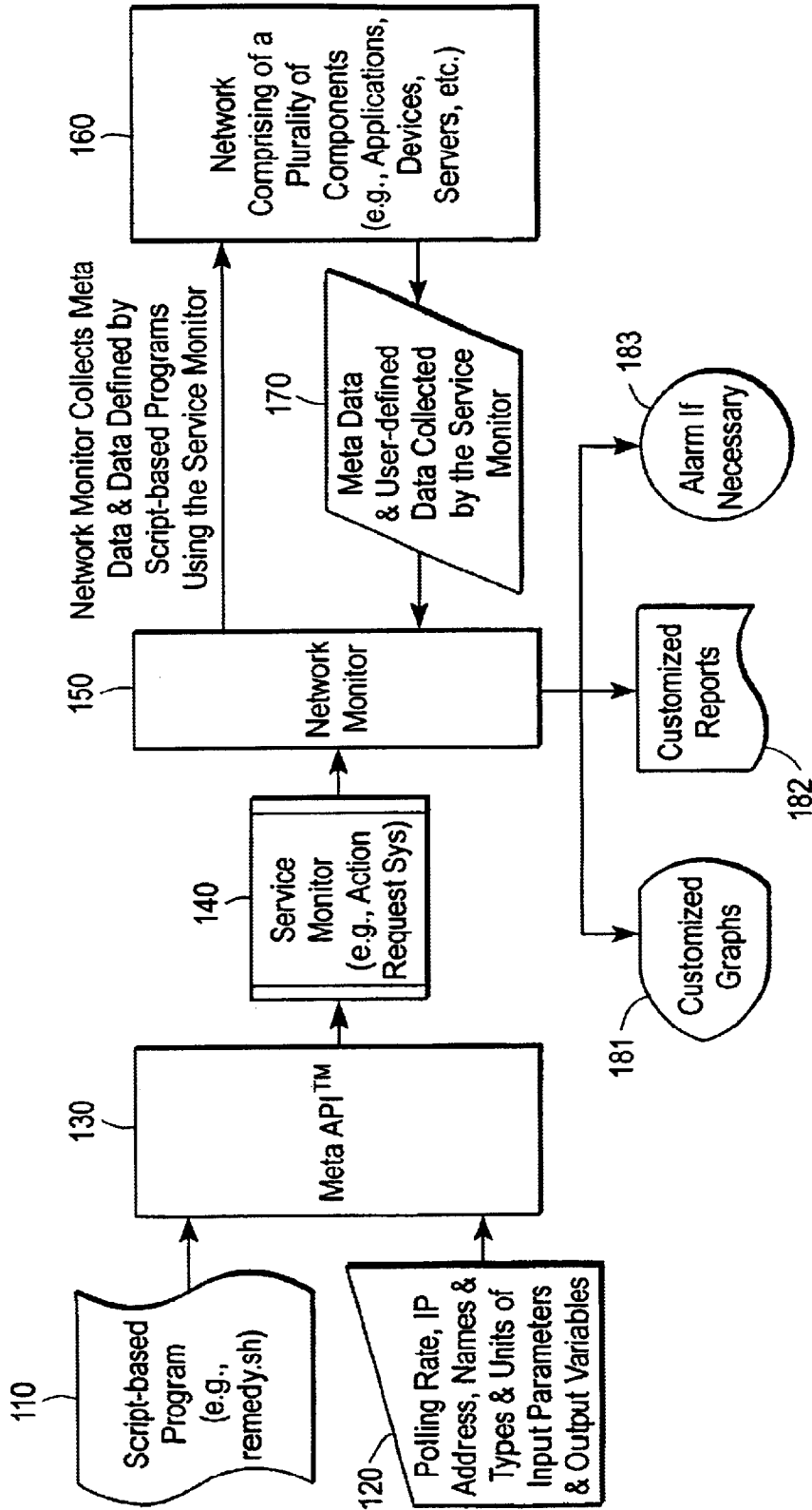
12 Claims, 12 Drawing Sheets

FIG. 1

Network Monitor

22

31

30
Data Collection Module

32
Data Reduction Module

34
Cognitive Signature Module

36
Storage Device

38
Analysis Module

40
Alarm Generator

FIG. 2

FIG. 3

160 — Network Comprising of a Plurality of Components (e.g., Applications, Devices, Servers, etc.)

Network Monitor Collects Meta Data & Data Defined by Script-based Programs Using the Service Monitor

170 — Meta Data & User-defined Data Collected by the Service Monitor

183 — Alarm If Necessary

150 — Network Monitor

182 — Customized Reports

140 — Service Monitor (e.g., Action Request Sys)

181 — Customized Graphs

130 — Meta API™

110 — Script-based Program (e.g., remedy.sh)

120 — Polling Rate, IP Address, Names & Types & Units of Input Parameters & Output Variables

```
#!/bin/sh
# ###############################################################################  #
# Copyright : @ 1999 ProactiveNet Inc.
# File : remedy.sh
# Description : Returns information on the Remedy ARS Service Monitor
# Author : Steven Snyder
# Date : $Date: 1999/06/24
# ###############################################################################  #
# This script takes the following parameters:
# USERNAME: Remedy user login
# PASSWORD: The users password
# SERVER: The ip address of the Remedy ARS server
#
# This example executes a binary, passing the username, password, server to connect to, and the commands
# to execute. The binary logins into the server, executes the commands and echoes the data to standard out
# where it's read by the ProactiveNet system.
# Initialization etc. ###############################################  #
unalias -a

RESPONSESCRIPT=/usr/ar/api/src/driver/driver1.in
CONFIGSCRIPT=/usr/ar/api/src/driver/driver2.in
DRIVER=/usr/ar/api/src/driver/driver
CAT=/bin/cat
ECHO-echo # shell built-in
RM=/bin/rm

PATH=/bin:/usr/bin:/usr/sbin:/etc
export PATH

progname='basename $0'

if [ $# -lt 5 ]
then
$ECHO "usage $progname -[config|stat] <ip> <timeout> <username>
<password>" >&2
exit 1
fi

SERVER=$2
USERNAME=$4
PASSWORD=$5

if ["$1" = " -stat"]
then
$DRIVER $USERNAME $PASSWORD $SERVER $RESPONSESCRIPT
fi


# ------------------------------------------
if [ "$1" = " -config"]
then
$DRIVER $USERNAME $PASSWORD $SERVER $RESPONSESCRIPT
fi
exit 0
```

FIG. 4

DOCKET ALARM

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