

Openview Product Management of Linux Systems

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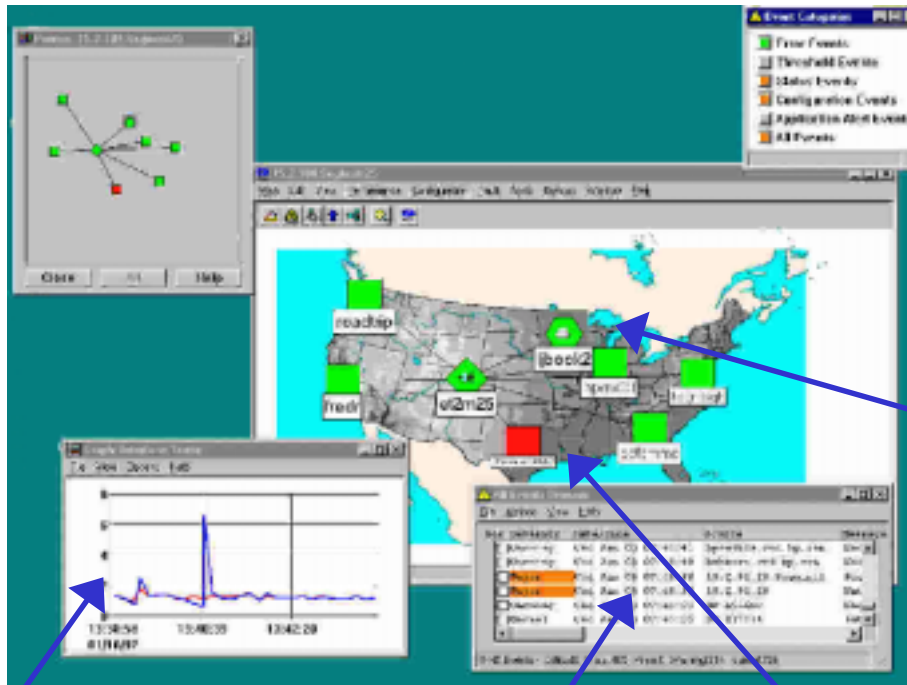
Technical Consultant

HP Customer Education

Outline

- - How Network Node Manager Discovers Linux Systems
- - How IT Operations can manage events of Linux Systems
- - How OmniBack can manage the backups of Linux Systems

Network Node Manager



Discovery & Mapping

Data Collection & Graphing

Event Log & Automated Actions

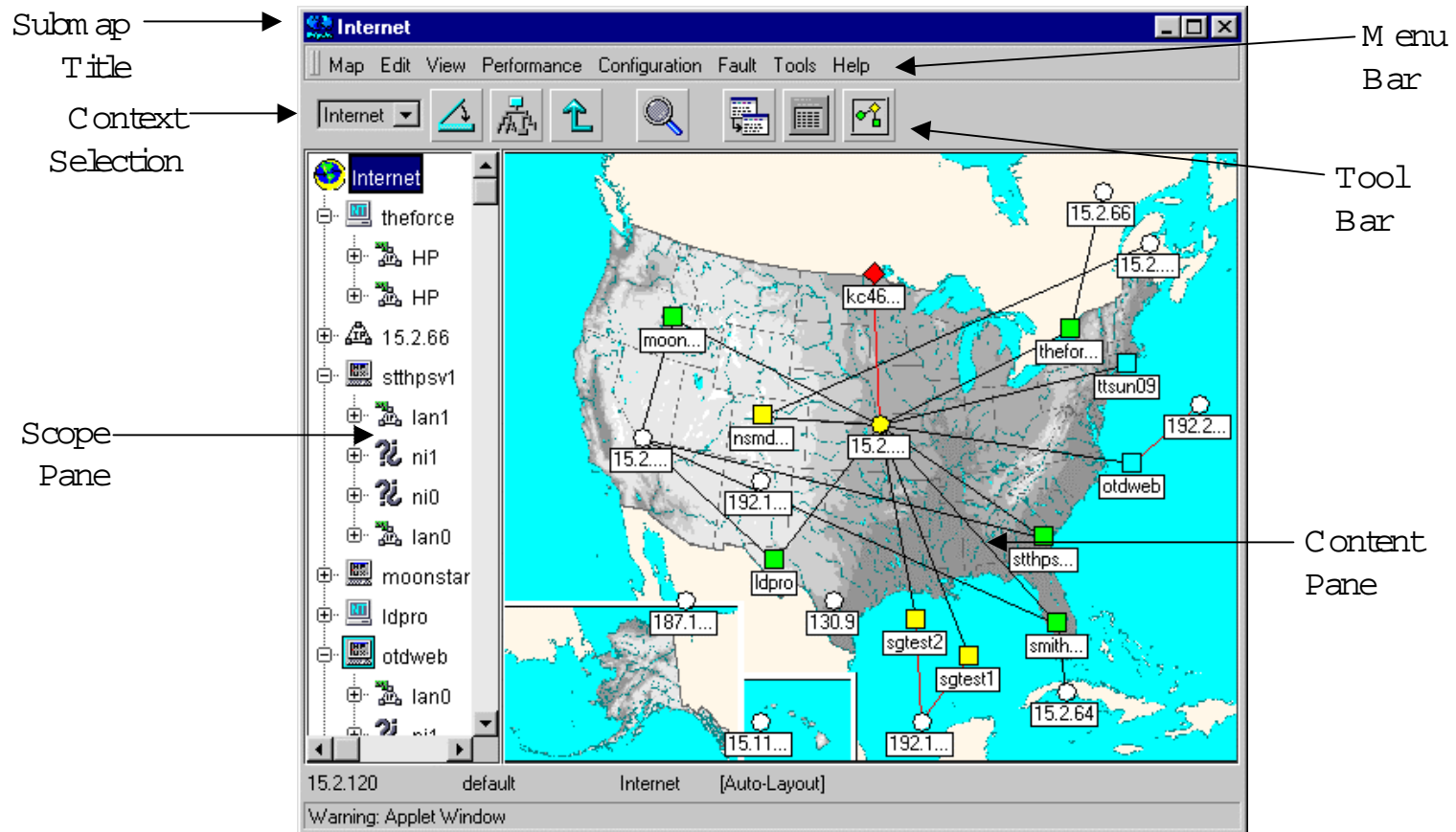
Monitoring

- Proactive problem resolution
- Out of the box Event Correlation
- Out of the box Excel reporting
- Access from anywhere with new Java GUI
- Out of the Box discovery, polling and identification of network elements
- Integration with many 3rd party products

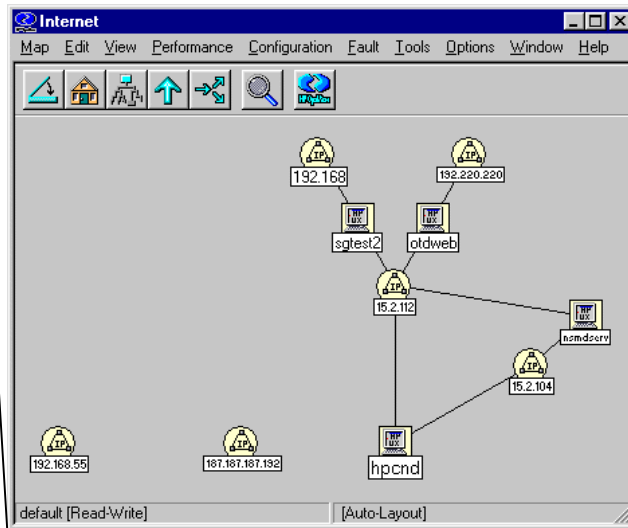
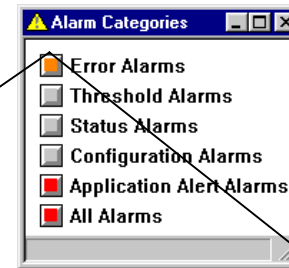
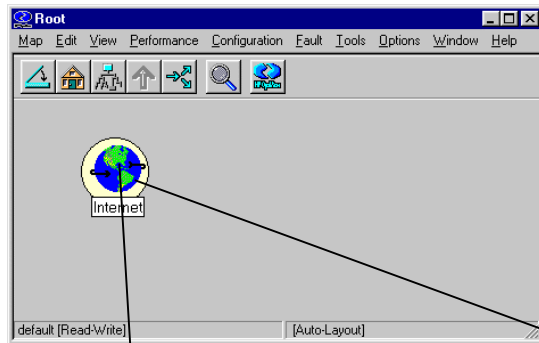
Basic Features of NNM

- What is NNM
- How does it discover the network
 - Non SNMP Nodes

The Network Presenter Window



Basic NNM Windows



The 'Error Alarms Browser' window displays a table of alarm events. The table has columns for 'Ack', 'Cor', 'Severity', 'Date/Time', 'Source', and 'Message'. The status bar at the bottom indicates '3 Alarms - Critical:0 Major:3 Minor:0 Warning:0 Normal:0 (1 acknowledged)'.

Ack	Cor	Severity	Date/Time	Source	Message
<input type="checkbox"/>		Major	Wed May 13 17:40:59	fcpuff.cnd.hp.com	pmd lost contact
<input type="checkbox"/>		Major	Thu Jul 02 12:38:06	fcpuff.cnd.hp.com	pmd lost contact
<input checked="" type="checkbox"/>		Major	Mon Jul 20 09:39:21	fcpuff.cnd.hp.com	pmd lost contact

SNMP agent on Linux Systems

- How is Linux installed by Default
- Starting up SNMP Agent
- Creating RC script
 - Loading additional MiBs

Network Node Manager Discovery of Linux Systems

- How NNM Discovers Linux Systems
 - SysobjID
 - RedHat Linux with UCD SNMP Agent
.1.3.6.1.4.1.2021.250.10
 - SysDescription
 - Configure in `/etc/snmp`.

Mibs Supported by SNMP Agent

- MIB 2 Mibs - SNMP2, SNMP
- Operating System Mibs
 - Memory Utilization
 - Process Management
- Private Enterprise Mibs
- UCD Extensible Mibs
 - Execute Commands by SNMP Agent

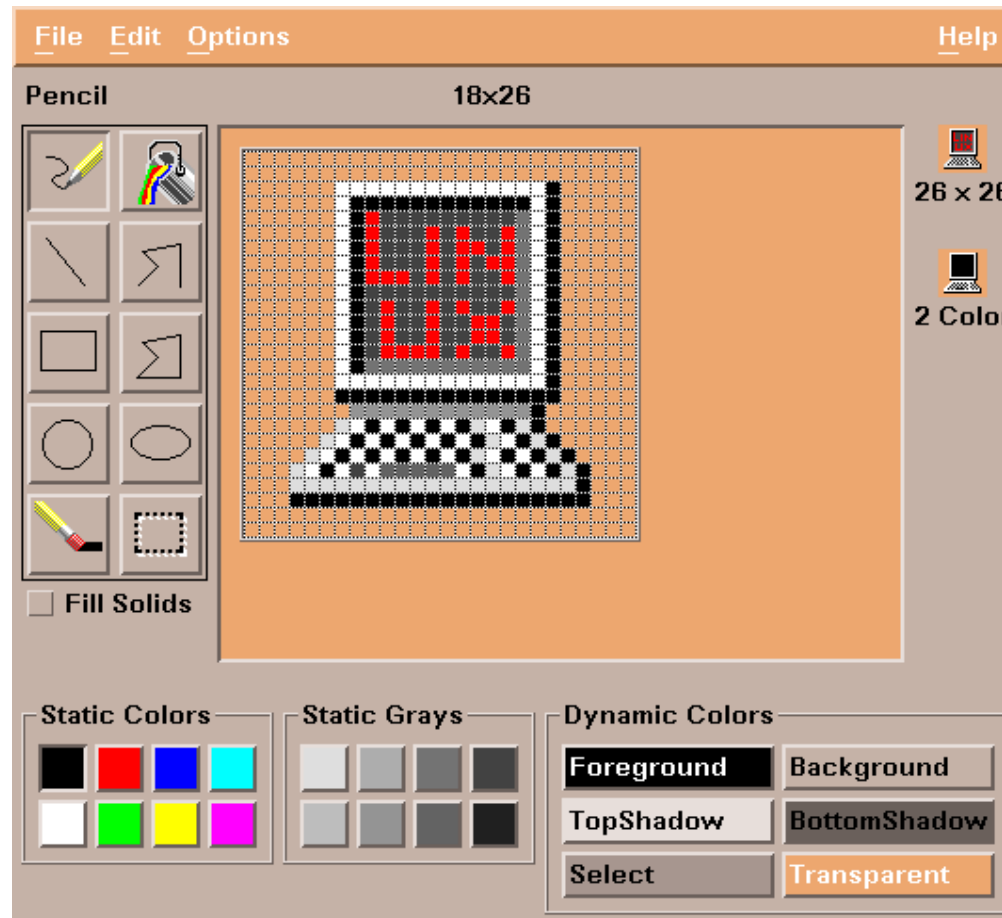
Customizing a symbol a for Linux System

- Can be done for NNM on UX or NT
- Create a Symbol Registration File
- Example (using NNM on HP-UX)
 - Copy computer symbols and customize them
- Fixing Linux Systems already discovered
 - ovtopofix -l

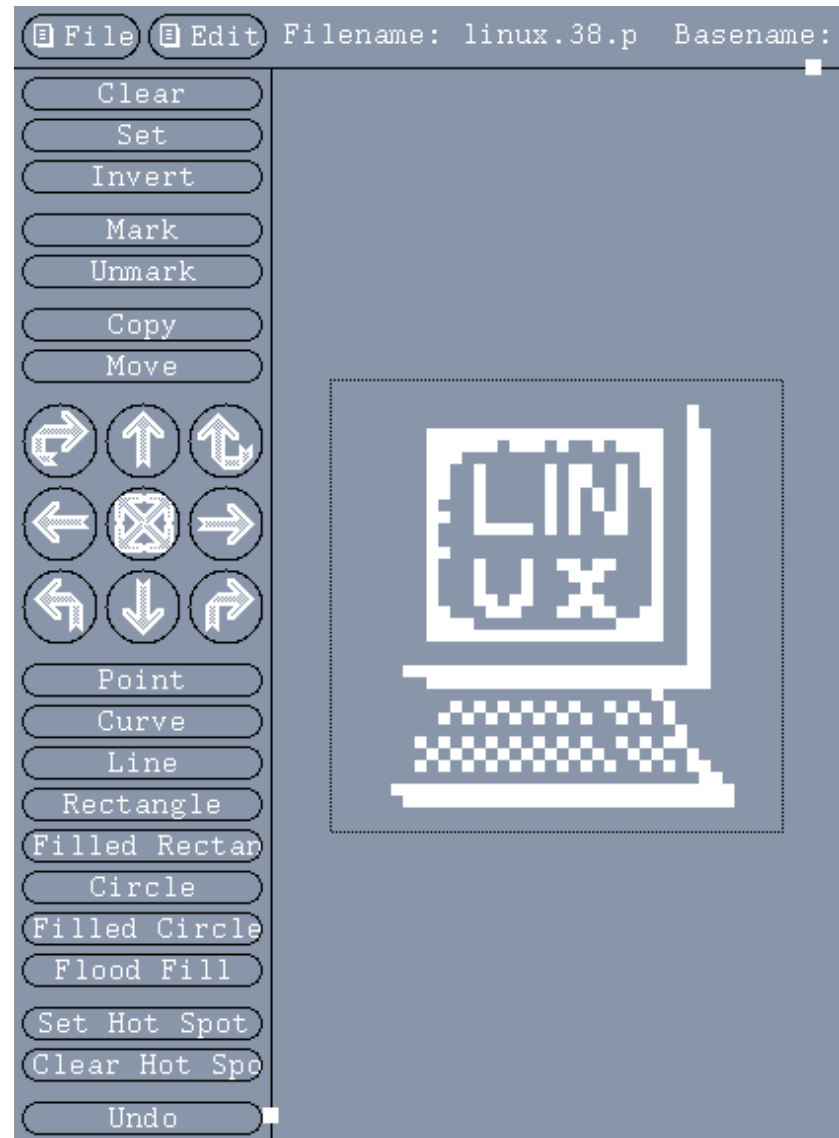
Customizing a symbol for a Linux System

- Create ICON file
- Create Bitmap file
- Register Symbol
- Configure NNM to use symbol for Linux Systems

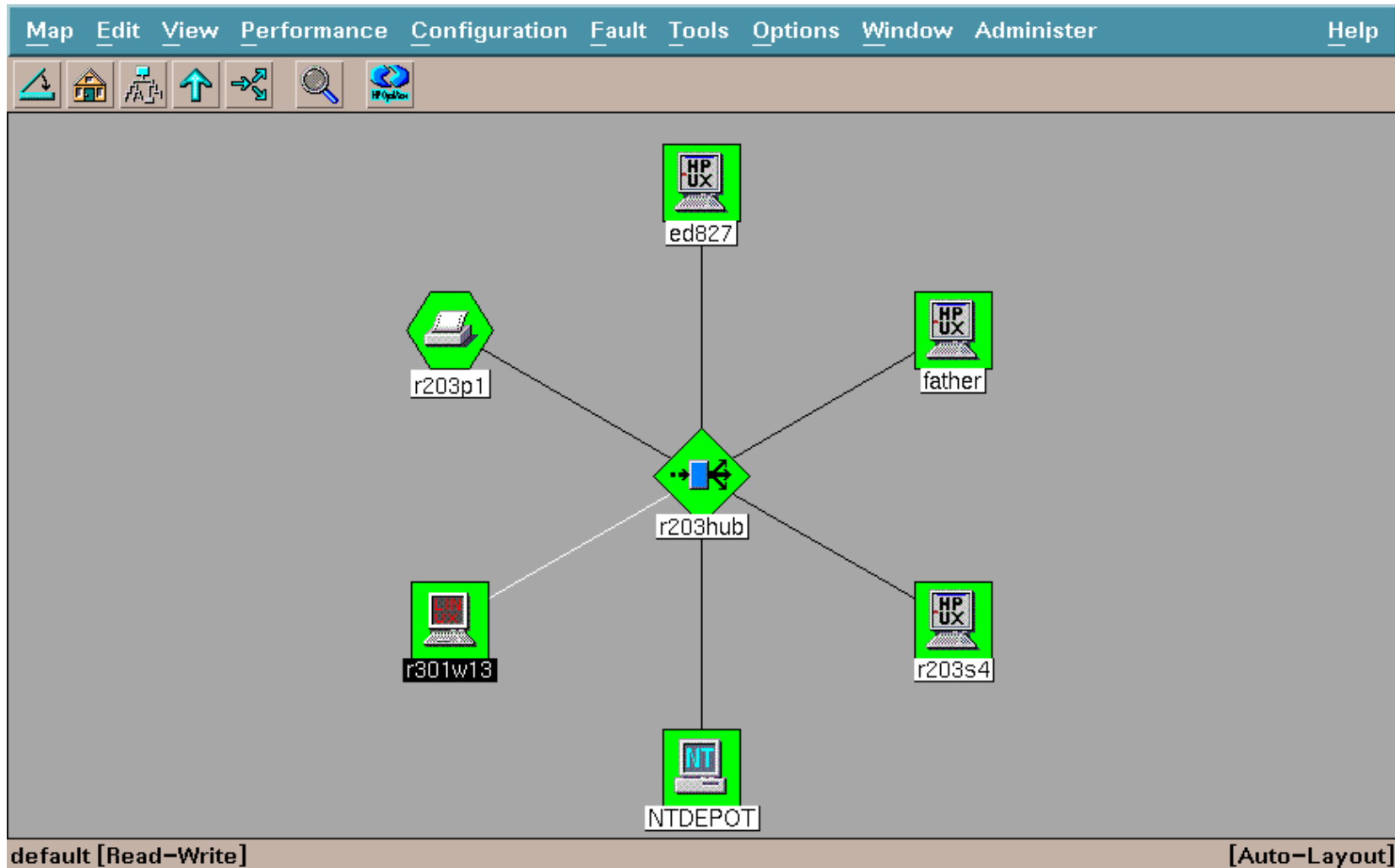
Icon File Example



Bitmap file Example



Final Submap with Linux System



NNM Summary

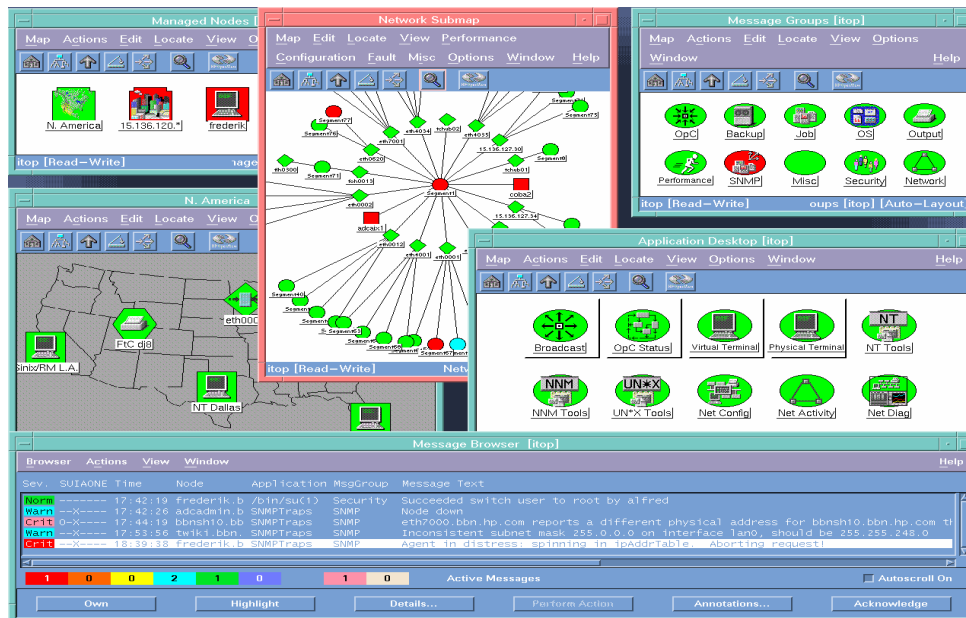
- For Discovery
 - Turn on SNMP Agent
- For Management
 - Copy Mibs from Linux system to SNMP-MIBs directory on NNM System
 - Load Mibs
 - Create customized symbol

IT Operations

- What it is
- User Interface
- Action Concepts and Execution
 - Automatic and Operator initiated
- Operator Instructions
 - Pre-defined instructions
 - Instruction text interface
- Notification Services and Trouble Ticket Interfaces

IT Operations

- **Message Group Window**
- Organize messages by application, function, or any other combination to solve problems faster



Message Browser

- Provides in-depth message details and user guidance to help solve problems
- Describes actions initiated automatically, as well as those available to be initiated by operators

Application Desktop

- Integrated management "toolbox" for solving problems
- Launch other OpenView or HP tools, as well as third-party and custom tools

Java GUI Client Area

The screenshot displays the HP OpenView IT/Operations Java GUI Client Area. The window title is "HP OpenView IT/Operations [turbogui.bbn.hp.com] [opc_op]". The menu bar includes "File", "Edit", "View", "Actions", "Window", and "Help". The toolbar contains various icons for navigation and actions. The main interface is divided into two panes:

- Left Pane (Tree View):** Shows a hierarchical structure of nodes and applications. The "Nodes" folder is expanded, showing "all 15 .<*>", "all <*>.bbn", "hp_ux", "bippus", and "turbogui". The "Applications" folder is also expanded, showing "local Application", "Variables", "hello", "ITO Status", "Variable \$OPC_EXT_NC", and "Motif SAM".
- Right Pane (Filtered Active Messages):** Displays a table of active messages. A yellow callout bubble labeled "Client Area" points to this pane. The table has columns for Severity, SUIAONE, Date, Time, Node, Applica..., and Msc. The messages are sorted by severity, with Critical messages at the top, followed by Warning and Normal messages.

At the bottom of the messages table, there is a summary bar with colored segments and numbers: 7 (red), 0 (orange), 0 (yellow), 20 (cyan), 47 (green), 0 (blue), 5 (pink), and 10 (light yellow).

View only the latest messages on the server

Severity	SUIAONE	Date	Time	Node	Applica...	Msc
Warning	--X----	08/12/98	01:37:42	turbogui.bbn.h...	HP IT/O...	OpC
Warning	--X----	08/12/98	01:02:25	turbogui.bbn.h...	HP IT/O...	OpC
Critical	--X----	08/11/98	17:43:41	turbogui.bbn.h...	HP IT/O...	OpC
Critical	--X----	08/11/98	17:43:41	turbogui.bbn.h...	HP IT/O...	OpC
Critical	--X----	08/11/98	17:30:31	turbogui.bbn.h...	HP IT/O...	OpC
Critical	--X----	08/11/98	17:30:30	turbogui.bbn.h...	HP IT/O...	OpC
Critical	--X----	08/11/98	17:30:30	turbogui.bbn.h...	HP IT/O...	OpC
Normal	--X-X--	08/11/98	17:25:14	turbogui.bbn.h...	alarmg...	Perfc
Critical	--X-X--	08/11/98	17:20:09	turbogui.bbn.h...	alarmg...	Perfc
Normal	--X-X--	08/11/98	17:15:04	turbogui.bbn.h...	alarmg...	Perfc
Warning	--X-X--	08/11/98	17:10:56	turbogui.bbn.h...	alarmg...	Perfc
Critical	--X-X--	08/11/98	17:10:55	turbogui.bbn.h...	alarmg...	Perfc

Template Management

Template Groups
in hierarchy

Templates within the
selected Template Group

Add various template types
or
Create a template group
to hold templates

Message Source Templates 1 [opc_admin]

Templates Edit View Window Help

Template Groups

- [Toplevel]
- Default
 - AIX
 - AIX with HACMP
 - DYNIX/ptx
 - Digital UNIX
 - ECS Agent
 - ECS Management Server
 - HP-UX 10.x
 - HP-UX 11.x
 - IRIX
 - MC/ServiceGuard
 - MPE/iX
 - => Management Server
 - NCR
 - NetWare
 - OS/2
 - Olivetti
 - PerfView

Type	Name	Desc
Message	opcmsg(113)	default
Logfile	Cron (10.x/11.x HP-UX)	HP-UX
Logfile	Su (10.x/11.x HP-UX)	HP-UX
Monitor	disk_util	Monitor
Monitor	distrib_mon	Monitor
Monitor	mondbfile	Monitor
Monitor	proc_util	Monitor process
Monitor	swap_util	Monitor SWAP u
Trap	SNMP 6.0 Traps	Message Condit
Trap	SNMP ECS Traps	Message Condit

Context Menu:

- Add Logfile...
- Add Message...
- Add Monitor...
- Add Trap...
- Add Console...
- Add Schedule...
- Add EC...
- Add Group...

Buttons:

- Add Group...
- Modify...
- Copy...
- Delete From All...
- Get Template Selections
- Delete From Group
- Conditions...
- Circuit...
- Options...

Log File Template Configuration

Add Logfile

Template Name: [] Description: []

Logfile: []

Monitoring Options

File to be executed: []

File to be read: []

Polling Interval: [1 m]

Logfile Characterset: [ASCII]

Read from Last File Position
 Read from Begin (First Time)
 Read from Begin (Always)

Message on No Logfile
 Close after Read

Message Defaults

Severity	Node	Application	Message Group	Object
unknown	[]	[]	[]	[]

[Instructions...] [Advanced Options...]

[OK] [Cancel] [Help]

Pattern Matching in Conditions

Condition No. 1

Description
Failed remote login

Condition

Node
[...]

Message Text
FAILED <@.user> <@.tty> <@.host> <*.date> <*.time>]

- Suppress Matched Condition
 = Suppress Unmatched Condition
 + Message on Matched Condition

Set Attributes

Severity	Node	Application	Message Group	Object
Unchanged	[...]	[...]	[...]	<user>]
Message Text Failed login of <user> on <tty> from <host> at <time> <date>]				
Message Type [...]				

Actions

On Server Log Only (put directly into History Log)

Automatic	Node	Command	Anno.	Ackn.
<input type="checkbox"/>	[...]	check_valid_user.sh <user>]	No	No
<input type="checkbox"/>	[...]	[...]	No	No

Forward to Trouble Ticket
 Notification

OK Cancel Test Pattern Matching... Help



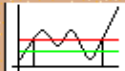
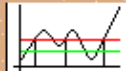
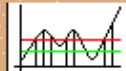
Match the incoming pattern to variables

Use variable as parameters to alter message text

Use parameters as part of running actions

Monitor Configuration GUI

Modify Threshold Monitor

Monitor Name	<input type="text" value="cpu_util"/>	Description	<input type="text" value="Monitor CPU utilization"/>			
Monitor	<input type="text" value="Program"/>	Monitor Program or MIB ID	<input type="text" value="cpu_mon.sh cpu_util"/>			
	Polling Interval	<input type="text" value="2m"/>	On Node	<input type="text" value=""/>		
Threshold Type	<input type="radio"/>  Maximum	<input type="radio"/>  Minimum	Message Generation	<input type="radio"/>  with Reset	<input type="radio"/>  without Reset	<input type="radio"/>  Continuous
Message Defaults	Severity	Node	Application	Message Group	Object	
	<input type="text" value="warning"/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="button" value="Instructions..."/> <input type="button" value="Advanced Options..."/>

Agent Technology

- Intelligent Autonomous
- Monitoring any aspect of system and applications
 - Logfiles
 - Scheduled commands
 - API for programs to send alarms

Linux specific Support

- Default templates for Linux
- What they do

Templates

- Logfiles
 - Cron: /var/log/cron
 - Logins : /var/log/wtmp
 - Messages : /var/log/messages
- Monitors
 - MailQueueLength
 - Sendmail
 - Performance Monitors: CPU Util ,Disk Util,Swap Util
- OpCmsg
 - Same as standard opcmsg API

IT Operations Summary

- Versions of Product that support Linux Agents
 - 4.X Supports Redhat 5.2
 - 5.0 Supports Redhat 5.2 with Patch
 - 5.3 Supports Redhat 5.2
 - (Standard All Agents bundle)

OmniBack II

- What is it
 - Centralized and Decentralized Backup tool
- Product Features
 - Utilization of High Capacity Backup Devices
 - Centralized scheduling and Management
 - User Interface may be on multiple different Operating Systems



HP OpenView

HP OpenView OmniBack II Main GUI



HP OmniBack II

Restore files, file systems,
and logical volumes, etc.

Install clients and
integrations.

Configure pools of media for
use in backups.
Configure devices to perform
the backups.



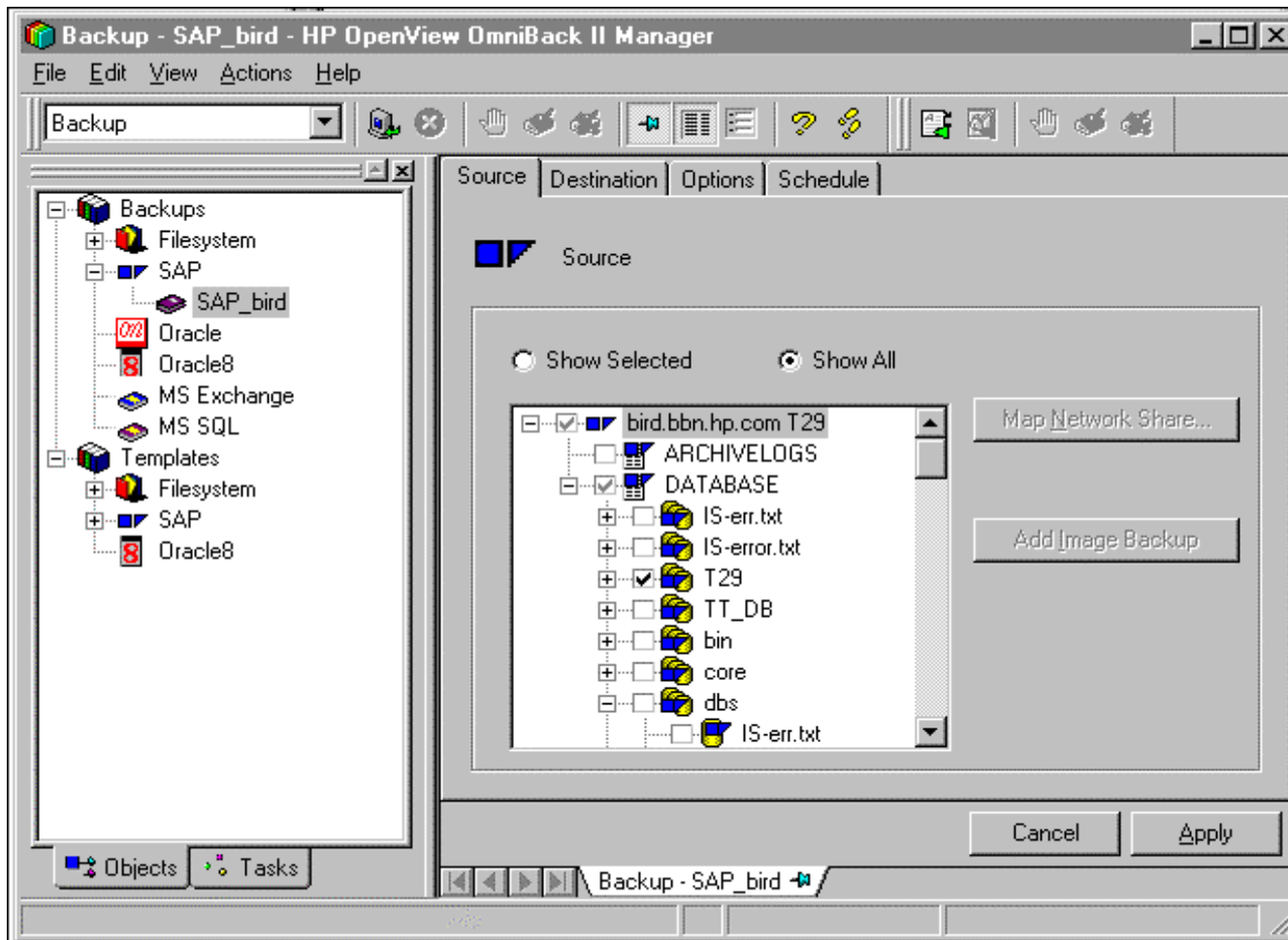
Create backup
specifications (data lists),
then schedule them.

Watch backups in progress
or check the status of
completed backups and
restores.

Configure user access and
privileges (local and
remote).

Get online help.

Omniback II NT GUI



Reduced operational cost

- Central control through Manager-of-Managers

Reduced equipment costs

- Library sharing between multiple systems
- Investment protection through support of large tape libraries and silos (HP, StorageTek, EMASS/GRAU, ATL,)

Backup Concept

- Network Backup
- Disk Agent
- Media Agent
- Datalists
- Scheduling
- GUI
- Web management

OmniBack Licensing

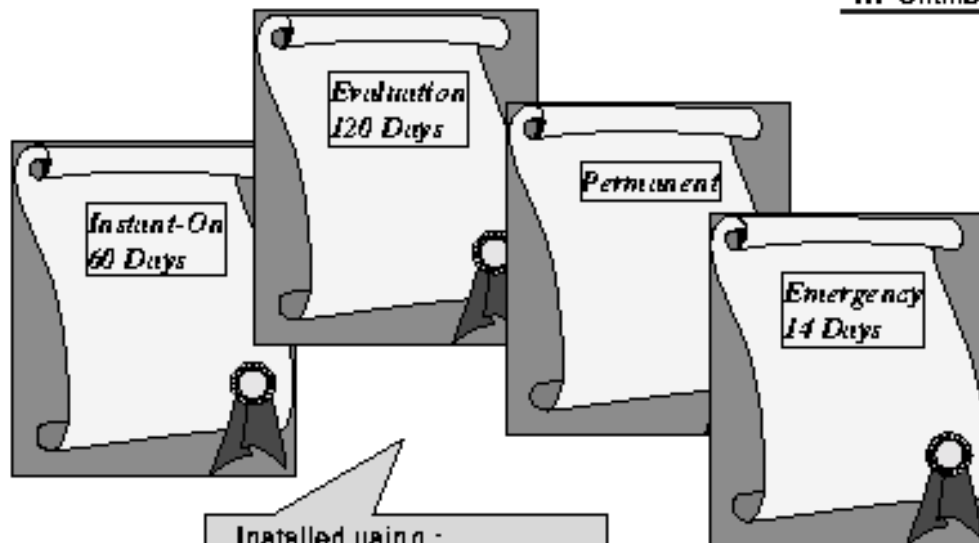


HP Open View

Licensing



HP OmniBack II



Installed using :
GUI
Command Line Interface
Editing 110.dat



HP OpenView

Reporting - Web Interface



HP OmniBack II

HP OpenView OmniBack II

OmniBack II Database Size Report (scorpio.uksr.hp.com)

Media Management DB

Table	Size (MB)	Records Used	Records Total	Used
Exchange	00	0	10	0%
Exchange	00	0	10	0%
Exchange	00	0	10	0%
Exchange	00	0	10	0%
Exchange	00	0	10	0%
Exchange	00	0	10	0%
Exchange	00	0	10	0%
Exchange	00	0	10	0%
Exchange	00	0	10	0%
Exchange	00	0	10	0%

Catalog DB

Table	Size (MB)	Records Used	Records Total	Used
Account	001	0	40	0%
Account	001	0	40	0%
Account	001	0	40	0%
Account	001	0	40	0%
Account	001	0	40	0%
Account	001	0	40	0%
Account	001	0	40	0%
Account	001	0	40	0%
Account	001	0	40	0%
Account	001	0	40	0%

Extension Files

No data was returned.

Agent Initialization

- Works with `inetd` daemon
- installs in `/usr/omni`
- started through request to `inetd` process

Linux Support

- Installation of Disk Agent
 - Cannot push it from Cell Server (2.55, 3.0)
 - Push available with OmniBack 3.1
- Import System
- No GUI Available on Linux system
- Linux Backup Devices cannot be used

Version support

- OmniBack 2.55
 - Unsupported Agent (install tarball)
- OmniBack 3.0
 - Unsupported Agent (install tarball)
- OmniBack 3.1
 - Supported Feature

Integration Summary

- NNM
- ITO
- OmniBack

Questions