Domino Domain Monitoring (DDM)

… for Administrators

Last updated on 06/02/2013 by Austin Chang

© 2013 IBM Corporation

Agenda

- Introduction
  - Why Domino Domain Monitoring(DDM)
  - Key Benefits
  - DDM components
- Configuration
  - Design and implement a Server Collection Hierarchy
  - Enable and modify the default probes (events4.nsf)
  - Set Filters
- Probe Console Commands
- Monitor Scenario
  - Proactively monitor IMAP, POP3, and SMTP
  - Detect and automatically fix a corrupt database using custom corrective action
- Video DDM-Scenario-Demo for monitoring SMTP port 25
  - Begin to use Lotus Domino Domain Monitoring
    - http://v.youku.com/v_show/id_XNTcyMjAzNjk2.html
    - http://youtu.be/w4DmGmt2Sd8

© 2013 IBM Corporation

Introduction

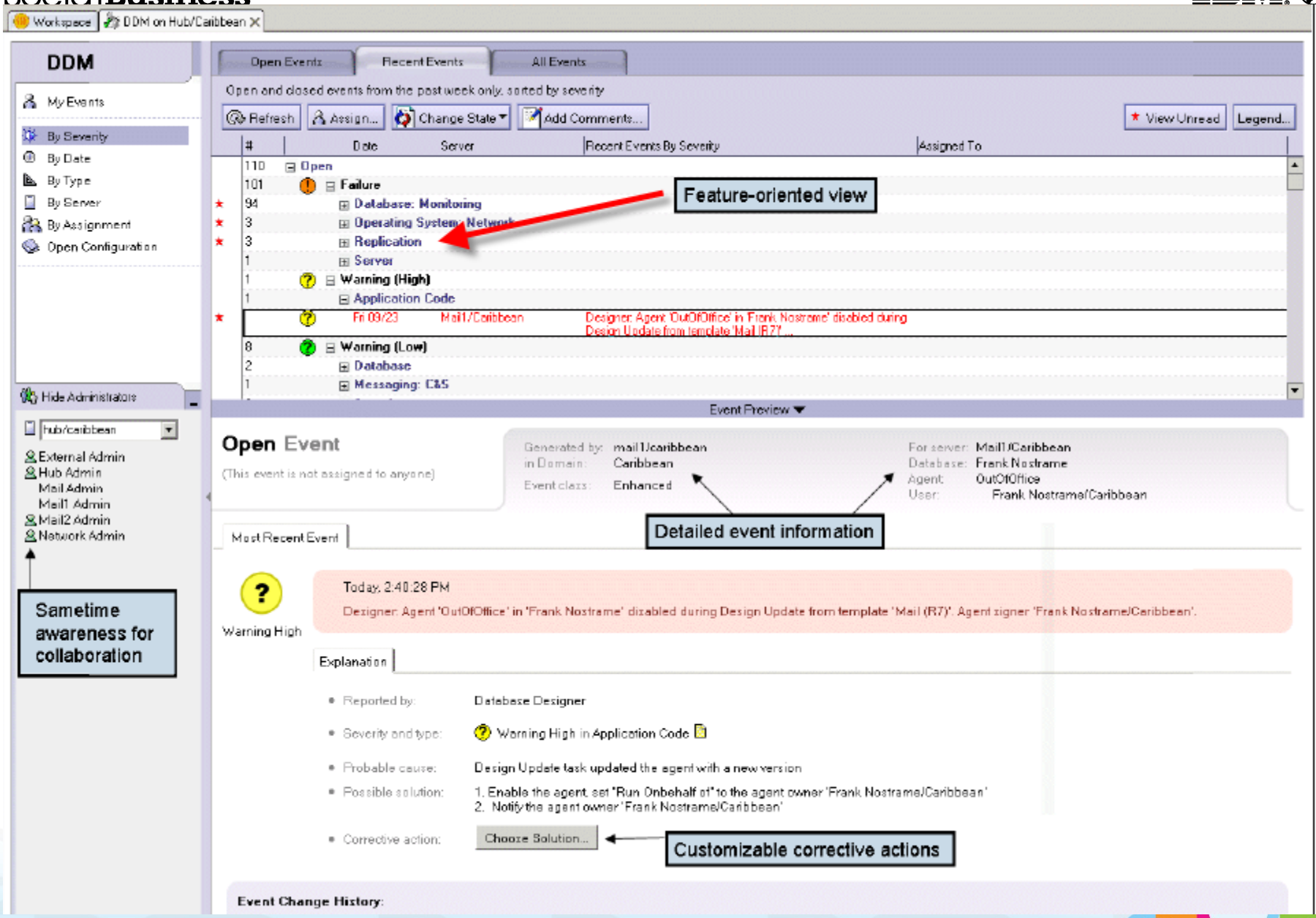
- DDM starts to support from Domino 7
- Before DDM available, some functions can be achieved by
  - Server Port Probe tool
    - For example, IP Central
  - Send a test mail to a mailin database to ensure the mail routing function is working fine.
  - Add some debug code into Agents
  - Event Generator/Handler
  - Statistics data
  - Activity Log
  - log.nsf (Replication), SNMP

© 2013 IBM Corporation

Introduction (Continued)

- DDM provides a simple, flexible and powerful interface for Domino administrators to monitor the servers in their domain.
  - Feature-oriented view of the domain status
  - Highly-configurable probes categorized by feature areas
  - Probable cause and possible solution determination
  - Automation of corrective actions
  - Default settings for easy out-of-the-box setup
  - Domino domain monitoring data aggregation with collection hierarchies

© 2013 IBM Corporation



© 2013 IBM Corporation

Introduction – 1. Why Domino Domain Monitoring(DDM)

- PainPoint 1
  - There is no tool can provide single view of the overall status of multiple serv ers across one or more Domains.
- PainPoint 2
  - Administrators always spend much time to find out the cause when a server problem occur .
- PainPoint 3
  - The analysis and fix of problem strongly depends on the experience and skil l of Administrators.

© 2013 IBM Corporation

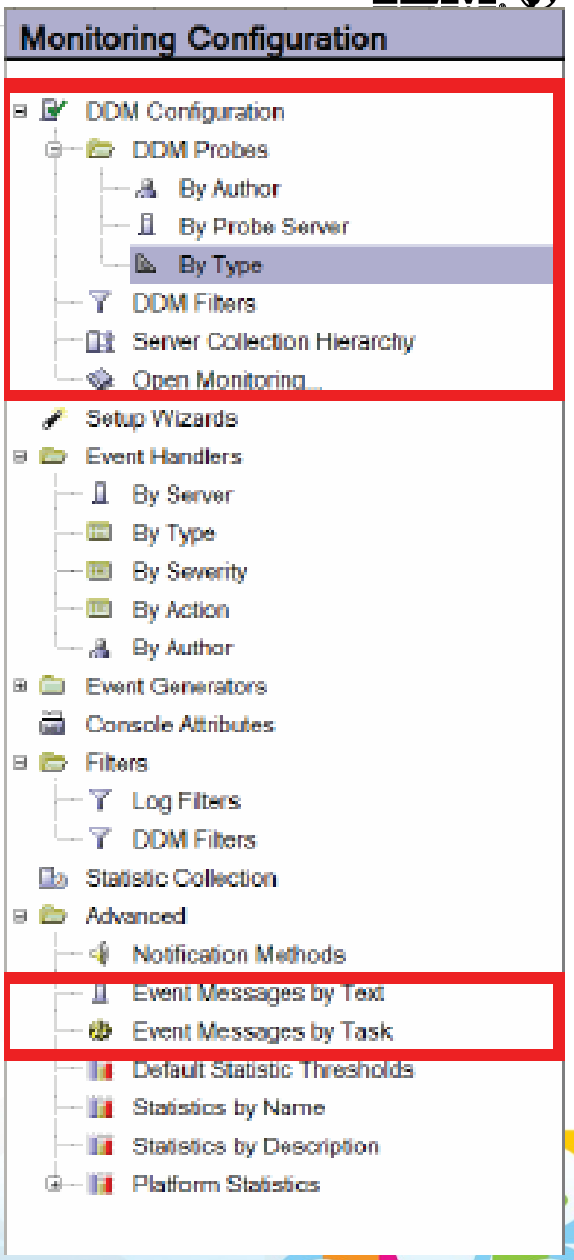
Introduction – 2. Key Benefits

- Active monitoring capability: 57 new probes with highly-configurable schedules, content and targets.
- Domino domain monitoring data aggregation with collection hierarchies
- Automatic problem determination and determination of probable cause in multiple feature areas, and provide possible solution.
- Delegation of problems
- Automation of corrective actions
- Auto-closing for the resolved problem

© 2013 IBM Corporation

Introduction – 3. DDM components

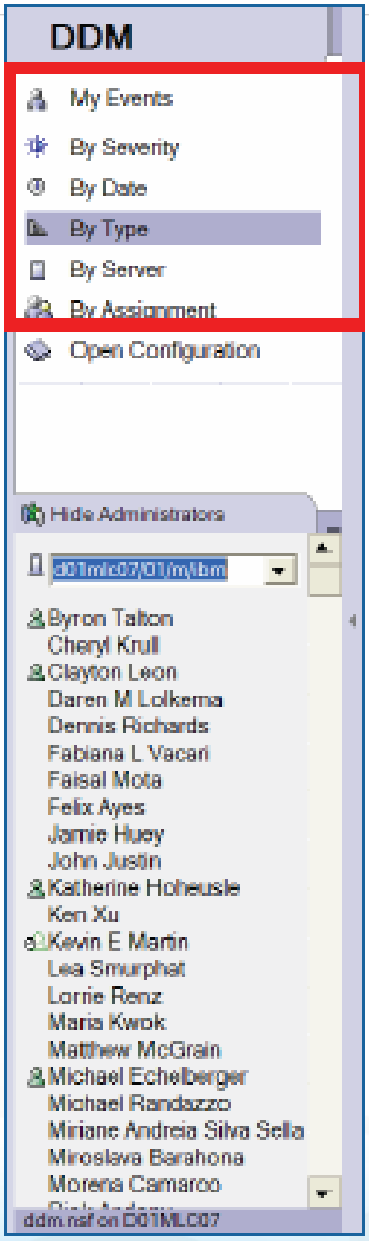
- Monitoring Configuration - Events4.nsf
  - Probes
    - By Author
    - By Probe Server
    - By Type
  - Server Collection Hierarchy
  - Filters



© 2013 IBM Corporation

Introduction – 3. DDM components (Continued)

- Domino Domain Monitor – DDM.nsf
  - Event report documents
    - By Severity
    - By Date
    - By Type
    - By Server
    - By Assignment (including My Events view)



© 2013 IBM Corporation

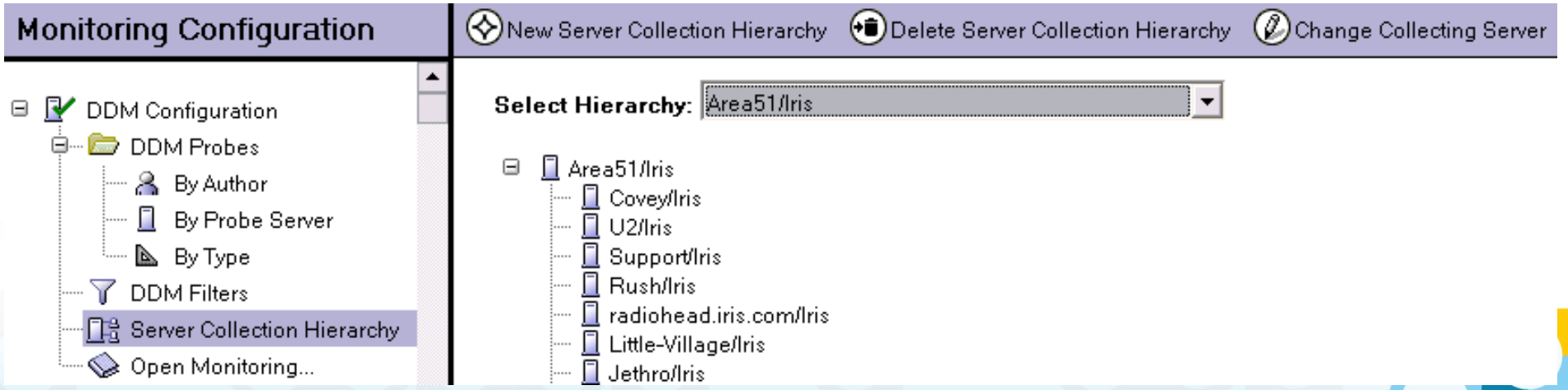
DDM Configuration

1. Design and implement a Server Collection Hierarchy
2. Enable and modify the default probes (events4.nsf)
3. Filters

© 2013 IBM Corporation

Configuration: 1. Server Collection Hierarchy

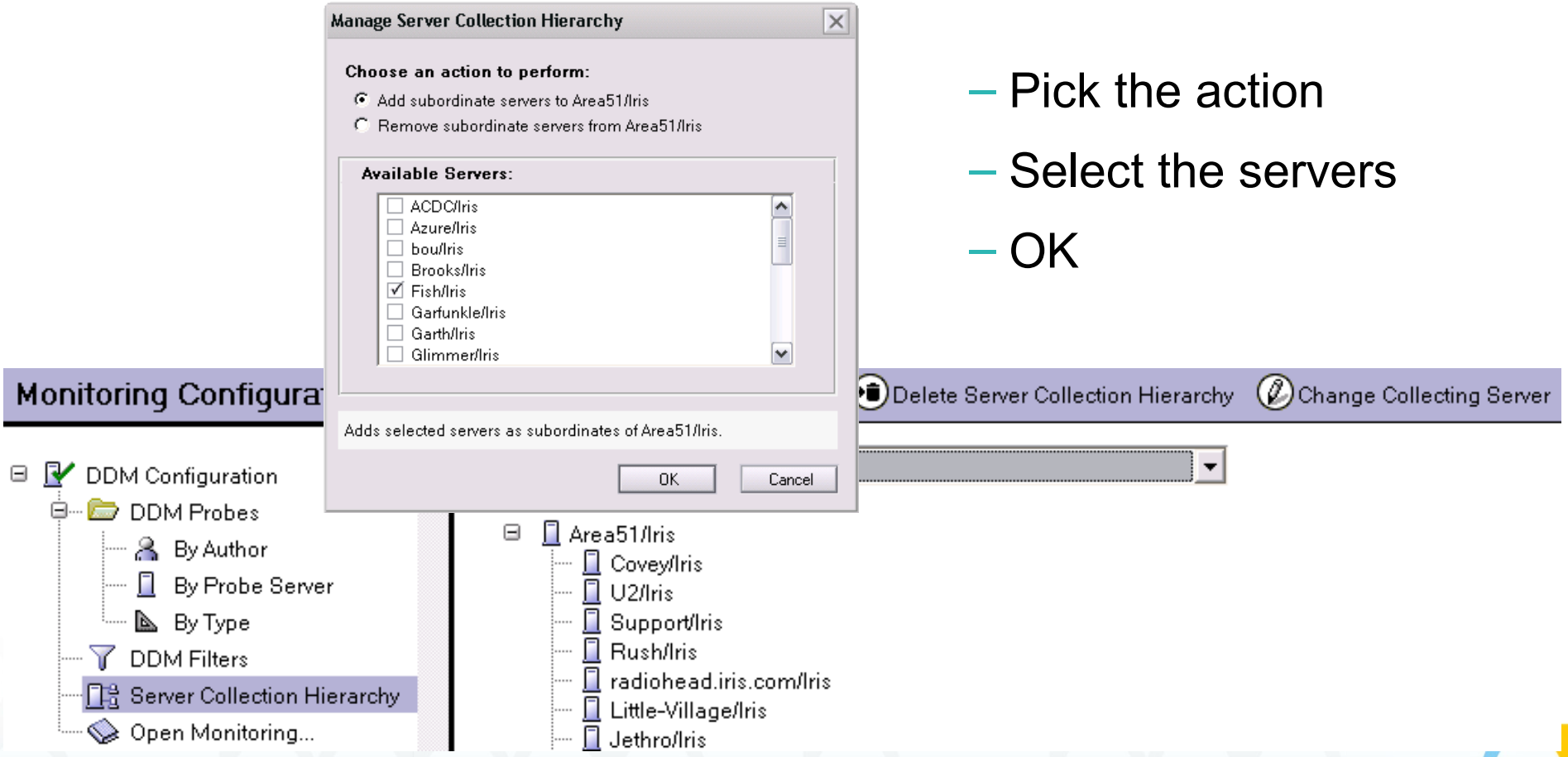
- Available from the DDM Configuration section in events4.nsf
- Create, delete or modify a hierarchy
- Select a hierarchy from the dropdown box
- Area51, the collecting server, includes reports from all of it's children servers
- Children servers include only their own reports



© 2013 IBM Corporation

Configuration - Server Collection Hierarchy (Continued)

- Click on an individual server to modify the hierarchy

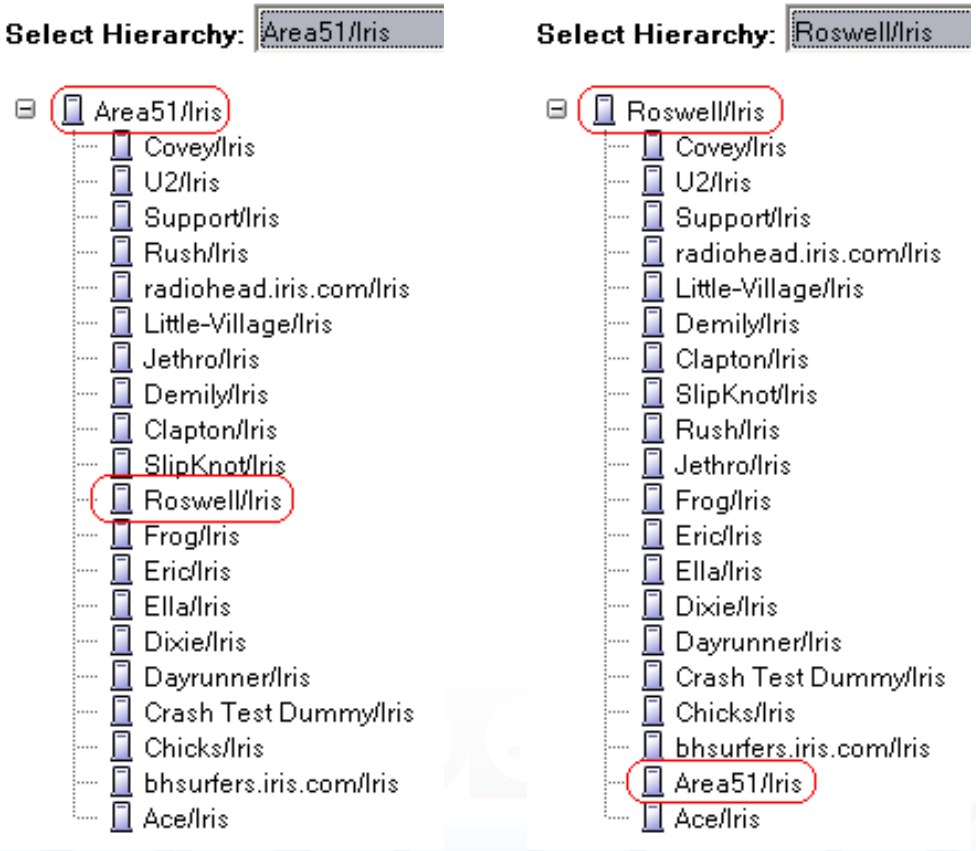


- Pick the action
- Select the servers
- OK

© 2013 IBM Corporation

Configuration - Server Collection Hierarchy(Continued)

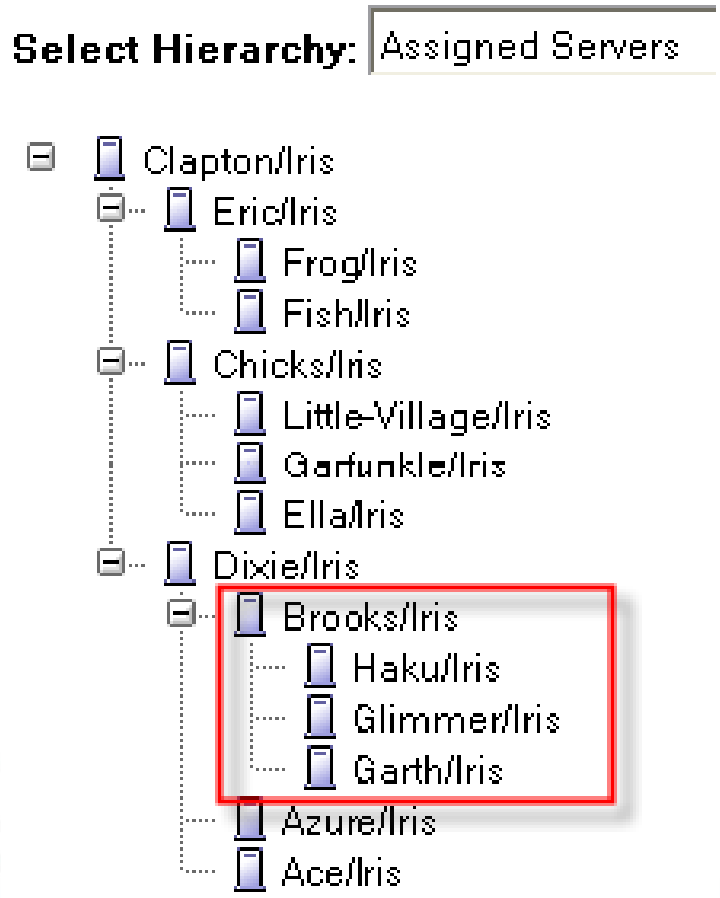
- Define redundant hierarchies



© 2013 IBM Corporation

Configuration - Server Collection Hierarchy (Continued)

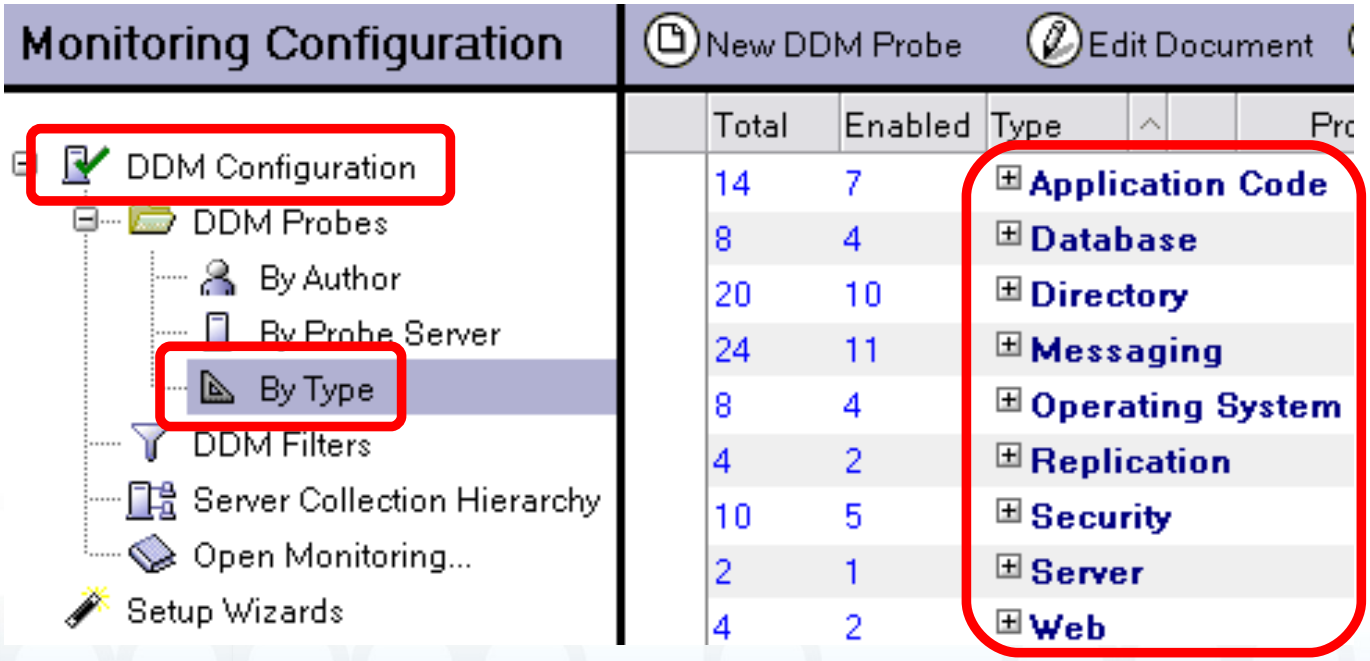
- And nested hierarchies
- For example, Brooks and her children might be messaging servers. If you only want to view reports for messaging servers, look at Brooks!! ddm.nsf



© 2013 IBM Corporation

Configuration: 2. Enable default DDM Probes

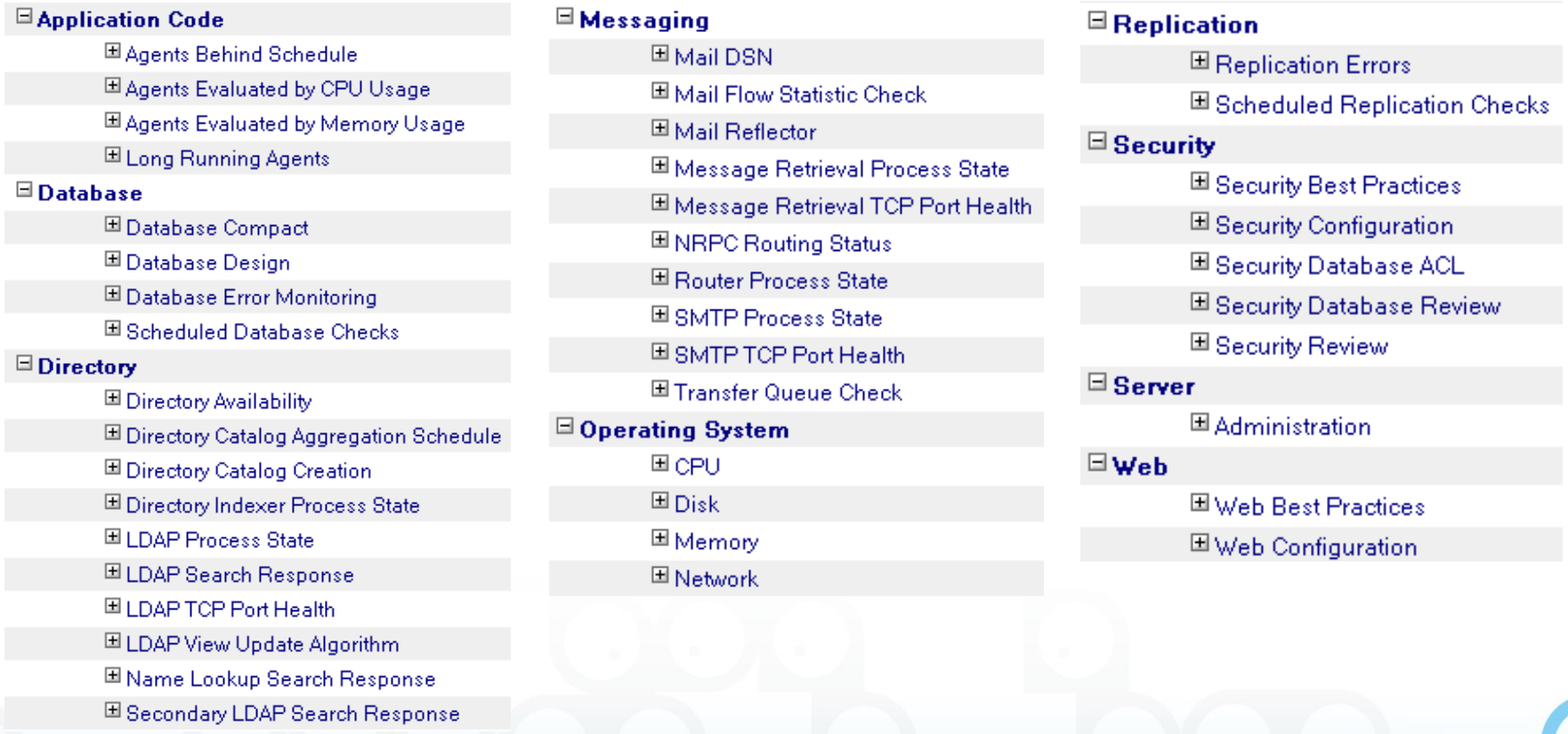
- Events4.nsf – New DDM section
- **DDM Probes / By Type**
- **Types are the major functional areas**



© 2013 IBM Corporation

Configuration: Enable default DDM Probes (Continued)

- **Types expand into subtypes ...**



© 2013 IBM Corporation

Configuration: Enable default DDM Probes (Continued)

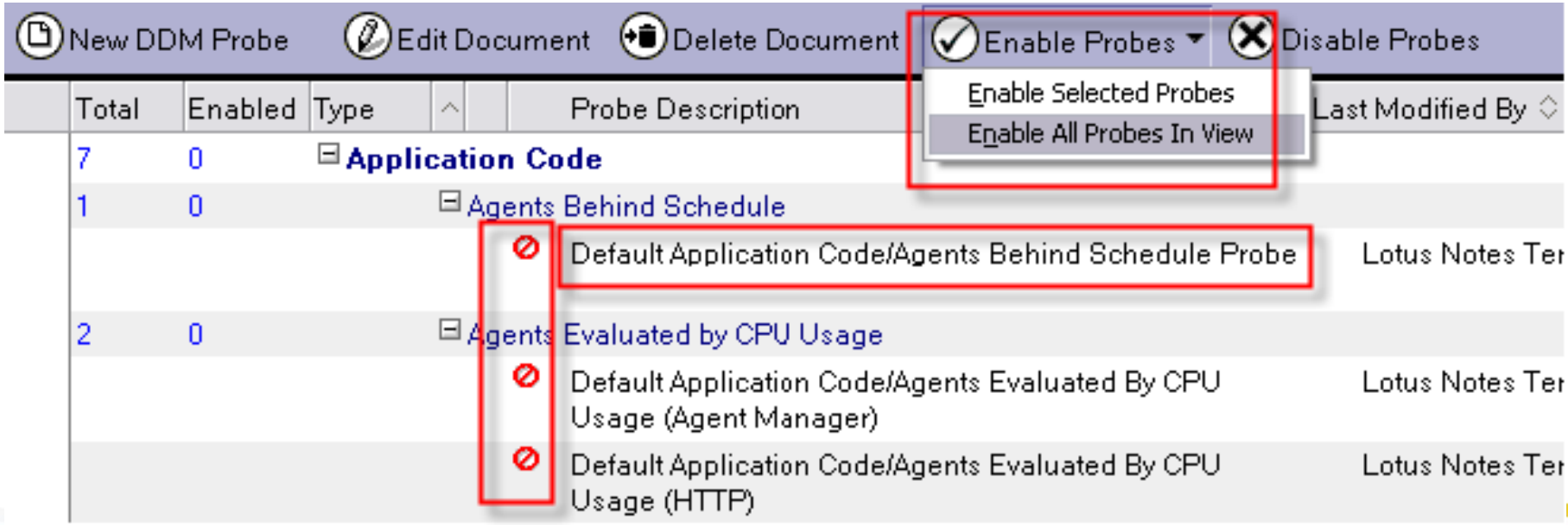
- Three flavors of probes (some probes have more than one):
  - Scheduled probes run according to a configurable schedule and defaults are supplied
  - Embedded probes "instrument" the feature area and catch problems/issues as they occur
  - Listening probes run when particular error codes are logged

- Probe configuration is quick and flexible:
  - Defaults probe configuration documents supplied for “out-of-box” values
  - “Special target servers” concept allows out-of-the-box probing without having to specify named servers
  - Thresholds and result content are highly customizable
    - what the probe will actually check
    - probe sensitivity (when will they generate an event)
    - what severity event the probe will generate
  - Schedule is highly customizable for schedulable probes
  - Probes can be enabled/disabled per server/server group

© 2013 IBM Corporation

Configuration: Enable default DDM Probes (Continued)

- Default probe configuration documents ship with Domino 7
- These documents are initially disabled
- Probes can be enabled/disabled from the view ...



© 2013 IBM Corporation

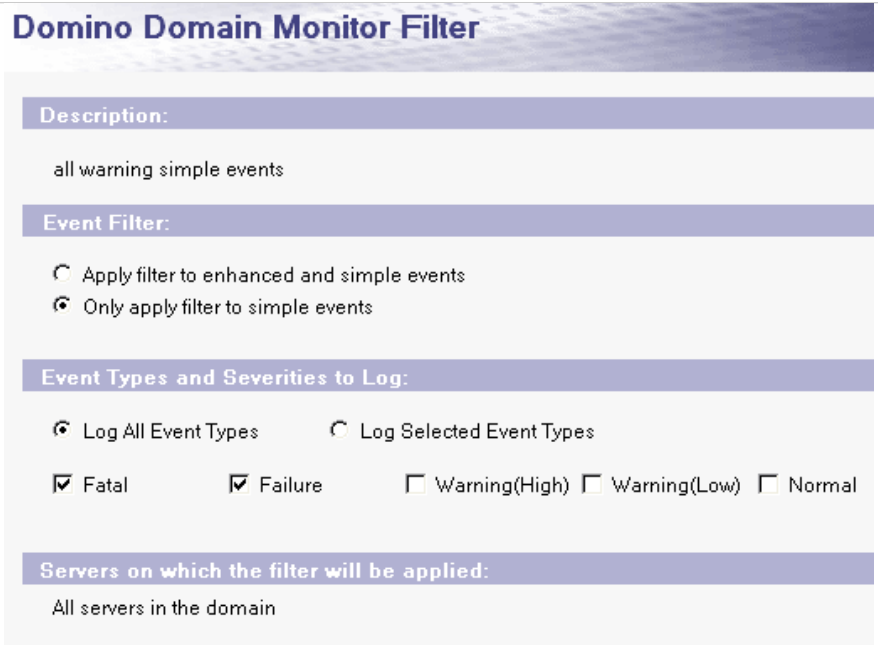
Configuration: 3. Set Filters

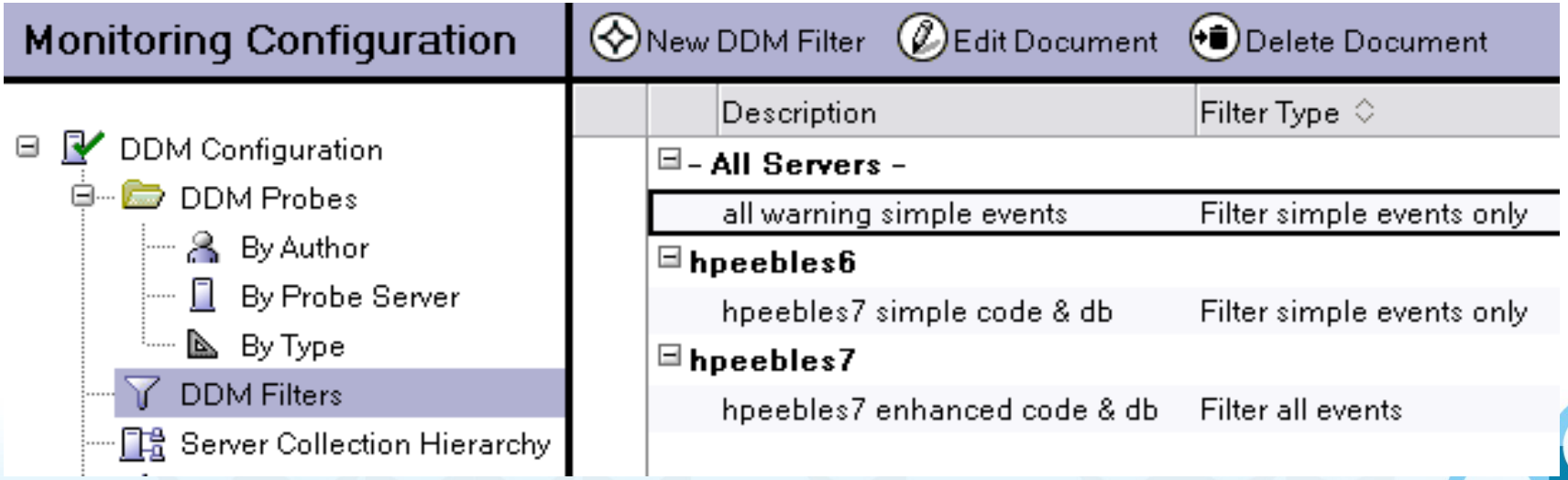
- **Event filters control what and how much information is reported to ddm.nsf. Why?**
  - Initial flood of events is striking, many of which have always been there
  - Over time, administrators will want to "adjust the volume", seeing more or less of certain events
- **Enhanced and simple events can be filtered.**
- **Filters can target specific servers and filter out events by event type/area and severity**
- **A default filter is supplied and enabled for simple events to reduce the initial "noise".**

© 2013 IBM Corporation

Configuration: Set Filters (Continued)

- Defined in events4.nsf
- Can target specific servers
- Can filter both enhanced and simple events, or just simple events
- Can filter all event types by severity

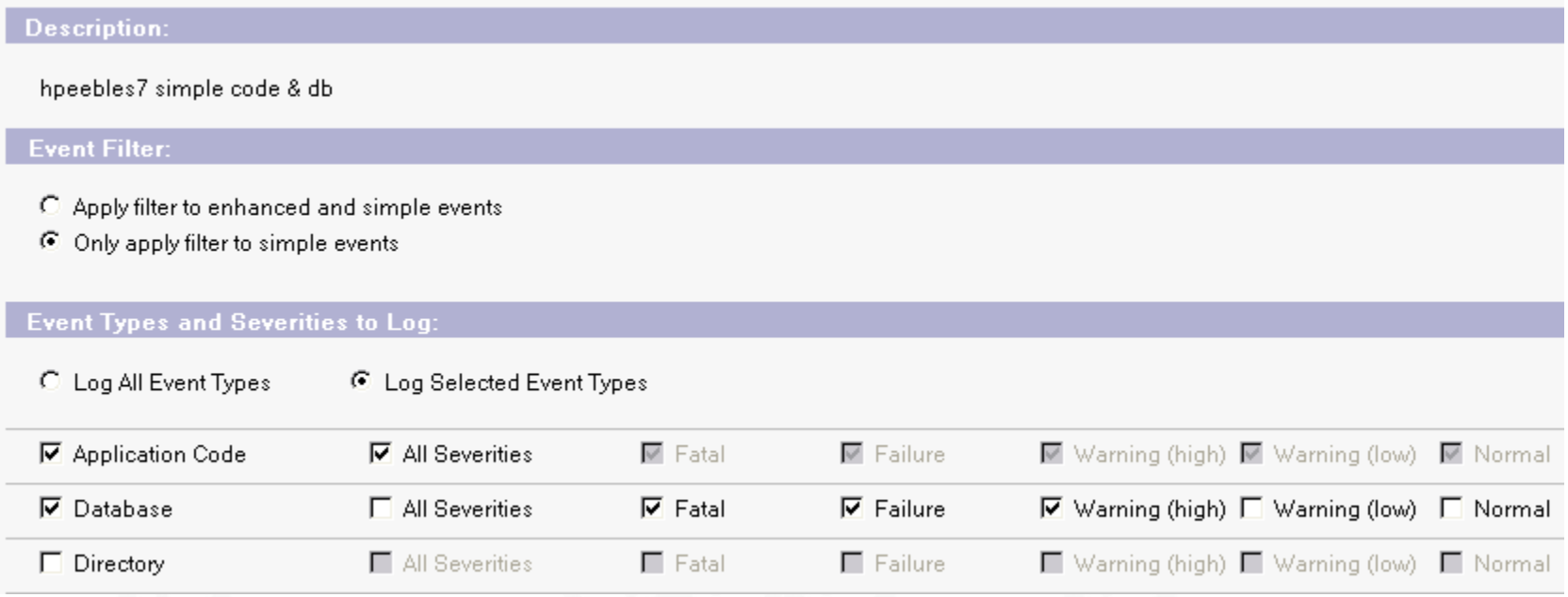




© 2013 IBM Corporation

Configuration: Set Filters (Continued)

- Can filter specific event types by severity



© 2013 IBM Corporation

Probe Console Commands

- View DDM probe schedule
  - >show sch –ddm
    - Shows a table of enabled probes and next scheduled run time Probe

```
> sh sch -ddm
Scheduled                          Type                    Next schedule
Default Messaging/Router Proc      Event Monitor           09/30/2005 12:31:03 PM
Default Messaging/SMTP Proces      Event Monitor           09/30/2005 12:30:40 PM
Default Messaging/POP3 Messag      Event Monitor           09/30/2005 12:30:40 PM
Default Messaging/IMAP Messag      Event Monitor           09/30/2005 12:30:40 PM
Monitor the replication of na      Event Monitor           10/01/2005 05:00:00 AM
Default Database/Scheduled Da      Event Monitor           10/01/2005 04:30:00 AM
Default Web/Best Practices Pr      Event Monitor           10/01/2005 02:00:00 AM
Default Security/Best Practic      Event Monitor           09/30/2005 12:30:40 PM
Default Security/Configuratio      Event Monitor           10/01/2005 04:00:00 AM
Default Messaging/SMTP TCP Po      ISpy                    09/30/2005 12:29:51 PM
Default Messaging/POP3 Messag      ISpy                    09/30/2005 12:29:51 PM
Default Messaging/IMAP Messag      ISpy                    09/30/2005 12:29:51 PM
```


© 2013 IBM Corporation

Probe Console Commands (Continued)

- View enabled probes
  - ‘tell event dumpprobes’
  - Shows a list of enabled DDM probes by note ID
- Run probes manually
  - ‘tell event runprobe ?????
  - Run a probe with note ID ????? immediately (designed to be used with the dumpprobes command)

© 2013 IBM Corporation

```
> tell Event dumpprobes
>
ID      Probe Message Queue Name
-----   ------------------------
    1   ReplicationEvents-Events-1
38166   Database-38166
38170   Database-38170
30346   Database-30346
30394   Messaging-30394
30282   Messaging-30282
30290   Messaging-30290
30286   Messaging-30286
30382   Directory-30382
```


© 2013 IBM Corporation

Monitor Scenarios

- Common probes
  - Monitor for any errors encountered when compacting database on Domino servers. (Database/Database Compact)
  - Monitor the configured database(s) to ensure that replication occurs on the target servers within the configured time interval. (Replication/Scheduled Replication Checks)
  - Monitor which documents are not replicating in the Domino Directory. (Replication/Replication Errors)

© 2013 IBM Corporation

Monitor Scenarios (Continued)

- Common probes
  - Monitor if name lookups are taking too long. (Directory/Name Lookup Search Response)
  - Monitor CPU (55%: fatal) /Disk (30%: fatal) /Memory (98%) Utilization on your Domino Servers. (Operating System/CPU;Disk;Memory)
  - Monitor the availability of all directories on the Domino servers. (Directory/Directory Availability)
  - Monitor and fix a corrupt database by the corrective action code.

© 2013 IBM Corporation

Monitor Scenarios (Continued)

- Application probes
  - Monitor whether an agent (or Web agents) runs by Agent Manager took
  - longer than 2 minutes to complete. (Application Code/Long running agents)
  - Monitor database(s) for unused space, generate an event when the percent of 30% unused space exceeds, then automatically compact the database(s) if an event is generated. (Database/Scheduled Checks)

© 2013 IBM Corporation

Monitor Scenarios (Continued)

- Application probes
  - Monitor the specific unused Notes DB with no access by any user for one month.
  - Monitor any ACL changes of the specific database.

© 2013 IBM Corporation

Monitor Scenarios (Continued)

- Messaging probes
  - Monitor mail routing to Domino and/or non-Domino mail systems. (Messaging/Mail Reflector)
  - Monitors the amount of mail on a Domino server and checks whether the number of mail messages in the MAIL.BOX file exceeds the number of mail messages that the router can process. (Messaging/Mail Flow Statistic Check)

© 2013 IBM Corporation

Monitor Scenarios (Continued)

- Messaging probes
  - Monitor whether your SMTP servers are listening on the appropriate ports. (Messaging/SMTP process state)
  - Monitor whether NRPC mail routing is occurring on the Mail Servers. (Messaging/NRPC Routing Status)

© 2013 IBM Corporation

Monitor Scenarios (Continued)

- Administration Process probes
  - Monitor which AdminP requests are being generated, and whether they are being processed. (Server/Administration)

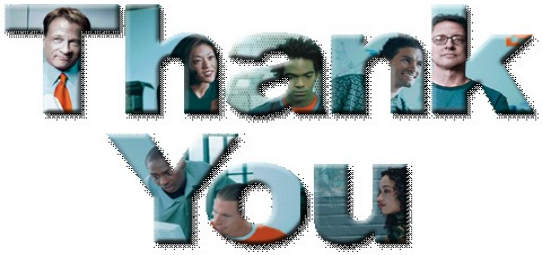
© 2013 IBM Corporation

Reference

- Begin to use Lotus Domino Domain Monitoring
  - http://v.youku.com/v_show/id_XNTcyMjAzNjk2.html
  - http://youtu.be/w4DmGmt2Sd8
- This workshop introduces you to DDM ...
  - Lotus Education on Demand: Domino Domain Monitoring (DDM)
    - http://www.ibm.com/support/docview.wss?uid=swg27007060
- This wonderful DDM Redpaper explains many details ...
    - http://www.redbooks.ibm.com/abstracts/redp4089.html
- Notes/Domino Best Practices: Domino Domain Monitoring (DDM)
    - http://www.ibm.com/support/docview.wss?uid=swg27009312

© 2013 IBM Corporation

Q&A



© 2013 IBM Corporation