Advanced Traps

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PROVEN PERFORMANCE

RFC 1157 - A Simple Network Management Protocol

- **Early RFC that defined SNMP**
- **Protocol to manage the information in the**
  - SMI – Structure of Management Information RFC
  - MIB – Management Information Base RFC
- **Defined entities called PDUs**
  - Protocol Data Units

Protocol Data Units

```
-- protocol data units
   PDUs ::=
      CHOICE {
         get-request GetRequest-PDU,
         get-next-request GetNextRequest-PDU,
         get-response GetResponse-PDU,
         set-request SetRequest-PDU,
         trap Trap-PDU
         }
```

Trap PDU

...

generic-trap -- generic trap type

INTEGER {

coldStart(0),

warmStart(1),

linkDown(2),

linkUp(3),

authenticationFailure(4),

egpNeighborLoss(5),

enterpriseSpecific(6) },

specific-trap -- specific code, present even if generic-trap is not enterpriseSpecific

INTEGER,

...

Standard zTCP Traps

- **Generic traps**

  generic trap, enterpriseSpecific code 6, specific trap code 0

  zTCP fills this in behind the scenes

- **Payload customer defined:**

  Level 70 yellow **trap** &code &atext whatever else you want here

  zTCP puts the customer defined text in the trap and sends it off

Enterprise Management Systems

- **Receive traps and processes them**
  - Require configuration to determine what to do with the trap
- **Often expect Trap MIBS from vendors**
  - Describes the traps sent
  - Automated parsing of the MIB to assist in defining actions that may be taken
- **zTCP can provide a Trap with a Specific Trap Type**
  - Customer can customize a sample Trap MIB to feed to the Enterprise Management System

MonAlert Definition File

```
TrapDemo Monalert
…
/* V001 page volume full
…
level 80 red rev TRAP V001 Page volume &page_vol is &page_alloc%
full
…
/* V002 system CPU use
…
level 90 red rev TRAP V002 CPU utilization at &cpuutil%
```

A Sample Trap MIB

```
VELOCITY-TRAP-MIB DEFINITIONS ::= BEGIN
...
velocityV001 TRAP-TYPE
        ENTERPRISE velocityTraps
        VARIABLES { velocitySystemTrapData }
        DESCRIPTION "Velocity Trap V001 page volume full" ::= 1
velocityV002 TRAP-TYPE
        ENTERPRISE velocityTraps
        VARIABLES { velocitySystemTrapData }
        DESCRIPTION "Velocity Trap V002 system CPU use" ::= 2
...
```

Standard Trap from zTCP

- **A standard trap from a Monalert file:**

  level 80 red rev TRAP This is a trap

- **A snmptrapd trace will show this as:**

  VELOCITY-MIB::velocity Enterprise Specific Trap (0) Uptime: 23:47:53.71
  VELOCITY-MIB::velocitySystem.21.0 = STRING: "This is a trap"

Trap With Specific Trap Type Set

- **Trap with Specific Trap Type set in Monalert**

  level 80 red rev TRAP V2 This is a test trap

- **A snmptrapd trace will show this as:**

  VELOCITY-MIB::velocity Enterprise Specific Trap (2) Uptime: 12:41:32.87
  VELOCITY-MIB::velocitySystem.21.0 = STRING: "V2 This is a test trap"

Other Customizations

- **Additional user defined fields may be added to the text string in the Monalert definition to provide other standard information that can be used for parsing.**

- **Customers have reported adding fields for severity, guest name, originating system…**

References

- **RFC 1157 and it's successors**
- **zALERT User's Guide**
- **From the Customer Area Hints and Tips page:**

  http://www.velocitysoftware.com/customer/tips/trapdoc.html

  Provides a complete sample monalert file and Trap MIB