ASAP Technical Update

• New ASAP TCP-IP Plug-in
  – New Plug-in monitors TCP subsystem
  – Provides extreme in-depth monitoring of TCP/IP/Telserv

• New ASAP 2.8 core
  – Several important enhancements to Reporting and Notification
  – Many new EDL entity definitions and relationships (RDL)
  – Removed object housekeeping improved
  – Two dozen minor improvements

• Demo, Q & A, Details
What is ASAP?

→ Strategic Manageability offering from HP NonStop

- Provides an Infrastructure for monitoring and managing the availability and performance of systems, subsystems, applications, and network objects on NonStop and Linux

- ASAP product set includes:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tbody>
<tr>
<td>(core product SE30)</td>
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<tr>
<td>ASAP Extension</td>
<td>Provides high-performance M/P API for monitoring and management of abstract application domains</td>
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<tr>
<td>(optional plug-in SE31)</td>
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<tr>
<td>ASAP Hybrid</td>
<td>Extends ASAP capabilities to applications on Hybrid NonStop-Linux operating systems.</td>
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<tr>
<td>(optional plug-in SE33-34)</td>
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<tr>
<td>(optional plug-in SE35)</td>
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ASAP Also Provides

- Interfaces to wide range of environments
  - Tokenized EMS interface
  - Provider/Consumer API interfaces
  - Conversational, Fat, Thin, HTML, Excel, XML, ... interfaces
  - SMTP email, wireless phone, pager, ... interfaces
  - Enterprise management object-state interfaces

- Goals & Actions Language (GOAL’s)
  - Goals - Service-level objectives, alerts, action rules
  - Actions - Automated Actions for automatic service-level management

- ASAP Database
  - Real time and long-term history of availability stats and performance
  - Also includes a service-level objectives data base
  - High performance, super-scaling design
  - Automated archival of reliable a data store
  - Normalized Published Database

- Entity Definition Language (EDL)
  - Uniform meta-data language allows abstracted definition of system objects, subsystems, application domains, and third party entities to be defined externally to the ASAP environment
New TCP/IP Plug-in - In-depth TCP monitoring

Monitors TCP-IP subsystem

- 12 new TCP/IP/TELSERV entities
- Monitors processes, subnets, routes, ports, telnet, services, windows, more...
- Both Conventional and IPv6 compatibility mode supported
- 600 new attributes monitored
- Goals and Actions features extended to all TCP/IP and TELSERV entities
- Alerts can be issued on any attribute
- Goals can be set on any attribute
- Actions can be taken on any attribute
- Port monitoring can serve as basis for security alerts/actions on system access
ASAP TCP/IP Plug-in – Overview

- RDL defines new super hierarchies Telserv & TCP/IP
- \Node \Telserv \Window \$ZTN04 \#PT92NE
- GOALs & ACTIONs now also possible for Tcp/ip & Telserv
- Example – Alert Goal Faddr=15.0.0.0 But Tcpip Address 16.83.228.163 not in subnet 15.0.0.0
ASAP TCP/IP Plug-in – Telnet service monitoring

- Example
- GOAL: Telnet Service should NOT be “TA CL”
ASAP TCP/IP Plug-in - Traffic History

- ASAP 2.8 now provides TCP-IP Traffic History

- Example: ASAP detects busy Window #Pt92n40

- Graphical History of User-Bytes > sent Net-Bytes < received
ASAP TCP/IP Plug-in - Process opens

• ASAP 2.8 allows TCP/IP goals on window opener properties.

• Example GOAL TelservWindow, Processes < 3

• ASAP detects 3 Processes opening #Pt92n3z and Alerts

• Show Object Details popup menu item provides opener info, userid, object filename
ASAP TCP/IP Plug-in - Summary

- 12 new in-depth TCPIP Entities...
- TCP ICMP – Control Message Protocol
- TCP IP – Internet Protocol Statistics
- TCP PORT – <port#>\Tcpip\Opener\Oid
- TCP PROCESS – $System.Sysnn.TCPIP
- TCP QIO – TCP QIO histograms and statistics
- TCP ROUTE – TCP Route statistics
- TCP RTE – Route Error statistics
- TCP SUBNET – subnet statistics
- TCP UDP – User Datagram Protocol
- TELSERV PROCESS – Telserv process statistics
- TELSERV SERVICE – Telserv service statistics
- TELSERV WINDOW – Telserv window statistics
- Monitoring of 600 TCP / IP /Telserv attributes
- Long term history of TCP/IP traffic sent / received
- TCP/IP service-level objective GOALs
- TCP/IP service-level ACTIONS
- Foreign/Local subnet and port monitoring
- Foreign/Local IP-Address subnet Goals
- Foreign/Local IP-Address subnet Actions
- Traffic monitoring, thresholds, actions
- Setmode, Control, Cancels, Openers, Window type,
- Service name, Local/Foreign port, IP-addr, active
- Program filename, Cpu, Primary/Backup, Pin
- Protocol, ZSPI, TCP, Opener Pid.
- ... more TCP entities and attributes coming in 2.9
ASAP 2.8 Release

- **New Features**
  - Reporting
    - Measure on Demand
    - Persistent Sorting
    - Auto Sizing
    - Notification improvements
    - Removed object housekeeping
  - EDL
    - New Entities and Attributes
    - New EDL statement types
    - New Relation statement
    - New Map statement
  - Two dozen minor improvements
New with ASAP 2.8
- New Show Related Measurement Popup
- Graphical Measurement of Objects
- Allows Point-and-Click Measurements
- CPU, Disk, Process, File, …

Example:
- ASAP detects Disk $DEV is Busy 🔄
  High use Icon indicates 48.8% busy
- Click Show Related Measurement 🔄
- ASAP Displays ASAP Measure dialog…
- Click Start for in-depth Analysis…
ASAP 2.8 – Reporting – Measure on Demand

Measure Report Window
- Provides on-demand in-depth analysis of Measure statistics
- Analysis includes
  - Selected Object details
  - Busiest Objects (Files)
  - Busiest Openers (Processes)
  - Display on right represents 50-100 pages of measure output sorted and formatted for improved relevancy.
- Correlate As...
  Provides Correlation analysis of ASAP and Measure data.
ASAP 2.8 – Reporting - Sort View

- Sort View enhanced
  - Sorts now Persistent
  - Each update re-sorted
  - Columns auto-size too
  - Sizing Menu options
    - Contents + Headings
    - Contents Only
    - Window Width
    - Default best fit
ASAP 2.8 – Reporting - Notifications

- Now when State “Upgrades Monitored” is checked
- Notify on state change improvement now occurs
- Allows notifications to be sent on down >> up transition
ASAP 2.8 – Reporting - Removed Objects

• Users can now indicate when objects should be removed
  - Never
  - Immediately
  - After N minutes

• Transient objects such as App, File, Process, TCP, ... Telserv use new AGE option that very significantly reduces transient object processing.

• Removed Object garbage collection and house-keeping greatly reduces client load and allows you to control exactly when transient objects are removed from displays.
ASAP 2.8 – EDL

• EDL enhancements
  – 12 new EDL entities added in 2.8 in support of TCP/IP/Telserv
  – Existing entities also enhanced, eg blade status, primary cpu,..
  – Support for abstract entity relationships
  – New EDL RELATION and MAP statements (RDL)
  – New Asap2sys.EDL meta-data file
    • Asap2sys more than doubled in size
    • Includes all of the above features
    • 12 new entities
    • 600 new attributes
ASAP 2.8 EDL – Entity Enhancements

• EDL Entity Enhancements
  – 12 new EDL Entities
    • 9 new TCP/IP EDL Entities
    • 3 new Telserv EDL Entities
    • 595 x new Tcp/Telserv statistical attributes
  – New attributes also added to existing entities
    • Cpu entity gets Blade Count, State, Mask
    • Expand entity gets Cpu & preferred State

• 600 new statistics !
New Blade Attributes Added for NSAA Goals

- Added - Blades Count is count of up blades
- Added - Blades State is blade count state Goal Cpu, Blades=3
- Added - Blades Up List of Up Blades A, AB, or A B C
- Example DMR
  Goal Cpu, Blades=2
  Cpu 0 only 1 blade up
ASAP 2.8 EDL – New Expand Primary Cpu

• New Expand “Primary Cpu” EDL Attribute

• Now can specify Expand Cpu Goals

• Example:
  GOAL is Cpu= 1
  But the value = 0
ASAP 2.8 EDL => 600 New Attributes

• Slides to this point have shown only half-dozen examples of a few of the new ASAP entity attributes

• ASAP 2.8 w/TCP monitors 600 new attributes !!!

• It takes a while to fully comprehend this increased scope of ASAP 2.8 capabilities
ASAP 2.8 – EDL Language

- Changes to Entity Definition Language (EDL)
- ASAP EDL meta data language
  - EDL can be used to define any abstract entity
  - EDL describes any system and/or application entity
- ASAP 2.8 adds relationships to EDL language
  - New 2.8 Relation Definition Language extensions called RDL
  - RELATION – new statement defines hierarchical relationships between EDL entities and containers.
  - MAP – new statement defines associations between hierarchical classes, containers, and EDL entities.
ASAP 2.8 EDL – Relationships (RDL)

- New EDL RELATION Statement

```
RELATION OBJECT <ObjectID>
PARENT <Parent-ObjectID> | NULL
CAPTION <Container-Name> | INSTANCE
```

```
\Chicago.Tcpi\Tcp\$Ztc06

\Chicago \Tcpip \Tcp \$Ztc06

NodeClass  TcpipClass  TcpClass  TcpProcess
```

<table>
<thead>
<tr>
<th>Relation Object</th>
<th>NodeClass</th>
<th>Parent NULL</th>
<th>Caption *;</th>
</tr>
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<td>TcpipClass</td>
<td>Parent NodeClass</td>
<td>Caption Tcpip;</td>
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<td>Parent TcpClass</td>
<td>Instance;</td>
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ASAP 2.8 EDL – RDL Overview

• Relation Definition Language
• Defines hierarchical relations between EDL entities and container names.

EDL - RELATION Statement

The RELATION statement allows you to define hierarchical relationships between EDL entities and container names. The following describes the RELATION statement syntax:

```
RELATION OBJECT <ObjectName>
    PARENT <ParentObjectID> | NULL
    CAPTION <container-name> | INSTANCE

<ObjectName> is an alpha-numeric symbol used as an abstract "handle" to declare hierarchical relationships between entities and containers. An entity/container name can be declared with the CAPTION option. A container can be used to "contain" other entities and/or containers. PARENT defines the relationship between the ObjectID in the current Relation statement and the ObjectID in the next higher level of the hierarchy. NULL means you are at the top of the hierarchy.
```

Compiling NEW.EDL
No Errors. Entities=28 Attributes=119, Date=19 Relation=34, Map=21
ET=1684 ms
Total Elapsed Time = 1684 ms
Compiled: NEW.EDL

Applies To: Client
ASAP 2.8 – Miscellaneous 1

- Drop-downs & columns now auto-size to maximum text-width
- X1 Toolbar increases by steps of +10... wraps to x1
- State Filter Toolbar provides one-click Filtering
- New Tcp / Telserv Icons added to bitmap library
- XML context drop-down on OEM property tab
- Limit on max EDL attributes removed (was 100)
- CSG 3.1.15 now distributed in 2.8 client setup
ASAP 2.8 – Miscellaneous 2

- File, Process, Tcp*, Telserv* new AGE option
- Graph Node/Tile … compute Taskbar size/loc
- 2D graphs support single attribute graphing
- SSG tab now supports interval in seconds
- Startup About close-box now stops client
- OIL intermediate-level clicks now partial-match
- Multiple Client instances with different exes
ASAP 2.8 - Summary

- ASAP 2.8 12 new entities, 600 new statistics
- TCP/IP - 9 new Tcp/IP entity definitions
- Telserv - 3 new Telserv entity definitions
- CPU provides Blade count, state, and mask
- EXPAND provides primary Cpu & state
- PROCESS Command and Detail long names
- New EDL RELATION and MAP statements
- Relation Definition Language (RDL)
- TCP/IP Telserv hierarchies defined in RDL
- Notification on state improvement provided
- Sort View supports persistent sorts
- Sort View columns now auto-size
- Report window 'Copy Special'
- Report Show Related Measurement
- Measure on Demand
- Delete Removed Objects
- Object auto-delete option 'After N Minutes'
- File, Process, Tcp*, Telserv* AGE options
- View Graph/Tile Graph use Taskbar size/loc
- 2D graphs support single attribute graphing
- Drop-downs auto-size to max text width
- SSG Fixed Interval supports seconds
- X1 Toolbar button increases samples +10
- Multiple Client instances with different exe
- State Filter Toolbar one-click State filter
- ABOUT box close-box now stops client
- Limits on max attributes removed (was 100)
- CSG 3.1.15 now distributed with 2.8 client
- OIL intermediate clicks now partial-match
- OEM XML context provider
ASAP 2.8 & TCP/IP Demo

- Show Related Measurement
- Sort View
- TCP/IP
  - TCP Stack
  - Routes
  - Subnets
- TELSERV
  - Services
  - Windows
Configuring TCP/IP/TELSERV

- SET TCP ON
- SET TCP PARAM “<option>, …”
  - RATE <n>
    - Specifies the ASAP interval for the TCP/IP SGP
    - The minimum rate should be 3 minutes for moderately large configurations
    - Will be reduced to 1 minute in ASAP 2.9
  - SCPNAME $<name>
    - Specifies the name of the SCP process to use
    - The default is $ZNET
Configuring TCP/IP/TELSERV

- SET TCP PARAM “<option>, …”
  - PORT [ <n> ]
    - Turns TCP/IP Port monitoring ON
    - Specifies the number of intervals, <N>, to reconfigure
    - The default is each ASAP interval
  - SERVICE [ <n> ]
    - Turns TELSERV Service monitoring ON
    - Specifies the number of intervals, <N>, to reconfigure
    - The default is once per hour
Configuring TCP/IP/TELSERV

- SET TCP PARAM "<option>, …"
  - WINDOW [ <n> ]
    - Turns TELSERV Window monitoring ON
    - Specifies the number of intervals, <N>, to reconfigure
    - The default is each ASAP interval
ASAP TCP/IP Plug-in Details

• ASAP TCP/IP Plug-in will be included on the ASAP Software CD.

• However you must obtain a License to use it
  – Order SE35V1 for S-series and HSE35V1 for H-series
  – Or Email License.Manager@hp.com for a 60-day trial License
  – A License Key will be sent via email
Questions?
Questions/Comments/Resources

• Any Questions?
• Email Development - support@NonstopAsap.com
• Technical Portal - http://www.NonStopASAP.com