Make smarter use of your time with IMS software

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ON DEMAND BUSINESS

Twenty years ago:

Time was plentiful

Space was expensive

It was easy to find IMS DBAs

What happened?

Initial DBA Techniques

```
; ------------------------------------------------------------------------
; Read a MAX3420E register. Uses MAX_Reg(preserved), Updates MAX_Dat.
; ------------------------------------------------------------------------
rreg:
        clT
rr2:    mov         dat,MAX_Reg ; 000rrrrr
        lsl         dat         ; 00rrrrr0
        lsl         dat         ; 0rrrrr00 (R)
        lsl         dat         ; rrrrr000  (write bit is clear--b1)
        bld         dat,0       ; rrrrr00T  (T=ACKSTAT bit)
        rcall       send_byte
;
; Now read the MISO data
;
        SCK_LO
r4:     SCK_HI                  ; ready the next input bit
        sec                     ; speculatively set CY
        sbis        PINB,MISO   ; skip if set
        clc
        SCK_LO
        rol         MAX_Dat     ; shift CY into the data byte
        dec         bitcount
        brne        r4
        SS_HI                   ; all done
        ret
;
```

Automation of routine IMS DB maintenance:

Build In-house systems for automating DB reports and tracking statistics

Reorganizing all databases on a set schedule

Some combination of these methods

Why a Smarter IMS Software?

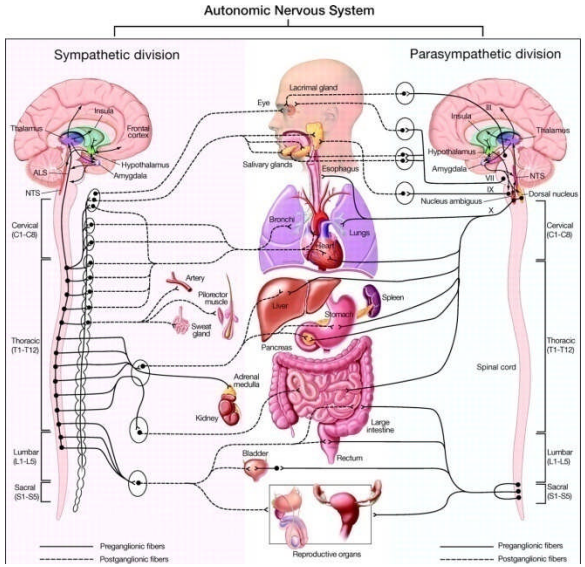
Civilization advances by extending the number of important operations which we can perform without thinking of them.

(Alfred North Whitehead)

izquotes.com

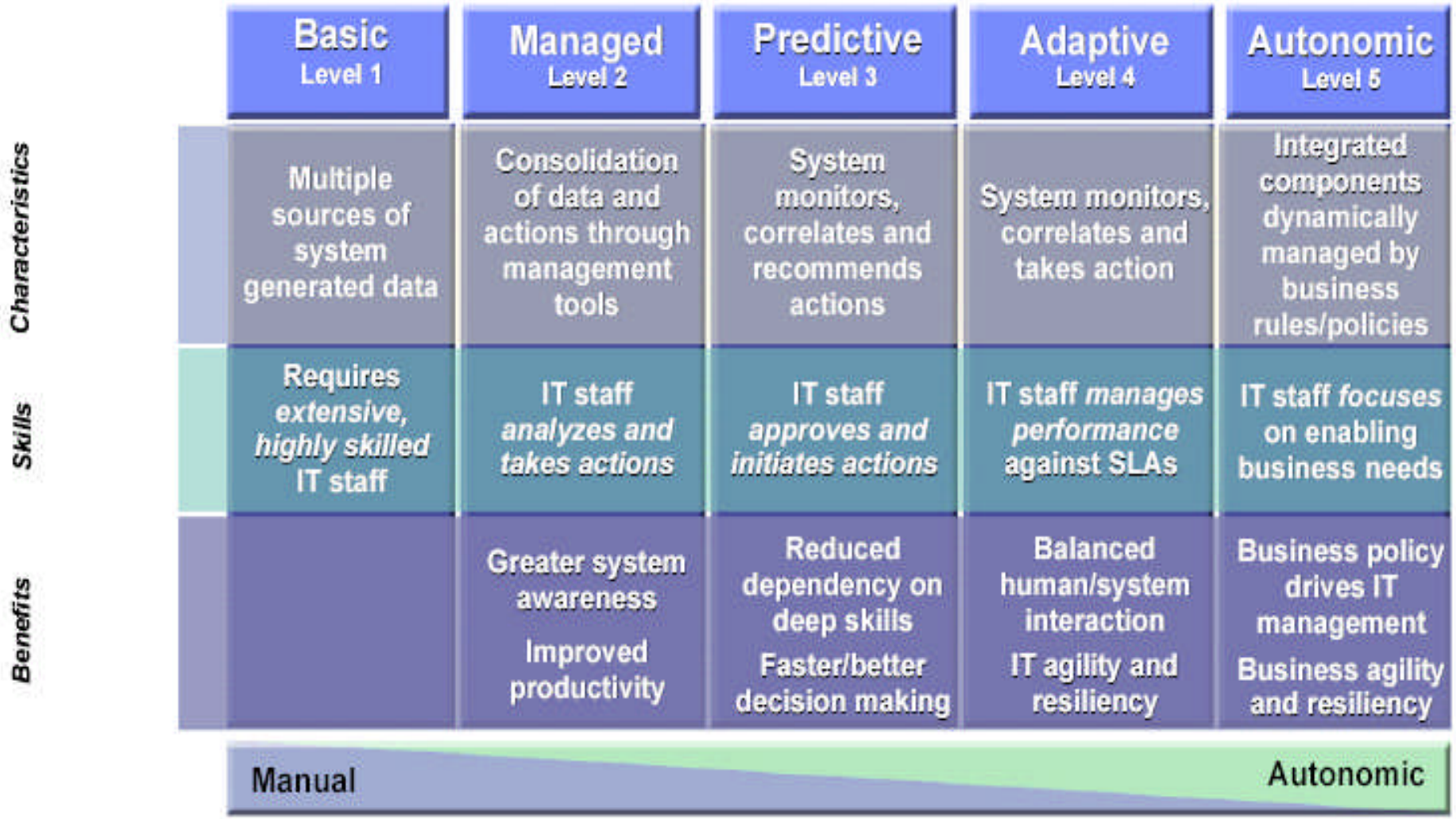
Technique that gives us Smarter IMS Software?

- **"Autonomic" according to Merriam-Webster:**
  - au·to·nom·ic
    1 : acting or occurring involuntarily <autonomic reflexes>
    2 : relating to, affecting, or controlled by the autonomic nervous system or its effects or activity <autonomic drugs>



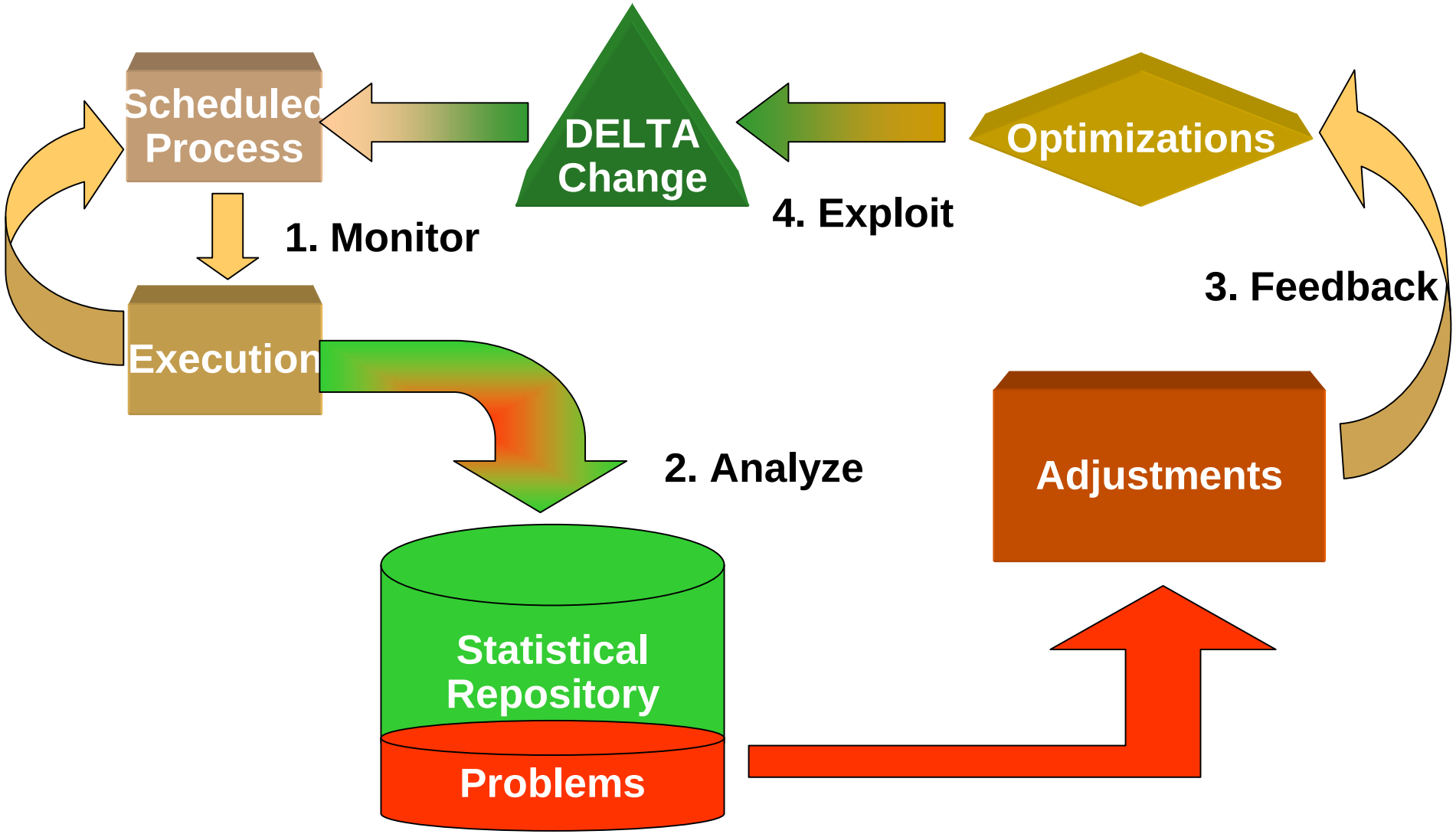
Autonomic computing is a self-managing computing model named after, and patterned on, the human body's autonomic nervous system.

Evolving to Autonomic Computing



Source: IBM IMS teleconference Dec '03

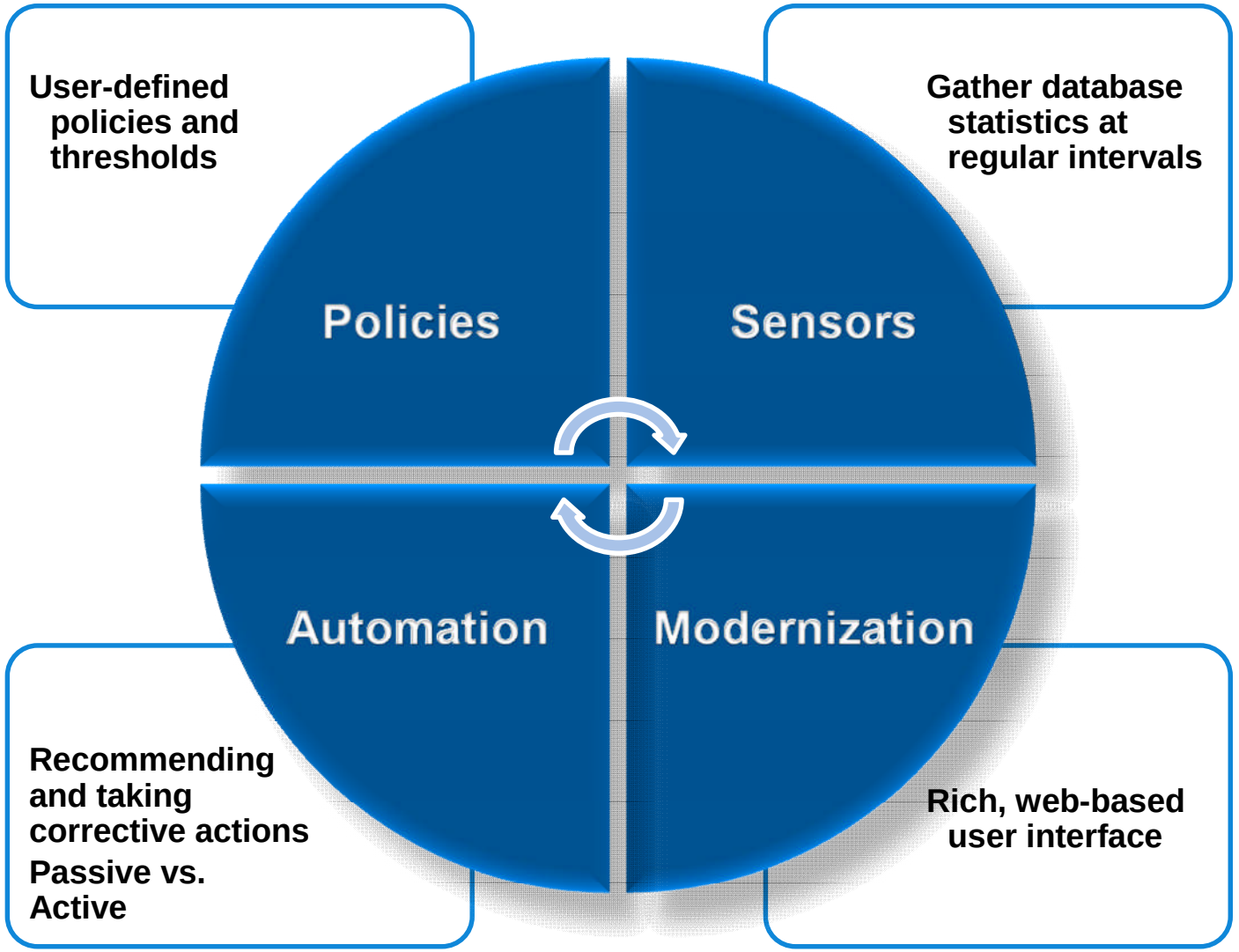
How do we get to Autonomics?



Benefits of Autonomics

- Reduces the amount of time, error, and human effort required to implement and maintain efficient database systems
- Gives expert DBAs more time to concentrate on aligning databases with the business, new technology, planning and strategy
- Provides a means to train novice DBAs through learning what has been automated

Our Vision – Putting AUTONOMICS to work for you



Sensors

….gather database statistics at regular intervals

Works with you – your way – in your environment:

- **Integrated in regularly used utilities**
  - HP Image Copy(FF and FP), HP Pointer Checker, DB Reorg Expert, FPA Analyze, FPA Reorg, FPO Analyze, FPO Reorg
- **Automation of sensor capture**
  - Autonomics scheduler ensures sensor data capture at frequency that you require
- **When you need it!**
  - Ad-hoc / job scheduler batch submitted sensor capture

Policies

…User defined policies and exceptions

- **Policy definitions are used to evaluate specific database states**
  - Threshold values are compared against sensor data for a given database or group of databases
  - When thresholds are met or exceeded, exceptions occur
- **Works "out of the box"**
  - Ships with predefined policies and threshold values
  - Full ISPF interface provided for policy management
- **Customizable to fit your shop**
  - You can define your own sets of threshold values
  - Customize the messages sent when exceptions do occur
  - Specify who receives which messages and how
    - WTO, e-mail, or text

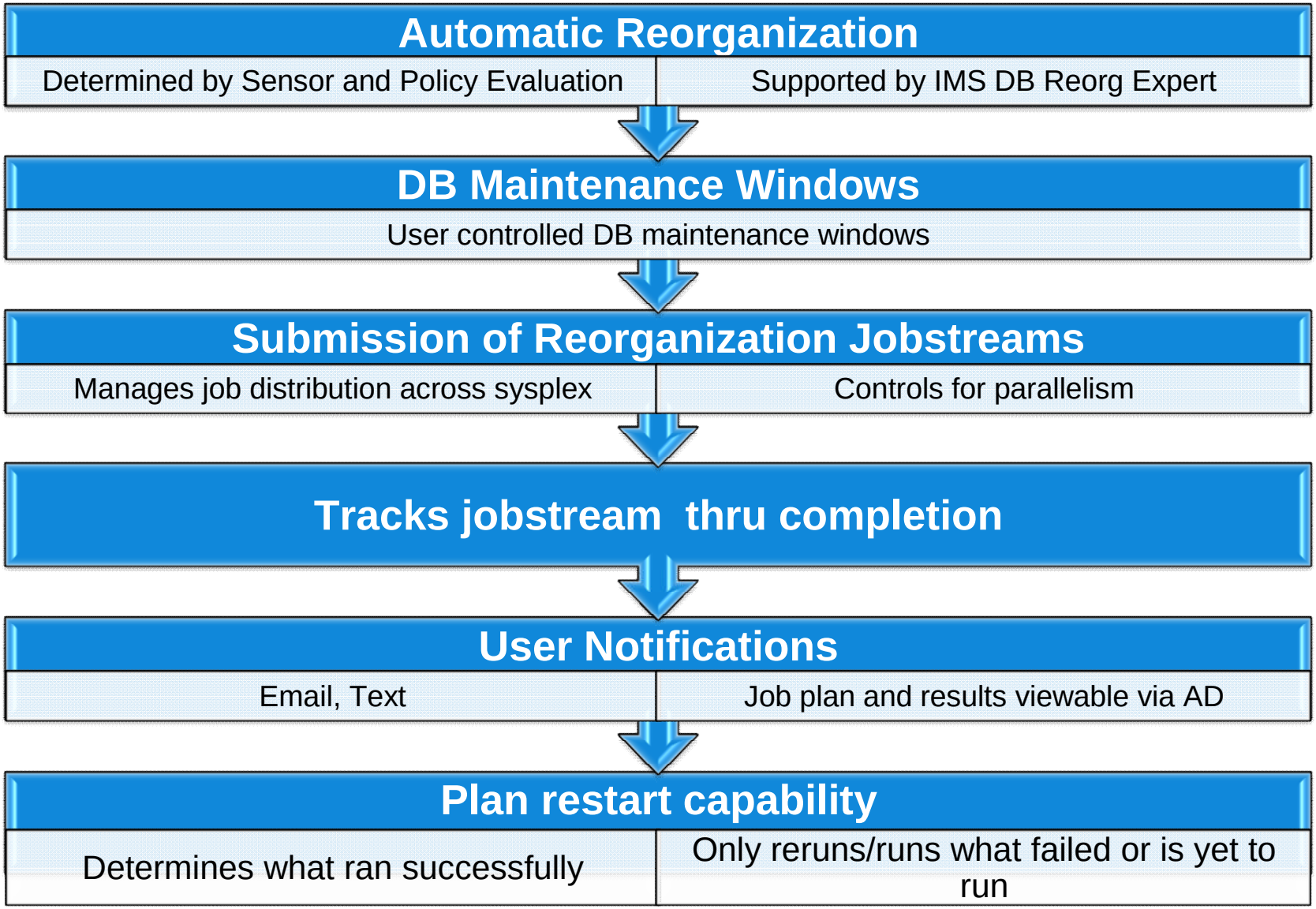
Automation

…Recommending and Taking Corrective Actions

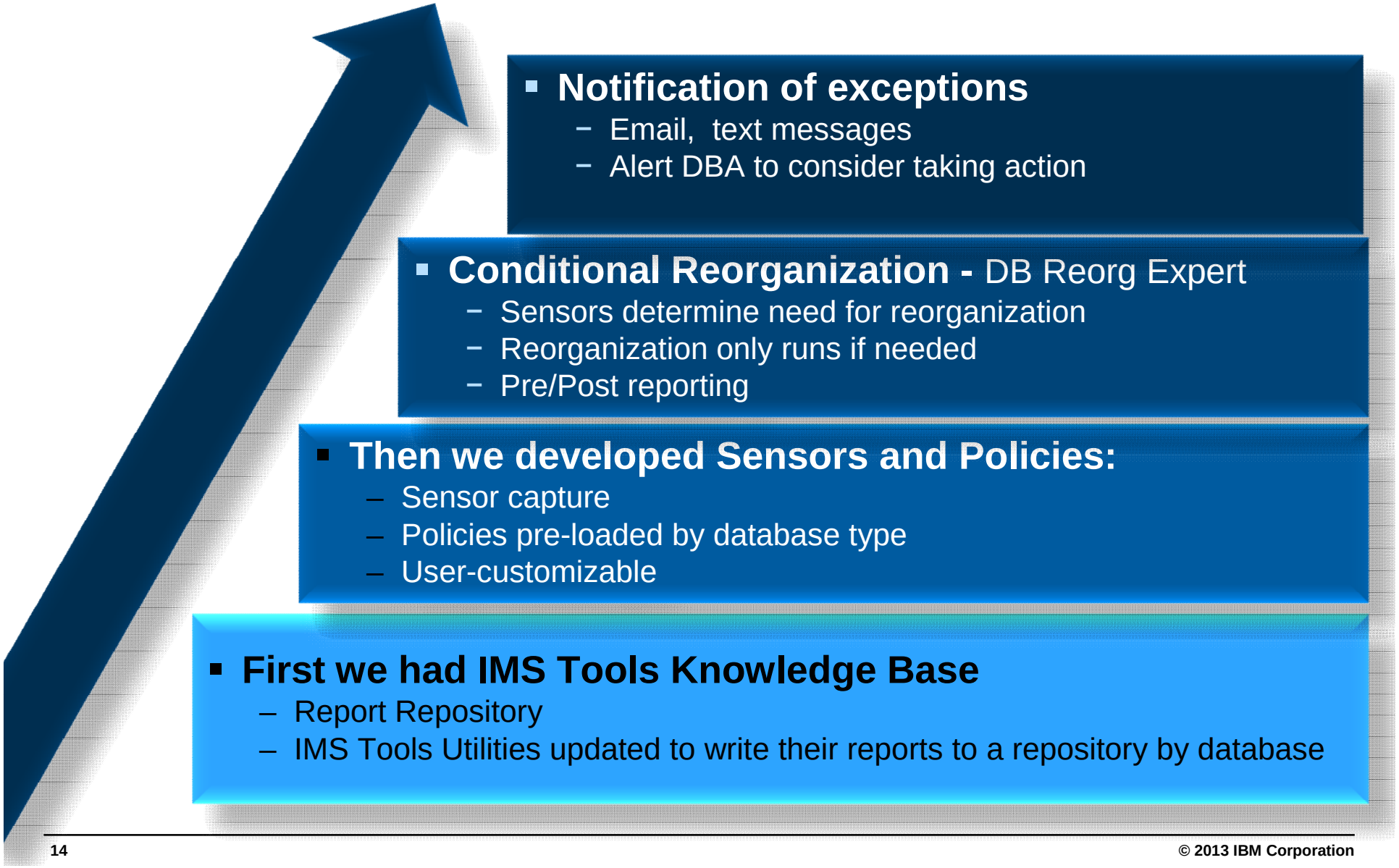
- **Passive Autonomics**
  - Automates collection and analysis of Sensor Data
  - Recommends when databases should be reorganized
    - With email or text notifications
  - Provides a scheduling feature that allows you to control how frequently sensor data is collected and how frequently policies are evaluated
  - Flexible scheduling around pre-defined PEAK times

- **Active Autonomics**

Active Autonomics

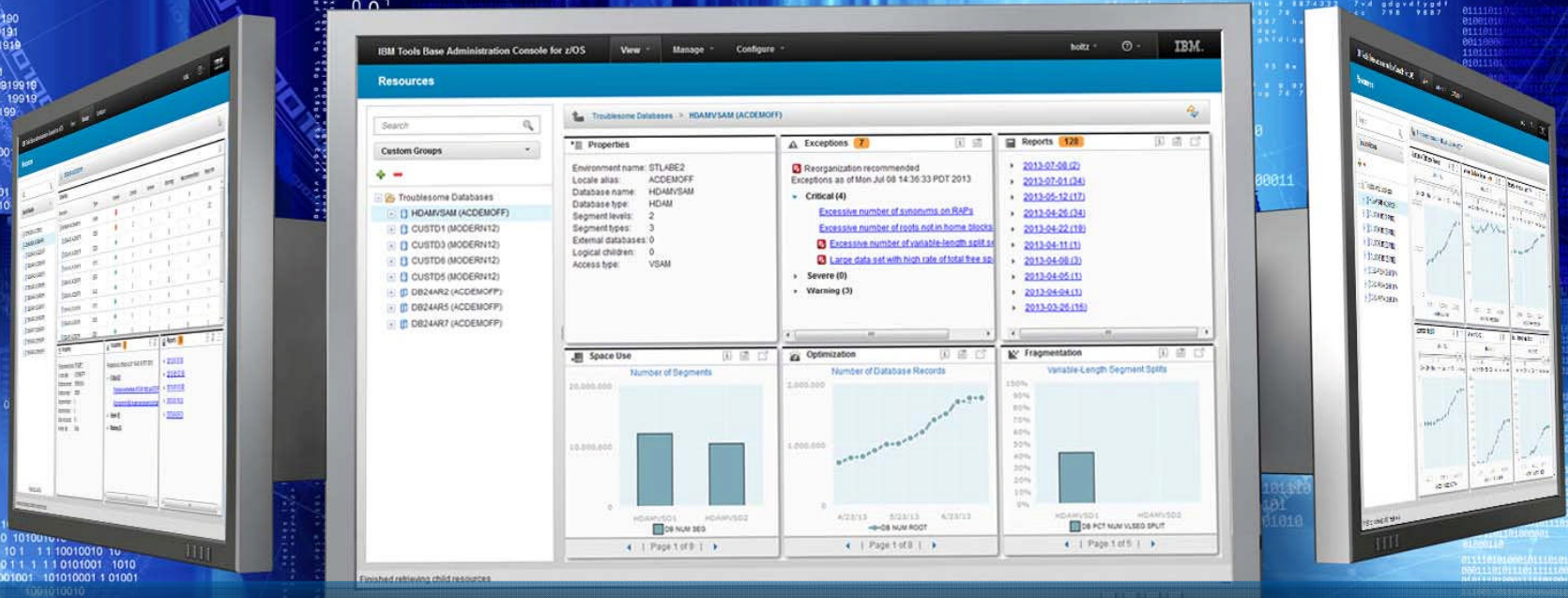


Smarter IMS Software



- **Notification of exceptions**
  - Email, text messages
  - Alert DBA to consider taking action
- **Conditional Reorganization -** DB Reorg Expert
  - Sensors determine need for reorganization
  - Reorganization only runs if needed
  - Pre/Post reporting
- **Then we developed Sensors and Policies:**
  - Sensor capture
  - Policies pre-loaded by database type
  - User-customizable
- **First we had IMS Tools Knowledge Base**
  - Report Repository
  - IMS Tools Utilities updated to write their reports to a repository by database

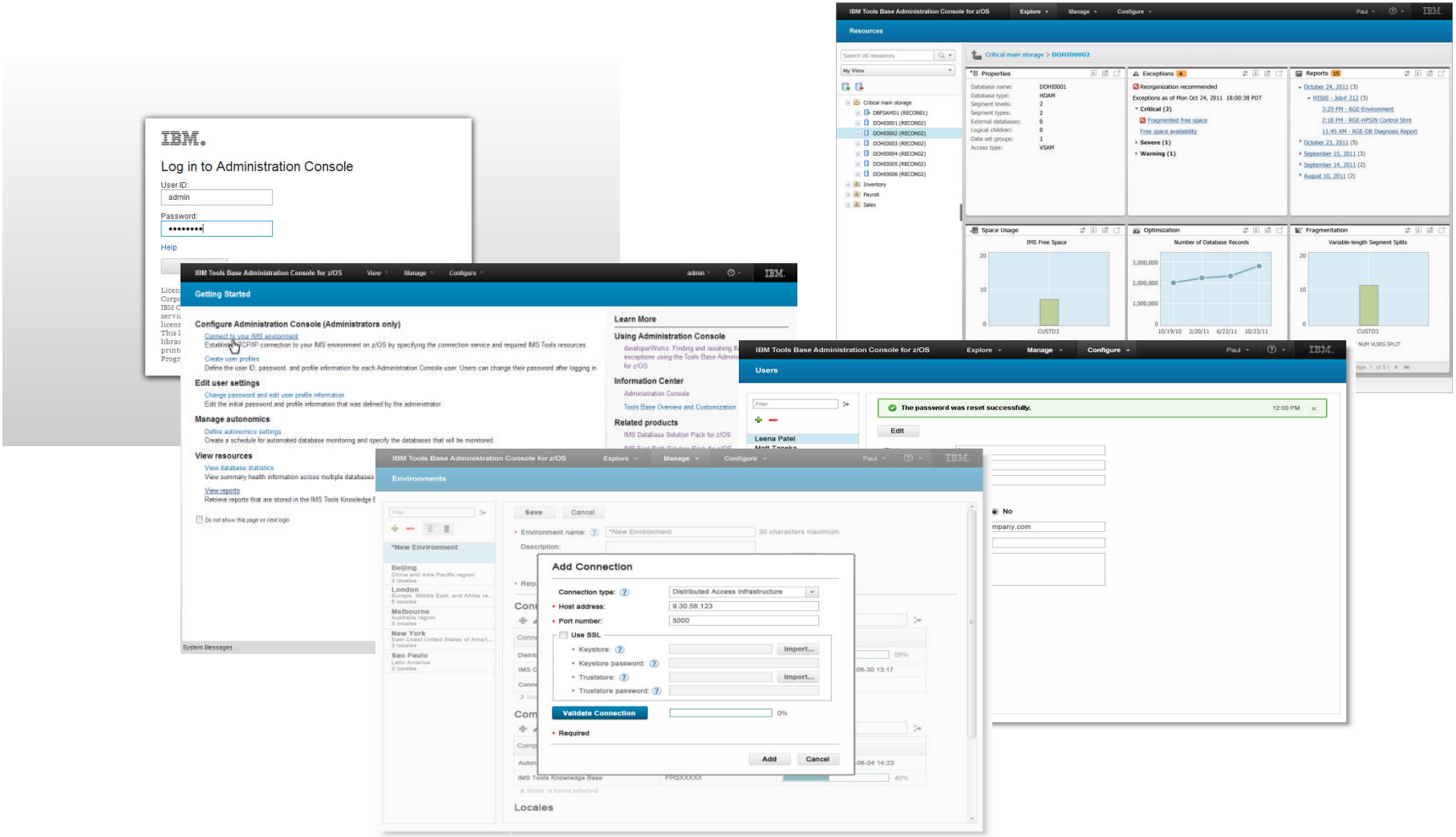
IBM Administration Console



- **IBM Administration Console**
  - New look and feel
  - View / Manage databases from across the enterprise from a single log on
  - Run Administration Console server on z/OS as a started task
  - Manage Autonomic Director Monitor List and Peak periods
  - Initiate on demand and scheduled sensor collection and policy evaluation

Updated look-and-feel: IBM One UI

All IBM products are going toward One UI

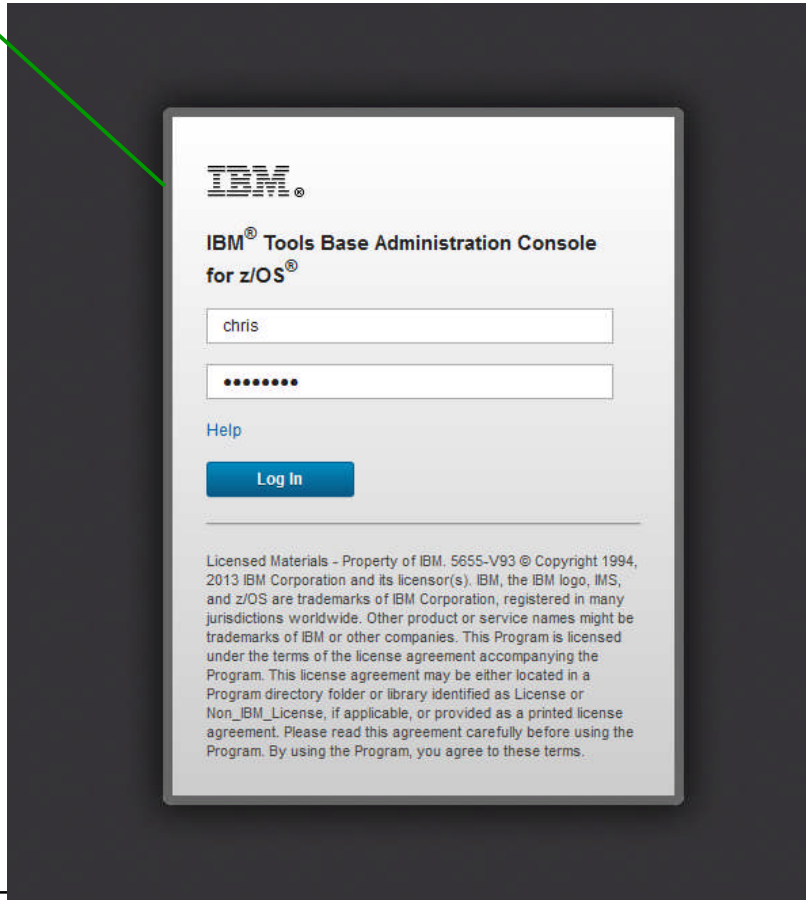


Single Log in

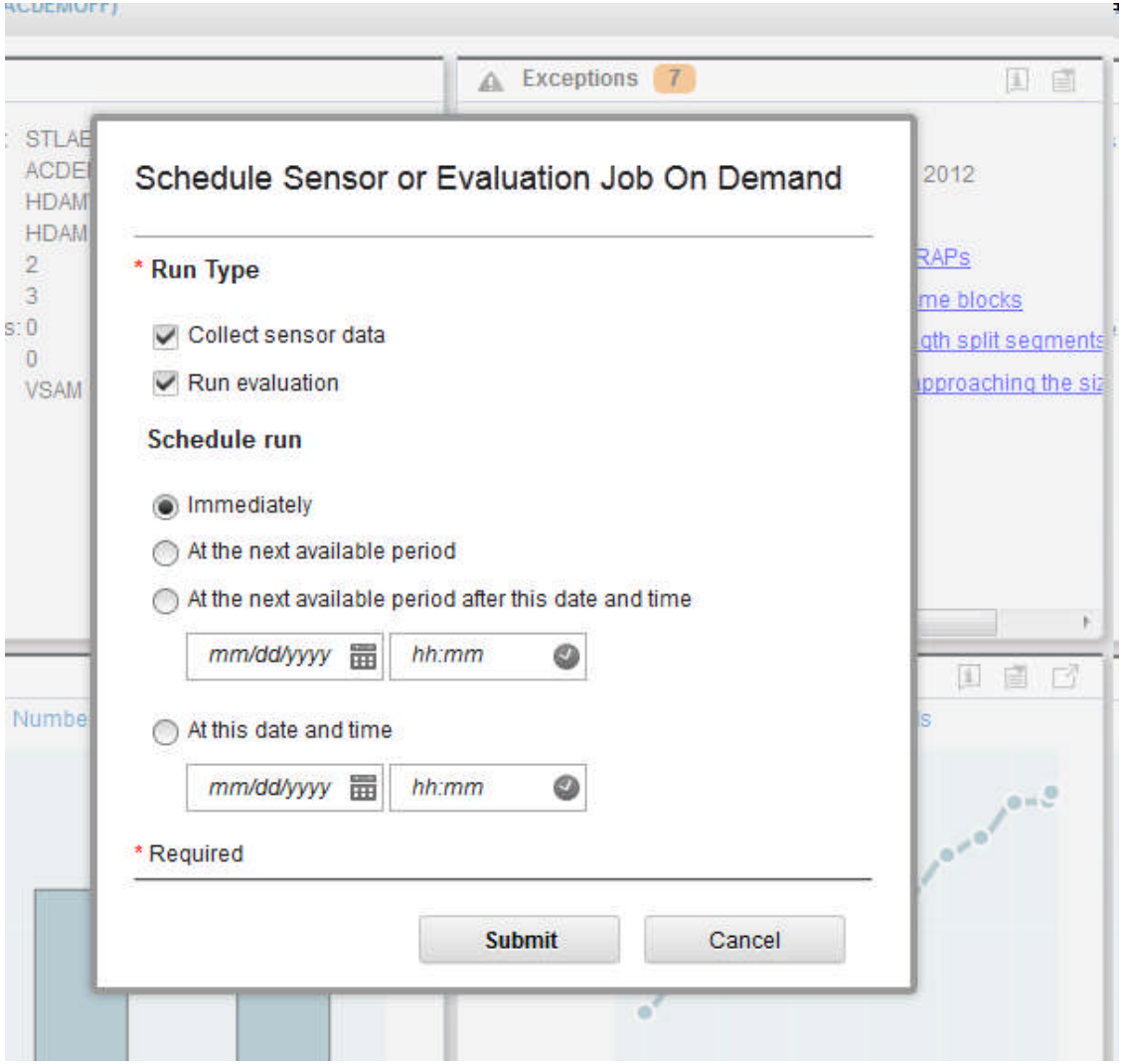
Single login for all users and all environments

- **Safety and security features are built in**
  - Uses SSL and RACF authentication
- **Single Login**
  - Access all your IMS environments

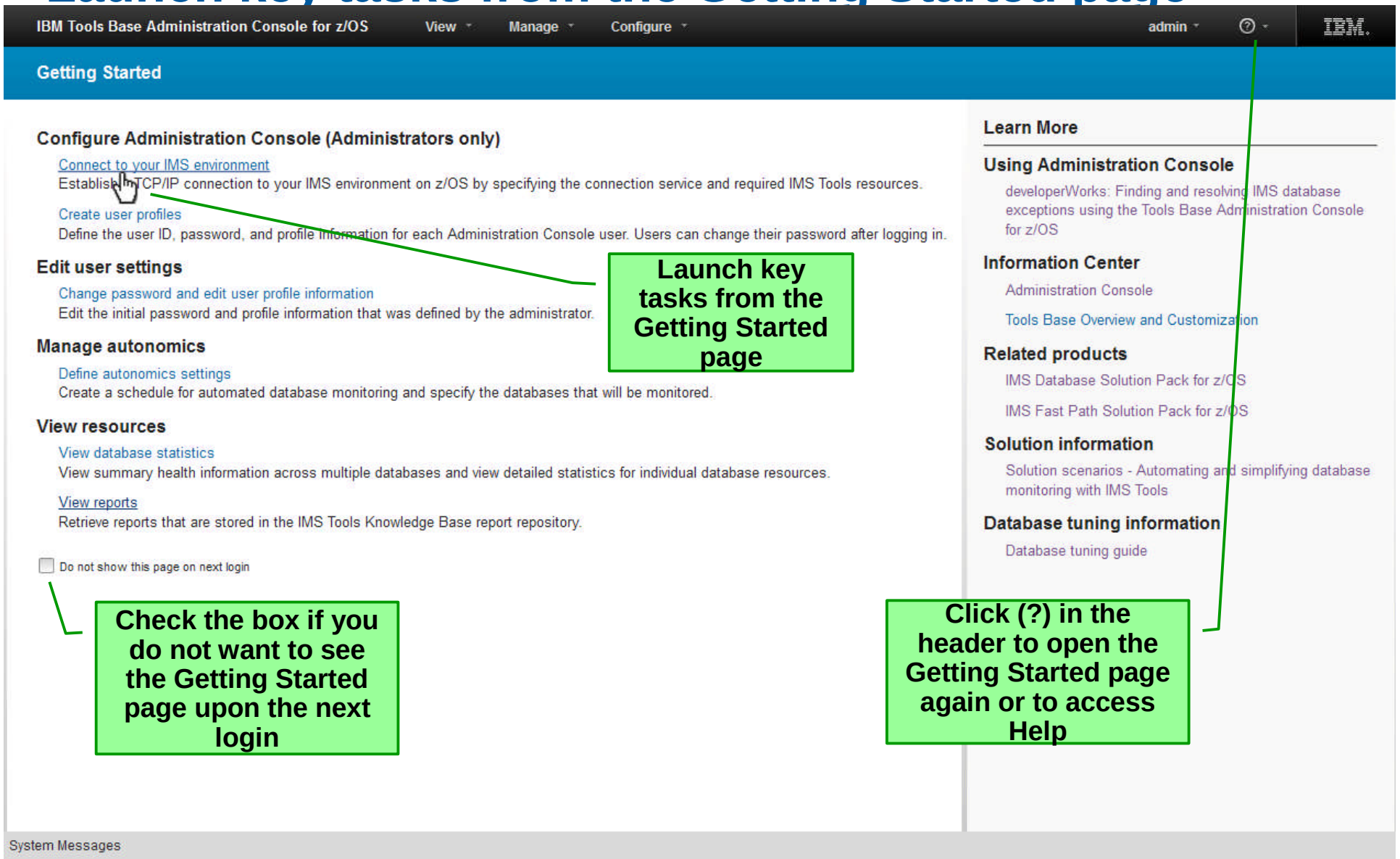
NEW!



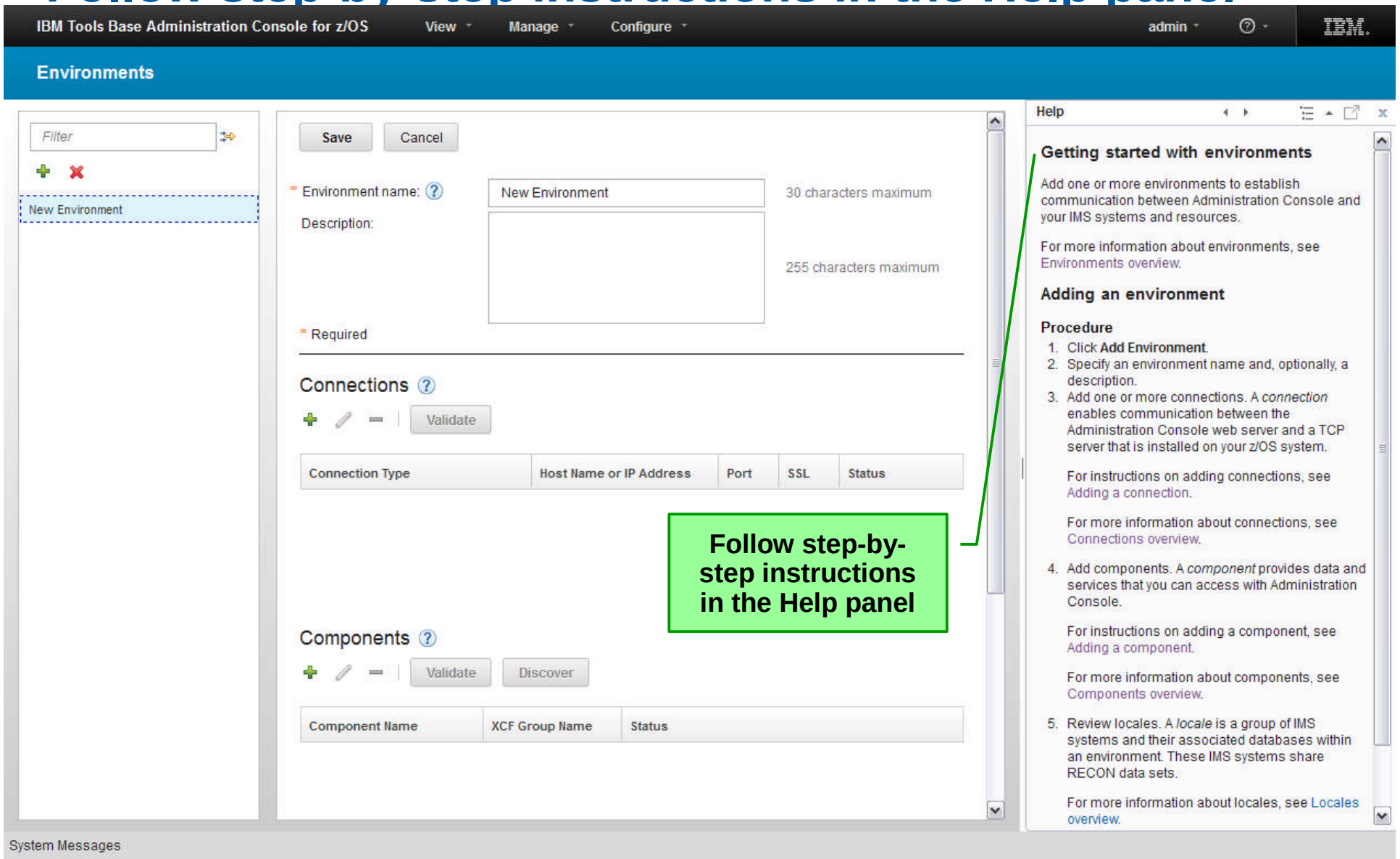
On Demand Sensor and/or Evaluation



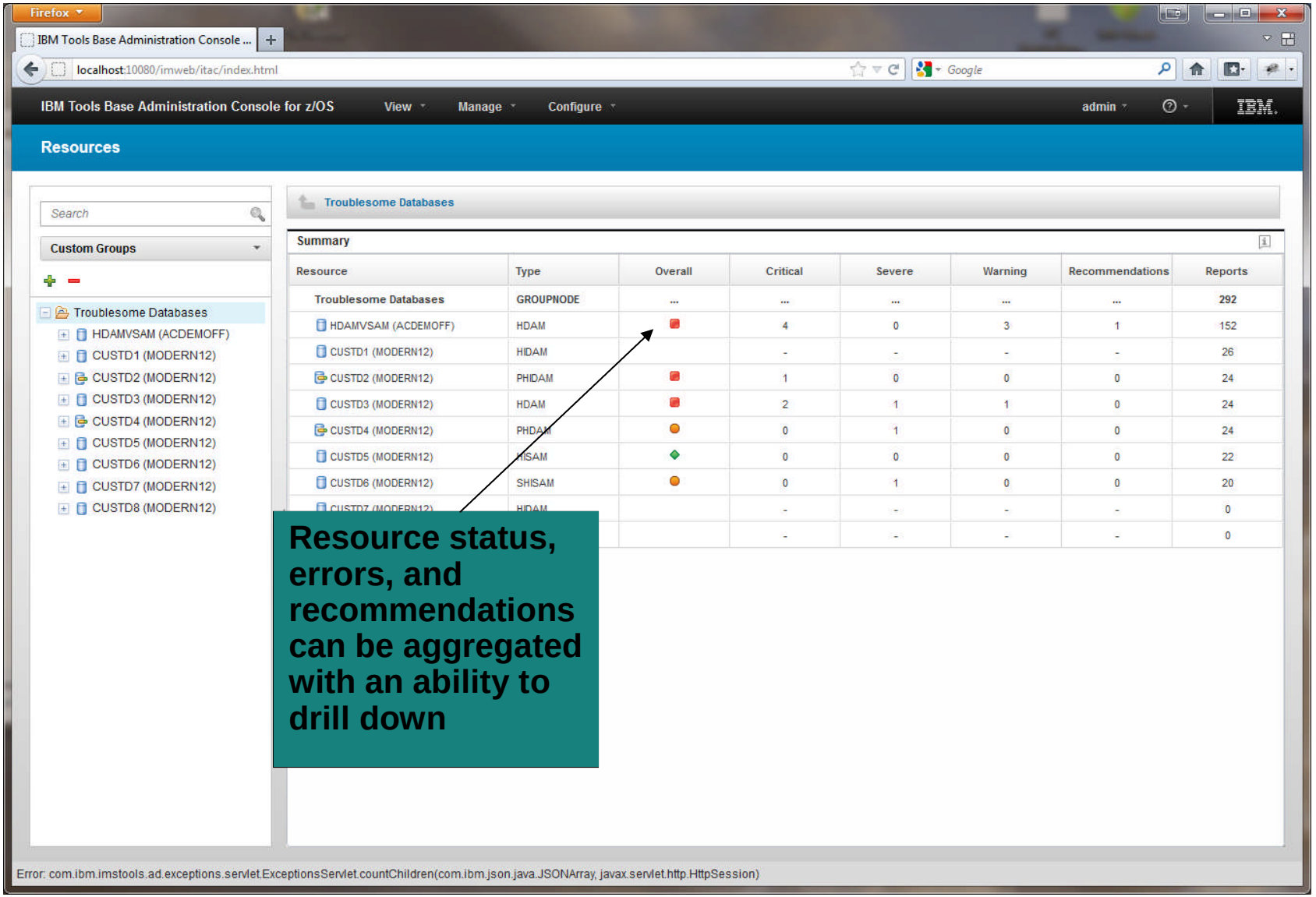
Launch key tasks from the Getting Started page



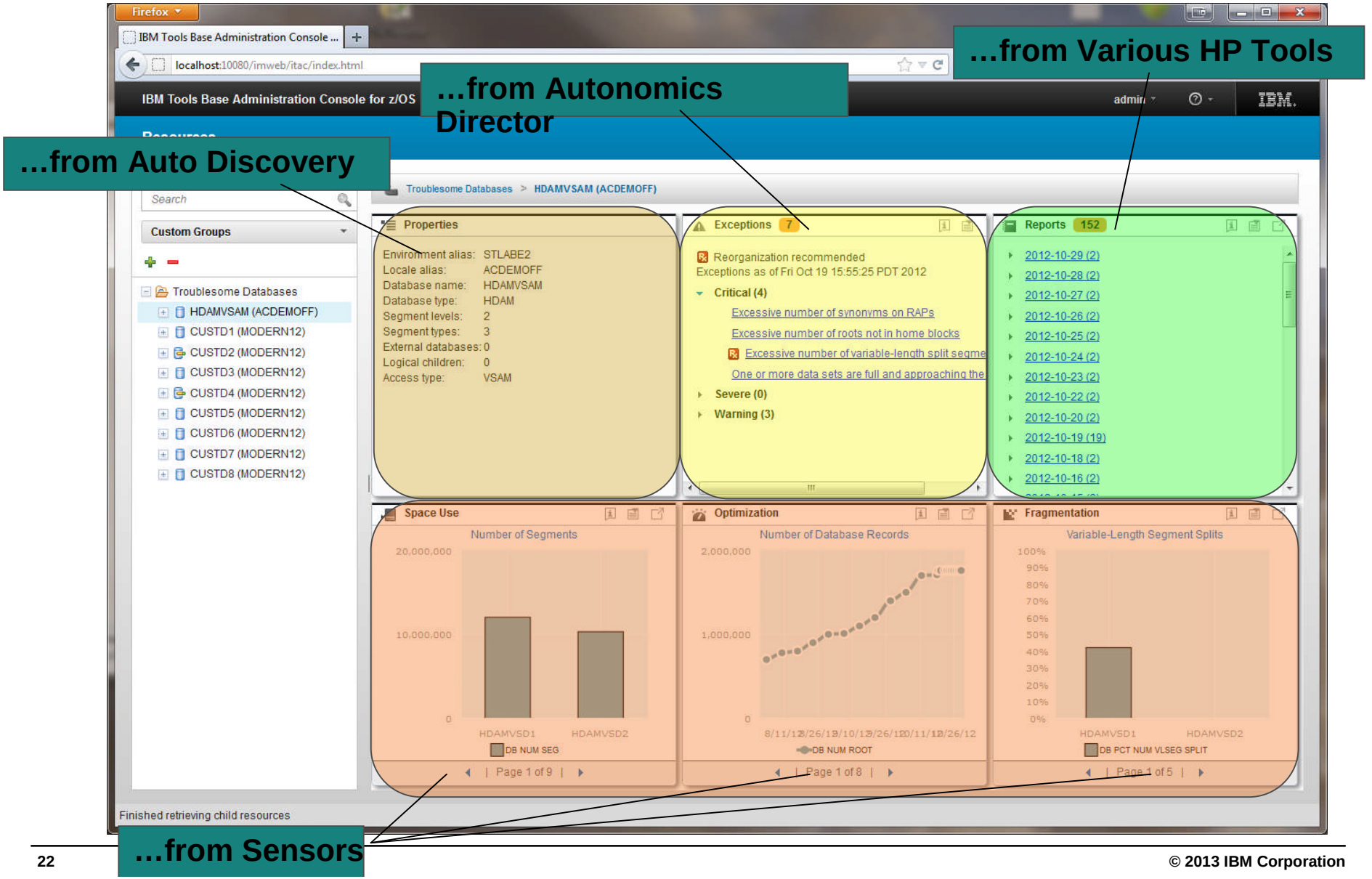
Follow step-by-step instructions in the Help panel



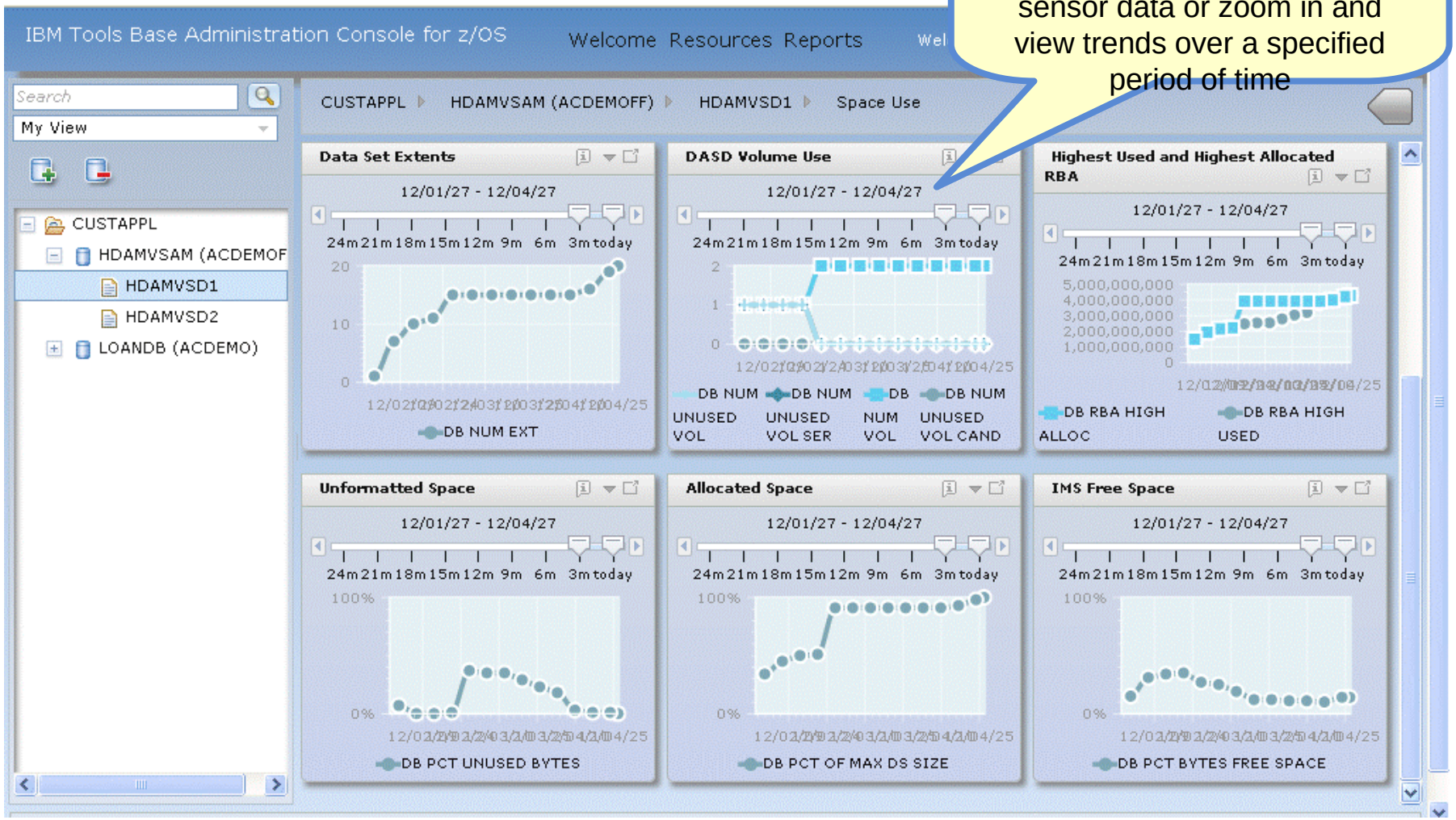
Drill down from User Created Groups



Holistic View of IMS Databases

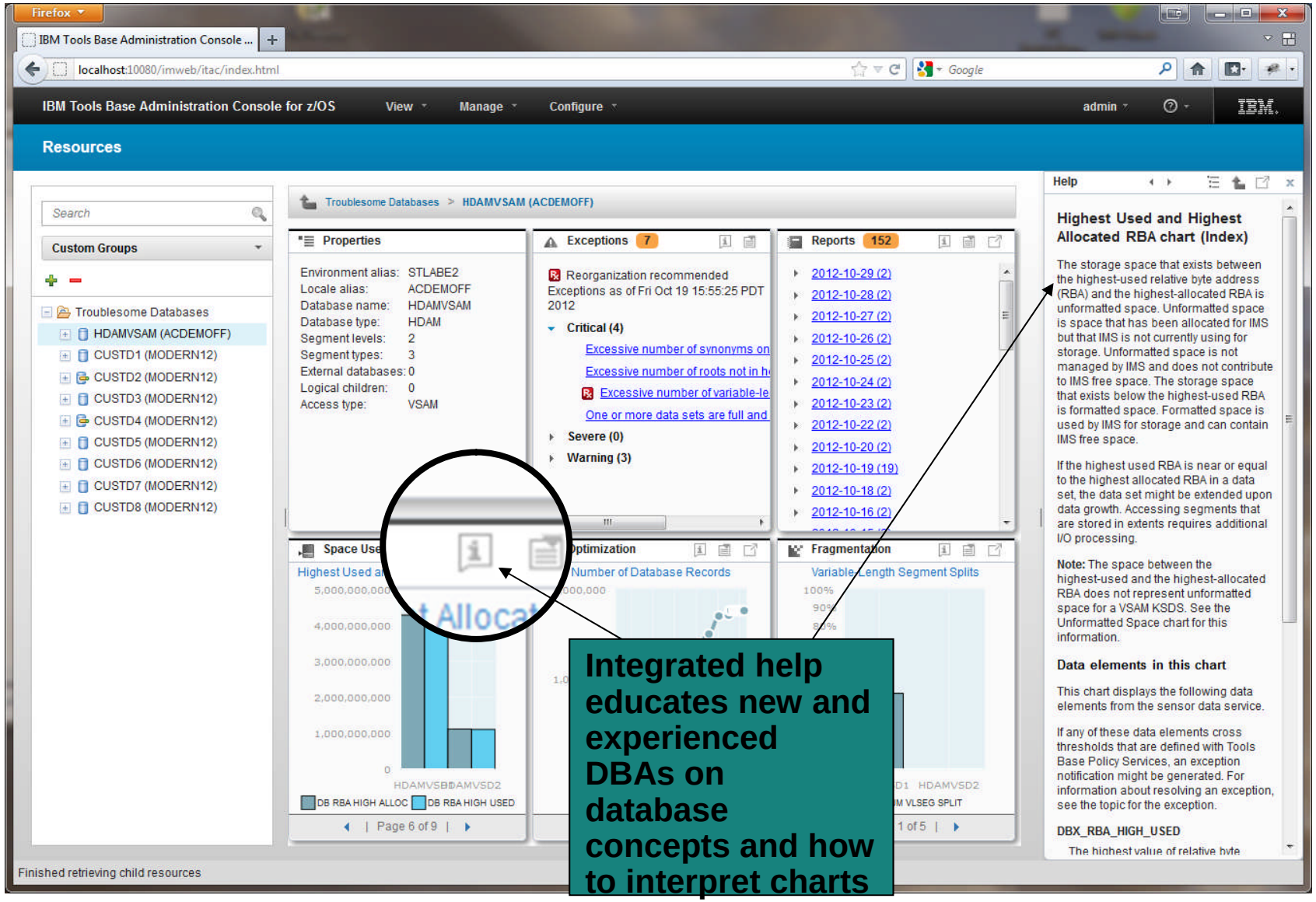


Data Set Space Usage Charts

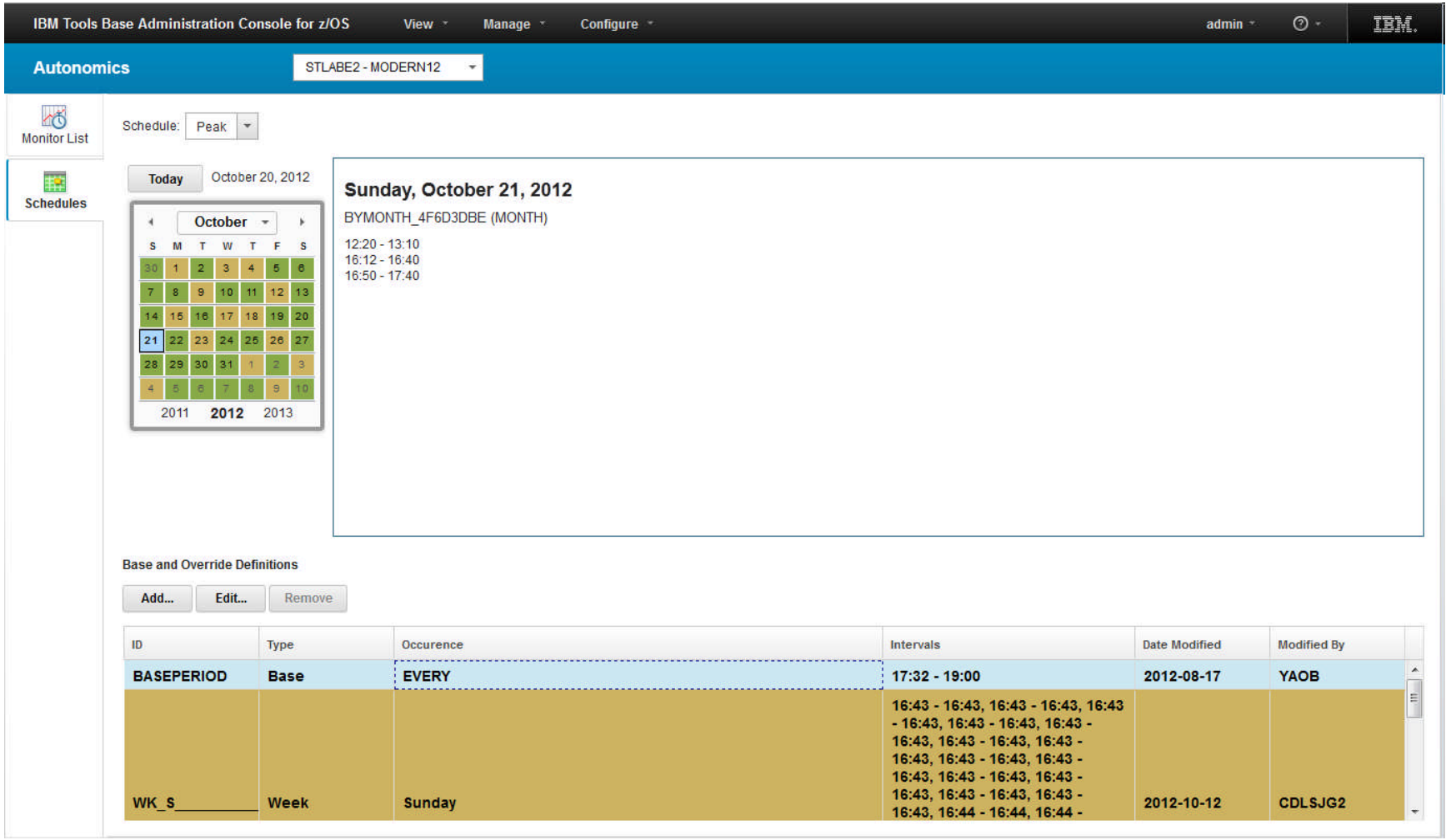


Note: all line graphs have an integrated time slider so you can view the most recent sensor data or zoom in and view trends over a specified period of time

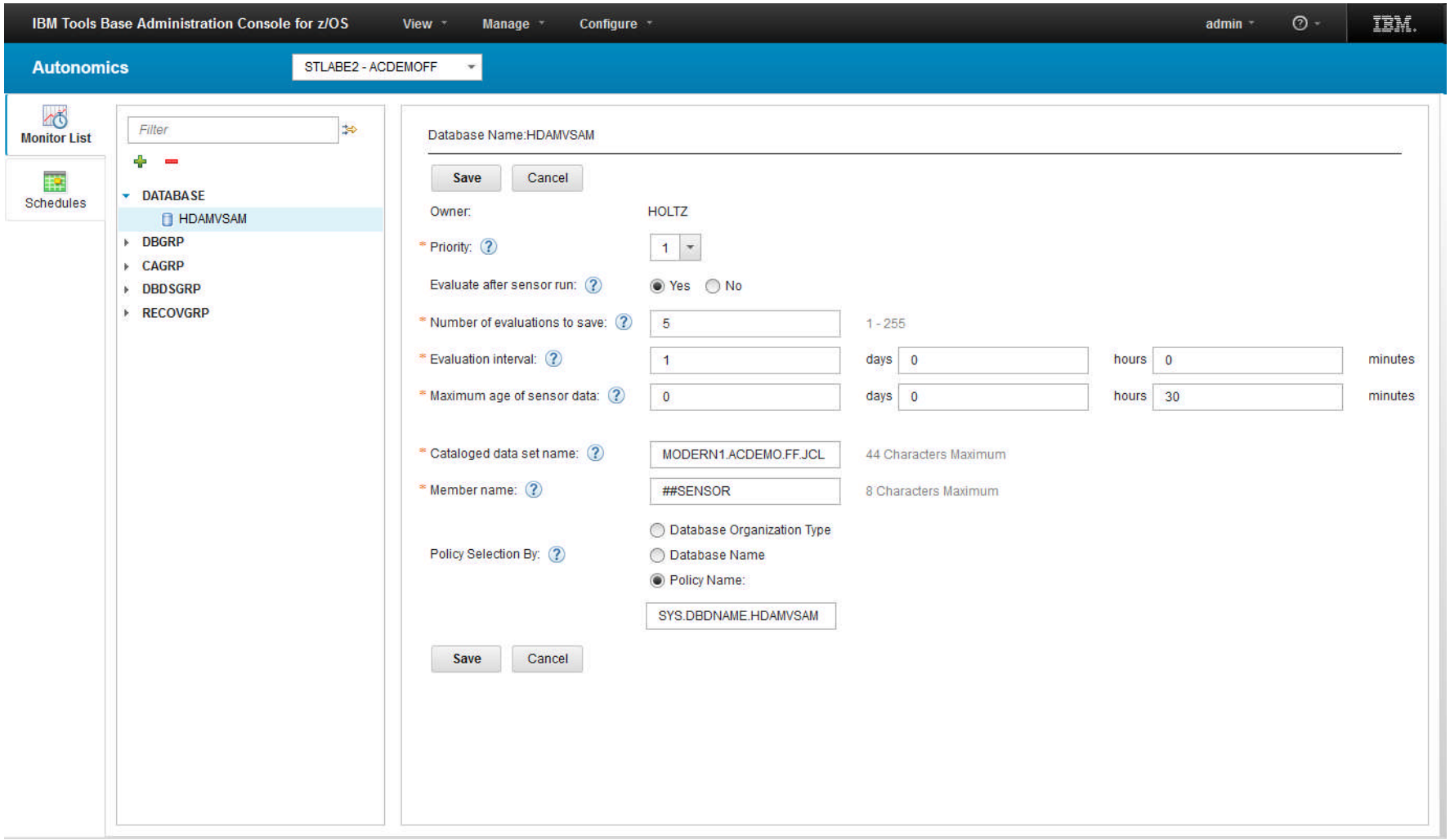
Integrated Help Throughout



Management of Autonomics Scheduling



Add / Edit Monitor List



IMS Tools Solution Packs

IMS Database Solution Pack

- Autonomics
- IBM Administration Console

- DB Reorg Expert
- HP Unload
- HP Load
- HP Prefix Resolution
- Index Builder
- HP Image Copy
- HP Pointer Checker
  - IMS DB Repair Facility
- IMS Library Integrity Utilities

IMS Fast Path Solution Pack

- Autonomics
- IMS Administration Console

- HP FP Utilities
  - FP Advanced Utilities
  - FP Online Utilities
- IMS DB Repair Facility
- IMS HP Image Copy
- IMS Library Integrity Utilities

IMS Recovery Solution Pack

- IMS Administration Console

- DB Recovery Facility
- HP Change Accumulation
- HP Image Copy
- DRF Extended Functions

IMS Performance Solution Pack

- IMS Administration Console

- IMS Connect Extensions
- IMS Performance Analyzer
- IMS Problem Investigator

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