



Why is My Hyperion Application Sick?

Streamlining the Health Check process for
your HFM Application



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Agenda

- About MindStream Analytics / Accelatis
- Objectives of the Webinar
- Monitoring and Troubleshooting
- Problem Lifecycle
- Accelatis features
- Client Case Study
- Accelatis Demonstration
- Q&A



About MindStream Analytics



- HQ – Boston, MA with national reach
- Specialize in the implementation and optimization of best of breed Oracle | Hyperion solutions.
- Our people average over 9 years of experience in the BI or BPM space
- Oracle Gold Partner
 - OAUG Hyperion SIG Essbase Domain Lead
 - Hyperion Specialization



Specialized
Oracle Hyperion Planning

- MindStream Analytics is a consulting and managed services firm dedicated to helping clients enable better decision making. With over a decade of experience in the analytics and Enterprise Performance Management space, MindStream guides their customers to a solution that enhances business modeling enabling better analysis and insight into their data. We believe that the power of technology combined with best practices will give customers the ability to make fact based decisions.
- More Info?
 - Visit us at www.mindstreamanalytics.com

Accelatis was founded by Hyperion Technologists with the goal of delivering solutions to existing Hyperion clients that will increase their ROI while cutting their TCO. Companies look to Accelatis to improve system performance and stability, streamline troubleshooting and manage migrations through monitoring and benchmarking.

Accelatis offers the following tools focused on Hyperion:

- Infrastructure Management
 - EPM Performance Monitoring
 - SOX Audit and Reporting
 - Performance Optimization
 - Load Generation
-
- More Info?
 - Visit us at www.accelatis.com

Presenters



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Objectives of the Webinar

Detail a client case study on the use of Accelatis to:

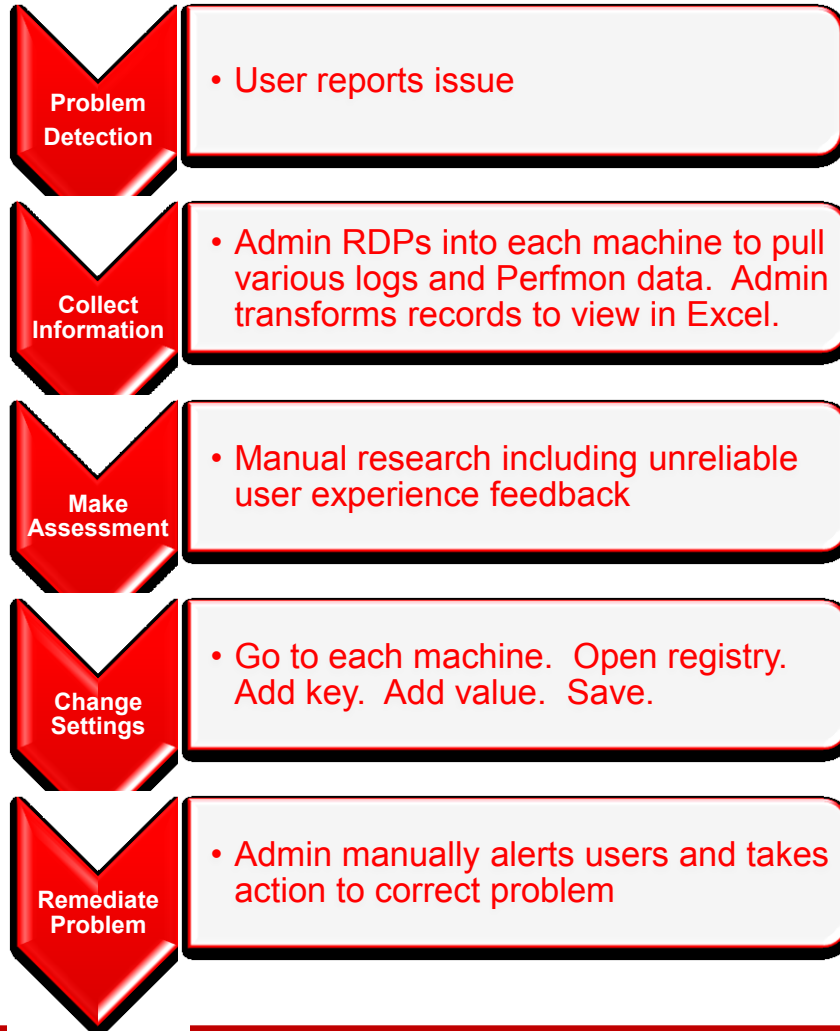
- Discuss the Hyperion Health Check process
- Review Performance degradation of the client's HFM applications
- Track User activity to isolate process bottlenecks
- Review server and infrastructure activity
- Facilitate the application review
- Assist the functional and infrastructure consultants in making Technical, Functional, and Process Recommendations to accommodate Year-End close (Short-term stabilization) and Long-term growth
- Featuring a live Demo of the Accelatis Ascension Suite Software

Monitoring and Troubleshooting

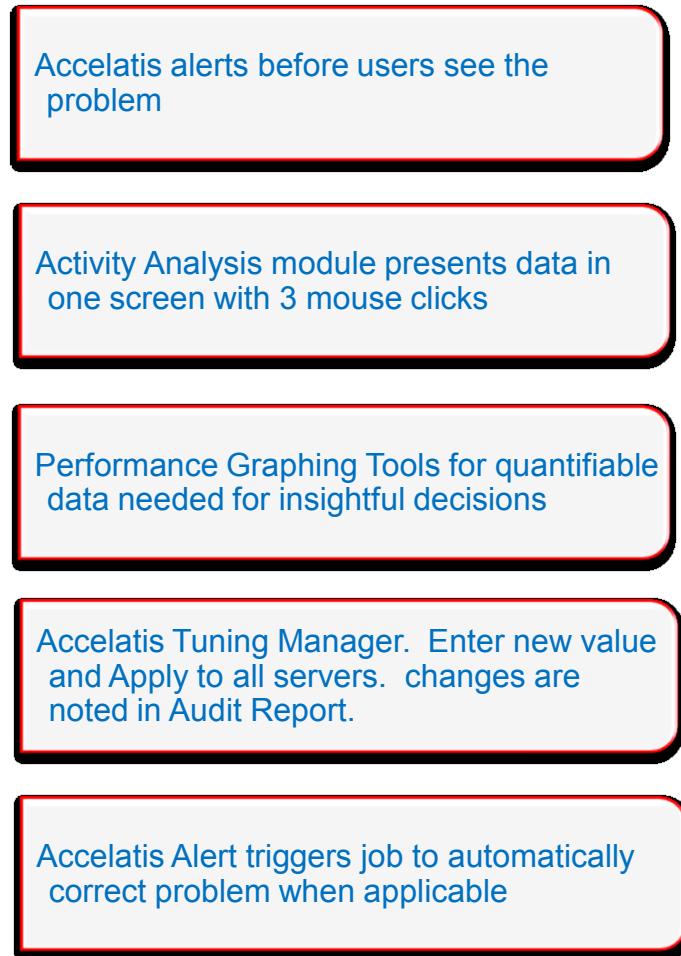
- There is no silver bullet that will tell you your problems
- Solution comes from tools and expertise

Problem lifecycle

The Old Way

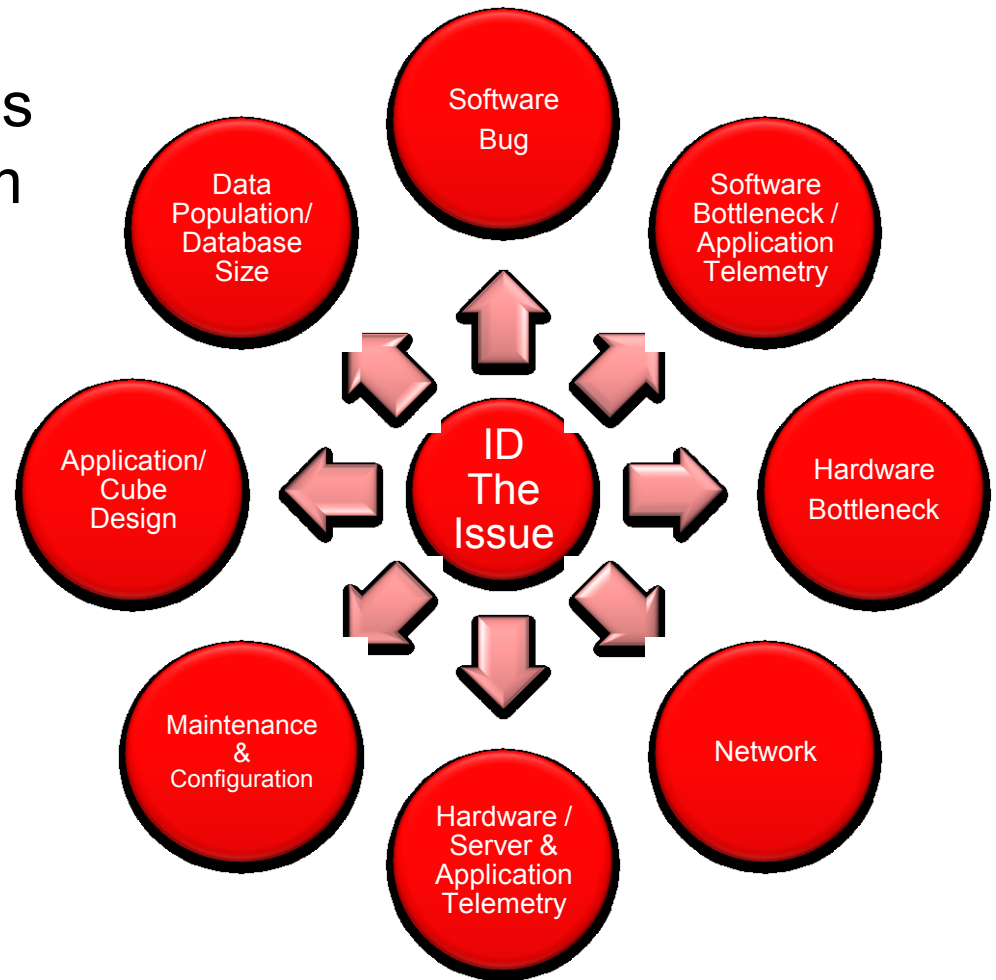


The Accelatis Way



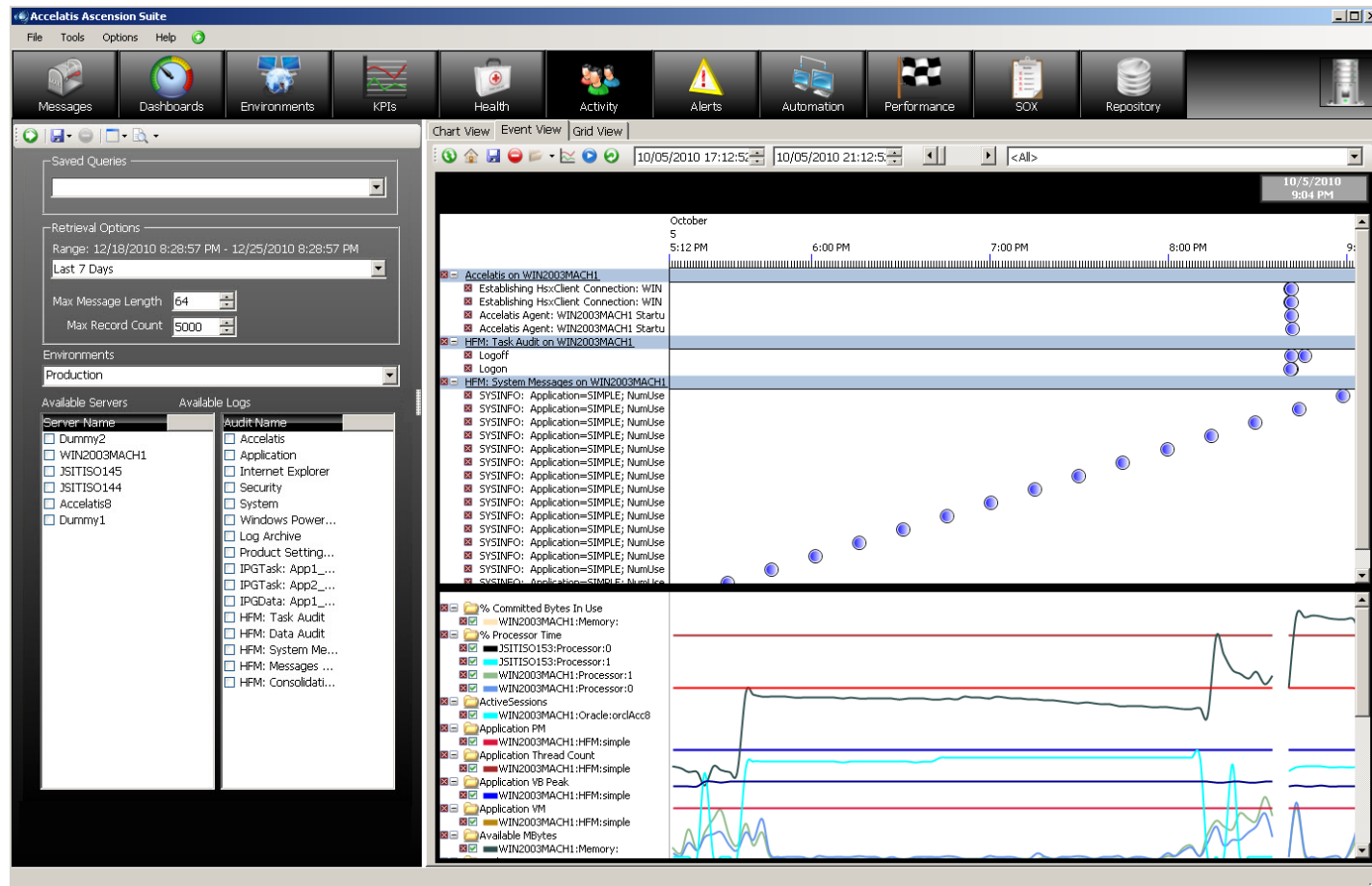
Assessing the Problem

- Problems can have many causes
- Knowing what to rule out is critical to isolating problem



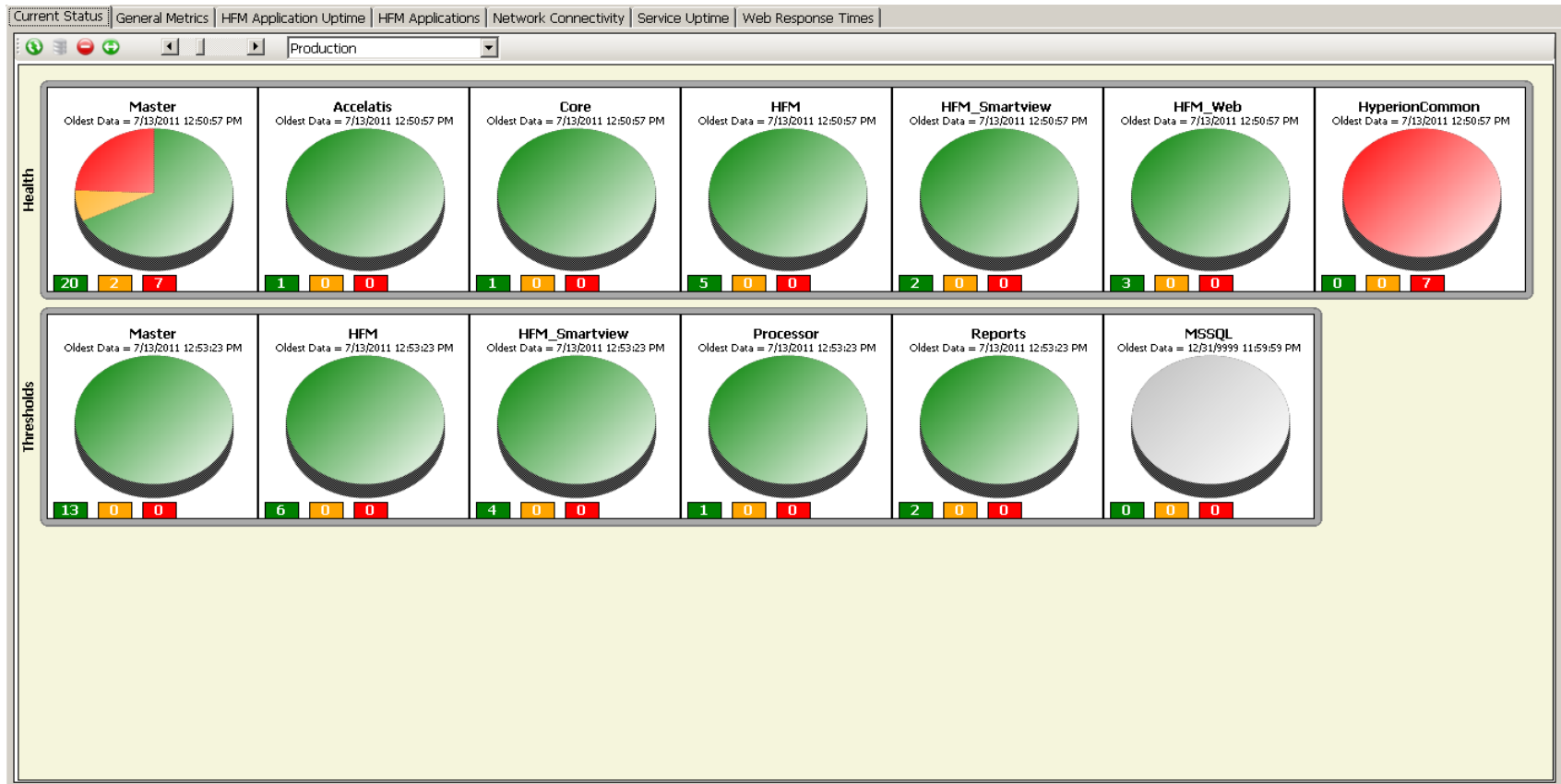
Activity Analysis

- Logs and Performance data in one screen



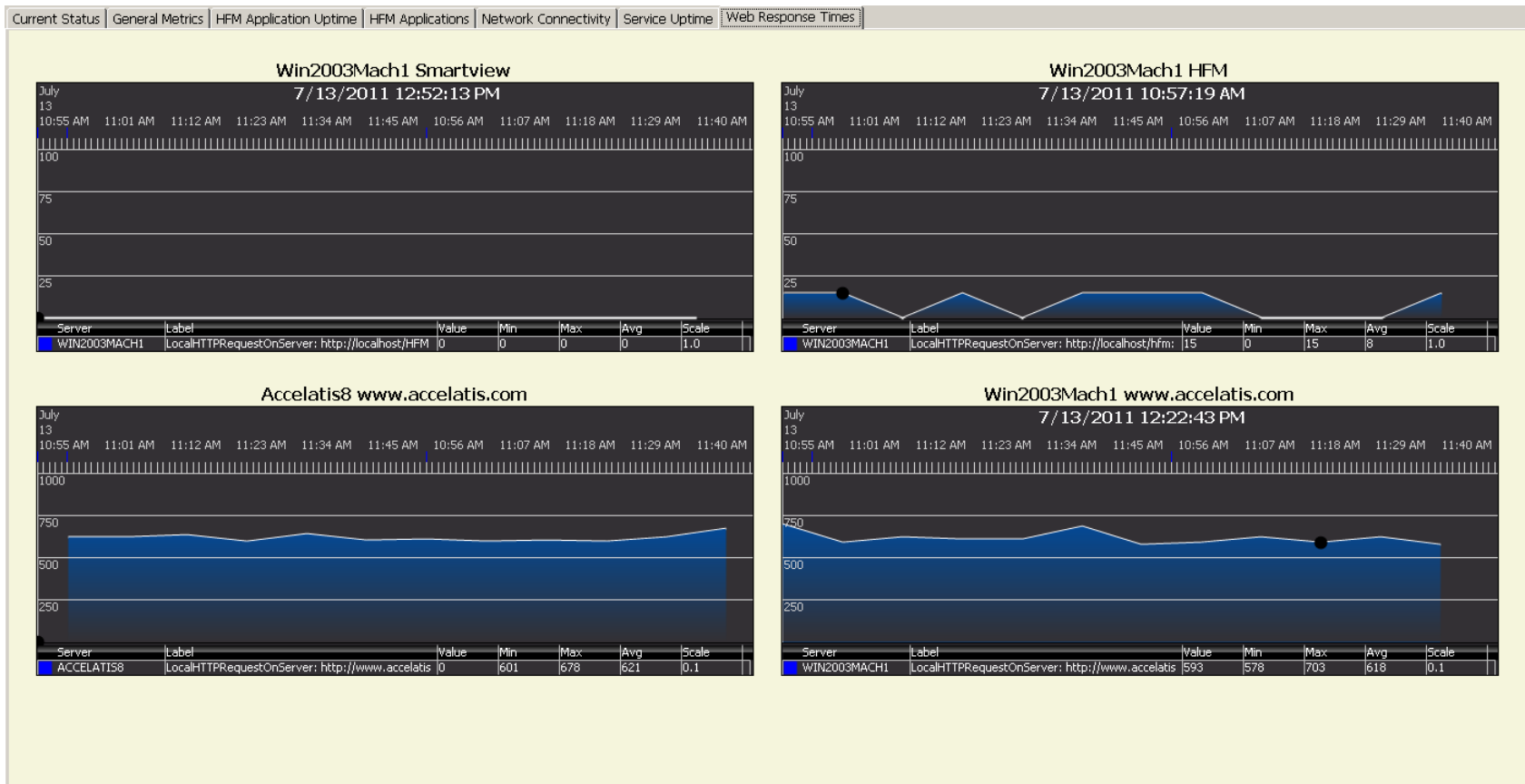
Dashboards

- At a Glance System Health



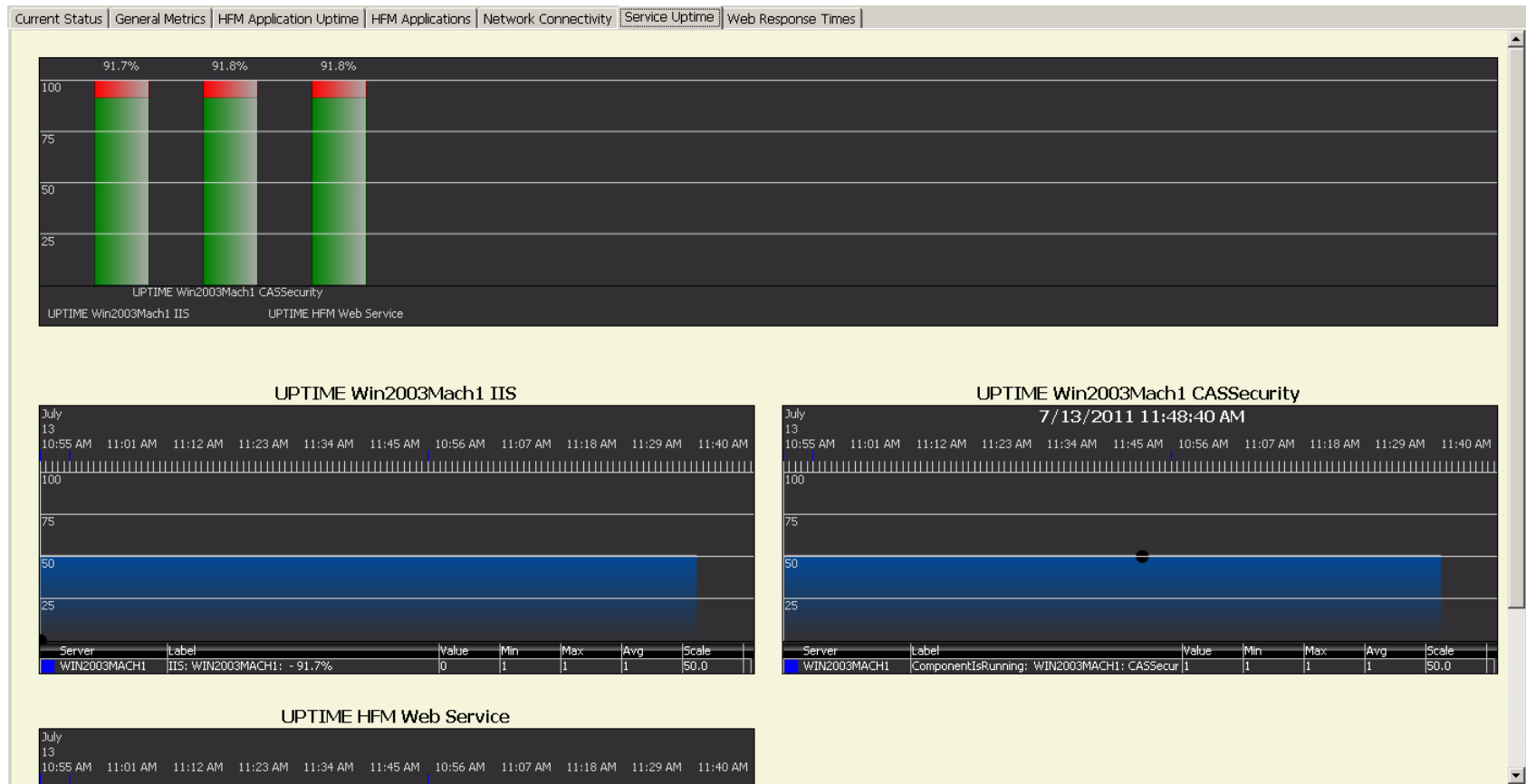
Dashboards (cont)

- Web Application Response Times



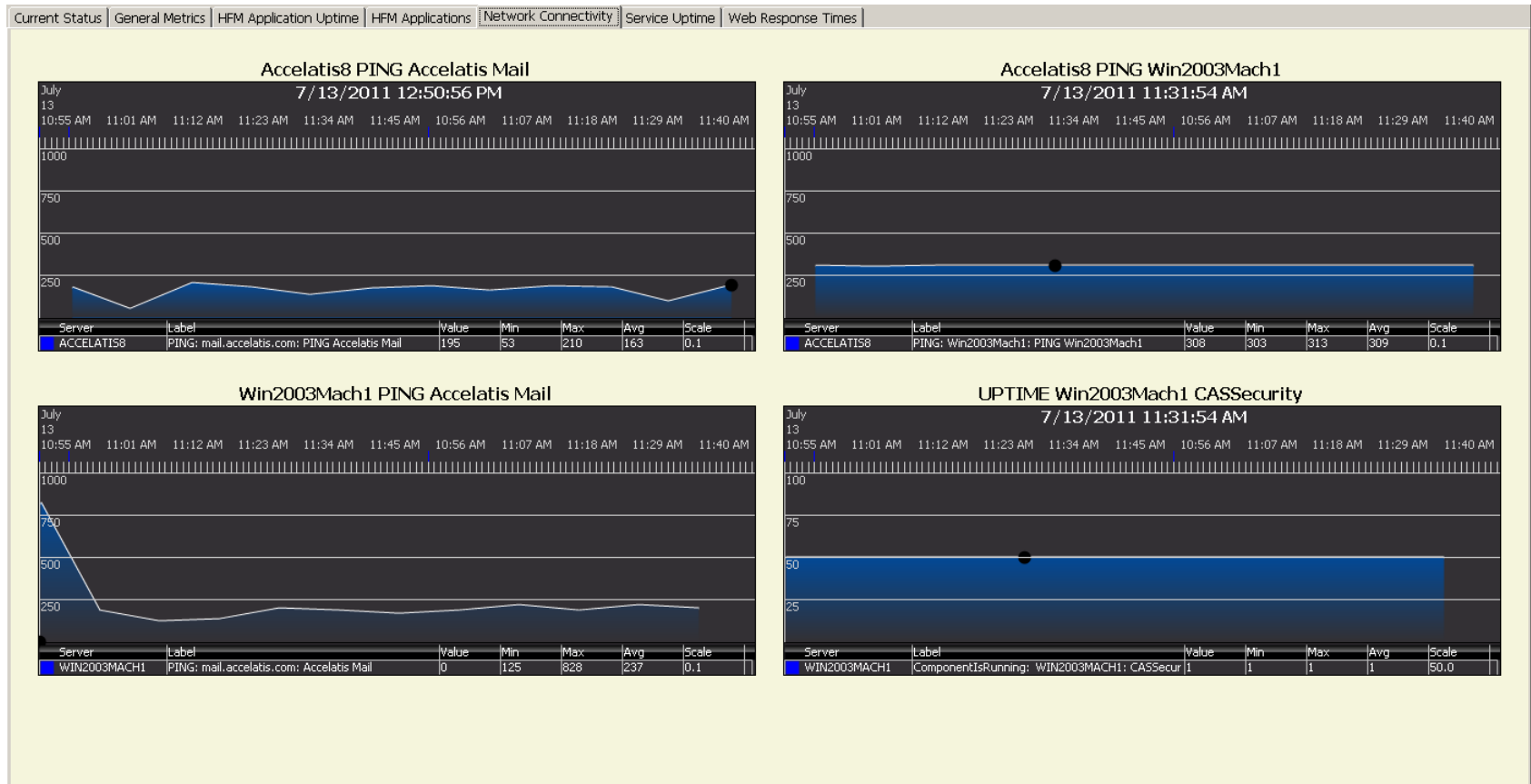
Dashboards (cont)

- Service and Component Uptime



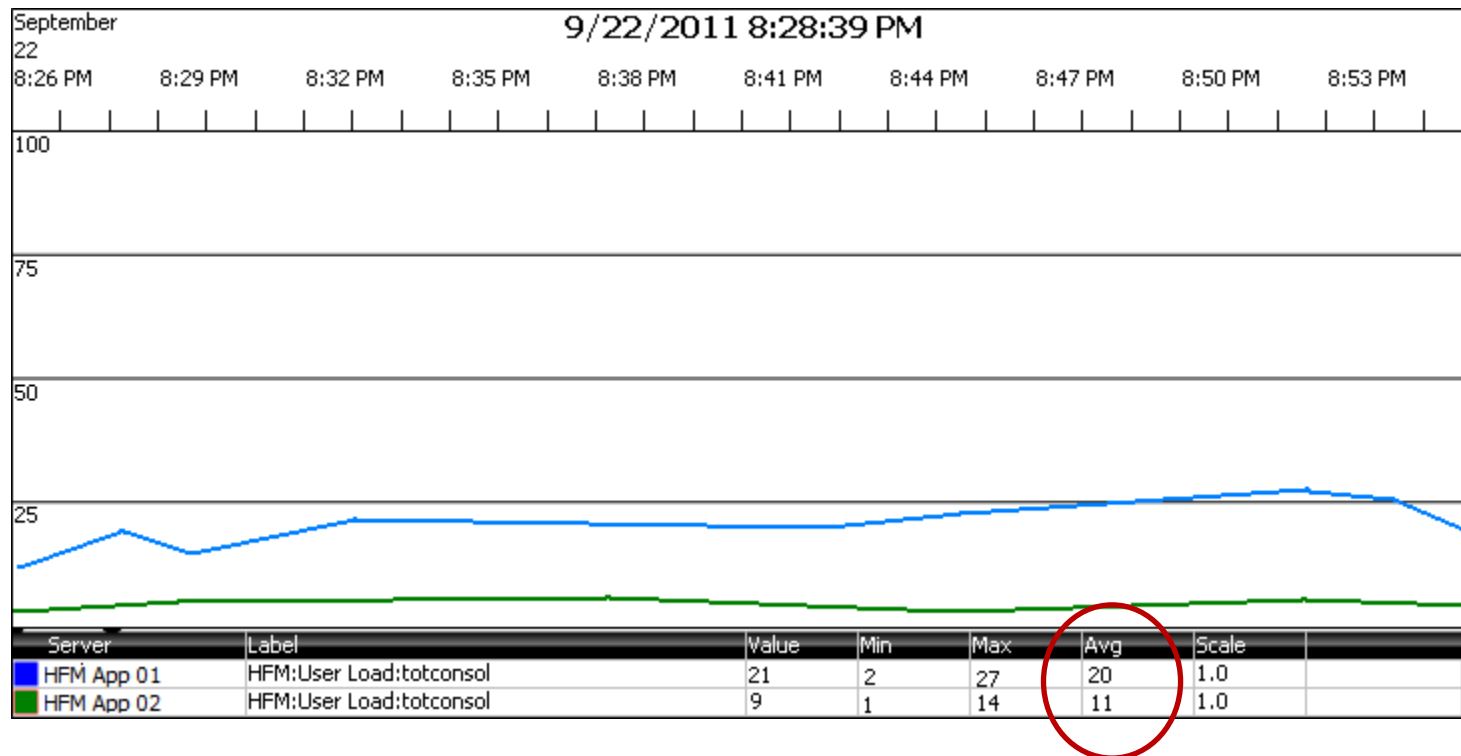
Dashboards (cont)

- Network Connectivity
 - Track history of network latency between end-user nodes and Hyperion environment



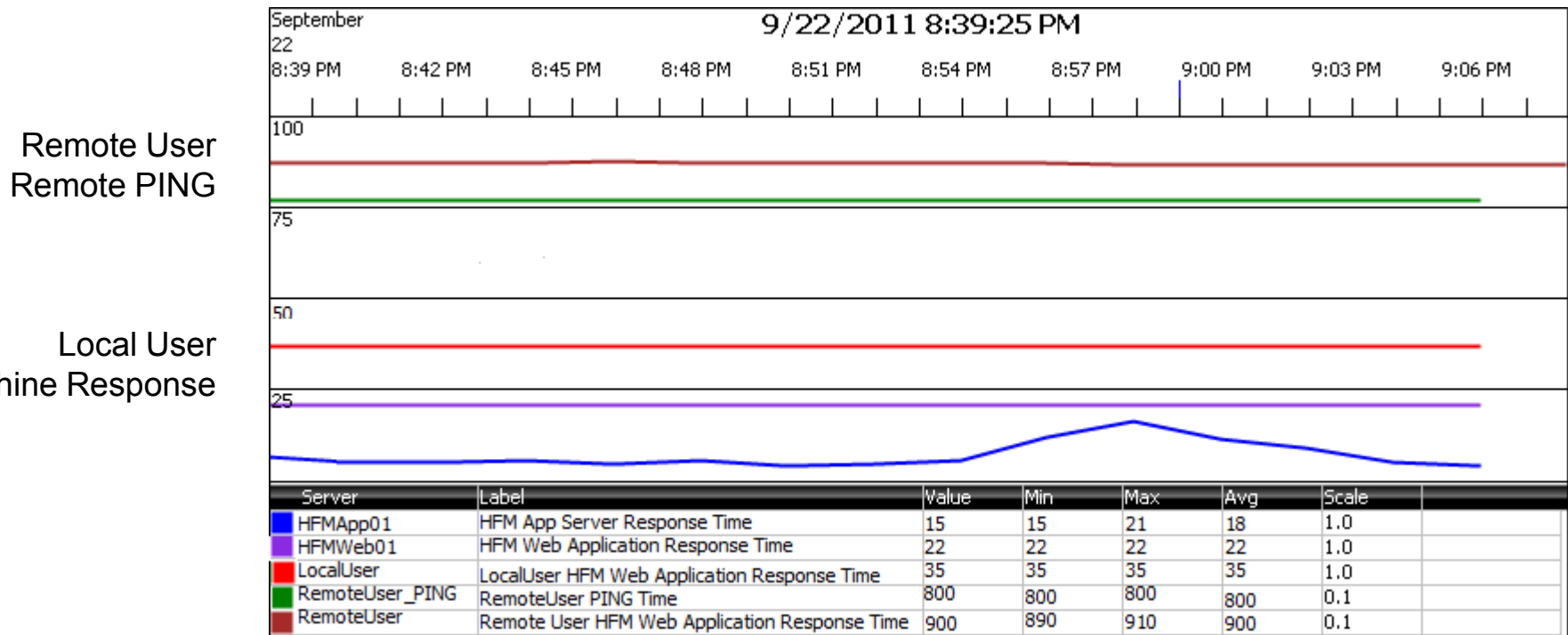
Composite Graphing Example 1

- Load Balancing issue becomes readily apparent
 - Graphing User Load metric on 2 HFM App Servers shows clear discrepancy



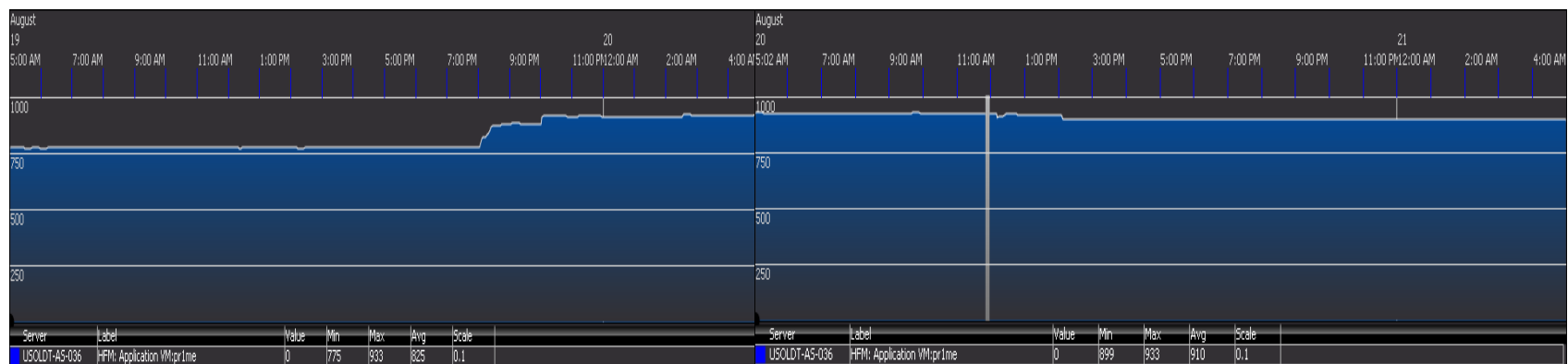
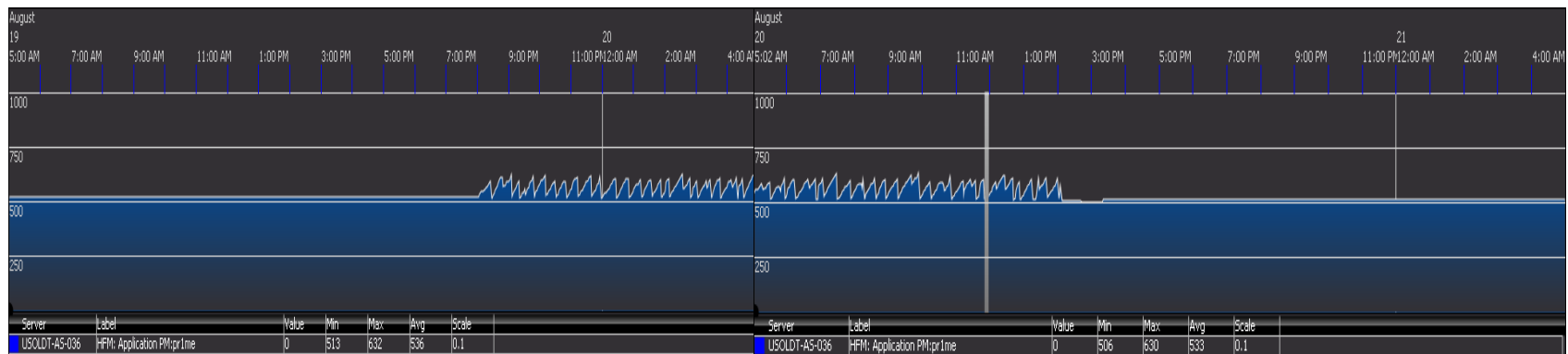
Composite Graphing Example 2

- Remote User Performance identification by isolating system layers



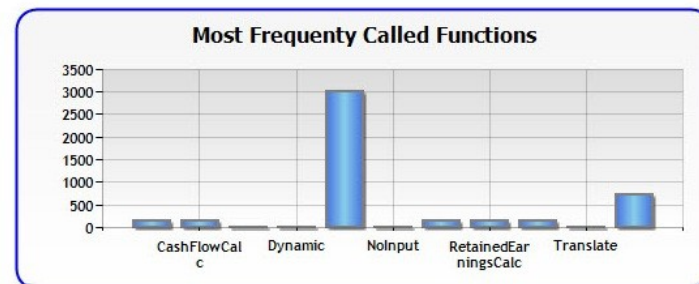
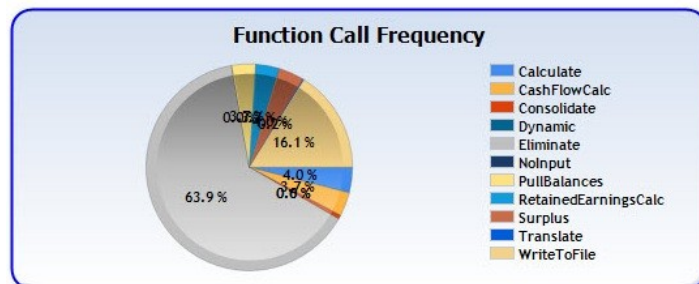
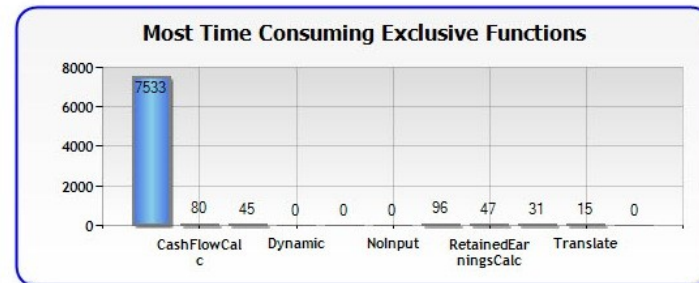
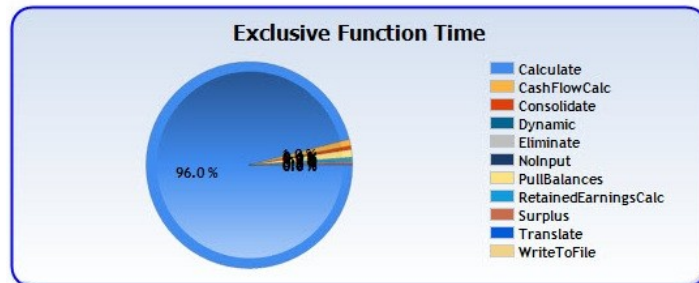
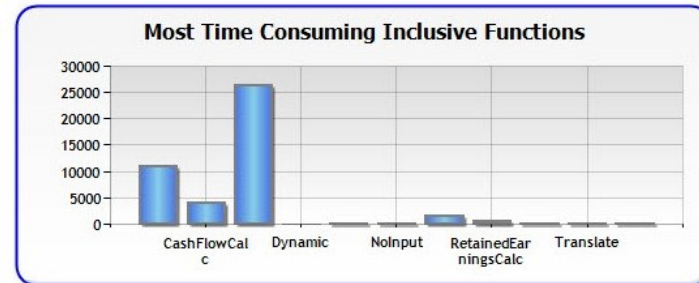
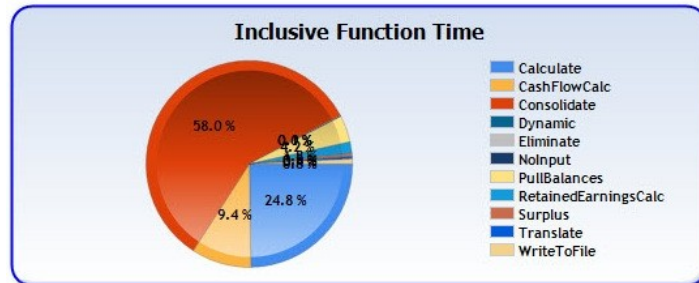
Alerting to EPM Specific conditions

- Subcube Thrashing alert get triggered
- Graphing Application VM and PM shows that FreeLRU is kicking in far too early
- Consolidation Tuning settings needed in HFM



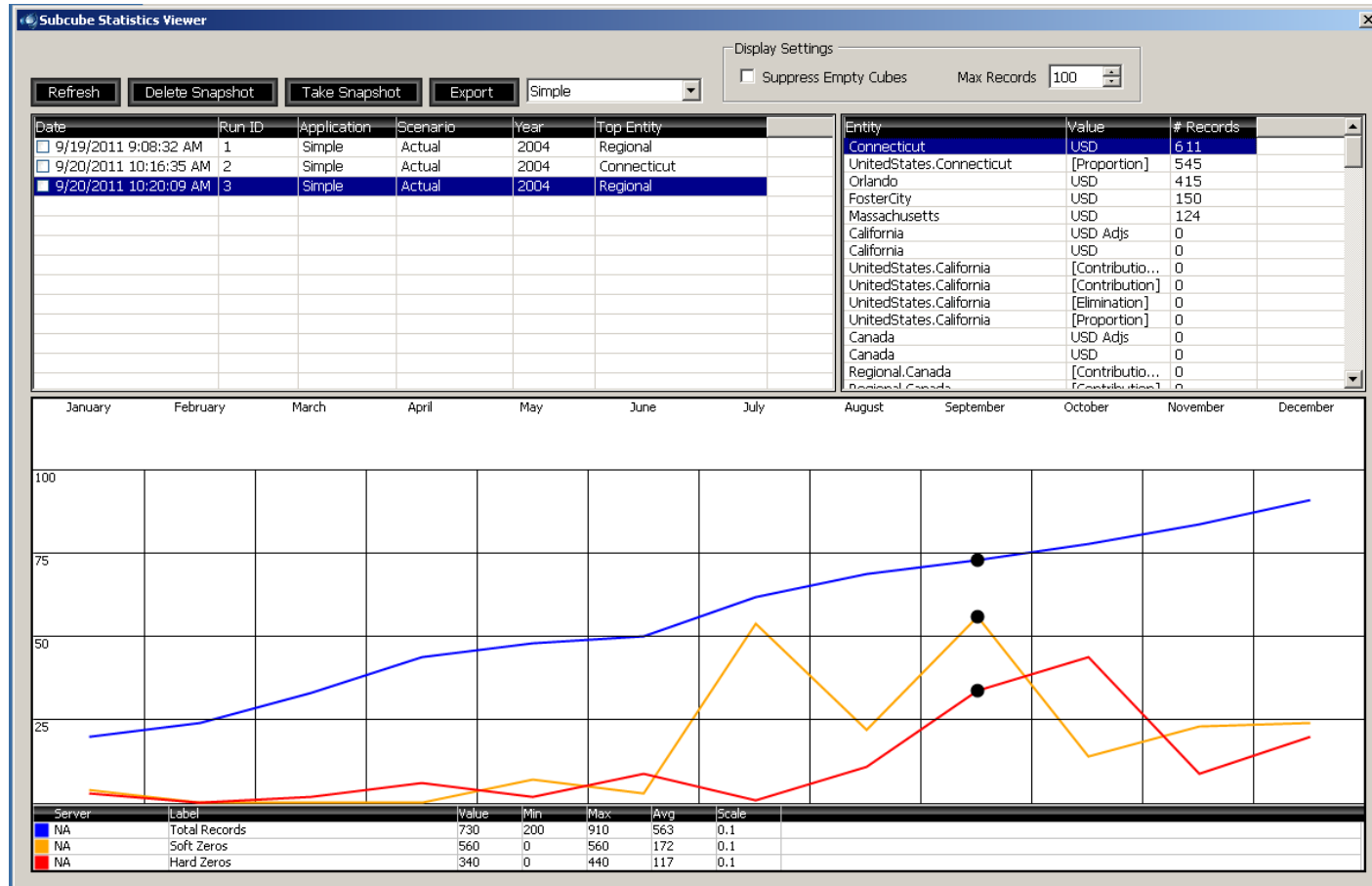
HFM Rules Profiler

- Automatically determine where the time is going



Subcube Statistics Viewer

- View data growth over time including Zeros



CLIENT CASE STUDY

Client Case Study – Information

- Canadian Energy Company - \$3+ billion in revenue
- HFM (classic) application built in 2008 on 9.3.1 / patched to 9.3.1.4
- Expanded to 7 applications over 2 years to accommodate subsidiaries
- Applications rebuilt over last year to accommodate conversion from GAAP to IFRS – bringing total of applications to 13 – 6 GAAP applications used for historical purposes only
- Started running into serious performance degradation (4 to 5 times longer for various consolidations on an intermittent basis)
- July 2011 – 15 separate instances of “freezes” of the application, causing lost work
- Moved GAAP applications (per advice by previous consulting vendor) to additional environment without adding redundancy or load balancing

Client Case Study – Health Check Review



- MindStream contracted by client in August 2011 to perform multi-fazed Health Check review
 - Infrastructure / Architecture review and recommendations
 - Application review
 - Business Process review
 - Performance Monitoring / Activity tracking through Accelatis

Client Case Study – Health Check Review



Met with various client stakeholders:

- Key business users who utilize the Hyperion applications in order to detail their close process and issues
- HFM System administrators to understand and detail the inefficiencies in the applications
- Key Infrastructure and Database personnel to understand the Network / Architecture layout
- Key business/IT stakeholders about company standards and policies to access possible pit-falls or roadblocks
- Interview team members to understand their expectations and concerns for future expansion of the Hyperion environment

Client Case Study – Application / Process Review

- Metadata is separately managed in the different applications – there is no availability of a “shared library” in this version of HFM
- During 2nd Quarter 2011 – 3 weeks in which the applications would crash on almost a daily basis (as noted above)
- Many variations of rules syntax – due to various consultants developing rules in various applications (including change from Gaap to IFRS reporting), there are various methods in which the business rules were written, even to accomplish the same results. In some cases, rules were copied from one application to another. This makes maintenance in the applications extremely difficult to manage.
- Rules not working – various rules either don’t work or only work some of the time (due to various process and system issues) and are considered very inefficient for their purpose.
- Journals for Corp – approx 160-170 per month – don’t usually get pushed back to G/L

Client Case Study – Client Case Study – Application / Process Review



- Tasklists are not monitored by HFM administrator – various processes for various users (even within the same applications)
- Process Management – only 1 review level – not really working correctly now – need to have at least 2 review levels to make Process Management work effectively
- Smartview – Used to load data for Budget, Credit Rating, Business Plan Yr – big spreadsheet (BS, CF, PL, IC) – difficult to maintain / Noise spreadsheet does work effectively if not efficiently (1 min per spreadsheet to load)
- Subsidiaries have 6 days to load data. IFRSCORP starts consolidating on Day 5 – Days 5 and 6 are the busiest application usage days
- FDM has 22 locations in Corp alone – Little visibility to Corp Admin when Data Loads are completed

Client Case Study – Future Expectations



- Will dramatically increase in the future due to acquisitions
- New system needs to be scalable
- Will likely be using Planning for budgeting based on HFM data
- EAL (Essbase Analytics Link for HFM) or EA (Extended Analytics) will be used for data movement between HFM and Essbase
- Planning/Reports power and redundancy is preferable to a separation of modules

Client Case Study – Infrastructure Review



- Production Environment Architecture
 - 2 servers that support the Hyperion application
 - RS205 hosts Foundation Services (Shared Services)
 - RS206 hosts the Application server
 - Servers run Windows Server 2003 operating system, multiple cores, and expansive memory
 - The Database Server runs on Unix Solaris 10, with an Oracle Relational Database store for Hyperion
 - Hosts 7 concurrent applications
 - Test environment hosts 6 archived “GAAP” applications
 - No Load Balancing or Redundancy
 - Nightly “Full” backups / restarting of servers – due to issues

Client Case Study – Health Check Review



- Installed Accelatis agents on Application servers in mid-August, 2011 for a 30 day period to evaluate:
 - Application Server activity (memory, CPU, threads, handles)
 - Application User activity (Logon/Logoff, Data Retrieval, Consolidations, Journal Activity, etc.)
 - Application metrics (Metadata Count)
 - System Health Checks

Client Case Study – Accelatis Tracking

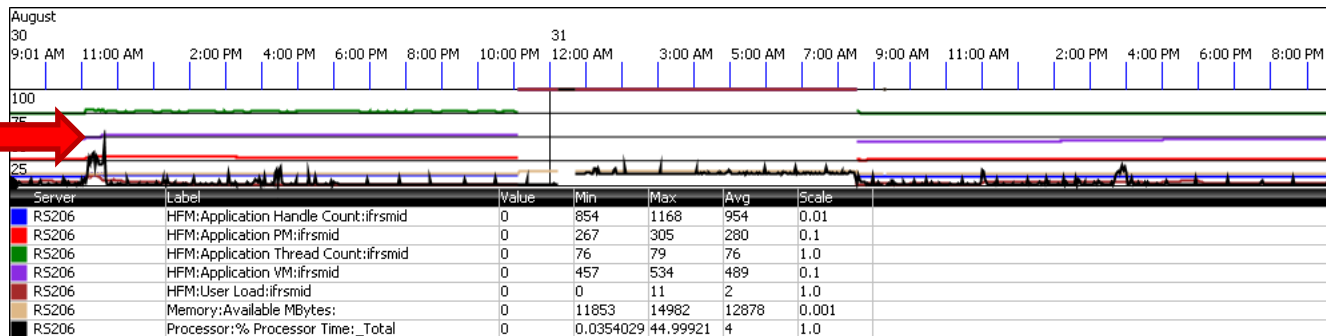
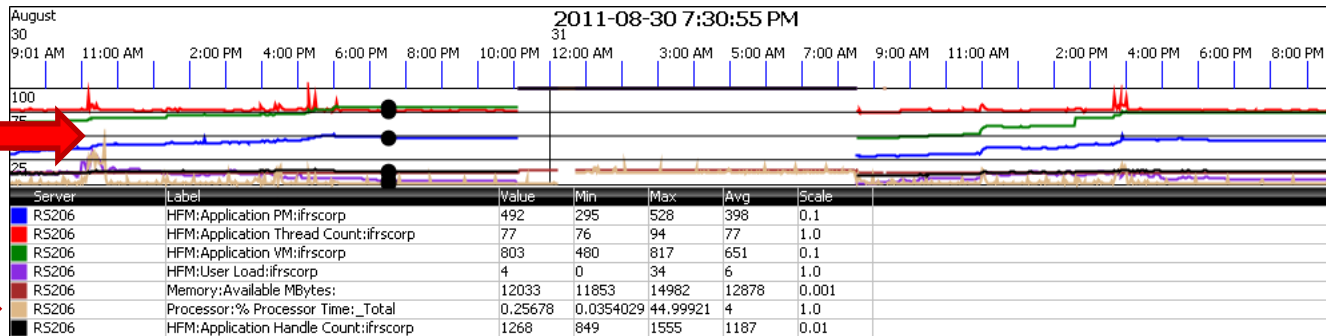
Initial Simulated testing with the user base resulted in the following:

Server Activity

- Application Virtual Memory – performing within normal limits
- Application Physical Memory – performing within normal limits
- Application Handles – performing within normal limits
- Application Threads – performing within normal limits
- SubCube thrashing – performing within normal limits
- **Total CPU - was spiking for the duration of that consolidation**
- **DCOM errors were tracked – created lost user sessions / system freezes:
Led to discovery that TCP Chimney Off-loading was incorrectly enabled**

Client Case Study – Accelatis Tracking

- CPU processing was spiking during consolidations
- Not maxing out – but enough create 3-5 x latency



Client Case Study – Accelatis Tracking

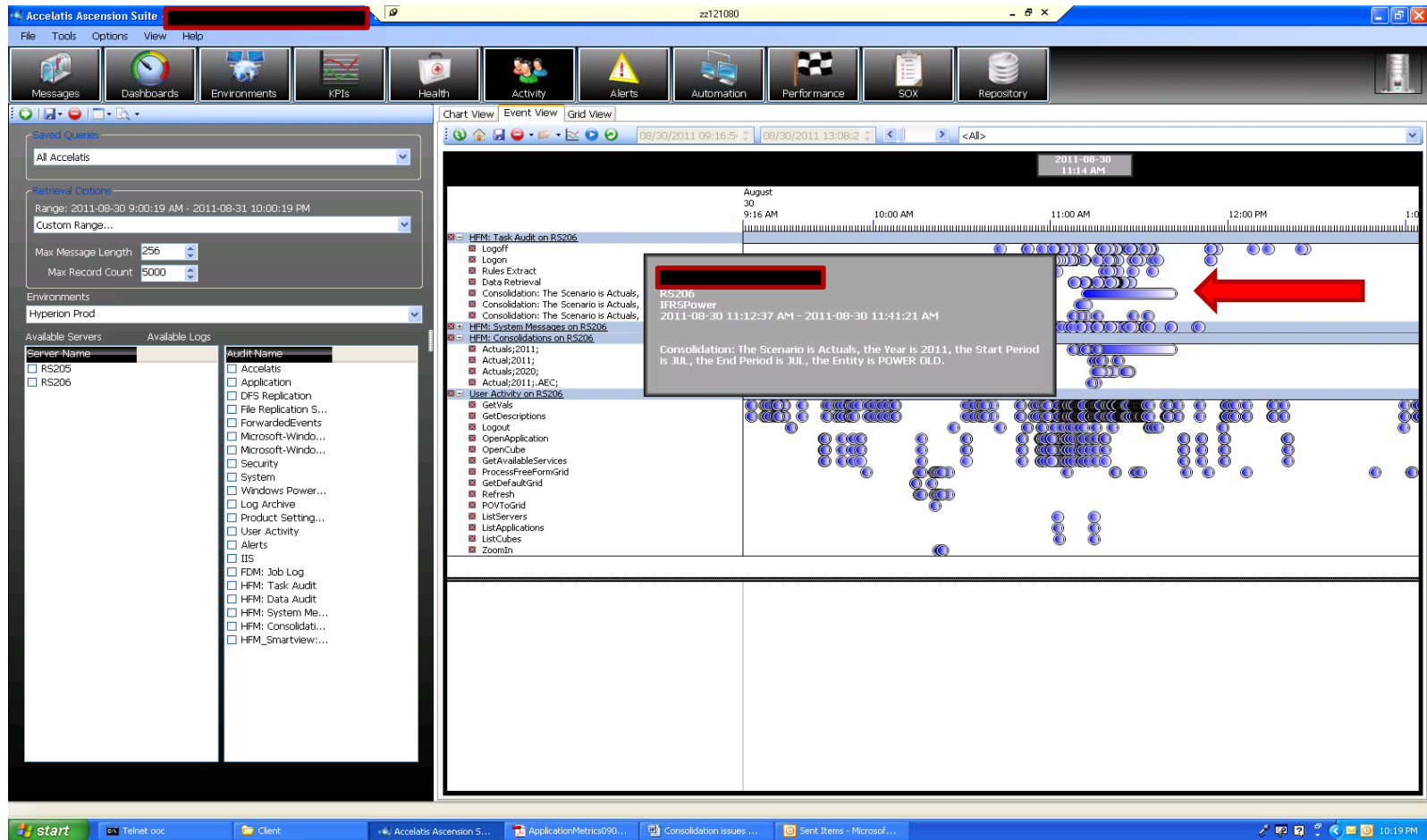
Initial Simulated testing with the user base resulted in the following:

Task Activity – concurrent activity amongst multiple applications

- Journal postings
- Consolidations
- Data retrievals (using data forms or grids)
- Multiple Logoff / Logon sequences
- Extract sequences (Rules, Metadata, etc.)

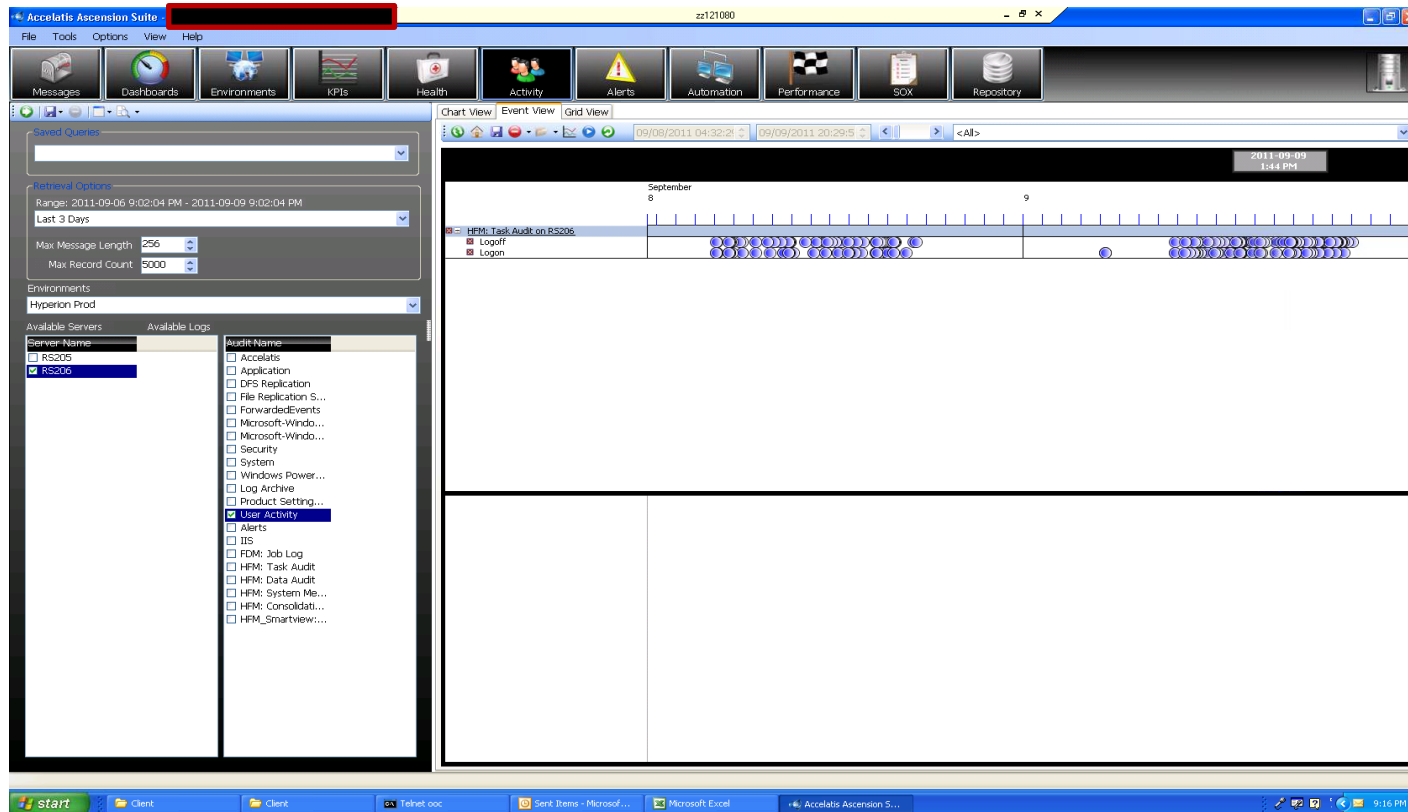
Client Case Study – Accelatis Tracking

- Consolidation Performance Degradation – 7 min to 35 min
- Significant as multiple consolidations per day per application



Client Case Study – Accelatis Tracking

- There are a tremendous amount of Logoff / Logon sequences going on in a very short period of time, many times the same user logging off and back on in quick succession



Environment metrics

- Application Metadata Statistics
- Helped determine major differences between the applications and decentralized maintenance of metadata

Environment Elements	Status
Server Groups	
EPM Foundation	
RS205	OK
EPM Web App	
RS206	OK
HFM Applications	
IFRSPower	Running
IFRSStruct	Running
IFRSMid	Running
IFRSASL	Running
IFRSCorp	Running
IFRSElect	Running
Ungrouped Servers	

Property	Value
Misc	
Version	unavailable
Entity Statistics	
TotalEntityMembers	545
TotalEntityDistinctMembers	145
TotalEntityBaseMembers	380
TotalEntityDistinctBaseMembers	73
TotalEntityParentMembers	165
TotalEntityDistinctParentMembers	0
Account Statistics	
TotalAccountMembers	1330
TotalAccountDistinctMembers	1043
TotalAccountBaseMembers	992
TotalAccountDistinctBaseMembers	777
TotalAccountParentMembers	338
TotalAccountDistinctParentMembers	0
Custom1 Statistics	
TotalCustom1Members	11
TotalCustom1DistinctMembers	10
TotalCustom1BaseMembers	9
TotalCustom1DistinctBaseMembers	8
TotalCustom1ParentMembers	2
TotalCustom1DistinctParentMembers	0
Custom2 Statistics	
TotalCustom2Members	4
TotalCustom2DistinctMembers	3
TotalCustom2BaseMembers	3
TotalCustom2DistinctBaseMembers	2
TotalCustom2ParentMembers	1
TotalCustom2DistinctParentMembers	0
Custom3 Statistics	
TotalCustom3Members	3
TotalCustom3DistinctMembers	2
TotalCustom3BaseMembers	2
TotalCustom3DistinctBaseMembers	1
TotalCustom3ParentMembers	1
TotalCustom3DistinctParentMembers	0
Custom4 Statistics	
TotalCustom4Members	329
TotalCustom4DistinctMembers	328
TotalCustom4BaseMembers	265
TotalCustom4DistinctBaseMembers	264
TotalCustom4ParentMembers	64
TotalCustom4DistinctParentMembers	0

Client Case Study – User Monitoring

Accelatis settled a discrepancy between Finance and IT:

- System Administrator noted there are concurrent users of 50-65 at peak periods logged-onto the environment
- The Business claims there are no more than 30 users, most of who are not in the environment performing HFM tasks during the time that Corporate is performing their close tasks (Day 5 and 6).
- **Upon review of the Accelatis monitoring logs during the Day 5 and 6 of the financial close, there were no more than 25 concurrent users at any single period of time. However, there were multiple sessions / tasks going on with the same users, creating the look of 50+ concurrent sessions, which can indicate that there are issues with sessions hanging or becoming idle.**

Client Case Study – User Monitoring

- **IN THE END – BOTH WERE RIGHT, WHICH LED TO THE CONCLUSIONS:**
- There was no easy way to decipher processes from true User activity
- There is little communication between the system administrator and the business (including business HFM administrators)
- Undisciplined processes were creating issues with performance
- There were many idle sessions that weren't being logged-off
- There are too many applications on one application server without any redundancy

Client Case Study – Recommendations

- **Accelatis helped MindStream recommend the following changes:**
- Application - Upgrade to System 11
 - Based on Metadata analysis, to allow conversion to EPMA to streamline metadata management and improve the process / and streamline the number of applications
 - To implement Lifecycle management for utilizing a pure “Test” environment
 - Utilize Calculation Manager to build component rules that can be used across applications – synchronize syntax
- Process Changes
 - Reduce level of granularity needed for reporting – specifically Accounts
 - Process for Posting of Journals – how many are needed in HFM
 - Evaluate how many Consolidations are performed in the applications and work with subsidiaries to make the consolidation process efficient
 - NEED TO ESTABLISH BETTER COMMUNICATION CHAIN BETWEEN CORPORATE AND SUBSIDIARIES
- Environment
 - Add redundancy to application server
 - Disable TCP Chimney off-load setting for Windows – this was an immediate update that was performed during the review – eliminated DCOM errors
 - Eliminate nightly full backup / restart process

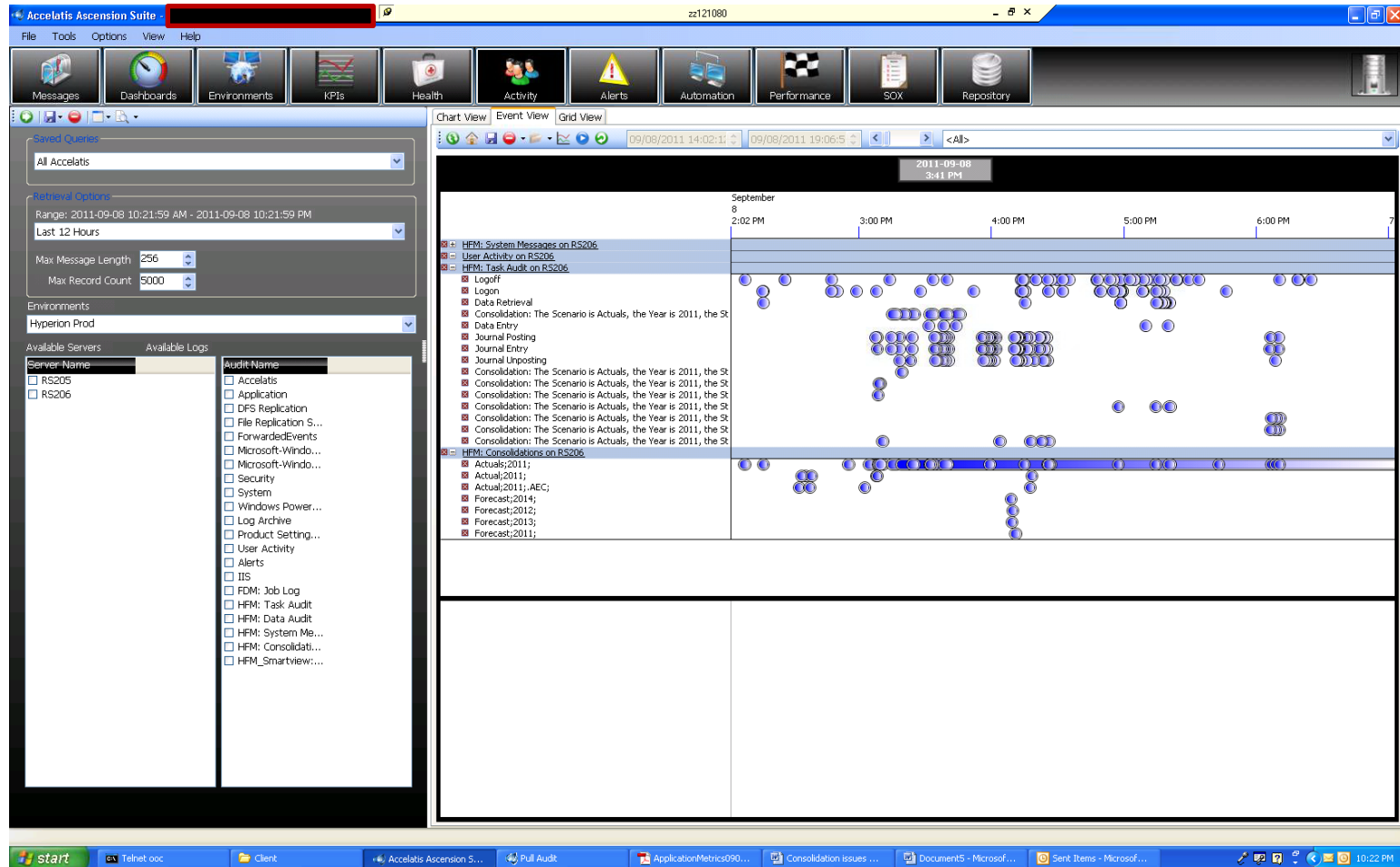
Client Case Study – Recommendations

Enable Accelatis permanently and setup the following:

- Database Monitoring
- Server Metrics Checks (KPIs)
- Alerts for hitting various Server / Activity Thresholds
- Environment / Application Statistical Monitoring
- Automation – maintain logs, perform extracts, purge zeros
- Perform Health Checks
- Generate Key Metric Reports and Dashboards
- Setup Remote Performance Client – tracking Network activity / Performance response time from user location

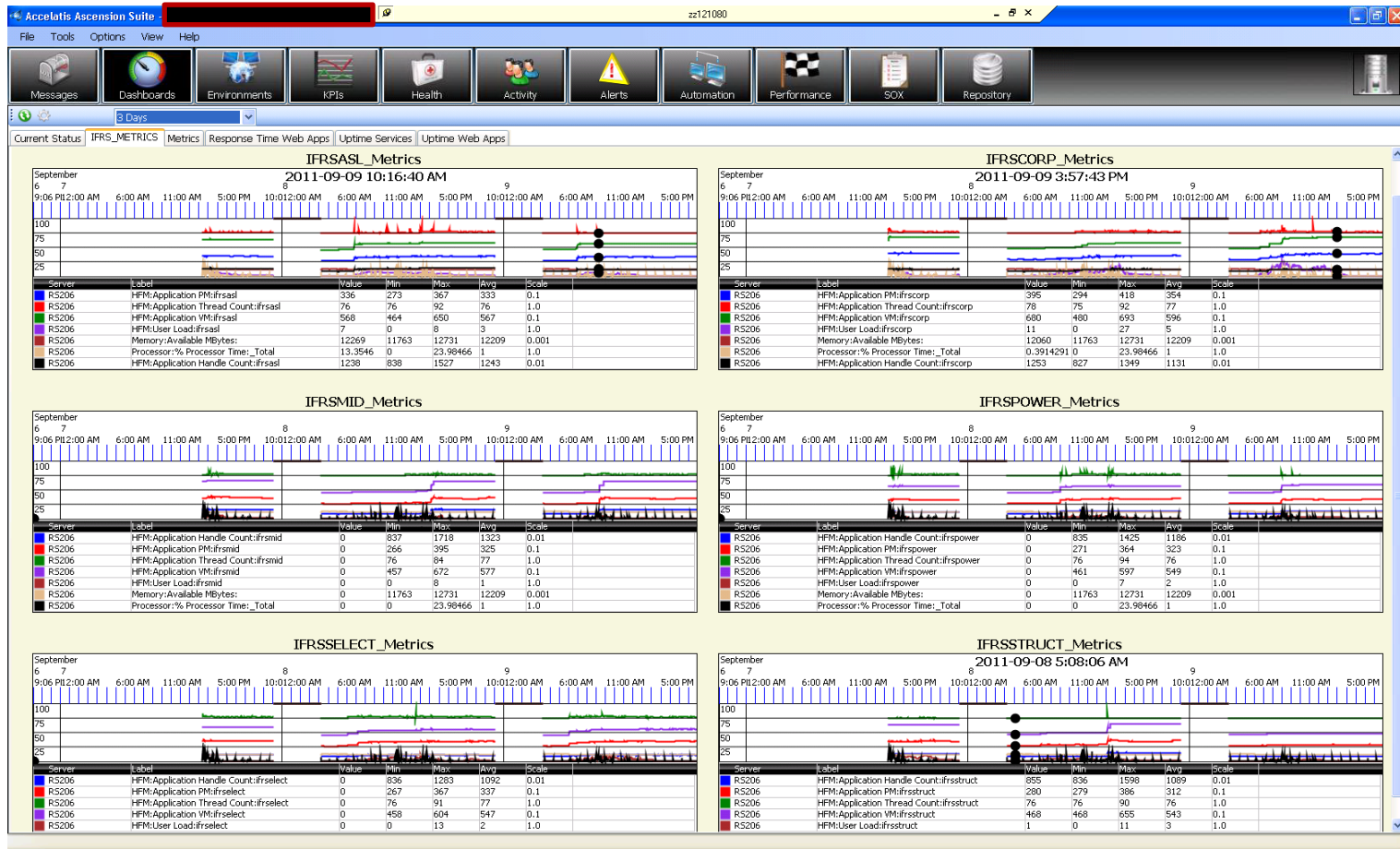
Performance Measurement

- Consolidation Performance stabilized after disabling of TCP Chimney



Performance Measurement

- Server Metrics after disabling of TCP Chimney



Demonstration



Thank You !

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