

Crossing the Chasm from Business Needs to Resource Requirements

Motti Tal, EVP Marketing and Business Development – OpTier
Joe Rich, Director of Strategic Alliances - TeamQuest



Agenda

- The Problem and Challenge
- A Combined Solution for Business-driven Capacity Planning and Performance Management
 - Overview
 - OpTier
 - Business
 - Products
 - TeamQuest
 - Business
 - Products
 - The Partnership
 - Integration
 - Value Proposition
- Summary

The Problem

Goal : It is imperative that businesses achieve desired service quality, and infrastructure availability at all times.

- There is a disconnect between business needs and the IT resources necessary to meet those needs
- Difficult/impossible to translate business metrics into IT resource metrics
- No effective methods for accomplishing the end goal described above
- Performance management is currently a disjointed view due to the lack of end-to-end cross-stack visibility

Challenges

Customers are facing challenges such as:

- “How can we map growth in business activity “x” to specific IT resources requirements?”
- “With our upcoming infrastructure changes, how can we assure transactions will meet their SLAs?”
- “How can we map current infrastructure allocation to our new virtualized and shared environment?”
- “How do we know the precise business impact of system resource availability issues?”
- “Performance problems need to reoccur 3 times before we can diagnose them ...and take too many people and too much time to resolve...”

Business Drivers

- Ensure infrastructure and service availability
- Assure the system will meet the customer's required service levels (SLAs)
- Achieve cost savings through optimized capital expenditure
- Optimize IT processes by implementing best practices such as ITIL

Business Driven Service Management

- Combines OpTier's cross-tier transaction visibility with TeamQuest's monitoring and modeling capabilities
 - Offers the first transaction-based capacity planning and performance tuning solution
 - Maps business requirements to capacity planning projects directly – no more guesswork
 - Provides a tight link between business needs and IT expenditures
 - Helps predict and measure the business impact of infrastructure & application consolidation and virtualization
 - Offers a complete end-to-end cross-stack performance management solution.

About OpTier™

Innovator in Transaction Workload Management solutions whose products assure IT business service levels and optimize resources for the enterprise

- Produces software that is deployed across IT infrastructure; auto-maps and manages IT transactions
- Proactively ensures that IT delivers best quality of service, aligned with business needs



The Missing Layer in the IT Management stack

End User
Business
Transactions



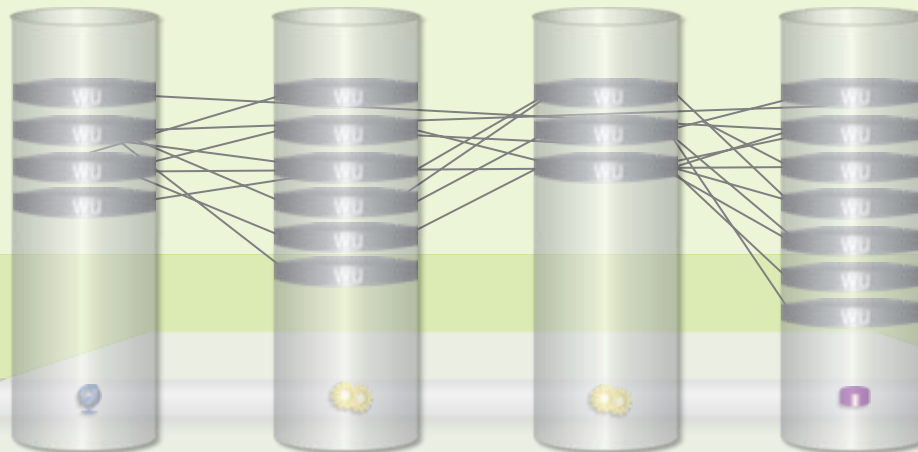
- Business Context

Cross Tier
Business
Transactions



- Transaction flow
- Transaction context

Applications



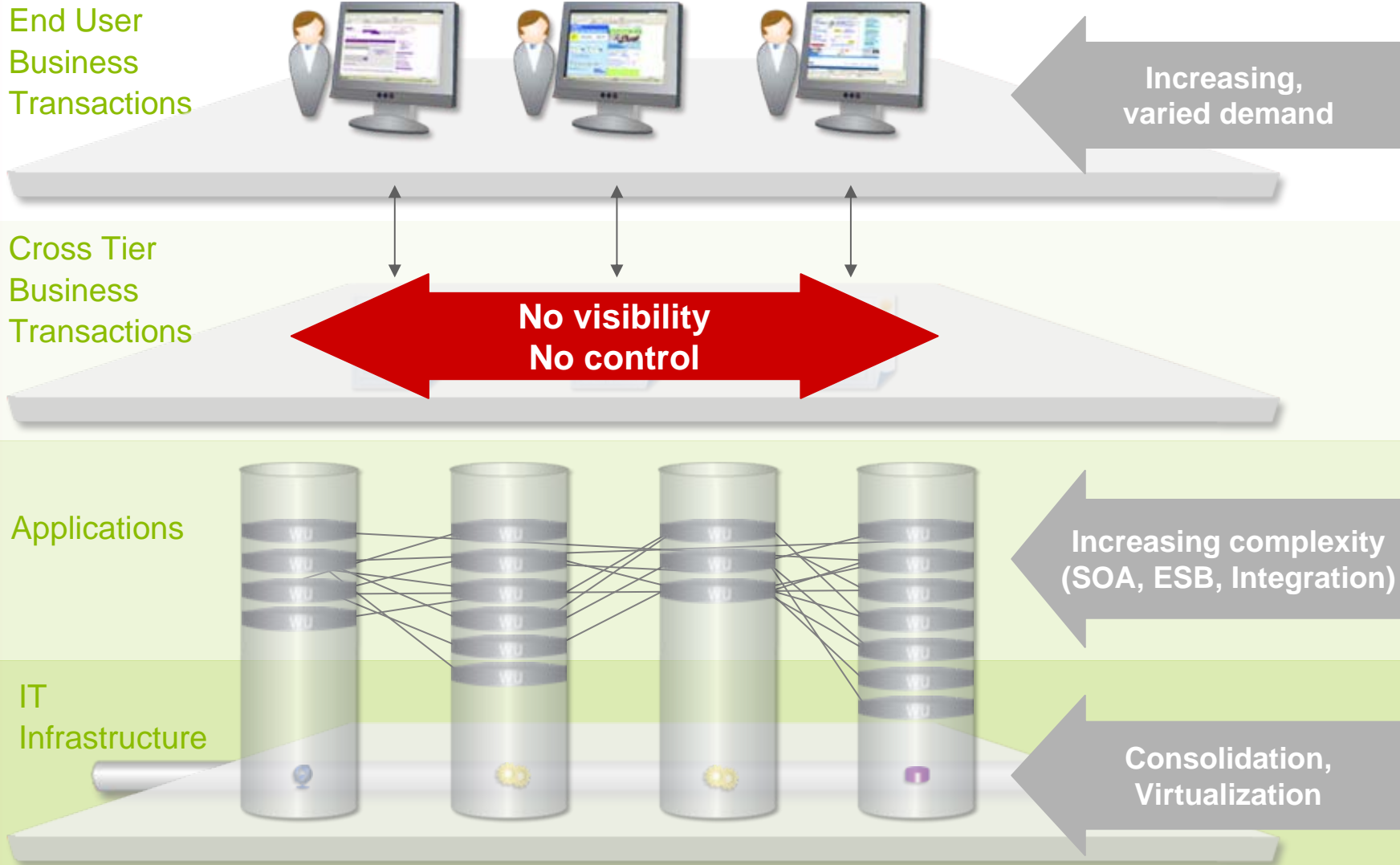
- Application components
(programs, EJBs, SQLs...)

IT
Infrastructure



- Servers, Databases,
OSs, Networks...

The Missing Layer in the IT Management stack



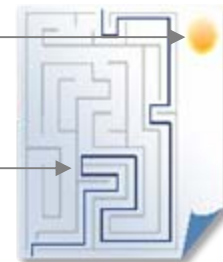
Solution - focus on the Transaction

- Transactions are instances of:

The end-to-end task or service that an application provides to a user (i.e., account balance query, ATM withdrawal, stock trade or inventory update)

- A transaction has:

- A unique business context
- A path composed of a set of IT components (i.e., Java beans and database queries) that work together across multiple tiers to perform the task or deliver the service to the user



- * Tier specific components (such as EJBs, SQL statements) are not the end to end transaction, they are components of it.

Delivering end-to-end Transaction Workload Management

- **Auto-discover, monitor, track and profile transactions across tiers**
 - Clearly map IT business service topology and monitor service SLAs
 - Pinpoint issues and accelerate problem resolution in QA/production
 - Accelerate business impact analysis
 - Improve performance, capacity planning & provisioning
- **Dynamically control transaction resource allocation in-flight**
 - Enforce an operational fair-share safety-net
 - Protect core business services and users from service degradation
 - Deliver more from current and future IT infrastructure with business-driven optimization

Example use case – an eBanking scenario

IT SERVICE OPTIMIZATION

Analytics

Back-office daily analytics query



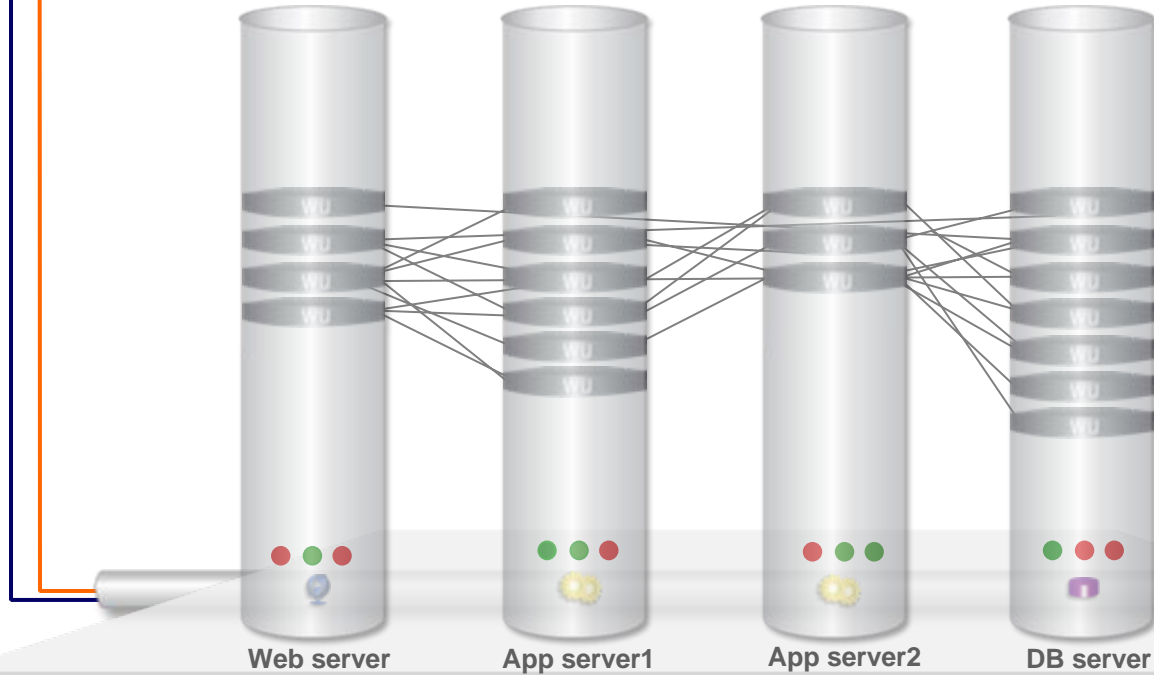
Performs better than SLA

Account Info

Customer account inquiry



Fails to meet SLA



?
?
?
WHY?
?
WHERE?
?
?
Infrastructure Service Indicators

CoreFirst – tracking transactions

Analytics

Back-office daily analytics query



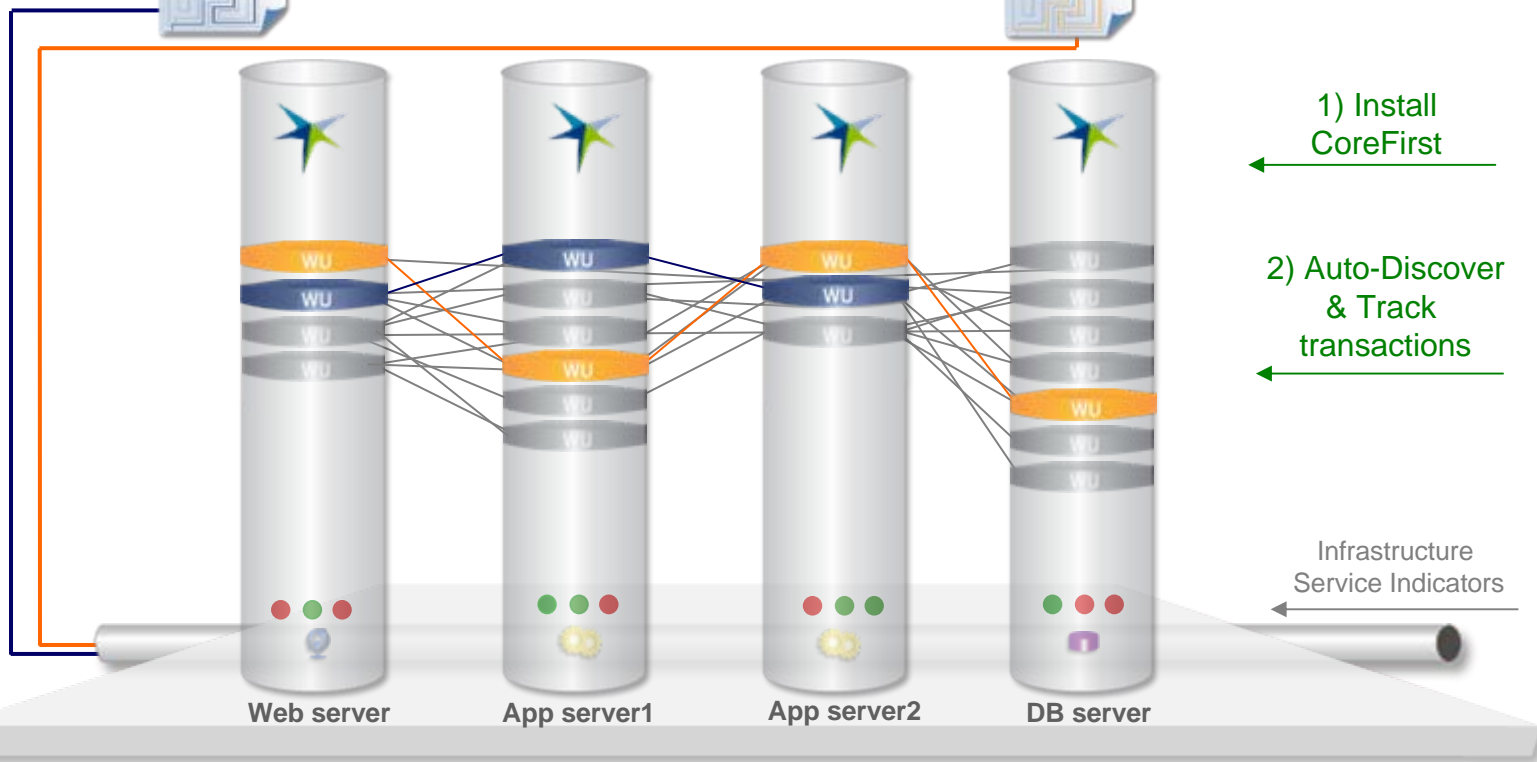
Performs better than SLA

Account Info

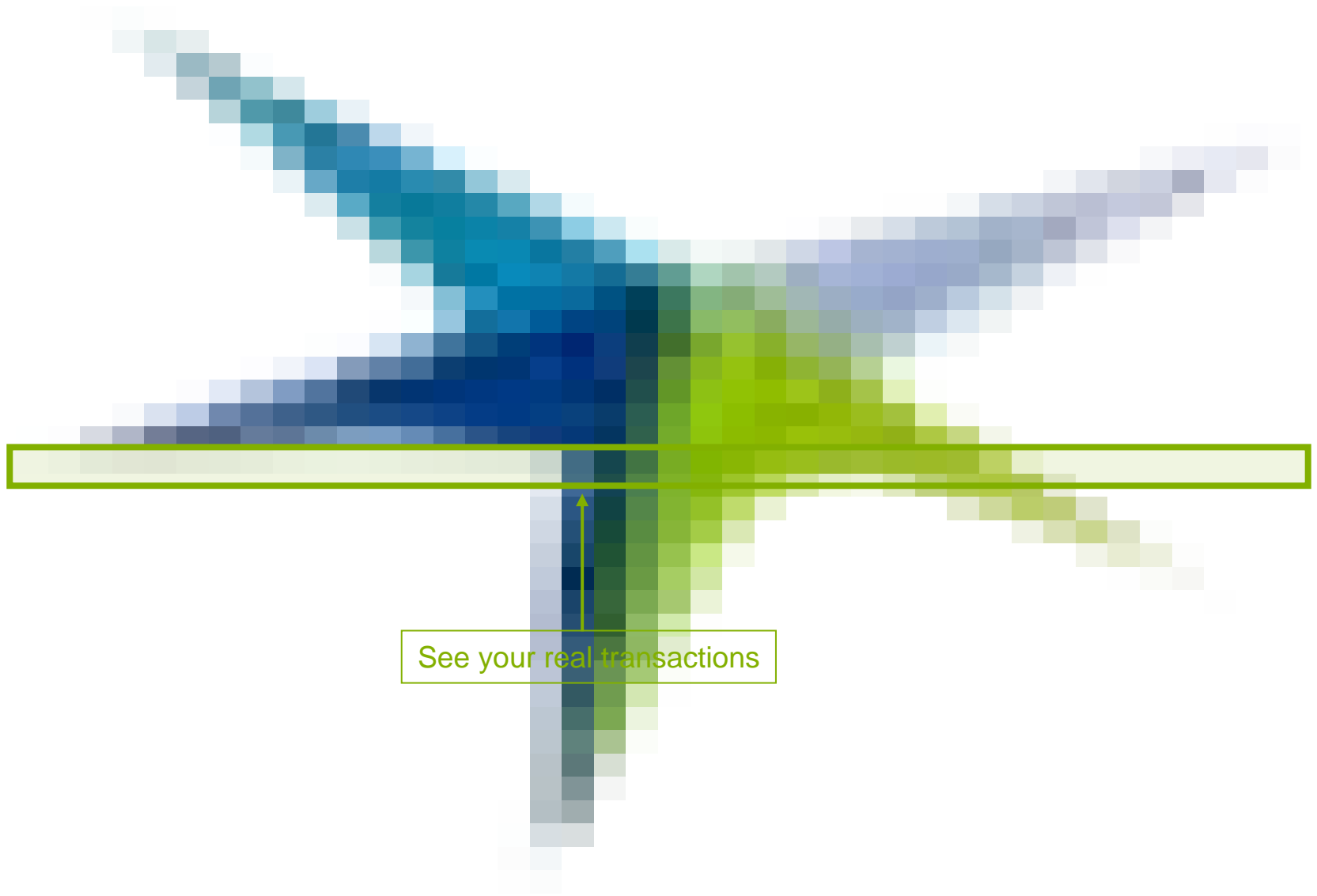
Customer account inquiry



Fails to meet SLA



CoreFirst Profiler - transaction tracking results



CoreFirst Profiler - transaction tracking results

CoreFirst - Profiler - Microsoft Internet Explorer

Address: http://localhost:8082/corefirst/action/viewProfilerResults.do?method=goUp

CoreFirst Profiler Dashboard

Request Class: Time period: Busy day, no policy. From: May 23, 2005 6:20 PM. To: May 23, 2005 7:00 PM. Filters: GO

Matches found: 8. Still running requests: 0

ID (Show labels)	Count	Avg ET (sec)	Max ET (sec)	Max Conc	Avg CPU (sec)	Service Level	SC
Total	2,765	9.719	03:03.813	20	2.215		
HTTP OpTier webbank - List Recent Activities	1,009	4.593	01:27.328	5	3.277		None
HTTP OpTier webbank - Show Account Details	1,000	3.968	16.297	7	0.055		None
HTTP OpTier webbank - Update Primary Contact	315	12.604	37.703	3	2.081		None
HTTP OpTier webbank - Check Account Balance	315	15.525	40.937	4	2.689		None
HTTP OpTier webbank - Account Performance Report	99	01:04.118	01:25.688	3	7.095		None
HTTP OpTier webbank - Update Account Details	17	01:58.142	03:03.813	1	20.696		None
SQL JDBC Thin Client/blanc/TESTAPP	5	01:00.123	01:00.162	4	0.130		None
HTTP OpTier webbank - Marketing BI Report	5	02:30.425	02:41.687	1	40.882		None

...and their detailed cross-tier breakdown

ID	Count	Throughput	Hit Ratio	% Time in Tier	Request : Tier Calls	Avg CPU (sec)	Max Conc	Max ET (sec)	Service Level
WebSphere blanc(server1)	315	0.13	100.00%	2.20%	1:1	0.0044	4	40.9370	
JDBC from WebSphere blanc(serv...	45	0.019	14.29%	14.26%	1:1	-	4	29.3900	
Oracle DB bourse(OpTier)	270	0.112	85.71%	83.54%	1:1	3.5385	4	37.9210	

CoreFirst Dashboard

CoreFirst - Dashboard - Microsoft Internet Explorer

Address: <http://localhost:8082/corefirst/action/viewDashboard.do>

Links: Evaluation Application, Microsoft Outlook Web Access, CoreFirst v1.3 (local), CoreFirst v1.4 (local)

CoreFirst Dashboard Profiler Policy Manager Configuration Administration

Refresh | Auto refresh

Time period: Busy day, no policy | From: May 23, 2005 6:20 PM | To: Now May 23, 2005 7:00 PM | Filters | GO

Active Policy: none | Currently running 0

System activity

Number of requests vs. Time (18:20 to 19:00)

Most frequent requests in all groups

Group: OpTier webbank -

Service time breakdown by tier (sec)	Count
OpTier webbank -	~4
OpTier webbank -	~4
OpTier webbank -	~10
OpTier webbank -	~15
OpTier webbank -	~35

Avg elapsed time for service class: All

Avg elapsed time (sec) vs. Time (18:20 to 19:00)

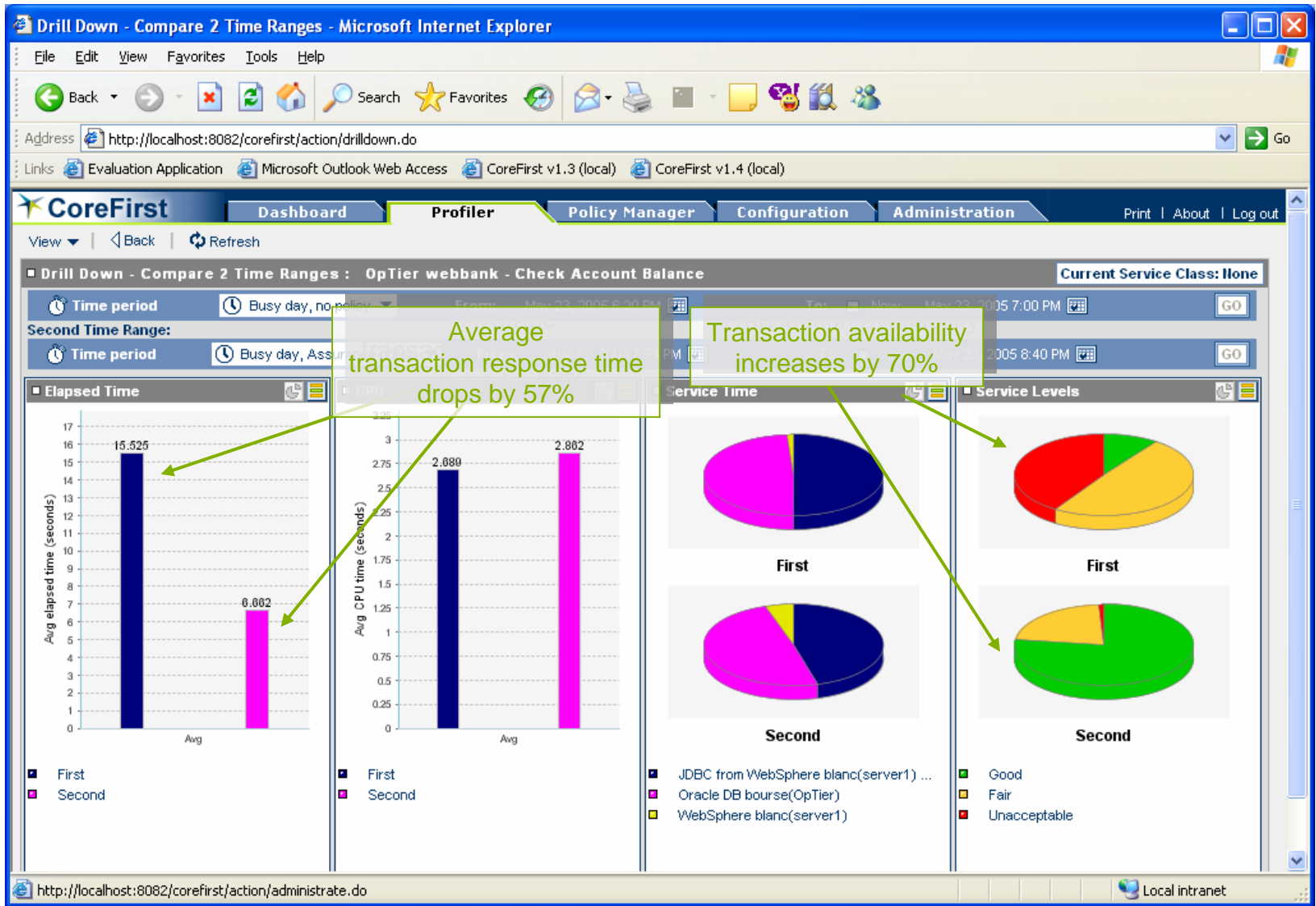
System topology

View transaction flow

- Rapidly pinpoint issues
- Identify anomalies
- Associate issues with impact

Component	Avg ET	Avg ST	Count	Avg CPU
WebSphere blanc(server1)	9.8274	2.9238	2,760	1.2079
Oracle DB bouse(OpTier)	8.8462	8.6968	1,788	1.5715
JDBC from WebSphere blanc...	11.3179	11.3330	283	

CoreFirst Comparative Service Level View



* Based on financial service application scenario – fortune 100 enterprise

About TeamQuest

Leader in Performance & Capacity Management Solutions

- Founded in 1991
- Corporate headquarters: Clear Lake, IA
 - Sales offices: US & EMEA (Sweden/UK)
- Focus on Fortune 500 organizations across all main industries
- Profitable every year since inception

TeamQuest Performance Software

- Enterprise-wide management for UNIX, Linux and WinTel
- Performance analysis
- Capacity Management
- Management reporting
- Capacity planning/forecasting

TeamQuest Performance Software

■ TeamQuest View

- Comprehensive monitoring, from the application down to the system component
- Captures resource utilization data
 - tier, middleware and application
 - process counts, response times, utilizations

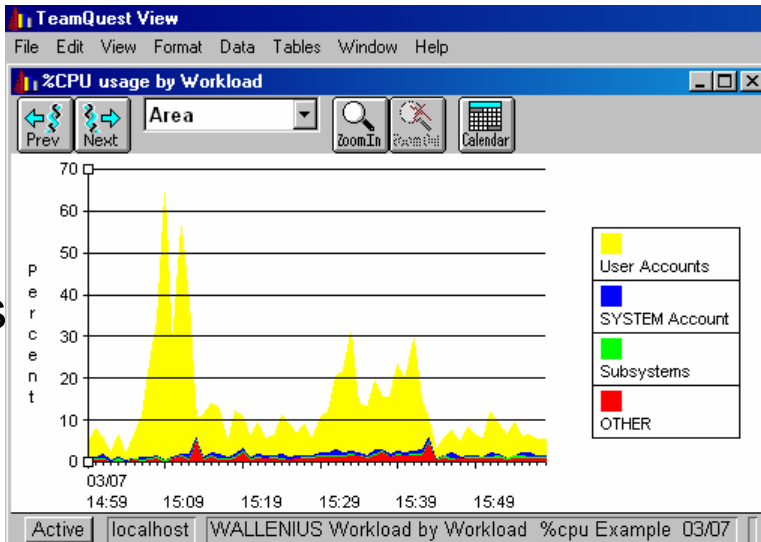
■ TeamQuest Model

- Sophisticated modeling
- Enable companies to perform “what if” scenarios
- Develop overall and tier level models

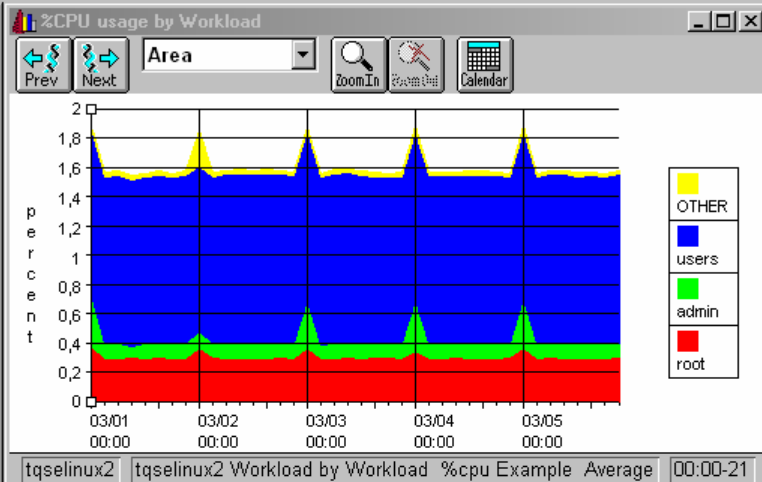
TeamQuest View

Analyze data from heterogeneous systems

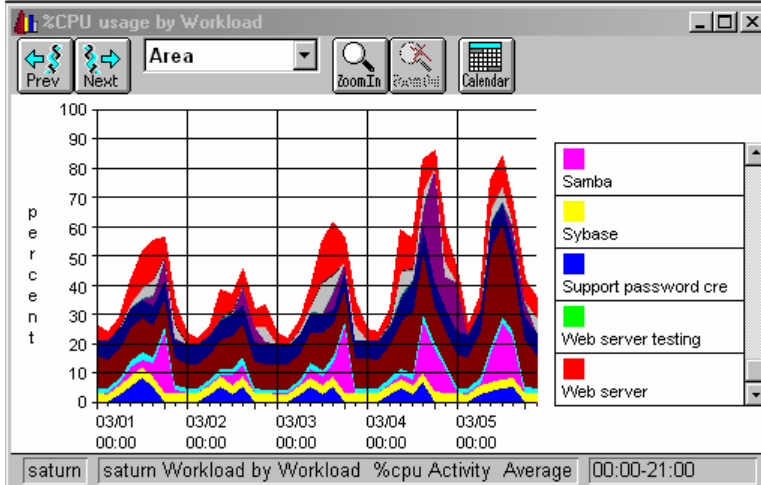
Windows



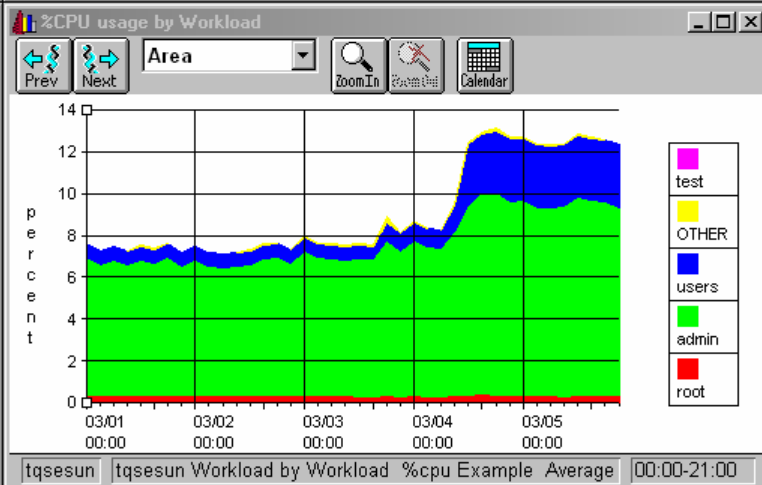
SuSE



Solaris

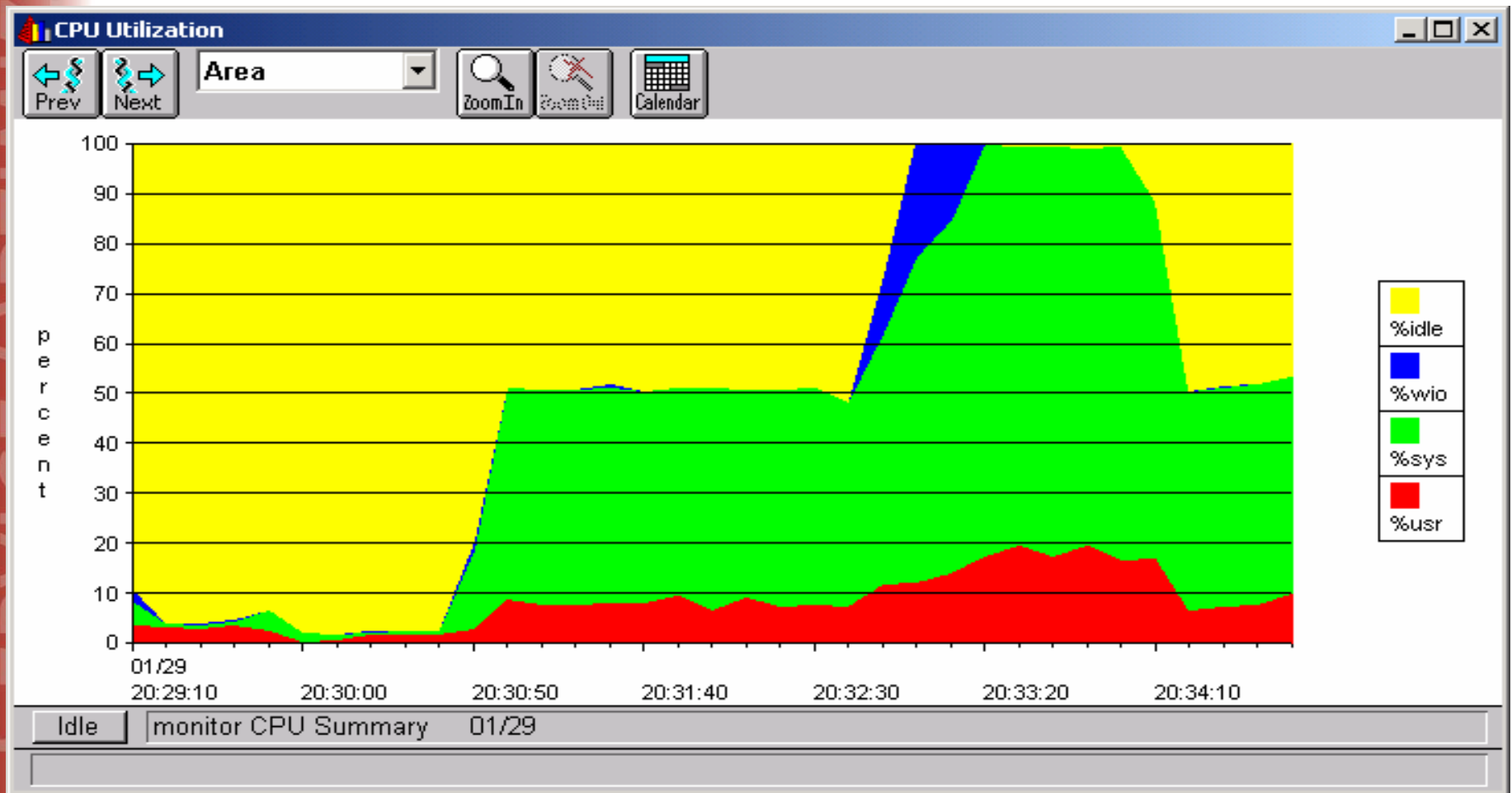


Solaris



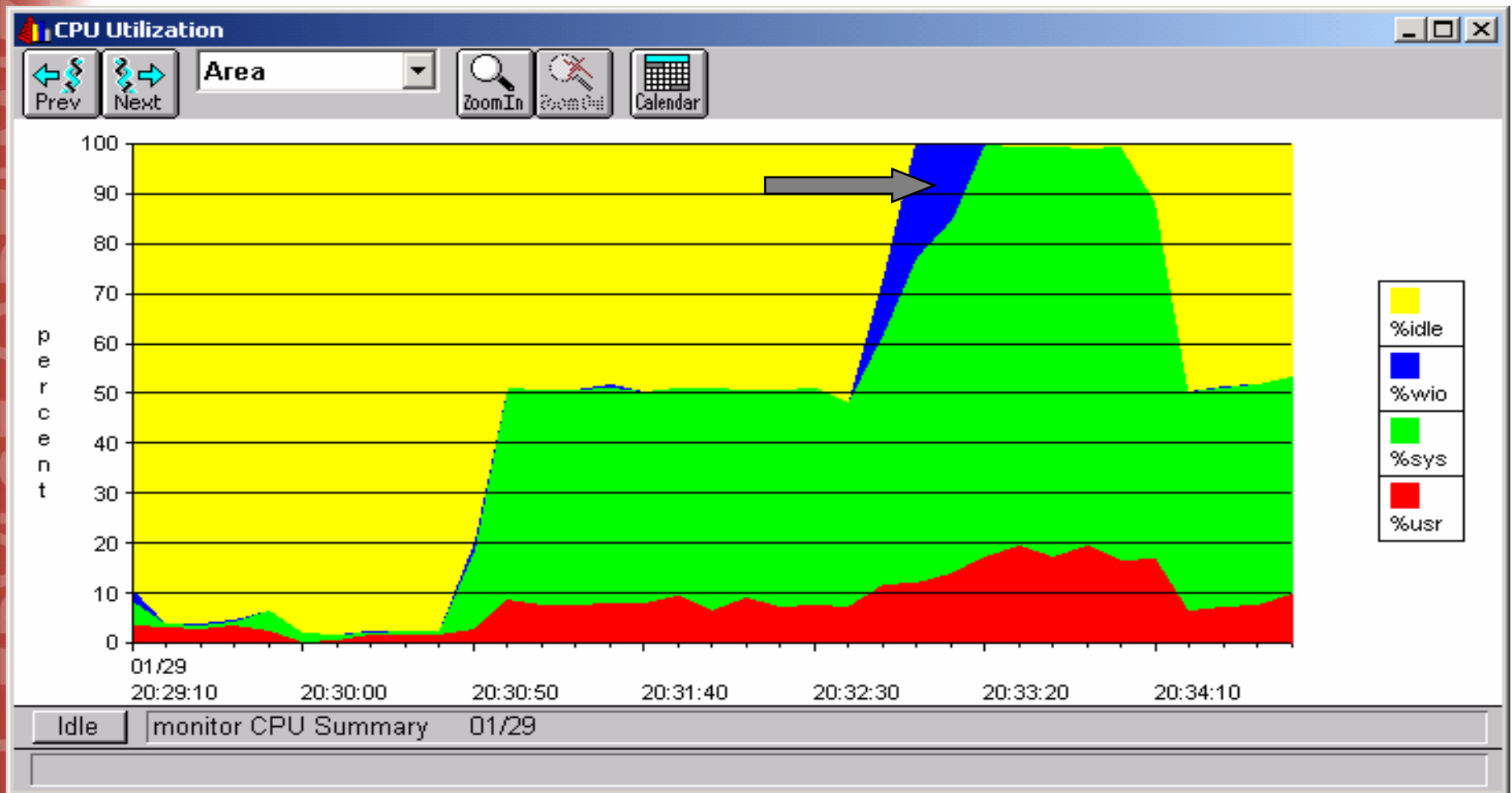
TeamQuest View

Drill Down And Locate Bottlenecks



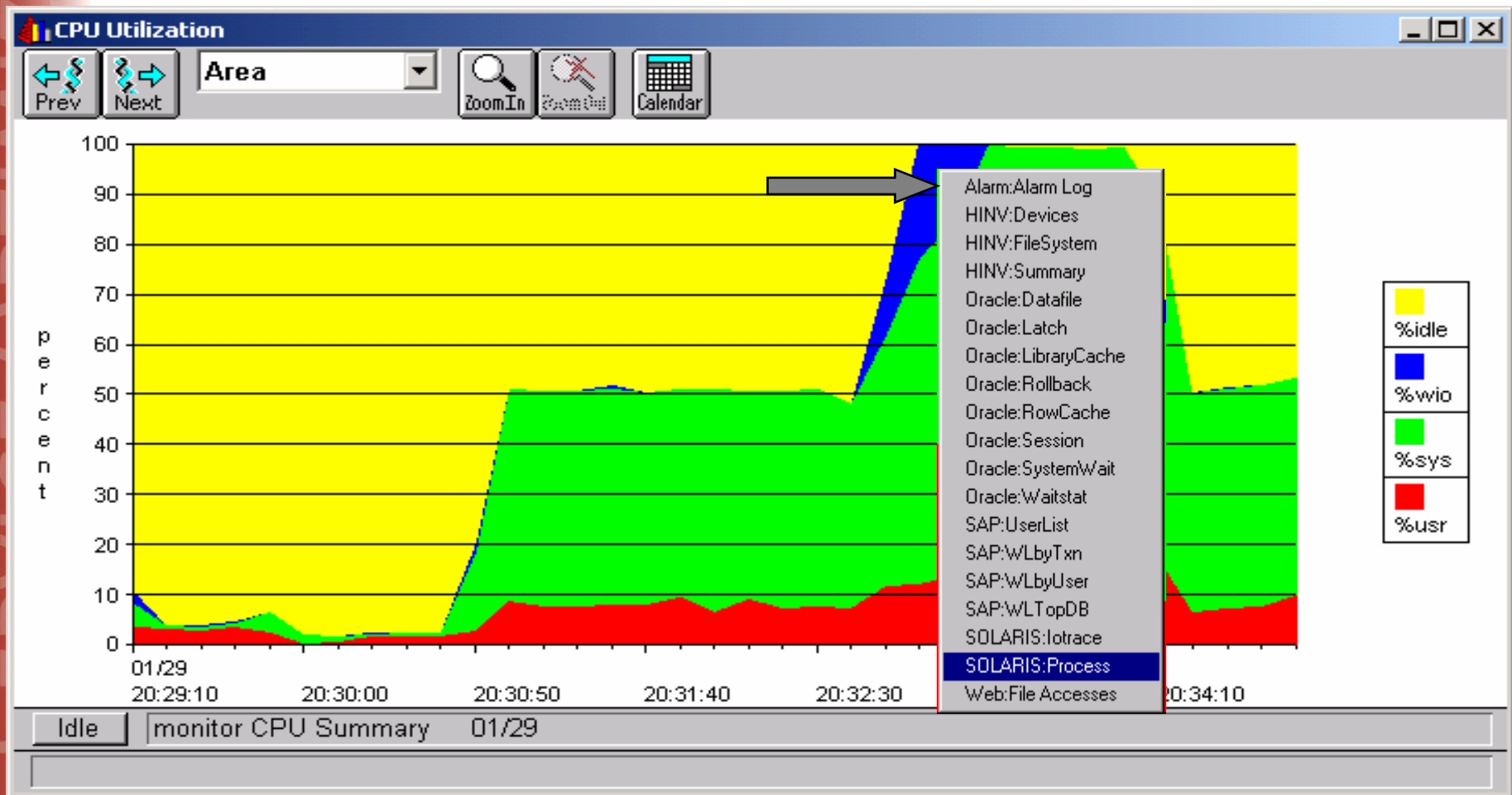
TeamQuest View

Drill Down And Locate Bottlenecks



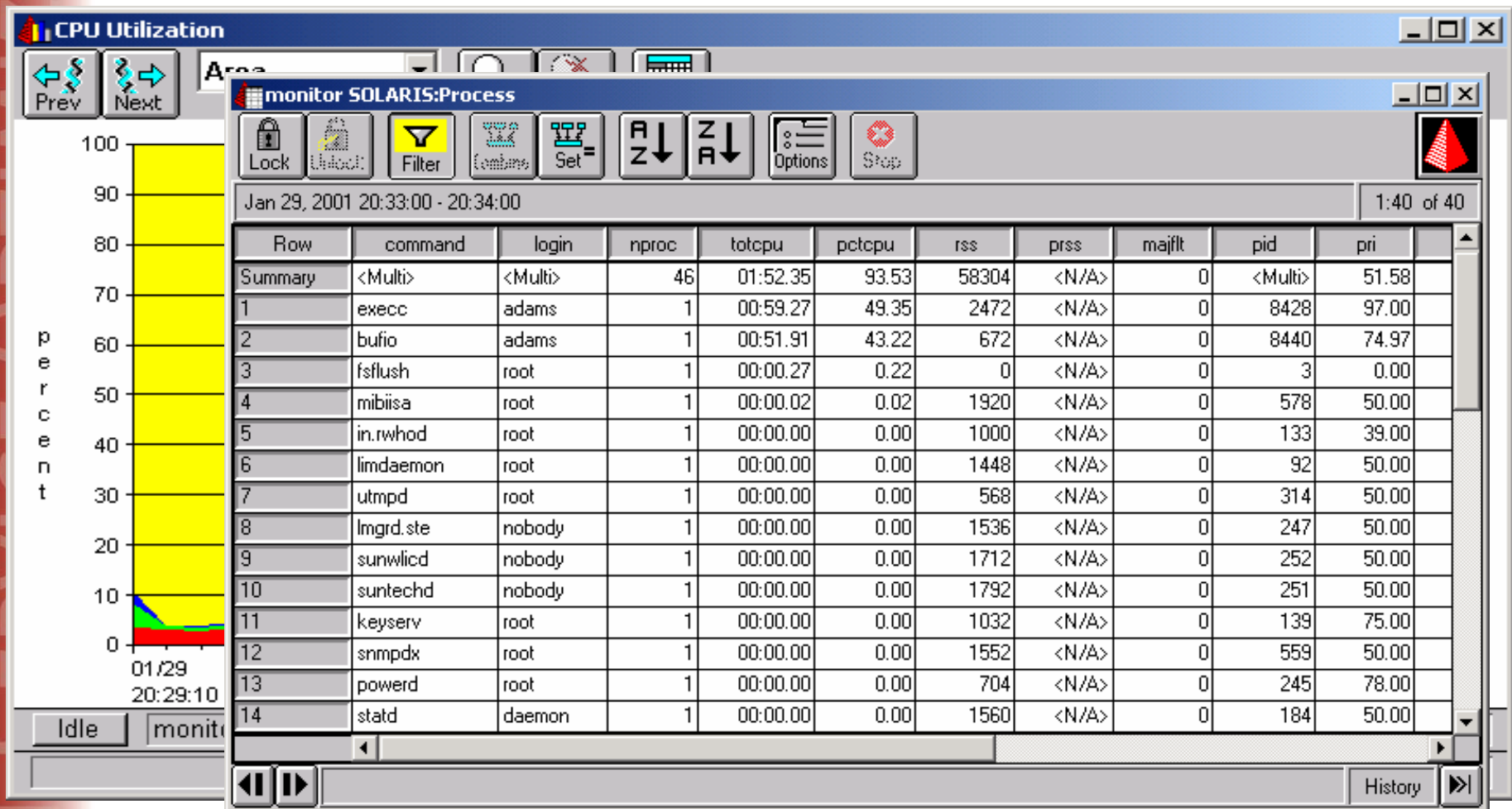
TeamQuest View

Drill Down And Locate Bottlenecks



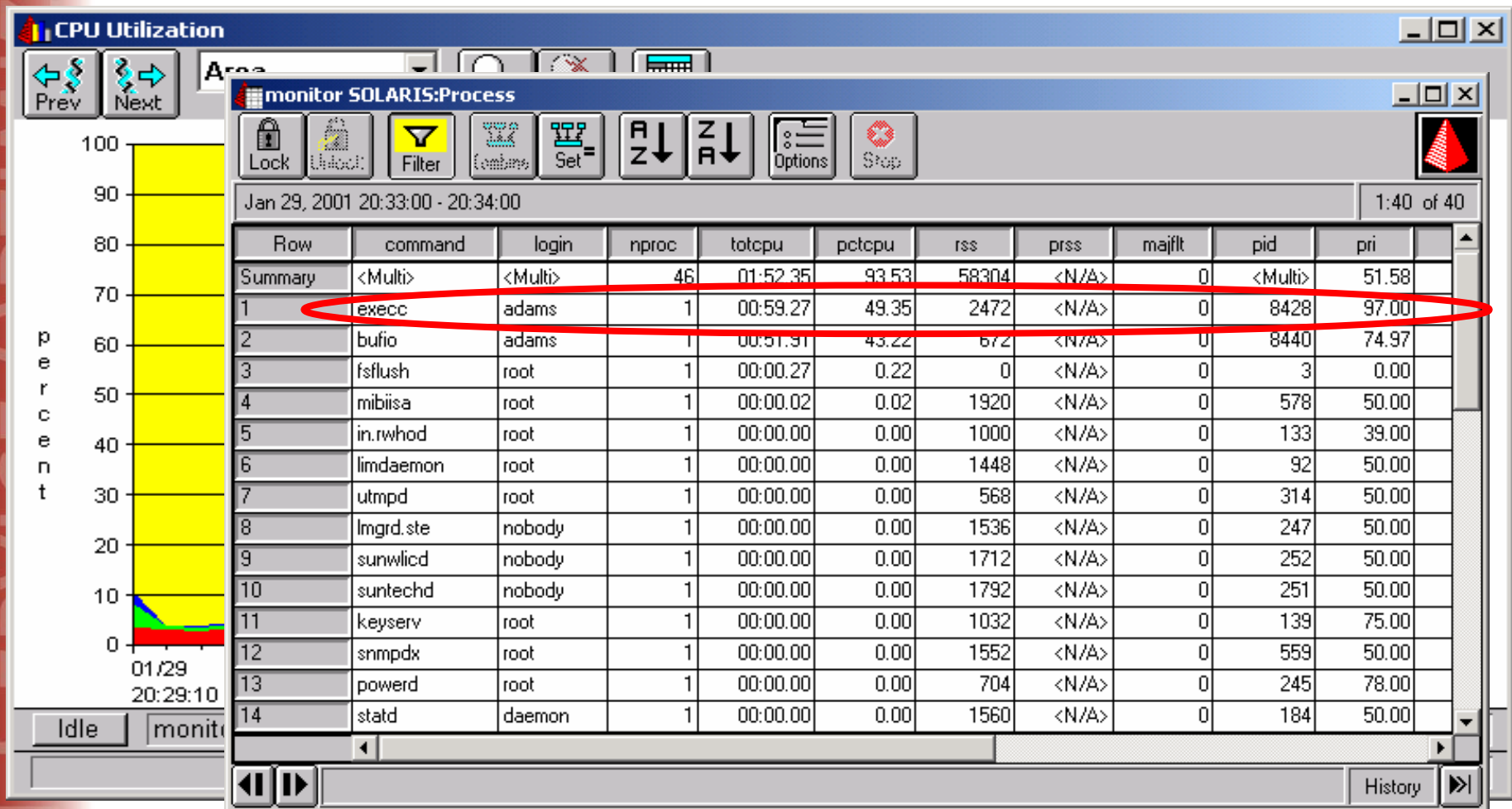
TeamQuest View

Drill Down And Locate Bottlenecks



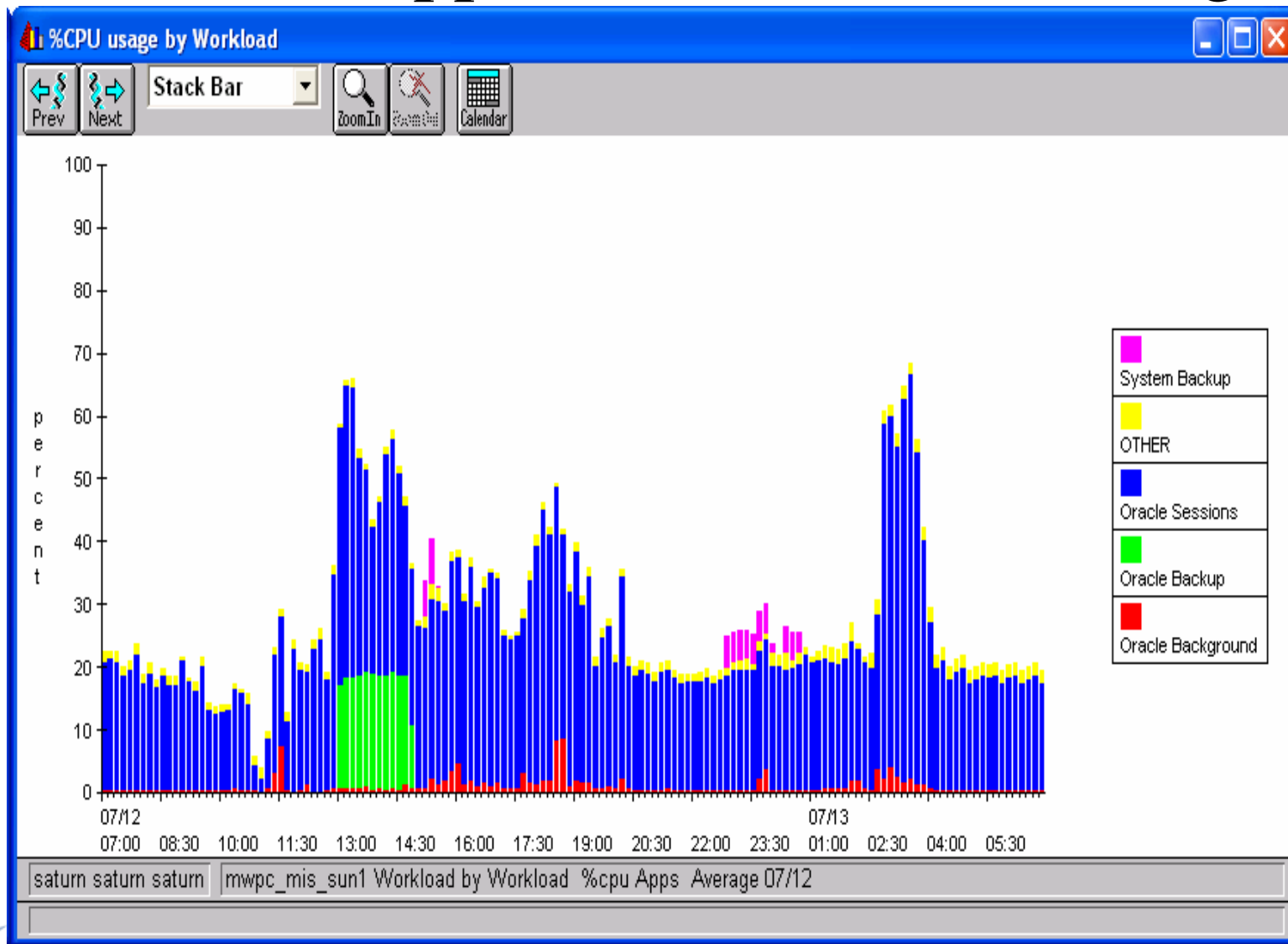
TeamQuest View

Drill Down And Locate Bottlenecks



TeamQuest View

Examine Application Resource Usage



TeamQuest Model

- Addresses the needs of capacity management
- Models are solved using analytic or discrete-event simulation methods
- Predict system performance by changing workload resource requirements
- Predict system performance by changing your system configuration
- Model is used to maximize the utilization of the computer system

Initial Baseline Model – Measured Population and Throughput Adjustment

Workload Environment and Measured Throughput Adjustment Wizard

The Workload Type Wizard allows you to adjust workload measurement information

	System Name	Workload	Population	Environment	Measured Throughput	MAXMPL Capacity	MAXMPL Name
1	monitor	(Part 2)CMPaccountid	0.2158	PROCESS	0.148	0.	
2	monitor	(Part 2)JDBCsubmit2	1.4912	PROCESS	0.156	0.	
3	monitor	(Part 2)BMPaccountid	0.293	PROCESS	0.168	0.	
4	monitor	DB2	3.0375	PROCESS	0.09639	0.	
5	monitor	TeamQuest	34.143	PROCESS	0.035	0.	
6	monitor	CMPaccountid	0.234	PROCESS	1.18	0.	
7	monitor	JDBCsubmit2	0.448	PROCESS	1.18	0.	
8	monitor	BMPaccountid	1.216	PROCESS	1.18	0.	
9	monitor	testapp session	0.102	PROCESS	0.95	0.	
10	monitor	deamons	27.	PROCESS	0.008611	0.	
11	monitor	other users	9.0503	PROCESS	0.006667	0.	
12	monitor	root processes	16.045	PROCESS	0.10611	0.	

Enter the Measured Throughput for this workload

Help Cancel Finish

Initial Baseline Model – Measured Population and Throughput Adjustment

Workload Environment and Measured Throughput Adjustment Wizard

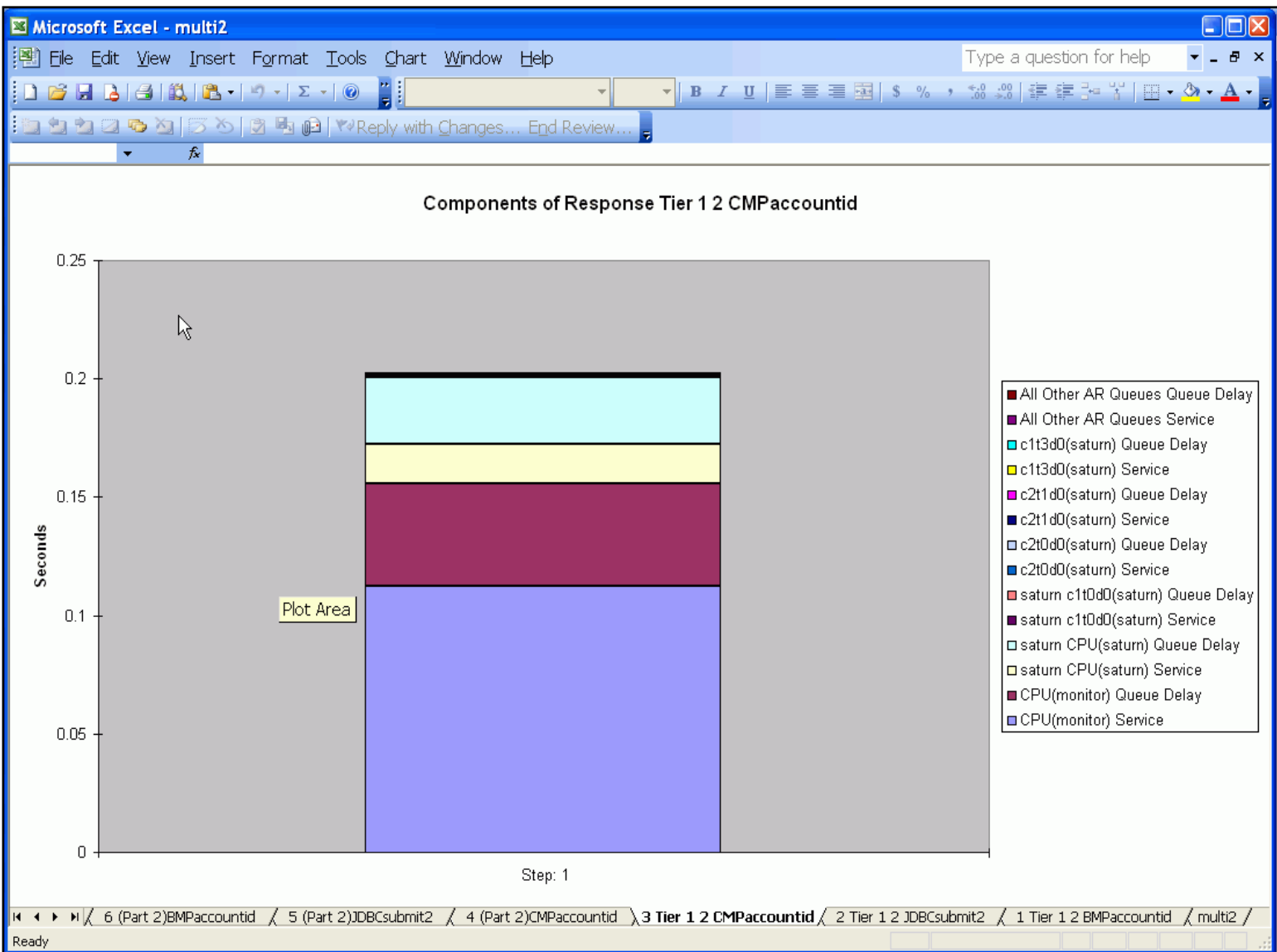
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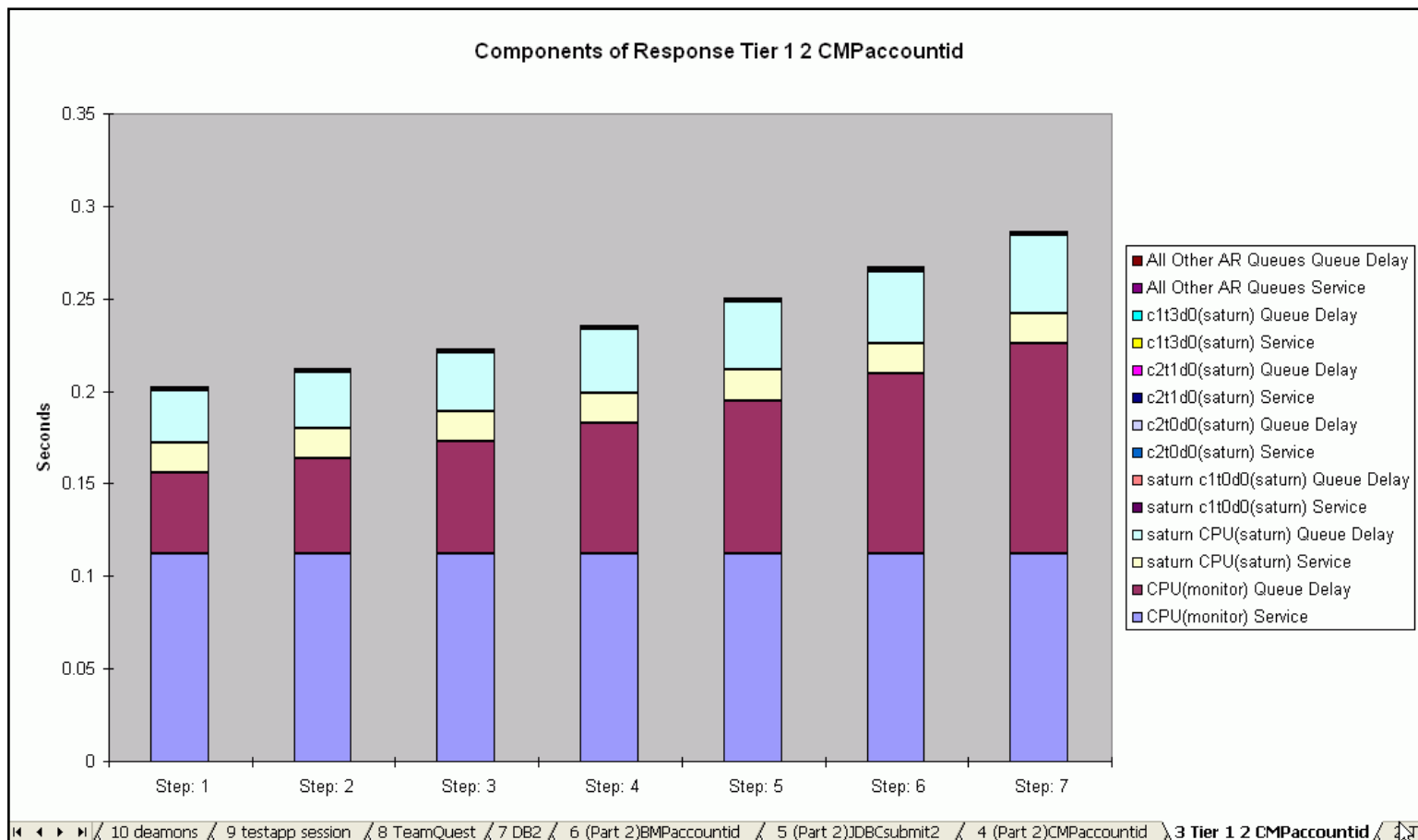
Enter the Measured Throughput for this workload

Help Cancel Finish

Components of Response Time



Components of Response Time Growth Projections



The Combined TeamQuest + OpTier Offering

- Transaction profiles from OpTier CoreFirst are applied to the TeamQuest Model, making for a complete and accurate model, directly tied to business activities
- Monitor actual service quality with OpTier CoreFirst and TeamQuest View to provide end-to-end cross-stack view on an ongoing basis
- Using TeamQuest Model “what-if” scenarios to test different OpTier CoreFirst transaction resource allocation priority schemes

Solution Maps To Recognized Need

- Hearing about our partnership - the analysts are saying....

“Understanding infrastructure capacity from an IT service perspective enables IT and business managers to better understand and manage to business expectations. Analyzing capacity management models as they relate to transaction performance assists IT and business managers in creating and achieving obtainable service levels that correlate to business activity.”

Stephen Elliott, research manager, IDC

What's In It For The Customer

- Better align predicted business growth with infrastructure needs
- Understand the direct business implication of infrastructure configuration or purchasing decisions
- Predict the business impact of virtualizing and consolidating different applications and business activities
- Improve quality of service and optimize IT processes

For More Information

- www.optier.com

Contact info:

Ronit Belson, Director Business Development

Ronit.belson@optier.com

- www.teamquest.com

Contact info:

Joseph A. Rich, Director of Strategic Alliances

joseph.rich@teamquest.com

Thank you for attending

Please close this presentation
and proceed to the Question &
Answer Bulletin Board and
survey.