hp OpenView

Transaction Management with HP OpenView

HP World 2003

Part 1 of 4

Jim Pitts

*Solution Services Consultant/
HP OpenView Business Unit*

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invent

Covered

- Solution architecture and management strategy
- Installation and configuration of HP OpenView Internet Services (Synthetic Transaction Management)
- Installation and configuration of HP OpenView Transaction Analyzer (Live Transaction Breakdown and decomposition)
- Installation and configuration of HP OpenView Client Monitoring (Quality of Service)

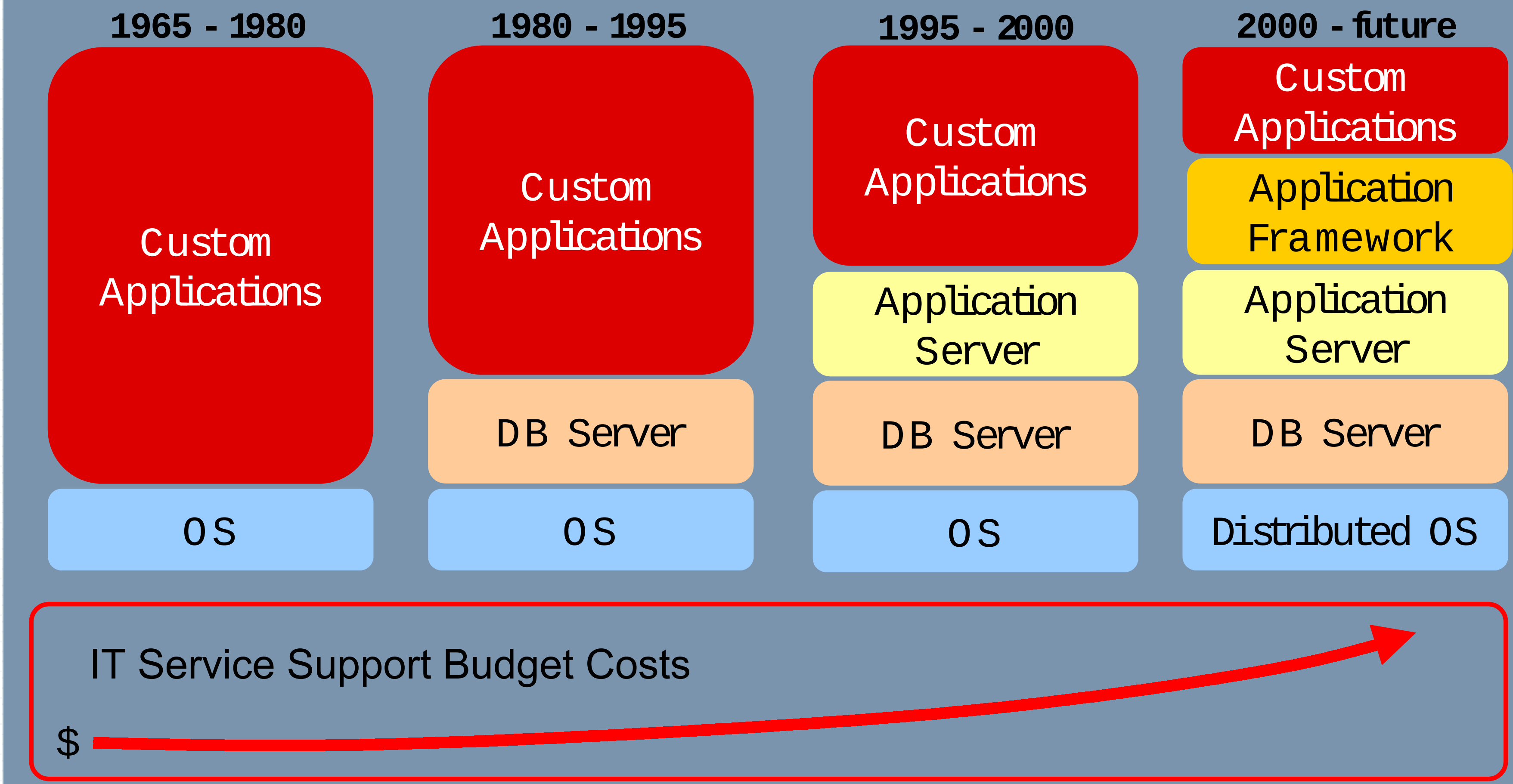
NOT Covered

- Installation of BEA WebLogic application server or iPlanet Web Server (trivial tasks, pointers are given)

Agenda (4 hours)

- Part 1 – Introduction to transaction management with HP OpenView featuring HP OpenView Transaction Analyzer (1 hour + 10 minute break)
- Part 2 – Installation of core HP OpenView solutions shown in Part 1 (1 hour + 10 minute break)
- Part 3 - Configuration of core HP OpenView solutions shown in Part 1 (1 hour + 10 minute break)
- Part 4 – Configuration of Client Monitoring for solution shown in Part 1 (30 minutes)
- Questions and Answers

Increasing cost to support modern business applications is driven in part by their complexity. More “domain specific” resources are required than ever before to drive it Service Support.



1965 - 1980

Custom Applications

OS

1980 - 1995

Custom Applications

DB Server

OS

1995 - 2000

Custom Applications

Application Server

DB Server

OS

2000 - future

Custom Applications

Application Framework

Application Server

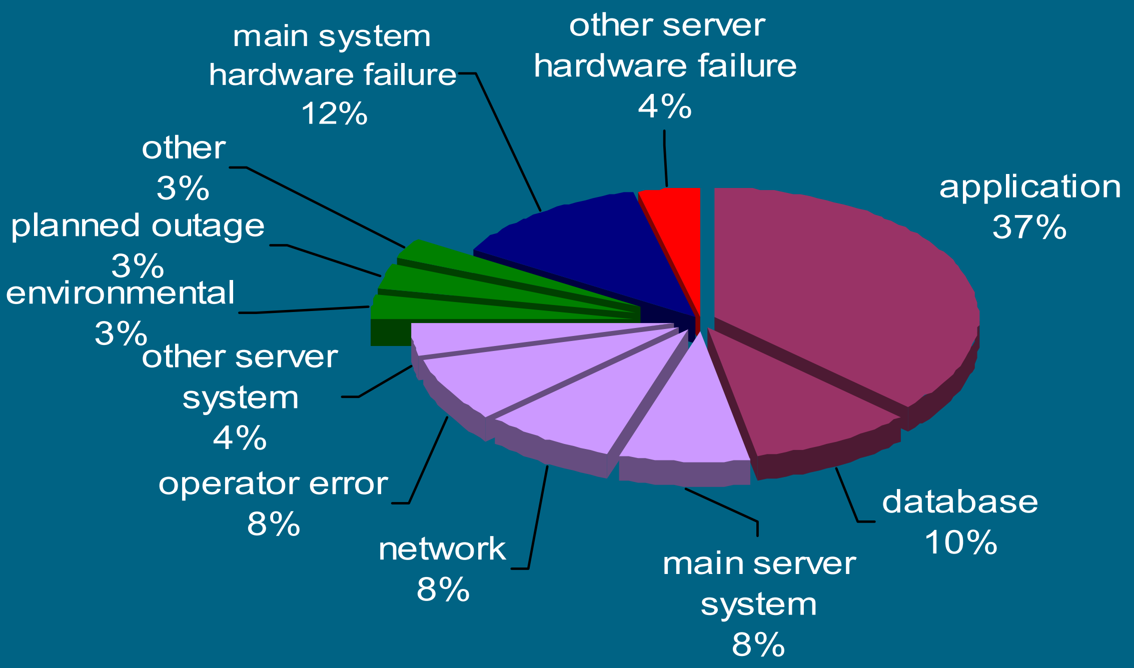
DB Server

Distributed OS

IT Service Support Budget Costs

$

sources of downtime = sources of cost

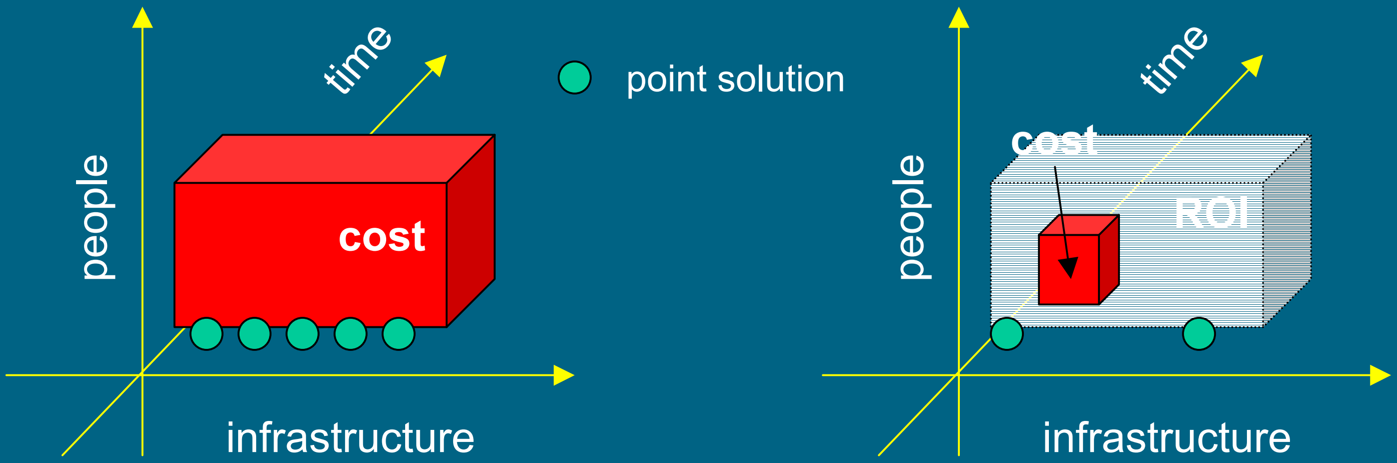


What would your IT Service Support budget look like if nothing ever broke? Every incident has a cost associated with fixing it, the cost of the “triage” process. Your ability to drive out cost and increase shareholder value lies in part in being able to manage to the cost of fixing things when they break.

NOTE: application errors alone accounts for 37% of downtime and drive OpenView’s investment in OV Transaction Analyzer

source: The Standish Group 2001

the “triage” process (or “break/fix” as it is sometimes called) can be expensive but also can be managed



traditional

The problems entire profile has to be “scanned” using point tools and people to isolate the fault – a manual and expensive process involving lots of people and time.

this amounts to “burning people” (money) to solve problems …

OV approach

hp OpenView cuts down on point solutions and creates a triage process bringing only the right people to the right place at the right time through a streamlined workflow.

this minimizes triage costs … the value of Service Management and hp OpenView

the OpenView solution

your customer
or end-user

End-User
“top-down”

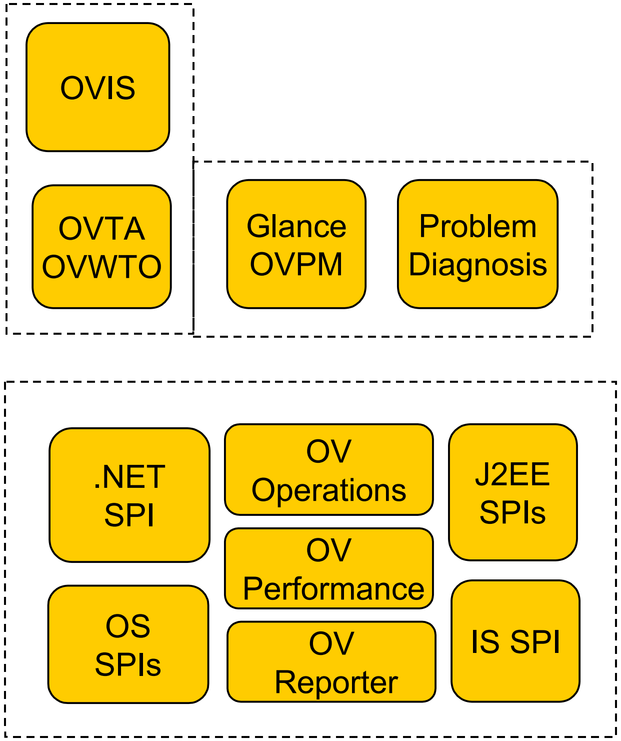
Customer Experience Mgmt
Service Level Management

Transaction
“bridging the gap”

Rapid Problem Resolution

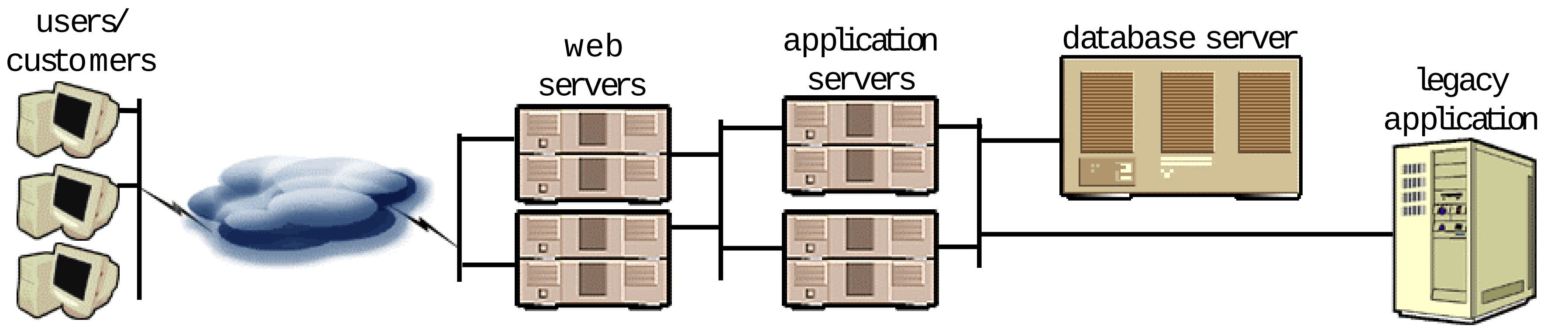
Infrastructure
“bottoms-up”

Event Management
Resource Management

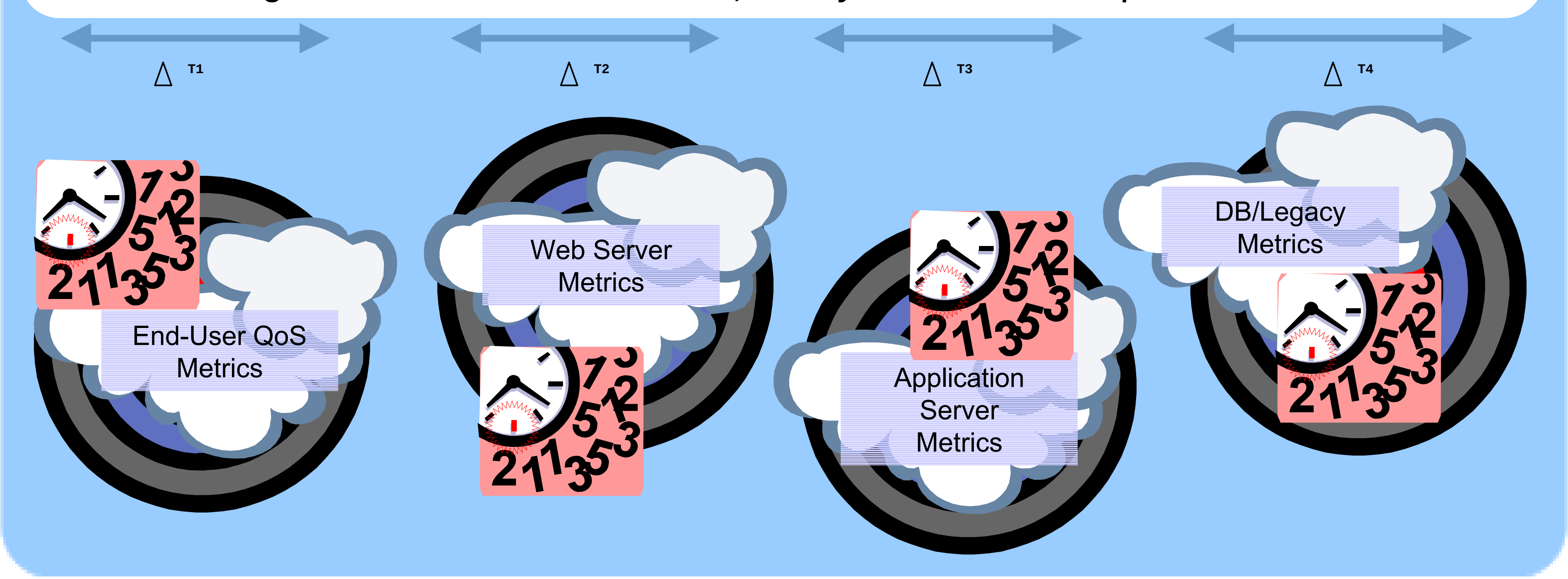


your back-end infrastructure

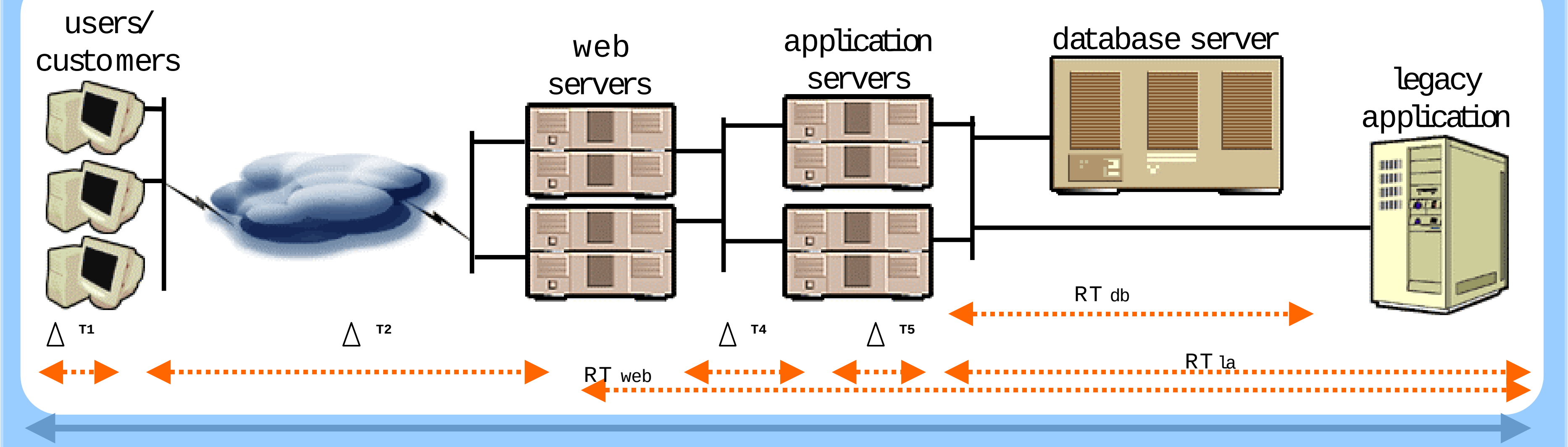
distributed performance management
in an ocean of metrics - the hard way

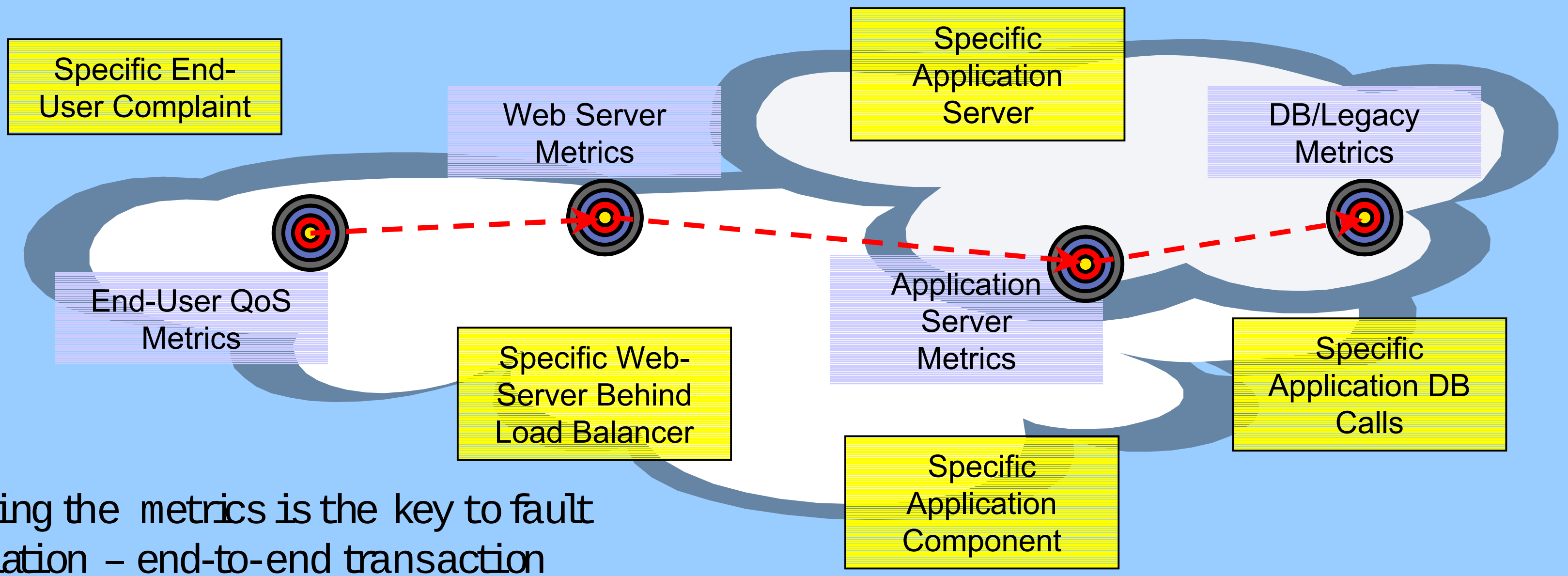


using time as a “correlation ID”, everyone looks for spikes in their data



distributed performance management in an ocean of metrics – precorrelation is a better way





Specific End-User Complaint

Web Server Metrics

Specific Application Server

DB/Legacy Metrics

End-User QoS Metrics

Application Server Metrics

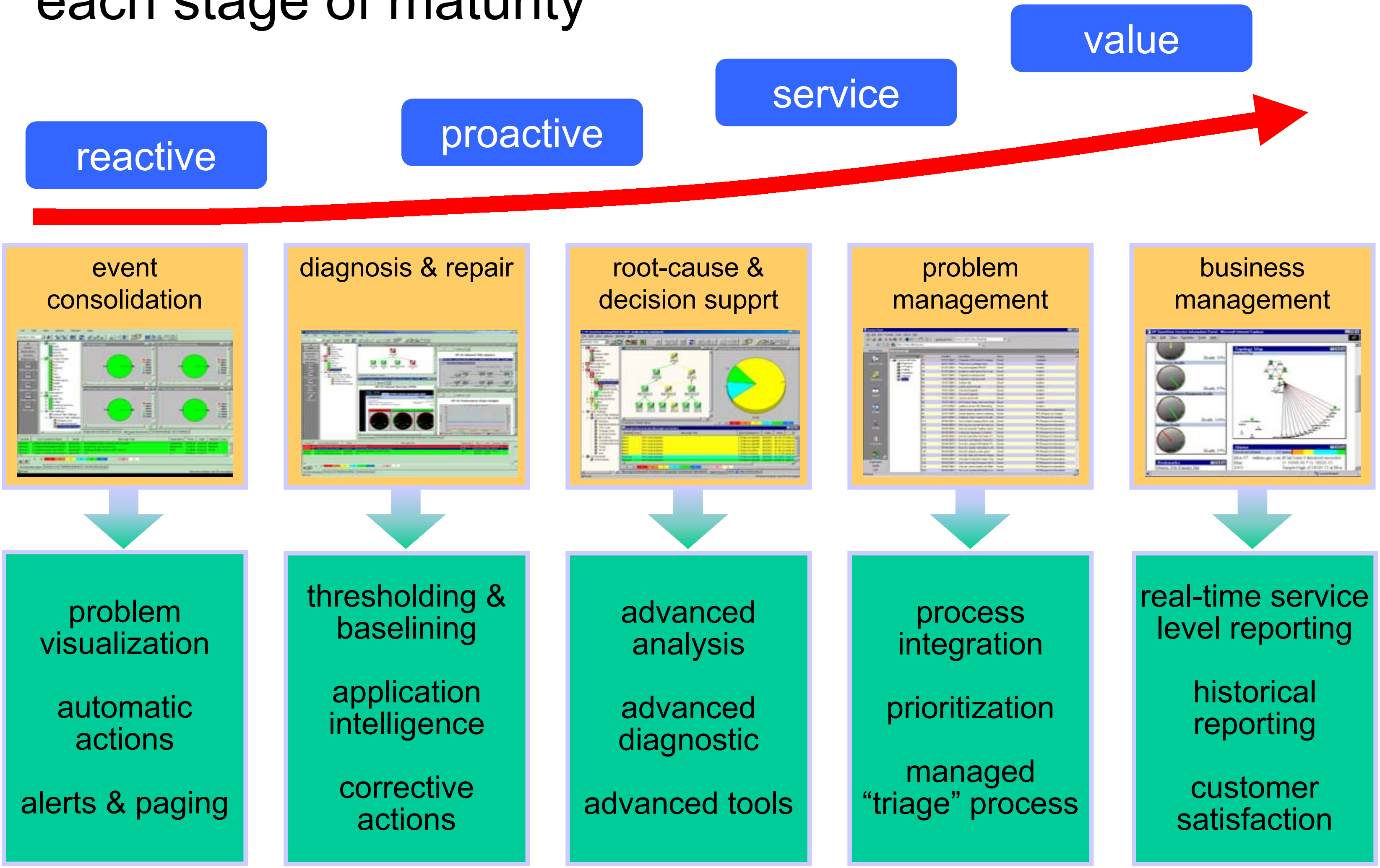
Specific Web-Server Behind Load Balancer

Specific Application DB Calls

Specific Application Component

linking the metrics is the key to fault isolation – end-to-end transaction correlation

hp OpenView solutions at each stage of maturity



reactive

proactive

service

value

event consolidation

- problem visualization
- automatic actions
- alerts & paging

diagnosis & repair

- thresholding & baselining
- application intelligence
- corrective actions

root-cause & decision supprt

- advanced analysis
- advanced diagnostic
- advanced tools

problem management

- process integration
- prioritization
- managed “triage” process

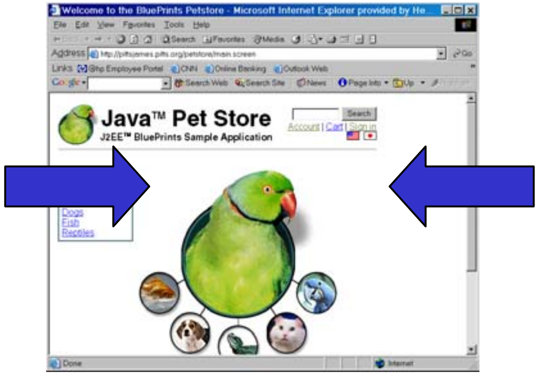
business management

- real-time service level reporting
- historical reporting
- customer satisfaction

service assurance

your customers

OV Transaction Analyzer Client Monitoring † – Measuring Real Transactions– answers the question ***"are customers getting the service I expect"***


Welcome to the BluePrints Petstore - Microsoft Internet Explorer provided by He...
File Edit View Favorites Tools Help
Search Favorites Media
Address http://pittsjames.pitts.org/petstore/main.screen
Go
Links @hp Employee Portal CNN Online Banking Outlook Web
Google Search Web Search Site News Page Info Up
Java™ Pet Store
J2EE™ BluePrints Sample Application
Search
Account | Cart | Sign in
Dogs
Fish
Reptiles
Done
Internet

your infrastructure

OV Internet Services – Heartbeat transactions assures service in absence of customer transactions – answers the question ***"am I ready for customers"***

OV Transaction Analyzer – drilling into REAL ***or*** SYNTHETIC transactions ***"if it breaks what went wrong and who needs to fix it?"***

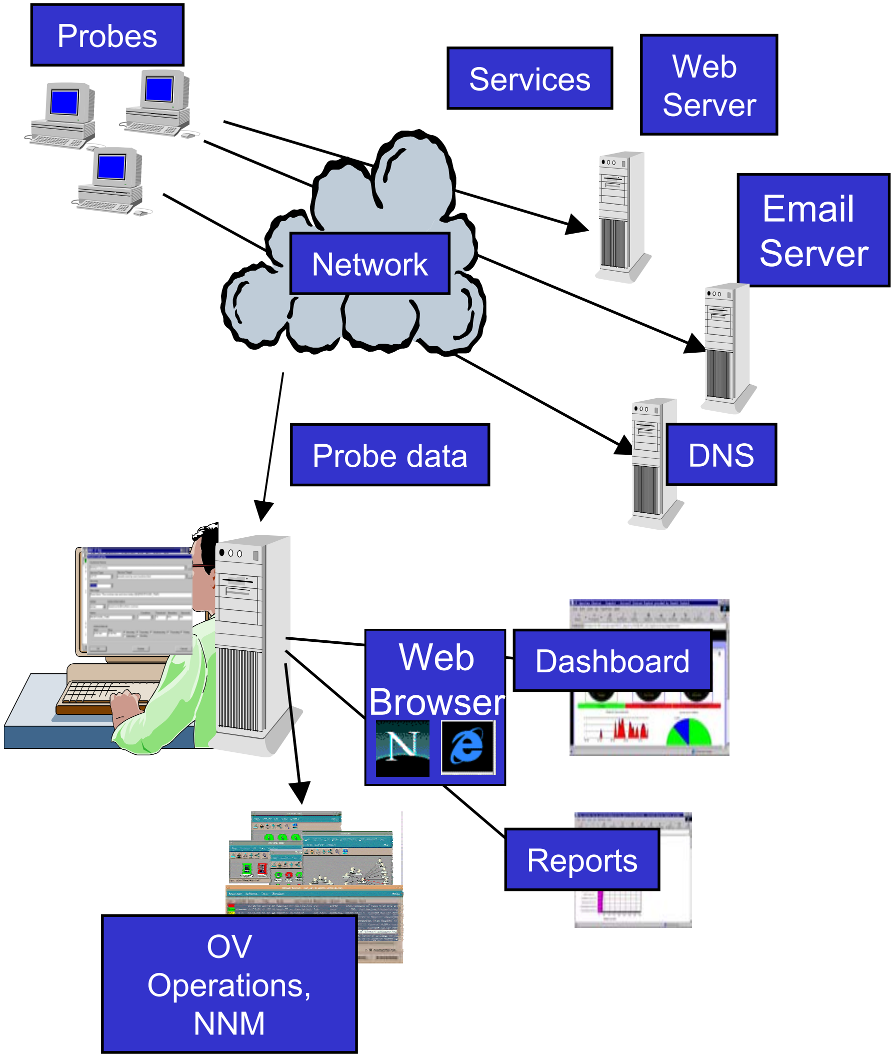
hp OV Domain Specific Tools – Knowing what component is at fault provides context for linked launch into tools. These tools include "drill down" application fault management tools like the **hp OpenView BEA WebLogic Smart Plug-In**

† *The functionality of hp OpenView Web Transaction Observer is being rolled into OVTA Client Monitoring*

synthetic transaction management with hp OpenView internet services

How do you characterize and measure the availability of IT services? How do you support the availability lifecycle of that service?

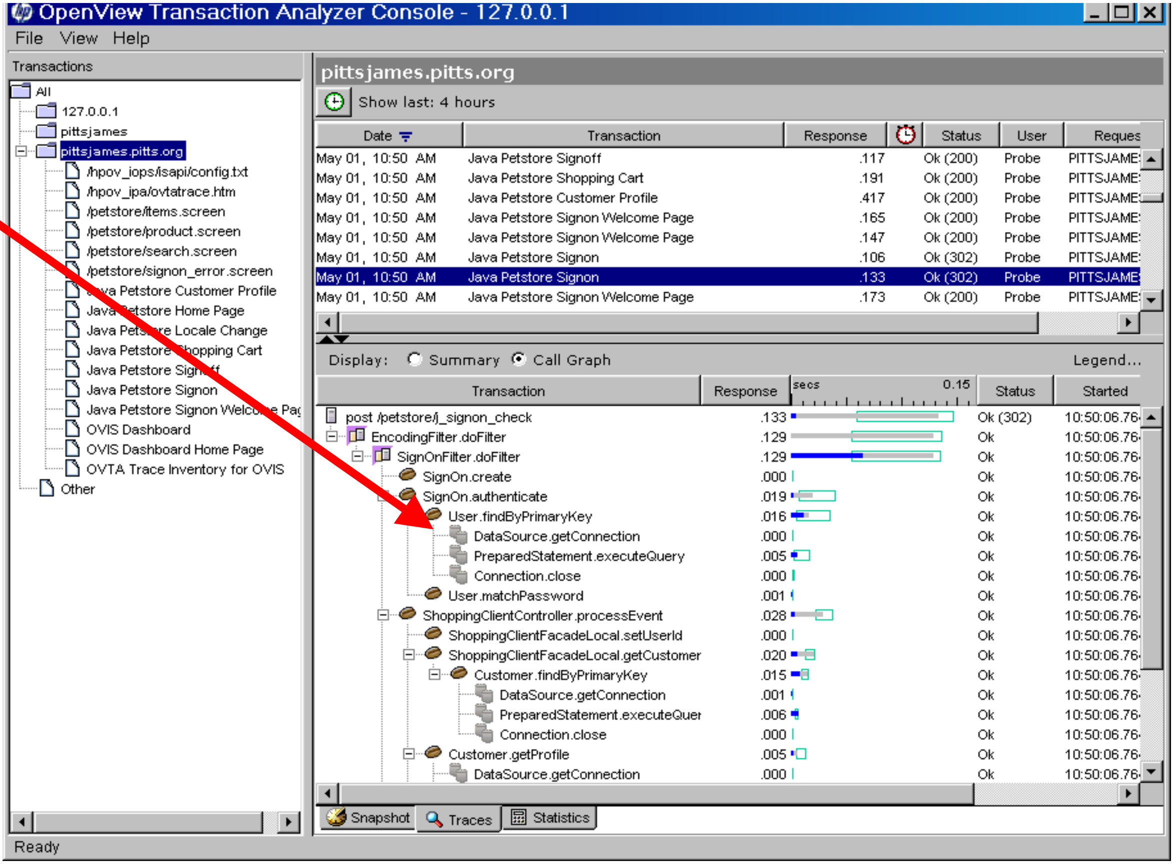
1. Define the service, it's subcomponents, and the SLA.
2. Define SLO 'heartbeat" transactions needed to support the SLA
3. Execute the synthetic transactions that make up the SLO and compute the state of the SLA
4. Report, diagnose/operate around, and enhance the SLA



hp OVTA automatically instruments J2EE/COM applications

J2EE is instrumented automatically with OVTA transaction agents on J2EE application servers. This instrumentation automatically instruments the J2EE Component layer with little or no configuration required.

OVTA advantage: OVTA is <u>non-intrusive (no source code modifications).</u> Also, OVTA <u>takes care of passing the correlator</u> from tier to tier in the J2EE architecture so transactions can be traced. Finally, OVTA <u>instruments the web tier</u> (where the source code for the web server is generally not owned).



- All
  - 127.0.0.1
  - pittsjames
  - pittsjames.pitts.org
    - /hpov_iops/isapi/config.txt
    - /hpov_ipa/ovtatrace.htm
    - /petstore/items.screen
    - /petstore/product.screen
    - /petstore/search.screen
    - /petstore/signon_error.screen
    - Java Petstore Customer Profile
    - Java Petstore Home Page
    - Java Petstore Locale Change
    - Java Petstore Shopping Cart
    - Java Petstore Signoff
    - Java Petstore Signon
    - Java Petstore Signon Welcome Pag
    - OVIS Dashboard
    - OVIS Dashboard Home Page
    - OVTA Trace Inventory for OVIS
  - Other

Date	Transaction	Response	⏱	Status	User	Reques
May 01, 10:50 AM	Java Petstore Signoff	.117		Ok (200)	Probe	PITTSJAME
May 01, 10:50 AM	Java Petstore Shopping Cart	.191		Ok (200)	Probe	PITTSJAME
May 01, 10:50 AM	Java Petstore Customer Profile	.417		Ok (200)	Probe	PITTSJAME
May 01, 10:50 AM	Java Petstore Signon Welcome Page	.165		Ok (200)	Probe	PITTSJAME
May 01, 10:50 AM	Java Petstore Signon Welcome Page	.147		Ok (200)	Probe	PITTSJAME
May 01, 10:50 AM	Java Petstore Signon	.106		Ok (302)	Probe	PITTSJAME
May 01, 10:50 AM	Java Petstore Signon	.133		Ok (302)	Probe	PITTSJAME
May 01, 10:50 AM	Java Petstore Signon Welcome Page	.173		Ok (200)	Probe	PITTSJAME

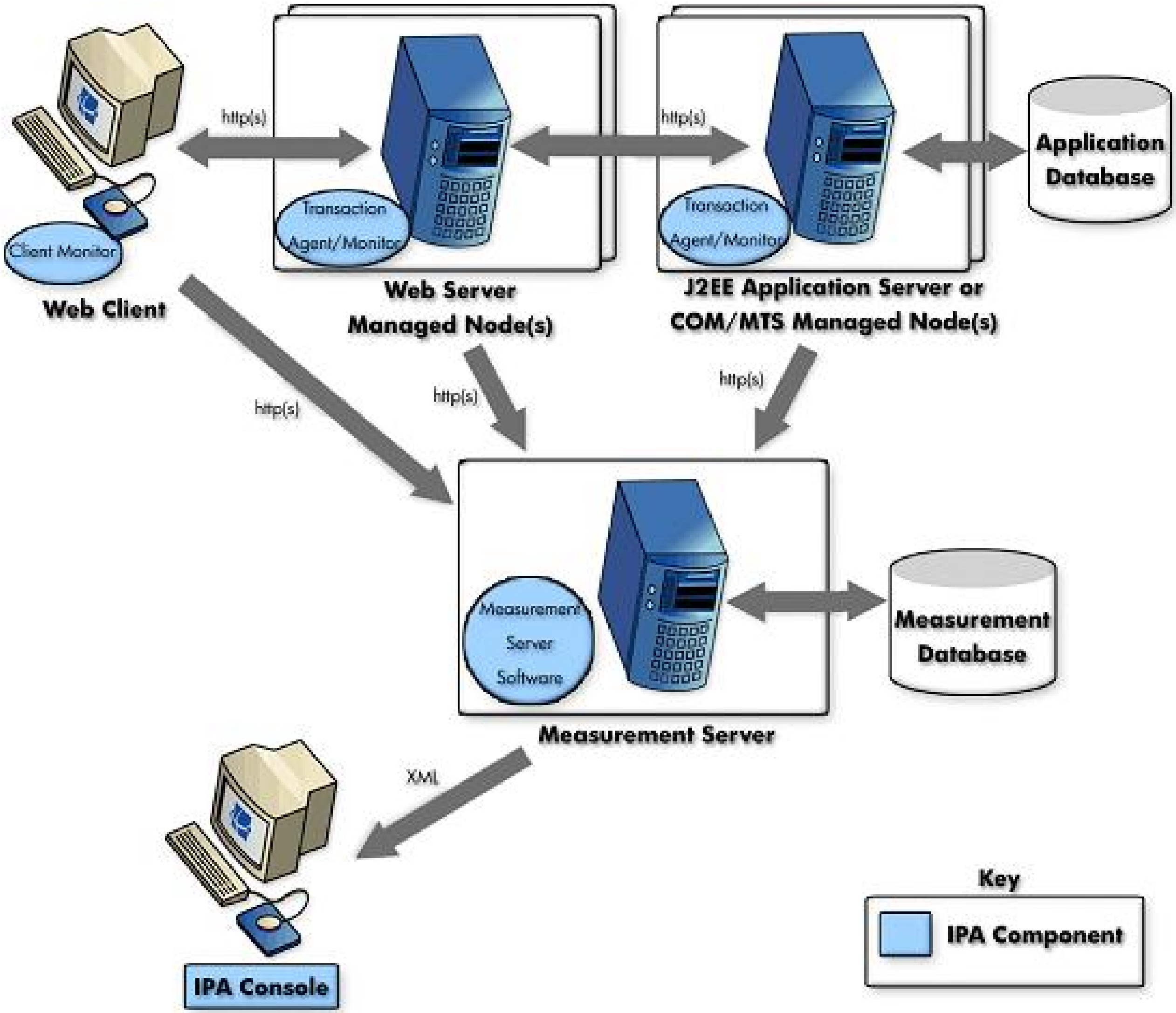
Transaction	Response	secs 0.15	Status	Started
post /petstore/j_signon_check	.133		Ok (302)	10:50:06.76
EncodingFilter.doFilter	.129		Ok	10:50:06.76
SignOnFilter.doFilter	.129		Ok	10:50:06.76
SignOn.create	.000		Ok	10:50:06.76
SignOn.authenticate	.019		Ok	10:50:06.76
User.findByPrimaryKey	.016		Ok	10:50:06.76
DataSource.getConnection	.000		Ok	10:50:06.76
PreparedStatement.executeQuery	.005		Ok	10:50:06.76
Connection.close	.000		Ok	10:50:06.76
User.matchPassword	.001		Ok	10:50:06.76
ShoppingClientController.processEvent	.028		Ok	10:50:06.76
ShoppingClientFacadeLocal.setUserId	.000		Ok	10:50:06.76
ShoppingClientFacadeLocal.getCustomer	.020		Ok	10:50:06.76
Customer.findByPrimaryKey	.015		Ok	10:50:06.76
DataSource.getConnection	.001		Ok	10:50:06.76
PreparedStatement.executeQuer	.006		Ok	10:50:06.76
Connection.close	.000		Ok	10:50:06.76
Customer.getProfile	.005		Ok	10:50:06.76
DataSource.getConnection	.000		Ok	10:50:06.76

This works for MS Windows DNA applications with COM/MTS/IIS components as well as J2EE applications

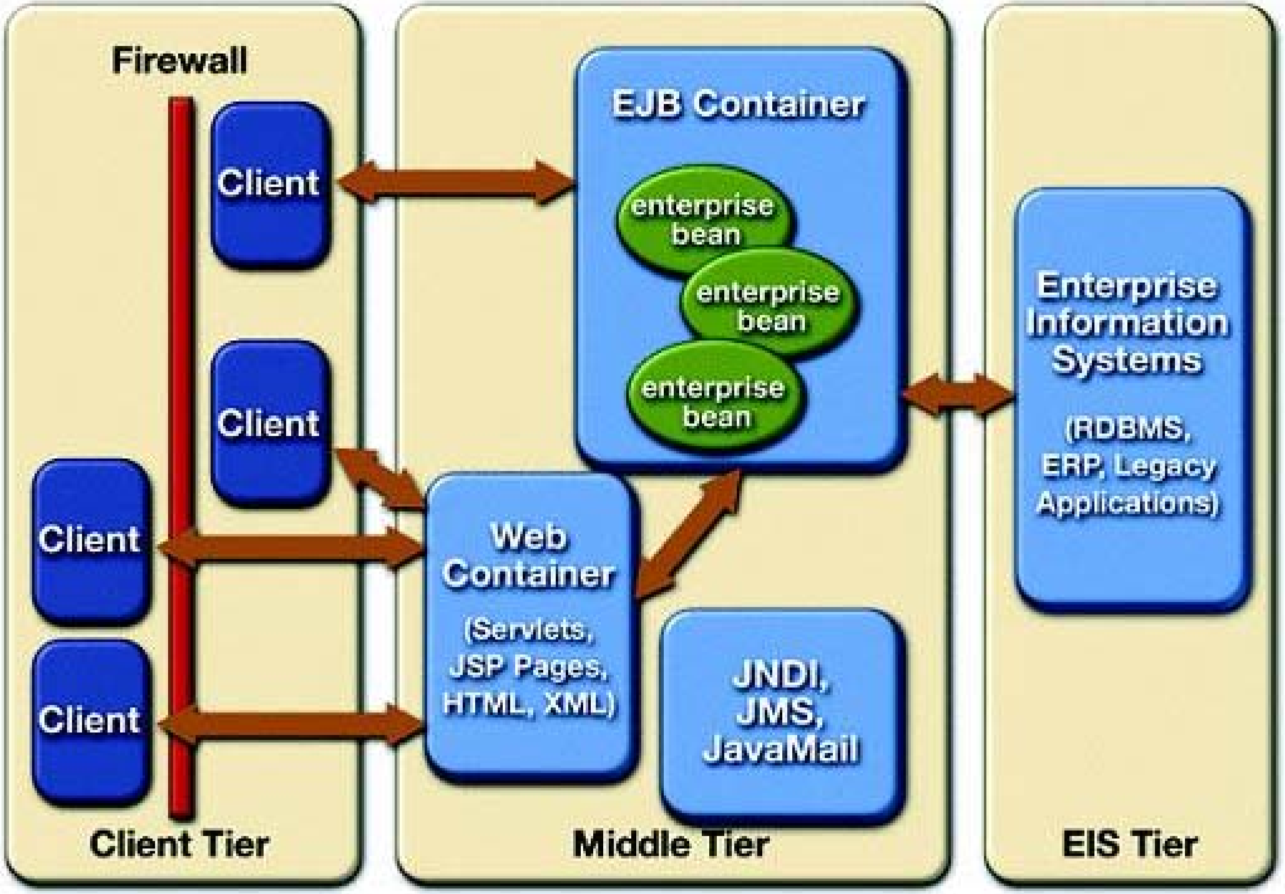
OV Transaction Analyzer Key Features

- **OVTA** refines the problem resolution (“triage”) processes.
  - Measures discovers and averages data for all transactions in a highly scalable fashion, but *selective tracing* minimizes impact to infrastructure.
  - Traces OV “Heartbeat” transactions
  - Optionally Measures and Traces customer transactions from their web browser for detailed end-user diagnostics of problems.
- **OVTA** delivers transaction drill-down for J2EE and/or COM executable environments
  - No source code changes for core functionality (*optional* web browser client monitoring requires use of a JavaScript client monitor that involves a trivial change).
  - Auto-adaptive (automated provisioning of logical web hosts and transaction sub-components).
  - Auto baselining of transaction components
- **OVTA** delivers end-to-end SLA management of transactions through data-level integration with OVIS.

hp OpenView transaction analyzer: how it works


http(s)
http(s)
Application Database
Transaction Agent/Monitor
Transaction Agent/Monitor
Client Monitor
Web Client
Web Server Managed Node(s)
J2EE Application Server or COM/MTS Managed Node(s)
http(s)
http(s)
http(s)
Measurement Server Software
Measurement Database
Measurement Server
XML
Key
IPA Component
IPA Console

J2EE Architecture – Diagram



For detailed information see: http://java.sun.com/blueprints/

OV Transaction Analyzer Data Aggregation

- **OVTA** discovers the components of an application as it executes. This information is stored in the OVTA database as a ‘parent/child’ data structure that defines the relationship between components.
- **OVTA** measures statistics for all transactions executed on the applications path. The data is averaged into “buckets” and a record is posted every 5 minutes. This is called *aggregated data* and is used for general purpose discovery and the construction of baselines.
  - Data aggregation has a very low overhead on the application because it doesn’t involve heavy in-line logic. It is literally nothing more than “stopwatch” calls being thrown out to an off-line process in an asynchronous fashion.
  - Typical overhead for Web Tier = 2-3 msec (.001 seconds) per http request.
  - Typical overhead for J2EE components = 100 µsec (.0001 seconds) per application component (EJB, JDBC call, etc.)
- **OVTA** decouples inline transaction processing and off-line data management to minimize impact on the application. Only “active” transactions have have their data posted.

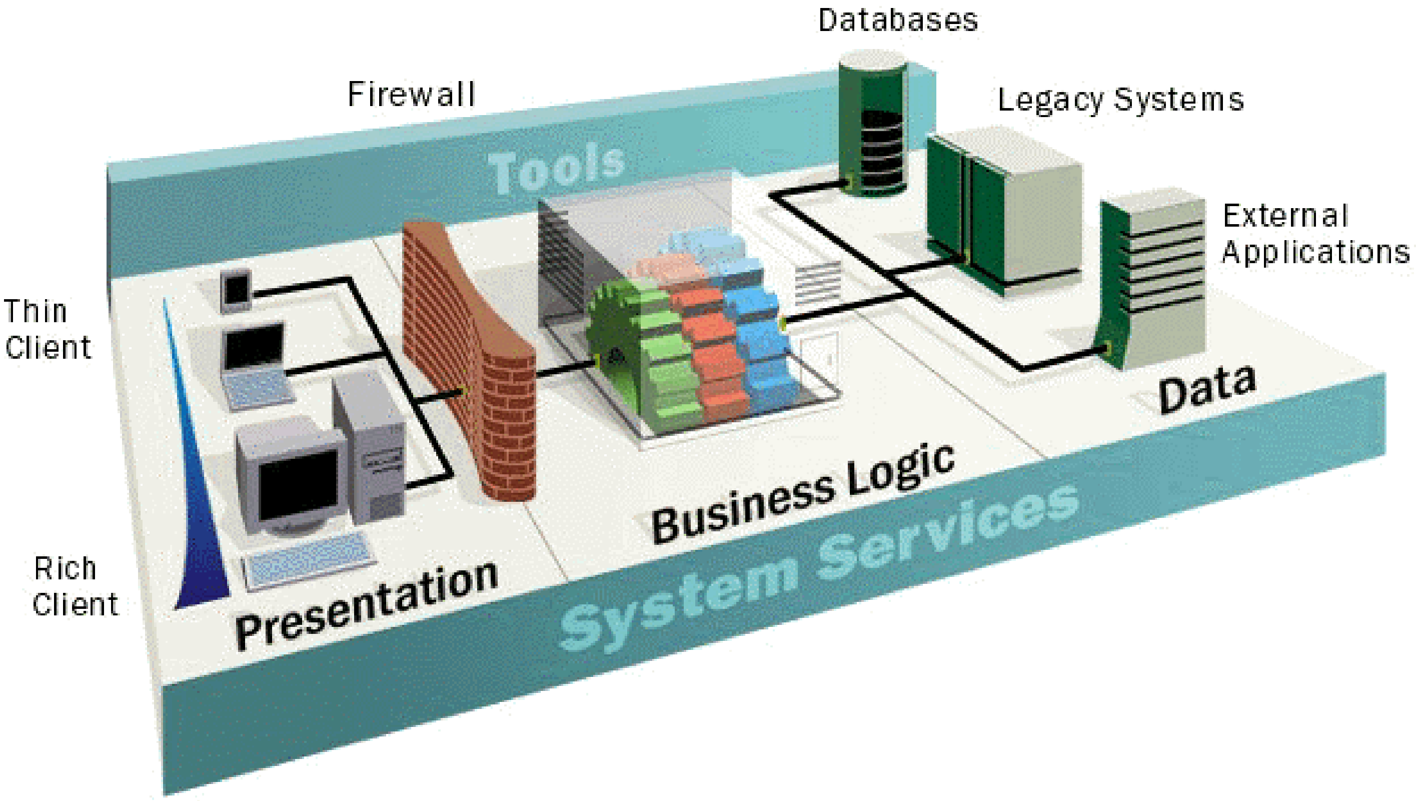
OV Transaction Analyzer Tracing

- **OVTA** tracing is selective meaning that only certain conditions trigger a trace. Out of the box these are:
  - OVIS probes executing web transactions against the application. OVTA recognizes OVIS probe transactions and automatically traces all the “heartbeats” out of the box.
  - Transactions originating from a web browser that is accessing a web page that has been instrumented with the OVTA JavaScript client monitor (a session base cookie identifies the session as one that is to be traced).
- **OVTA** tracing overhead inline to the application is the same as for aggregated data:
  - Typical overhead for Web Tier = 2-3 msec (.001 seconds) per http request.
  - Typical overhead for J2EE components = 100 μsec (.0001 seconds) per application component (EJB, JDBC call, etc.)
- **OVTA** tracing “offline” processing overhead involves assembling the trace and posting it to the measurement server.

J2EE Application Transactions

- ❑ With J2EE Applications, OVTA automatically detects and classifies business transactions flowing through Web servers (IIS, iPlanet, or Apache) used in conjunction with J2EE applications deployed to BEA WebLogic, and IBM WebSphere application servers.
- ❑ The Apache and iPlanet Web server instances must be manually configured if they are to be recognized as the beginning of the transaction. With IIS this instrumentation is performed automatically.
- ❑ Once the OVTA transaction monitor has been installed and configured on a managed node with a supported application server then all ***servlet, filter, JSP, EJB, and JDBC component*** response times are automatically recorded and associated with the corresponding top-level business transaction.
- ❑ Only those application server instances that have been started with monitoring enabled will record transaction response times. The modifications consist of adding additional startup arguments to the command that launches the application server.

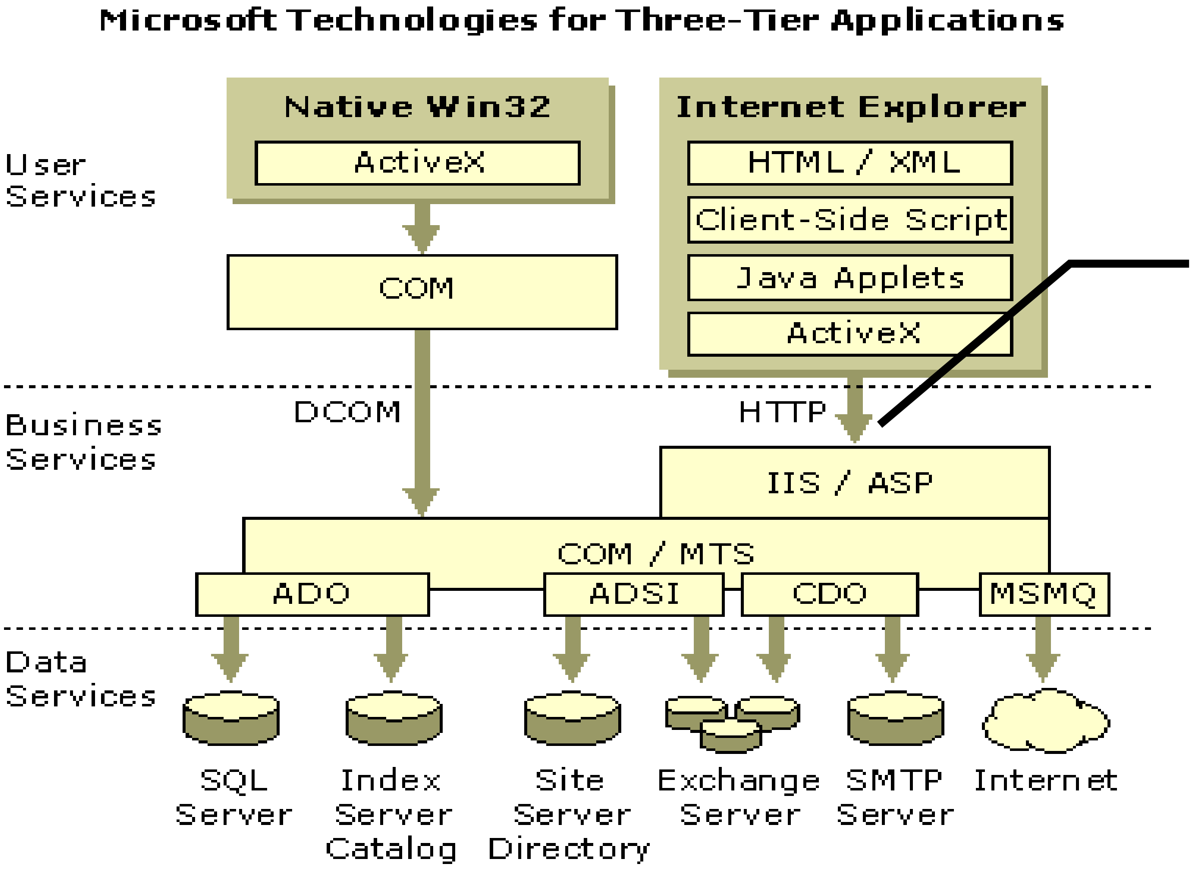
Microsoft Windows DNA



For detailed information see:

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dndna/html/dnasolutions.asp

OVTA Windows DNA Support



OVTA supports transactions incident on the web tier (no fat-client support)

Windows DNA Application Transactions

- OVTA automatically detects transactions flowing through ***IIS***, classifying the different URLs into logical "transaction types" using user-specified classification rules.
- OVTA captures transaction response times, OUT OF THE BOX, for most COM business logic by including ***inetinfo.exe*** and ***mtx.exe*** as monitored applications. For COM objects that execute outside MTS, the user must specify the corresponding COM executables using the OVTA Configuration Editor.
- These transactions are then traced through ***ASPs*** into ***MTS*** packages and their constituent COM objects, with response times being recorded at each component boundary, including ***ADO*** and ***OLEDB*** database component boundaries. Note: OVTA records the time spent in the application that invokes the database components; it does not, however, distinguish time spent within the database server itself.
- Microsoft Windows DNA Components Include:
  - Presentation : Internet Information Services (IIS 4.0/5.0),
  - Presentation/Business Logic : Active Server Pages (ASP),
  - Business Logic : Microsoft Transaction Server (MTS),
  - Business Logic: Component Object Model (COM),
  - Data : ADO/OLEDB and COMTI.

OVTA Demo …

invent

the remainder of tutorial covers setting this up and running this solution

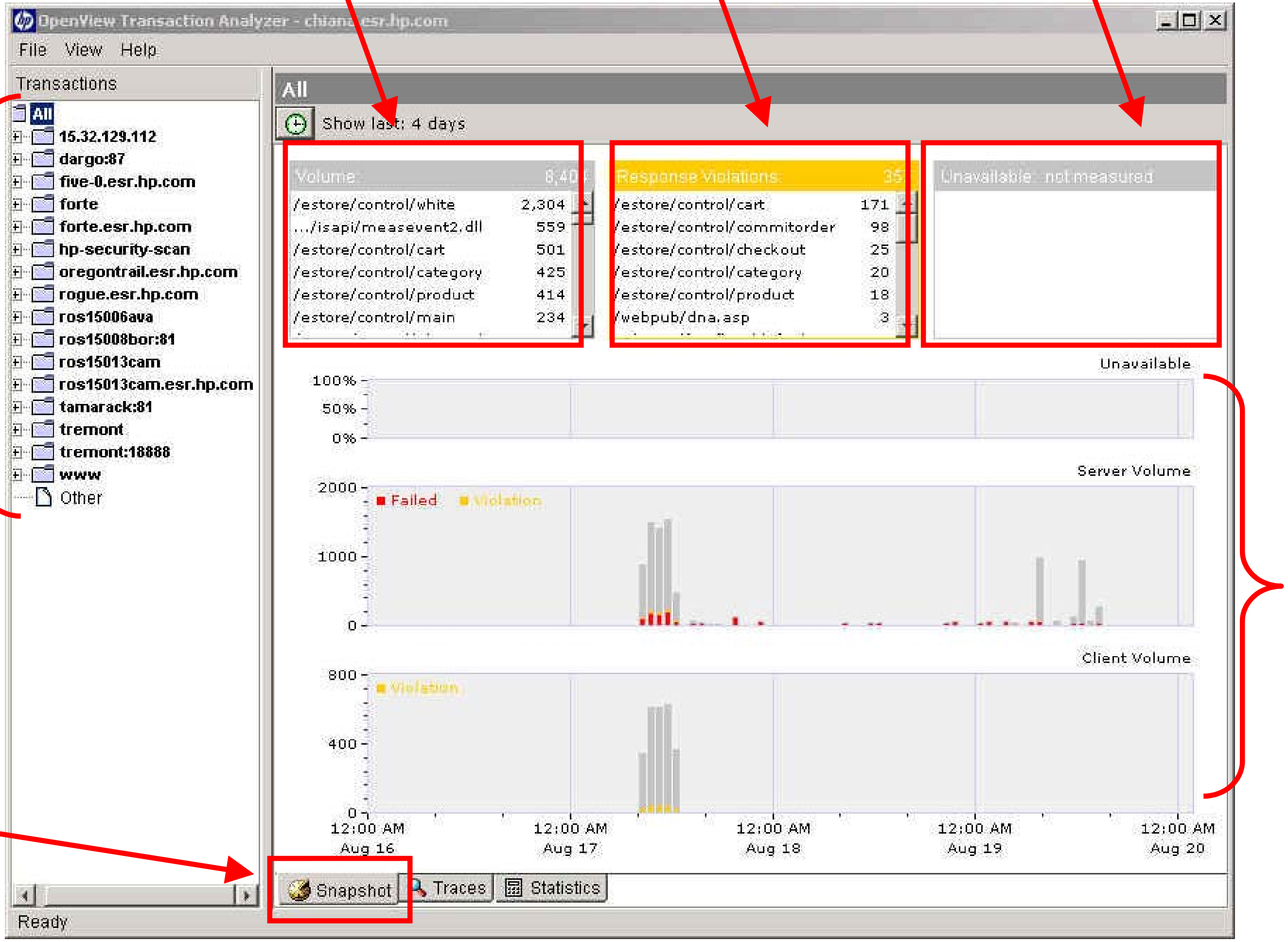
OVTA Features – Console

Snapshot View - overall

Transaction Volumes and list

Response Time Violations

Availability



- All
- 15.32.129.112
- dargo:87
- five-0.esr.hp.com
- forte
- forte.esr.hp.com
- hp-security-scan
- oregontrail.esr.hp.com
- rogue.esr.hp.com
- ros15006ava
- ros15008bor:81
- ros15013cam
- ros15013cam.esr.hp.com
- tamarack:81
- tremont
- tremont:18888
- www
- Other

Volume	8,40
/estore/control/white	2,304
.../isapi/measevent2.dll	559
/estore/control/cart	501
/estore/control/category	425
/estore/control/product	414
/estore/control/main	234

Response Violations	35
/estore/control/cart	171
/estore/control/commitorder	98
/estore/control/checkout	25
/estore/control/category	20
/estore/control/product	18
/webpub/dna.asp	3

Unavailable: not measured

Logical Web Hosts (auto discovered)

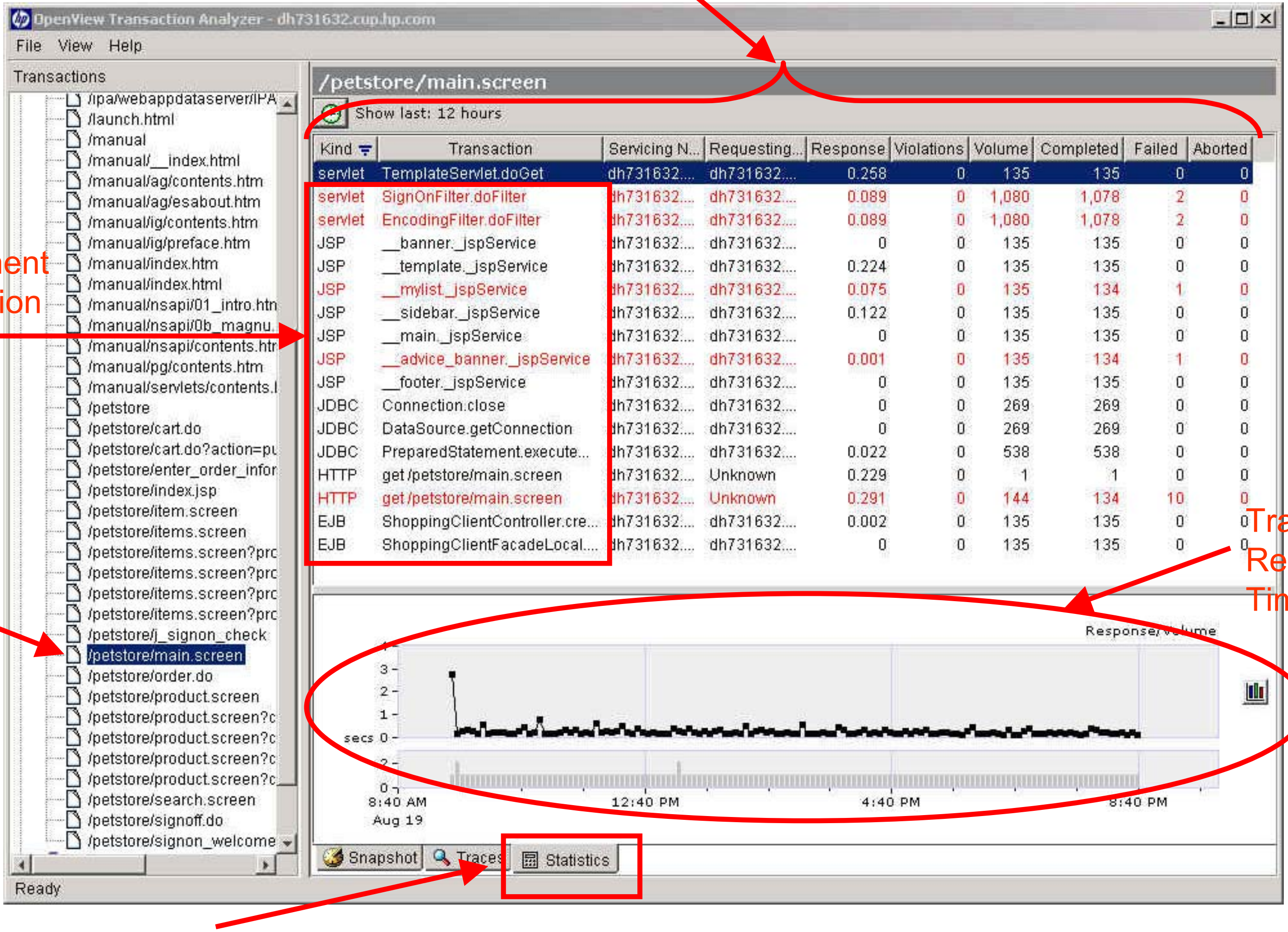
Summary Charts

Current View

OVTA Features – Console

Statistics View - J2EE transaction

Any “Column Headings” when selected affect sorting. They can also be moved left.right.



OpenView Transaction Analyzer - dh731632.cup.hp.com

File View Help

Transactions

- /ipa/webappdataserver/IPA
- /launch.html
- /manual
- /manual/__index.html
- /manual/ag/contents.htm
- /manual/ag/esabout.htm
- /manual/ig/contents.htm
- /manual/ig/preface.htm
- /manual/index.htm
- /manual/index.html
- /manual/nsapi/01_intro.htn
- /manual/nsapi/0b_magnu.
- /manual/nsapi/contents.htr
- /manual/pg/contents.htm
- /manual/servlets/contents.l
- /petstore
- /petstore/cart.do
- /petstore/cart.do?action=pu
- /petstore/enter_order_infor
- /petstore/index.jsp
- /petstore/item.screen
- /petstore/items.screen
- /petstore/items.screen?prc
- /petstore/items.screen?prc
- /petstore/items.screen?prc
- /petstore/items.screen?prc
- /petstore/j_signon_check
- /petstore/main.screen
- /petstore/order.do
- /petstore/product.screen
- /petstore/product.screen?c
- /petstore/product.screen?c
- /petstore/product.screen?c
- /petstore/product.screen?c
- /petstore/search.screen
- /petstore/signoff.do
- /petstore/signon_welcome

Ready

/petstore/main.screen

Show last: 12 hours

Kind	Transaction	Servicing N...	Requesting...	Response	Violations	Volume	Completed	Failed	Aborted
servlet	TemplateServlet.doGet	dh731632....	dh731632....	0.258	0	135	135	0	0
servlet	SignOnFilter.doFilter	dh731632....	dh731632....	0.089	0	1,080	1,078	2	0
servlet	EncodingFilter.doFilter	dh731632....	dh731632....	0.089	0	1,080	1,078	2	0
JSP	__banner._jspService	dh731632....	dh731632....	0	0	135	135	0	0
JSP	__template._jspService	dh731632....	dh731632....	0.224	0	135	135	0	0
JSP	__mylist._jspService	dh731632....	dh731632....	0.075	0	135	134	1	0
JSP	__sidebar._jspService	dh731632....	dh731632....	0.122	0	135	135	0	0
JSP	__main._jspService	dh731632....	dh731632....	0	0	135	135	0	0
JSP	__advice_banner._jspService	dh731632....	dh731632....	0.001	0	135	134	1	0
JSP	__footer._jspService	dh731632....	dh731632....	0	0	135	135	0	0
JDBC	Connection.close	dh731632....	dh731632....	0	0	269	269	0	0
JDBC	DataSource.getConnection	dh731632....	dh731632....	0	0	269	269	0	0
JDBC	PreparedStatement.execute...	dh731632....	dh731632....	0.022	0	538	538	0	0
HTTP	get /petstore/main.screen	dh731632....	Unknown	0.229	0	1	1	0	0
HTTP	get /petstore/main.screen	dh731632....	Unknown	0.291	0	144	134	10	0
EJB	ShoppingClientController.cre...	dh731632....	dh731632....	0.002	0	135	135	0	0
EJB	ShoppingClientFacadeLocal....	dh731632....	dh731632....	0	0	135	135	0	0

Particular Component Kind and Transaction Type

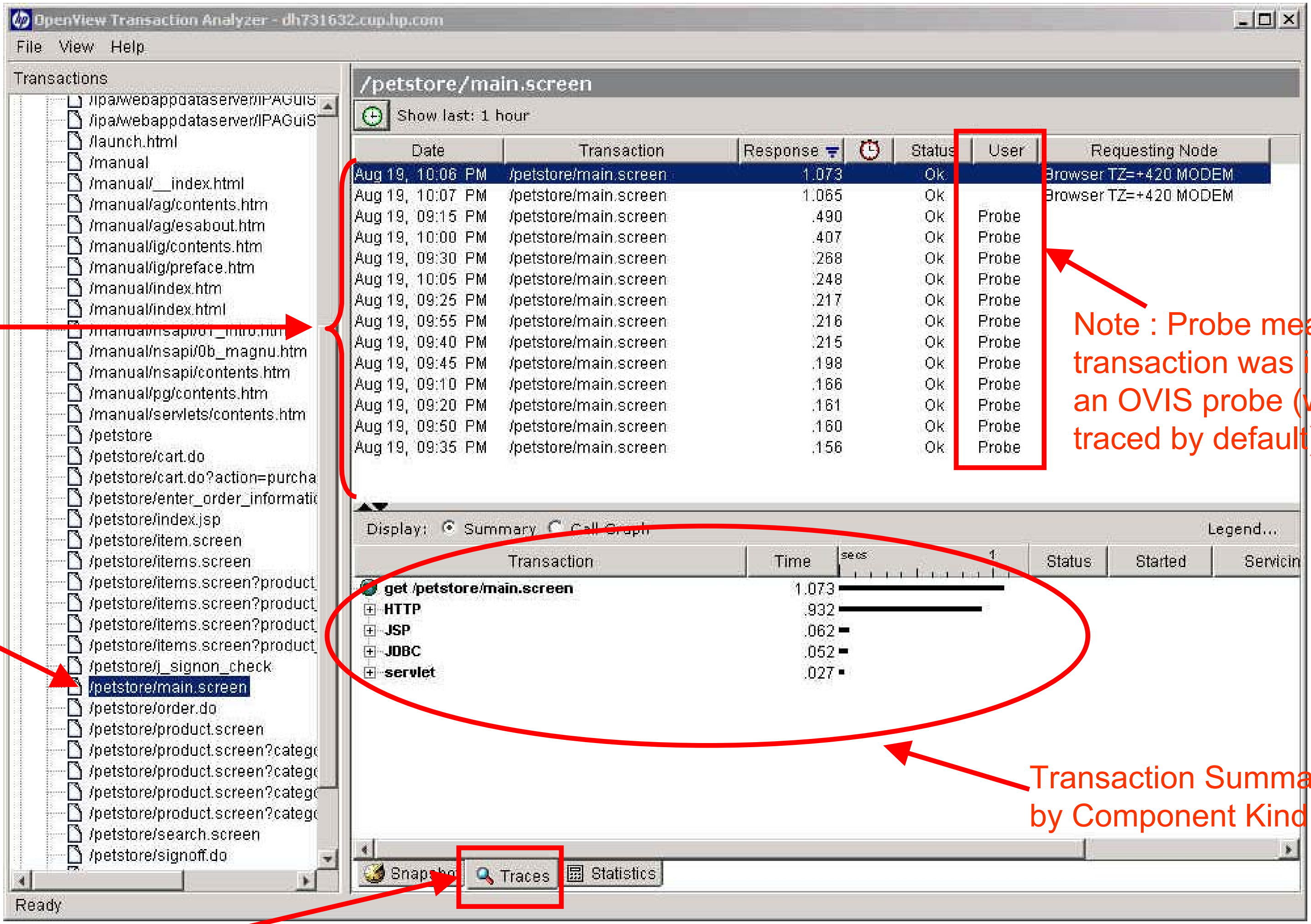
Selected Top-level Web Transaction

Transaction Response Times

Current View

OVTA Features – Console

Trace View - J2EE transaction “Summary”



- /ipa/webappdataserver/IPAGUIS
- /ipa/webappdataserver/IPAGuiS
- /launch.html
- /manual
- /manual/__index.html
- /manual/ag/contents.htm
- /manual/ag/esabout.htm
- /manual/ig/contents.htm
- /manual/ig/preface.htm
- /manual/index.htm
- /manual/index.html
- /manual/nsapi/01_intro.htm
- /manual/nsapi/0b_magnu.htm
- /manual/nsapi/contents.htm
- /manual/pg/contents.htm
- /manual/servlets/contents.htm
- /petstore
- /petstore/cart.do
- /petstore/cart.do?action=purcha
- /petstore/enter_order_informati
- /petstore/index.jsp
- /petstore/item.screen
- /petstore/items.screen
- /petstore/items.screen?product
- /petstore/items.screen?product
- /petstore/items.screen?product
- /petstore/items.screen?product
- /petstore/j_signon_check
- /petstore/main.screen
- /petstore/order.do
- /petstore/product.screen
- /petstore/product.screen?catego
- /petstore/product.screen?catego
- /petstore/product.screen?catego
- /petstore/product.screen?catego
- /petstore/search.screen
- /petstore/signoff.do

/petstore/main.screen

Show last: 1 hour

Date	Transaction	Response	⏱	Status	User	Requesting Node
Aug 19, 10:06 PM	/petstore/main.screen	1.073		Ok		Browser TZ=+420 MODEM
Aug 19, 10:07 PM	/petstore/main.screen	1.065		Ok		Browser TZ=+420 MODEM
Aug 19, 09:15 PM	/petstore/main.screen	.490		Ok	Probe	
Aug 19, 10:00 PM	/petstore/main.screen	.407		Ok	Probe	
Aug 19, 09:30 PM	/petstore/main.screen	.268		Ok	Probe	
Aug 19, 10:05 PM	/petstore/main.screen	.248		Ok	Probe	
Aug 19, 09:25 PM	/petstore/main.screen	.217		Ok	Probe	
Aug 19, 09:55 PM	/petstore/main.screen	.216		Ok	Probe	
Aug 19, 09:40 PM	/petstore/main.screen	.215		Ok	Probe	
Aug 19, 09:45 PM	/petstore/main.screen	.198		Ok	Probe	
Aug 19, 09:10 PM	/petstore/main.screen	.166		Ok	Probe	
Aug 19, 09:20 PM	/petstore/main.screen	.161		Ok	Probe	
Aug 19, 09:50 PM	/petstore/main.screen	.160		Ok	Probe	
Aug 19, 09:35 PM	/petstore/main.screen	.156		Ok	Probe	

Display: ● Summary ○ Call Graph Legend...

Transaction	Time	secs 1	Status	Started	Servicin
get /petstore/main.screen	1.073				
⊞ HTTP	.932				
⊞ JSP	.062				
⊞ JDBC	.052				
⊞ servlet	.027				

Traced Transaction Instances

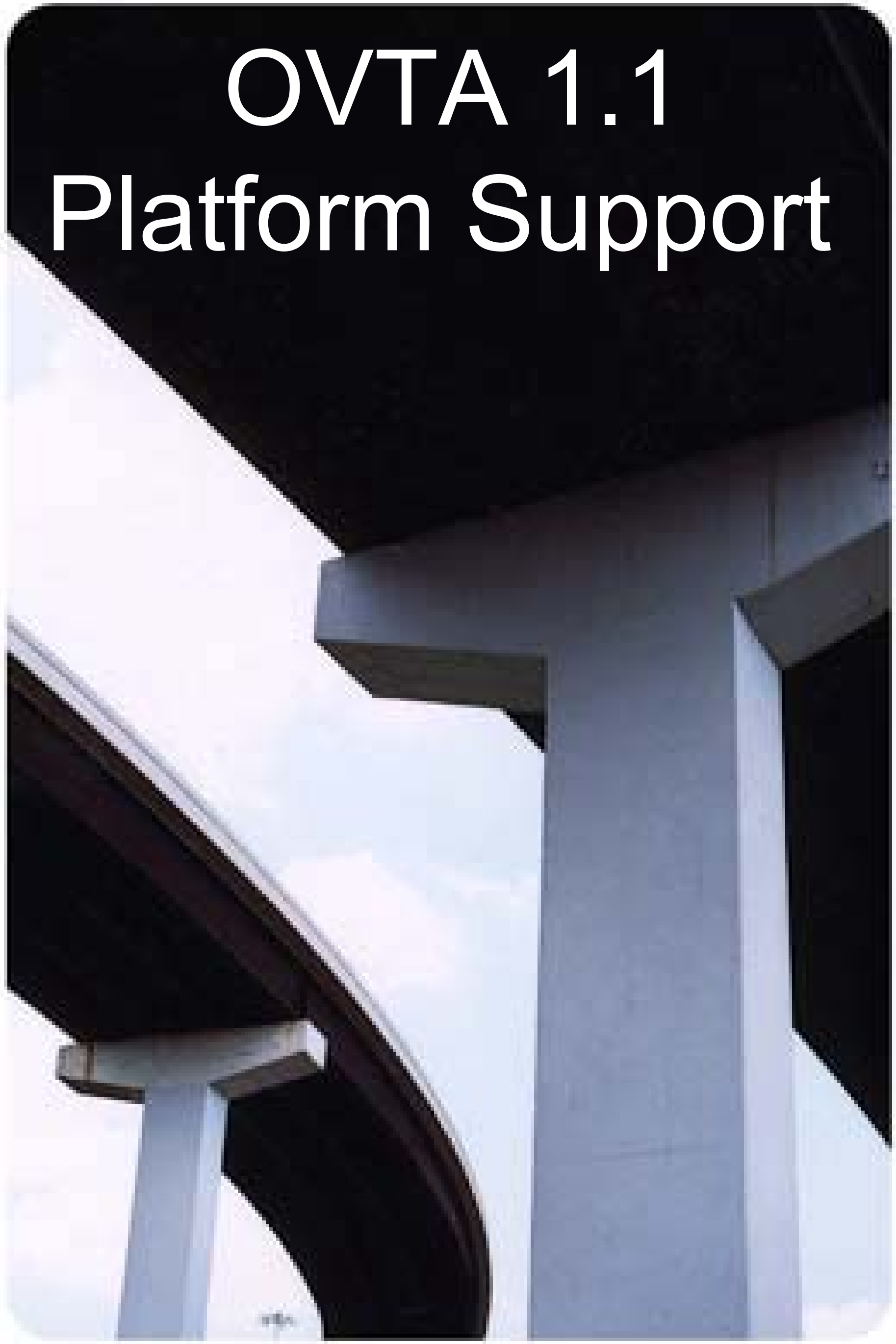
Note : Probe means that transaction was initiated by an OVIS probe (which are traced by default).

Selected Transaction

Transaction Summary by Component Kind

Current View

OVTA 1.1 Platform Support



supported platforms

systems:

- → HP-UX 11.x, Solaris 2.6 7.0 8.0
- → Windows NT 4.0 SP 6a, Windows 2000 >= SP1

application servers:

- → BEA WebLogic 5.1 ,6.1, 7.0 (Unix/Windows)
- → IBM Websphere 3.5, 4.0 (Unix/Windows)
- → Microsoft Windows DNA (MTS/COM) (Windows)

web servers:

- → iPlanet 3.6x, 4.x, 6.x (Unix/Windows)
- → Apache 1.3.x (Unix)
- → IBM HTTPD (Unix)
- → Microsoft IIS 4.0, 5.0 (Windows)

invent

Up next … Part 2

Installation

hp OpenView

Transaction Management with HP OpenView

HP World 2003

Part 2 of 4

Jim Pitts

*Solution Services Consultant/
HP OpenView Business Unit*

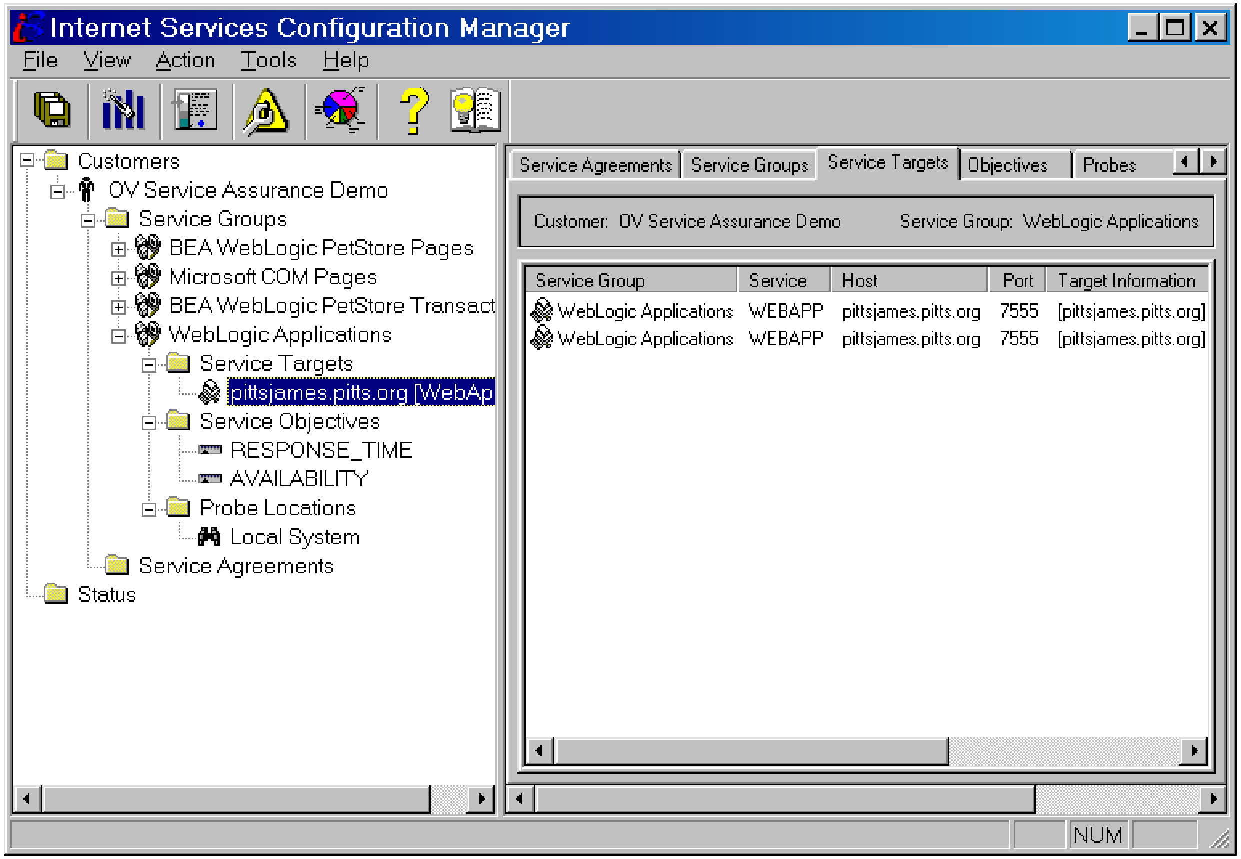
August 2003

i n v e n t

Agenda (4 hours)

- Part 1 – Introduction to transaction management with HP OpenView featuring HP OpenView Transaction Analyzer (1 hour + 10 minute break)
- Part 2 – Installation of core HP OpenView solutions shown in Part 1 (1 hour + 10 minute break)
- Part 3 - Configuration of core HP OpenView solutions shown in Part 1 (1 hour + 10 minute break)
- Part 4 – Configuration of Client Monitoring for solution shown in Part 1 (30 minutes)
- Questions and Answers

Real-time install demo
hp OpenView Internet Services
(Windows Platform)



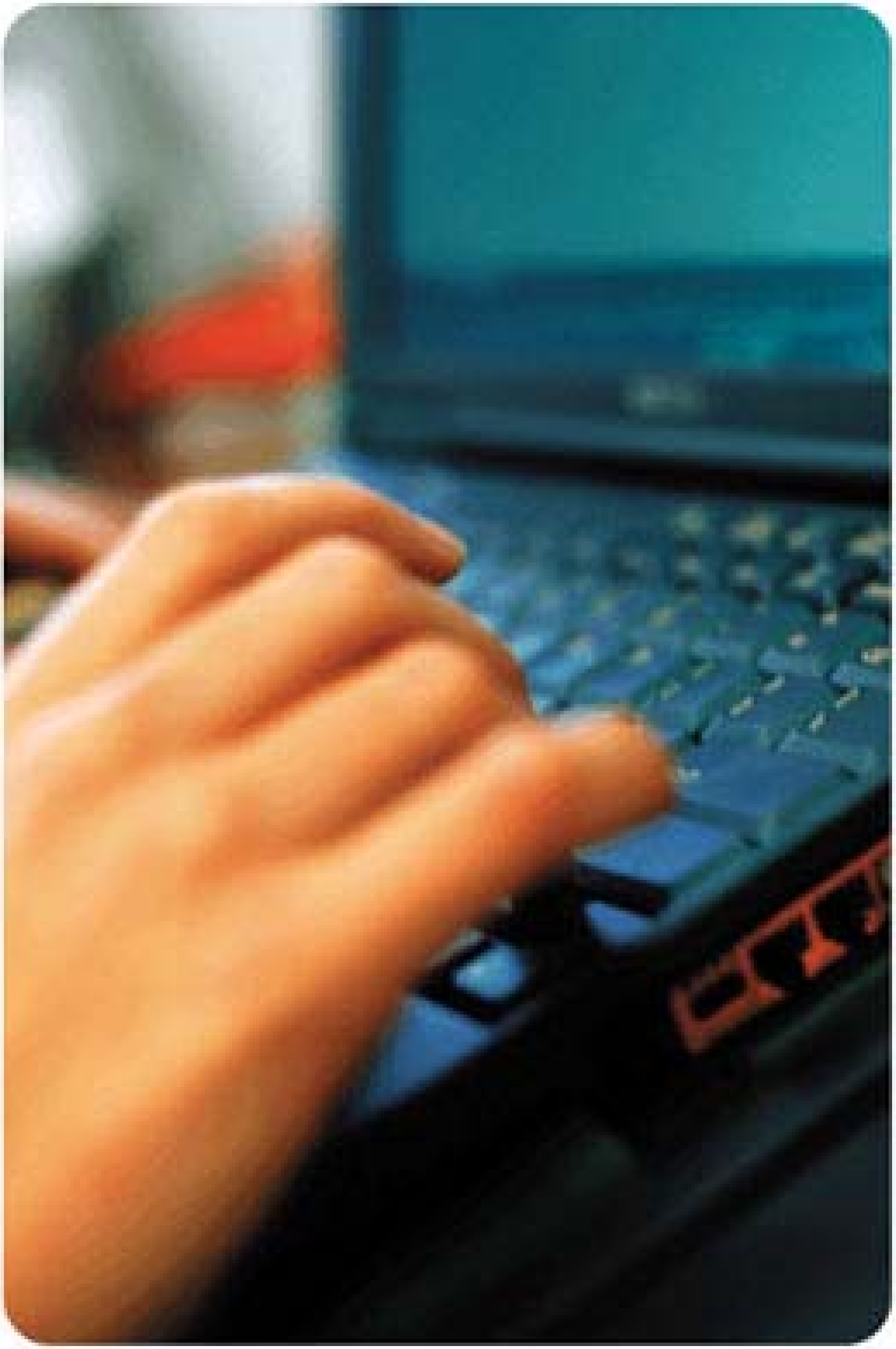
- Customers
  - OV Service Assurance Demo
    - Service Groups
      - BEA WebLogic PetStore Pages
      - Microsoft COM Pages
      - BEA WebLogic PetStore Transact
      - WebLogic Applications
        - Service Targets
          - pittsjames.pitts.org [WebAp
        - Service Objectives
          - RESPONSE_TIME
          - AVAILABILITY
        - Probe Locations
          - Local System
    - Service Agreements
- Status

Customer: OV Service Assurance Demo   Service Group: WebLogic Applications

Service Group	Service	Host	Port	Target Information
WebLogic Applications	WEBAPP	pittsjames.pitts.org	7555	[pittsjames.pitts.org]
WebLogic Applications	WEBAPP	pittsjames.pitts.org	7555	[pittsjames.pitts.org]

OVTA Installation Overview

- Install the *measurement server* software on a node along with its database (Solid or Oracle 8.x). This will also install HPAS 8.1, which is currently the framework upon which the *measurement server* is built.
- Install a transaction agent and associated component monitors on each of the servers supporting web applications. These are called *managed nodes*. These *managed nodes* include the nodes acting as Web servers in the web tier, nodes running supported application servers, and any other back-end servers on which business logic components execute.
- Configure the Web servers and application servers to work with OVTA (e.g. Web server virtual directories, filters, application server startup scripts).
- Once deployed, OVTA automatically detects application components and the business transactions flowing through them and forwards transaction and component response times to the OVTA *measurement server*.



other OVTA requirements

console:

- → IE 5+
- → Netscape 4.5+
- → JRE 1.3.1
- → Sun Java Web Start

measurement Server:

- → Solid 3.5x (bundled)

or

- → Oracle 8.1.7, 9i
- → JRE 1.3.1 (bundled)

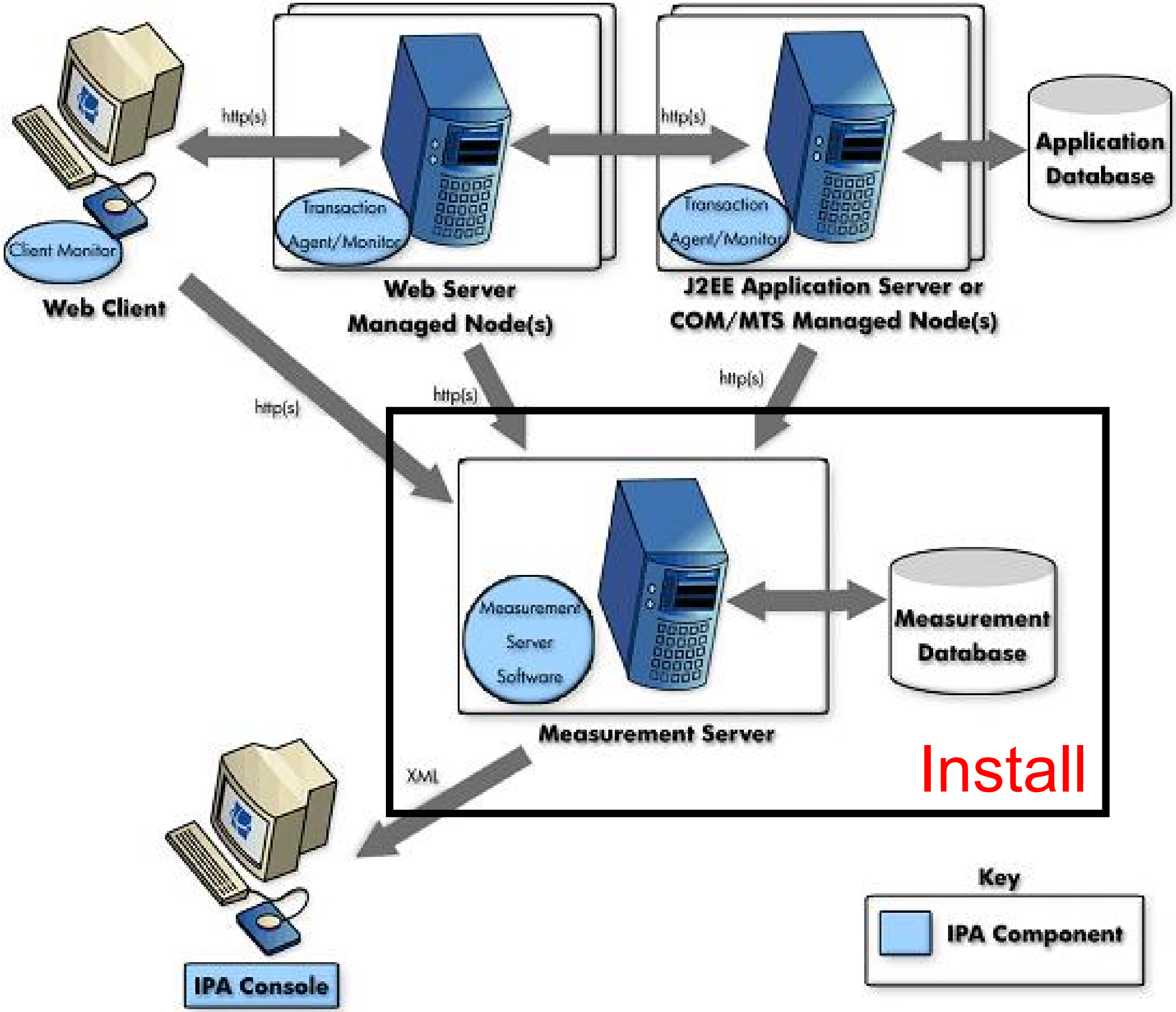
See OVTA 1.1 product brief

Typical Deployment Steps

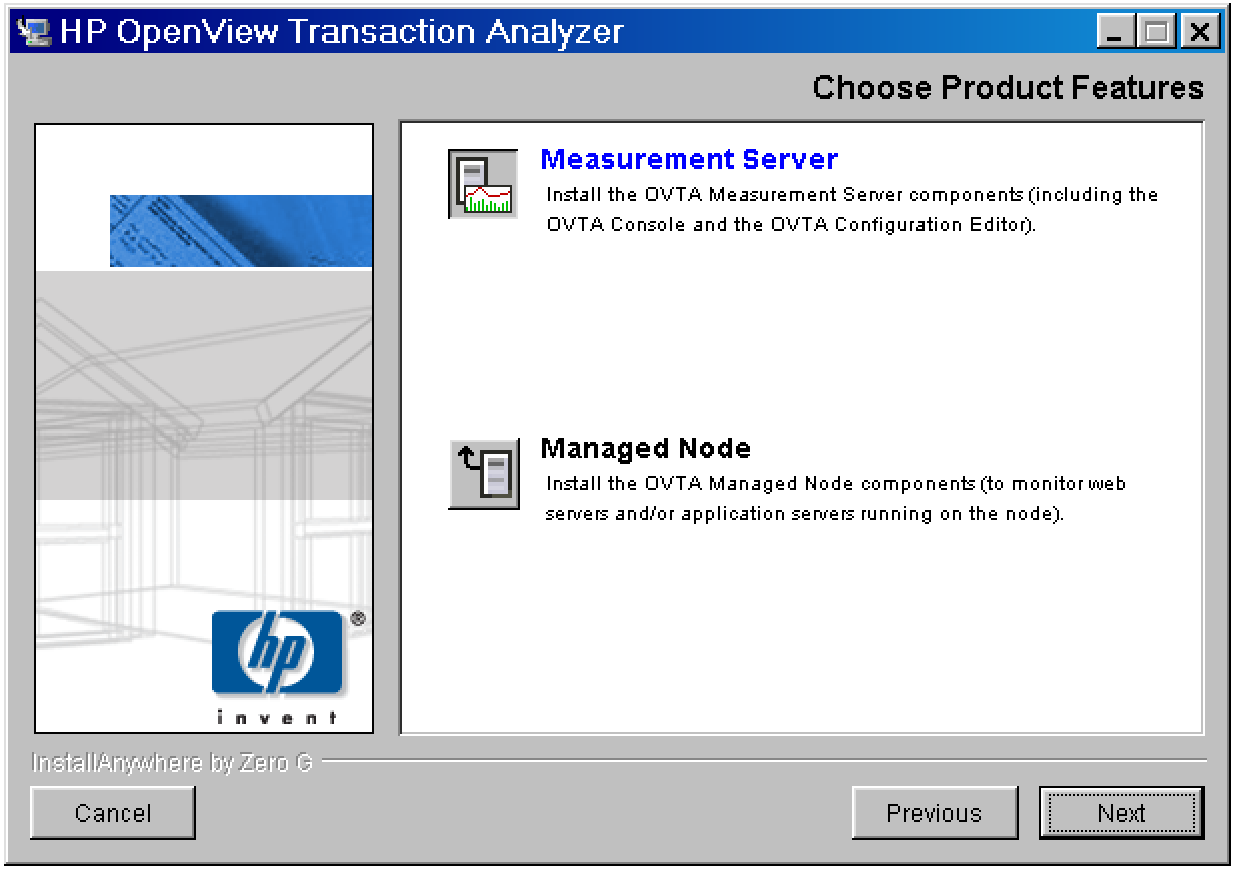
First, identify an application you want to monitor, then:

- Install the *measurement server* portion of OVTA (~8 minutes) and configure the application server startup (~5 minutes). System reboot is also required FOR THE MEASUREMENT SERVER ONLY.
- Install the *managed node* portion of OVTA (~6 minutes/node) and manually configure the Web servers and J2EE application servers for OVTA (~5 minutes per web/application server, IIS requires no configuration).

hp OpenView transaction analyzer: how it works



Real-time install demo OVTA Measurement Server (Windows Platform)



HP OpenView Transaction Analyzer

Choose Product Features

Measurement Server

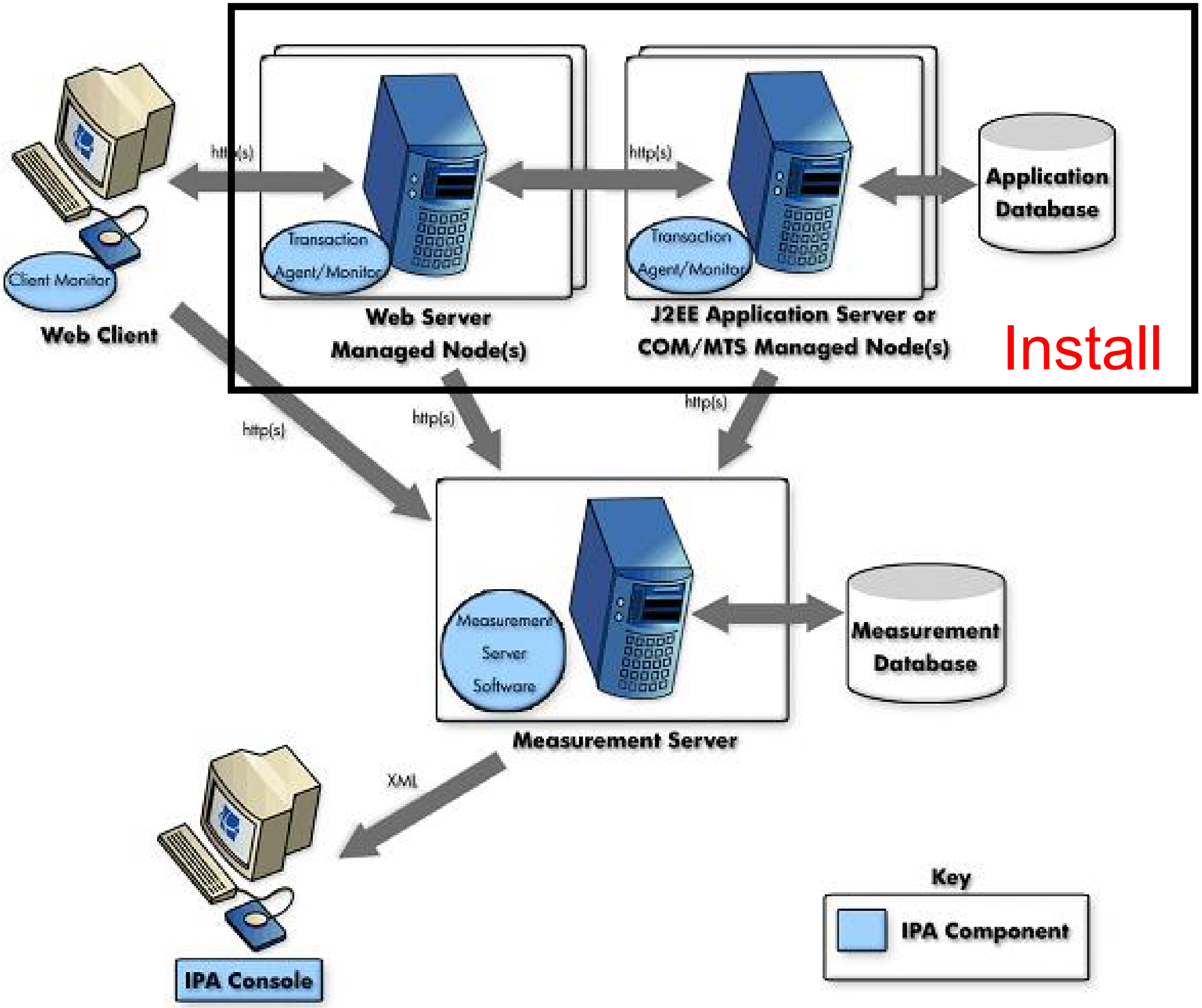
Install the OVTA Measurement Server components (including the OVTA Console and the OVTA Configuration Editor).

Managed Node

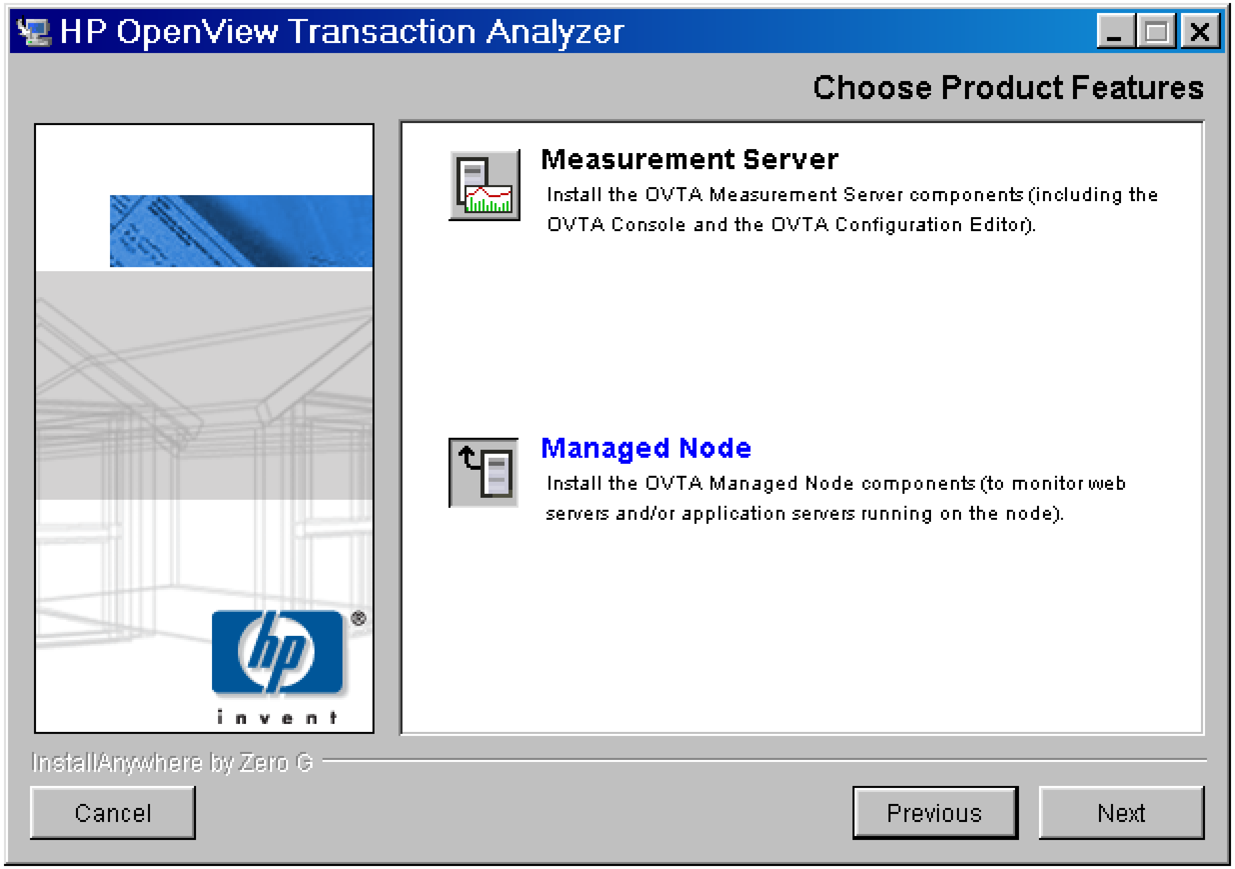
Install the OVTA Managed Node components (to monitor web servers and/or application servers running on the node).

InstallAnywhere by Zero G

hp OpenView transaction analyzer: how it works



Real-time install demo OVTA Managed Node (Windows Platform)



HP OpenView Transaction Analyzer

Choose Product Features

Measurement Server

Install the OVTA Measurement Server components (including the OVTA Console and the OVTA Configuration Editor).

Managed Node

Install the OVTA Managed Node components (to monitor web servers and/or application servers running on the node).

invent

Up next … Part 3
Configuration

hp OpenView

Transaction Management with HP OpenView

HP World 2003

Part 3 of 4

Jim Pitts

*Solution Services Consultant/
HP OpenView Business Unit*

August 2003

i n v e n t

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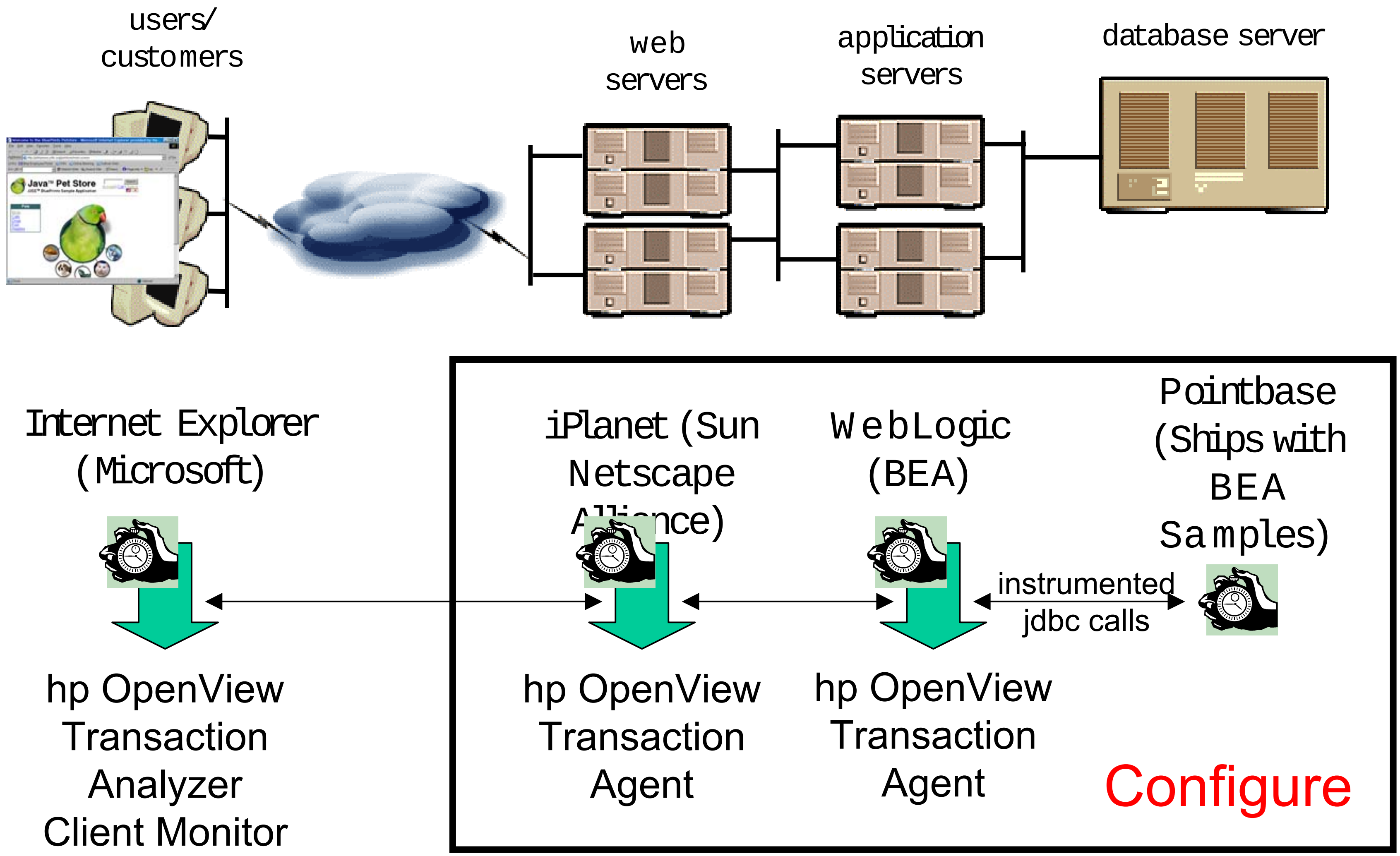
- Part 4 – Configuration of Client Monitoring for solution shown in Part 1 (30 minutes)
- Questions and Answers

Tutorial Architecture



users/ customers

web servers

application servers

database server

Internet Explorer (Microsoft)

iPlanet (Sun Netscape Alliance)

WebLogic (BEA)

Pointbase (Ships with BEA Samples)

instrumented jdbc calls

hp OpenView Transaction Analyzer Client Monitor

hp OpenView Transaction Agent

hp OpenView Transaction Agent

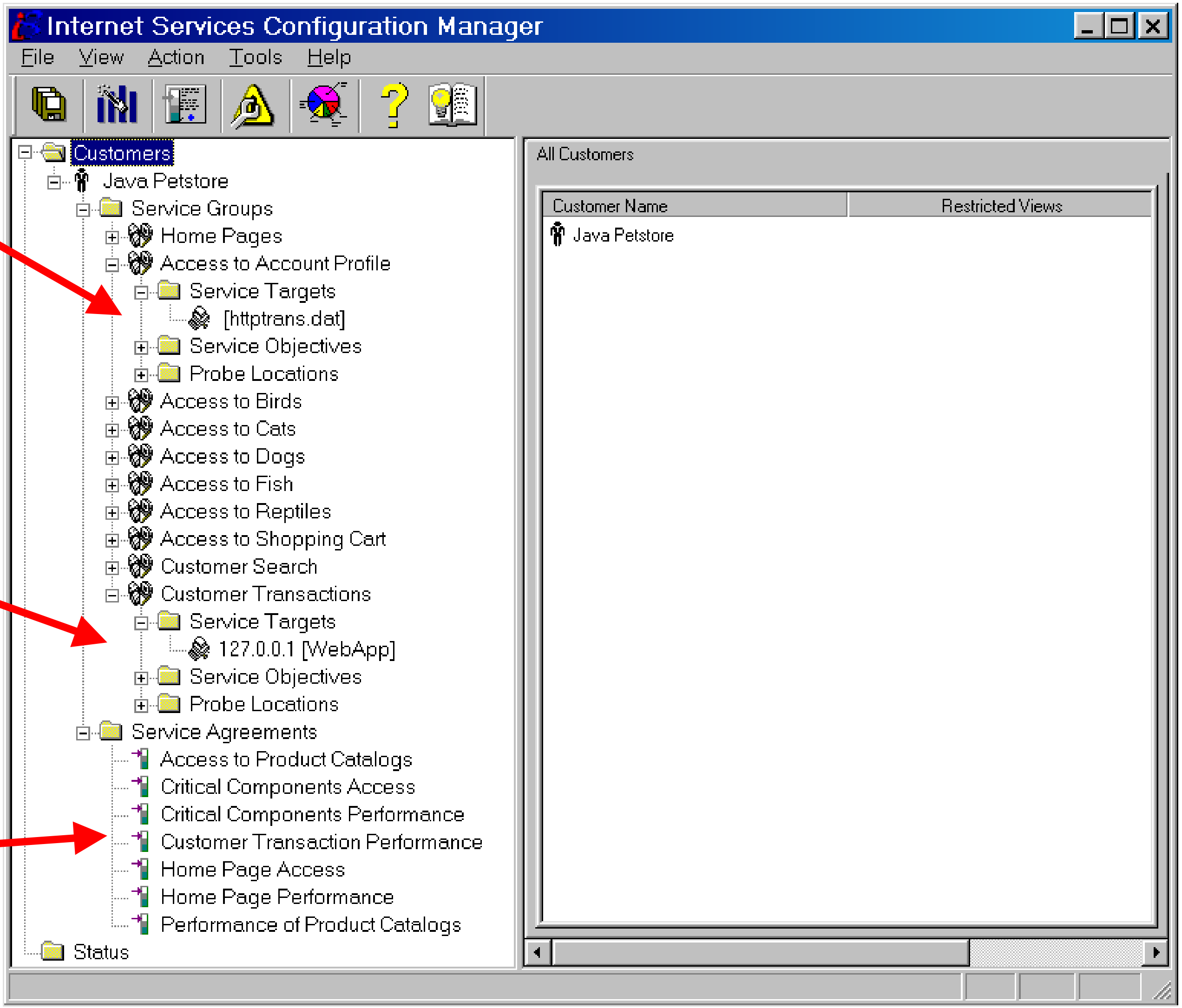
Configure

Configuration of OV Internet Services (Live Demo)

Complex Synthetic Web Transactions

Integration with OVTA Live Transactions

Service Level Agreements



- Customers
  - Java Petstore
    - Service Groups
      - Home Pages
      - Access to Account Profile
        - Service Targets
          - [httptrans.dat]
        - Service Objectives
        - Probe Locations
      - Access to Birds
      - Access to Cats
      - Access to Dogs
      - Access to Fish
      - Access to Reptiles
      - Access to Shopping Cart
      - Customer Search
      - Customer Transactions
        - Service Targets
          - 127.0.0.1 [WebApp]
        - Service Objectives
        - Probe Locations
    - Service Agreements
      - Access to Product Catalogs
      - Critical Components Access
      - Critical Components Performance
      - Customer Transaction Performance
      - Home Page Access
      - Home Page Performance
      - Performance of Product Catalogs
- Status

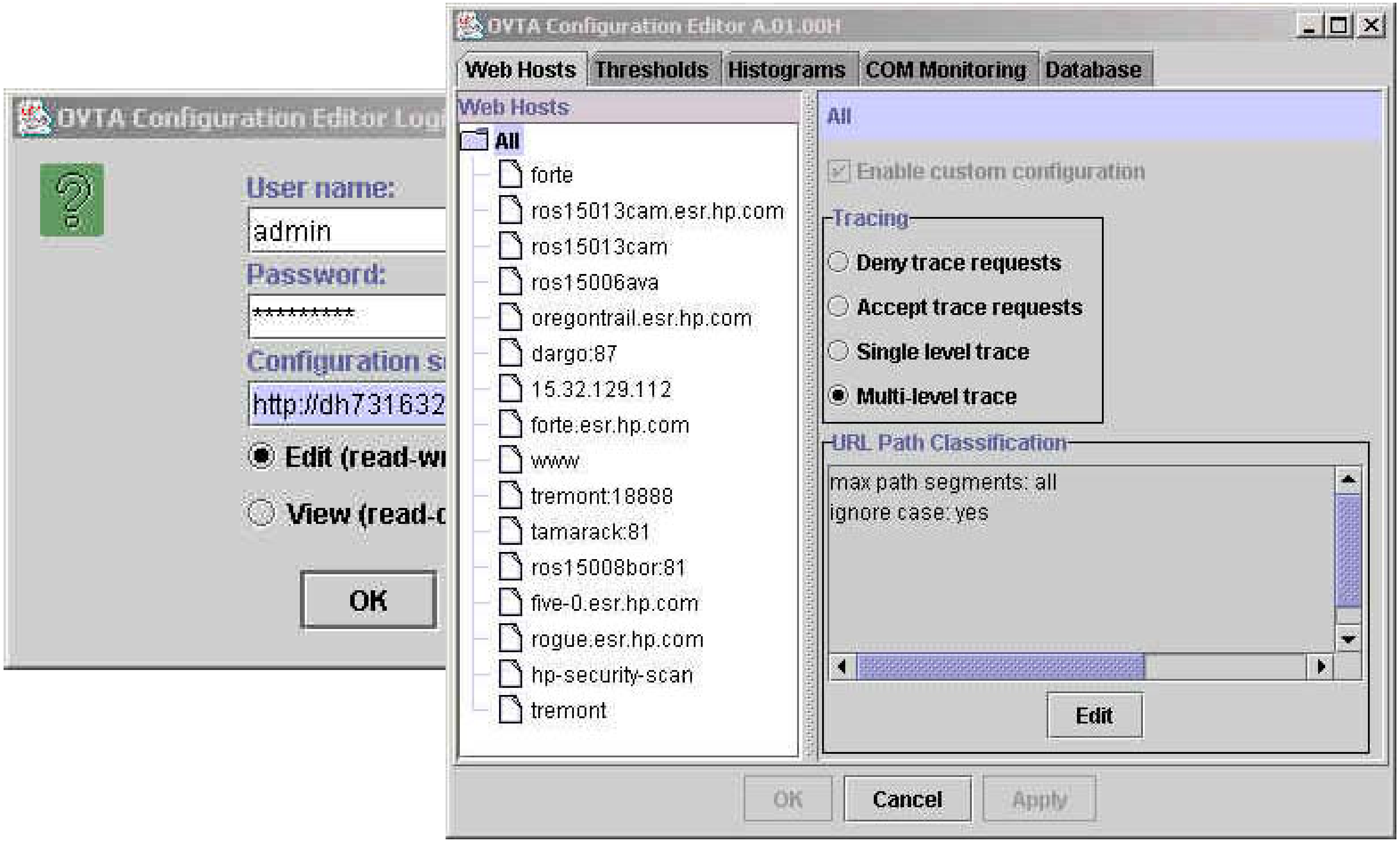
Customer Name	Restricted Views
Java Petstore	

Typical Configuration Steps for OVIS

OVIS generally requires the definition of basic services that one wants to monitor. These are the definitions of the synthetic transactions. This includes:

- Definition of customer groups (logical grouping)
- Definition of service groups that these customers will subscribe to.
- Configuration of transaction, objectives, and probe location for synthetic transaction.
- Other options include: Alarm destinations, administrative options, scheduled downtime, and OVTA instrumentation (among many other options outside the scope of this tutorial).

Configuration of OV Transaction Analyzer (Live Demo)



OVTA Configuration Editor Logi

User name: admin

Password: **********

Configuration s http://dh731632

● Edit (read-wi

○ View (read-c

OVTA Configuration Editor A.01.00H

Web Hosts

- All
  - forte
  - ros15013cam.esr.hp.com
  - ros15013cam
  - ros15006ava
  - oregontrail.esr.hp.com
  - dargo:87
  - 15.32.129.112
  - forte.esr.hp.com
  - www
  - tremont:18888
  - tamarack:81
  - ros15008bor:81
  - five-0.esr.hp.com
  - rogue.esr.hp.com
  - hp-security-scan
  - tremont

All

☑ Enable custom configuration

Tracing

○ Deny trace requests

○ Accept trace requests

○ Single level trace

● Multi-level trace

URL Path Classification

```
max path segments: all
ignore case: yes
```

Typical Configuration Steps for OVTA

OVTA generally requires little or no modification from “out of the box” for basic operation, however there are some key features that enhance basic function:

- Control of data labels in UI (so that business names of transactions appear in UI rather than web URL’s).
- Configuration of histogram thresholds and bin sizes.
- Tracing options.
- Database maintenance and other administrative tasks.

Up next … Part 4

Client Monitoring

hp OpenView

Transaction Management with HP OpenView

HP World 2003

Part 4 of 4

Jim Pitts

*Solution Services Consultant/
HP OpenView Business Unit*

August 2003

i n v e n t

Agenda (4 hours)

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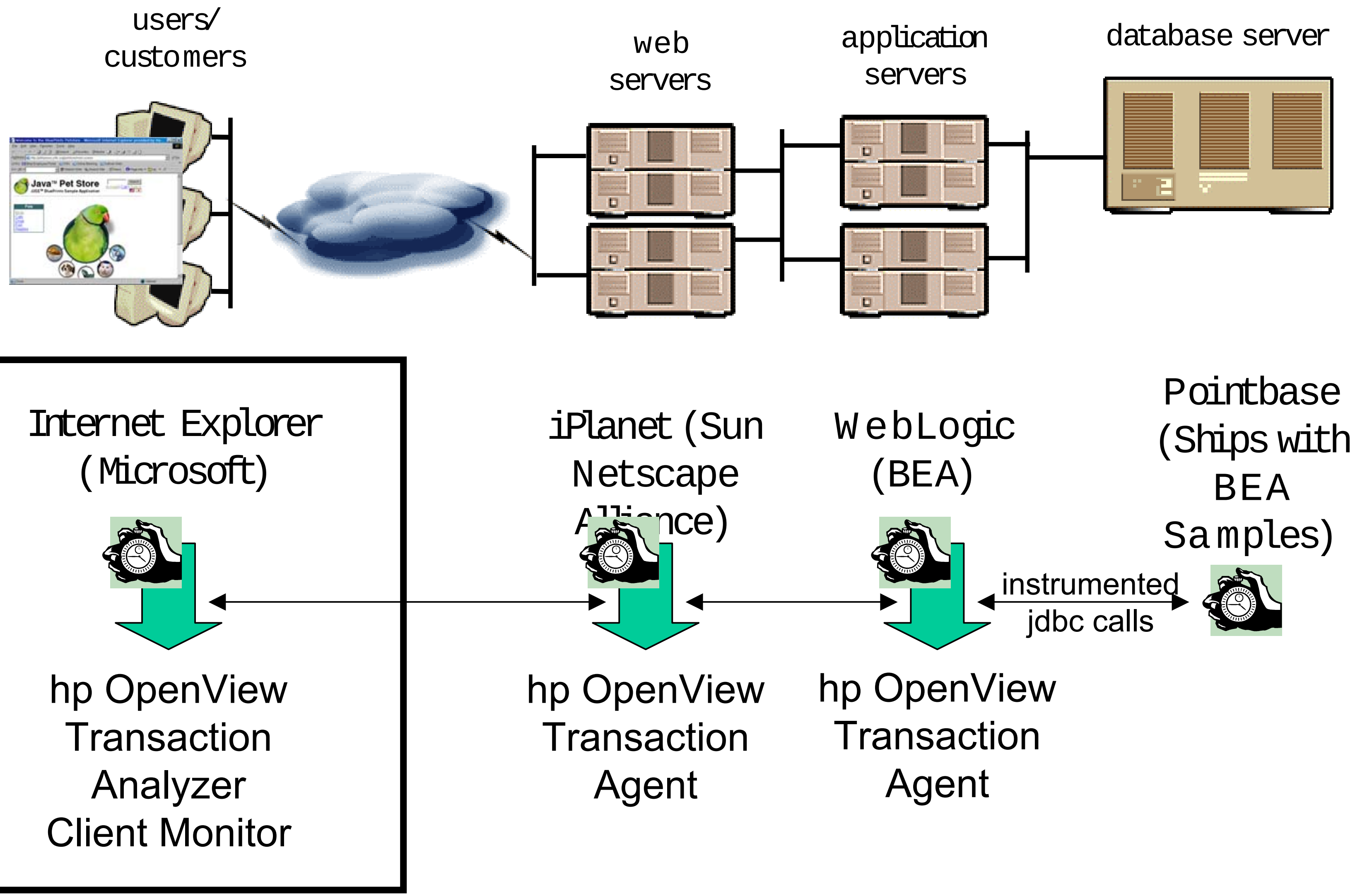


users/ customers

web servers

application servers

database server

Internet Explorer (Microsoft)

hp OpenView Transaction Analyzer Client Monitor

iPlanet (Sun Netscape Alliance)

hp OpenView Transaction Agent

WebLogic (BEA)

hp OpenView Transaction Agent

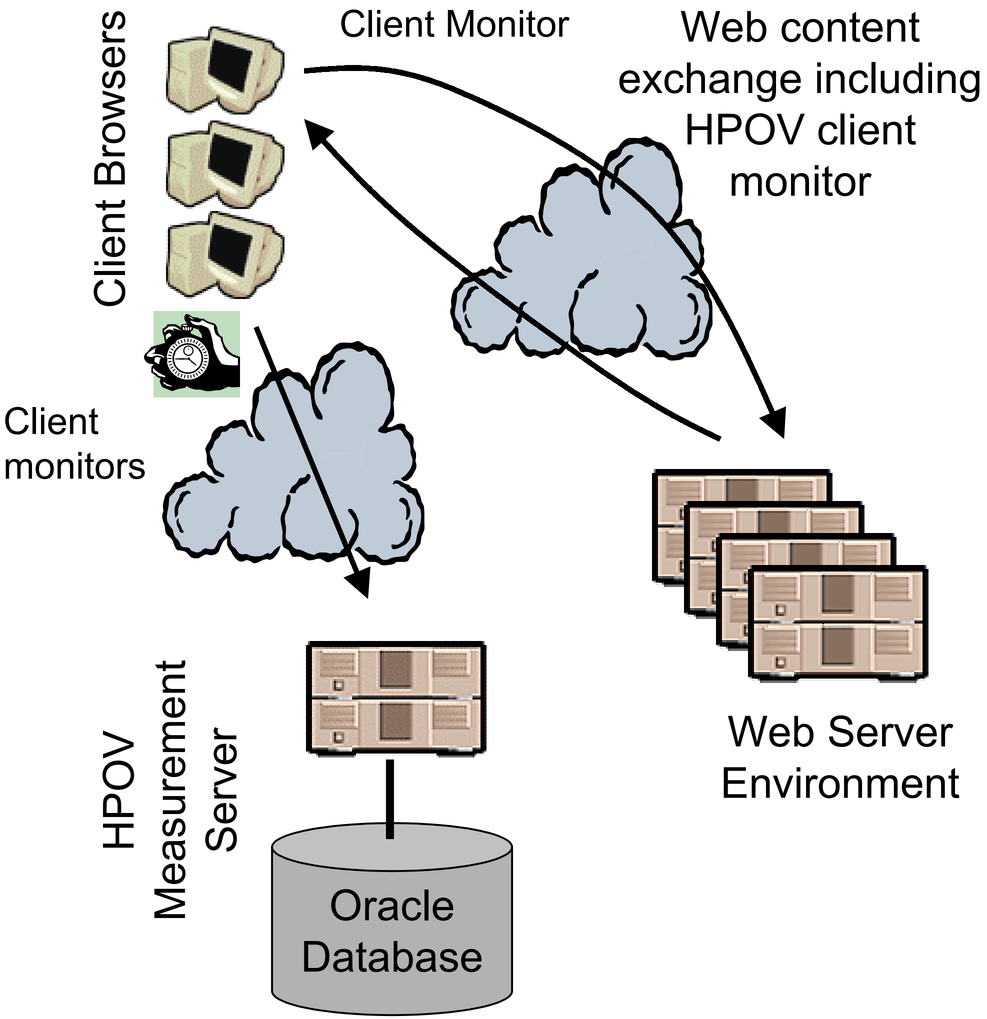
instrumented jdbc calls

Pointbase (Ships with BEA Samples)

HP OpenView Client Monitoring

Basic architecture:

- Client monitors collect end-user data. Technologies and implementation options vary (next slide).
- Customer interacts with web server environment as they normally would.
- Data from measurements return posted to HPOV (firewall configuration and other options available).
- Measurements are transparent to end-user.
- Metrics are very generic but can be made to be very application specific.



HP OpenView Client Monitors

HP OpenView JavaScript client monitor (most common for “Internet” customers):

- Small (11K) per session payload.
- Must be imbedded in web page to enable monitoring. Common technique to “hook” applications. Typical implementation is in a document “template” and looks like:

  <script SRC="/HPOV_IPA/IPAmon.js" LANGUAGE="JavaScript1.2"> </script>

- Advantages: No software installed on client systems, works with IE and Netscape clients
- Disadvantages: Requires (minimal) code changes to application, changes in application/monitored transactions means more code changes.

HP OpenView ActiveX client monitor (most common for “Intranet” customers):

- One-time download which installs as a “plug-in” to Intranet Explorer.
- Advantages: Increased number of metrics, very non-intrusive if implemented correctly, changes in application/monitored transactions requires no code changes
- Disadvantages: Installs software on customer PC, works only with IE clients (no support for Netscape clients available or planned)

HP OpenView Client Monitoring

HP OpenView Legacy solution – Web Transaction Observer (WTO)

- Successful “end of pipe” monitoring solution.
- Required Microsoft OV Infrastructure (no Unix Measurement Server).
- Features both JavaScript and ActiveX client monitor technologies.
- No linkage to OV Internet Services
- Collection, aggregation, and reporting of “end of the pipe” transactions.

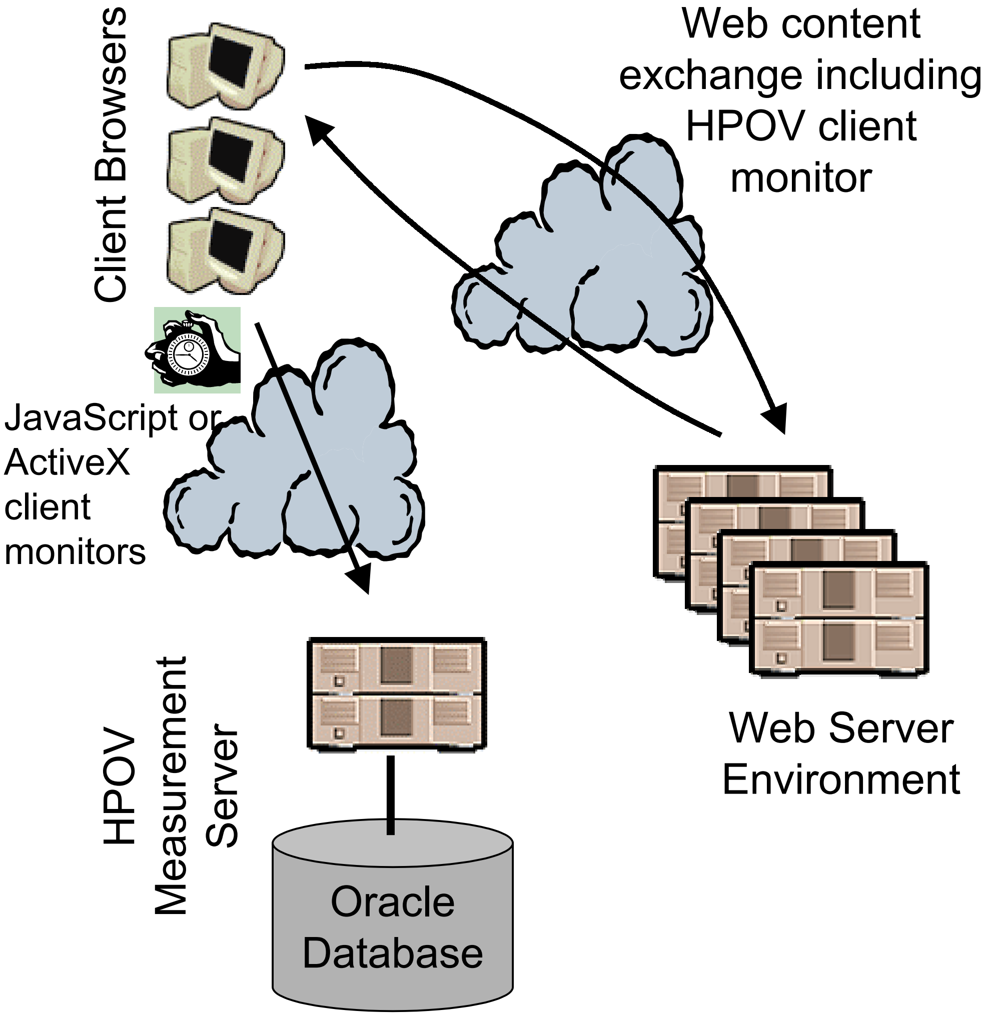
Current shipping product – OpenView Transaction Analyzer (OVTA) Client Monitoring

- Features of WTO “rolling” into OVTA.
- JavaScript client monitor implemented and shipping as part of 1.1 release.
- ActiveX client monitor potentially included in 2.0 (September ’03 MR date)
- “Data level’ linkage to OV Internet Services
- Collection, aggregation, reporting, and detailed breakdown of transactions.

HP OpenView Transaction Analyzer Client Monitoring Architecture

Basic architecture:

- 1.1 (currently shipping) includes JavaScript client monitor. ActiveX committed to in 2.0 release in September ’03.
- Client access web application as they normally would.
- Client monitors post data to OVTA Measurement Server servlet which collects the posts, aggregates them, and processes and traces that were requested.
- Tracing is enabled through the use of a cookie and it’s use should be highly selective.


Client Browsers
Web content exchange including HPOV client monitor
JavaScript or ActiveX client monitors
Web Server Environment
HPOV Measurement Server
Oracle Database

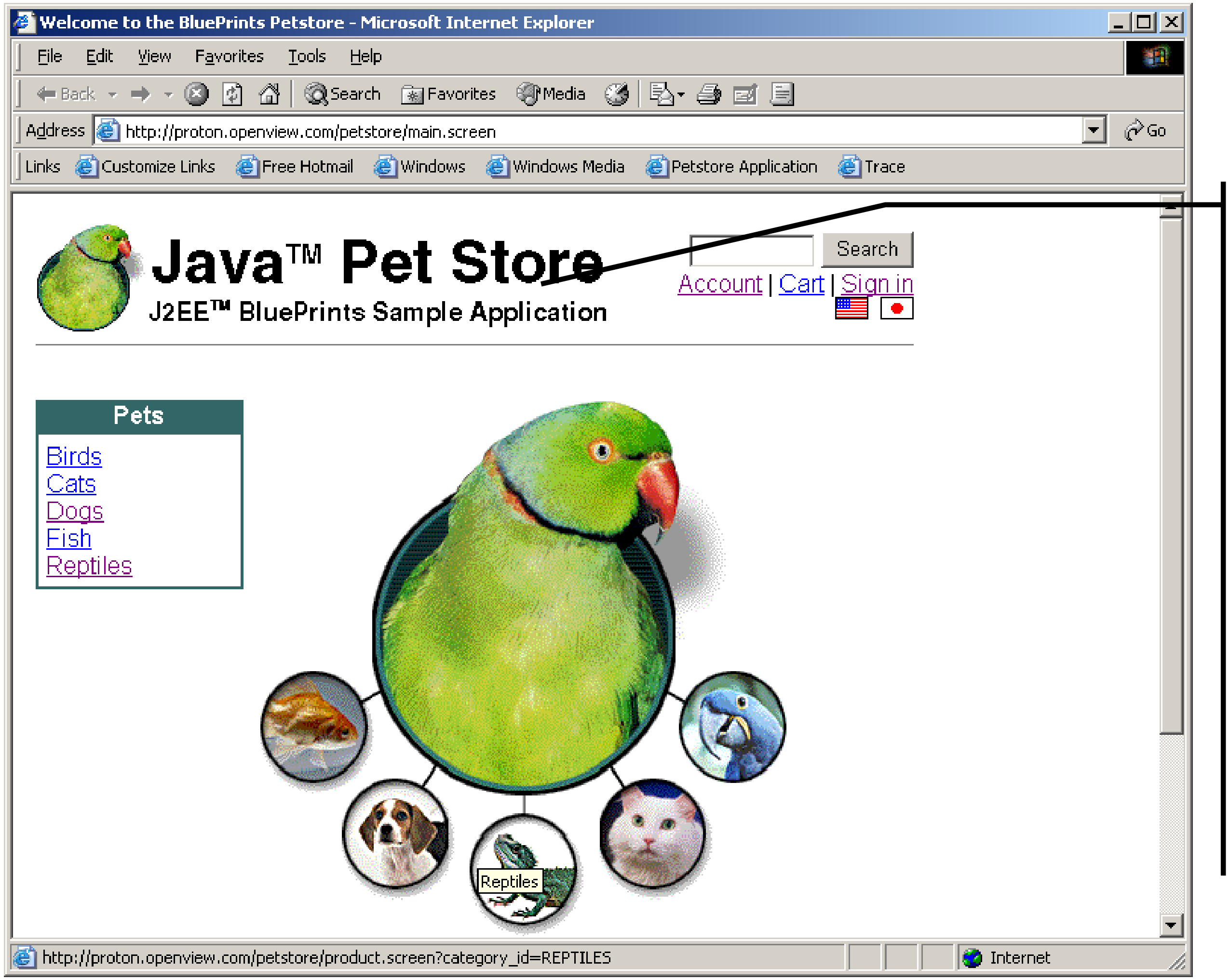
Typical Deployment Steps for Client Monitor (JavaScript)

First, identify the parts of the application you want to monitor, then:

- Insert the call to the JavaScript client monitor in the web page (JSP, html, etc).
- Re-build the application (if required)
- Re-deploy the application

Note: Basic monitoring of OVTA/OVIS does not require this step, this is an optional step to enable client monitoring

HP OpenView Transaction Analyzer Client Monitoring Example (Tracing)

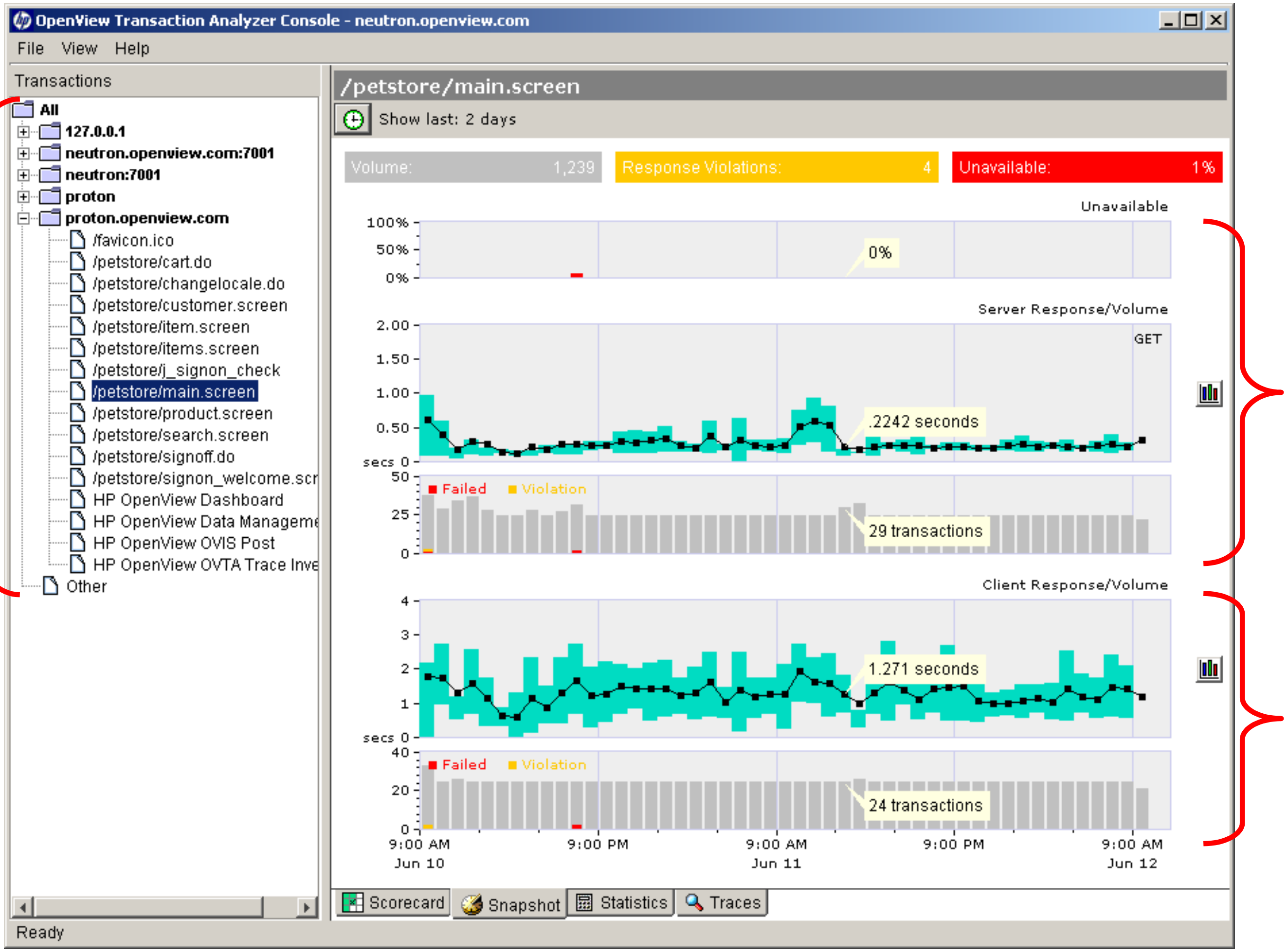

Welcome to the BluePrints Petstore - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://proton.openview.com/petstore/main.screen
Go
Links Customize Links Free Hotmail Windows Windows Media Petstore Application Trace
Java™ Pet Store
J2EE™ BluePrints Sample Application
Search
Account | Cart | Sign in
Pets
Birds
Cats
Dogs
Fish
Reptiles
Reptiles
http://proton.openview.com/petstore/product.screen?category_id=REPTILES
Internet

This example is based on the Java Petstore application, although many web applications can be managed using OVTA (including Windows DNA or general web applications).

OVTA Features – Console

Snapshot View – (Aggregated Data)

Logical Web Hosts and URLs (auto discovered)



OpenView Transaction Analyzer Console - neutron.openview.com
File View Help
Transactions

All
- 127.0.0.1
- neutron.openview.com:7001
- neutron:7001
- proton
- proton.openview.com
  - /favicon.ico
  - /petstore/cart.do
  - /petstore/changelocale.do
  - /petstore/customer.screen
  - /petstore/item.screen
  - /petstore/items.screen
  - /petstore/j_signon_check
  - /petstore/main.screen
  - /petstore/product.screen
  - /petstore/search.screen
  - /petstore/signoff.do
  - /petstore/signon_welcome.scr
  - HP OpenView Dashboard
  - HP OpenView Data Manageme
  - HP OpenView OVIS Post
  - HP OpenView OVTA Trace Inve
- Other

/petstore/main.screen

Show last: 2 days

Volume: 1,239

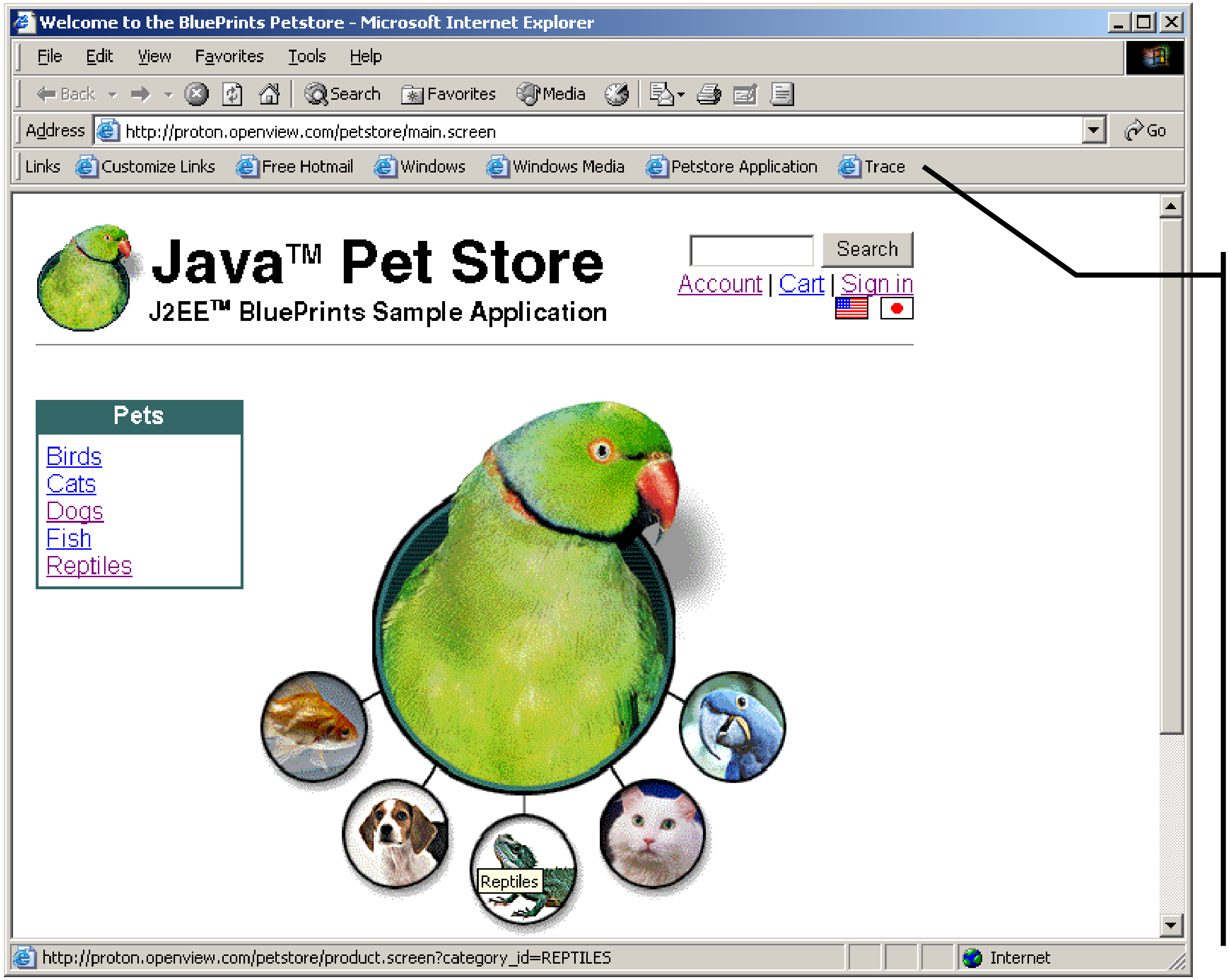
Response Violations: 4

Unavailable: 1%

Infrastructure Response Time, Volume and Availability (aggregated data)

End-User Response Time and Volume (aggregated data)

HP OpenView Transaction Analyzer Client Monitoring Example (Tracing)

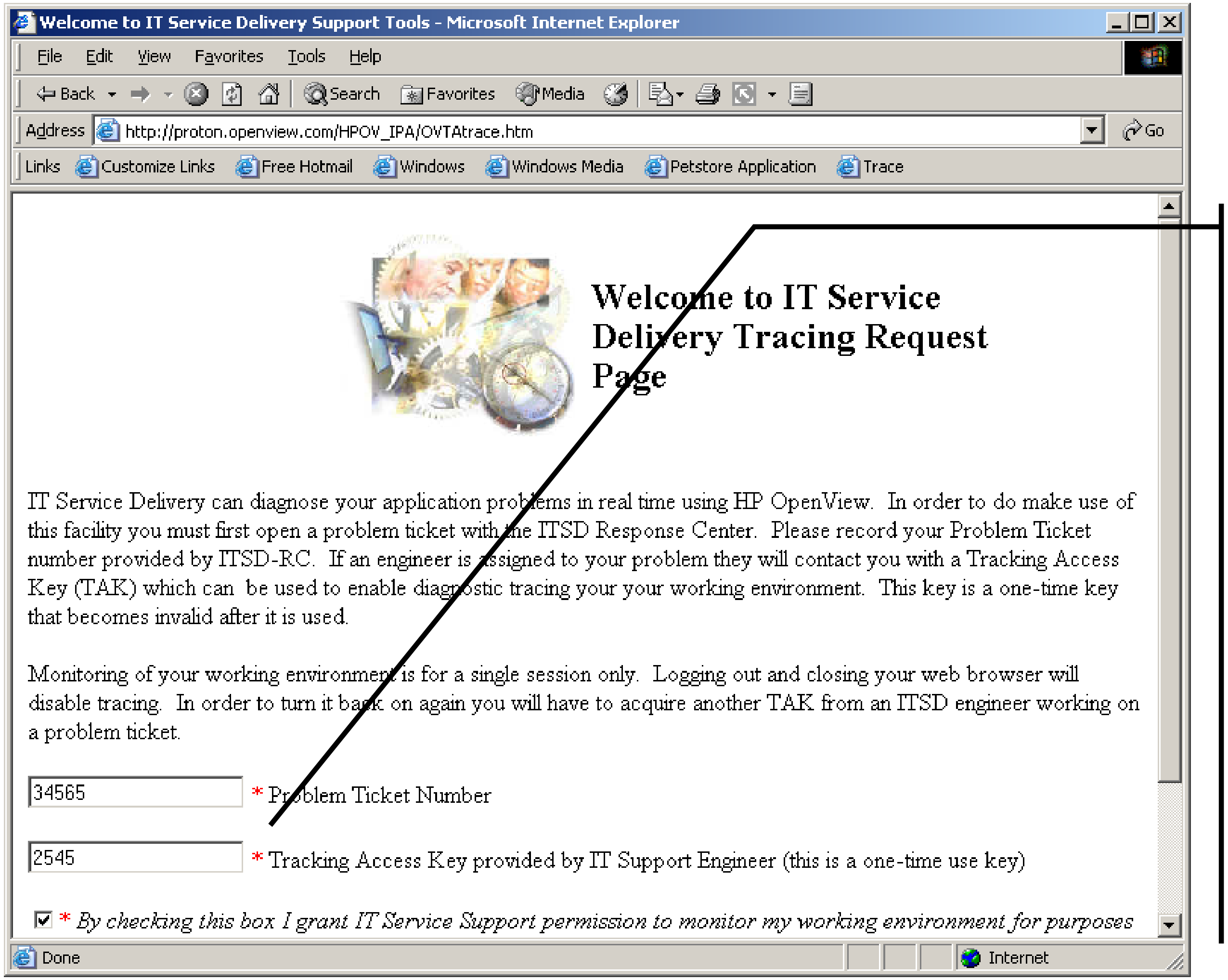


Welcome to the BluePrints Petstore - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://proton.openview.com/petstore/main.screen
Go
Links Customize Links Free Hotmail Windows Windows Media Petstore Application Trace
Java™ Pet Store
J2EE™ BluePrints Sample Application
Search
Account | Cart | Sign in
Pets
Birds
Cats
Dogs
Fish
Reptiles
Reptiles
http://proton.openview.com/petstore/product.screen?category_id=REPTILES
Internet

Note we have put a "trace" button on the browser (this is not required, just used for this demo)

Users with response time problems can click on this to "trace" their transactions

HP OpenView Transaction Analyzer Client Monitoring Example (Tracing)


Welcome to IT Service Delivery Support Tools - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://proton.openview.com/HPOV_IPA/OVTAtrace.htm
Go
Links Customize Links Free Hotmail Windows Windows Media Petstore Application Trace
Done
Internet

Welcome to IT Service Delivery Tracing Request Page

IT Service Delivery can diagnose your application problems in real time using HP OpenView. In order to do make use of this facility you must first open a problem ticket with the ITSD Response Center. Please record your Problem Ticket number provided by ITSD-RC. If an engineer is assigned to your problem they will contact you with a Tracking Access Key (TAK) which can be used to enable diagnostic tracing your your working environment. This key is a one-time key that becomes invalid after it is used.

Monitoring of your working environment is for a single session only. Logging out and closing your web browser will disable tracing. In order to turn it back on again you will have to acquire another TAK from an ITSD engineer working on a problem ticket.

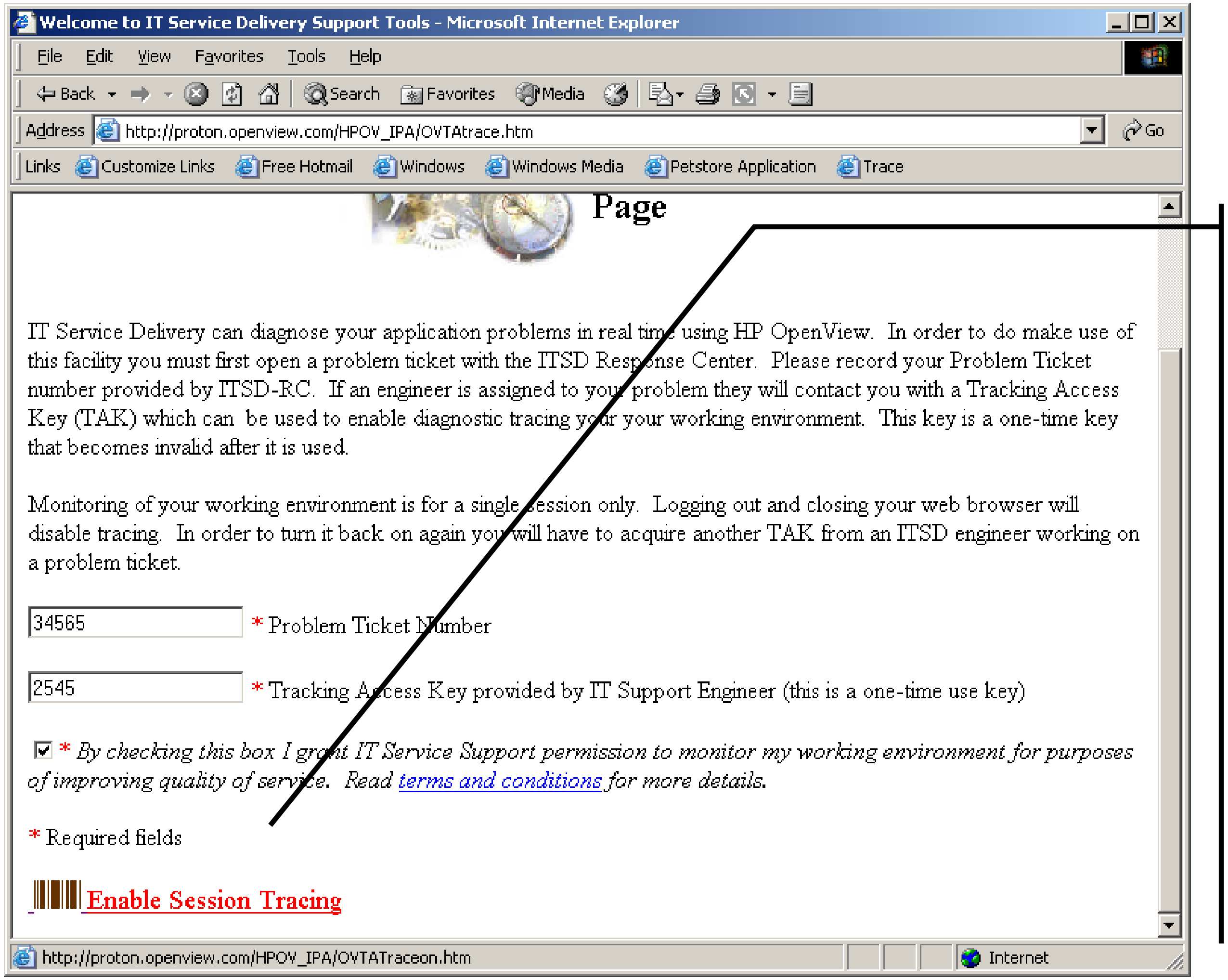
34565 * Problem Ticket Number

2545 * Tracking Access Key provided by IT Support Engineer (this is a one-time use key)

☑ * *By checking this box I grant IT Service Support permission to monitor my working environment for purposes*

The "Trace" button takes the user to a URL that processes trace requests. I have created a sample web page that puts an authentication step between the end user and the trace request for this example.

HP OpenView Transaction Analyzer Client Monitoring Example (Tracing)



http://proton.openview.com/HPOV_IPA/OVTAtrace.htm

Page

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34565 * Problem Ticket Number

2545 * Tracking Access Key provided by IT Support Engineer (this is a one-time use key)

☑ * *By checking this box I grant IT Service Support permission to monitor my working environment for purposes of improving quality of service. Read terms and conditions for more details.*

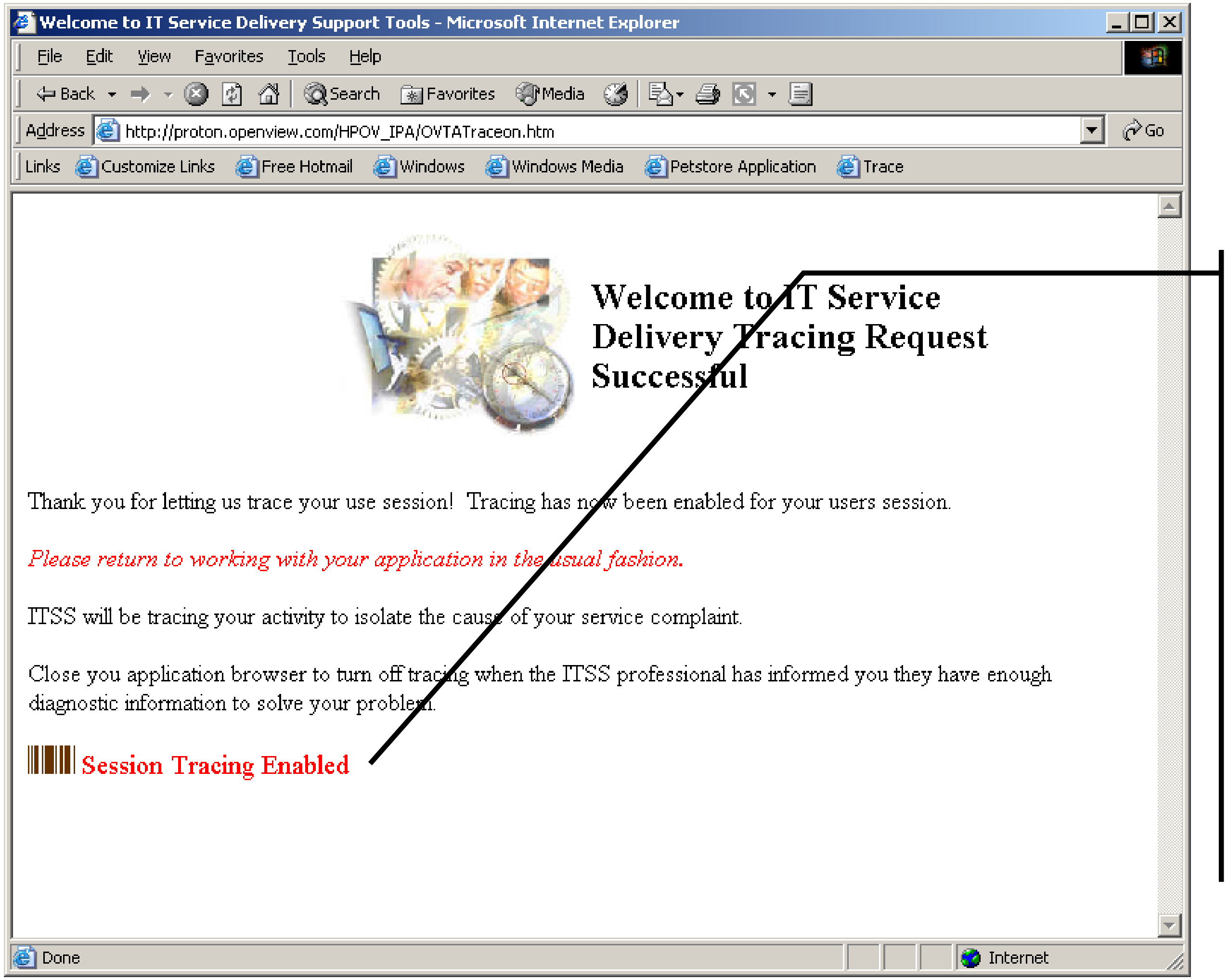
* Required fields

Enable Session Tracing

http://proton.openview.com/HPOV_IPA/OVTATraceon.htm

This for (and the handling of the data from the post) is an implementation mechanism and is not part of the standard product. This is one very simple way to incorporate tracing into a working environment.

HP OpenView Transaction Analyzer Client Monitoring Example (Tracing)


Welcome to IT Service Delivery Support Tools - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://proton.openview.com/HPOV_IPA/OVTATraceon.htm
Go
Links Customize Links Free Hotmail Windows Windows Media Petstore Application Trace
Done
Internet

Welcome to IT Service Delivery Tracing Request Successful

Thank you for letting us trace your use session! Tracing has now been enabled for your users session.

Please return to working with your application in the usual fashion.

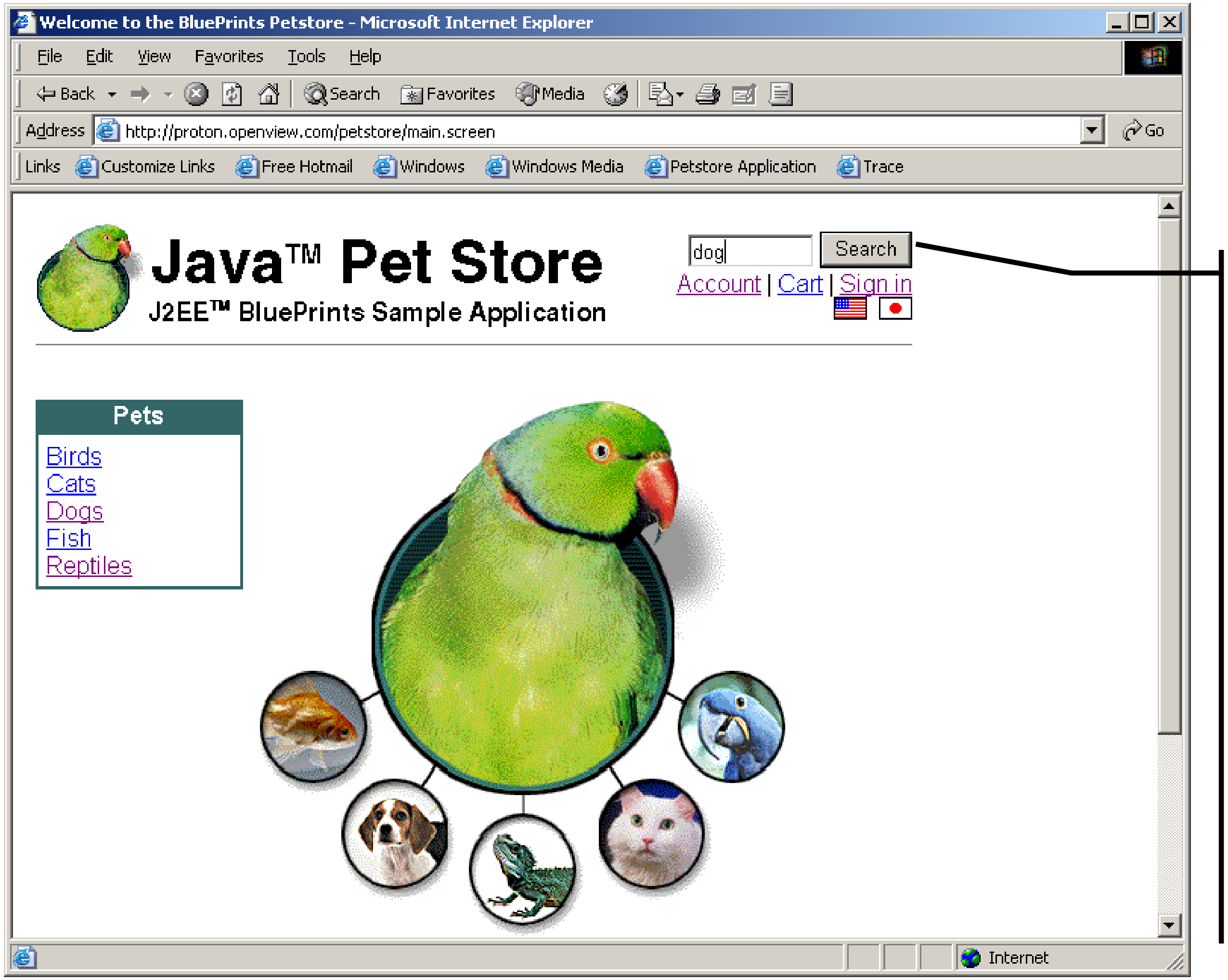
ITSS will be tracing your activity to isolate the cause of your service complaint.

Close you application browser to turn off tracing when the ITSS professional has informed you they have enough diagnostic information to solve your problem.

Session Tracing Enabled

No real magic has taken place here. All we did was validate the request was appropriate and then send a cookie to the browser that signals that this session should now be traced.

HP OpenView Transaction Analyzer Client Monitoring Example (Tracing)



Welcome to the BluePrints Petstore - Microsoft Internet Explorer
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Back Search Favorites Media
Address http://proton.openview.com/petstore/main.screen
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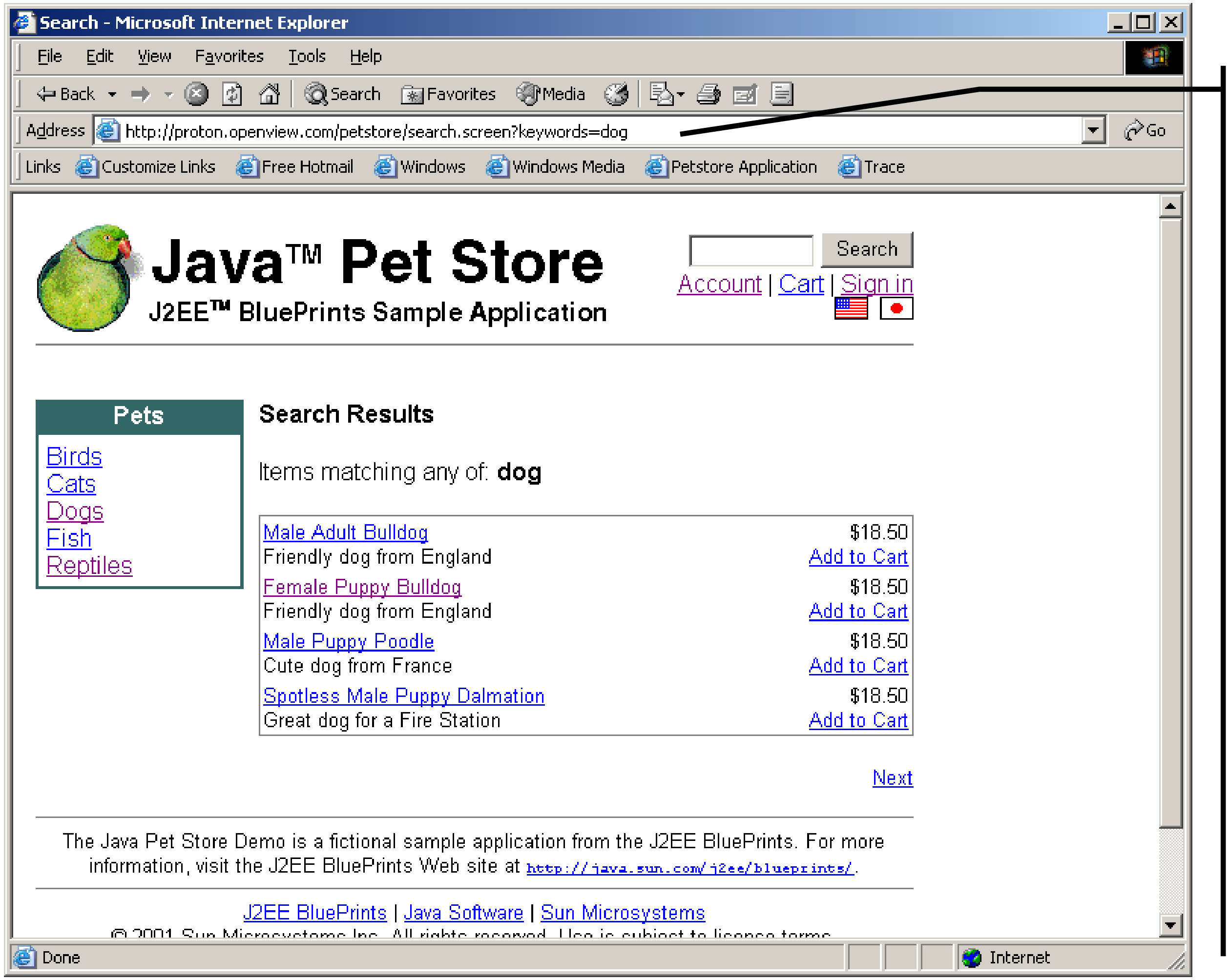
Links Customize Links Free Hotmail Windows Windows Media Petstore Application Trace
Java™ Pet Store
J2EE™ BluePrints Sample Application
dog
Search
Account | Cart | Sign in
Pets
Birds
Cats
Dogs
Fish
Reptiles
Internet

Customer now goes back and "does it again" to see if the problem can be reproduced. In this case we are troubleshooting a show search time from the main menu.

HP OpenView Transaction Analyzer Client Monitoring Example (Tracing)


Search - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address
Go
Links Customize Links Free Hotmail Windows Windows Media Petstore Application Trace
Search
Account | Cart | Sign in
Done
Internet

http://proton.openview.com/petstore/search.screen?keywords=dog

Java™ Pet Store

J2EE™ BluePrints Sample Application

Pets

- Birds
- Cats
- Dogs
- Fish
- Reptiles

Search Results

Items matching any of: **dog**

Male Adult Bulldog Friendly dog from England	$18.50 Add to Cart
Female Puppy Bulldog Friendly dog from England	$18.50 Add to Cart
Male Puppy Poodle Cute dog from France	$18.50 Add to Cart
Spotless Male Puppy Dalmation Great dog for a Fire Station	$18.50 Add to Cart

Next

The Java Pet Store Demo is a fictional sample application from the J2EE BluePrints. For more information, visit the J2EE BluePrints Web site at http://java.sun.com/j2ee/blueprints/.

J2EE BluePrints | Java Software | Sun Microsystems

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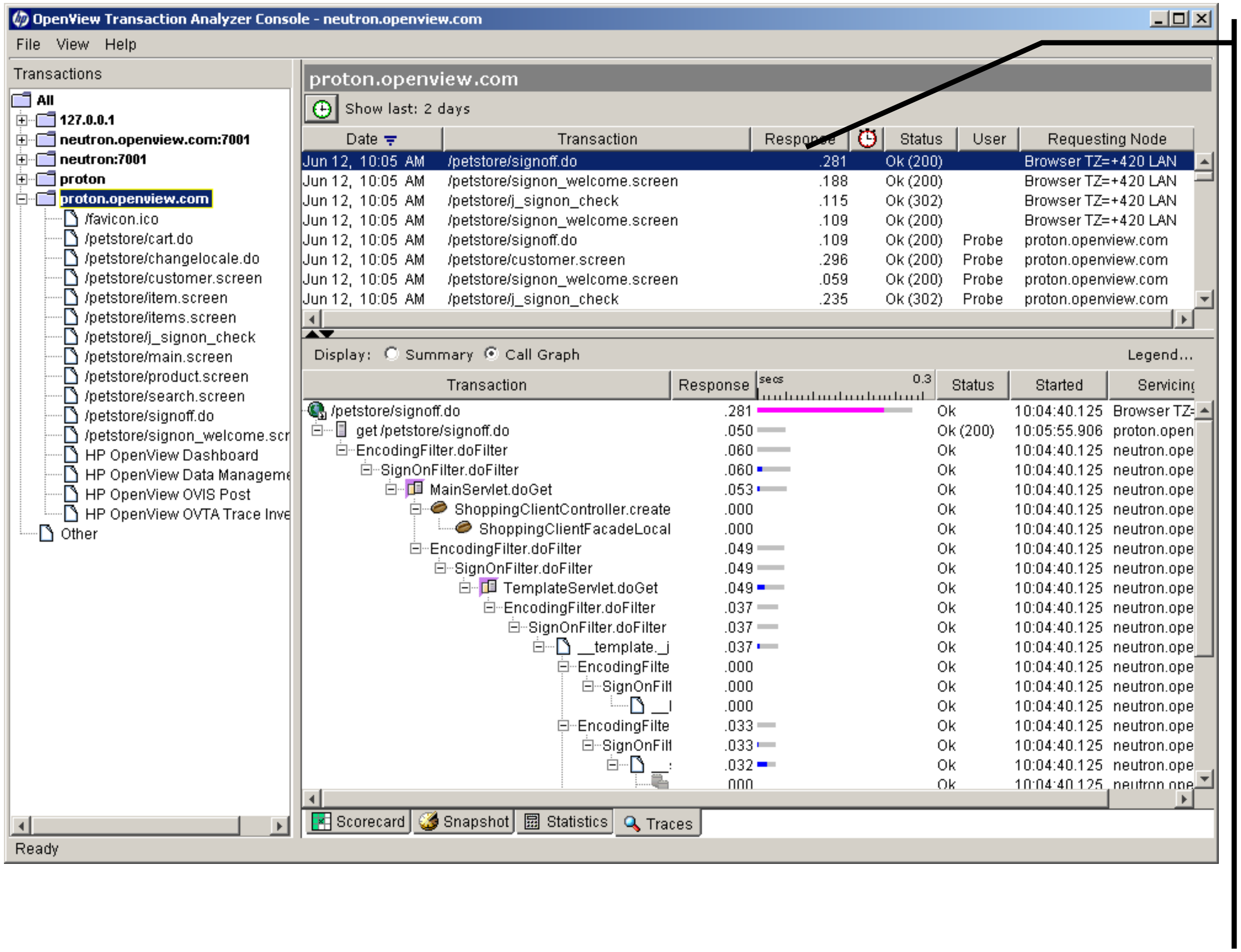
We have monitored the previous step with OVTA and traced it as well as this step (the load time for the search result screen).

Both results were aggregated (data is always aggregated for posts)

We have also traced this transaction because the cookie was sent requesting a trace.

HP OpenView Transaction Analyzer Client Monitoring Example (Tracing)



All
127.0.0.1
neutron.openview.com:7001
neutron:7001
proton
proton.openview.com
/favicon.ico
/petstore/cart.do
/petstore/changelocale.do
/petstore/customer.screen
/petstore/item.screen
/petstore/items.screen
/petstore/j_signon_check
/petstore/main.screen
/petstore/product.screen
/petstore/search.screen
/petstore/signoff.do
/petstore/signon_welcome.scr
HP OpenView Dashboard
HP OpenView Data Manageme
HP OpenView OVIS Post
HP OpenView OVTA Trace Inve
Other

proton.openview.com

Show last: 2 days

Date	Transaction	Response	⏱	Status	User	Requesting Node
Jun 12, 10:05 AM	/petstore/signoff.do	.281		Ok (200)		Browser TZ=+420 LAN
Jun 12, 10:05 AM	/petstore/signon_welcome.screen	.188		Ok (200)		Browser TZ=+420 LAN
Jun 12, 10:05 AM	/petstore/j_signon_check	.115		Ok (302)		Browser TZ=+420 LAN
Jun 12, 10:05 AM	/petstore/signon_welcome.screen	.109		Ok (200)		Browser TZ=+420 LAN
Jun 12, 10:05 AM	/petstore/signoff.do	.109		Ok (200)	Probe	proton.openview.com
Jun 12, 10:05 AM	/petstore/customer.screen	.296		Ok (200)	Probe	proton.openview.com
Jun 12, 10:05 AM	/petstore/signon_welcome.screen	.059		Ok (200)	Probe	proton.openview.com
Jun 12, 10:05 AM	/petstore/j_signon_check	.235		Ok (302)	Probe	proton.openview.com

Display: ○ Summary ● Call Graph Legend...

Transaction	Response	secs 0.3	Status	Started	Servicing
/petstore/signoff.do	.281		Ok	10:04:40.125	Browser TZ=
get /petstore/signoff.do	.050		Ok (200)	10:05:55.906	proton.open
EncodingFilter.doFilter	.060		Ok	10:04:40.125	neutron.ope
SignOnFilter.doFilter	.060		Ok	10:04:40.125	neutron.ope
MainServlet.doGet	.053		Ok	10:04:40.125	neutron.ope
ShoppingClientController.create	.000		Ok	10:04:40.125	neutron.ope
ShoppingClientFacadeLocal	.000		Ok	10:04:40.125	neutron.ope
EncodingFilter.doFilter	.049		Ok	10:04:40.125	neutron.ope
SignOnFilter.doFilter	.049		Ok	10:04:40.125	neutron.ope
TemplateServlet.doGet	.049		Ok	10:04:40.125	neutron.ope
EncodingFilter.doFilter	.037		Ok	10:04:40.125	neutron.ope
SignOnFilter.doFilter	.037		Ok	10:04:40.125	neutron.ope
__template._j	.037		Ok	10:04:40.125	neutron.ope
EncodingFilte	.000		Ok	10:04:40.125	neutron.ope
SignOnFilt	.000		Ok	10:04:40.125	neutron.ope
__I	.000		Ok	10:04:40.125	neutron.ope
EncodingFilte	.033		Ok	10:04:40.125	neutron.ope
SignOnFilt	.033		Ok	10:04:40.125	neutron.ope
__:	.032		Ok	10:04:40.125	neutron.ope
	.000		Ok	10:04:40.125	neutron.ope

Client monitoring traces are apparent by the blank “User” field (potentially populated in a later release) and a “Requesting Node” field that contains data we collected from the browser.

The breakdown of the transaction is apparent (note the “globe” is the “end user” response time (what the customer saw).

invent

Thank You!