

# Introduction to Hyperion System 9 for the System Administrator

## An Architectural Overview

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# Hackett Technology Services

- ▶ Strategic and technical implementation consulting
- ▶ #1 Hyperion Reseller Award at Solutions 2006 AND 2007
- ▶ Member of Hyperion Partner Advisory Council; Customer Advisory Boards and participant in the Partner Development Exchange
- ▶ 600+ successful Hyperion projects
- ▶ Scores of Hyperion-certified consultants, plus Preferred Partner Certification

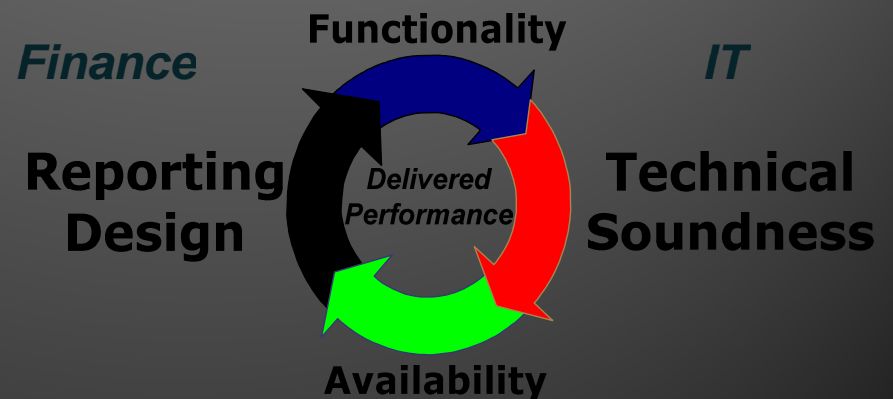
# The Hackett Group

Advanced Technology Services

- ▶ We consider functionality just as important as Reporting Design.

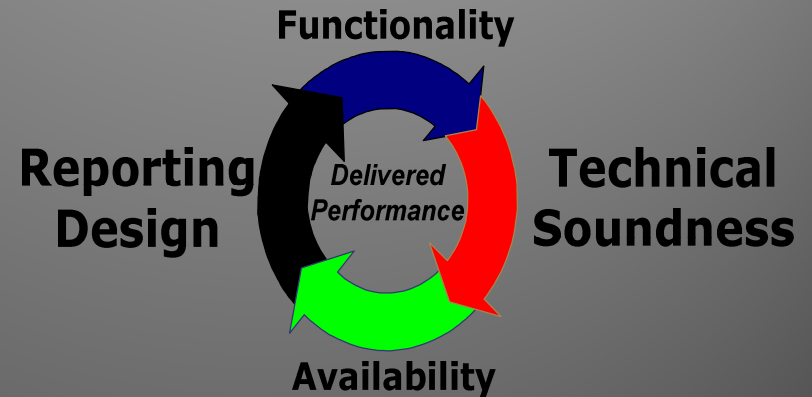
- ▶ **Services**

- Hardware Sizing/architecture
- Installation/configuration
- High Availability/clustering
- Backup/disaster recovery
- Performance tuning
- Upgrades and migrations
- Security services
- Educational services



# Agenda

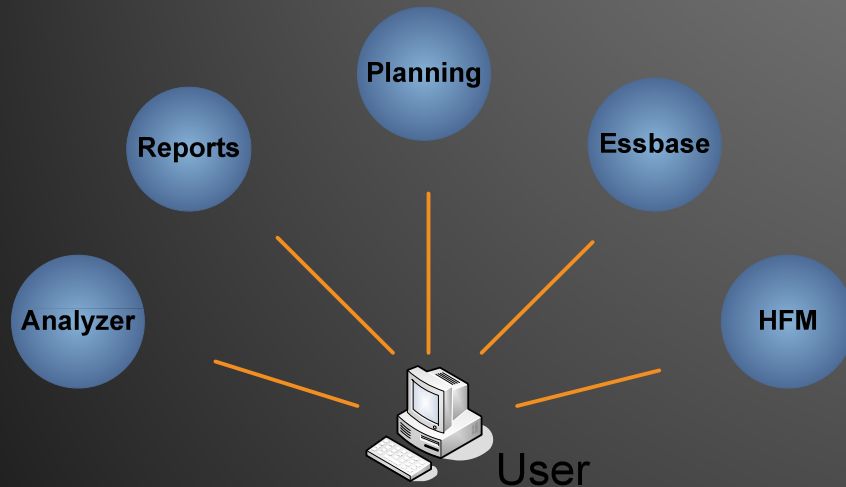
1. How Hyperion has changed
2. Major Hyperion components
3. Introduction to Hyperion Architecture
4. Implementing Hyperion
5. Hardware Sizing examples



*Note: We will cover the basic BI architecture for Hyperion system 9 and will not cover additional BI+ applications such as Planning, HFM, etc. Come See me for more information on these.*

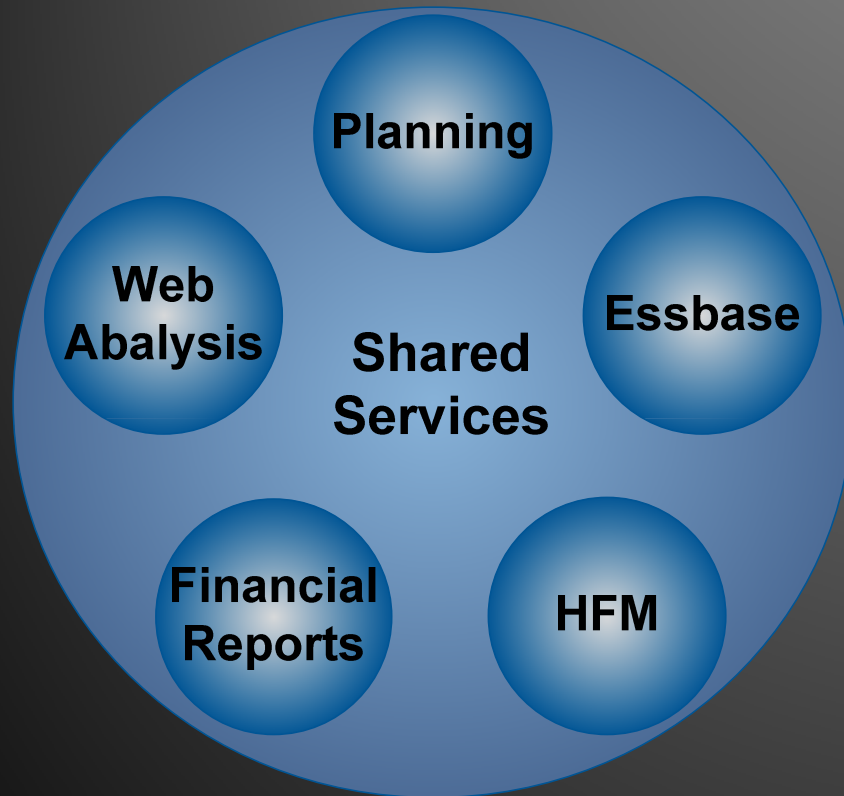
# How Hyperion has Changed

# Prior to System 9



- ▶ Separate Products
- ▶ Individually installed
- ▶ Complexity on the user
- ▶ Separate log-ons
- ▶ Separate look and feel

# System 9



- ▶ Integrated Enterprise
- ▶ Complex architecture
- ▶ Seamless to end user
- ▶ Single sign-on
- ▶ Same look and feel

# System 9 Naming Convention

## Pre System 9 Name

- ▶ Hub
- ▶ Reports
- ▶ Analyzer
- ▶ Intelligence
- ▶ SQR
- ▶ Excel spreadsheet add-in
- ▶ Essbase
- ▶ Essbase Administration Server



## System 9 Name

- ▶ Shared Services
- ▶ Financial Reporting
- ▶ Web Analysis
- ▶ Interactive Reporting
- ▶ Production Reporting
- ▶ Smart View for Office
- ▶ Analytic Services
- ▶ Analytic Administration Services



# The New System 9 Strategy

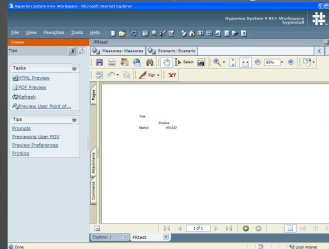
## Enterprise Strategic Planning

- ▶ Move from separate best of breed to integrated Enterprise
  - Financial Managers: Involve IT group from the beginning!
  - IT Managers: Involve Finance from the beginning!
  - Use project managers
  
- ▶ Consider new System 9 components
  - Shared Services
  - ETL Process
  - Workspace
  
- ▶ Plan up front:
  - Prerequisites
  - Sizing, Scalability
  - High availability
  - Backup/Recovery
  - External authentication
  - Selection of hardware, operating systems, 3<sup>rd</sup> party components
  - Licensing
  - Validation and roll-out
  - Technical Issues

# Major Hyperion Software Components

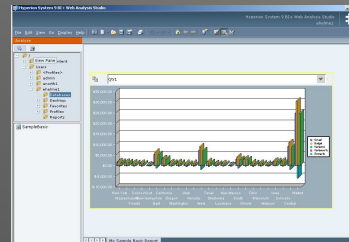
# Major Components

## Financial Reporting



Standard Reports

## Web Analysis



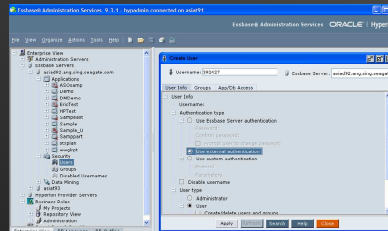
Drill Down Analysis

## Smart View Provider Services

	A	B	C	D	E	F	G	H	I
	Month	Opening Inventory	Additions	Ending Inventory	Measures				
1	Jan	117495	30967	148462	117495	55	1017936	6034	
2	Feb	116434	31193	147627	116434	55	3660216	6346	
3	Mar	116580	35790	152370	116580	55	26650731	6223	
4	Qtr1	24703	117495	97569	119143	117495	55	2555688	24703
5	Qtr2	27107	119143	125944	143687	119143	55	3670140	27107
6	Qtr3	9876	143688	35263	142607	143688	55	3074202	9876
7	Qtr4	9546	142607	39636	142216	142607	54	61934211	9546
8	Year	142216	121390	141950	142216	54	17966191	142216	
9	Qtr1	27912	143489	103607	141850	143489	55	60398413	27912
10	Qtr2	23800	141850	102615	146324	141850	55	41720966	23800
11	Year	106520	117495	420774	146324	117495	55	26163607	106520

MS Office Integration

## Administration Services



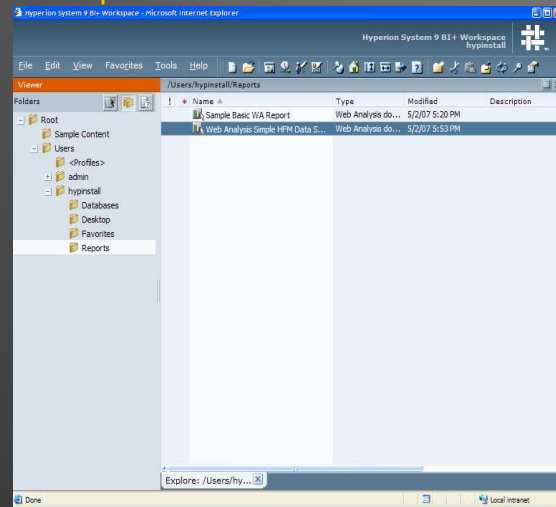
Essbase Administration

**ESSBASE**

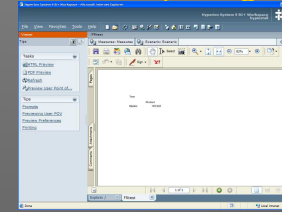


# The Workspace

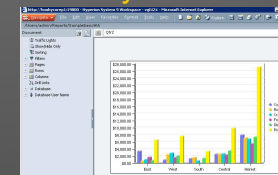
## Workspace



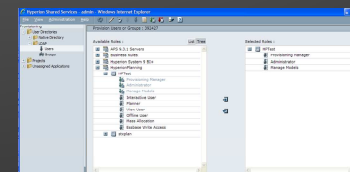
## Financial Reporting



## Web Analysis



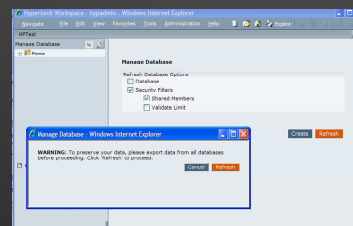
## Shared Services Console



## Interactive Reporting

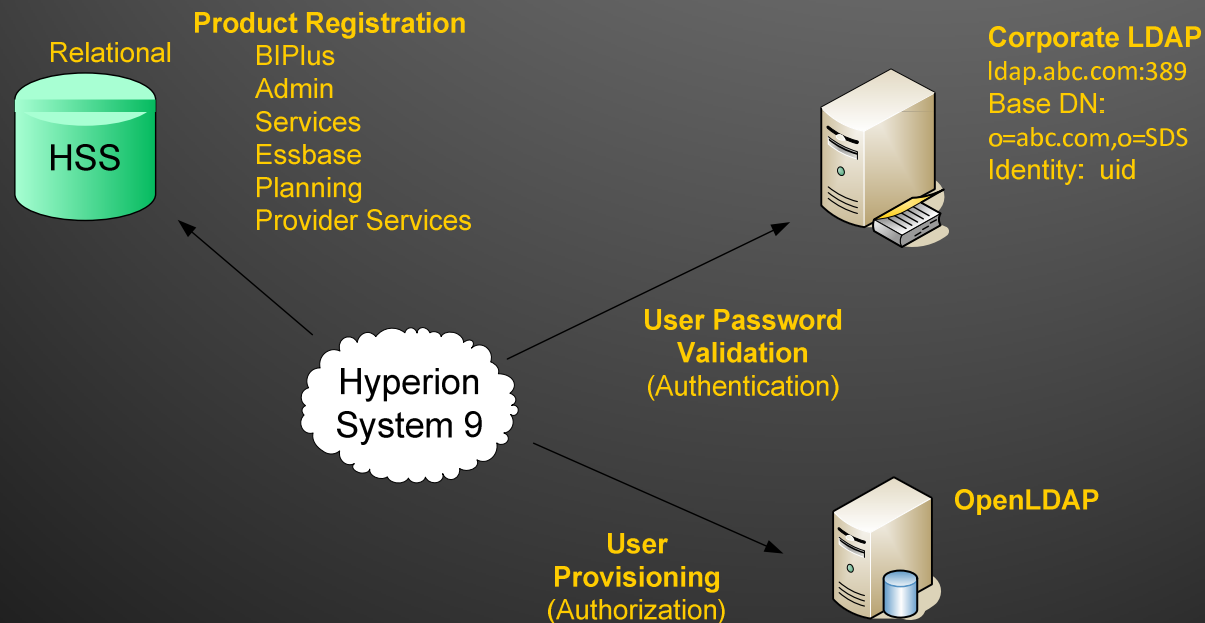
A screenshot of the Interactive Reporting application. It displays a large data table with multiple columns and rows, likely representing a detailed report or dataset. The interface includes a menu bar and a toolbar.

## Hyperion Planning



# Shared Services

- ▶ All Hyperion products register with Shared Services
  - External Authentication/Single Sign-on
  - User security provisioning
- ▶ Components
  - Relational
  - Web Interface
  - Open LDAP



# Introduction to Hyperion Architecture

# Service Oriented Architecture (SOA)

## Why so many processes?

- ▶ SOA is a collection of independent services and an established communication mechanism that between them
- ▶ Generally accepted standard in modern enterprise software
- ▶ Breaks down into separate processes and services
- ▶ Advantage – enterprise class servicing
  - Platform and location independent
  - Scalable
  - More reliable, less risk
  - Better performance, efficiency

# Hyperion Tier Architecture

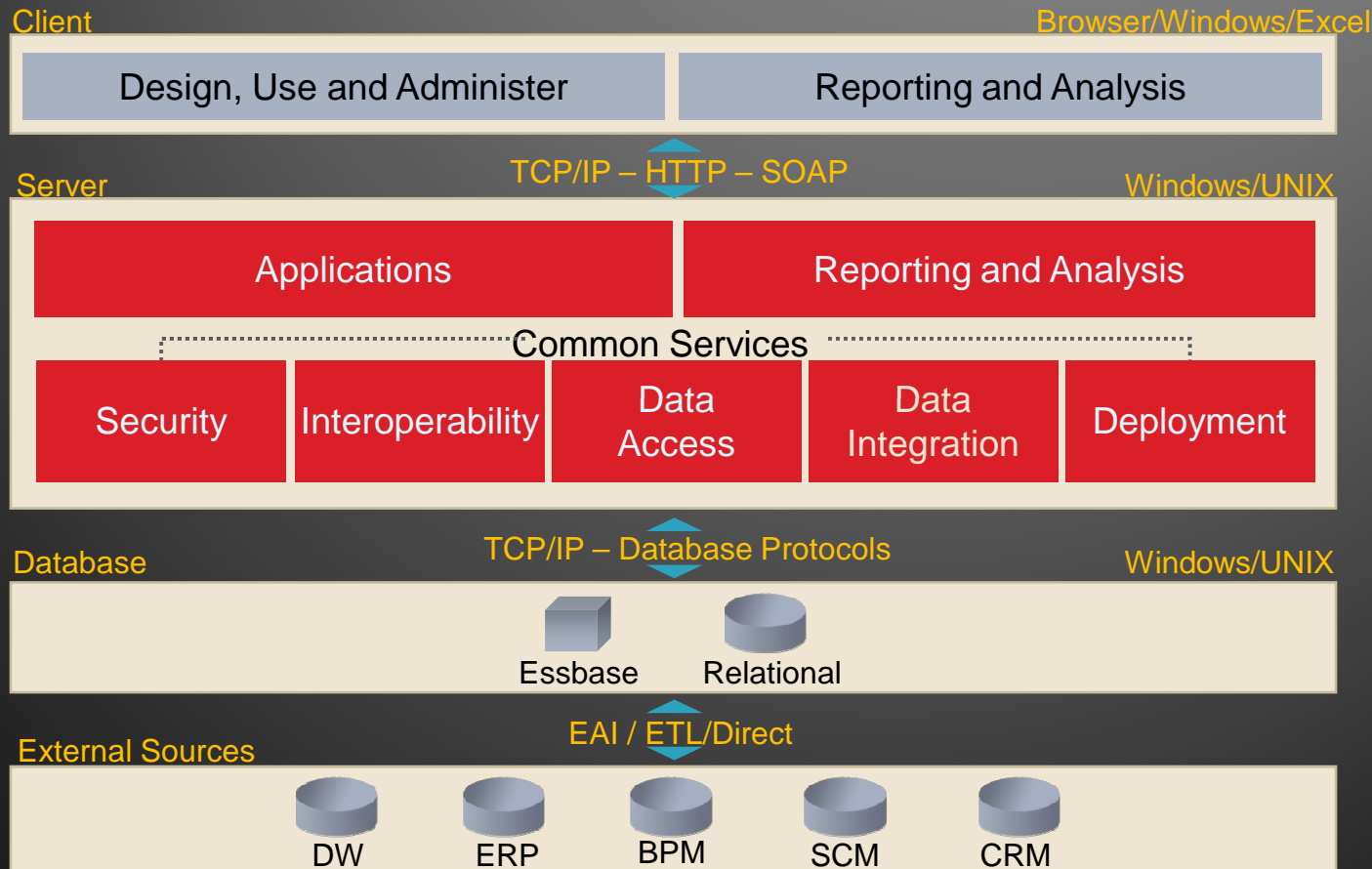
- ▶ **Client Tier**
  - **Smart View for Office:** Microsoft product integration
  - **Authoring Studios:** Design and authoring of reporting objects
- ▶ **Application Tier**
  - **Web Servers:** Web interface utilizing J2EE web application server
  - **Services layer:** SOA independent server processes with core service managing sessions, logging, etc (CORBA)
- ▶ **Database Tier**
  - **Relational Repositories:** A single point for metadata
  - **Data Sources**
    - Multidimensional (Essbase, SAP BW)
    - Hyperion Packages (Planning, HFM, Strategic Finance, Scorecard)
    - Legacy Systems (Flat Files, Spreadsheets)



# BPM Tier Architecture



# Business Performance Management Architecture



# Client Tier

When to install Desktop Clients? Who gets them?

- ▶ Desktop Clients – Administrative functions and Authoring
  - Analytic Administration (Essbase) Services Console
    - Analytic Service Administration
  - Financial Reporting Studio
    - Creating and Authoring standard reports
  - Smart View for Office
    - Microsoft Integration – available via Workspace
- ▶ 99% of End Users will only use Web (and SmartView)
  - Workspace URL:
    - <http://server:19000/workspace>

# BI+ Application Tier

What products have server processes, web processes

## BI+ Server Processes

- ▶ BI+ Core Services
  - BI+ Base Service
  - BI+ Data Access Service
  - BI+ Communication Services
- ▶ Workspace
  - None
- ▶ Financial Reporting
  - Server
  - Communication Server
  - Print Server
  - Scheduler
- ▶ Web Analysis
  - None
- ▶ Analytic Administration Services
  - AAS Server
- ▶ Analytic Smart View Provider
  - none

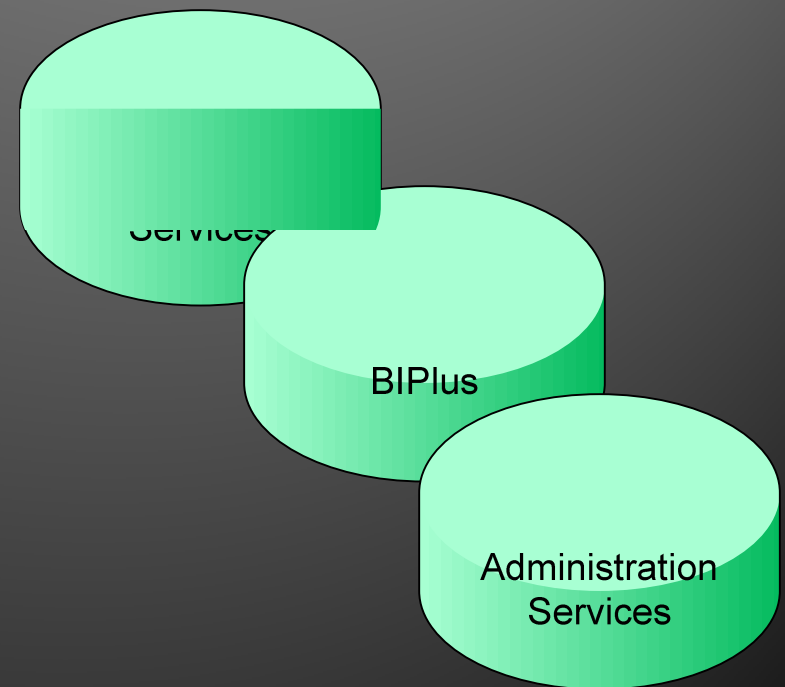
## BI+ Web Processes

- ▶ BI+ Core Services
  - None
- ▶ Workspace
  - Deployed to 45000
  - Web Server to 19000
- ▶ Financial Reporting
  - Deploys to 8200
- ▶ Web Analysis
  - Deploys to 16000
- ▶ Analytic Administration Services
  - Deploys to 10080
- ▶ Analytic Smart View Provider
  - Deploys to 13080

# The Database Tier

Which products have relational repositories?

- ▶ Shared Services
  - Product registration information
- ▶ Business Intelligence
  - Used by Workspace, FR, WA, IR
- ▶ Analytic Administration Services
- ▶ More for Planning, HFM, etc



# Implementing Hyperion System 9

# Getting Started

PLAN! PLAN!! PLAN!!!

- ▶ Operating System
- ▶ Hardware Sizing, disk space, scaling estimations
- ▶ Relational repositories
- ▶ 3<sup>rd</sup> Party requirements
  - J2EE Web Application Server
  - Web Server
  - Relational Repository
  - PDF distiller
  - ASP, .NET, etc
  - SSL certificates
  - External Authentication method
- ▶ User IDs, access
- ▶ Acquire all the software and licenses
- ▶ Network readiness

# Deployment Considerations

- ▶ Scalability
- ▶ Security needs
- ▶ Network topology, LAN, WAN, Firewall
- ▶ Service Level requirements. Failover/clustering?
- ▶ Backup and disaster recovery strategy
- ▶ Migration strategy of objects DEV-TEST-PROD
- ▶ Helpdesk integration
- ▶ Knowledge transfer/training IT
- ▶ System monitoring
- ▶ Ongoing maintenance and automation



# Roles / Responsibilities

**Must have a partnership IT with Finance!**

- ▶ System Administrator
  - Operating system
  - Backups
  - Hardware
  
- ▶ Application Administrator
  - End user support
  - Logs, troubleshooting
  - Hyperion support tickets
  
- ▶ Security Administrator
  - User Provisioning, filters
  - Should be Finance driven
  
- ▶ Database Administrator
  - Database Maintenance
  
- ▶ Project Manager

# Installation

- ▶ Implementation is a process of installation and configuration
- ▶ Installation is done through packaged wizard installers.
- ▶ Configuration is done through a common config tool.
  - Activates/checks license
  - Registers with Shared Services
  - Creates a relational repository
  - Deploys to Web Application Server
- ▶ Order of configuration is important! Think of the foundation!

# Prerequisites

## ▶ Operating System

- Windows 2000 SP4
- Windows Server 2003 SP1
- Sun Solaris 9, 10
- AIX V5.2, V5.3
- HP-UX (11i)
- Red Hat Linux AS 4.0

## ▶ Windows Only

- The Financial Reporting Print Server for PDF generation
- HAL
- DIM
- Strategic Finance
- HFM
- FDM

# 3<sup>rd</sup> Party Requirements

Check the compatibility matrix for verification

- ▶ External Authentication
  - NTLM
  - MSAD
  - LDAP
  
- ▶ Relational database
  - Oracle 9.2.0.5, 10.1.02
  - SQL Server 2000 SP3a 2005 SP1
  - IBM DB2 8.1 FP7a, 8.2 FP2
  
- ▶ Web Application Server
  - Apache Tomcat 5.0.2.8
  - BEA Weblogic 8.1.4
  - IBM WebSphere 5.1.1.7, 6.0.2
  
- ▶ PDF Distiller
  - Adobe Distiller Server 6.0
  - AFPL Ghostscript 8.5.1
  - GNU Ghostscript 7.0.6

# Start and Stop Order – Scripting and Automation

- ▶ No System 9 start/stop script is provided out of the box
- ▶ Service Names are listed in the *Install Start Here* document. You could use that information to create starting & stopping automation scripts.
- ▶ Start/stopping services is not trivial. Start processes in order of foundation, allow plenty of time for each to come up.

# Implementation Examples

## Hardware Sizing

# Sizing Key metrics

- ▶ Number of named and concurrent users
- ▶ Size of applications
- ▶ Amount of Report Creation vs. End user viewing
- ▶ Breakout of how many users use each application
- ▶ Reporting cycle usage patterns (Daily, Monthly, weekly, etc)
  - Maximum/Minimum users per activity
  - Types of usage
    - PDF Printing
    - Batch Reporting
    - Smart View usage
    - Workspace
    - Studios

# General Sizing Strategy

- ▶ Use case scenarios, expected volumes (IT/Finance)
- ▶ Separate Hyperion Application from other Enterprise software
- ▶ Separate heavily used applications
- ▶ Separate competing resource applications
- ▶ Separate Analytic Services and Relational
- ▶ Size Core Services (Shared Services/Workspace) larger
- ▶ Analytic Services – CPU intensive
- ▶ Web Applications – Memory intensive
- ▶ Don't forget other infrastructure
  - Adequate Network, Disk Systems, firewalls, load balancers, SSL



# 25 concurrent user system

## Generic Example



Client Tier

Smartview for  
Office  
Authoring Studios

---

### Core Server

4 x 2.4 GHz  
4 Gb RAM



Workspace  
Interactive Reporting  
Production Reporting  
Core Services

### App Server

4 x 2.4 GHz  
4 Gb RAM



Analytic Admin  
Services  
SmartView  
Shared Services  
Financial Reporting  
Web Analysis  
Print Server

Middle Tier/  
Application  
Servers

---

4 x 2.4 GHz  
4 Gb RAM



Database

4 x 3.6 GHz  
8 Gb RAM



Analytic Server

Database  
Tier

# 100 concurrent user system

## Generic Example



Smartview for Office  
Authoring Studios

Client Tier

**Core Server**  
2 x 3 GHz  
8 Gb RAM



Core Services  
Shared Services  
Analytic Admin Services  
BI+ Workspace

**App Server**  
2 x 3 GHz  
8 Gb RAM



Financial Reporting Web  
*Web Analysis*

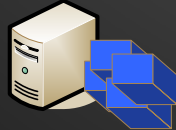
**App Server**  
2 x 3 GHz  
8 Gb RAM



Interactive Reporting Server  
Production Reporting Serve  
Financial Reporting Server  
Financial Reporting Print Server

Middle  
Application  
Tier

2 x 1.2 GHz  
4 Gb RAM



Esbsase

2 x 1.2 GHz  
4 Gb RAM



Database

Database  
Tier

# 500 concurrent user system

## Generic Example



Smartview for  
Office  
Authoring Studios

Client Tier

### Server1

4 x 2.4 GHz  
4 Gb RAM



Financial Reporting  
Print Server

### Server2

4 x 2.4 GHz  
8 Gb RAM



Core Services  
Financial Reporting

### Server3 A Server3 B

4 x 2.8 GHz  
8 Gb RAM



BI+ Workspace  
Interactive Reporting  
Production Reporting

### Server4 A Server4 B

4 x 2.8 GHz  
8 Gb RAM



F Reporting Web  
Web Analysis

### Server5 A Server5 B

4 x 2.8 GHz  
8 Gb RAM



Analytic Admin Services  
Smart View  
Shared Services

Middle Tier/  
Application  
Servers

4 x 2.4 GHz  
4 Gb RAM



Database

4 x 3.6 GHz  
16 Gb RAM



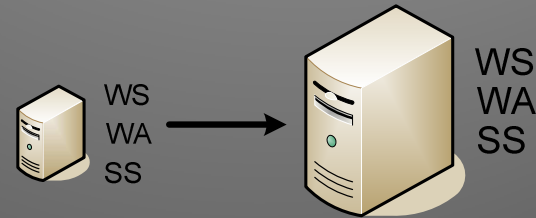
Essbase

Database Tier

# Scaling and clustering Hyperion System 9

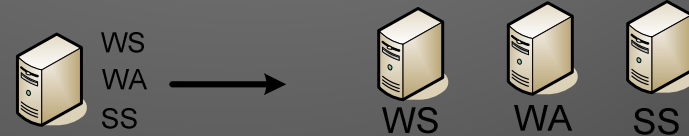
## ▶ Replace

- Replace existing hardware with bigger hardware



## ▶ Separate

- Separate Hyperion services



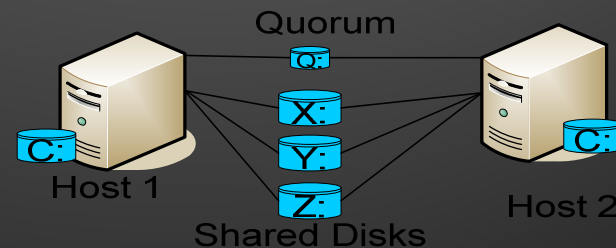
## ▶ Replicate

- Add hardware to existing hardware and load balance



## ▶ Clustering

- Failing over “The Highlander” Services





Hackett Technology Solutions

World-Class Defined and Enabled

# Contact

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