SharePoint 2010 evolution Conference MMX

SharePoint 2010 Mythbusters

IT112

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About Spencer

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  - General SharePoint Dogsbody
  - Microsoft Certified Master | SharePoint 2007
  - Microsoft Certified Master | SharePoint Instructor & Author
  - Most Valuable Professional | SharePoint Server
  - SharePoint Patterns & Practices Advisory Board Member
  - 16 years in Enterprise IT
  - ISPA Vice President
  - Enterprise Architect working with Microsoft's largest customers deploying SharePoint Server.
  - Works with SharePoint Product Group on 2010 Readiness
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Agenda

Debunking Common SharePoint Farm Misconceptions

- Topology
- Service Applications
- Authentication
- Global Deployments
- Agile Farms
- Scalability
- Software Boundaries

FARM TOPOLOGIES

Farm Topologies (Roles)

- "Web Front End" (WFE)
  - Terminology hangover from previous version(s)!!
  - SPF Web Application Service
  - Here to stay (unfortunately!)

- Functional Decomposition of:
  - SPF (Help) Search
  - Search Crawl & Search Query
  - Excel Services
  - Visio Services
  - etc
  - Managed Metadata
  - Document Conversions
  - Content Deployment
  - etc

Farm Topologies

- "No Topology Restrictions"
  - No enforced restrictions
  - Plenty of real world restrictions, for example
    - Number of "WFE"s
    - Number of Web Applications
    - Topology Models remain appropriate
- "Load balancing" of:
  - Search Query Servers
  - Excel Calculation Services
  - etc

Farm Topologies (Search)

- "Make the Crawl Server a 'Crawl Front End'"
  - Not always a smart idea!
  - Dedicated Crawl Front Ends are a good idea
  - Indexer resources can easily become saturated

- "Always host Search Query on the WFEs"
  - Each WFE == propagated indexes
  - Depends on usage patterns

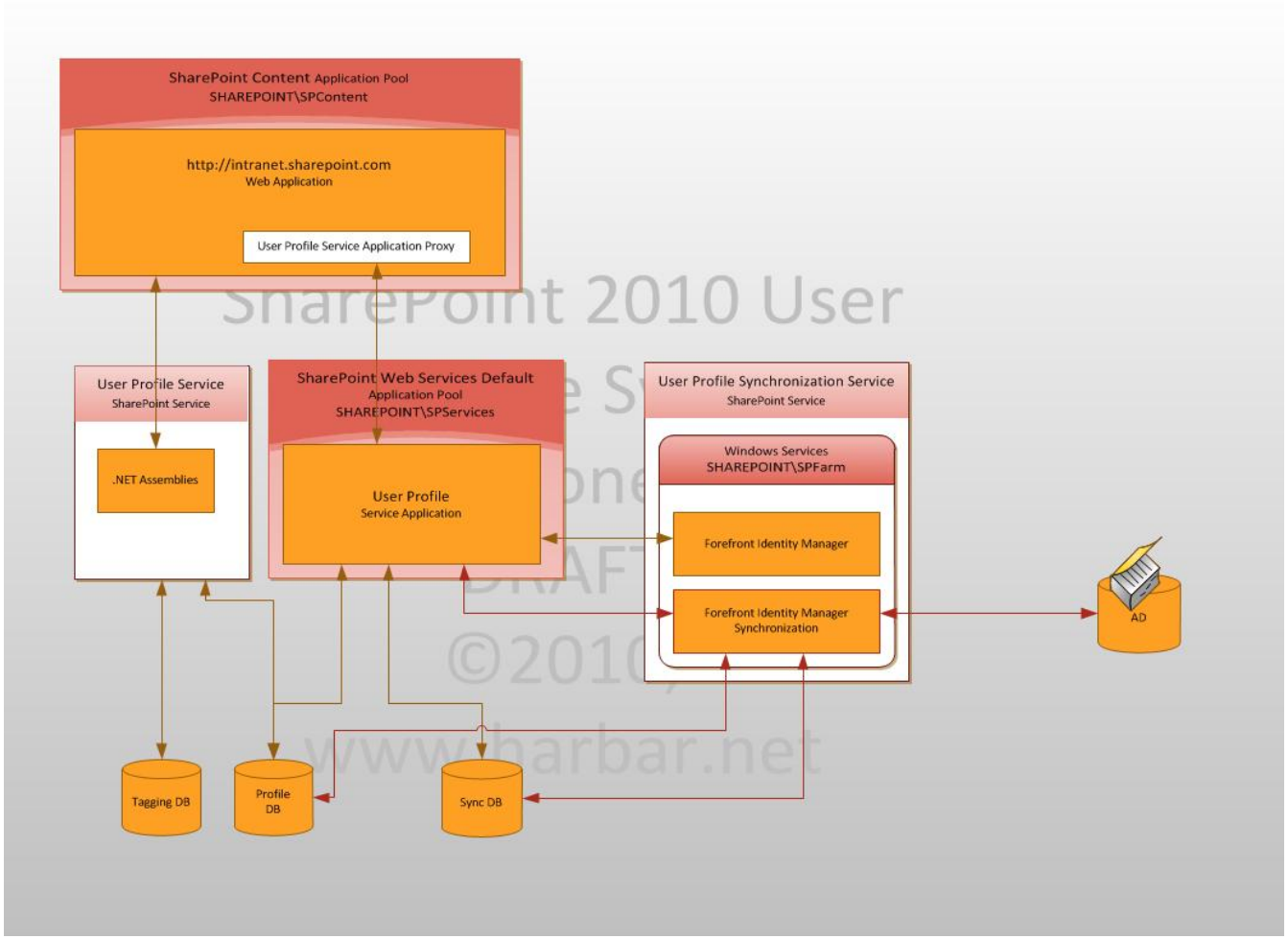
- SharePoint 2010

SERVICE APPLICATIONS

Service Applications

- "…are hosted by the SharePoint Web Services IIS Web Site"
- "…are deployed on an Application Server"
- "…are WCF Services"
- "…provide scalability and load balancing"
- "…avoid Authentication Delegation configuration"
- "…make Inter-Farm Services a snap"

"Service Application Example"



AUTHENTICATION

Claims Based Identity

- "…means Kerberos is dead"
- "..solves identity delegation problems"
- "…provides single sign on"

Authentication

- "One DC for every four WFEs"
  - Old wives tale, from Exchange!
  - It depends upon your authentication scenario
  - Placement of DCs is far more important

GLOBAL DEPLOYMENTS & HIGH AVAILABILITY

Global Deployments

- "SharePoint can't do geo-distribution"
  - Plenty of options
  - Consider carefully why you may need them
  - SharePoint Online
- "SharePoint doesn't work over the WAN"
  - A slow WAN link problem is a slow WAN link problem!
  - Not a SharePoint problem

High Availability

- "Web Gardens give you better performance"
  - Don't use them (ever!)
  - BLOB Cache & other managed resources
- "A single Farm can host 100s of Web Apps"
  - ~20 Web Applications per Farm is reasonable
  - SharePoint loves RAM
  - Request Routing or DNS increases operational service burden considerably

High Availability

- "Web Apps can be deployed to specific servers in a Farm"
  - Request Routing or DNS increases operational service burden considerably
  - There is nothing wrong with multiple farms
  - Server Groups is a logical concept not a feature

AGILE FARMS

Your Farm Topology is NOT done!

- SharePoint Deployments need to be agile
- Your day one topology…
  - May not be suitable in the future
  - Adoption patterns
  - Feature implementation
  - Usage patterns
- Plan for an agile farm
  - Assume your topology will change over lifespan
  - Seriously consider virtualisation

Agile Farms

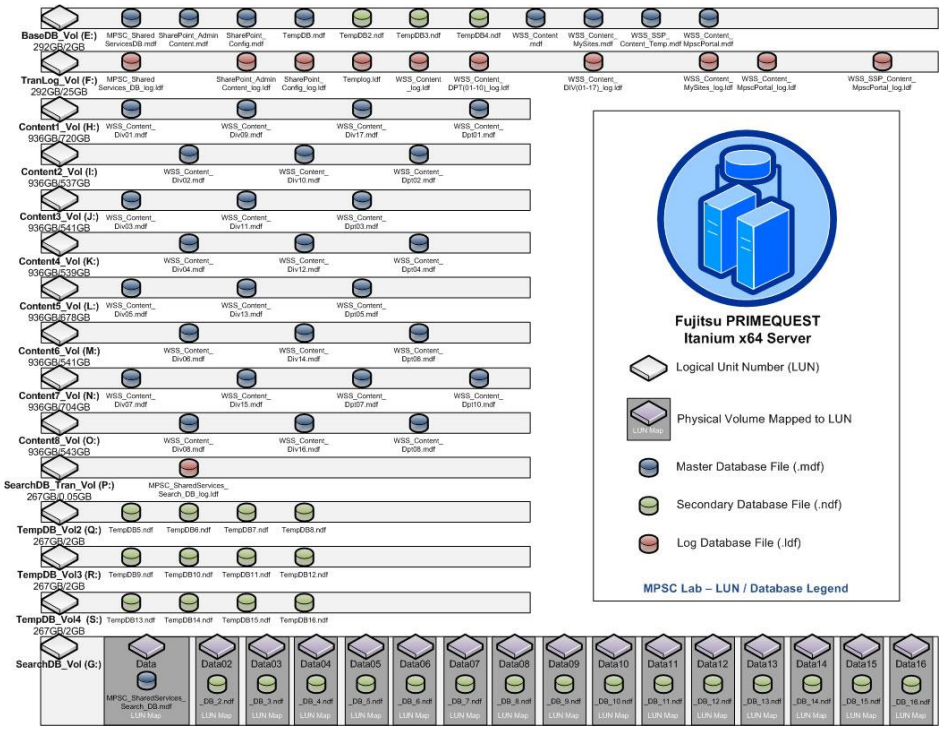
- Consider future versions
  - We aren't done yet
- Operations Management
  - Patching, Reporting etc
- Don’t get stuck with a single Farm
  - The “hidden cost” of SharePoint
  - Anti-Virus, Backup & Restore, Systems Management, Usage Anaylsis

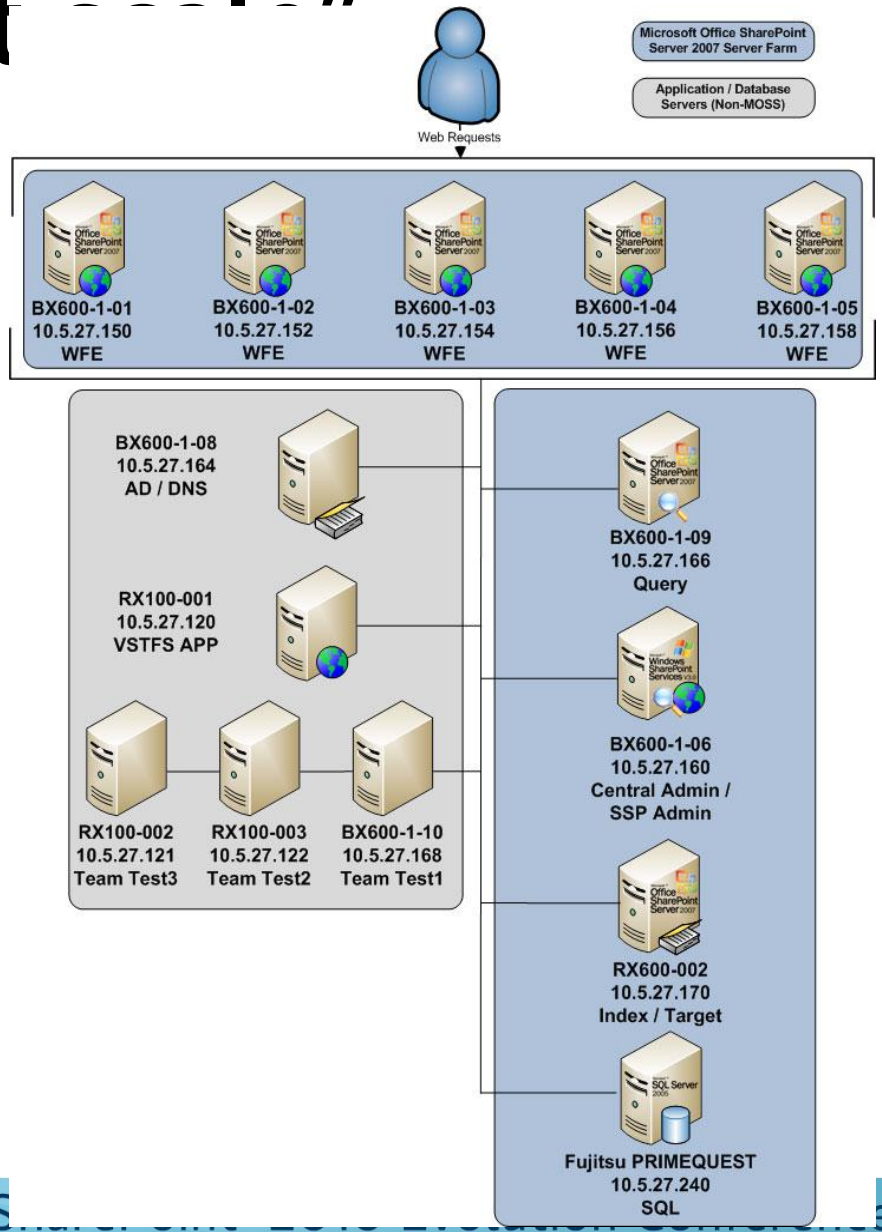
SCALABILITY

“SharePoint can’t scale”

- average daily load throughput of:
  - ~5 million TIFF images
  - ~1.9 million Microsoft Office documents.
- 40+ million content items were loaded into SharePoint in only 13 days
- Average content database size of:
  - 200.65 GB for Divisional Site Collections
  - 137.60 GB for departmental site collections
  - 539 GB for the search database
- Over 5TB content storage with capacity for double

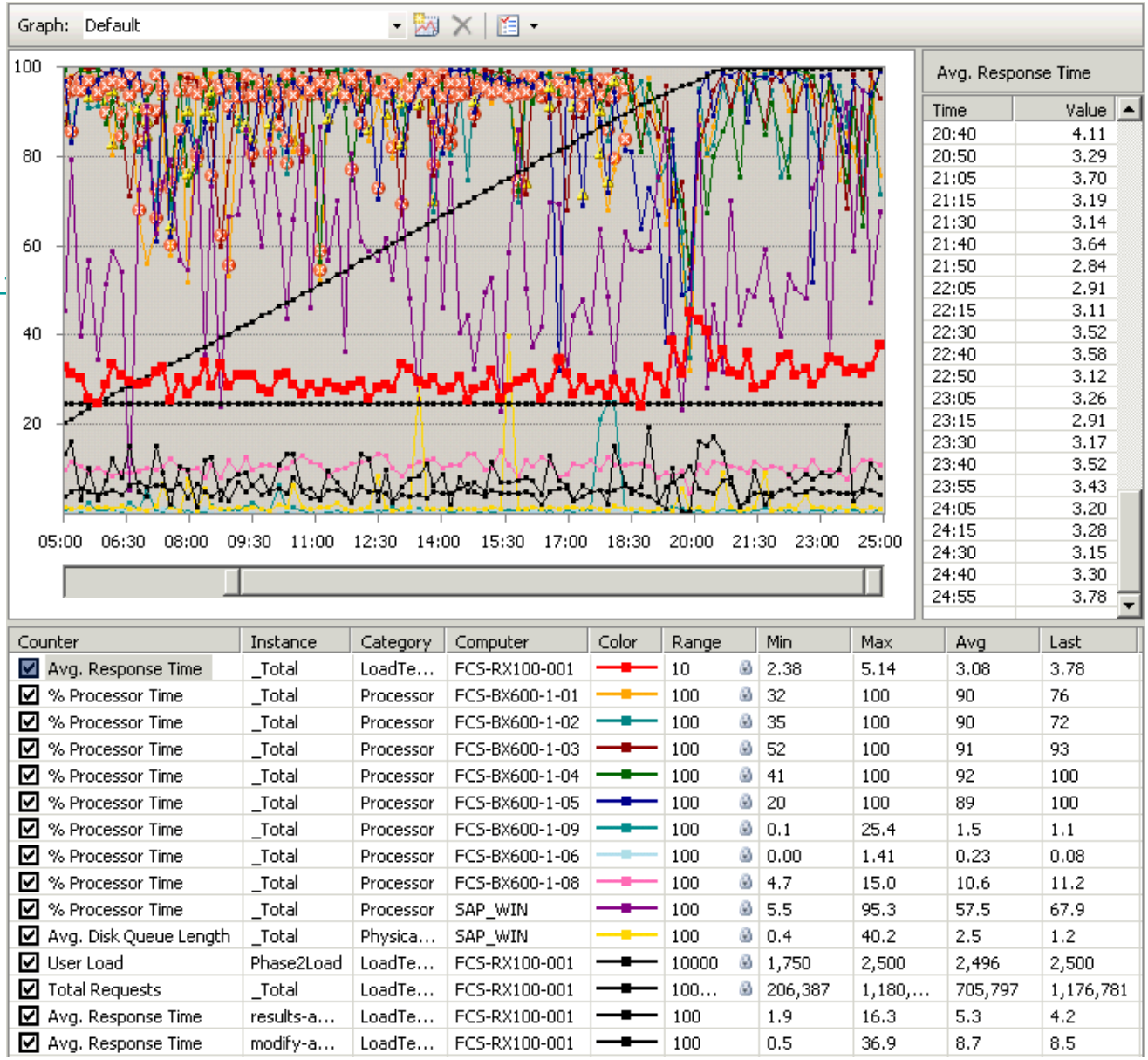
“SharePoint can’t [illegible]”





“SharePoint

technet.microsoft.com/en



Counter	Instance	Category	Computer	Color	Range	Min	Max	Avg	Last
Avg. Response Time	_Total	LoadTe...	FCS-RX100-001		10	2.38	5.14	3.08	3.78
% Processor Time	_Total	Processor	FCS-BX600-1-01		100	32	100	90	76
% Processor Time	_Total	Processor	FCS-BX600-1-02		100	35	100	90	72
% Processor Time	_Total	Processor	FCS-BX600-1-03		100	52	100	91	93
% Processor Time	_Total	Processor	FCS-BX600-1-04		100	41	100	92	100
% Processor Time	_Total	Processor	FCS-BX600-1-05		100	20	100	89	100
% Processor Time	_Total	Processor	FCS-BX600-1-09		100	0.1	25.4	1.5	1.1
% Processor Time	_Total	Processor	FCS-BX600-1-06		100	0.00	1.41	0.23	0.08
% Processor Time	_Total	Processor	FCS-BX600-1-08		100	4.7	15.0	10.6	11.2
% Processor Time	_Total	Processor	SAP_WIN		100	5.5	95.3	57.5	67.9
Avg. Disk Queue Length	_Total	Physica...	SAP_WIN		100	0.4	40.2	2.5	1.2
User Load	Phase2Load	LoadTe...	FCS-RX100-001		10000	1,750	2,500	2,496	2,500
Total Requests	_Total	LoadTe...	FCS-RX100-001		100...	206,387	1,180,...	705,797	1,176,781
Avg. Response Time	results-a...	LoadTe...	FCS-RX100-001		100	1.9	16.3	5.3	4.2
Avg. Response Time	modify-a...	LoadTe...	FCS-RX100-001		100	0.5	36.9	8.7	8.5

SHAREPOINT “MAGIC NUMBERS”

SharePoint "Magic Numbers"

- "How many XXXX can I have in my SharePoint?"

- Plan for Software Boundaries (TechNet)
  - technet.microsoft.com/en-us/library/cc262787.aspx (2007)
  - www.microsoft.com/downloads/details.aspx?displaylang=en&FamilyID=66438e41-5733-448a-bd76-a8052b394fe2 (2010)

SharePoint "Magic Numbers"

- There are only **guidelines** for acceptable performance

- Such guidelines are based upon test scenarios
  - 1 thru 1 Database Server
  - 1 thru 8 Web Servers
    - Team Sites (55%), Doc Workspace (20%), Meeting Workspace (10%), Blog (10%), Wiki (5%)
  - Other scenarios coming soon
  - Often refined based on customer deployments

Logical Architecture "Magic Numbers"

The following table lists the recommended guidelines for content databases.

Limit	Maximum value	Limit type	Notes
Content database size	200 GB per Content database	Supported	We strongly recommended limiting the size of content databases to 200 GB to help ensure system performance. Content database sizes up to 1 terabyte are supported only for large, single-site repositories and archives with non-collaborative I/O and usage patterns, such as Records Centers. Larger database sizes are supported for these scenarios because their I/O patterns and typical data structure formats have been designed for, and tested at, larger scales. A site collection should not exceed 100 GB unless it is the only site collection in the database.

Site collection limits

The following table lists the recommended guidelines for site collections.

Limit	Maximum value	Limit type	Notes
Web site	250,000 per site collection	Supported	You can create a very large total number of Web sites by nesting the subsites, For example: a shallow hierarchy with 100 sites, each with 1,000 subsites, is a total 100,000 Web sites, or a deep hierarchy with 100 sites, each 10 levels deep also containing a total of 100,000 Web sites. The maximum recommended number of sites and subsites is 250,000 sites. Note that Web deletion can have significant impact on the Site's availability, access to the site and subsites will be limited during the time of Web deletion. Also high concurrency of subsite creation might fail beyond a certain pace
Site Collection Size	100 GB per site collection	Supported	A site collection should not exceed 100 GB unless it is the only site collection in the database.

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There are NO magic numbers!

- Successful Solutions Architecture is basically two things:
  - Compromise
  - Reduction of Complexity

- Evaluate solution holistically ensuring adequate compromises.
- Test and monitor as you build and deploy your solution.
- Re-design the solution to ensure that you do not exceed capacity guidelines.

- Test, test, test!

Thank you for attending!

Patrick, we miss you