

# How to have a Healthy Quickr Domino Environment



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**BLUG**  
Belux Lotus User Group



# Agenda

- **Before we get Started!!!**
- Sizing your environment
- Configuration
- Maintenance
- Performance
- Upgrading
- Tips and Tricks





# Before we get started !!!

- Architect your Places -- (Be Smart)
- Build your Use Cases
- Mix Rooms and Folders if possible
  - a) 1000 Rooms \ 10 Folders
  - b) 10 Rooms \ 1000 Folders
  - c) 100 Rooms \ 100 Folders





# Before we get started !!!

- Plan, Plan, Plan





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## Sizing your environment - Minimum install requirements

Group	Applicable OS	Notes
Disk Space	All Applicable AIX OS, SUSE Linux Enterprise Server (SLES) Version 11.0(x86-32) Windows 7 Ultimate(x86-64) Windows Server 2008 Enterprise Edition Version R2(x86-64) Windows Server 2003 Enterprise Edition Version R2 SP2(x86-32) Windows Server 2003 Enterprise Edition Version SP2(x86-32) Windows 7 Enterprise(x86-64) Windows Vista Enterprise Version SP2(x86-32)	1.5 GB or more is recommended. Disk swap space should be 2 times the physical RAM installed
Memory	All Applicable OS	Under minimal load, Quickr Domino can function with 2 GB of RAM. However, 4GB is an optimal starting point for RAM in a production environment.

Lotus Quickr 8.5 for Domino System Requirements:  
<http://www.ibm.com/support/docview.wss?uid=swg27019716>

Or filter by platform, other criteria at Software Product Compatibility Reports





# Sizing your environment - Techline

- **Use Techline**

- Questionnaire



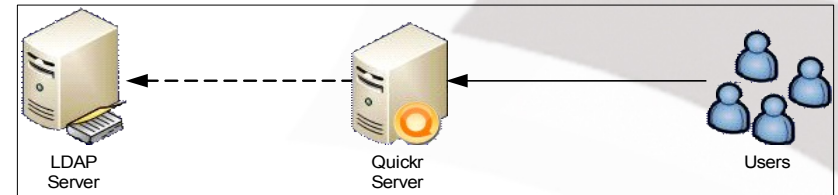
Work with your IBM account team or an IBM Business Partner to engage Techline for sizing



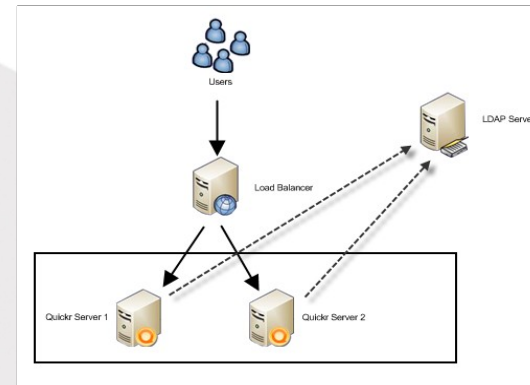
# Sizing your environment - Architecture

- Architecture

- Single Server (0 - 10,000 users)====>

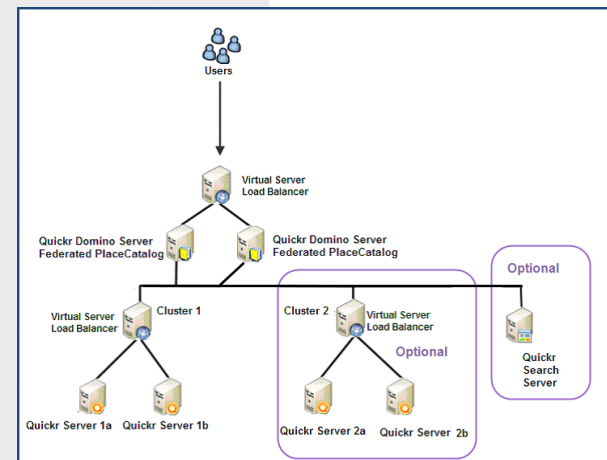


- Cluster (0 - 20,000 users)====>



- Cluster in different locations====>

- Vertical Cluster ( > 20,000 users)







# Sizing your environment – Adoption Process


- **Adoption Process**
  - 1. Open up to everyone for a set time.
    - e.g 6 months
  - 2. Cut off and remove empty Places
  - 3. Control the Creation of new Places










# Sizing your environment - Database sizes

- **Database sizes**

- Windows Maximum = 64 GB
- Optimal Maximum = 10 GB 
- Monitor via the Admin Client
  - View all databases and sort by size

Server: **FMKL/ibmq**  
Release 8.5.1 on Windows/Vista 6.1 Intel Pentium

	Title ◇	Filename ◇	Physical Path ◇	File Format ◇	Logical Siz ◇	Physical Size ◇
	Lotus Domino Desi	help85_desic	C:\Program Files	R6 (43:0)	46,137,344	46,137,344
	Lotus iNotes Comn	forms85.nsf	C:\Program Files	R6 (43:0)	38,010,880	38,010,880
	Monitoring Configur	events4.nsf	C:\Program Files	R6 (43:0)	30,146,560	30,146,560
	Fergal McKenna	fmckenna.nsf	C:\Program Files	R6 (43:0)	25,690,112	25,690,112
	IBM Lotus Domino	help85_admi	C:\Program Files	R6 (43:0)	18,350,080	18,350,080





# Sizing your environment – Tracking


- **Third Party Tools**
- **Opus Neo \ Neo.Tracking**
  - <http://www.opusneo.com/C125725700778275/0/B5B63C97F31CEFD9C125725E004C84EC?OpenDocument>
- **RPR Wyatt \ Essential Place Catalog**
  - <http://www.rprwyatt.com/EssentialQuickrTools.html>
- **GSX \ Monitor and Analyzer**
  - <http://www.gsx.com/products/monitor/>





# Sizing your environment – Folder Numbers

- **Folder Numbers**

- Quickr Maximum = 30,000 Folders
- Domino Maximum = 8,000 Folders
- Optimal Maximum = 1,000 Folders 
- Server console warning message added in Domino 8.5.1 FP5 HF465:
- **WARNING: Too Many folders/views in database:**

```
> load updall -X lotusquickr\ca
12/03/2012 11:07:52 Index update process started: -X lotusquickr\ca
12/03/2012 11:07:52 Updating search site database 'lotusquickr\ca\Search.nsf'
WARNING: Too many folders/views in database: Captia
12/03/2012 11:07:52 Finished updating search site database 'lotusquickr\ca\Sea
12/03/2012 11:09:09 Index update process shutdown
```





# Sizing your environment – Folders Agent

NOTE: The code below is a sample provided to illustrate one way to approach the issue of finding what rooms have too many folders and is used as is and at your own risk. In order for this example to perform as intended, the script must be laid out exactly as indicated below.

```
Option Public
```

```
Option Declare
```

```
Sub Initialize
```

```
Dim fileNum As Integer
```

```
fileNum% = FreeFile()
```

```
Open "c:\temp\databaseViewsSize.txt" For Output As fileNum%
```

```
Dim serverName As String
```

```
serverName = "please add the name of your server here"
```

```
Dim session As New NotesSession
```

```
Dim db As New NotesDatabase(servername,"placecatalog.nsf")
```

```
If db.IsOpen Then
```

```
    Dim view As NotesView
```

```
    Dim doc As NotesDocument
```

```
    Dim item As NotesItem
```

```
    Dim foldersSize As Integer
```

```
    Set view = db.GetView( "Places" )
```

```
    Set doc = view.GetFirstDocument
```







# Sizing your environment – Folders Agent

```
While Not ( doc Is Nothing )

    Print #fileNum%, "-----"

Print #fileNum%, "Place Title ==> " & doc.PlaceTitle(0)

Dim Placename As String

Placename = "lotusquickr\" + doc.PlaceName(0)+ "\search.nsf"

Dim qdb As New NotesDatabase( serverName, Placename )

    If qdb.IsOpen Then

        Dim qdoc As NotesDocument

        Dim qview As NotesView

        Dim qstamp As string

        Dim qselection As String

        Dim qcollection As NotesDocumentCollection

        qselection = |@Contains( Form; "Database" )|

        Set qcollection=qdb.Search( qselection, Nothing,0)

        If qcollection.Count = 0 Then

            Print #fileNum%, "Warning.. ==> There are no Database entry docs, this could be to a due newly created Place\Room ==> "
```





# Sizing your environment – Folders Agent

Else

```
Set qview = qdb.GetView( "$DbCategories" )
Set qdoc = qview.GetFirstDocument
While Not(qdoc Is Nothing)
  If qdoc.HasItem("DatabaseViews") Then
    Set item = qdoc.GetFirstItem("DatabaseViews")
    foldersSize= item.ValueLength
    If foldersSize>10000 Then
      Print #fileNum%, "Warning.. ==> [ " & qdoc.title(0) & " has a high size of " & CStr(foldersSize) & " bytes]"
    Else
      Print #fileNum%, " [ All OK ]"
    End If
  End If
  Set qdoc = qview.GetNextDocument( qdoc )
Wend
```





# Sizing your environment – Folders Agent

```
End If

Else

Print #fileNum%, "Couldn't open specified Place"

End If

Set doc = view.GetNextDocument( doc )

Wend

Else

Print #fileNum%, "Couldn't open PlaceCatalog"

End If

Print #fileNum%, "-----"

Close fileNum%

End Sub
```



# Sizing your environment - Attachments

- **Domino Control**
- Server document
- Internet Protocols tab.

- HTTP Tab
- Request Timeout
- Maximum size of request content

Server: FMKL/ibmq fmkl.mul.ie.ibm.com

Basics | Security | Ports... | Server Tasks... | **Internet Protocols...** | MTAs... | Miscellaneous | Transactional Logging | Shared Mail | DAOS | Lotus Traveler | Administration

HTTP | Domino Web Engine | DIIOP | LDAP

Timeouts		R5 Timeouts	
HTTP persistent connections:	Enabled	Input timeout:	2 minutes
Maximum requests per persistent connection:	5	Output timeout:	20 minutes
Persistent connection timeout:	180 seconds	CGI timeout:	5 minutes
<b>Request timeout:</b>	<b>60 seconds</b>	Idle thread timeout:	0 minutes
Input timeout:	15 seconds		
Output timeout:	180 seconds		
CGI timeout:	180 seconds		

Network Settings		HTTP Protocol Limits	
Listen queue size:	512	Maximum URL length:	4 kilobytes
Maximum number of concurrent network sessions:	2000	Maximum number of URL path segments:	64
IP address allow/deny priority:	Allow	Maximum number of request headers:	48
IP address allow list:		Maximum size of request headers:	16 kilobytes
IP address deny list:		<b>Maximum size of request:</b>	<b>10000 kilobytes (specify 0 to allow unlimited content)</b>

- Domino Web Engine
- Maximum Post Data
- Default = 10MB

Server: FMKL/ibmq fmkl.mul.ie.ibm.com

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HTTP | **Domino Web Engine** | DIIOP | LDAP

HTTP Sessions		Java Servlets	
Session authentication:	Disabled	Java servlet support:	None
Maximum active sessions:	1000	Servlet URL path:	/servlet
Generating References to this Server		Class path:	domino/servlet
Does this server use IIS?		Servlet file extensions:	
Protocol:		Session state tracking:	Enabled
Host name:		Idle session time-out:	30 minutes
Port number:	80	Maximum active sessions:	1000
		Session persistence:	Disabled

Memory Caches		POST Data	
Maximum cached designs:	128	<b>Maximum POST data (in kilobytes):</b>	<b>10000</b>
Maximum cached users:	64	File compression on upload:	Disabled
Cached user expiration interval:	120 seconds		



# Sizing your environment - Attachments

- **Quickr Control**

Lotus Quickr Places

Places My Places

Instructions  
Security  
User Directory  
Other Options

### Other Options

You can choose several server-wide preferences here. Note: users must refresh their browser caches in order for the new settings to take effect.

**Enable/Disable ActiveX and Java.** Check to allow the use of ActiveX controls and/or Java Applets. If your organization has a policy against using, you can disable them here. (Note: doing so will disable some advanced authoring and customization features.)

☒ Enable ActiveX  
☒ Enable Java Applets

**Enable/Disable Form PlaceBots.** Check to allow place managers to import and run PlaceBots on submission of forms.

☒ Enable Form PlaceBots

**Maximum Attachment Size.** Enter the maximum file size allowed for any attachment.

File size in KB:

- Optimal less than 100MB







# Sizing your environment – Preview Files

- Preview Files generates a HTML output file,
- Quickr Domino fix pack 29 (8.5.1.29) or later



```
<server_settings>  
  <preview_feature>  
    <generated_output_size_limit>50</generated_output_size_limit>  
  </preview_feature>  
</server_settings>
```

- Error message when limit is hit..





# Sizing your environment – Memory

- Large Quickr environments (e.g. Windows ) => Limit of 4GB of memory per process.
- The solution here is to switch to a 64 bit server where OS memory limits and internal Domino memory limits have been greatly expanded.



- **Considerations:** Any C API applications (extension manager DLLs) will need to be rebuilt (compiled and linked).





# Sizing your environment – Database Cache size

- Cache size - depends on number of databases in the servers
- Check Database.DbCache.OvercrowdingRejections by adding “show stat database.dbcache.overcrowdingrejections” in the console
  - < 50 per day is not a problem but more than this is.
- NSF\_DbCache\_Maxentries= 0.666 of all databases on the server.
- 1500 Databases then set NSF\_DbCache\_Maxentries= 1000
- Memory hungry (1GB ram\2000 Databases)



# Sizing your environment – Place End of Life



- Plan end of life for Places. If they are not used, then remove them from the Server.
- 1. Project Places which have completed
  - If a project is completed then it should be part of the completion\review process to flag that the Place should be archived
- 2. Places which were never used
  - These can be found by looking in the PlaceCatalog and sorting by PlaceLastAccessed





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- Tips and Tricks







# Configuration - Qpconfig.xml

- Michael Urspringer doc on Qpconfig.xml
  - [http://wiki.urspringer.de/lib/exe/fetch.php/qfaq/tutorials\\_howtos\\_etc/qpconfig.xml.txt](http://wiki.urspringer.de/lib/exe/fetch.php/qfaq/tutorials_howtos_etc/qpconfig.xml.txt)
- Tips:
  - Use a Browser to view the qpconfig.xml after editing to ensure that the syntax is okay
  - Remove the photo section in the qpconfig ldap settings..
  - Check the Hotfix release notes for new qpconfig settings





# Configuration - Notes.ini

- Remove Tasks and replace them with program docs, Program docs give you a lot more control on when you can run qptool tasks.
  - `ServerTasksAt1=qptool newsletter -daily -a`
  - `ServerTasksAt2=qptool remove -cleanup`
  - `ServerTasksAt3=qptool placecatalog -push -a,qptool deadmail -cleanup`
  - `ServerTasksAt4=qptool refresh -a,qptool register -pts,qptool report -policyexecute`
- Don't run the qptools at the same time, use the resulting xml files to define your running times.
- Tips:
  - Use the Server Configuration doc to update the notes.ini
  - Don't trust the Configuration doc.!!!





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# Maintenance - General

- Treat your Quickr servers as you would Domino servers
  - Check the log.nsf for errors
    - Daily task
  - Setup Monitoring
    - Use probes to check for errors
  - Restart the servers on a weekly basis
    - Use a windows script to shutdown the Domino server and restart the OS
  - Run a maintenance schedule every 3 months
    - Compact the PlaceCatalog, PlaceStatistics
    - Delete log.nsf
    - Rebuild Search indexes





# Maintenance - Search

- Search.nsf Corruption can occur when a replica is made from one cluster server to its partner, they must be Domino copied and not replicated or file copied
- Other corruptions can occur so to check this:
  - Run an agent to identify a search.nsf with more than one scope document
  - Or for database docs numbering more than the Rooms in a Place
  - Or for Indexes larger than the Place databases
- To fix:
  - Delete the current Index
  - Delete the search.nsf
  - “load qptool createsearch -p Placename”
  - Check that the Index is created..







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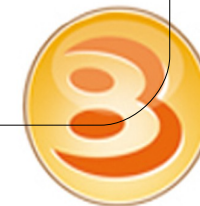


# Performance – Quickr Cache

- Use the Quickr Cache
  - Quickr web cache helps server to re-use the documents
  - In Lotus Domino Console -
    - “Show QuickPlace.Cache.RequestFileCache.HitRate” shows % of cache hits for user requested pages.
    - Want high hit rate
    - At least 15%, closer to 30% preferred
    - Less than 10% and cache is probably more of a negative.
    - Monitor and change to suit the customer



```
QuickPlaceWebCacheEnabled=1 <enabled>  
QuickPlaceWebCacheDir=E:\QPWEBCACHE <location to save cached file>  
QuickPlaceWebCacheLimitInMB=1000 <maximum size used on disk>  
QuickPlaceWebCacheGCIntervalInMIN=1440 <clean up interval 24hrs>  
QuickPlaceMaxCachedUsers=1000 < supported to maximum of 5,000 >  
QuickPlaceExpireCachedUsers=86400 < cached user expiring time >
```





# Performance – General

- Network Tuning
  - Follow the OS vender instructions to tune the OS level IP stack changes
  - Manually set NIC speed and duplex settings on both the server and the connected devices
- Enable cache on the network dispatcher (proxy server)
  - Allows client side browser to get static page elements from its cache
  - Reduces the load on the Quickr server
- OS level server maintenance keep Quickr system health





# Performance – Storage

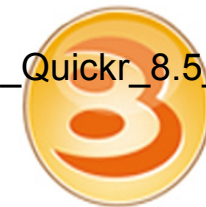
- Use fast storage to alleviate Disk I/O:
  - Quickr Domino relies on Disk I/O
  - Using a fast storage can alleviate the disk I/O bottleneck significantly.
  - Monitoring "Average Disk Queue Length" metrics to identify disk issue
    - No Continuous waiting
- Use DAOS for Storage Scaling (Domino 8.5.3)
  - Scale up Domino storage capacity
    - Quickr place NSF database size is dramatically reduced
    - Cuts down the time/cost for backup/restore Quickr places
    - Handles large amount of on-disk attachments for Quickr places
  - Performance impact:
    - Server processor overhead = ~6% more CPU busy time
- Use separated disk volume to save DAOS and Transaction logging





# Performance – Domino

- Domino Server Tuning
  - Reduce the Domino tasks on the Quickr Server, set only necessary tasks in notes.ini
- Server Document Tuning
  - In “HTTP” tab within “Internet protocols” Tab, Increase “Number active threads” from default 40 to 80. Do not go above this.
    - Disable “HTTP persistent connection”
    - Increase “Listen Queue Size” from default 512 to 1024
    - Increase “Maximum number of concurrent sessions” from default 2000 to 3000
  - In “Domino Web Engine” tab within “Internet protocols” Tab
    - Increase “Maximum active sessions” from default 1000 to 2000 for both “HTTP Sessions” and “Java Servlets”
- Domino Tuning Guide:
  - [http://www-10.lotus.com/ldd/lqwiki.nsf/dx/Performance\\_Tuning\\_Guide\\_Lotus\\_Quickr\\_8.5\\_for\\_Domino](http://www-10.lotus.com/ldd/lqwiki.nsf/dx/Performance_Tuning_Guide_Lotus_Quickr_8.5_for_Domino)







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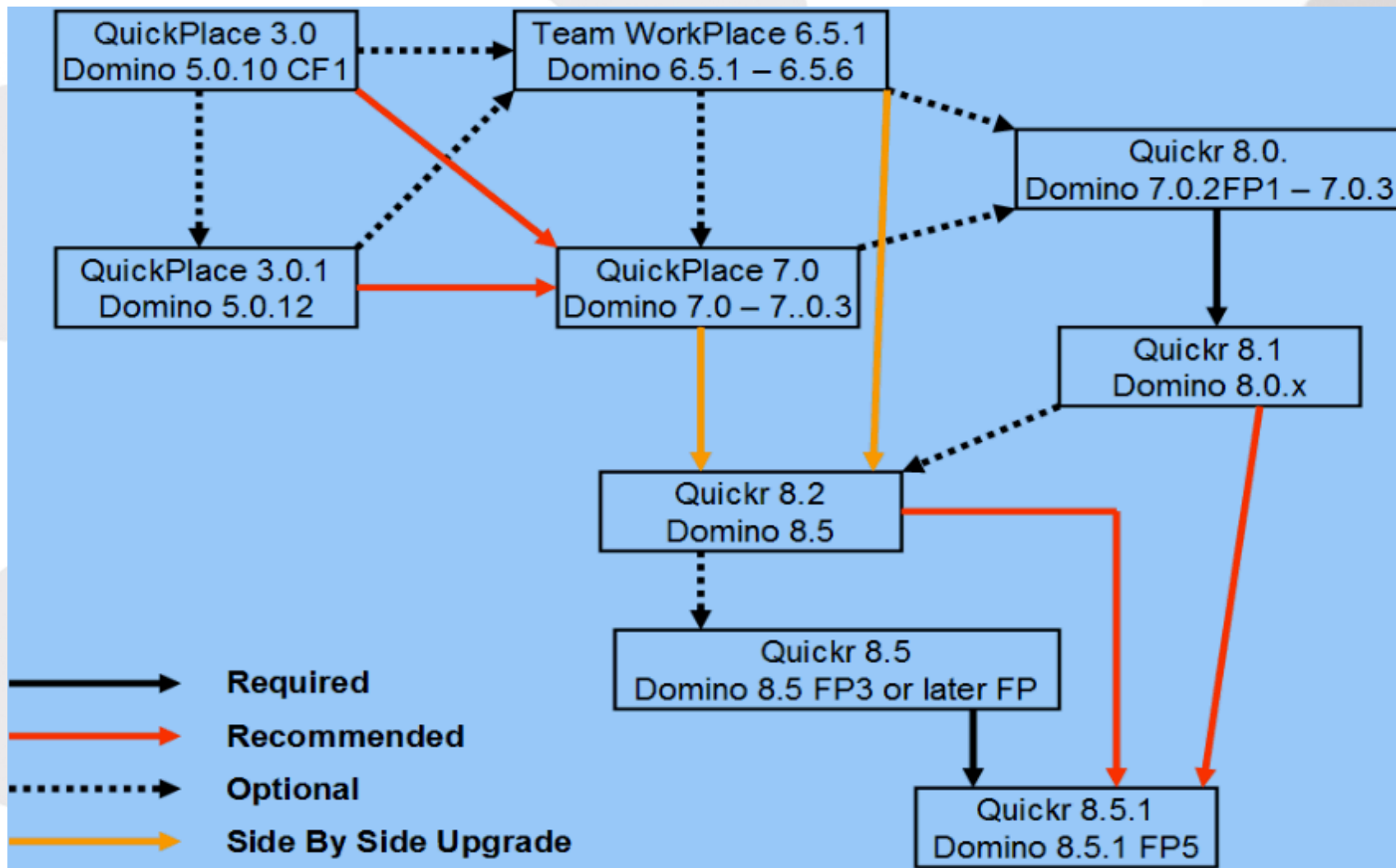
# Upgrading to 8.5.1

- Verify your environment meets minimum system requirements
- Upgrade Lotus Quickr 8.5 from a Lotus Quickr 8.2 deployment ONLY
- Ensure appropriate Domino fix level
  - Running on Domino 8.5.1 requires Domino 8.5.1 FP5
  - Running on Domino 8.5.3 requires Domino 8.5.3 FP1
- Backup all sub-folders in Lotus Domino /data directory
- Be sure to record any specific 'Locked' places
- Two approaches can be taken for Lotus Quickr upgrade deployment
- Upgrade Central: Planning your upgrade to Lotus Quickr 8.5.x for Domino
  - <http://www.ibm.com/support/docview.wss?uid=swg21448544>





# Upgrading to 8.5.1





# Upgrading to 8.5.1 - In-place upgrade

- **In-place upgrade**
- Upgrades your whole server including all 'Place' & 'PlaceTypes'
- Advantages:
  - No need to provide additional hardware for new Lotus® Quickr 8.5.1 server
  - URL for server does not change, all links to 'Places' and documents work after upgrade
- Disadvantages:
  - During upgrade server and 'Places' are not available to users
  - Experience shows upgrade takes approx. same time as applying Fix Pack
  - If presented with issues, 'Places' cannot revert back to old environment





# Upgrading to 8.5.1 - Side by side upgrade

- **Side by side upgrade**

- Upgrade Place by copying from original server to new Quickr 8.5.1 server then upgrade the 'Place' on the new Lotus® Quickr server
- Advantages:
  - Check each 'Place' after upgrade before opening for general user access
  - Can switch back to old 'Place' on old Lotus® Quickr 8.2 server if any issues encountered
  - All 'Places' are still accessible to users whilst upgrade in process
  - No downtime during the upgrade process
- Disadvantages:
  - Additional hardware required to setup staging environment
  - URL to access migrated 'Place' will have changed from old server to new Quickr server







# Upgrading to 8.5.1 - What to expect

- Upgrade time will vary depending on the type of deployment you have
  - Single server, Clustered servers, Disk speeds, Network traffic
- By default data upgrade will use new Lotus® Quickr 8.5.1 theme
- Once theme has been upgraded to 8.5.1, not reversible back.
  - What themes are supported in Quickr 8.5.1  
<http://www.ibm.com/support/docview.wss?uid=swg21509324>
- Customized themes not automatically upgraded and will retain it's prior look and feel
- Customisations will need to be reworked
  - <http://www.ibm.com/developerworks/lotus/documentation/quickrcustomizing/>





# Upgrading Hotfixes

- Upgrade to New Hotfixes
- Quickr Domino 8.5.1.38
  - Quickr Connectors 8.5.0.1 HF14
- <http://www.ibm.com/support/fixcentral>
- Tip:
  - Not all Hotfixes need a Qptool Upgrade!!!





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- **Tips and Tricks**



# Tips and Tricks



- Installing Domino
  - If... you are installing a Domino fix and you are getting versioning errors
  - Then... always have the old version of the fix there so that it can be removed easily
- Installing Quickr
  - If... you are installing Quickr and you get a message about Quickr versioning
  - Then... remove the setting in the Notes.ini that checks for the Server version:  
QuickPlaceEnableVersionCheck=1
- Notes.ini
  - If... adding debug parameters or any other settings
  - Then... always check the configuration doc to see if it will overwrite it
  - And look up and look down to see if the parameter is already there



# Tips and Tricks



- Replacing system docs
  - **Room\_settings** can be replaced with a "load qptool upgrade -f -saveformprefs -p NameofPlace "
    - The valid Room\_settings doc is always the one dated 1999
  - NOTE: you will have to rename the Place by re-adding it using the Customise\Basics option
  - IF you are using a cluster you may need to register the Place again on the 2nd cluster... check the Placecatalog to verify this..
- Replacing system docs
  - **Home Page**
  - Copy the page from any good Place and paste it into the place you are working on..
  - To have the correct icon.. you need to assign it the correct unid, there is an agent to do this...





# Tips and Tricks



- Replacing system docs UNID
  - **Assigning a UNID to the system docs**
    - The agent to assign a UNID can be found in the following TechNote
    - Doc #: 7003362
    - URL: <http://www.ibm.com/support/docview.wss?uid=swg27003362>



# Tips and Tricks



- Members not working correctly
  - It's related to the problem with the h\_RoomsSettings entry... the correct name of the Place must be in the field h\_HaikuName
  - What is happening is that the Members Dialogbox is looking up this field to retrieve where to look for contacts1.nsf to get the list of members. If this is pointing to the wrong location then the user doing the look-up doesn't have access so what happens is that it won't show any members in the list.
- Domino Agent:
  - Domino Agents can be used in many cases to solve problems or to gather data in Quickr Domino.
  - Use the PlaceCatalog to get Place names and locations then use this info to cycle through the Places on your server..





## Thank You & Questions?

