

Technology the Way
IT Should Be!

The Value of Transparency

... or how to start reducing the TCO of your IBM Lotus Notes clients

© 2007 - 2011 panagenda





*pan*agenda

MC

GL

GE

DE

NC

NW

www.panagenda.com



panagenda



Client Configuration, Client Inventory,
Upgrades, Roaming, Performance Boosts

MarvelClient



Server Infrastructure Optimization,
Monitoring, Charting & Reporting

GreenLight



Source Code Analysis and Documentation the Way It Should Be
Application Security, Auditing and Documentation Done Right

DatabaseExplorer



Group and ACL Analysis & Visualization,
Automatic Database Deployment

GroupExplorer



Name Field Changes the Way They Should Be
Flexible Mass Modifications Without Headaches

NameChanger



75% Automated Web-Enablement
of Notes Applications

Notes2Web

www.panagenda.com

Agenda

Coming up next ...



- About panagenda
- **The Client Management and Inventory Challenge**
- What a Notes 8 client comes with
- The Value of Transparency
- Fixing and Standardizing existing deployments
- **Projects: Consolidations, Upgrades, Recertifying, Mergers, Expansions**

The Client Management Challenge

- Your company started using Notes on version 4.x
 - Clients have been upgraded 5 times since then
 - You changed install directories and client type
 - Some data was migrated
 - Perhaps customized templates were deployed
 - IBM also changed client types and default directories
- Your user started creating icons/bookmarks to servers on version 4.x
 - You added new one's and consolidated others since then
- Your users started creating local replicas on version 4.x
 - Anywhere they think is a good idea...
 - Mapped drives, outside the data directory, inside the data directory
- Users shared workstations at some point, various ID's are all over
- This leave you with a HUGE problem when trying to manage our environment ...

The Client Management Challenge

- Who has bookmarks/icons/replicator entries pointing to which applications on which servers
- Who has which location and connection documents
 - And who is already mis-configured and pointing to the wrong server/IP
- Who has which certificates and cross certificates
- Who has which local archives
- Who has an outdated version of a template locally
 - Hint: After an upgrade the client auto-performs a convert on the local names.nsf with the local pernames.ntf
-

> The Client Inventory Challenge

- How do you know how your Lotus Notes client are configured?
- How do you manage something you don't know much about?

The Client Inventory Challenge

- Specifically when upgrading, knowing what kinds of clients you have is invaluable
 - Basic
 - Standard
 - Single-user
 - Multi-user
 - Roaming User
 - Citrix/Terminal Server
 - iNotes/DWA
 - Managed Mail file users
 - Admin and Designer clients
- CAUTION: Policies do NOT adapt to the above

The Client Inventory Challenge

- Gathering the notes.ini can be very helpful in answering the previous questions, such as
 - InstallType=0 Designer License
 - InstallType=1 Admin License
 - InstallType=2 All clients, which is Admin and Designer
 - InstallType=6 Notes client license
 - InstallType=3 Notes client only
 - InstallType=7 Notes lite license
 - InstallType=3 Notes client only
 - InstallType=9 Unknown, which is set for multi-user installs

The Client Inventory Challenge

- Is there any other Lotus interfacing software installed on the user's machine?
 - Sametime stand-alone client
 - Anti-virus products
 - Login scripts
 - Handheld device software
- What operating system are workstations utilizing?
- What kind of hardware are your clients using?
 - Memory and disk space are most important here
- What templates are mail files, archives and directories based on?

The Client Inventory Challenge

- The problem with any policy based client management is that
 - Policies depend on an already functioning/setup client
 - In my experience less than 75% of users actually receive policies
 - They don't provide you with an inventory before making changes
 - Client Management "in the dark"
 - They don't adapt to your users' unique situation
 - LAN vs VPN, Citrix user, function outside the data directory
 - They aren't predictable
 - Can happen anytime.... or not...
 - Most settings cannot be UNset once set
 - Think about it...
 - They cannot repeat actions
 - So if the user breaks something it's broken until they call for help

Agenda

Coming up next ...



- About panagenda
- The Client Management and Inventory Challenge
- What a Notes 8 client comes with
- The Value of Transparency
- Fixing and Standardizing existing deployments
- Projects: Consolidations, Upgrades, Recertifying, Mergers, Expansions

Why exactly a Notes client can have so many problems...

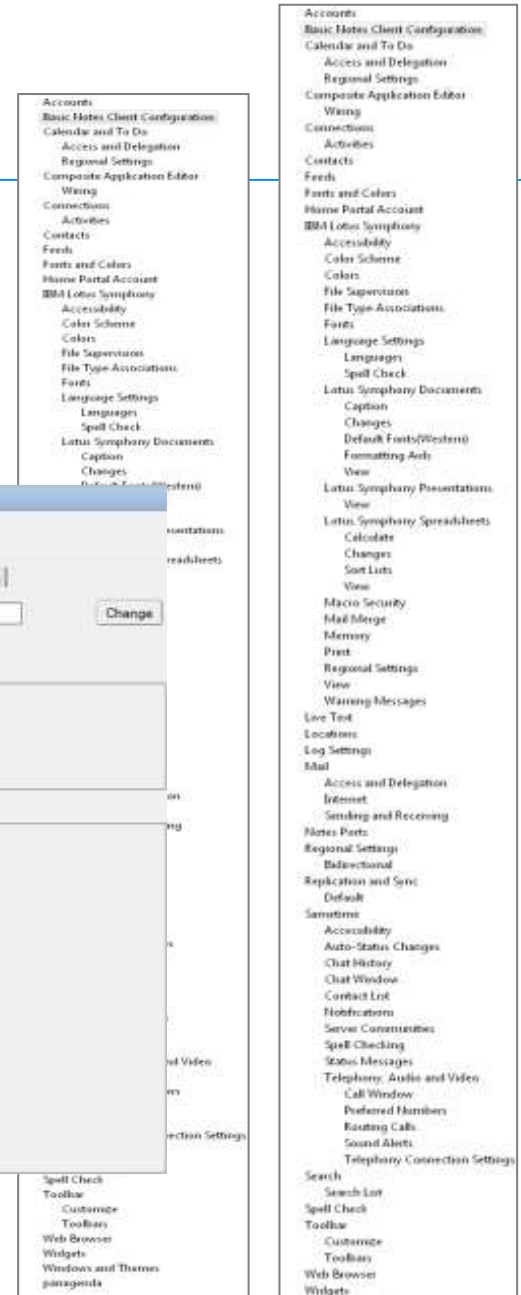
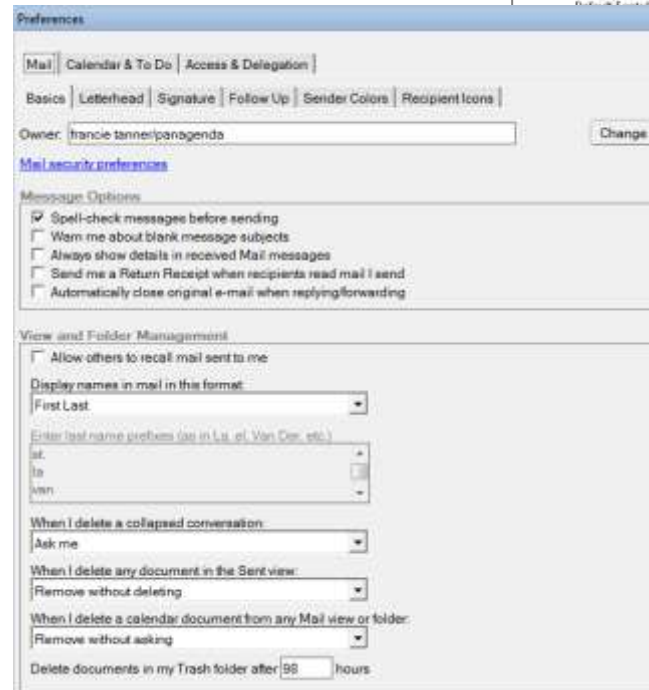
Lotus Notes Standard >8.x means 20'000 files vs Notes 7 had roughly 550!

- 17'000 files in Notes Program directory in 1'800 subdirectories
 - 7'500 (largely undocumented) .properties files
 - 1'500 jar files
 - 1'200 HTML files
- 3'000 files in Notes Data\workspace directory in 2'400 subdirectories, out of which 1'850 are empty
 - 900 (largely undocumented) XML files
 - 100+ (largely undocumented) properties files
- In total, that is
 - 20'000 files in 4'600 subdirectories
 - 8'500+ largely undocumented files
 - Many (many many) subdirectories are plain empty, especially in Data\workspace
 - ... and around 100 NSF's/NTF's
 - ... and the good old notes.ini file.

➤ Add to that over 80 Preference Dialogs

- Each menu has 15 settings on average for a total of 12'000 settings!
 - In your local address book
 - In your notes.ini
 - In your XML files 7'500 (largely

Which does not include any plugins, widgets, addons, that you or your users may have added to the Notes client install.



> Add to that....

- All the icons your users have
 - Even those that point to outdated servers
- Bookmarks and toolbars
- Location documents
 - That may or may not match the users' information
- Local replicas
 - On mapped drives and other locations
- The replicator page
 - Containing some of the aforementioned local replicac

- And even with the most perfectly outlined 30 page initial Notes Client setup guide, you really don't stand much of a chance to keep your Notes clients standardized, working and happy!

Agenda

Coming up next ...



- About panagenda
- The Client Management and Inventory Challenge
- What a Notes 8 client comes with
- The Value of Transparency
- Fixing and Standardizing existing deployments
- Projects: Consolidations, Upgrades, Recertifying, Mergers, Expansions

Transparency = foundation of a reduced Notes TCO AND happy end users

- **A proper client Inventory shows**

- What is out there (which is always more than surprising)
 - client types, HW details, release version, available disk space, where links are pointing to, list of databases, all existing replicas, memory present, configuration details, etc...
- The difference between what was expected and what actually is → never requires guesswork, always shows up-to-date client inventory at all
- Opportunities for improvements → For example: Reduce managed storage by deleting 40% of outdated local databases and templates, ODS upgrades
- How (non)healthy the client infrastructure is → what needs to be fixed/standardized (which is only worth actually investing in if I can then also prevent those issues from coming right back)
- Links (icons, bookmarks) users have → in most cases shows that Notes is used much more than previously assumed (often prevents migration to Microsoft), also documents information household (what are users linked to/what do they link themselves to? → business intelligence)

Sample views for enhanced transparency (1/4)

see *panagenda MarvelClient Analyze database* for further views and details

#	%	HW	Status	Date last uploaded
47	33%	▶ Desktop		
30	21%	▶ Desktop (Citrix)		
55	39%	▶ Laptop		

Client types

Install types
(note: Basic vs.
Std. Warning category)

„Our corporate standard install is 8.5.1 FP2. We had no idea about all the different versions out there“ - MarvelClient customer

141	20%	▼ Notes - Basic vs. Standard
32	23%	▶ < Notes 8
10	7%	▶ >= Notes 8 - Basic only
10	7%	▶ >= Notes 8 - Standard installed and running Standard client
87	62%	▶ >= Notes 8 - unknown install type (update DLL)
2	1%	▶ >= Notes 8 - WARNING: Install identified as Basic only but running Standard
141	20%	▼ Notes - Components
131	93%	▶ Client only
10	7%	▶ Client+Admin+Designer
141	20%	▼ Notes - Releases
9	6%	▶ Release 7.0.3 HF77 November 28, 2007
2	1%	▶ Release 7.0.3 September 26, 2007
44	31%	▶ Release 8.0.2 FP1 CCH1 February 13, 2009
2	1%	▶ Release 8.0.2FP1 CCH2 April 23, 2009
2	1%	▶ Release 8.0.2FP5 HF25 June 18, 2010
2	1%	▶ Release 8.0.2 August 07, 2008
5	4%	▶ Release 8.5 SHF321 July 31, 2009
1	1%	▶ Release 8.5.1 FP1 January 06, 2010
2	1%	▶ Release 8.5.1 FP2 March 18, 2010
18	13%	▶ Release 8.5.1 FP3 May 24, 2010
1	1%	▶ Release 8.5.1FP4 July 25, 2010
13	9%	▶ Release 8.5.1 September 28, 2009
3	2%	▶ Release 8.5.2FP1 November 30, 2010
9	6%	▶ Release 8.5.2 August 10, 2010
6	4%	▶ Release 8.5 December 05, 2008
141	20%	▼ Notes - Single- vs. Multiuser
50	35%	▶ Multiuser with SharedDataDirectory
91	65%	▶ Singleuser
705	100%	

Sample views for enhanced transparency (2/)

#	%	Category
141	42%	2 - Duration Before Login
94	67%	< 1 sec.
9	6%	< 4 sec.
1	1%	< 8 sec.
37	26%	>>> 8 sec.
51	15%	3 - Duration After Login
1	2%	< 1 sec.
6	12%	< 4 sec.
7	14%	< 8 sec.
37	73%	>>> 8 sec.
333	100%	

#	%	Count
49	27%	0
18	10%	10
2	1%	20
1	1%	30
2	1%	100
1	1%	140
1	1%	150

Network latency

Client startup times
 → performance monitoring
 (includes deep diving possibilities)

Deployment consistency
 (inconsistency and non-genericness of typical SW deployment projects is a huge challenge for upgrades)

#	%	Directory	Status	Date last uploaded
141	25%	[NOTES DATA]		
67	48%	C:		
15	22%	Documents and Settings		
7	10%	Dokumente und Einstellungen		
1	1%	Install		
5	7%	Lotus		
1	20%	Notes		
1	20%	Notes7		
2	40%	Notes85		
1	20%	NotesR6		
3	4%	Notes		
29	43%	Program Files		
2	3%	Program Files (x86)		
1	1%	Programme		
4	6%	Users		
17	12%	D:		
1	1%	f:		
29	21%	H:		
16	11%	J:		
6	4%	P:		
2	1%	U:		
1	1%	Y:		
2	1%	/home		
141	25%	[NOTES PROGRAM]		
141	25%	[NOTES SHARED DATA]		
141	25%	[NOTES.INI]		
2	1%	[elsewhere]		
1	50%	D:		
1	50%	H:		
85	60%	[in Notes Data]		
54	38%	[in Notes Program]		
564	100%			

Sample views for enhanced transparency (3/4)

#	%	Filename	User
376	9%	▼ [Absolute]	
140	3%	▶ c:	
43	1%	▶ D:	
5	0%	▶ e:	
74	2%	▶ F:	
41	1%	▶ G:	
12	0%	▼ H:	
1	0%	▼ >Documents	
1	0%	▼ >Lotus_Notes	
1	0%	▼ >Data	
1	0%	▼ Names.nsf (41)	
		konde\Reinhard_Kondert\IT\N-ERGIE\P10023618\8-0-2	
2	0%	▶ >LotusNotesArchive	
7	0%	▶ >Notes	
2	0%	▶ >notesr45	
6	0%	▶ J:	
46	1%	▶ K:	
1	0%	▶ M:	
2	0%	▶ U:	
2	0%	▶ W:	
1	0%	▶ Y:	
3	0%	▶ Z:	
3.851	91%	▼ [Relative]	
1	0%	▶ 1schulu3.nsf (43)	

Do users have databases outside of Notes data directory? (and if so, which)
 → Archiving, compliance, security, control

#	%	Server	User
174	2%	▼ cronus/panagenda	
1	0%	▶ admin4.nsf (Administration Requests (6))	
2	0%	▶ bookmark.nsf (Bookmark)	
5	0%	▼ catalog.nsf (Catalog (8))	
		Administrator\markus_seitz\panagenda\INSTALL-WIN7\7-1	
		fvogler\florian_vogler\panagenda\FV-W500\8-5-1	
		fvogler\florian_vogler\panagenda\FV-W500\8-5-2	
		Markus\markus_sablatnig\panagenda\REMONTOIRE\8-5-	
		max\markus_seitz\panagenda\max-desktop\8-5-0	
2	0%	▶ da.nsf (Directory Assistance)	
1	0%	▶ domlog.nsf ()	
3	0%	▶ events4.nsf (Monitoring Configuration)	
3	0%	▶ log.nsf (cronus's Log)	
6	0%	▶ names.nsf (panagenda's Directory)	
1	0%	▶ NEWblog.nsf (panagenda's Blog)	
1	0%	▶ reports.nsf (Reports for tiamat/panagenda)	
1	0%	▶ >3M	
6	0%	▶ >dbscan	
3	0%	▶ >GroupExplorer	
4	0%	▶ >icl	
21	0%	▶ >mail	
14	0%	▶ >mailin	
1	0%	▶ >nothere	
64	1%	▶ >panagenda	
6	0%	▶ >penumbra	
9	0%	▶ >nuh	

Who has which desktop icons and what servers do they point to? → consolidation and configuration monitoring

Sample views for enhanced transparency (4/4)

- **More view examples:**

- Which databases inherit the design from which template
- Which databases claim to be which templates
- Size spreading of databases
- Detailed and total size of all databases per user
- Notes.ini settings
- Notes.ini preferences „deciphered“
- ECL Analysis
- ID file monitoring (activation, expiry, key issuer, ...)
- All Locations and Connections - even those pointing to an IP rather than a hostname
- CPU, memory, disk space, hardware present and used, SW, potentially also processes

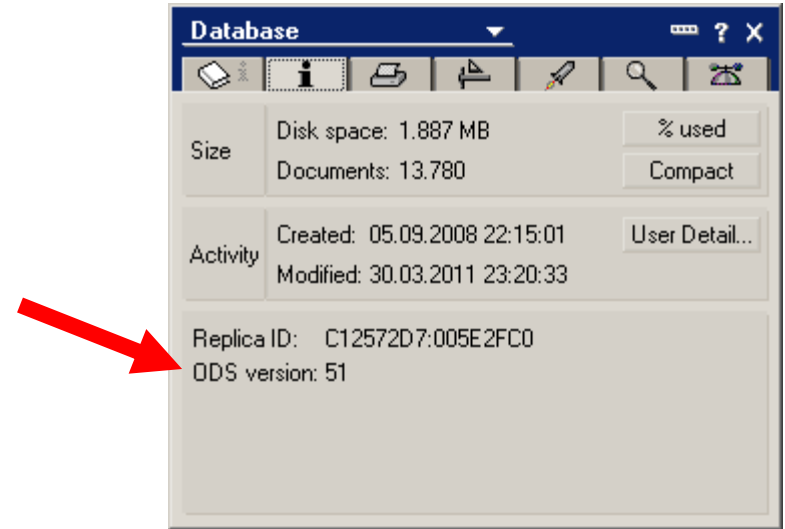
#	%	ODS\Fullfilename	User
7	0%	▶ 17.dsk	
1	0%	▶ 17.ndk	
10	0%	▶ 17.nsf	
2	0%	▶ 20.ns4	
43	1%	▶ 20.nsf	
395	9%	▶ 20.ntf	
4	0%	▶ 41.dsk	
198	5%	▼ 41.nsf	
56	1%	▶ [Absolute]	
142	3%	▼ [Relative]	
16	0%	▶ AgentRunner.nsf (41)	
1	0%	▶ a_US333025.nsf (41)	
1	0%	▶ BizTrans01.nsf (41)	
2	0%	▶ bookmark1.nsf (41)	
15	0%	▼ bookmark.nsf (41)	

ODS monitoring example →
Notes 7 and 8 clients with bookmark.nsf ODS 41 ...

> ODS? What's that?

- **ODS = On Disk Structure**

- ODS 16 = Notes 2
- ODS 17 = Notes 3
- ODS 20 = Notes 4 (or templates)
- ODS 41 = Notes 5
- ODS 43 = Notes 6 & 7
- ODS 48 = Notes 8
- ODS 51 = Notes 8.5



- **The difference between ODS 43 and 51 = up to 80% LESS FILE I/O; average 50% less.**
Also helps with slow local fixed disks, not just SAN/NAS! – Think servers, too!
- **Unfortunately the ODS is not *automatically* updated when upgrading clients**
 - Except for names.nsf, bookmark.nsf, and desktop*.dsk/ndk (provided you upgraded „properly“ ... uh-oh)
 - Upgrade to ODS 48 requires Notes >= 8 and CREATE_R8_DATABASES=1 in notes.ini
 - Upgrade to ODS 51 requires Notes >= 8.5 and CREATE_R85_DATABASES=1 in notes.ini

> ODS continued

- **Fortunately, in Notes 8.5 you can use**

- NSF_UpdateODS=1
- This will do a one-time upgrade of all local databases in the background
- USE WITH EXTREME CARE IF YOUR DATA DIRECTORIES ARE ON A NETWORK DRIVE! → Loadbalance!
- Note that end users cannot access databases during compact (mailfile replicas!)
- Note that names.nsf and bookmark.nsf are upgraded at next client startup (→ Splash screen)
- Impact examples
 - Startup time of a Notes 8.5.2 client with three ODS 20 databases in Notes data: 10 seconds
After ODS upgrade: 2 seconds
 - After upgrade of all NSFs from previously mostly ODS 41 to 51 = 60% less File I/O on SAN/NAS!
 - Removing 70% of all old files in Data directories on SAN/NAS = 45% less managed storage (backup)
- **Unfortunately, you have little to no clue on „what is out there“ = which databases where and with which ODS (we can help with that – after this session ;-))**

Agenda

Coming up next ...



- About panagenda
- The Client Management and Inventory Challenge
- What a Notes 8 client comes with
- The Value of Transparency
- **Fixing and Standardizing existing deployments**
- **Projects: Consolidations, Upgrades, Recertifying, Mergers, Expansions**

Fixing and Standardizing existing deployments

- **Without transparency, it's virtually impossible to fix and standardize**
 - You can't predict the outcome of any sweeping changes/fixes
 - You don't know what's out there
 - You don't know how well your deployed changes are working
 - You don't know „what's left“ to do
 - You don't know how well you're doing (can't prove reasons/success to upper management)
- **Fixing and Standardizing can mean many different things**
 - One time changes such as adding a variable to the notes.ini
 - **Enforced configurations** (ENORMOUS cost savings potential) such as local replicas for mail, or unchangeable location and connection documents
 - Roaming: standard configuration across multiple devices, done intelligently (where IBM roaming needs to be improved)
 - **Comprehensive, flexible, consistent, predictable control** over many different „things“, such as icons, bookmarks, replicas, replicator pages, locations, connections, toolbars, notes.ini, „Eclipse“/plugins/widgets, etc. Client settings „move“ along to changes on the servers, such as a database move

Standardizing

Admittedly, „comprehensive, flexible, consistent, predictable“ is a lot in one and the same sentence.

However, all four are required for client management:

- If client management options aren't comprehensive enough to cover all features, you won't get all too far
- If client management options aren't flexible enough, you won't get all too far either (creating a new replica MUST consider VPN vs LAN vs Citrix connections for example)
- If your configuration isn't consistent across desktop, bookmarks, replicator pages, etc. Users open / replicate with alphabetically close but geographically far servers. Users with „bad“ Notes installs won't get any changes at all.
- Last but not least, it's impossible to support an unpredictable environment:
 - Who has which release/fixpack and who doesn't?
 - Which users are affected by a server change?
 - How often/reliably are policy configurations applied?
 - How many clients are not yet standardized, how many are?
 - Which icons/replicas/bookmarks should a new HR employee have?

Local Replica Management

Local (physical) replica options:

- Don't autcreate if missing
- Stub only
- Full Replica
- Always replicate
- Variable
- Remove local replica if exists

Variable:

Hide?

- Leave as is
- Do NOT show local database in "Open Database/Application" dialog
- ALWAYS show local database in "Open Database/Application" dialog

Do not create a replica, if ...:

- Source database is larger than ...
 MB (Source size + % (for fulltext index, for example))
- Remaining free space < ...
 MB (after replica creation)

Extended Completeness Check?

- Enabled ...

Cutoff date handling:

- Enabled ...

Local filename incl. path (upon creation):

- Enforce
- As on Server
- Different from Server ...

> Fixing

- **In most cases, fixing is just another word for:**
 - Lack of transparency and standardization
 - Desperate symptom fighting: „we don't know what's wrong, let's re-image Notes“
 - Second most expensive form of client management
 - Most expensive = do nothing
 - Second most expensive = help on demand = 1000 similar problems are all solved one by one
 - → persistent standardization significantly reduces number of individual „fixes“/ number of help desk incidents
- → Fixing must be (re)defined as a one time change, not misunderstood as a way to „control“ clients
- → Client control requires to think down the lines of „what if a certain setting/replica/... is to be enforced 365x24 across a rich variety of different clients?“
(e.g. Laptop/Desktop/Citrix/Basic/Standard/LAN/WAN/Departments/Roles/...)

Agenda

Coming up next ...



- About panagenda
- The Client Management and Inventory Challenge
- What a Notes 8 client comes with
- The Value of Transparency
- Fixing and Standardizing existing deployments
- **Projects: Consolidations, Upgrades, Recertifying, Mergers, Expansions**

> Server projects = predictable | Client projects = unpredictable

There are pages and pages more details to all previous slides ...

Client management must cover the wealth of options the rich client provides to accomodate for virtually all usage cases for such settings, objects and options in IBM Lotus Notes

- Locations, connections
- Desktop icons
- Bookmarks
- Toolbars
- ECL
- ACLs
- Replicas, replicator pages
- Databases, Templates (design consistency)
- ODS
- And more ...



Projects typically aim at leveraging new improvements

New client and server side features being released are irrelevant if customers can't reliably control the environment/mess they already have - or worse - if they can't propagate server changes to clients

- **Server consolidations: fewer servers = less cost**
- **Upgrading hard- and software and ODS on servers = gaining efficiency**
- **Leveraging new server features by upgrading**
- **Recertifying domains, mergers and server expansions**
- **Load balancing and clustering servers = gaining efficiency and reliability**

- **During such projects, companies often face huge challenges on the client side**
 - How do you re-point user links to new servers whilst being able to turn off old server immediately? (redirector requires to keep old server running)
 - How do you re-point replicator page entries to new servers? How do you deal with replication history?
 - How do you prevent cutoff date problems with existing local replicas?
 - How do you upgrade inconsistent environments in which I can't predict what a change may cause?
 - How do you upgrade all local databases (must include load balancing with data on SAN/NAS)?
 - How many help desk calls can be expected during such projects? How do you prevent them?
 - How do you ensure best possible client performance and implement maintenance?
 - ...

Questions?



Francie Tanner

Technical Director, Americas

panagenda Inc – [Client Management, Server Monitoring & more](#)

60 State Street, Suite 700 • Boston, MA 02109 (USA)

Skype: francietanner • Cell: +1 264 584 1060

Fax: +1 415 449 5940 • E-Mail: francie.tanner@panagenda.com