IBM Notes/Domino Analysis & Modernization
A Strategic Approach by Whitsell Consulting

Background:

Historically, IBM Notes/Domino has been a leading platform for email services as well as used for various types of custom applications to facilitate workflow, store customer information, maintain compliance records, and other critical functions. After 20 plus years, Notes/Domino is still widely deployed across organizations around the world, but the need to modernize or migrate your applications to a modern web-based platform is growing.

As traditional Notes/Domino moves towards becoming a legacy software application, organizations are looking towards the future with regards to their ability to support existing applications, options for cost savings on hosting and licensing, as well as the overall functionality and ease of use of applications.

A look at Notes/Domino today:

| 10,000,000+ Notes/Domino applications in production | 30,000+ organizations using Notes today | 10,000+ active XPages developers worldwide | 20+ years of innovation with continued yearly updates |

*stats from ibm.com 1/28/2016

What are your needs?

- a comprehensive analysis and plan for eliminating Notes/Domino
- a reduction or elimination of Notes/Domino licensing from the operating budget
- alternatives to in-house Notes/Domino developers and administrators
- flexibility and freedom of moving to a cloud-based or SaaS application
- options for decommission of applications, migration to 3rd party software platforms or modernization of existing applications
- a better understanding, in terms of process, challenges, outcomes, and costs, the option to modernize Notes/Domino applications to a web-based platform

Goals of this document:

- define Whitsell Consulting's overall strategic approach to analysis & modernization
- identify parameters & scope of initial high-level assessment
- deliverables & timeline for initial high-level assessment
- identify parameters & scope of a comprehensive assessment
- deliverables & timeline for a comprehensive assessment
- potential next steps for a proof of concept & new development/migration
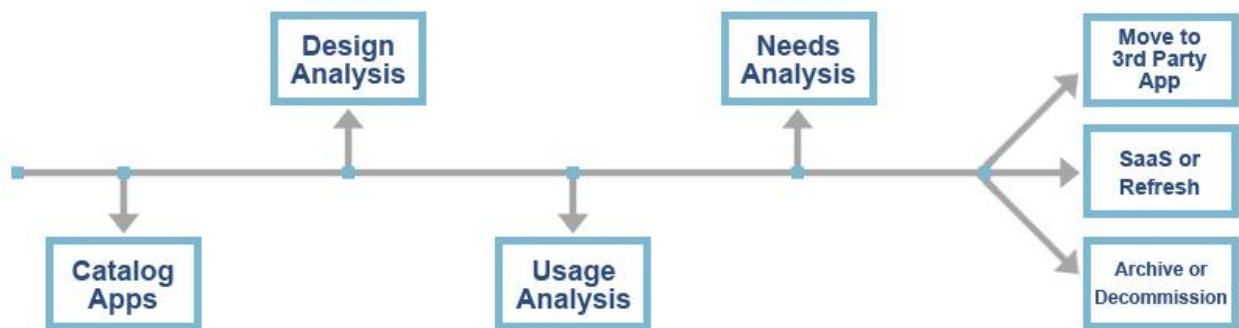
Approach:

Whitsell Consulting approaches the idea of modernization/migration with multi-phase process. Below is a brief overview of the overall approach before a providing a detailed look into the assessments.

Initial Assessment

A high-level assessment of the current Notes/Domino environment using a dynamic toolset which will provide accurate data analysis and reporting. Identify key components and factors of the environment including applications, hosting, licensing, and usage. The initial assessment phase identifies applications that need to be further analyzed, potential business process owners, and provides a roadmap for the comprehensive assessment.

Comprehensive Assessment

A fully comprehensive assessment of individual applications to provide workflow analysis, survey and confirm business process owners, group applications into business categories and identify technical risks. Provides a complete overview of the current Notes/Domino environment as well as provides detailed strategies and options for the modernization (decommission, migrate to 3rd party software, conversion), licensing options, and a server consolidation/decommission plan. Formal time estimates and financial estimates will be provided upon the completion of this phase.

Proof of Concept

Upon completion of the assessments Whitsell Consulting will identify a potential pilot application to convert to the web as a proof of concept to provide an example of a completed SaaS offering using IBM XPages. Whitsell Consulting will create a mockup dashboard to showcase the single URL/single sign-on functionality (multiple applications feed into one place) and showcase the "branding" message for your organization.

Development/Migration

The final phase is to do the physical migration, development, and SaaS project. This final phase is where the bulk of the work for any modernization project will be done based upon the strategies and priorities defined in the initial and comprehensive assessments. Whitsell Consulting provides a full team of certified developers, administrators and project managers to assist in the process.

Initial Assessment:

The initial assessment will provide high-level data and analytics of an organizations applications, environment and usage.

Scope/Footprint

The assessment may focus on a particular region and be used as preview to assessing the worldwide footprint, run on the entire worldwide environment, or used as validation for information gathered during any internal assessments.

Tools

Whitsell Consulting uses a set of analysis tools both internally developed and 3rd party applications in order to provide data sets and reporting. Tools include the Whitsell Domain NDI analysis software, as well as IBM Domino Doublecheck.

Deliverables

Whitsell Consulting will provide the raw data output from the tools as well as a summary report of the findings. Data will be analyzed to identify quick wins, applications that need further analysis, probable business process owners, provide insights on overall server and user activities, identify hard coded URLs and doclinks, as well as provide an estimate for the full comprehensive assessment.

The type of data that will be identified and analyzed include:

- database names
- file paths
- associated templates
- date created / last modified
- database size
- number of documents
- last accessed
- replication IDs
- ACL details & roles
- usage (day, week, month)
- applications using doclinks
- hard-coded server names & URLs
- probable business process owner(s)
- server utilization
- session concurrency & port compression

Initial Assessment Output:

Sample Raw Data Report

Domino NDI Software

DB Path	File Location/Name	Title	Last 24 Hours	Last Mon	In History	# of Docs	RepID	Week Reads	Week Us	Week Write	Template Name	Month Reads	Month Use	Month Writ
BUSINESS	OPT\OPT00002.NSF	MQOMS Minova	0	0	1400	0	CA257A8A0002E628	0	0	0	MQOMS Template	0	0	0
BUSINESS	OMS\oms00441.nsf	Manufacturing Latin America	0	0	1126	0	052579B800552543	0	0	0		0	0	0
BUSINESS	OMS\oms00419.nsf	Group to Internet Address Lookup	0	0	721	0	CA25796C00226D7F	0	0	0		0	0	0
BUSINESS	OMS\oms00416.nsf	Underground & Surface Expert Team DMS	0	41	1400	3147	CA257965000002688D	0	0	0	New DMS Database Template	55	41	42
BUSINESS	OMS\oms00392.nsf	Key Account Management	0	8	1400	0	8425785000660655C6	0	2	4		0	8	26
BUSINESS	OMS\oms00389.nsf	North American ICMS Escalation Databas	0	0	1400	0	CA2578D500246C88	0	0	0		0	0	0
BUSINESS	OMS\oms00357.nsf	Latam IS Manufacturing	0	0	410	0	8425784900644EED	0	0	0		0	0	0
BUSINESS	OMS\oms00353.nsf	NA Sustainability DMS History	0	0	301	0	CA257847002006FA	0	0	0	New DMS History Template	0	0	0
BUSINESS	OMS\oms00352.nsf	NA Sustainability DMS	0	0	0	0	CA257847001E63A7	0	0	0		0	0	0
BUSINESS	OMS\oms00321.nsf	Sustainability Training LATAM	0	3	1400	508	842577CF00518FD7	0	1	1	Orica Discussion DB Template	0	3	3
BUSINESS	OMS\oms00304.nsf	OMS LA HR Team	0	2	1400	0	8425778800712845	0	0	0		0	2	2
BUSINESS	OMS\oms00295.nsf	CARMS Lite - LA	0	0	1400	0	CA25776400829245	0	0	0	CARMS Template	0	0	0
BUSINESS	OMS\oms00279.nsf	UK Pension Trustee Database	0	0	1192	0	872577460000708FC4	0	0	0		0	0	0
BUSINESS	OMS\OMS00265.NSF	Explosive Group MBR	0	2	1400	0	CA2576C80021799D	0	0	0		0	2	2
BUSINESS	OMS\oms00259.nsf	PMO Project Documentation	0	2	865	0	872576AA00778486	0	0	0		0	2	2
BUSINESS	OMS\OMS00249.NSF	Control & Autorización de Modificacione	0	5	1400	0	CA25763C000D3A58	0	0	0		60	5	12
BUSINESS	OMS\OMS00246.nsf	EMEA BBS Technology	0	2	729	99	CA25762400017186A	0	0	0		0	2	2
BUSINESS	OMS\oms00241.NSF	EMEA Finance Database	0	0	1400	0	87257609005E08A2	0	0	0		0	0	0
BUSINESS	OMS\oms00239.nsf	Orica Rewards	0	42	1400	0	872575FA00634C50	0	0	0	oricarewards	45	42	11
BUSINESS	OMS\oms00236.NSF	NA Crisis Management Plan	0	0	489	0	872575EB007B6A0F	0	0	0		0	0	0
BUSINESS	OMS\OMS00234.NSF	UG LA	0	0	793	120	842575DD004B7A25	0	0	0		0	0	0
BUSINESS	OMS\OMS00232.nsf	Base de Conocimientos TI	0	1	1400	274	842575D200606B98	0	0	0		1	1	0
BUSINESS	OMS\OMS00229.nsf	Canada Enviro Discussion	0	0	917	50	CA2575B5001F288A	0	0	0		0	0	0
BUSINESS	OMS\OMS00228.nsf	US Enviro Discussion	0	1	948	155	CA2575B5001C2C04	0	1	1		0	1	1
BUSINESS	OMS\OMS00222.nsf	EET SHE Risk Register	0	12	1400	1527	CA25759B0000AB6A6	0	1	2	SHE Risk Register Template	11	12	4
BUSINESS	OMS\OMS00220.NSF	Control & Autorización Modificaciones - A	0	74	1400	0	CA257590007DFC87	0	0	0		357	74	107

Sample Reporting

Database Information

Basic Details | Usage | Security | Agents

Database		Quick Notes	
Title:	Benefits	DB Size:	94109696
Server:	Colo-RBNotes1	# Documents:	12790
Path:	bases\Benefits.nsf	Last Modified:	10/13/2015
Date Created:	06/10/2014 09:21 AM	Replication ID:	862576F60044FD85
URL Link:	notes://Colo-RBNotes1/__862576F60044FD85.nsf?OpenDatabase	LEI Activity:	○ Yes ○ No
Template:		High Usage:	○ Yes ○ No
Department:		Sends Mail Links:	○ Yes ○ No
Purpose:			
Comments:	N/A		
Recommendations:	○ Retain ○ Delete ○ Archive N/A		

Domino Environment Overview
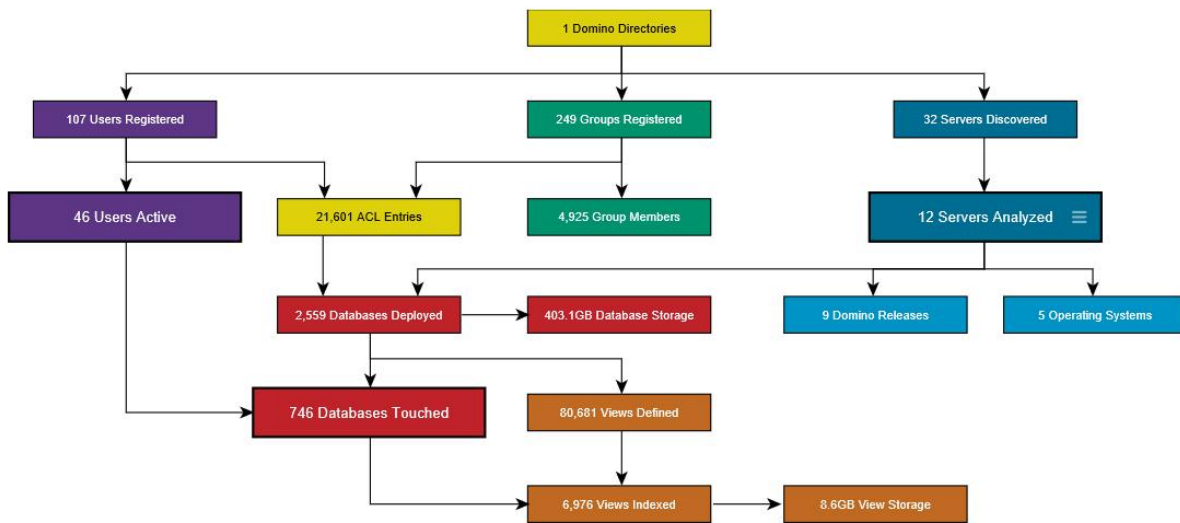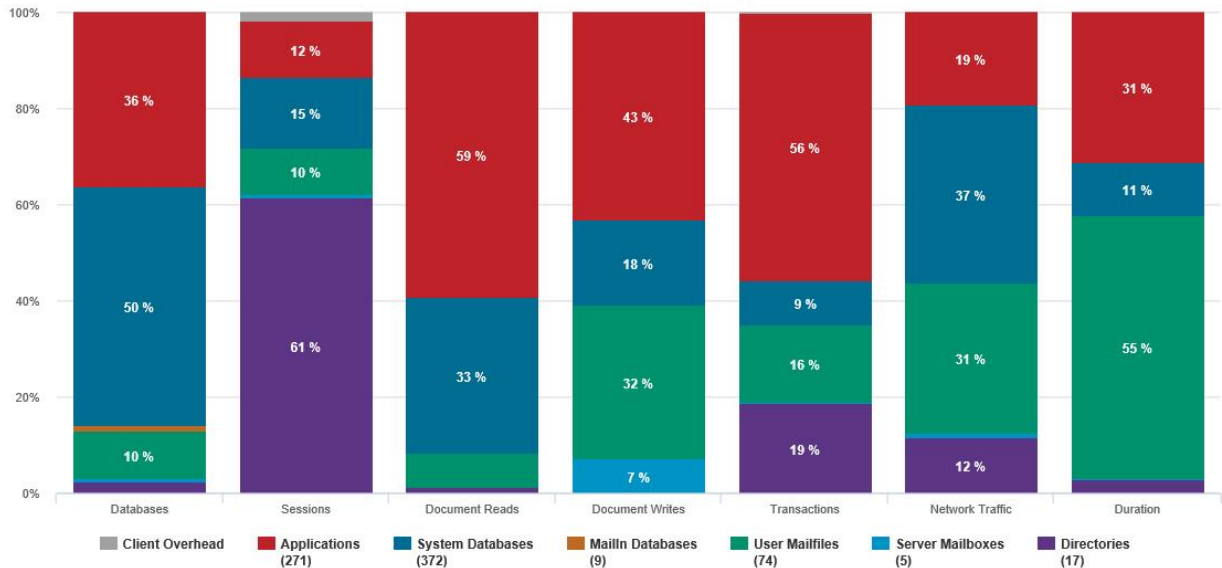
Servers Utilization Ranking

Server	Sessions	Bytes to Client	Bytes to Server	Document Reads	Document Writes	Transactions	Max. Session Concurrency	iDNA Impact Score
1. mail-app-srv-main/acme	142.6K	62.2GB	2.9GB	7.9M	200.3K	15.7M	220	Moderate
2. app-srv2/acme	18.3K	12.4GB	421.7MB	2.4M	4.1K	7.5M	7	Light
3. mail-app-srv-bkp/acme	30.5K	3.5GB	1.1GB	107.0K	2.6K	1.1M	13	Light
4. app-srv1/acme	23.9K	5.8GB	302.3MB	628.8K	6.9K	2.2M	14	Light
5. quickr-srv/acme	29.1K	3.4GB	102.8MB	66.8K	382	599.0K	9	Light
6. blackberry-srv1/acme	19.5K	2.1GB	29.8MB	46.2K	44	351.7K	7	Light
7. traveler-srv1/acme	17.7K	1.4GB	40.2MB	42.0K	65	348.2K	6	Light
8. traveler-srv2/acme-dev	9.1K	983.5MB	85.9MB	24.9K	41	212.7K	4	Light
9. test-srv1/acme-dev	17.3K	1.5GB	28.1MB	44.4K	-	346.0K	5	Light
10. test-srv2/acme	7.0K	476.5MB	13.6MB	69.4K	-	218.4K	7	Light
11. test-srv3/acme-dev	6.7K	113.3MB	11.3MB	19.7K	-	156.0K	5	Light
12. traveler-srv3/acme	12	2.6MB	185.5KB	84	118	991	5	Light

Light Servers (11) Moderate Server (1) Intensive Servers (None) Extreme Servers (None) Excessive Servers (None)

Impact by Database Type ●

Database Demand Characteristics
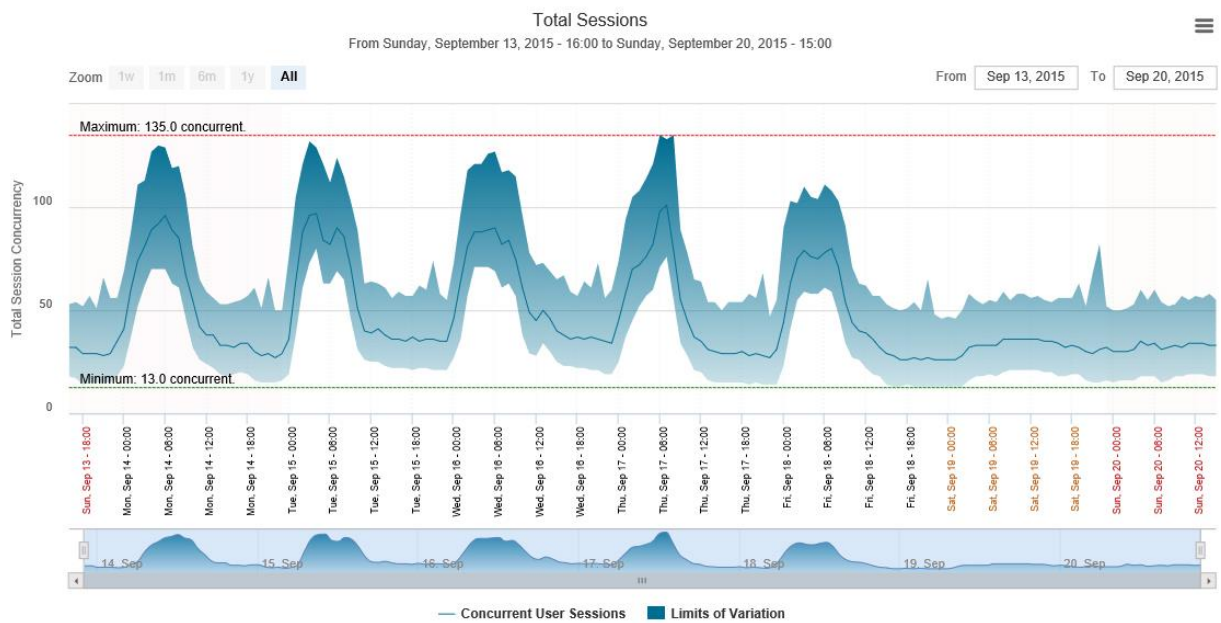Observed from Sessions and Session Activity

Legend: Client Overhead | Applications (271) | System Databases (372) | MailIn Databases (9) | User Mailfiles (74) | Server Mailboxes (5) | Directories (17)

Database Capacity Analysis

Database Type	Number of Databases			Database Storage (GB)			Number of Unique Replicas		
	Deployed	Used	%	Deployed	Used	%	Deployed	Used	%
■ Application	579	269	46%	150.4	102.7	68%	475	232	49%
■ System Database	1,761	372	21%	109.5	54.9	50%	725	251	35%
■ MailIn Database	16	9	56%	1.5	1.0	68%	12	7	58%
■ User Mailfile	166	74	45%	141.2	116.2	82%	91	52	57%
■ Server Mailbox	14	5	36%	0.1	0.1	74%	14	5	36%
■ Directory	23	17	74%	0.4	0.3	89%	6	4	67%
Total:	**2,559**	**746**	**29%**	**403.1**	**275.2**	**68%**	**1,323**	**551**	**42%**

	over 16GB	over 32GB	over 64GB [1]
Number of large Databases	1	0	0

[1] IBM Technote #1093509: The maximum supported database size limit for all platforms is 64 gigabyte (GB). [...] Very large databases increase the risks of failure and recovery time, in cases of outage.

Domino Session Concurrency

Total Sessions
From Sunday, September 13, 2015 - 16:00 to Sunday, September 20, 2015 - 15:00

Zoom 1w 1m 6m 1y **All**   From Sep 13, 2015 To Sep 20, 2015

Maximum: 135.0 concurrent.

Minimum: 13.0 concurrent.

— Concurrent User Sessions   ■ Limits of Variation

Initial Assessment – Client Responsibilities:

Domino environment access required:

- Single Notes ID file with access (cross certification) to all servers in scope
- Reader access to at least one Domino Directory per Domain
- Reader access to all servers' log.nsf databases
- Reader access to all servers' catalog.nsf databases
- "Full Remote Console Administrator" access on all servers
- Optional: Reader access to all servers' domlog.nsf databases (where enabled)

Domino server requirements:

- Statlog task scheduled on all servers
- Catalog task scheduled on all servers
- INI entry LOG_DISABLE_SESSION_INFO must not be set to 1

Network Connections to and from need to be allowed for the following services:

- *Outbound* Notes RPC to Domino servers for data collection (TCP 1352)
- *Outbound* HTTP/HTTPS to Domino servers for data collection (TCP 80/443)
- *Inbound* HTTP/HTTPS for configuration and reports (TCP 80/443)
- *Inbound* SSH for system configuration and application tuning (TCP 22)
- *Inbound* VNC for system configuration and Notes client access (TCP 5901)

Initial Assessment – Timeline:

The initial assessment will take 3 weeks to complete.

Day 1- 2

Install necessary files for the assessment tools & confirm correct access.

Day 3 - 9

IBM Domino Doublecheck will collect data each night for 7 nights. Whitsell will run internal Domino NDI software along with any manual tasks needed for data gathering.

Day 10 - 12

Data sets are ready for review.

Day 13 - 21

Compile full analysis from all tools into single report & prepare for review.

Comprehensive Assessment:

Upon completion of the initial assessment, Whitsell Consulting will proceed with a comprehensive assessment based on the high-level findings from above for applications that need further research or require further manual interpretation.

Scope/Footprint

A "deep-dive" into the inner workings of all individual applications as well as the overall environment. This phase requires a more manual process of identifying workflow, connections between applications and confirming business process owners.

Tools

The comprehensive assessment utilizes certified developers and administrators as well as utilizes more direct methods such as surveys and phone interviews.

Deliverables

Whitsell Consulting will provide a detailed summary report of the findings as well as a complete environment picture.

- complete runbook/detailed environment picture
- categorize applications based on business category & risk
- identification of technical risks
- recommendations on whether applications should be converted to IBM XPages, Microsoft Sharepoint, or another 3rd party software platform
- recommendations on hosting & licensing costs/savings
- formal time & pricing estimates for the migration/conversion

Comprehensive Assessment – Client Responsibilities:

Domino environment access required:

- Single Notes ID file with access (cross certification) to all servers in scope
- Designer access to all databases

Comprehensive Assessment – Timeline:

The comprehensive assessment will vary in length depending on the size and complexity of the environment and workflow. The assessment takes a minimum of 6-8 weeks.

Potential Next Steps – Proof on Concept:

Upon completion of the assessment phases, an organization will have the necessary information and roadmap for moving forward with the modernization/migration.

Application Conversion Proof of Concept

Whitsell Consulting will convert one low-risk Notes/Domino application to the web utilizing IBM XPages or Microsoft Sharepoint, approximating the organizations standard corporate user experience.

Web Dashboard Proof of Concept

Prototype a web dashboard for user access to application. The dashboard will demonstrate the use of a single URL/single sign-on functionality to access all applications in the environment. Visible applications depend on the user's access level.
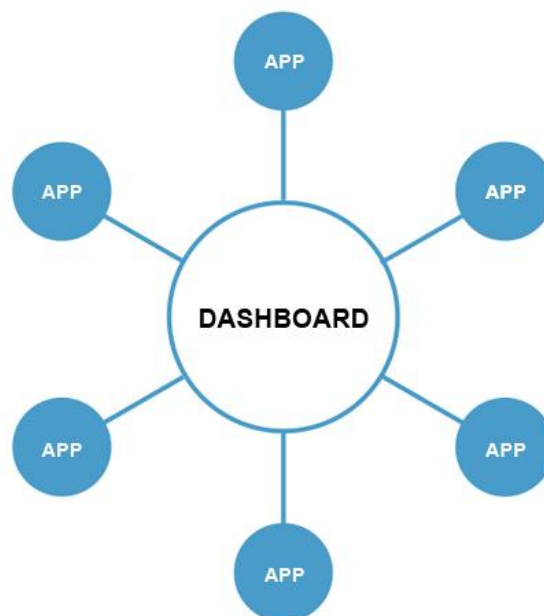
Potential Next Steps – Development/Migration:

Whitsell Consulting provides a full team of certified developers, administrators and project managers to assist in the process. The final phase is where the bulk of the work for any modernization project will be done based upon the strategies and priorities defined in the initial and comprehensive assessments.

Whitsell Consulting:

Founded in 1997, Whitsell Consulting is an IBM Business Partners specializing in the development and support of custom software applications. Whitsell specializes in IBM Notes/Domino and XPages development, while also providing a complete services offering of licensing, hosting, Sharepoint development, project management, consulting, web design and more.

Whitsell Consulting prides itself in offering high quality business solutions at competitive rates and our mission is to become an integral member of your team, not just another service provider. Our flexible models include work by retainer, by project, and hourly.

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