



I-deas to NX: Audit

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NX Migration Program Office





Initial Audit for I-deas Customers



- ▶ Initial Migration Audit
 - ▶ Evaluates and Captures Customer's Data, Process and Usage
 - ▶ Set Expectations for Migration in the Current and Upcoming NX Releases
 - ▶ Typically 2 Day Experience at Customer Site
 - ▶ Initial Audit Provided Free of Charge
 - ▶ Result is Delivery of Audit Report





Audit – Typically 2 Day Agenda



▶ Day 1

- ▶ Overview Discussion with I-deas Administrator
- ▶ Create a Directory on User system (i.e., named: UGS_Audit)
- ▶ Unload latest Data Interrogation and miadmin tools
- ▶ Run Data Interrogation Tool on prt, asm and mdf files
- ▶ Collect Part, Assembly, Drawing Data
- ▶ Run miadmin Scan on each TDM & miadmin Analyze on all TDMs together
- ▶ Collect miadmin analysis results
- ▶ Collect Program Files and Open I-deas Programs
- ▶ Discuss Customer Specific Usages and Workflows

▶ Day 2

- ▶ Finish Any Remaining Day 1 Tasks
- ▶ Run Program File and Open I-deas Migration Tools
- ▶ Run feature_tool_macro in Excel
- ▶ Create Audit Report
- ▶ Present I-deas to NX Migration Overview to Key users and Management Team
- ▶ Present Audit Report and Findings to Key Users and Management Team
- ▶ Demo Customer Migrated Data
- ▶ Discuss Customer “Next Steps”



I-deas to NX Migration Tools



- ▶ I-deas Customers with Active ME&S Receive All I-deas to NX Migration Tools Without License or ME&S Charge
- ▶ I-deas Data Interrogation Tool Only Used by UGS and Certified Partners
- ▶ Migration Tools Currently Available to Customers
 - ▶ miadmin Utility
 - ▶ I-deas Administrator Tool for Maintaining TDM Metadata
 - ▶ Open I-deas Migration Tool
 - ▶ Audits Open I-deas (OI) Program Source Code
 - ▶ I-deas Program File Migration Tool
 - ▶ Audits I-deas Program Files
 - ▶ Content Migration Manager (CMM)
 - ▶ Tool to Migrate I-deas CAD Data to NX CAD
 - ▶ Migration Wizard
 - ▶ Tool to Migrate I-deas TDM Metadata to Teamcenter Engineering



I-deas to NX Migration Tools



- ▶ I-deas Data Interrogation Tool Analyzes Customer's I-deas data
 - ▶ Determine which features are used
 - ▶ Determine frequency of each type of feature
 - ▶ Assess customer specific success rate
 - ▶ Basis for Planning Customer Migration and Developing Business Model
- ▶ Background
 - ▶ Tool originally developed to prioritize migration development based on customer data
- ▶ UGS or a Certified Migration Partner performs the analysis



I-deas Data Interrogation Tool

Part Output Example



	D	E	F	G	H	I	J	K	M	U	V	W	Y	AC	AD	AE	AF
1				Percent of Parts	312	1%	5%	7%	6%	4%	44%	8%	5%	6%	5%	1%	4%
2				Sum of Items	6,057	9	19	36	19	62	227	40	46	22	16	3	16
3	Part Name	Part Number	Part Version	Last Saved	No. of Steps	No. of Errors	No. of Warnings	Orphan	ACF	Extrude	Revolve	Loft	CvBoundary	Sweep	VarSweep	VarSweepStitch	Intersect
46	Set Screw - Brake Body	05-04-Screw1	1	9/25/2002 11:34	4	0	0	0	0	0	1	0	0	0	0	0	0
47	Upper Shift Lever Thumb	05-04-Thumb2	2	10/4/2002 1:03	23	0	1	0	0	0	0	0	0	0	1	0	0
48	LINK	05-05-03	2	9/16/2003 16:16	11	0	0	0	0	0	0	0	0	0	0	0	0
49	Tab Connector Female	09-03-A	1	9/17/2003 17:08	9	0	0	0	0	0	0	1	0	0	0	0	0
50	CHAIN_AJUSTER	100200300	2	9/23/2003 15:46	46	0	1	0	0	0	0	0	0	0	0	0	0
51	SPRING LINK	100200300PT01	1	9/18/2003 8:52	4	0	0	0	0	0	0	0	0	0	0	0	0
52	CHAIN_ADJ_PIN	100200800	1	9/23/2003 15:46	11	0	0	0	0	0	1	0	0	0	0	0	0
53	Valve Stem Cap	100201-1	1	10/2/2002 9:27	6	0	0	0	0	0	1	0	0	0	0	0	0
54	Head Tube Bearing Race	100202-10	1	10/2/2002 16:01	5	0	0	0	0	0	2	0	0	0	0	0	0
55	CHOKE_ON-OFF LEVEL	100600233	3	9/17/2003 16:59	50	0	0	0	0	0	0	0	0	2	0	0	0
56	Handle	1130 791 0601	7	9/26/2003 12:51	66	0	0	0	0	0	0	1	0	0	0	0	0
57	Main Housing	1130-021-0801	26	9/23/2003 16:25	545	0	0	4	0	0	0	1	8	0	1	0	0
58	AIR CLEANER HOUSING	11301243502	7	9/25/2003 8:19	279	0	0	0	0	0	1	0	0	0	0	0	0
59	CHAIN_BREAK_LINK1	14-06-05	2	9/23/2003 16:14	7	0	0	0	0	0	0	0	0	0	0	0	0
60	Recoil Sprocket	195 0400	4	9/17/2003 16:36	66	0	1	0	0	0	1	1	0	0	1	0	0
61	CHAIN_BREAK_BOTTO	25-13-65	1	9/17/2003 14:22	5	0	0	0	1	0	0	0	0	0	0	0	0
62	ARM - SAW BLADE_L	3005 000 3909 L	5	10/30/2003 22:49	11	0	0	0	0	0	0	0	0	0	0	0	0
63	ADM. SAW BLADE_P	3005 000 3909 P	4	9/22/2003 16:33	9	0	0	0	0	0	0	0	0	0	0	0	0



I-deas Data Interrogation Tool Assembly Output Example



	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1				Percent of Assemblies	97		6%	21%	16%	8%	32%	18%	90%	7%	0%	8
2				Sum of Items	3,615	156	10	379	93	11	31	274	90	7	0	3
3	Assembly Name	Assembly Number	Assembly Version	Last Saved	Instances Total	Hierarchy Depth	BOM Excluded Items	Color Overrides	Display Type Overrides	Translucency Overrides	Hierarchy Order Overrides	Configurations	Design Configurations	Ignore Constraint Configur	Ignore Thru-Point Configur	
4	Mountain Recreation Bic	00	61	5/14/2003 8:58	474	6	2	153	47	1	Yes	1	1	0	0	
5	Chain Saw	00-A	32	10/30/2003 22:49	571	5	0	162	7	3	Yes	1	0	0	0	
6	Frame Assembly B	01	11	5/14/2003 8:58	50	4	2	0	6	0	Yes	1	0	0	0	
7	Engine Assembly	01-00-A	19	9/26/2003 20:50	115	4	0	6	5	0	Yes	1	1	0	0	
8	Carburetor Assembly	01-01-00-A	9	9/19/2003 14:55	25	1	0	2	1	1	Yes	2	1	0	0	
9	Steering Assembly	01-02	43	5/14/2003 8:57	241	5	0	2	0	1	Yes	11	0	0	0	
10	Handbrake Lever Assem	01-02-01	4	1/8/2003 17:06	18	2	0	0	0	0	No	1	1	0	0	
11	Fork Assembly	01-02-02	27	4/29/2003 1:08	182	4	0	0	0	1	No	1	1	0	0	
12	Fork Upper Assembly	01-02-02-01	9	4/29/2003 1:07	12	2	0	0	0	0	No	1	1	0	0	
13	Tube Upper Assembly	01-02-02-01-01	3	10/4/2002 23:48	3	1	0	0	0	0	No	1	1	0	0	
14	Ball Bearing Assembly	01-02-04	2	4/29/2003 1:08	22	1	0	0	0	0	No	1	1	0	0	
15	Reflector Assembly Fron	01-02-06	6	1/8/2003 11:29	4	1	0	0	0	0	Yes	1	1	0	0	
16	Handlebar Stem	01-02-07	10	1/8/2003 16:17	12	1	0	0	1	0	Yes	1	1	0	0	
17	Crank Assembly	01-03	24	4/28/2003 8:47	19	3	2	1	4	0	Yes	37	1	0	0	
18	Sprocket Assembly	01-03-00-A	3	9/19/2003 12:05	13	2	0	0	0	0	No	1	1	0	0	
19	Chainwheel Assembly	01-03-01	8	4/28/2003 8:46	13	2	2	0	0	0	Yes	1	1	0	0	
20	Pedal Assembly	01-03-03	26	4/28/2003 8:47	4	1	0	0	0	0	No	1	1	0	0	
21	Reflector Assembly Rear	01-04	10	4/28/2003 1:07	4	1	0	0	0	0	No	1	1	0	0	



I-deas Data Interrogation Tool

Drawing Output Example



	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1		Percent of Drawings			177	2%	66%	50%	54%	20%	1%	15%	79%	23%	1%
2		Sum of Items				183	749	5,598	3,461	3,688	1,417	567	1,030	155	6
3	Drawing Name	Drawing Number	Drawing Version	Last Saved	Sheets	Views	Associativities	Symbols	Colors	Curve Fonts	Curve Weights	Layers	Selection Sets	Zoom Windows	
4	Title Block _Original	_Original	1	5/3/2001 15:54	1	1	0	15	16	8	3	5	2	0	
5	CLUTCH-SHINKO_34H	121K017940_001	1	4/26/2001 15:49	1	3	35	38	16	8	6	12	1	0	
6	MFLR & OLET PIP ASY	1L54-5K214-L	8	10/26/2000 10:54	1	9	67	108	18	8	3	22	6	0	
7	LG5_FINAL_DRIVE_WH	23A-P1-2692	8	10/11/2000 9:51	1	7	407	37	16	8	3	7	2	0	
8	LG5 DRIVESHAFT END	23A-P2-2802	5	10/9/2000 13:33	1	5	274	36	16	8	3	6	4	0	
9	fuser-pt-chute-low	54E93241	1	9/10/2002 9:34	1	2	1	11	16	8	3	4	0	0	
10	Gehaeuse KS CE100_2	61060100700	3	3/5/2001 15:29	1	10	1198	87	16	8	3	30	2	0	
11	Title Block AD	AD	1	5/3/2001 15:54	1	1	0	16	16	8	3	5	2	0	
18	Side Slide Assembly	AHH-1313	2	3/2/2001 13:28	1	7	0	20	43	8	3	13	0	0	
26	Title Block A-V	A-V	1	5/3/2001 15:54	1	1	0	16	16	8	3	5	2	0	
31	2d_attrib_assy_dwg-mv		1	8/16/2001 14:10	1	5	72	11	16	8	3	3	0	0	
39	2D_Circle_Centers_Break_Mark_Cut_Plane		1	5/4/2001 15:25	1	1	18	43	16	8	4	1	0	0	
40	2D_Cnt_Brk_Cut_PI		1	8/15/2001 16:07	1	1	18	43	16	8	4	1	0	0	
41	2d_coord_assy_dwg-mv		1	8/16/2001 14:09	1	5	0	11	16	8	3	3	0	0	
45	2D_Crosshatch		1	8/15/2001 16:07	1	1	264	55	16	8	3	1	0	0	
46	2D_Datum_Feature_Leader_Target		1	5/4/2001 15:25	1	1	1	38	16	8	3	1	0	0	
47	2D_Datum_Symbols		1	8/15/2001 16:07	1	1	1	38	16	8	3	1	0	0	
48	2d_dim_or_ord		1	8/16/2001 14:09	1	8	0	11	16	8	3	1	0	0	

\\TDM1_mdf



I-deas miadmin Utility



- ▶ miadmin = metadata integrity administration
 - ▶ Tool for I-deas Administrators to Maintain TDM Metadata
 - ▶ Clean and Correct I-deas Data in One TDM and/or Multiple TDM's
- ▶ Run prior to TDM Migration to Teamcenter Engineering or I-deas Release Upgrade
- ▶ Benefits
 - ▶ Best Tool to Prepare TDM Metadata for Migration to Teamcenter
 - ▶ Simultaneously Analyze Data from Multiple TDMs
 - ▶ Errors can be Corrected Efficiently
 - ▶ Runs Independent of I-deas

Microsoft Excel - miadmin.xls

#	Error Type	Error Group Number	Item Name	Part Number	Item Type Name	Version Number
1	#USERNAME = bsmith					
2	#DATE = Thu Mar 27 09:22:19 2003					
3	#					
4	#Error Type	Error Group Number	Item Name	Part Number	Item Type Name	Version Number
5	MULTIPLE_PART_NUMBERS	1	42-AH0607-05	42-AH0607-05	LIB PART	5
6	MULTIPLE_PART_NUMBERS	1	42-AH0607-07		LIB PART	5
7	MULTIPLE_PART_NUMBERS	1	42-AH0607-03	42-AH0607-03	LIB PART	5
8	MISSING_PART_NUMBER	2	socket_rt_angle		LIB PART	1
9	MISSING_PART_NUMBER	3	pwr_conn_72		LIB PART	2
10	MISSING_PART_NUMBER	7	42-AH0607-54		LIB PART	3
11	MULTIPLE_PART_NUMBERS	16	42-AH0616-23	42-AH0616-23	LIB PART	2
12	MULTIPLE_PART_NUMBERS	16	42-AH0616-01	42-AH0616-01	LIB PART	2
13	MULTIPLE_PART_NUMBERS	22	42-AH0641-01	42-AH0641-01	LIB PART	1
14	MISSING_PART_NUMBER	45	standoff_AH16-03		LIB PART	2
15	INVALID_IMPORT_EXPORT_LOCK	60	64-AH0018-01	64-AH0018-01	LIB PART	2
16	INVALID_IMPORT_EXPORT_LOCK	80	64-AH0057-22	64-AH0057-22	LIB PART	1
17	INVALID_IMPORT_EXPORT_LOCK	80	64-AH0057-01	64-AH0057-01	LIB PART	1
18	MULTIPLE_ITEM_NAMES	81	58-AH0044-14	58-AH0044-14	LIB PART	1
19	MULTIPLE_ITEM_NAMES	81		58-AH0044-01	LIB PART	1
20	MULTIPLE_ITEM_NAMES	81	58-AH0044-01	58-AH0044-01	LIB PART	1
21	MISSING_PART_NUMBER	82	connector-64b		LIB PART	1
22	MISSING_PART_NUMBER	84	retainer_43c		LIB PART	1
23	MULTIPLE_PART_NUMBERS	85	19-AH8554-07	6_MECH_WELDDRAFTING SE		13
24	MULTIPLE_PART_NUMBERS	85	19-AH193L-01	K94_MECH_WELLDRAWING		1
25	MIGRATED_DRAWING_DUPLICATE	86	19-AH8554-04	6_MECH_WELDDRAFTING SE		13



miadmin – Scan, Analyze, Update



- ▶ Operates in 3 Modes
 - ▶ Scan – extracts key metadata from I-deas projects
 - ▶ Analyze – investigates metadata for various errors
 - ▶ Update – makes corrections to original metadata
- ▶ Uses Microsoft Excel to view errors and edit data
- ▶ Miadmin Results and Cleanup Next Steps are detailed in the Audit Report

```
Command Prompt
Analyzing these installations:
D:\UGS_Audit\
```

Example miadmin Run

- The two items ITEM_NAME_TOO_LONG and PART_NUMBER_TOO_LONG are current limitations in Teamcenter Engineering. Many users work around this limitation by storing the TDM item names and part numbers in a separate attribute field. We recommend changing the data in TDM prior to migration to Teamcenter Engineering.
- The MISSING_PART_NUMBER, MULTIPLE_PART_NUMBERS, and DUPLICATE_PART_NUMBER errors must all be fixed, and could take time because of the large number of these. Missing part numbers can be auto assigned during migration or with miadmin if that is appropriate, but that would be dependent on <Company name> processes. We understand that there is a large amount of older data that may not need to be migrated to Teamcenter and could just be archived. The miadmin dump (Option 0) and the feature tool results will tell you when each part, drawing and assembly was created and last modified.
- The MULTIPLE_ITEM_NAMES and DUPLICATE_ITEM_NAME errors are not as important to fix, since Teamcenter goes off of part number rather than item name. <Company name> can decide whether or not they want to address these errors.
- The BAD_MIGRATED_DRAWING_RELATIONSHIP and INVALID_MIGRATED_DRAWING_ATTRIBUTE errors can usually be automatically fixed by an miadmin update. We recommend doing this on your TDM's as soon as possible.

Example of Identified Errors



Audit Summary Report



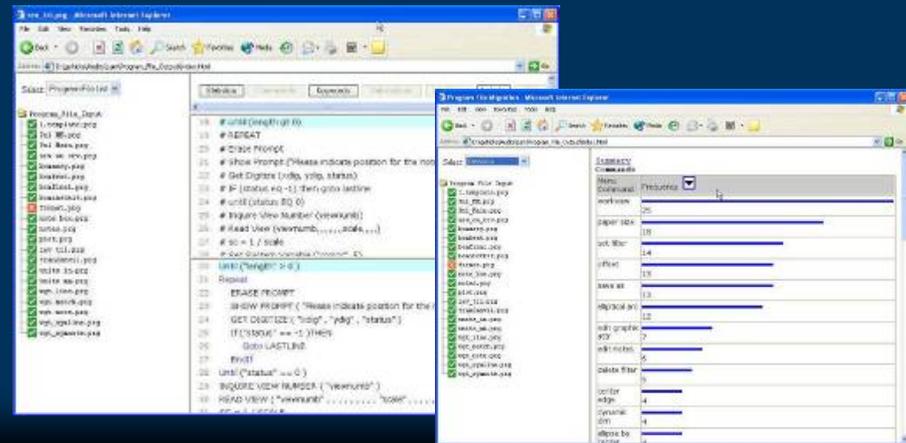
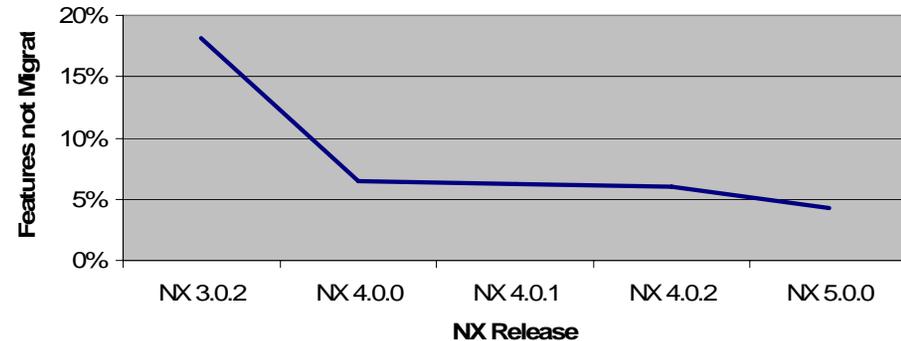
- ▶ Customer Background
 - ▶ Customer Company Overview
 - ▶ I-deas Usage Information
- ▶ TDM Analysis
 - ▶ Metadata Integrity Report
- ▶ Part Feature, Drawings, and Assembly Analysis
 - ▶ Identifies Feature Usage
 - ▶ Compares to Customer Base "Averages"
 - ▶ Estimate Pass Rates through NX5
- ▶ Program File and Open I-deas Analysis
- ▶ Conclusions
 - ▶ Highlights Special Situations
 - ▶ Basis for Discussions to Develop Business and Technical Migration Plan
 - ▶ Guide to Appropriate NX Release for Migration

Analysis Summary:

```

2 MISSING_ITEM_NAME errors found
12756 MISSING_PART_NUMBER errors found
28 MULTIPLE_PART_NUMBERS errors found
16 MIGRATED_DRAWING_DUPLICATE_VERSION_NUMBER errors found
10 MULTIPLE_MIGRATED_DRAWINGS errors found
4206 DUPLICATE_PART_NUMBER errors found
56 INVALID_MIGRATED_DRAWING_ATTRIBUTE errors found
4809 DUPLICATE_ITEM_NAME errors found
53 INVALID_CHARACTERS_IN_ITEM_NAME errors found
508 ITEM_NAME_TOO_LONG errors found
155 PART_NUMBER_TOO_LONG errors found
  
```

Part Migration Effort Estimate





Preparing for an Audit at Your Site



- ▶ I-deas General Questions
 - ▶ What I-deas version is currently running?
 - ▶ What hardware is used?
- ▶ TDM Questions
 - ▶ How many TDMs exist?
 - ▶ Are all of the TDMs centrally located?
 - ▶ How many Gigabytes of data in each TDM?
 - ▶ How many Parts in each TDM?
 - ▶ How many Assemblies in each TDM?
 - ▶ How many Drawings (*.mdf) in each TDM?
 - ▶ Is any of the data compressed? (If so, how much?)
 - ▶ Are any of the TDMs Heterogeneous? (If so, how many?)
- ▶ Customization Questions
 - ▶ How many Open I-deas applications are used? Is Open I-deas source code Accessible?
 - ▶ How many I-deas Program Files are used?
- ▶ UGS Audit Generally Needs the Following in order to have a successful Audit
 - ▶ Access to 1 machine for each TDM to be audited is ideal
 - ▶ Each machine running the tools needs at least 300 MB of free disk space
 - ▶ Is access to all machines from one physical location possible (Remote access is reasonable)
 - ▶ Need ideasadm access to each of these TDMs in order to run miadmin



- ▶ Company
 - ▶ Designs and manufactures Coriolis Mass Flow Meters for Fluid Measurement
 - ▶ Headquarters in Boulder, Colorado, with manufacturing facilities in The Netherlands, Mexico and Japan
- ▶ Objective
 - ▶ Prepare for Migration to NX
 - ▶ Develop Technical and Business Transition Plan
- ▶ Current Engineering Environment
 - ▶ ~40 I-deas Users
 - ▶ I-deas 10m3 on HP Unix
 - ▶ I-deas Design, Simulation, Test and Generative Machining
 - ▶ MatrixOne is PDM System



“We were concerned about migrating our I-deas environment to NX and we needed a better understanding of the migration process.”

Susan Despotopulos
Micro Motion, Inc.
PLM World Technical Track Chair



- ▶ Audit
 - ▶ UGS Performed Initial Audit in August 2004
 - ▶ 2 Day On-site Audit
- ▶ Actions
 - ▶ Audit I-deas Models, Assemblies, Drawings, and Program Files
 - ▶ miadmin identified some needed cleanup actions
 - ▶ No Open I-deas Programs
- ▶ Results
 - ▶ Confident in I-deas to NX Migration Strategy
 - ▶ Preparing for TDM to NX Manager I-deas Migration

“We underwent our initial I-deas to NX audit with UGS in August 2004. UGS spent two days at our site, analyzing our CAD data and showing us NX. We are excited about NX and we are confident in our migration strategy. NX and Teamcenter Engineering/NX Manager look solid. UGS exceeded our expectations!”

Susan Despotopulos
Micro Motion, Inc.

PLM World I-deas NX Design SIG Chair



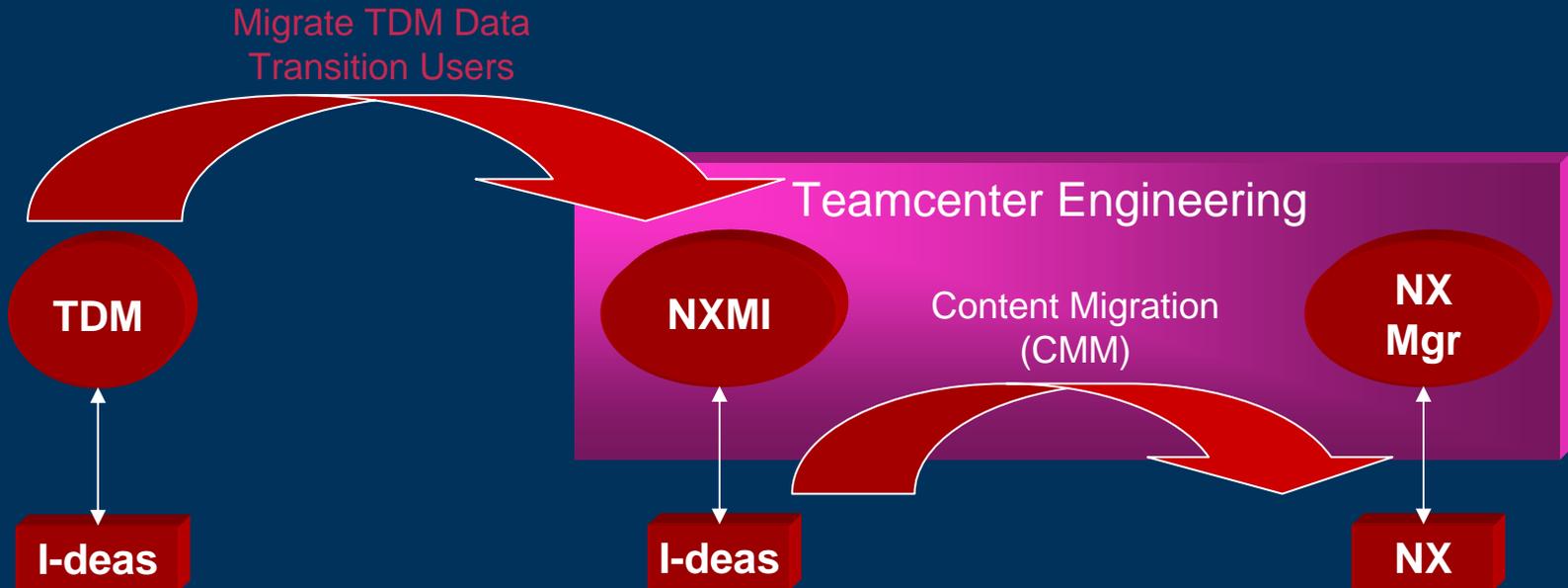
- ▶ Audits
 - ▶ Over 200 performed worldwide
 - ▶ Requests continue to come in from a variety of sources
 - ▶ Customer Initiated
 - ▶ PLM World
 - ▶ Local User Groups
 - ▶ Word of Mouth
 - ▶ UGS Initiated
 - ▶ Account Representatives
 - ▶ Technical Business Review Meetings



Customer Situations



- ▶ Early Adopter Activity
 - ▶ TDM – Teamcenter Migration
 - ▶ I-deas to NX Migration



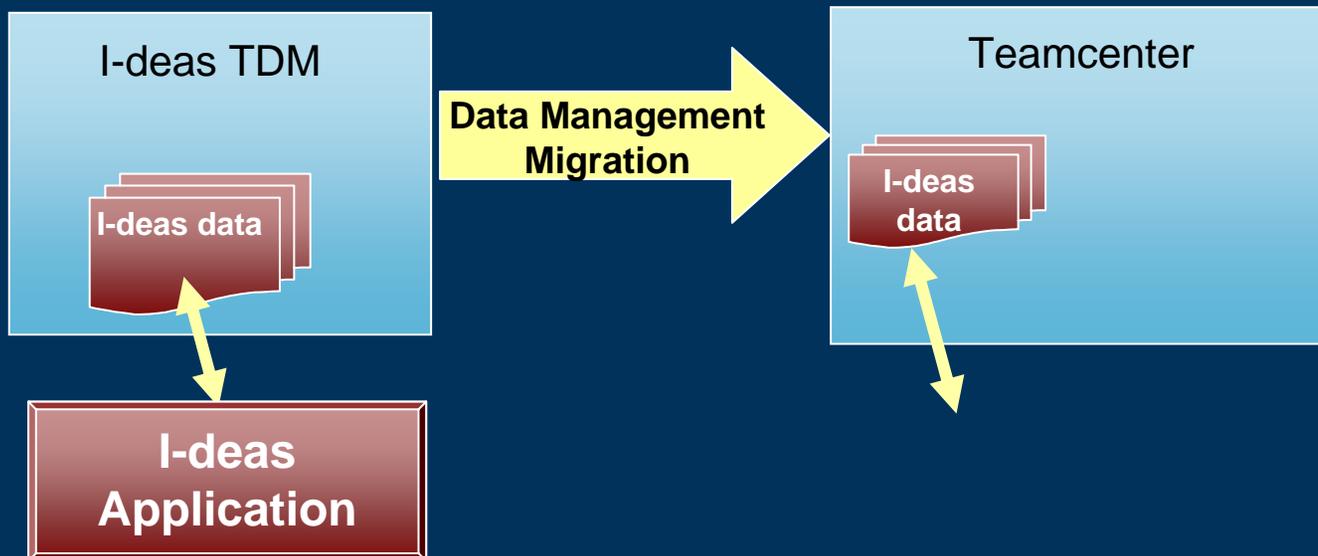
UGS Recommended Migration Path



Migration Process Overview Step 1



- ▶ Two Step I-deas to NX Data Migration Process
 - ▶ Step 1: Data Management
 - ▶ Upgrade I-deas TDM into Teamcenter Prior to NX Migration
 - ▶ Prepare Data with MiAdmin and then TDM Migration Tools
 - ▶ Teamcenter Engineering with NX Manager I-deas Preferred Solution





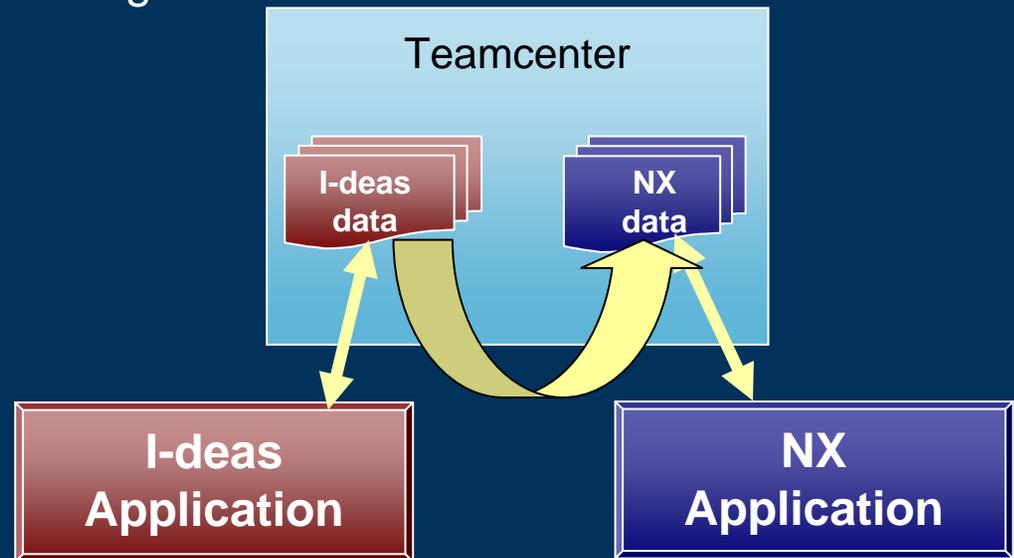
- ▶ TDM – Teamcenter Migration
 - ▶ Over 40 customers worldwide have migrated from TDM to Teamcenter Engineering and are in production today using I-deas Manager.
 - ▶ Most activity has occurred in Europe followed by North America, and Asia/Pacific.



Data Migration Process Overview Step 2



- ▶ Two Step I-deas to NX Data Migration Process
 - ▶ Step 2: Content Data Migration
 - ▶ I-deas Data to NX Data within Context of Teamcenter
 - ▶ Audit I-deas Data
 - ▶ Content Migration Manager





Recommendations



- ▶ Begin preparations to migrate TDM to Teamcenter Engineering
 - ▶ This could begin now
- ▶ Schedule a visit to our migration lab for extensive one – on – one sessions with our migration experts (there is no charge for this activity).
- ▶ Consider migration to NX after TDM migration is complete





▶ I-deas to NX Migration

- ▶ Many customers are now conducting pilot projects using CMM with their I-deas data today.
- ▶ A small number of early adopter customers have completed the migration and are in production today.
- ▶ We expect this to **grow significantly** with the availability of NX 4 and CMM 4.





Request your audit now



- ▶ Audit request forms are available from any member of the I-deas migration team



Thank You!

