Whitepaper on Database Structure of uniFLOW and Helix PW

Version no: 1.4

Date: 05.12.2011

Technologies concerned:

uniFLOW
Output Manager
Version 4.x

uniFLOW
Version 5.x

helix
PRODUCTION WORKFLOW
Version 1.x
Version 2.x

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1   Versioning Information

Version:	1.4		
Date:	December 5th, 2011		
First Draw-up Date:	April 11th, 2008		
Author:	NT-ware Systemprogrammierung GmbH		
Revision history:	Version:	Revision date:	Reviewer:
	1.0	April 11th, 2008	Dirk Tiemeyer
	1.1	April 24th, 2008	Karsten Huster
	1.2	Oct 12th, 2008	Dirk Tiemeyer
	1.3	May 27th, 2009	Dirk Tiemeyer
	1.4	December 5th, 2011	Thomas Lemmer
Technologies concerned:	uniFLOW OM V4.x, uniFLOW V5.x, Helix PW V1.x, Helix PW V2.x, SQL Server		
File name:	WP_Database_Structure.hmxp		

Short Summary:

uniFLOW OM and Helix PW use a SQL based relational database. This White Paper gives details on the major user tables of the database.

Note that this document is valid for the following product versions:

- *uniFLOW OM V4.x*
- *uniFLOW V5.x*
- *HelixPW V1.0*
- *HelixPW V2.0*

Document Versioning Information:

Version 1.2:

- The table ServiceUsage_T [23] has been extended by four more columns as of uniFLOW OM Version 4.0.

Version 1.3:

- Document now describes database usage in both uniFLOW OM and Helix PW

- The description of the structure has been split into two parts: Overview and Details

- The overview now shows a short description of almost every table in the database

- Two columns have been added to the overview to show the availability of each table in uniFLOW OM and/or Helix PW

- The following tables have been added to the detailed description:
  - AccessControlLists_T
  - AllowedCostCenters_T
  - BaSystemLog_T
  - CostSavings_T
  - Events_T
  - GroupMembership_T
  - MomSystemTask_T
  - Order_T
  - OrderItems_T
  - PrinterCluster_T
  - PrintJobHistory_T
  - SingleRowStat_T

Version 1.4

- Updated versioning to uniFLOW V5.0

- Improved formattings

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2   Structure of uniFLOW OM Database

uniFLOW OM and Helix PW use a SQL based relational database called DsPcDb managed by a relational database management system (RDBMS). It is suitable for use with either Microsoft® SQL Server 2000, SQL Server 2005, MSDE or Microsoft®SQL Server 2005 Express Edition. The database itself is made up of tables and fields as described in the chapter Details of the Major User Tables 8 . You will also find a basic sample query 26 using the Enterprise Manager (SQL Server) at the end of this Whitepaper.

DO NOT MODIFY ANY RECORDS IN THE DATABASE ITSELF.

!! DB ACCESS IS READ ONLY !!

You can obtain read-only access by creating a second user for the SQL Server with read-only access rights besides the default administrative account.

Generally, we strongly advise you not to make any changes to the database itself, and especially not to delete any fields. Please be aware that any deletions inside the database will limit NT-ware's support to the status pre ante. Before you make any changes, back up your system including database.

*You are permitted to apply any changes to the database **only** in the following application cases:*

1. For customizing statistic data for generating Crystal Reports.

2. For adding Printer Management Information at Server Configuration > Printer > Info tab.

For any changes you apply to the database, ensure NT-ware tech support has recommended to do so beforehand.

- All uniFLOW OM and Helix PW data (printers, users, cost centers, etc.) are stored as objects for indexing only. The database fields are used only for search and retrieval purposes, they are not intended for storing any actual object data.

- The database structure is dynamic. New database fields can be introduced with a new kernel of the software. This is done automatically in a new release, for instance for a new feature.

- Most of the data is stored in binary form.

Note for uniFLOW OM users:

We strongly advise you to access the uniFLOW OM database (DsPcDb) with read-only access rights. The quickest way to do this is to access the database through uniFLOW OM at

<Server IP Address>/pwserver/techdispdb.asp *or*

<server name>/pwserver/techdispdb.asp.

For further information on using the database in uniFLOW OM please refer to the chapter Administrator Settings of the uniFLOW OM User Manual V 4.x, or the chapter ADMINISTRATOR SETTINGS in uniFLOW Output Manager of the uniFLOW OM User Manual V 3.x.

Note for users of Helix PW and/or Helix PW Essential:

We strongly advise you to access the Helix PW database (DsPcDb) with read-only access rights. The quickest way to do this is to access the database through Helix PW at

<Server IP Address>/Helixserver/techdispdb.asp *or*

<server name>/Helixserver/techdispdb.asp.

For further information on using the database in Helix PW and/or Helix PW Essential please refer to the chapter System Management of the Helix PW Administrator Manual V 1.x.

2.1　Short Description of Each Table in the Database

The following list provides a short description of the tables existing within the database.

Database Tables	Field Types of respective Tables	Avlb. in uniFLOW OM	Avlb. in Helix PW
AccessControlLists_T [8]	All Access Control Lists (ACL) are stored in this table. (ACL overview only)	✓	✓
ActivePrintJobs_T	All active print/copy jobs of the system are stored in this table (uniFLOW OM up to V2.2). Starting with uniFLOW OM V3.0 all active print/copy jobs are stored in the file system to fasten the access to this information, so this table is no longer in use.	✓	✓
AllowedCostCenters_T [8]	This table show the available Cost Centers configuration for users and groups.	✓	✓
ArchivedJobs_T [8]	Details about archived jobs, such as Cardinality, Amount Paid, Job and User Name.	✓	✓
ArchiveEntry_T [9]	Time details of archived jobs, such as Time archived and Time expiring. In uniFLOW OM: Used in Archive with WQM, Internet Gateway, Print Processor "Archive Job!", SPP/MEAP. In Helix PW and Helix PW Essential: Used in Library with Operator Dashboard, Web Submission, Print Processor "Archive Job!".	✓	✓
ArchiveIndices_T [9]	Stores index data for archive entries, as well as folder and ACL entries.	✓	✓
BaSystemLog_T [10]	Is used for storing logging information of the kernel, in uniFLOW OM as well as in Helix PW. It is related to the webpages named in the Note for uniFLOW OM users [3] and in the Note for Helix PW users [4].	✓	✓
BudgetTransactions_T [11]	All transactions in connection with budget.	✓	✓

Database Tables	Field Types of respective Tables	Avlb. in uniFLOW OM	Avlb. in Helix PW
ConfigObjects_T	This table includes one entry for the general configuration of uniFLOW OM and Helix PW only. It cannot be used for reporting at all!!	✓	✓
ConsumerGroupLinks_T	(Unused)	✓	✓
CostSavings_T [12]	Print Jobs and all data in connection with jobs and cost savings.	✓	✓
Events_T [14]	This table is used to store Money Loader events / actions.	✓	✓
GroupMembership_T [15]	All group membership configurations. (Answering questions like "Which user belongs to which group?")	✗	✓
MomSystemTasks_T [15]	General information related to tasks in uniFLOW OM / Helix PW.	✓	✓
Order_T [16]	All jobs that have been submitted via the Helix PW Web Submission.	✗	✓
OrderItems_T [16]	Job list per order for Helix PW Web Submission jobs.	✗	✓
PrinterCluster_T [17]	General printer cluster related information.	✓	✓
PrintJobHistory_T [17]	All relevant information of changing the print Job Status.	✓	✓
Service_T [18]	"Articles" and "Formats/Products" of Price Profiles, such as Fax A4, Stapling, and all data in connection with these, such as: - Which printer used a particular service (ServiceProvider_T) and hence which user/group/cost center was involved - Has the data been successfully synchronized with another main server (uniFLOW OM or Helix PW).	✓	✓
ServiceConsumer_T [20]	All entities (Users, Cost Centers, Groups) consuming, in uniFLOW OM and Helix PW, i. e. printing, copying, scanning, faxing and the appertaining information, such as: - Address information - Fingerprint information (uniFLOW OM only)	✓	✓

Database Tables	Field Types of respective Tables	Avlb. in uniFLOW OM	Avlb. in Helix PW
ServiceProvider_T [22]	All printer related information, such as Asset Management Information and pricing profiles	✓	✓
ServiceUsage_T [23]	Print/Copy/Fax/Scan Jobs and all data in connection with jobs, e. g. - Which printer was used? - Which article and/or product was used (Service_T)? - Which amount was paid? - What was the name of the job? - What was the name of the user/group/ cost center, who/which submitted the job (linked to ServiceConsumer_T)? This table is not always used, for special projects SingleRowStat_T might be used instead.	✓	✓
SingleRowStat_T [25]	Print/Copy/Fax/Scan Jobs and all data in connection with jobs, e. g. - Which printer was used? - What was the name of the job? - What was the name of the user who submitted the job? Please note this is a special format. If this table is enabled all accounting information will be stored within this table. The ServiceUsage_T won't be used further on. (For special projects only)	✓	✓

2.2 Details of the Major User Tables

This chapter provides a detailed explanation of the tables introduced in the previous chapter.

2.2.1 AccessControlLists_T

Column Name / Database Field	Data Type	Description/Application
ID	uniqueidentifier	Identification GUID of record itself.
ClassData	image	A BLOB for variable-length binary data containing all information of one data record in binary form.
Name	nvarchar	ACL Name.

2.2.2 AllowedCostCenters_T

Column Name / Database Field	Data Type	Description/Application
UserID	uniqueidentifier	Identification GUID of the user or group object.
CostCenterID	uniqueidentifier	Identification GUID of the cost center object.

2.2.3 ArchivedJobs_T

Column Name / Database Field	Data Type	Description/Application
ID	uniqueidentifier	Identification GUID of record itself.
ClassData	image	A BLOB for variable-length binary data containing all information of one data record in binary form.
Cardinality	int	Cardinality of archived print job.
AmountPaid	float	Costs of archived print job.
JobName	nvarchar	Name of archived document in uniFLOW Archive or in Helix PW Library.
UserName	nvarchar	Name of user who archived job.

2.2.4   ArchiveEntry_T

Column Name / Database Field	Data Type	Description/Application
ID	uniqueidentifier	Identification GUID of record itself.
JobID	uniqueidentifier	Identification GUID of Archived Job within record.
ParentEntry	uniqueidentifier	GUID of parent folder.
OrderInParent	int	Obsolete.
TimeArchived	datetime	The date when the job was added to the archive.
TimeExpiring	datetime	The date when the job will be removed from the archive.
ArchiveFlags	int	Shows whether Archive entry will be removed by archive maintenance task 1: Archive entry will not be removed.

2.2.5   ArchiveIndices_T

Column Name / Database Field	Data Type	Description/Application
IndexID	uniqueidentifier	Identification GUID of record itself.

IndexType	int	Type of Index
		
		      0: Main index
		      ?: Additional indices defined in 'Module Config' -> 'Document Archive'

[Value]	nvarchar	Name of folder or archived file.
ArchiveEntry	uniqueidentifier	GUID of archive main folder and sub-folder names always displayed as {00000000-0000-0000-0000-00000000} and of archived jobs linking to the Identification GUID of ArchiveEntry_T.
Parent	uniqueidentifier	GUID of main folders and sub-folders and of jobs archived.
TimeExpiring	datetime	The date when the folder/subfolder/jobs will be removed from the archive.
Modified	datetime	The date when the folder/subfolder/jobs was last modified.
ACL	uniqueidentifier	GUID of ACL of record.

SyncFlag	int	Synchronization with Internet Gateway and Web Submission:
		
		      0: item (job or folder) is not synchronized
		      1: item (job or folder) is synchronized

2.2.6   BaSystemLog_T

Column Name / Database Field	Data Type	Description/Application
EntryTime	datetime	Event time.
EntryType	int	Internal entry type.
JobID	uniqueidentifier	GUID if the job.
Description	nvarchar	Job log description.
ClassData	image	A BLOB for variable-length binary data containing all information of one data record in binary form.
ServerName	nvarchar	The name of the server where uniFLOW OM or Helix PW is running.
LogData1	nvarchar	Addional job log description.
LogData2	nvarchar	Addional job log description.
EntryID	int	Increased number.

2.2.7 BudgetTransactions_T

Column Name / Database Field	Data Type	Description/Application		
TransactionTime	datetime	Date and time when transaction took place.		
TransactionType	int	Bit mask showing the type of transaction.		
		Type HEX	Type DEC	Description
		0x00000000	0	Normal debit
		0x00000001	1	Canceled debit
		0x00000002	2	not used
		0x00000003	3	Budget reset value (used with 'additive' budgets)
		0x10000000	268435456	Consolidated budget amount (to speed up balance)
		0x10000001	268435457	Consolidated budget after reset (used with 'resetting' budgets)
Amount	float	Amount of budget transaction/ consolidated value.		
Entity	uniqueidentifier	GUID of service consumer.		
Service	uniqueidentifier	GUID of service.		
ServiceUsage	uniqueidentifier	GUID of service usage .		
TransactionData	nvarchar	User name of operator changing balance from UI, or MoneyLoader transaction data, or Credit card payment transaction data.		

2.2.8   CostSavings_T

Column Name / Database Field	Data Type	Description/Application		
UsageBegin	datetime	The time the job was started (e. g. copy).		
UsageEnd	datetime	The time the job was stopped (e. g. copy).		
ServiceProviderInput	uniqueidentifier	GUID, linking the input printer.		
ServiceProvider	uniqueidentifier	GUID, linking the output printer.		
ServiceConsumer	uniqueidentifier	GUID, linking the user.		
ServConsGroup	uniqueidentifier	GUID, linking the group.		
ServConsProject	uniqueidentifier	GUID, linking the cost center / project.		
JobName	nvarchar	The name of the print job (for jobs).		
UserName	nvarchar	The name of the user (for jobs).		
FormatCode	int	See "Service_T"."ServiceCode".		
Pages	int	Amount of total pages.		
PagesColor	int	Amount of colored pages.		
PagesDuplex	int	Amount of duplex pages.		
Costs	float	Effective costs.		
CostsSaved	float	Effective savings.		
CostsSavedPot	float	Potential savings.		
Type	int	Bit mask holding info about how savings were realized.		
		Type HEX	Type DEC	Description
		0x00000001	1	Duplex
		0x00000002	2	Forced Black & White
		0x00000004	4	RBR
		0x00000008	8	IRBR
		0x00010000	65536	Manual Deletion
		0x00020000	131072	Maintenance Deletion
		0x00040000	262144	License Exceeded Deletion
		0x00080000	524288	Unknown User Deletion
		0x00100000	1048576	ACL Deletion

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Column Name / Database Field	Data Type	Description/Application		
		0x00200000	2097152	Budget Exceeded Deletion
		0x00400000	4194304	Product Availability Deletion
TypePot	int	Bit mask holding information how potential savings will be realized.		
		Type HEX	Type DEC	Description
		0x00000001	1	Duplex
		0x00000002	2	Forced Black & White
		0x00000004	4	RBR
		0x00000008	8	IRBR
		0x00010000	65536	Manual Deletion
		0x00020000	131072	Maintenance Deletion
		0x00040000	262144	License Exceeded Deletion
		0x00080000	524288	Unknown User Deletion
		0x00100000	1048576	ACL Deletion
		0x00200000	2097152	Budget Exceeded Deletion
		0x00400000	4194304	Product availability Deletion

2.2.9   Events_T

Column Name / Database Field	Data Type	Description/Application		
Time	datetime	Time stamp of the triggered event.		
Device	uniqueidentifier	GUID of the device (empty for MoneyLoader).		
SerialNumber	nvarchar	Serial number of the ML.		
DeviceType	int	Device Type, 1: Money Loader		
Status	int	Bit mask showing Money Loader status:		
		Type HEX	Type DEC	Description
		0x40000000	1073741824	Removing Funds
		0x00000001	1	Printer General Error
		0x00000002	2	Printer Paper Is Empty
		0x00000004	4	Printer Paper Is Low
		0x00000008	8	Printer Paper At Printer Exit
		0x00000010	16	Printer Nor Paper At Print Head
		0x00000020	32	Printer Head Is Up
		0x00000040	64	Printer Cutter Time Out
		0x00000080	128	Printer Toner Empty
		0x00000100	256	Money Source Offline
		0x00000200	512	Money Source Reset
		0x00000400	1024	Money Source Safe Jam
		0x00000800	2048	Money Source Unsafe Jam
		0x00001000	4096	Money Source Stacker Full
		0x00002000	8192	Money Source Fraud
		0x00004000	16384	Door Open
StatusEx	nvarchar	Extended status (e.g. removed amount of money).		
Description	nvarchar	Status description		
AssocEntity	nvarchar	GUID of Money Loader operator (if any).		

2.2.10 GroupMembership_T

Column Name / Database Field	Data Type	Description/Application
UserID	uniqueidentifier	Identification GUID of the user.
GroupID	uniqueidentifier	Identification GUID of the group.

2.2.11 MomSystemTask_T

Column Name / Database Field	Data Type	Description/Application
ID	uniqueidentifier	Identification GUID of the task.
ClassData	image	A BLOB for variable-length binary data containing all information of one data record in binary form.
Name	nvarchar	The name of the task.
Type	nvarchar	The name of the task type.
LastExecution	datetime	Last execution time.
NextExecution	datetime	Next execution time.
LastExecutionResult	int	Return value of the task: -1: never executed 0: Last execution OK 1: Last execution failed 2: Other failures 3: Executing
LastError	nvarchar	Error Message returned by the task itself.
MachineName	nvarchar	Machine name.

2.2.12   Order_T

Column Name / Database Field	Data Type	Description/Application
ID	uniqueidentifier	Identification GUID of the order.
Time	datetime	Time of job creation.
UserID	uniqueidentifier	Identification GUID of the user.
Number	nvarchar	The order number.
Status	int	The job status: 0: no processing 1: accepted 2: in production 3: in delivery 4: completed
Visibility	int	The job visibility: 0: visible (still available) 1: deleted (no longer active)
CardTransaction	uniqueidentifier	Filled in case of a credit card transaction.
PaymentMethod	nvarchar	The uses payment method for this order: Budget Invoice Credit Card Payment (PayPal) Credit Card Payment (Worldpay)

2.2.13   OrderItems_T

Column Name / Database Field	Data Type	Description/Application
ID	uniqueidentifier	Identification GUID of the job.
OrderID	uniqueidentifier	Identification GUID of the related order.
Name	nvarchar	Name of the job.
AmountPaid	float	Job price.
CopyCount	int	Copy count.
VAT	float	Value added tax (VAT), or goods and services tax (GST).

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2.2.14 PrinterCluster_T

Column Name / Database Field	Data Type	Description/Application
ID	uniqueidentifier	Identification GUID of the printer cluster.
ClassData	image	A BLOB for variable-length binary data containing all information of one data record in binary form.
Name	nvarchar	The name of the printer cluster.
MomSyncFlag	bit	Synchronization between main servers (uniFLOW OM or Helix PW): false: no synchronization true: yes, synchronization has taken place

2.2.15 PrintJobHistory_T

Column Name / Database Field	Data Type	Description/Application
JobID	uniqueidentifier	Identification GUID of the job itself.
Time	datetime	The time the changes has been done.
UserName	nvarchar	The name of the user who changes the job status.
FieldName	nvarchar	The JT Field Name which has been updated.
OldValue	nvarchar	The value of the JT field before the update.
NewValue	nvarchar	The value of the JT field after the update.
Description	nvarchar	Additional information related to the update e.g. update reason.

2.2.16 Service_T

Column Name / Database Field	Data Type	Description		
ID	unique identifier	Identification GUID of record itself.		
ClassData	image	A BLOB for variable-length binary data containing all information of one data record in binary form.		
Name	nvarchar	Name of "Articles" and "Formats / Products" of Price Profiles, such as Print Color A4.		
ServiceProvider	unique identifier	Identification GUID of printer this service belongs to, may link to a pricing profile.		
ServiceCode	int	Type HEX	Type DEC	Description
		0x00000000	0	None / empty
		0xFFFFFFFF	-1	General
		0x00010001	65537	copy A4
		0x00010002	65538	copy A3
		0x00010003	65539	copy B4
		0x00010004	65540	copy B3
		0x00020001	131073	copy colour A4
		0x00020002	131074	copy colour A3
		0x00020003	131075	copy colour B4
		0x00020004	131076	copy colour B3
		0x00030001	196609	print A4
		0x00030002	196610	print A3
		0x00030003	196611	print B4
		0x00030004	196612	print B3
		0x00040001	262145	print colour A4
		0x00040002	262146	print colour A3
		0x00040003	262147	print colour B4
		0x00040004	262148	print colour B3
		0x00080001	52429	finishing option Cutter
		0x00080002	524290	finishing option Sorter
		0x00080003	524291	finishing option Hole Punching

Column Name / Database Field	Data Type	Description		
		0x00080004	524292	finishing option Stapling
		0x00080005	524293	finishing option Binding
				(others on request)
ProviderIndex	int	Index of the service within the provider.		
Visibility	int	0: visible (still available) 1: deleted (no longer active, but still available in statistics for example).		
MomSyncFlag	bit	Synchronization between main servers (uniFLOW OM or Helix PW): false: no synchronization true: yes, synchronization has taken place.		
Modified	datetime	Last time the service was modified.		

2.2.17 ServiceConsumer_T

Column Name / Database Field	Data Type	Description
ID	uniqueidentifier	Identification GUID of record itself.
ClassData	image	A BLOB for variable-length binary data containing all information of one data record in binary form.
Name	nvarchar	Name of Users, Cost Centers, Groups.
Login	nvarchar	Login name
AddressOne	nvarchar	"Street" of users' default address, invoice address, and delivery address. "Description" of "Groups". "Description" of "Cost Center".
AddressTwo / Zip / City /	nvarchar	Details of users' default address, invoice address, and delivery address.
Fax / Memo /	nvarchar	Details of user's default address.
PayConID	nvarchar	This number is used for Users, Groups or Cost Centers for identification purposes: Terminal / Chip Identification.
UserTypeEx	int	0 / 2: normal users 4096: cost center 4097: group 4098: agent/clerk 4099: branch 4100: invoice address 4101: delivery address
DefaultCostCenter	uniqueidentifier	Identification GUID of standard cost center.
DefaultGroupID	uniqueidentifier	Identification GUID of standard group.
HasBioData	int	0: no fingerprint read in 1: fingerprint read in
Visibility	int	0: visible (still available) 1: deleted (no longer active, but still available in statistics for example)
SAPName	nvarchar	Identical with Field 'Host Login'. Alternative user name for second account used for e.g. SAP printers.
PinCodeHash	nvarchar	Show PIN number entered in GUI in 'hash'.

Column Name / Database Field	Data Type	Description
MomSyncFlag	bit	Synchronization between main servers (uniFLOW OM or Helix PW): false: no synchronization true: yes, synchronization has taken place
LinkedConsumerID	uniqueidentifier	Links to a user's ID in the table ServiceConsumer_T referring for example to a delivery address.
Modified	datetime	Last time when users, cost centers, or groups were modified.
CustomProp_IGStatus	nvarchar	Status of Internet Gateway user, or Web Submission user: no entry: - none - 0: IG Account Available, but Deactivated 2: User Data Accepted by Operator 3: User Data Declined by Operator 4: Resend "User Data Accepted" 5: Resend "User Data Declined " 6: User data declined, invalid login name 7: User data declined, invalid login details
CustomProp_IGLOGIN	nvarchar	In uniFLOW OM: Login name for Internet Gateway account as entered in uniFLOW OM GUI. In Helix PW and Helix PW Essential: Login name for Web Submission account as entered in Helix PW GUI.

2.2.18 ServiceProvider_T

Column Name / Database Field	Data Type	Description
ID	uniqueidentifier	Identification GUID of record itself.
Name RoutingGroup PrinterName ServerName	nvarchar	Normal fields as displayed at Server Configuration > Printer > General Tab.
MgmtData_CustomerNumber / MgmtData_MonthlyVolume / MgmtData_ContractStart / MgmtData_ContractEnd / MgmtData_Serial / MgmtData_Location / MgmtData_AssetNumber / MgmtData_Hostname / MgmtData_MacAddress / MgmtData_ModelName	nvarchar	Normal fields as displayed at Server Configuration > Printer > Info Tab.
PayConSerialNo	nvarchar	Serial Number of PayCon / MIND, etc.
PayConIpAddress	nvarchar	IP address of IPC PayCon / PC100 / ICS Money Loader / MIND.
ProviderType	int	1: Price Profile 4: Printer
PricingProfile	uniqueidentifier	Link to ID of a pricing profile in ServiceProvider_T.
HidePrinterFromWqm	int	1: meaning 'yes, hidden in WQM/RQM' 0: meaning 'no, not hidden WQM/RQM' as displayed at Server Configuration > Printer > General Tab.
Visibility	int	0: visible (still available) 1: deleted (no longer active, but still available in statistics for example).
MomSyncFlag	bit	Synchronization between main servers (uniFLOW OM or Helix PW): false: no synchronization true: yes, synchronization took place
Modified	datetime	Last time the service provider was modified.

2.2.19 ServiceUsage_T

Column Name / Database Field	Data Type	Description
ID	uniqueidentifier	Identification GUID of record itself.
ServiceProvider	uniqueidentifier	GUID, linking the printer.
Service	uniqueidentifier	GUID, linking the service.
ServiceConsumer	uniqueidentifier	GUID, linking the user.
ServConsGroup	uniqueidentifier	GUID of standard group.
ServConsProject	uniqueidentifier	GUID, linking the cost center / project.
ParentService	uniqueidentifier	GUID, reference to the ServiceUsage_T.ID field of the "mainservice" if this is a "subservice".
CardNumber	int	Is for example used when reading out and storing a counter value; the number of the respective counter is displayed here.
ClassData	image	A BLOB for variable-length binary data containing all information of one data record in binary form.
UsageBegin	datetime	The time the service was started (e. g. copy).
UsageEnd	datetime	The time the service was stopped (e. g. copy).
Cardinality	int	The number of times the service was used (e. g. 5 A3 copies).
AmountPaid	float	The price of the service usage.
JobName	nvarchar	The name of the print job (for jobs).
UserName	nvarchar	The name of the user (for jobs).
JobTicketField	nvarchar	Extra fields, gathered from the JT.
JobTicketFieldTwo	nvarchar	Maps the fields 'JT_DbLookupField', 'JT_DbLookupFieldTwo', etc. onto a database field.
JobTicketFieldThree	nvarchar	Usage: Extra project numbers, descriptions, indexes, etc.
CopyCount	int	Number of copies made.
NonChargeable	int	Determines if a job will be charged: 0 = job will be charged 1 = job won't be charged
NonChargeReason	nvarchar	Reason why the particular job will not be charged.
MomSyncFlag	bit	Synchronization between main servers (uniFLOW OM or Helix PW):

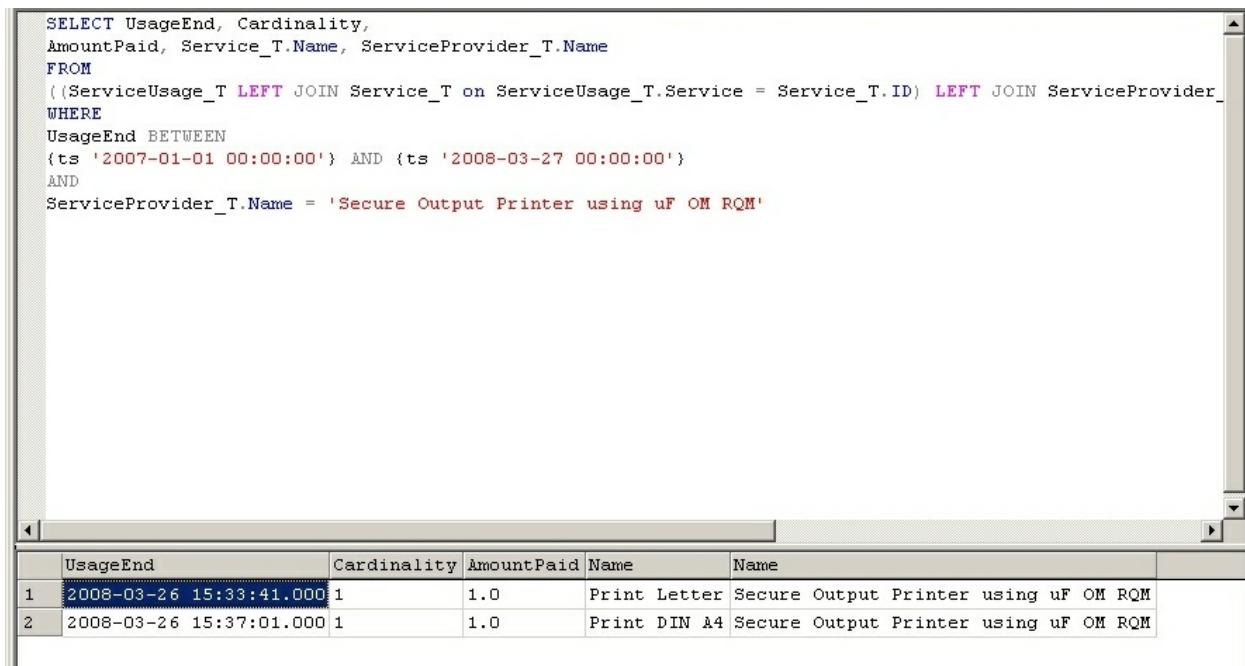| Column Name / Database Field	Data Type	Description
		false: no synchronization true: yes, synchronization has taken place
AltPrice0	float	Contains values of Amount and Price of Alternative Price Profile 0.
AltPrice1	float	Contains values of Amount and Price of Alternative Price Profile 1.
AltPrice2	float	Contains values of Amount and Price of Alternative Price Profile 2.

2.2.20   SingleRowStat_T

Column Name / Database Field	Data Type	Description/Application
EntryTime	datetime	The time the service was stopped (e. g. copy).
UserName	nvarchar	The name of the user (for jobs).
JobName	nvarchar	The name of the print job (for jobs).
PrinterName	nvarchar	The name of the printer.
ServerName	nvarchar	The name of the server the printer is configured for.
FormatCode	int	See "ServiceCode" of the "Service_T".
TotalPages	int	The amount of total pages.
DuplexPages	int	The amount of duplex pages.
ColorPages	int	The amount of colored pages.
InputTray	smallint	The paper tray number.

3 Sample Query with Enterprise Manager (SQL Server)

To show you the strength residing within the database and the asset of running any kind of query you can devise, please find below a sample query and the report thus generated. The report gives details on the name of the services used and the amount paid for print jobs printed between January 1st 2007 and 31st March 2008 with the printer of the name "Secure Output Printer using uF OM RQM".

```
SELECT UsageEnd, Cardinality,
AmountPaid, Service_T.Name, ServiceProvider_T.Name
FROM
((ServiceUsage_T LEFT JOIN Service_T on ServiceUsage_T.Service = Service_T.ID) LEFT
JOIN
ServiceProvider_T on ServiceUsage_T.ServiceProvider = ServiceProvider_T.ID)
WHERE
UsageEnd BETWEEN
{ts '2007-01-01 00:00:00'} AND {ts '2008-03-31 00:00:00'}
AND
ServiceProvider_T.Name = 'Secure Output Printer using uF OM RQM'
```