Managing Installation and Migration in SAS 9.1 – an overview

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This presentation

- Introduces the new software delivery and installation procedure introduced with SAS 9.1
  - Install Information delivery over the internet
  - Multi-tier installation

- Gives an overview on migration strategies in various areas such as
  - Platform Migration
  - Data Migration
  - OLAP
  - Moving to the new SAS BI Architecture
This presentation ...

… is not an in-depth presentation on technical aspects of SAS 9 Migration – for these, see

SAS Technology Forum - Migration to SAS 9

• "Using the Scalable Performance Data Engine in SAS 9", 10:50
• "Moving from SAS 8 to SAS 9 OLAP Server", 13:30
• "Migrating AppDev Studio and SAS/IntrNet applications to the new SAS 9.1 BI architecture", 14:15
• "BI Reporting: how to move to the new Business Intelligence Architecture", 15:20
• "SAS 8 to SAS 9 Migration Options for Enterprise Miner Users", 16:05
SAS 9.1 Installation

- Leverage the internet for SAS Installation Data (SID) distribution
  - SID lost? Corrupt? – Log in to our web site and have it re-sent to you
  - Licensing additional components? – the new SID will be sent to you immediately so you can install and use the software directly
  - The SID can be stored in any location – copy it to a disk, Memory Stick or intranet location for use with your high-security system that do not have mail or web access
SAS 9.1 Installation – keeping track of your SAS installations

- New SAS Management Console – your one-stop shop for SAS management
- Plug-in architecture with documented API
- License manager plug-in keeps track of what was installed, and where; and which changes were made to the install afterwards
- Features license expiry/renewal information
SAS Management Console – License Manager
SAS 9.1 Installation – Multi-tier setup

- Client tier
  - Web based front ends
  - Enterprise Guide
  - ...

- Middle tier
  - BI Architecture components
  - Web servers

- SAS tier
  - SAS Servers
SAS 9.1 multi-tier deployment - example

Client Tier
- Web Browser
- Web Browser
- Web Browser
- Web Browser
- Web Browser

Middle Tier
- Web Server
- Java Application Server
- SAS Foundation Services
- SAS Services and Components
- Web Report Studio Application

SAS Tier
- SAS Application Server (s)
- SAS Metadata Server
- SAS Workspace Server
- SAS OLAP Server
- SAS Stored Process Server

Disclaimer... Foundation Services can also be on the SAS Tier.
SAS 9 Configurator

- Simplify multi-tier installation by using a cross-platform XML configuration file
- Share configuration information across platforms:
  - Metadata server port and machine name
- Determine which components need to be installed on which tier
- GUI tool on UNIX and Windows
The Server Manager plug-in manages all logical SAS servers:

- Workspace Server
- Stored Process Server
- OLAP Server

Defines names, host names, port numbers, and other properties

Single point of administration
SAS 9.1 Migration – opening remarks

- SAS 9.0 and SAS 9.1 support almost all functionality found in SAS 8.2
- Almost all SAS 8.2 applications run unmodified in SAS 9.0 and SAS 9.1
- SAS 9.0 and SAS 9.1 can read/write SAS 8.2 data sets
- SAS 9.0 and SAS 9.1 can read SAS 6.12 data sets
- Benefits gained from SAS 9.1 technology are substantial
- Phased approach
SAS 9.1 Migration

- Platform migration
- SAS data migration
- OLAP migration
- Migrating to the new BI Architecture
Migrating platforms – SAS 9.1 platforms

- 32bit and 64bit Windows
  - 32bit Windows NT4, 2000, XP, MS Server 2003 (.NET)
  - 64bit Windows XP, MS Server 2003 (.NET) NEW!

- 64bit UNIX
  - 64bit AIX 5.1, HP/UX 11.0, HP/UX (Itanium) 11i, Solaris 8
  - 64bit Tru64 and OpenVMS Alpha

- 32bit Linux on Intel
  - SuSE Linux Enterprise Server 8, RedHat Advanced Server

- Mainframe
  - OS/390
  - 64bit z/OS (in 31bit mode)
Migrating platforms

- On the same platform, data migration is not mandatory
- 32bit and 64bit systems are treated as different platforms:
  - 32bit Windows in SAS 8, 9 – 64bit Windows in SAS 9
  - 32bit UNIX in SAS 8 – 64bit UNIX in SAS 9
- PROC Migrate to migrate data sets, catalogues, views and attributes
Migrating SAS data

- SAS 9.0 and SAS 9.1 read/write SAS 8.x data sets
- no obligation to migrate SAS 8.x data sets
- Slight performance gain when using "native" data sets (64bit data sets on a 64bit OS)
- When saving a 32bit data set as 64bit data set, only the metadata changes – the data representation is bit by bit identical! (regulated industries)
- SAS 9.0 and SAS 9.1 read SAS 6.12 data sets
- SAS 9.0 and SAS 9.1 read/write Transport format
Migrating SAS data –
new data set features in SAS 9

- Support for wide tables ( = more than 32k columns)
- Support for long Formats ( = 32 chars)
- If these features are not use, the SAS 9 data set can be read by SAS 8.2 (on the same platform)!
Migrating other SAS data – PROC MIGRATE

- Migrates
  - Data
  - Catalogs
  - MDDB
  - Itemstore
  - Access_VIEWS
  - DataStep_VIEWS
  - SQL_VIEWS

- Retains
  - Indexes
  - Encryption
  - Compression
  - Generations
  - Encoding
  - Integrity Constraints
  - Data Representation
Migrating SAS OLAP

- SAS 9.1 continues to support SAS 8 MDDB-based OLAP functionality
- SAS 9.1 introduces a new MDX-based multithreaded OLAP Server
- "Best of both worlds" approach
General phases of an OLAP project

- Planning and Design – Version independent
- Creation of cubes – Version dependent
- Testing, Optimizing and Reviewing – Version independent
- Moving it out to the User – Version independent
- Updates and Maintenance – Version independent

Version independent: not Migration induced

Version dependent: Migration induced
Moving the existing applications

- You have done all the hard work already for your SAS 9 OLAP cubes
- You’ve already done the Planning and Design phases
- Updating and Maintaining is a continuous task.
- Rebuilding will be faster and more efficient
- New capabilities will be available for you to use
Capabilities of SAS 9 OLAP

- Manageability
  - Access Control Lists
  - Administering Cubes and OLAP environment

- Performance & Scalability
  - Individual threads for each user
  - Parallel Processing
  - Use of SPDE
  - Data Cache

- Additional Monitoring
Migrating to the new SAS Business Intelligence Architecture

- Infrastructure and components:
  - SAS/IntrNet 9.1 and SAS Stored Process Server **NEW!**
  - SAS Integration Technologies 9.1

- Development Tools
  - AppDev Studio 3.0

- Reporting Applications
  - SAS Information Delivery Portal 2.0
  - Enterprise Guide 3.0
  - SAS Report Studio **NEW!**
  - SAS Web Report Studio **NEW!**
  - SAS Add-in for Microsoft Office **NEW!**
Infrastructure and components

- **SAS IntrNet 9.1**
  - New APIs supported (GWAPI, ISAPI)
  - Other enhancements and bugfixes

- **SAS Stored Process Server **NEW!**
  - "next generation" standard for reusable SAS programs
  - Majority of SAS IntrNet programs run unaltered as Stored Processes
  - Much more versatile – multiple clients from Web interfaces to MS Excel, authoring with Enterprise Guide

- Phased migration – keep existing SAS IntrNet applications, create new applications using Stored Processes
Infrastructure and components

- SAS Integration Technologies 9.1
  - SAS IT concepts are used throughout SAS 9.1 – workspace servers, object spawner, IOM connections etc.
  - SAS IT 9.1 makes use of new threaded technology
  - SAS IT 9.1 stores all definition information in the SAS Metadata Server – a common metadata repository for all SAS components
  - Administration via SAS Management Console
Development tools

- SAS AppDev Studio 3.0
  - New JAVA components to utilise the SAS BI Query and Reporting architecture
  - webAF 2 projects can simply be opened in webAF 3
  - Enables you to use old components and new components
New Reporting applications

- SAS Information Delivery Portal 2.0
  - User Interface is completely redesigned
  - Support for Portlets eases application development
  - Flexible in arranging content through portlets
  - Internationalized
  - Secure

- SAS Enterprise Guide 3.0
  - New user interface and general feature enhancements
  - Stored Process authoring
  - EG 2 and EG 3 coexist on the client machine
  - EG 3 is fully integrated into the SAS Metadata framework
  - EG 3 works with SAS 9.1 and SAS 8.2
New Reporting applications

- SAS Report Studio NEW!
- SAS Web Report Studio NEW!
- SAS Add-in for Microsoft Office NEW!
- We are certain that these new applications and the underlying infrastructure provide a great value to business users and technical staff
- Have a look and learn what benefits you can gain using these applications in your environment!
Further resources

- SAS Migration Community web site
- Other SAS presentations at Seugi
SAS 9 In Review

Jim Metzalf and SAS Marketing present users with an overview of SAS 9 and a peek into future releases. This informative video is a must-watch if you are curious about the new features and direction for SAS solutions. Find out more about this video and SAS 9!

Quick Tip: Creating New Data Sets with a Subset
Read this tip for popular techniques on subssetting SAS data sets. (Jun 6, 2003)

Quick Tip: Concatenating SAS Data Sets with the APPEND Procedure
You can easily concatenate observations from a smaller data set to a larger one. (May 9, 2003)

Quick Tip: Several Ways to Tune a SORT
The SORT procedure is one of the most resource intensive procedures within SAS. This tip can help you make it run more efficiently. (May 6, 2003)

Quick Tip: Sorting Your Data with PROC SORT
This tip helps beginners get familiar with
Welcome to the Migration Community

Lead Your Organization to SAS 9

If you are a SAS specialist or IT professional, the Migration Community is your field guide for successfully migrating your organization to SAS 9.1. Here you can find essential guidance for:

- converting SAS files to the new release,
- preserving customizations made in users’ applications,
- ensuring validation with current applications and business processes,
- minimizing disruptions to routine operations.

Along with technical instructions and cross-release compatibility information, you will find tips, best practices, case studies, references to SAS documentation, and more, which will help you to migrate with minimal cost.

This community features the use of PROC MIGRATE to move or copy data libraries to a SAS 9.1 libraries, but the information can be useful in other migrations (for example, to Release 8.2, or to a different operating system family). In such a case, see also the SAS book Moving and Accessing SAS Files for usage instructions of earlier copy tools.

The Road Map to This Community tells you where to start and where you’re going.

What We Mean by Migrate

The computer industry provides many definitions for the term migrate. Here is our usage. When you migrate a SAS site, you upgrade the software and implement it among
SAS 9 Compatibility

SAS strives whenever possible to support compatibility. This means that many file types from earlier releases can be processed in a SAS 9 session without migrating the files to SAS 9 format.

This topic helps you determine whether the compatibility you need is supported, or whether you must migrate a file. Before you read our handy tables, stop and take a moment to understand the concepts:

Understanding Foreign

A foreign file is not compatible with the current environment. Read the simple list at Are My Files Foreign in SAS 9? to see whether you should consult the foreign or native column in the tables.

Understanding Input, Output, Update

These are the three different types of SAS processing. You might not have to migrate a file to SAS 9 format if, for example, you only need to read it and not write to it.

- Input means read-only
- Update means, for example, changing a variable name or running a PROC SORT.
More presentations

- Migration – in the SAS Technology Forum
  - "Moving from SAS 8 to SAS 9 OLAP Server", 13:30
  - "Migrating AppDev Studio and SAS/IntrNet applications to the new SAS 9.1 BI architecture", 14:15
  - "BI Reporting: how to move to the new Business Intelligence Architecture", 15:20
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- SAS Business Intelligence Stream

- **Technology Plenary 11:30 – 12:20**
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