

Migration to SAS Grid for 300 users

From preparation to production

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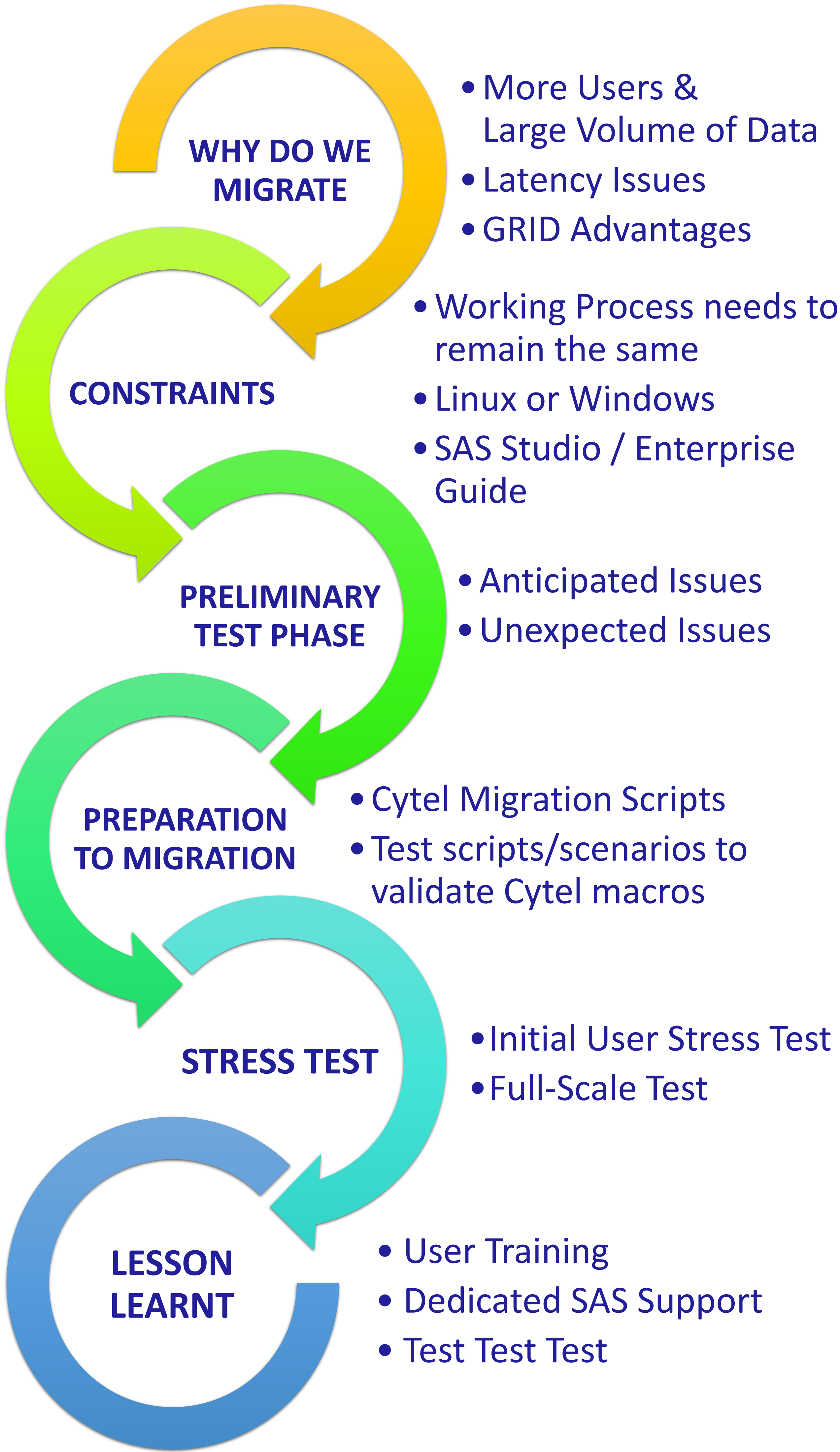
Abstract

To remain competitive and achieve growth, CROs need to keep up with technological advancements and adopt to new ways of working, that are ever more resource intensive. In line with this, **Cytel moved all its SAS® computing to a SAS Grid platform** with the aim of utilizing computing power and support staff more efficiently.

As with previous migrations, we have prepared ourselves thorough **investigations and documentation**, by ensuring that our standard **SAS macro catalogs were working properly**, by adopting **new work habits** and by **replacing SAS Display Manager with SAS studio and Enterprise Guide**.

We also implemented **quality control scripts** and QA intervention and made difficult decisions such as the operating system of the Grid server.

From our experience as SAS users, **our recommendation is to review the many preparation steps** we took and the unexpected issues we faced when we moved to the production environment. We will also discuss the **differences between SAS Studio, SAS Enterprise Guide, and a Batch run**, and their implications.



GRID SYSTEM

The new SAS Grid SAS Infrastructure:

- Environment: Azure Cloud (US East Coast)
- Architect: Multi-tier servers
- Metadata Server: 1 server (Memory: 32GB)
- Compute Tier (Master Host): 1 server (Memory: 64 GB)
- Compute Nodes: 2 servers (Memory: 128GBx2)
- Mid-Tier: 1 server (Memory: 32GB)
- OS: Windows Server
- SAS Version: SAS 9.4 M7

SASGSUB: Run in batch

Utilization of SASGSUB to submit a request to the GRID

```
Call c:\sas\config\Lev1\Applications\SASGridManagerClientUtility\9.4\sasgsub.cmd - gridsubmitpgm "%~d1%~p1%%~nA%%~xA" -gridsasopts "(-work 'G:\SASGRIDWork\$username' -sysparm '%~d1%~p1%%~nA%%~xA' -altlog '%LogFolder%\%%~nA.log') " -GRIDWAIT
```

WLATIN / UTF-8 ENCODING

- 2 Distinct SASApp
- 2 Config Files for SASGSUB

STRESS TESTS

- IT
- Individual Tests
- Full-Scale Test

PGM	Azure	GRID	PGM	Azure	GRID	PGM	Azure	GRID
t-teste (3 calls in the pgm)	00:35,9	00:29,9	t-demo (1 call, small pgm)	00:38,1	00:19,9	t-demo + t-teste	00:53,7	01:23,8
	00:34,0	00:25,2		00:38,7	00:20,0		00:58,3	00:39,5
	00:38,6	00:19,7		00:23,2	00:14,8		01:26,2	00:39,6
	00:39,4	00:24,9		00:19,4	00:14,8		01:00,8	00:56,6
	00:35,2	00:19,8		00:21,2	00:14,8		01:09,6	00:39,6
	00:46,3	00:24,8		00:21,2	00:14,7		01:02,2	00:44,6