

Migrating a SAS Programming Environment to a Virtual Linux Server

Dirk Spruck & Judith Kanz

Accovion, Germany

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PhUSE 2010: Innovation Driven by Technology

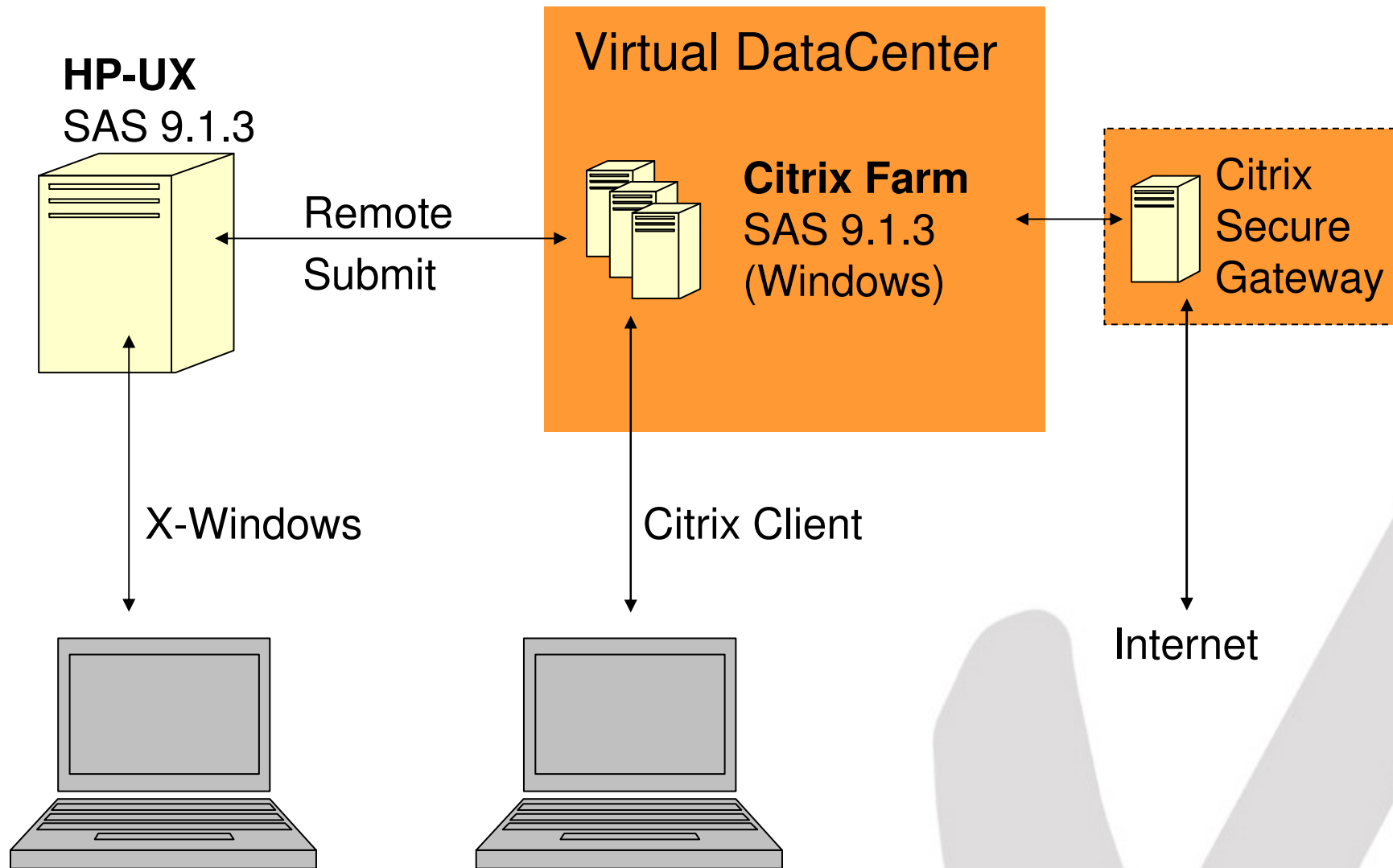
Migration to Linux

- ✓ IT Infrastructure
- ✓ Decision Process
- ✓ Migration Process

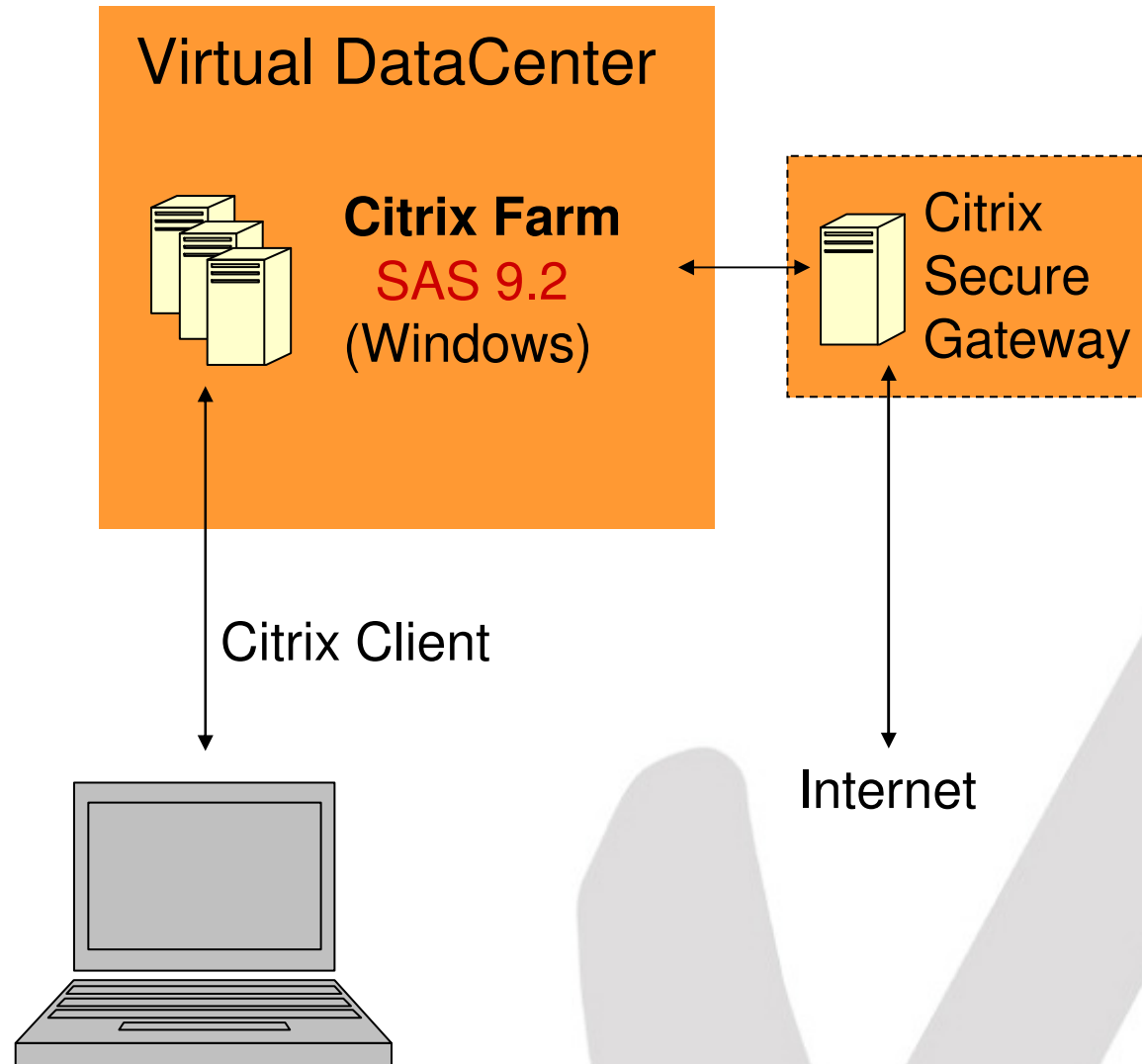


Consider Linux

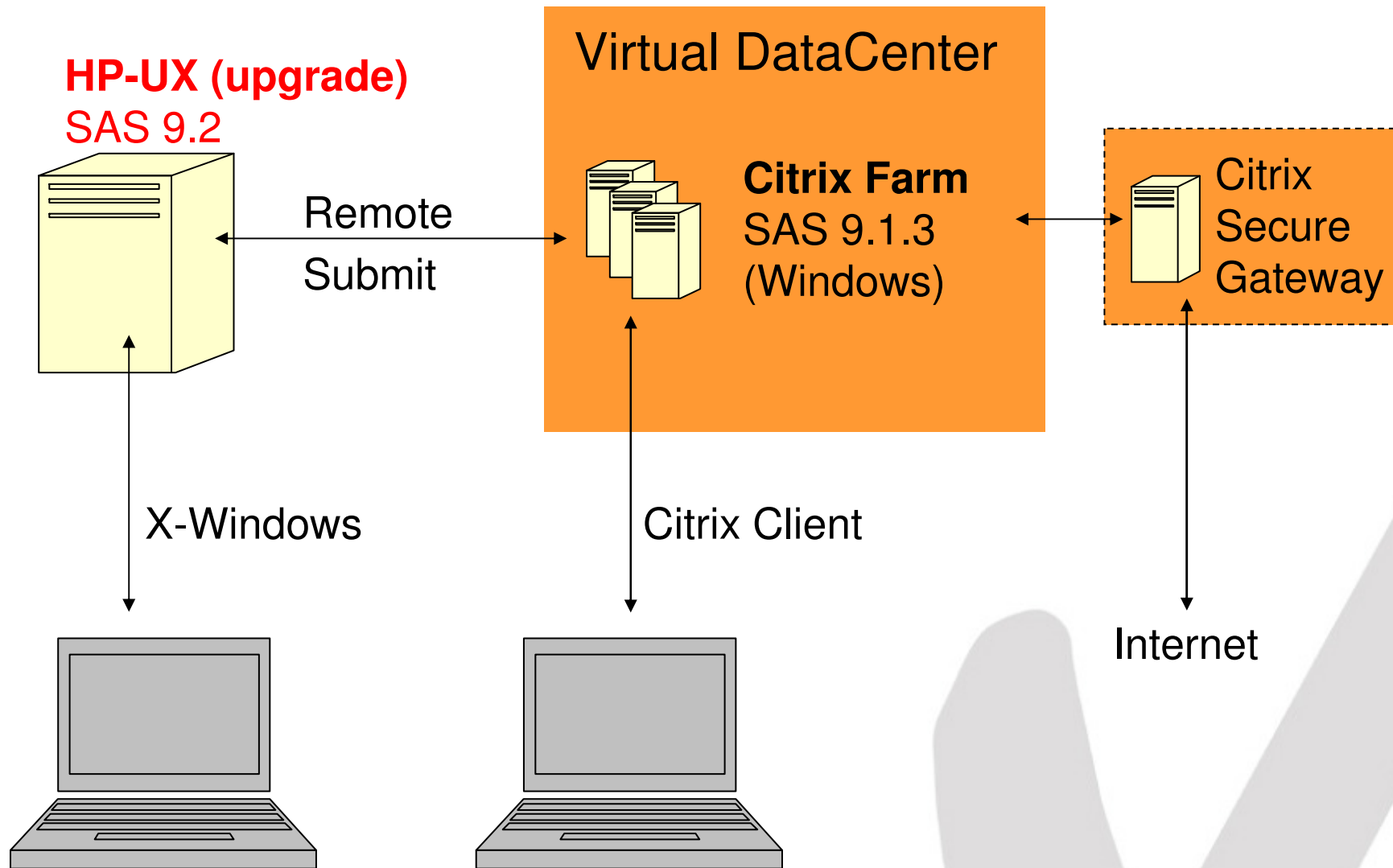
IT Infrastructure (old)



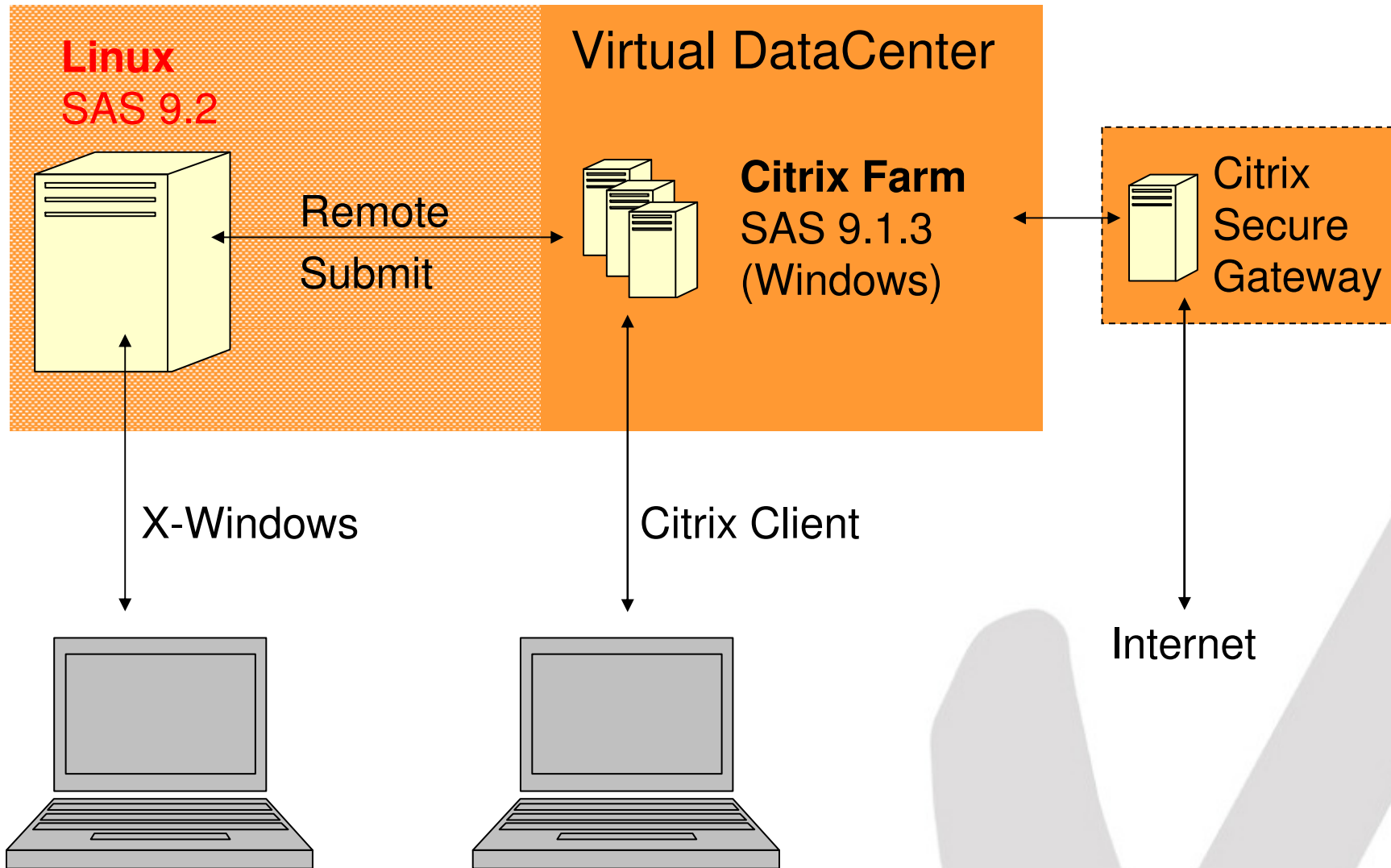
IT Infrastructure (Windows)



IT Infrastructure (upgrade HP-UX)



IT Infrastructure (migrate to Linux)



Platform ???

✓ Operating System

- Migrate to Windows?
- Update HP-UX?
- Migrate to Linux?



✓ Financial Aspects

✓ Customer Compatibility

✓ Technical Aspects

✓ Test Installation

✓ Risk Assessment

Decision

- ✓ Technology
- ✓ Scalability, Reliability
- ✓ Costs
- ✓ Open-Source
- ✓ Risk

Migration Plan

✓ Inventory

- Archiving Old Projects
- >50 Active Projects
- >200 Studies

✓ Migration Plan

- Contact Person
- Status
- Migration Date

Study 1	M	0	0	0			C1.0
Study 1	L	0	0	0			C2.0
Study 2	L	0	0	0			C2.0
Study 3	A	0	0	0	End of January - Actual Date unknown		C2.0
Study 4	A	0	0	0			C1.0
Study 5	A	0	0	0			C1.0
Study 6	A	0	0	0			C1.0
Study 7	A	0	0	0			C1.0
Study 8	A	0	0	0			C1.0
Study 9	A	0	0	0			C1.0
Study 10	DELETE	0	0	0			deleted
Study 1	A	0	0	0			C2.0
Study 2	V	0	0	0	not critical	Judith	C2.0

✓ Minimize Interruptions

✓ Time-Critical Projects

Platform Migration

- ✓ Install Linux Programming Environment
 - SAS Version 9.2
 - Macro Library
 - UNIX Scripts...
- ✓ Follow Change Management/
Software Development Lifecycle
- ✓ Test and Document
- ✓ Copy Access Rights and User Groups



Project Migration

- ✓ Inform Users
- ✓ Copy Projects to Linux (IT)
- ✓ Remove Access on HP-UX (IT)
- ✓ Change Settings
- ✓ Modify Programs
- ✓ (Re-) Validate Output
- ✓ Release Projects/Studies

Training and Material

- ✓ Briefing Events
- ✓ Formal Trainings
- ✓ User Manuals
- ✓ Cheat Sheet
- ✓ Individual Support

<code>chown user files</code>	change owner of a file
<code>chgrp group files</code>	change group of a file
<code>pwd</code>	print working directory
<code>ls dirs or files</code>	list directories or files
<code>-l or ll</code>	list details
<code>-a</code>	list hidden files as well
<code>-R</code>	list subdirectories as well
<code>-t</code>	list sorted by date
<code>tree dir</code>	display structure of a directory
<code>-d</code>	list directories only
<code>cd dir</code>	change directory
<code>mkdir dir</code>	create directory
<code>rmdir dir</code>	remove directory
<code>cp file1 file2</code>	copy file
<code>cp files dir</code>	copy several files in a directory
<code>cp -r dir1 dir2</code>	copy directory with all subdirectories
<code>-i</code>	ask before overwrite
<code>-p</code>	keep owner and timestamps
<code>mv file/dir1 file/dir2</code>	move files/directories
<code>-i</code>	ask before overwrite
<code>rm files</code>	delete several files
<code>-i</code>	ask before deletion
<code>less file</code>	display file
<code>diff file1 file2</code>	compare files (detailed output)
<code>cmp file1 file2</code>	compare files (short output)
<code>cat file</code>	cat content of files

Conclusion

- ✓ Thorough Planning
- ✓ Flexibility
- ✓ Timely Communication
- ✓ Long Term Benefit
- ✓ Reliable System
- ✓ Problem: 9.1.3 -> 9.2



Questions?



Dirk.Spruck@accovion.com

Judith.Kanz@accovion.com