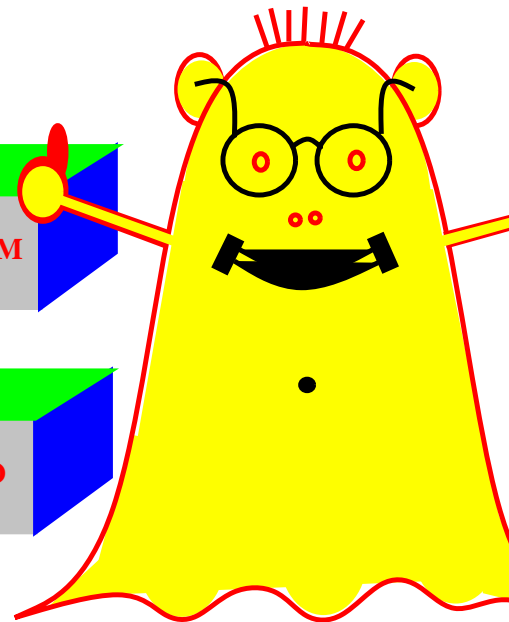
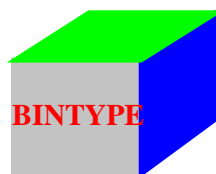
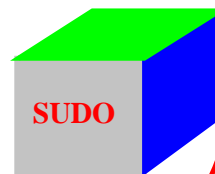
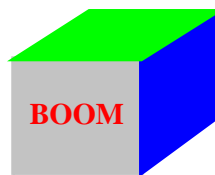
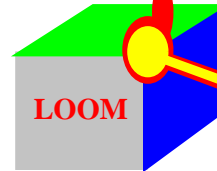
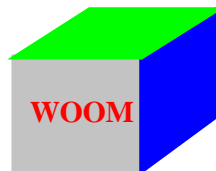
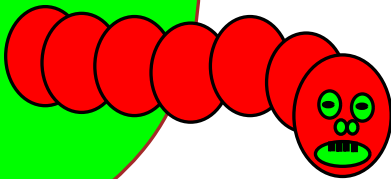


WBOOM

- Intro
- wboom
- Salad
- Conclusions



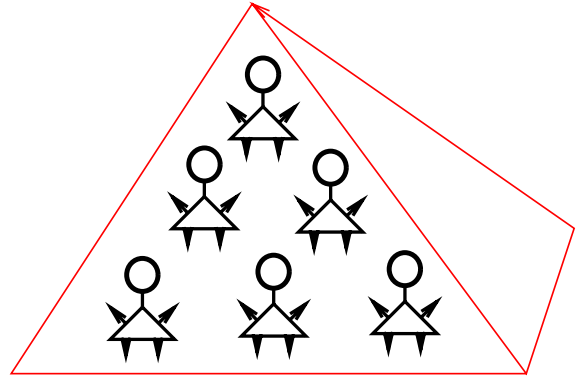
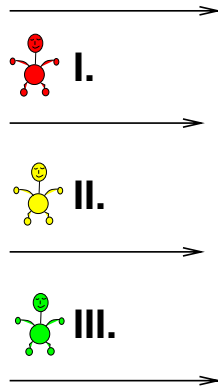
Thomas Finnern
DESY, Group ZDV
phone: +49 40 8998-2753
email: finnern@desy.de

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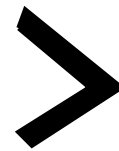
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Product Management

Knowledge

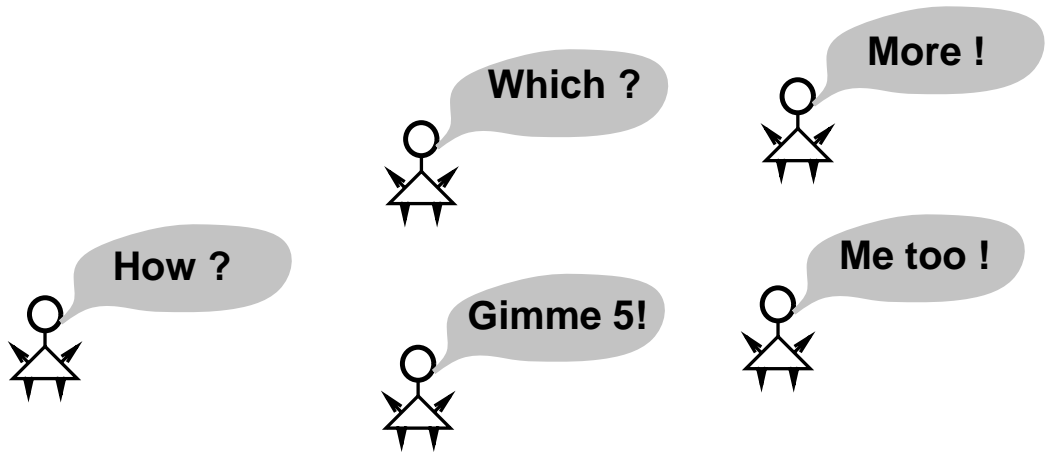


counter

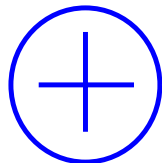


2

acts



time !



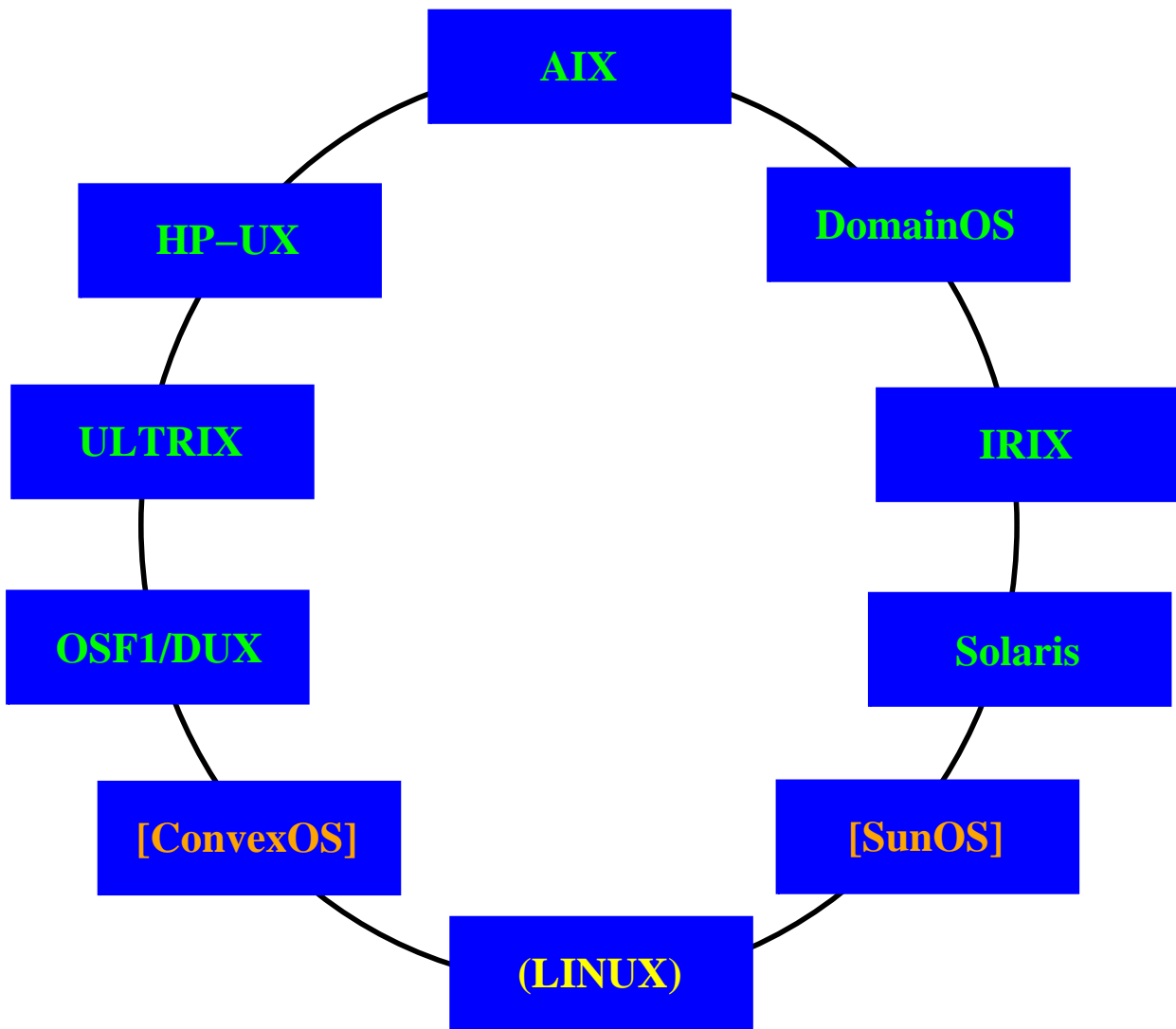
$$t = t + n$$



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Supported Platforms



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DESY WBOOM System

● Features

- Full Automatic Documentation
- Transparent Teamwork
- Idempotent Operation
- High Efficiency (100 Workstations per hour)
- Data Base Driven Configuration and Installation
- Same view on workstations, terminals, printers, ...
- Clients: All "trusted" UNIX-Workstations
- Servers: All UNIX-Platforms with /bin/ksh

● Commands

- boom/gboom: Boot Management Non-UNIX-Devices - english/german
- woom/gwoom: Workstation Management - english/german
- loom/gloom: Central Lock Management - english/german
- salad: Save and Load at Desire - english
- bintype: Binary Compliance Analysis - english
- sudo: Give fine tuned root access by config file - english



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● Files and Subfeatures

- `$ADMIN_DIRECTORY/list:`
ASCII 'Data Base'
- `$ADMIN_DIRECTORY/FDELETE.card:`
Deletion of Saved Files
- `$WOOM_DIRECTORY/SERVICES.card:`
Workstation Configuration
- `$WOOM_DIRECTORY/ALL/etc/hello_world:`
Reverse mode of script reads ip configuration
- `$WOOM_DIRECTORY/etc/ethers:`
RARP Support
- `$WOOM_DIRECTORY/WORLD.card:`
Saved Network Configurations
- `$BOOM_DIRECTORY/XNCD_T.card:`
(Old) NCD Xterminals
- `$BOOM_DIRECTORY/XPCX_T.card:`
PCXWARE Configuration (Version 4)
- `$BOOM_DIRECTORY/ALL/tek/c/individuals.conf:`
(Old) TEKTRONIX Xterminals
- `$BOOM_DIRECTORY/ALL/tek/c/individuals.xp20.conf:`
(Old) TEKTRONIX XP20 Xterminals
- `$BOOM_DIRECTORY/AIX_hale/etc/bootpd.hale1:`
Bootp Master File
- `$BOOM_DIRECTORY/AIX_hale/etc/haconv:`
Bootp converter for other machines
- `$BOOM_DIRECTORY/ALL/usr/lib/X11/xdm/Xaccess:`
XP20 and IBM Xstation Chooser Configuration
- `$BOOM_DIRECTORY/XDELETE.card:`
Link Customisation for changed IP-Number-Links



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• Directories

- ADMIN_DIRECTORY @DESY
/afs/desy.de/user/s/schroth/equipment
- WOOM_DIRECTORY @DESY
/afs/.desy.de/products/salad/woom
- BOOM_DIRECTORY @DESY
/afs/.desy.de/products/salad/boom
- LOOM_DIRECTORY @DESY
hale2:/x1/ibm/locks
- SALAD_ROOT @DESY
/usr/local/salad
- /usr/local/woom/tftpboot:
For Solaris Network Install
- /usr/local/woom/etc:
For Solaris RARP Support (BOOTP/DHCP ?)

• Documentation

- <http://www.desy.de/~schroth/equipment.html>
- <file:/afs/desy.de/products/salad/www/Welcome.html>
- UNIX manual pages for:
boom, gboom, woom, gwoom, loom, gloom, salad, sudo



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● Prerequisites

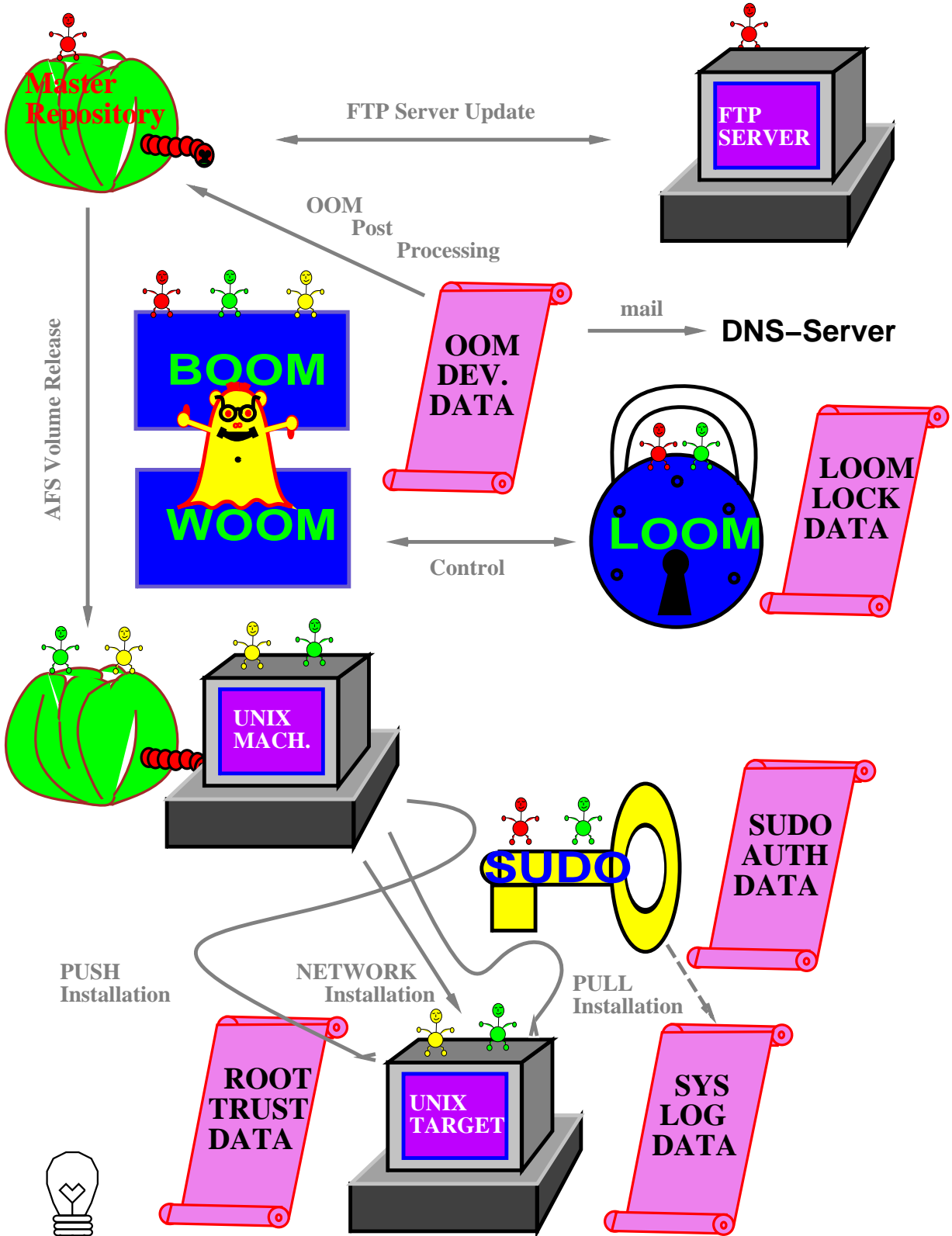
- /bin/ksh for running boom, woom, loom and salad
- For Base Operation:
 - * Products SALAD, STOOLS, WBOOM and SUDO
 - * Environment WOONDIRS, BOONDIRS, LOONDIRS, SALAD_ROOT
 - * Creation of some or all directories with stub files
- For PULL Installation:
 - * File Access to Master Repository on target machine
 - * Root access or SUDO on target machine
 - * Remote user access for remote installation (woom)
- For PUSH Installation:
 - * File Access to Master Repository on server machine
 - * Root access or SUDO on server machine
 - * Remote root access for remote installation (salad)
- For NETWORK Installation:
 - * Vendor Specific Network Install Support
 - * Postinstall Hook for hello_world script
 - * NFS access to master repository during network installation (DESY uses AFS/NFS translator)

● Future/Plans

- Extent Support for
 - * Dynamic Host Configuration Protocol DHCP
 - * Data Base Interface
 - * AIX Network Install Manager NIM



Inside DESY



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WOOM Examples

Variable	List1	List2
name(1)	x4u2	sp058
ip(2)	131.169.30.42	137.138.128.251
ifconfig(1)	xpi0	fi0
subnet(2)	30	128
mac(3)	0800690423C7	
2nd_name(1)	x4u2-e	e-sp058
2nd_ip(2)	131.169.10.115	137.138.246.158
ifconfig2(1)	et0	en0
subnet2(2)	10	246
2nd_mac(3)	080069023D9A	
3rd_name(1)	x4u2-143	s-sp058
3rd_ip(2)	131.169.143.42	137.138.247.158
ifconfig3(1)	xpi1	css0
subnet3(2)	143	247
3rd_mac(3)		
default_route(1)	131.169.30.16	137.138.128.1
serial_number		
desy_number		
equipment_class	(ws)	(ws)
os_version(4)	IRIX_5.3	AIX_4.1.5.0
hardware_type(4)	mips2_challenge	risc_7012-390
standard_memory(3)	1500	
special_memory		
user/responsible	Operator/K.Kuenne	
phone	3818/3315	
location	2b/RZ	
group/owner	ZDV	
comment		
cluster(3)	x4u	cernsp
services(3)	adsm xidle	afs
status	ok-finnern-97/04/02	ok-finnern-97/04/01

- (1) From hello_world -reverse
- (2) From DNS
- (3) From woom 'synchronize' or 'root'
- (4) From bintype -6



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BOOM Examples

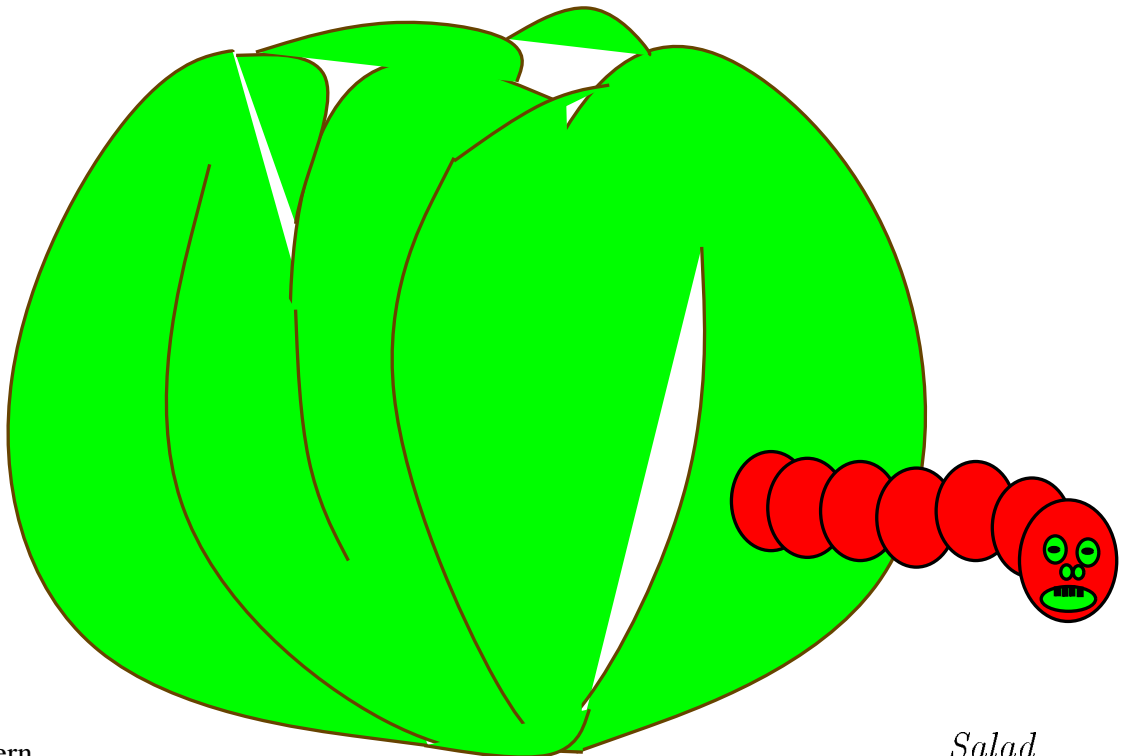
Variable	List1	List2
name	r02ps10	xthf4
alias		
ip(2)	131.169.1.188	131.169.214.128
subnet(2)	1	214
mac(3)	0800090D0AC6	080011034AD7
serial_number	3212J03234	B553790
desy_number	1011336	1017244
equipment_class	printer	xterm
boot_version(3)	hpn	tek350test
hardware_type(5)	HP-LJIISi	XP358
standard_memory(5)	14	12
special_memory		
user/responsible	Gerhard Schroth	Thomas Finnern
phone	3589	2753
location	2b/2ndfloor	2b/220a
group/owner	ZDV	ZDV
comment		
config(3)	r02ps10	zdv
subconfig(3)	cfg	bs
bootp_configtag(3)	T144	T134
status	ok-schroth-97/01/29	ok-kneisel-96/12/10
(2)	From DNS	
(3)	From woom 'synchronize'	
(5)	From (AIX) SNMP	



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The Install and Distribution Tool



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SALAD Features

1. Maintaining system files and products

- Save, check and/or restore central configuration files
- Distribute files within heterogenous UNIX clusters
- Bundle interdependent files into product groups

2. FTP server support / Support for stand-alone workstations

- Usage of copies from central reference machines
- Easy export of running products with local customisation
- Easy handling for the casual administrators

3. Support for site(s) administration

- 'Generic' UNIX installation tool
- Central file administration from one host

4. Human access

- Easy naming scheme for targets
- Easy naming scheme for binary compliance
- Easy description of a file system
- File system support

5. Automatic binary compliance check

- Be independent from hardware changes
- Be independent from system up- or downgrades

6. Automatic documentation

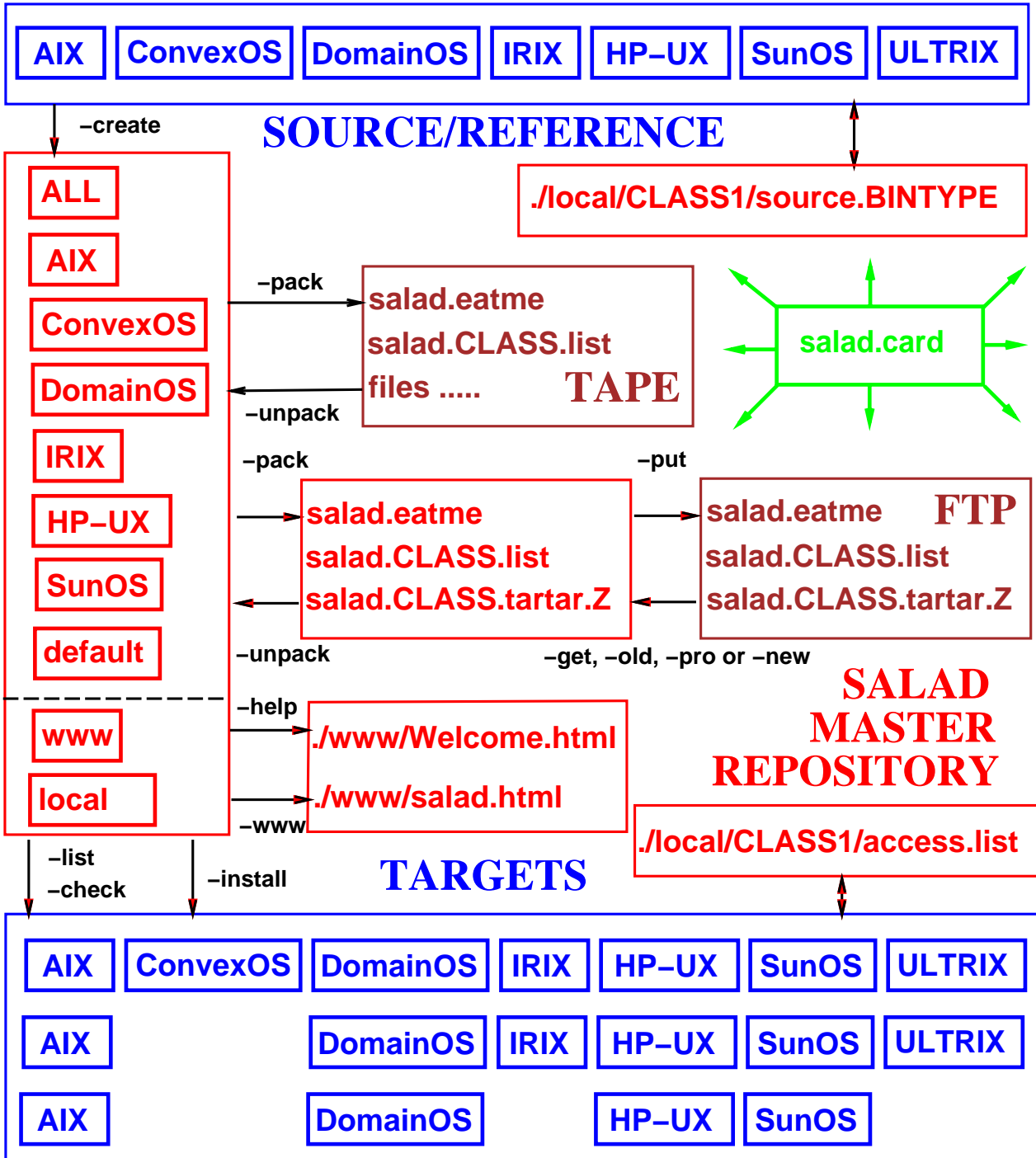


WWW interface

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Inside Salad



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Conclusions

- Let the operators do the work
- Better Teamwork
 - Product transparency
 - Standard information retrieval
- Less Installation Trouble
 - No manual work
 - Counts do not count anymore
- HEP Solution possible
 - SALAD and SUE are compatible (?)
 - SALAD can be used 'AS IS'
 - WBOOM scales for medium sized sites

Future

- HEP System Install Group ?
- DESY Hamburg/Zeuthen activities
 - Working group on common installation issues
 - Synchronize to various data base activities



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Inside HEP

