



The Design and Implementation of Bare Metal Cluster Deployment Using BitTorrent

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Image deploying

tjjh89017@hotmail.com; mangoking.cs01@g2.nctu.edu.tw Abstract

BitTorrent is popular for file sharing. However, when it is used in system deployment, a major issue has to be overcome, i.e., for bare metal deployment normally there is not enough temporary storage space to store the whole system image before deploying. This is because the disk is the place where you want to deploy the system, and normally the RAM size is not big enough to store the whole system image. Clonezilla is a free software project mainly developed at NCHC, Taiwan, and the bittorent mechanism has been added for massive deployment by incorporating Ezio, and ocs-bttrack. The mechanism has been verified to be able to scale up for larger system deployment, and can be used in deploying system for computer classrooms or HPC cluster.

https://clonezilla.org

System Architecture



BitTorrent in Clonezilla



File system

Partclone Image Structure

	imag descrip	image description)	block 1 raw data		bloc raw o	k 3 data	block 4 raw data		block t raw dat	5 		
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F	Partitio	n St	tructure							····				
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		offset		0	x0000	0x1(000	x2000	0 0	x3000	0x4000	0x5000		
bitmap			nap		used	unu	sed	used	used		used	unused		