"Xoreax"
Incredibuild For Linux
Release notes

version: v6.2.5
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Reference		
Document Name	Version	Description
Extending_IncrediBuild_Work_Planning https://github.com/dimakuzminov/incredibuild_deployment/blob/master/Documentation/Extending_IncrediBuild_Work_Planning_v1.4.xls	V1.4	Tasks description

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Introduction

The goal of this document is to provide clear status for planned work, developed features and expose issues found during internal QA tests

Package information

- Package created by automatic "GNU Make" system and propriety build configuration

- Package as binary code is located on https://github.com/dimakuzminov/incredibuild_deployment.git

- Package structure

  - bin/ - all Incredibuild binary applications

  - web/ - Monitor scripts, sources and libraries

  - etc/ - system scripts that are used on "Helper" and "Initiator" machines

  - usr/ - system files for "Helper" and "Initiator" machines

  - Documentation/ - all relevant Documents for this project (including this document)

  - grid_server_domain.conf.[domain_group_name] this file list DNS of computers in grid domain (it is manually defined files). For more information please read "Linux_Incredibuild_deployment_Instructions_v1.0.doc"

  - linux.pem – ssh access internal key (defined by amazon site, but used in all our test systems)

  - "prepare_incredibuild_machine.sh" - script that install all relevant packages on helper/initiator machines. For more information please read "Linux_Incredibuild_deployment_Instructions_v1.1.doc"

  - "prepare_coordinator_machine.sh" - script that install all relevant packages on coordinator machine. For more information please read "Linux_Incredibuild_deployment_Instructions_v1.1.doc"

  - 3rd_side/ - all scripts to install 3rd side applications for grid computation

  - obsolete/ - all scripts that were previously supported, some need to be removed and some need to be updated

- How to Install [APPENDIX A]

Changes from 6.2

- Added task redistribution mechanism if local slot is overloaded.
- Added handling of failed HelperMachine.
- Maximum number of required cores is defined in profile.xml.
- Fixed installation scripts issues.
  - Machine installation – got error if coordinator is not accessible BUT installation finish successfully and configuration file is filled with wrong coordinator server. Added message failure if registration failed. Installed files are removed.
  - Fixed spelling issue in one of the messages – "Error cannot acccess **corectly** coordinator machine SRVRND-IBX"
  - Service status command – finally this option was added but need to be print in the usage as an option (Coordinator and GridServer services). Added status in usage text of both scripts.
  - Fixed – Uninstall coordinator script do not remove server list.
  - Coordinator install – will install all binaries include XgConsole. Now prepare_coordinator_machine.sh and prepare_incredibuild_machine.sh copy files, not folders.
  - Remove package script - remove ALL , coordinator and incredibuild tool (need to allow selection which one to uninstall). Now remove script divided to remove_incredibuild_package.sh and remove_coordinator_package.sh

Tasks list

TASK ID	DESCRIPTION	STATUS
ACT00054	Implement Cent OS support	IN-PROCESS
ACT00056	Support machine is up/down during the work: GridServer/Coordinator	IN-PROCESS
ACT00064	Deployment: prepare_incredibuild_machine - add message failure on install if cannot registered - remove installed files if failed	DONE
ACT00065	Spelling issue in one of the massages – "Error cannot acccess corectly coordinator machine SRVRND-IBX"	DONE
ACT00066	add status to usage text in scripts /etc/init.d/incredibuild /etc/init.d/incredibiuld_coordinator	DONE
ACT00067	Uninstall coordinator script should remove server list	DONE
ACT00068	explicit file (not folder) copy for our binaries. Scripts: prepare_coordinator_machine.sh, prepare_incredibuild_machine.sh	DONE
ACT00069	"remove part of coordinator from remove_incredibuild_package.sh and add remove_coordinator_package.sh	DONE
ACT00070	Add to profile.xml option for Max_CPU_Cores	DONE

Scope

Changes from version 6.2

commit 0cbf5e45420e302d7709726a636e0d6c0f8a90de

    Test version before release

commit 5fd87a9b6e847c34359f688788248d3830670677

    Script issues - 2

commit f59419c0a7f43ec667d9ebdd6b18316501660ff7

    Script issues

commit da7245aa2166eee4263f9b65402253441665c411

    Test keepAlive for HelperMachine

commit f75fc2ea1622cd56115eb20507f6c90510e3461b

    Test keepAlive for HelperMachine

commit a8c79d5daed51bfdcbf8df9e165af3bb02a4bb9c

    Test new feature: use Remote machine instead of Local, if Remote machine is free - 2

commit 9d5ba137ca5d8de872cec1a7d011898f61462125

    Test new feature: use Remote machine instead of Local, if Remote machine is free

commit ecba81af6f9f1d40ca94fc97640fe6fd590b9b92

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    Move ProcessA and ProcessB to utilities and disable its build

commit a020353b9aa8993171d9ff2606b44f69faaba0c1

    Fix logic for machine re-usage, change all numbers to defines in code

commit b5a504c7888237d8a4ad852511a2901e5dcadf56

    Add initialization of all variable in GridServer::SessionParams class

commit 086292e14ececee0a23afc272e52de32a8125969

    Added handling of failed machine

commit a2ed4a125096f78ccfb5137ea19c13acd684e35d

    Added: number of requested cores is defined in profile.xml

commit 9585b17e10099ac760d1120e224949d49270841f

    Upgrade scheduler to handle local machine overloading

commit b9447f25ba9af8d047ff8c9e5607b7743d60935b

    Remove from report generator print to log for each line

commit 063ecc74c7b3ad438d81a2303501e3598c924402

    Add stderr to log - GridServer::Slot

Tests

Test task redistribution mechanism.

Test – 0001 Test task redistribution mechanism

- Run build of some task that need a lot of linkage, MySQL for example.
- Check time of build.
- Expected result:
  - Build time should be significantly less in comparison of previous version.
- Actual result:
  - Build time is significantly less in comparison of previous version.

Test definition of max cores in profile.xml.

Test – 0001 Request number of cores that greater than zero

- Write in profile.xml <Tool MaxCores="some number" />
- Some number should be greater than zero but smaller than number available cores.
- Run build.
- Expected result:
  - GridServer should request defined number of cores till it received them.
- Actual:
  - GridServer requests defined number of cores till it received them.

Test – 0002 Request number of cores that equal zero

- Write in profile.xml <Tool MaxCores="0" />
- Run build.
- Expected result:
  - GridServer should request one core endlessly.
- Actual:
  - GridServer requests one core endlessly.

Test handling of failed HelperMachine.

Test – 0001 Test handling of failed HelperMachine

- Run some build.
- Shut down one of helper machines while building.
- Expected result:
  - Build should be completed.
- Actual:

- Build was completed.

Test installation scripts.

Test – 0001 prepare_incredibuild_machine.sh fails when cannot register machine.

- Run prepare_incredibuild_machine.sh with some unknown DNSname.
- Expected result:
  - The script should fail, print that it cannot register machine, and should remove installed files.
- Actual result:
  - The script fails, prints that it cannot register machine, and removes installed files.

Test – 0002 remove_coordinator_package.sh removes coordinator files only.

- Run remove_coordinator_package.sh.
- Expected result:
  - The script should remove only coordinator installed files.
- Actual result:
  - The script removes only coordinator installed files.

Test – 0003 remove_incredibuild_package.sh removes incredibuild machine files only.

- Run remove_incredibuild_package.sh.
- Expected result:
  - The script should remove only incredibuild machine installed files.
- Actual result:
  - The script removes only incredibuild machine installed files.

Test – 0004 prepares_coordinator_package.sh copies coordinator installation files only.

- Run prepare_coordinator_package.sh.
- Expected result:

- The script should copy only coordinator installation files.
- Actual result:
  - The script copies only coordinator installation files.

Test – 0005 prepares_incredibuild_package.sh copies incredibuild machine installation files only.

- Run prepare_incredibuild_package.sh.
- Expected result:
  - The script should copy only incredibuild machine installation files.
- Actual result:
  - The script copies only incredibuild machine installation files.

Comparison table

launcher	MySQL		Samba		Linux		ACE	
Version 5.0 Xoreax 7 machines 46 slots(new scheduler): 31, 35, 33, 34, 36, 37, 1	real user sys	4m22.500s 0m41.107s 0m20.929s	real user sys	6m12.928s 2m2.316s 1m10.260s	real user sys	1m44.109s 0m26.082s 0m13.113s	Not tested	
Version 6.1.10 Xoreax 4 machines 22 slots 1, 31, 36, 34	real user sys	3m26.288s 0m13.429s 0m15.969s	real user sys	5m41.678s 2m1.692s 1m11.208s	real user sys	2m8.966s 0m24.242s 0m12.929s	Not tested	
Version 6.2 Xoreax 5 machines 24 slots, with exclude parameters 1, 31, 36, 34, 22	real user sys	5m0.331s 0m13.765s 0m15.017s	real user sys	6m18.315s 2m1.364s 1m9.716s	real user sys	2m11.259s 0m24.714s 0m13.057s	real user sys	11m24.161s 0m51.555s 0m16.237s
Version 6.2 Xoreax 5 machines 24 slots, no exclude parameters 1, 31, 36, 34, 22	real user sys	6m4.498s 0m14.129s 0m16.377s	real user sys	5m57.601s 2m1.168s 1m9.844s	real user sys	2m12.171s 0m24.198s 0m11.985s	real user sys	3m15.262s 0m54.847s 0m23.201s
Local machine	real user sys	15m58.856s 28m48.472s 1m38.446s	real user sys	8m6.840s 12m10.114s 2m48.623s	real user sys	5m35.349s 9m29.756s 0m53.447s	real user sys	9m51.807s 17m14.809s 1m30.682s

- **Build on local machine only (2 cores) is running with option**

-j 4.
- **Local machine cannot be used for anything else and working at over capacity.**
- **It is maximal speed that could be achieved**
- **When using XgConsole, there is restriction don't run more than number of cores on each machine and of course all process are running with low priority**
- **For builds 6.2 ND 6.1.10, small number of machines is used.**
  - **Need to rerun tests with 7 machines at least and 46 slots**

APPENDIX A

PACKAGE UPDATE

1. please run following commands each time you know there are updates in deployment package
    1.1   "cd incredibuild_deployment"
    1.2   "git pull"
        1.2.1   if new files, please run following command:
            1.2.1.1   coordinator: ./prepare_coordinator_machine.sh
                1.2.1.1.1 optional can provided predefined "grid_domain_server.conf" file as argument
            1.2.1.2   initiator/helper machine: ./prepare_incredibuild_machine.sh coordinator_machine_name/ip_address
                1.2.1.2.1 must specify coordinator_machine_DNS_name to run the script
        1.2.2   to remove entire package from current machine:
            1.2.2.1   ./remove_incredibuild_package.sh

First time installation

Install coordinator machine in domain

We need to use Terminal application for this process;
1   Open terminal
2   write following command to download package from public git repository
    2.1   "sudo apt-get install git"
    2.2   "git clone https://github.com/dimakuzminov/incredibuild_deployment"
3   install generic package
    3.1   "cd incredibuild_deployment"
    3.2   "./prepare_coordinator_machine.sh [grid_server_domain.conf.[generic_ubuntu]]"
        3.2.1   grid_server_domain.conf.generic_ubuntu could be replaced with any other grid_server_domain.conf.[profile] file
        3.2.2   grid_server_domain.conf file argument could be ignored

Install build machine in domain

It is recommended to install machine, only after coordinator is installed in network and is accessible from current machine

We need to use Terminal application for this process;
4   Open terminal
5   write following command to download package from public git repository
    5.1   "sudo apt-get install git"
    5.2   "git clone https://github.com/dimakuzminov/incredibuild_deployment"
6   install generic package
    6.1   "cd incredibuild_deployment"
    6.2   "./prepare_incredibuild_machine.sh coordinator_machine_DNS_name"
        6.2.1   must specify coordinator_machine_DNS_name