



Portuguese **Distributed
Computing** Infrastructure

Housing and Networking Facilities (Mi7.2)

Execution report

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Date	Author	Comments
13-Jul-2018	Catarina Ortigão	Doc preparation. Introduction
2-Ago-2018	João Pagaime	Plan update

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Portuguese **Distributed Computing** Infrastructure

Introduction

The National Distributed Computing Infrastructure (INCD) aims to be a digital research infrastructure of reference that will provide computing and data services to the national scientific and academic community in all domains.

Computer equipment requires adequate housing conditions, in a controlled environment, with physical access control to the spaces, high power stability, and cooling. The data centre service availability should be at or above a 4-hour break every 24 months of continuous operation. Availability is measured by the continuity of supply of regulated electricity and cooling air to computer equipment.

The INCD members have built sala-grid/NCG, the largest data centre in the academic and research sector in the country. It already houses services from LNEC, LIP and the Portuguese Tier-2 for the WLCG, as well as many other services delivered to the academic community by the NREN, and also from public entities.

However, the data centre needs to be improved to house the upgrade capacity and meet the needs of the new services.

The housing and networking necessary to support the INCD infrastructure in all its locations including enhancements to facilities were planned. The housing and networking plan is being implemented in three regions (Lisboa, Coimbra and Minho).

This report is for the project's milestone **Mi7.2- Housing and networking facilities in Lisbon complete**, and provides evidence that this task/milestone has been done and is complete.



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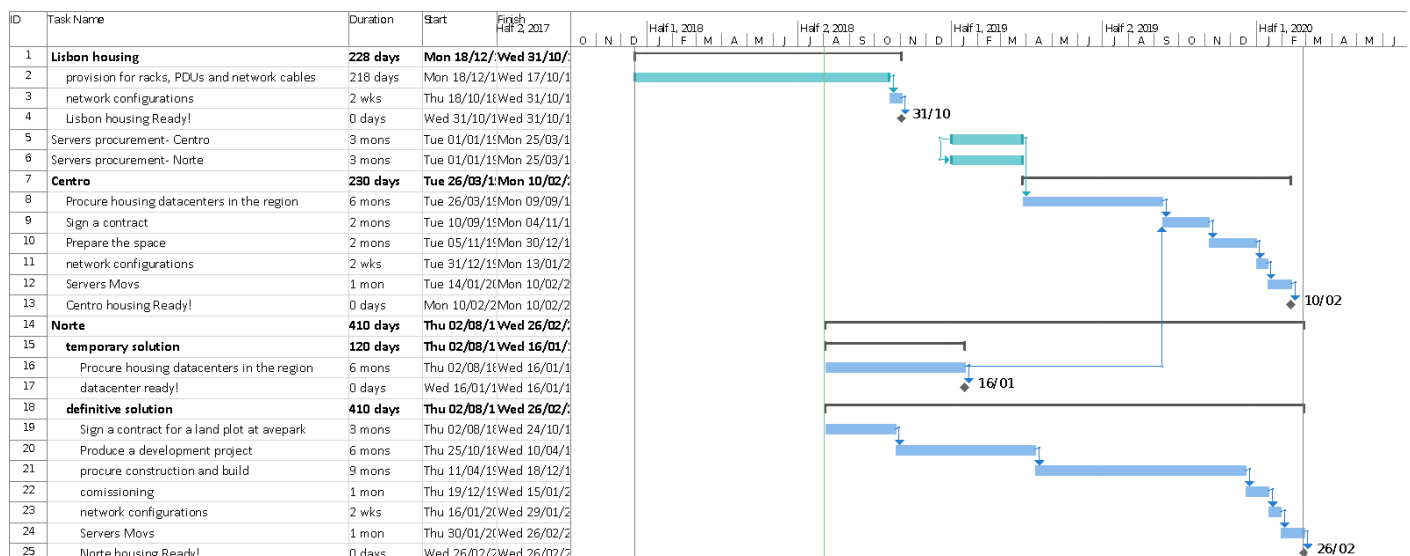
Plan update

The following reviews and updates the previous plan presented on the document *Housing and networking planning complete (Mi7.1)*

This plan includes:

- Graphical representation (Gantt chart)
- Textual description to the Gantt chart
- Task's detailed information

Graphical representation (Gantt chart):



Textual description:

- The Lisbon node is the simplest case, since there is already a datacenter in place with capacity to receive the racks, with minimal reconfiguration.
 - Currently it is running a procurement process for buying racks and other datacenter infrastructure necessary for housing INCD servers
- The Centro node still needs a procurement phase. A promising location is next to the Navigator HPC cluster (<https://www.uc.pt/lca/ClusterResources/Navigator>); but this option need to be further analyzed.
- The Norte node is expected to wait for a definite datacenter build.
 - For the definite solution, the most promising site is at Avepark. Currently FCT-FCCN is in the process of buying a plot of land to develop a datacenter.



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- For a temporary solution, datacenter space must be procured

Task's detailed information:

Task Name	Duration	Start	Finish	Predecessors
Lisbon housing	228 days	Mon 18/12/17	Wed 31/10/18	
provision for racks, PDUs and network cables	218 days	Mon 18/12/17	Wed 17/10/18	
network configurations	2 wks	Thu 18/10/18	Wed 31/10/18	2
Lisbon housing Ready!	0 days	Wed 31/10/18	Wed 31/10/18	3
Servers procurement- Centro	3 mons	Tue 01/01/19	Mon 25/03/19	
Servers procurement- Norte	3 mons	Tue 01/01/19	Mon 25/03/19	5SS
Centro	230 days	Tue 26/03/19	Mon 10/02/20	
Procure housing datacenters in the region	6 mons	Tue 26/03/19	Mon 09/09/19	5
Sign a contract	2 mons	Tue 10/09/19	Mon 04/11/19	8;16
Prepare the space	2 mons	Tue 05/11/19	Mon 30/12/19	9
network configurations	2 wks	Tue 31/12/19	Mon 13/01/20	10
Servers Movs	1 mon	Tue 14/01/20	Mon 10/02/20	11
Centro housing Ready!	0 days	Mon 10/02/20	Mon 10/02/20	12
Norte	410 days	Thu 02/08/18	Wed 26/02/20	
temporary solution	120 days	Thu 02/08/18	Wed 16/01/19	
Procure housing datacenters in the region	6 mons	Thu 02/08/18	Wed 16/01/19	
datacenter ready!	0 days	Wed 16/01/19	Wed 16/01/19	16



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definitive solution	410 days	Thu 02/08/18	Wed 26/02/20	
Sign a contract for a land plot at avepark	3 mons	Thu 02/08/18	Wed 24/10/18	
Produce a development project	6 mons	Thu 25/10/18	Wed 10/04/19	19
procure construction and build	9 mons	Thu 11/04/19	Wed 18/12/19	20
comissioning	1 mon	Thu 19/12/19	Wed 15/01/20	21
network configurations	2 wks	Thu 16/01/20	Wed 29/01/20	22
Servers Movs	1 mon	Thu 30/01/20	Wed 26/02/20	23
Norte housing Ready!	0 days	Wed 26/02/20	Wed 26/02/20	24