

# SIMPLY DATA CENTRE TIERING COMPARISON

An explanation of the tiers & how they relate to our Tier 3+ aligned Simply data centre

Many of our clients look for an easy way to compare data centres in terms of their specification, and the way this is commonly done is by referring to data centre tiering. Very simply a Tier 1 data centre is considered the most basic with highest risk of outages, and a Tier 3+ data centre the most robust with lowest risk of outages.

Ultimately, the important thing for an end user is the uptime they experience in the site. The data centre tiering methodology was developed and ratified in 2005 as a way of approximating this. All data centres are different designs, and are multi-faceted in nature. As such, every data centre is built differently, and hence two data centres described as the same Tier rating will not necessarily be the same.

At Simply, we strongly believe that the design of our data centre is a pragmatic, robust and high-uptime design. We have designed all of the core systems to be Tier 3+ aligned as set out below, which exceed the specification for the majority of other data centres available today.

**Q.** Who defined the data centre tiers?

**A.** The data centre tiers were set out in an ANSI standard, “Telecommunications Infrastructure Standard for Data Centers”, reference ANSI/TIA-942-2005 which was approved on 12th April 2005. It is commonly referred to as TIA-942.



Photo: Installation of racks in our Namesco Data Centre

	TIER 2	TIER 3	TIER 3+	simply HOSTING & SERVERS
<i>ELECTRICAL</i>				
HV Transformers	N	2N	2N	2N
Mains Electrical Panels	N	2N	2N	2N
UPS on 'A' Side	N+1	N+1	N+1	N
UPS on 'B' Side	n/a	None	N+1	N
'A' and 'B' Sides Physically Isolated	n/a	No	Yes	Yes
Generators	N single bus	N+1 dual bus	2(N+1)	N+1 dual bus <sup>*1</sup>
Power feeds to service	Single Active	Active/ Passive	Dual Active	Dual Active

<i>MECHANICAL</i>				
In-room CRACs	N+1	N+1	N+1	N+1
Chilled water pipework	N	N+1 (Active/ Active)	N+1 (Active/ Active)	N+1 (Active/ Active)
Chilled water pumps	N	N+1 (Active/ Passive)	N+1 (Active/ Active)	N+1 (Active/ Active)
External Heat Rejection	N+1	N+1	N+1	N+1
UPS Protected Cooling <sup>*2</sup>	No	No	Yes	60 second restart <sup>*3</sup>
Electrical feeds to cooling equipment	N	N	2N	2N
Anticipated Failures <sup>*4</sup>	1 per year	1 per 2.5 years	1 per 5 years	<sup>*5</sup>

\*1 Generators at 2(N+1) are available in a bespoke build

\*2 As per the Uptime Institute's "Continuous Cooling" requirement

\*3 All our cooling equipment is on automatic transfer switches, so in the event of a total failure of either the 'A' or 'B' side, the power will transfer to the alternative and cooling restart in a short timeframe.

\*4 As per Uptime Institute's white paper "Tier Classifications Define Site Infrastructure Performance"

\*5 The Namesco DC tier level is not defined in the Uptime Institute's white paper so we do not offer a figure.



Photo: Switchgear on the "A" side compartment at our Namesco Data Centre

There are a number of tiering requirements as per the TIA-942 specification that data centres do not commonly meet, because alternative means of achieving the same aim are provided. For example, Tier 2 data centres and above require doors to monitoring rooms to be provided with 180 degree peepholes. We use 1080p HDTV cameras as another way of achieving the same thing.