

Sun Modular Datacenter Installation Service Singapore

1. Scope

Under this service, Sun will complete the installation and power on of Customer's Sun Modular Datacenter (Sun MD) positioned at Customer's site ("Service"). This Service includes: (i) inspection of the interior and exterior of the Sun MD to confirm there is no visible damage, (ii) activation of the pre-installed fire suppression system, (iii) pressure checking, purging, and turning on the internal cooling system, (iv) checking and turning on the electrical system, (v) turning the Sun MD management system (IMS/EMS) on, and (vi) confirming all Sun MD internal systems are powered on. Sun will make commercially reasonable efforts to provide the Service.

2. Sun's Tasks and Deliverables

- **Service preparation.** Sun will review conditions and prerequisites, described in the *Sun Modular Datacenter Installation Guide*, of the Service with Customer to schedule the Service. Prior to the site visit, Sun will review site design and logistics factors that can influence the Service. This will include data collection regarding the installation site, the type of external support infrastructure (electrical and chilled water sources for the Sun MD), access issues, contact points and general logistics planning. Sun will review test results provided by the contractors who installed and support the external infrastructure for the Sun MD.
- **Pre-installation Check.** Sun will perform a pre-installation check as described in the *Sun Modular Datacenter Installation Guide*, including electrical and chilled water supply and return connections, and identify any obvious inhibitors to service access and levelness requirements. If this check fails, Customer may be asked to purchase the Sun MD Site Inspection Service so that a thorough site review can be done. Alternatively Customer may choose to resolve the issues directly in which case Customer is required to update the *Sun MD Site Readiness Checklist*. The Service may be delayed until any remedial actions are completed by Customer. Additional fees will apply if additional site visits are required to complete provision of this Service.
- **Physical Inspection.** Sun will inspect the interior and exterior of the Sun MD and major components, anchors, earth/ground bond and moving parts within the unit, and identify any obvious shipping or delivery damage or other inhibitors to Sun's performance of this Service.
- **Cooling System Activation.** Sun will check and pressurize the internal cooling system to confirm whether it adequately maintains its pressure; fill and purge the interior cooling system in preparation for integration with the exterior cooling system (chilled water source); and open the valves connecting the Sun MD cooling system to the chilled water source.
- **Electrical System Activation.** Sun will initialize the Sun MD internal main electrical panel breakers and branch electrical breakers, energize external power disconnects if purchased from Sun, and switch on and confirm the dehumidifier, fans, lights and racks power on.
- **Fire Control System Activation.** Sun will install the separately shipped clean agent gas cylinder and fire control solenoid in the Sun MD, and will activate the fire suppression system. A data cable provided by Sun will be installed connecting the fire control system and the Sun MD data panel.
- **Verification of IMS & EMS.** Sun will complete configuration of the Sun MD management system: Information Management Server (IMS) and Environmental Monitoring System (EMS), with customer-supplied information and will perform the tests identified in the *Sun Modular Datacenter Installation Guide* to verify that the IMS and EMS are operating properly. Sun will confirm that the data from the Sun MD sensors including temperature, water detection and fire control panel is being received by the

EMS. IMS and EMS setup includes:

- SNMP and SMTP mail notifications (For Customer or Sun to receive notification when a critical situation is detected by the environmental sensors, the SNMP traps are configured to Customer-specified hosts and ports and SMTP is configured to send email notifications to a Customer-specified distribution list.)
 - Time zone (The EMS is set to a Customer-specified time zone)
 - Water inlet setting (The Sun MD has water inlet and return valves on each side. The EMS is configured to the side being used.)
 - System log priority (The severity level of EMS controller messages written to the system log is set to the Customer-specified level.)
- **Power on Sun MD Payload.** If Customer purchased payload (servers, storage and switches) for the Sun MD through the Sun Customer Ready System (CRS) program, Sun will confirm the servers, storage and switches all power on as required. For non-Sun installed payload Sun will confirm power to the rack Power Distribution Units (PDU) and power strips (also known as Cabinet power Distribution Units, or CDUs) only.
 - **Customer Network Connection.** If required by Customer, Sun will advise Customer on connecting Customer's network cable(s) to the external Sun MD data panel. The Customer is responsible for providing the cable(s) and connecting the remote end(s) to Customer's external network.

3. Customer Responsibilities

- **Customer's contractors** responsible for providing and maintaining the electrical and cooling (or heating) systems supporting the Sun MD ("Contractor") must physically connect the chilled water source and external power supply to the Sun MD prior to commencement of this Service.
- **Contractor is required on site** during this Service to provide support for the electrical and cooling systems.
- **Customer or Contractor** must follow specifications listed in the *Sun MD Site Preparation Checklist* and *Sun MD Installation Guide*.
- **Water source** must be available on-site to fill the Sun MD internal cooling system. Delivery of water to the Sun MD installation site is not included in this SOW. The water supplied to a Sun MD must adhere to the specifications listed in the *Sun MD Site Planning Guide*.
- **Chilled water system.** Contractor is responsible for providing final volumes and any chemical mixture ratios for the cooling system as identified by Sun in the *Sun Modular Datacenter Installation Guide*.
- **Authority Having Jurisdiction (AHJ).** If the local AHJ requires a locally licensed contractor for any aspects of powering on the electrical infrastructure, and/or testing the fire control system, the cost of obtaining this contractor is not included in this SOW. Customer is responsible for identifying and contracting with this third party contractor.
- **Information Required.** Customer must provide all information required under this Service Listing or reasonably determined by Sun to be necessary for Sun to perform the Service, including without limitation, information about network connectivity and configuration, Sun MD IMS management services, system and domain naming, and IP configuration. (Refer to the *Sun Modular Datacenter Installation Guide* for additional information.)
- **Point of Contact.** Customer must provide Sun with the name and telephone number of an employee to act as the designated point of contact for the purposes of this Service.
- **Assistance with any applicable VISA requirements.** Assistance from Customer is required in those instances where a temporary business visa is required for Sun personnel for the site visit. This assistance will typically take the form of preparation of a letter of invitation. In some cases, a formal request must be made by the local company for whom the work is taking place.
- **Provide Sun access to all subject areas and support areas.** This would include not only the installation site, but also any mechanical or electrical infrastructure provided to support the Sun MD.

- **Security.** Customer must provide Sun with badge access or an escort for the duration of the site visit to facilitate required access to all necessary areas.
- **Personnel familiar with the install.** Customer will provide personnel to answer questions at all times during the site visit.
- **Customer will provide personnel knowledgeable in the mechanical systems and electrical infrastructure serving the installation area.** This would include both personnel familiar with the specific installation, as well as personnel responsible for the maintenance and support of the existing infrastructure.
- **Mechanical and Electrical Documentation.** Customer will provide copies of all mechanical and electrical system design documentation, including as-built drawings, electrical single-line drawings, chiller plant configuration, chilled water Piping and Instrumentation Diagrams (P&ID).
- **Network Infrastructure.** Customer will provide all information requested by Sun regarding the planned network infrastructure connection points and pathways.
- **Permission to take photographs.** Customer grants Sun permission to take photographs for report illustration purposes.

4. Additional Provisions

- **Exclusions.** This Service includes only the tasks and deliverables described above. Additional assessment and preparation services are available from Sun at an additional cost and subject to additional terms and conditions. Customer should contact a Sun sales representative for more information on available services.
- **Site Preparation.** Sun recommends that the Sun MD Site Assessment Service and the Sun MD Site Preparation Service be performed by Sun. If Customer performs the assessment and preparation, then Customer is responsible for completing the *Site Readiness Checklist*. See also the *Site Planning Guide*
- Unless otherwise expressly agreed between Customer and Sun, this Service will be performed during Sun's local business hours, excluding local public holidays.

5. Documentation

The following documents are available from Sun.

1. Sun Modular Datacenter Site Planning Guide (Sun Documentation: [820-2436-10](http://www.sun.com/documentation/820-2436-10))
2. Sun Modular Datacenter Site Readiness Checklist (Sun Documentation: [820-3782-10](http://www.sun.com/documentation/820-3782-10))
3. Sun Modular Datacenter Installation Guide (Sun Documentation: [820-2536-10](http://www.sun.com/documentation/820-2536-10))

This Service is subject to your existing services agreement with Sun that governs the delivery of Services. If you do not have a services agreement with Sun that would govern the delivery of Services, then Sun's delivery of Services shall be subject to the terms located at www.sun.com/sales/salesterms. This Service Listing or SOW does not constitute an offer by Sun. The Services described above are subject to availability and unless otherwise stated, are only available within the above-referenced country. Any reference to "Customer" in this Service Listing entitled to receive the Services.

Last Revised: November 2008