GE Healthcare

MUSE™ NX

Cardiology Information System

Devices and Interfaces Manual

2102027-010A

Publication Information

The information in this manual applies only to the MUSE™ NX Cardiology Information System. It does not apply to earlier product versions. Due to continuing product innovation, specifications in this manual are subject to change without notice.

This product complies with the requirements concerning medical devices from the following regulatory bodies.

For more information about compliance, refer to the *Regulatory and Safety Guide* for this product.

The document part number and revision are on each page of the document. The revision identifies the document's update level. The revision history of this document is summarized in the following table.

Revision	*Date*	*Comment*
A	30 October 2018	Customer release.

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https://www.gehealthcare.com/support/support-documentation-library, and select **Cardiology**.

To access Original Equipment Manufacturer (OEM) documents, go to the device manufacturer's website.

This document describes the MUSE™ NX Cardiology Information System, also referred to as the "product", "system," or "device." This document is intended to be used by an operator of the MUSE system.

The MUSE™ NX Cardiology Information System is intended to be used under the direct supervision of a licensed healthcare practitioner, by trained operators in a hospital or facility providing patient care.

This document provides information required for the proper use of the system. Familiarize yourself with this information and read and understand all instructions before attempting to use this system. Keep this document with the Regulatory and Safety manual, and with the equipment at all times, and periodically review it.

Illustrations in this document are provided as examples only. Depending on system configuration, screens in the document may differ from the screens on your system. Patient names and data are fictitious. Any similarity to actual persons is coincidental.

Support

GE Healthcare maintains a trained staff of application and technical experts to answer questions and to respond to issues and problems that may arise during the installation, maintenance, and use of this product.

If you require additional assistance, contact your GE Healthcare representative, or GE Healthcare support at one of the following numbers:

- North America: 1-800-558-7044
- Europe: +49 761 45 43 -0
- Asia: +86 21 3877 7888

Training

This document is intended as a supplement to, not a substitute for, thorough product training. If you have not received training on the use of the product, you should request training assistance from GE Healthcare.

To see available training, go to the GE Healthcare training website *www.gehealthcare.com/training*.

For more self-paced course offerings, tools, and reference guides you may find useful, visit the GE Healthcare Education Store at *www.gehealthcare.com/educationstore*.

Service Manual Language Information

WARNING (EN)	This service manual is available in English only. • If a customer's service provider requires a language other than English, it is the customer's responsibility to provide translation services. • Do not attempt to service the equipment unless this service manual has been consulted and is understood. • Failure to heed this warning may result in injury to the service provider, operator, or patient, from electric shock, mechanical or other hazards.
ПРЕДУПРЕЖДЕНИЕ (BG)	Това упътване за работа е налично само на английски език. • Ако доставчикът на услугата на клиента изиска друг език, задължение на клиента е да осигури превод. • Не използвайте оборудването, преди да сте се консултирали и разбрали упътването за работа. • Неспазването на това предупреждение може да доведе до нараняване на доставчика на услугата, оператора или пациент в резултат на токов удар или механична или друга опасност.
警告 ZH-CN	本维修手册仅提供英文版本。 • 如果维修服务提供商需要非英文版本，客户需自行提供翻译服务。 • 未详细阅读和完全理解本维修手册之前，不得进行维修。 • 忽略本警告可能对维修人员，操作员或患者造成触电、机械伤害或其他形式的伤害。
警告 (ZH-TW)	本維修手冊只提供英文版。 • 如果客戶的維修人員有英語以外的其他語言版本需求，則由該客戶負責 提供翻譯服務。 • 除非您已詳閱本維修手冊並了解其內容，否則切勿嘗試對本設備進行維 修。 • 不重視本警告可能導致維修人員、操作人員或病患因電擊、機械因素或 其他因素而受到傷害。
UPOZORENJE (HR)	Ove upute za servisiranje dostupne su samo na engleskom jeziku. • Ukoliko korisnički servis zahtijeva neki drugi jezik, korisnikova je odgovornost osigurati odgovarajući prijevod. • Nemojte pokušavati servisirati opremu ukoliko niste konzultirali i razumjeli ove upute. • Nepoštivanje ovog upozorenja može rezultirati ozljedama servisnog osoblja, korisnika ili pacijenta prouzročenim električnim udarom te mehaničkim ili nekim drugim opasnostima.

VAROVÁNÍ (CS)	Tento provozní návod existuje pouze vanglickém jazyce. • Vpřípadě, že externí služba zákazníkům potřebuje návod vjiném jazyce, je zajištění překladu doodpovídajícího jazyka úkolem zákazníka. • Nesnažte se oúdržbu tohoto zařízení, aniž byste si přečetli tento provozní návod a pochopili jeho obsah. • Vpřípadě nedodržování této varování může dojít kporanění pracovníka prodejního servisu, obslužného personálu nebo pacientů vlivem elektrického proudu, respektive vlivem mechanických či jiných rizik.
ADVARSEL (DA)	Denne servicemanual findes kun på engelsk. • Hvis en kundes tekniker har brug for et andet sprog end engelsk, er det kundens ansvar at sørge for oversættelse. • Forsøg ikke at servicere udstyret medmindre denne servicemanual har været konsulteret og er forstået. • Manglende overholdelse af denne advarsel kan medføre skade på grund af elektrisk, mekanisk eller anden fare for teknikeren, operatøren eller patienten.
WAARSCHUWING (NL)	Deze service manual is alleen in het Engels verkrijgbaar. • Indien het onderhoudspersoneel een andere taal nodig heeft, dan is de klant verantwoordelijk voor de vertaling ervan. • Probeer de apparatuur niet te onderhouden voordat deze service manual geraadpleegd en begrepen is. • Indien deze waarschuwing niet wordt opgevolgd, zou het onderhoudspersoneel, de gebruiker of een patiënt gewond kunnen raken als gevolg van een elektrische schok, mechanische of andere gevaren.
HOIATUS (ET)	Käesolev teenindusjuhend on saadaval ainult inglise keeles. • Kui klienditeeninduse osutaja nõuab juhendit inglise keelest erinevas keeles, vastutab klient tõlketeenuse osutamise eest. • Ärge üritage seadmeid teenindada enne eelnevalt käesoleva teenindusjuhendiga tutvumist ja sellest aru saamist. • Käesoleva hoiatuse eiramine võib põhjustada teenuseosutaja, operaatori või patsiendi vigastamist elektrilöögi, mehaanilise või muu ohu tagajärjel.
VAROITUS (FI)	Tämä huolto-ohje on saatavilla vain englanniksi. • Jos asiakkaan huoltohenkilöstö vaatii muuta kuin englanninkielistä materiaalia, tarvittavan käännöksen hankkiminen on asiakkaan vastuulla. • Älä yritä korjata laitteistoa ennen kuin olet varmasti lukenut ja ymmärtänyt tämän huolto-ohjeen. • Mikäli tätä varoitusta ei noudateta, seurauksena voi olla huoltohenkilöstön, laitteiston käyttäjän tai potilaan vahingoittuminen sähköiskun, mekaanisen vian tai muun vaaratilanteen vuoksi.

ATTENTION (FR)	Ce manuel technique n'est disponible qu'en anglais. • Si un service technique client souhaite obtenir ce manuel dans une autre langue que l'anglais, il devra prendre en charge la traduction et la responsabilité du contenu. • Ne pas tenter d'intervenir sur les équipements tant que le manuel technique n'a pas été consulté et compris. • Le non-respect de cet avertissement peut entraîner chez le technicien, l'opérateur ou le patient des blessures dues à des dangers électriques, mécaniques ou autres.
WARNUNG (DE)	Diese Serviceanleitung ist nur in englischer Sprache verfügbar. • Falls der Kundendienst eine andere Sprache benötigt, muss er für eine entsprechende Übersetzung sorgen. • Keine Wartung durchführen, ohne diese Serviceanleitung gelesen und verstanden zu haben. • Bei Zuwiderhandlung kann es zu Verletzungen des Kundendiensttechnikers, des Anwenders oder des Patienten durch Stromschläge, mechanische oder sonstige Gefahren kommen.
FIGYELMEZTETÉS (HU)	Ez a szerviz kézikönyv kizárólag angol nyelven érhető el. • Ha a vevő szerviz ellátója angoltól eltérő nyelvre tart igényt, akkor a vevő felelőssége a fordítás elkészíttetése. • Ne próbálja elkezdeni használni a berendezést, amíg a szerviz kézikönyvben leírtakat nem értelmezték és értették meg. • Ezen figyelmeztetés figyelmen kívül hagyása a szerviz ellátó, a működtető vagy a páciens áramütés, mechanikai vagy egyéb veszélyhelyzet miatti sérülését eredményezheti.
AÐVÖRUN (IS)	Þessi þjónustuhandbók er eingöngu fáanleg á ensku. • Ef að þjónustuveitandi viðskiptamanns þarfnast annars tungumáls en ensku, er það skylda viðskiptamanns að skaffa tungumálaþjónustu. • Reynið ekki að afgreiða tækið nema þessi þjónustuhandbók hefur verið skoðuð og skilin. • Brot á að sinna þessari aðvörun getur leitt til meiðsla á þjónustuveitanda, stjórnanda eða sjúklingi frá raflosti, vélrænum eða öðrum áhættum.
PERINGATAN (ID)	Manual servis ini hanya tersedia dalam bahasa Inggris. • Jika penyedia jasa servis pelanggan memerlukan bahasa lain selain dari Bahasa Inggris, merupakan tanggung jawab dari penyedia jasa servis tersebut untuk menyediakan terjemahannya. • Jangan mencoba melakukan servis terhadap perlengkapan kecuali telah membaca dan memahami manual servis ini. • Mengabaikan peringatan ini bisa mengakibatkan cedera pada penyedia servis, operator, atau pasien, karena terkena kejut listrik, bahaya mekanis atau bahaya lainnya.

AVVERTENZA (IT)	Il presente manuale di manutenzione è disponibile soltanto in Inglese. • Se un addetto alla manutenzione richiede il manuale in una lingua diversa, il cliente è tenuto a provvedere direttamente alla traduzione. • Si proceda alla manutenzione dell'apparecchiatura solo dopo aver consultato il presente manuale ed averne compreso il contenuto. • Il non rispetto della presente avvertenza potrebbe far compiere operazioni da cui derivino lesioni all'addetto, alla manutenzione, all'utilizzatore ed al paziente per folgorazione elettrica, per urti meccanici od altri rischi.
警告 (JA)	このサービスマニュアルは英語版しかありません。 • サービスを担当される業者が英語以外の言語を要求される場合、翻訳作業はその業者の責任で行うものとさせていただきます。 • このサービスマニュアルを熟読し、十分に理解をした上で装置のサービスを行ってください。 • この警告に従わない場合、サービスを担当される方、操作員あるいは患者が、感電や機械的又はその他の危険により負傷する可能性があります。
경고 (KO)	본 서비스 지침서는 영어로만 이용하실 수 있습니다. • 고객의 서비스 제공자가 영어 이외의 언어를 요구할 경우, 번역 서비스를 제공하는 것은 고객의 책임입니다. • 본 서비스 지침서를 참고했고 이해하지 않는 한은 해당 장비를 수리하려고 시도하지 마십시오. • 이 경고에 유의하지 않으면 전기 쇼크, 기계상의 혹은 다른 위험으로부터 서비스 제공자, 운영자 혹은 환자에게 위해를 가할 수 있습니다.
ЕСКЕРТУ (KK)	Бұл қызмет көрсету бойынша нұсқаулығы тек ағылшын тілінде қолжетімді. • Тұтынушының қызмет провайдері ағылшын тілінен басқа тілдегі нұсқаны талап етсе, аудару бойынша қызметтерімен қамтамасыз ету тұтынушы жауапкершілігінде болуы тиіс. • Бұл қызмет көрсету бойынша нұсқаулығын назарға алып, түсінбегенше, жабдыққа қызмет көрсетуден бас тартыңыз. • Бұл ескертуді елемеу қызмет провайдері, оператор немесе емделушінің электр шогынан, механикалық немесе басқа қауіптер нәтижесінде жарақат алуына әкелуі мүмкін.
BRĪDINĀJUMS (LV)	Šī apkalpotāju rokasgrāmata ir pieejama tikai angļu valodā. • Ja apkalpošanas sniedzējam nepieciešama informācija citā, nevis angļu, valodā, klienta pienākums ir nodrošināt tās tulkošanu. • Neveiciet aprīkojuma apkopi, neizlasot un nesaprotot apkalpotāju rokasgrāmatu. • Šī brīdinājuma neievērošana var radīt elektriskās strāvas trieciena, mehānisku vai citu risku izraisītu traumu apkopes sniedzējam, operatoram vai pacientam.

ĮSPĖJIMAS (LT)	Šis eksploatavimo vadovas yra prieinamas tik anglų kalba. • Jei kliento paslaugų tiekėjas reikalauja vadovo kita kalba - ne anglų, numatyti vertimo paslaugas yra kliento atsakomybė. • Nemėginkite atlikti įrangos techninės priežiūros, nebent atsižvelgėte į šį eksploatavimo vadovą ir jį supratote. • Jei neatkreipsite dėmesio į šį perspėjimą, galimi sužalojimai dėl elektros šoko, mechaninių ar kitų paslaugų tiekėjui, operatoriui ar pacientui.
ADVARSEL (NO)	Denne servicehåndboken finnes bare på engelsk. • Hvis kundens serviceleverandør trenger et annet språk, er det kundens ansvar å sørge for oversettelse. • Ikke forsøk å reparere utstyret uten at denne servicehåndboken er lest og forstått. • Manglende hensyn til denne advarselen kan føre til at serviceleverandøren, operatøren eller pasienten skades på grunn av elektrisk støt, mekaniske eller andre farer.
OSTRZEŻENIE (PL)	Niniejszy podręcznik serwisowy dostępny jest jedynie w języku angielskim. • Jeśli dostawca usług klienta wymaga języka innego niż angielski, zapewnienie usługi tłumaczenia jest obowiązkiem klienta. • Nie należy serwisować wyposażenia bez zapoznania się i zrozumienia niniejszego podręcznika serwisowego. • Niezastosowanie się do tego ostrzeżenia może spowodować urazy dostawcy usług, operatora lub pacjenta w wyniku porażenia elektrycznego, zagrożenia mechanicznego bądź innego.
AVISO (PT-BR)	Este manual de assistência técnica só se encontra disponível em inglês. • Se o serviço de assistência técnica do cliente não for GE, e precisar de outro idioma, será da responsabilidade do cliente fornecer os serviços de tradução. • Não tente reparar o equipamento sem ter consultado e compreendido este manual de assistência técnica. • O não cumprimento deste aviso pode por em perigo a segurança do técnico, operador ou paciente devido a choques elétricos, mecânicos ou outros.
AVISO (PT-PT)	Este manual técnico só se encontra disponível em inglês. • Se a assistência técnica do cliente solicitar estes manuais noutro idioma, é da responsabilidade do cliente fornecer os serviços de tradução. • Não tente reparar o equipamento sem ter consultado e compreendido este manual técnico. • O não cumprimento deste aviso pode provocar lesões ao técnico, ao utilizador ou ao paciente devido a choques eléctricos, mecânicos ou outros.

AVERTISMENT (RO)	Acest manual de service este disponibil numai în limba engleză. • Dacă un furnizor de servicii pentru clienți necesită o altă limbă decât cea engleză, este de datoria clientului să furnizeze o traducere. • Nu încercați să reparați echipamentul decât ulterior consultării şi înțelegerii acestui manual de service. • Ignorarea acestui avertisment ar putea duce la rănirea depanatorului, operatorului sau pacientului în urma pericolelor de electrocutare, mecanice sau de altă natură.
ПРЕДУПРЕЖДЕНИЕ (RU)	Настоящее руководство по обслуживанию предлагается только на английском языке. • Если сервисному персоналу клиента необходимо руководство не на английском, а на каком-то другом языке, клиенту следует обеспечить перевод самостоятельно. • Прежде чем приступать к обслуживанию оборудования, обязательно обратитесь к настоящему руководству и внимательно изучите изложенные в нем сведения. • Несоблюдение требований данного предупреждения может привести к тому, что специалисты по обслуживанию, операторы или пациенты получат удар электрическим током, механическую травму или другое повреждение.
UPOZORENJE (SR)	Ovo servisno uputstvo je dostupno samo na engleskom jeziku. • Ako klijentov serviser zahteva neki drugi jezik, klijent je dužan da obezbedi prevodilačke usluge. • Ne pokušavajte da opravite uređaj ako niste pročitali i razumeli ovo servisno uputstvo. • Zanemarivanje ovog upozorenja može dovesti do povređivanja servisera, rukovaoca ili pacijenta usled strujnog udara, ili mehaničkih i drugih opasnosti.
VAROVANIE (SK)	Tento návod na obsluhu je k dispozícii len v angličtine. • Ak zákazníkov poskytovateľ služieb vyžaduje iný jazyk ako angličtinu, poskytnutie prekladateľských služieb je zodpovednosťou zákazníka. • Nepokúšajte sa o obsluhu zariadenia skôr, ako si neprečítate návod na obsluhu a neporozumiete mu. • Zanedbanie tohto varovania môže vyústiť do zranenia poskytovateľa služieb, obsluhujúcej osoby alebo pacienta elektrickým prúdom, mechanickým alebo iným nebezpečenstvom.
OPOZORILO (SL)	Ta servisni priročnik je na voljo samo v angleškem jeziku. • Če ponudnik storitve stranke potrebuje priročnik v drugem jeziku, mora stranka zagotoviti prevod. • Ne poskušajte servisirati opreme, če tega priročnika niste v celoti prebrali in razumeli. • Če tega opozorila ne upoštevate, se lahko zaradi električnega udara, mehanskih ali drugih nevarnosti poškoduje ponudnik storitev, operater ali bolnik.

ADVERTENCIA (ES)	Este manual de servicio sólo existe en inglés. • Si el encargado de mantenimiento de un cliente necesita un idioma que no sea el inglés, el cliente deberá encargarse de la traducción del manual. • No se deberá dar servicio técnico al equipo, sin haber consultado y comprendido este manual de servicio. • La no observancia del presente aviso puede dar lugar a que el proveedor de servicios, el operador o el paciente sufran lesiones provocadas por causas eléctricas, mecánicas o de otra naturaleza.
VARNING (SV)	Den här servicehandboken finns bara tillgänglig på engelska. • Om en kunds servicetekniker har behov av ett annat språk än engelska ansvarar kunden för att tillhandahålla översättningstjänster. • Försök inte utföra service på utrustningen om du inte har läst och förstår den här servicehandboken. • Om du inte tar hänsyn till den här varningen kan det resultera i skador på serviceteknikern, operatören eller patienten till följd av elektriska stötar, mekaniska faror eller andra faror.
UYARI (TR)	Bu servis klavuzunun sadece İngilizcesi mevcuttur. • Eğer müşteri teknisyeni bu klavuzu İngilizce dşnda bir başka lisandan talep ederse, bunu tercüme ettirmek müşteriye düşer. • Servis klavuzunu okuyup anlamadan ekipmanlara müdahale etmeyiniz. • Bu uyarya uyulmamas, elektrik, mekanik veya diğer tehlikelerden dolay teknisyen, operatör veya hastann yaralanmasna yol açabilir.
ЗАСТЕРЕЖЕННЯ (UK)	Дане керівництво з сервісного обслуговування постачається виключно англійською мовою. • Якщо сервісний інженер потребує керівництво іншою мовою, користувач зобов'язаний забезпечити послуги перекладача. • Не намагайтеся здійснювати технічне обслуговування даного обладнання, якщо ви не читали, або не зрозуміли інформацію, надану в керівництві з сервісного обслуговування. • Недотримання цього застереження може призвести до травмування сервісного інженера, користувача даного обладнання або пацієнта внаслідок електричного шоку, механічного ушкодження або з інших причин невірного обслуговування обладнання.
CẢNH BÁO (VI)	Tài Liệu Hướng Dẫn Sửa Chữa chỉ có bản tiếng Anh. • Nếu các đơn vị cung cấp dịch vụ cho khách hàng yêu cầu một ngôn ngữ nào khác tiếng Anh, thì khách hàng sẽ có trách nhiệm cung cấp các dịch vụ dịch thuật. • Không được sửa chữa thiết bị trừ khi đã tham khảo và hiểu Tài liệu Hướng dẫn Sửa chữa. • Không tuân thủ những cảnh báo này có thể dẫn đến các tổn thương cho người thực hiện sửa chữa, người vận hành hay bệnh nhân, do sốc điện, các rủi ro về cơ khí hay các rủi ro khác

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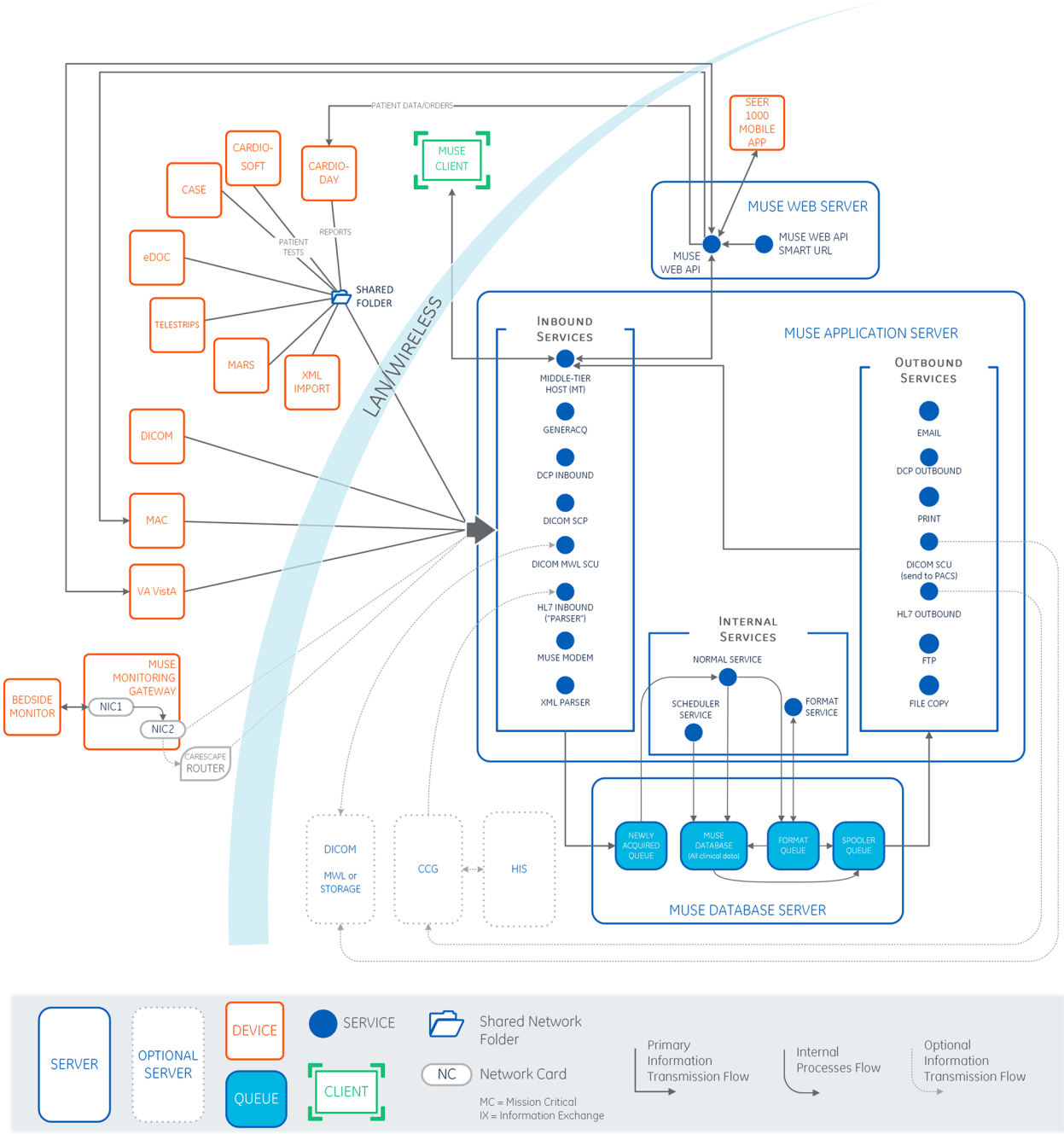
Introduction

This manual has information to install and configure the MUSE system with the following devices:

- Ambulatory (Holter)
  - *"CardioDay"*
  - *"MARS"*
  - *"SEER 1000"*
- *"CASE/CardioSoft"*
- *"DICOM Communication"*
- *"MAC ECG systems"*
- *"VA VistA Imaging"*

MUSE System Network Diagram



2

Ambulatory (Holter)

CardioDay

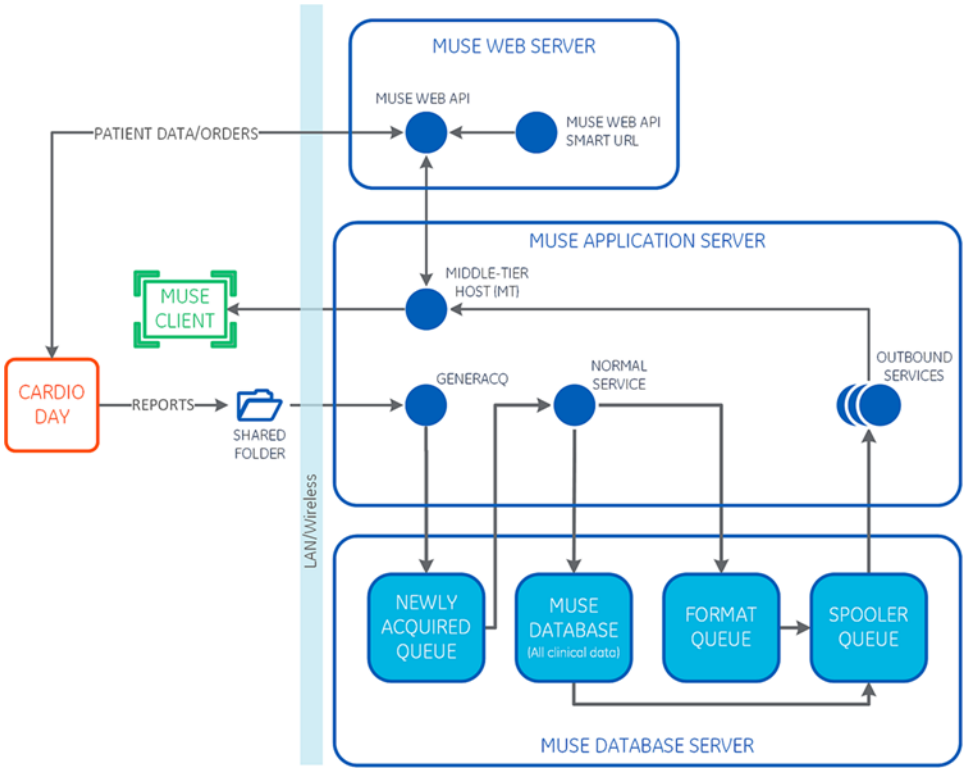
The CardioDay to MUSE interface feature allows the user to exchange Holter order and patient demographics with the MUSE system and export Holter reports from the CardioDay system (v2.5 or later) to the MUSE system for viewing, editing, printing, and storage. Both features are intended to improve user workflow in facilities which share CardioDay v2.5 and MUSE systems.

For additional information, see the *CardioDay v2.5 Pre-Installation Manual* for system prerequisites or see the *CardioDay v2.5 Installation and Field Service Manual* for configuration instructions.

NOTE:

CardioDay v2.5 SP2 is not compatible with the MUSE Order feature for the latest MUSE system. Customers with CardioDay v2.5 SP2 or earlier must update to CardioDay v2.5 SP3 to enable the MUSE Order feature with the MUSE system.

Data Transmission



There are two interface features that enhance the user workflow for CardioDay:

- **CardioDay to MUSE Order Interface:** CardioDay gets orders and patient demographics from the Holter device through the MUSE system.
- **CardioDay Export to the MUSE System:** CardioDay exports Holter reports to the MUSE system to view, edit, print, or store patient tests.

CardioDay to MUSE Order Interface

The CardioDay v2.5 MUSE Orders feature retrieves open Holter orders from the MUSE system and transfers patient demographic and order information to the SEER 1000 and other Holter recorder devices.

If the CardioDay system is configured to query and retrieve order and patient demographic data from MUSE, the **MUSE Orders** option button is enabled in the **Transfer Patient Data** and in the **Recorder Hookup Preview** windows. Select **Query Orders** to open the MUSE Holter/Order list.

When the data imports and the Holter recorder starts, the MUSE order **Status** changes from **Open** to **Pending**.

NOTE:
Only MUSE orders for **Holter** test types with an **Open** status show in the **CardioDay Orders** list.

The following customer environment configurations must be known for the use of this interface:

- MUSE system network hostname or IP address
- MUSE system user account and password

  It is suggested that a dedicated MUSE user be created for communication to the MUSE orders interface. For additional details, see *"Create a Dedicated MUSE User Account for CardioDay Holter Orders Query" on page 24*.
- MUSE system network port for MUSE Web API service endpoint

CardioDay Export to the MUSE System

When the user completes a report on the CardioDay system, they can export the Holter PDF report and metadata to the MUSE system for review. The Holter reports from CardioDay export to a shared folder as a pair of files: the Holter PDF report (*.pdf) and the report metadata (*.txt). The **MUSE Generacq** service gets the CardioDay tests from the share folder and searches for the report metadata (*.txt files). The MUSE Normal service processes the report data when detected and stores the reports in the MUSE database.

When the report and metadata import to the MUSE system, the order **Status** changes from **Pending** to **Unconfirmed**. The order is linked to report.

NOTE:
The CardioDay system can be set to automatically archive a recording after it has been exported to the MUSE system.

Customer Requirements

The customer is responsible for the following requirements:

- Network connectivity

  This includes name resolution, access rights, unrestricted TCP port communication, and file share authentication.
- CardioDay software version v2.5 SP3 or higher.

  To verify the CardioDay version, in the CardioDay application, go to **Help** > **Version**.

Determine MUSE eDoc Connect Parameters

Gather the following information prior to beginning the CardioDay to MUSE interface setup.

Information Needed	*Description*
Is the eDoc Connect option on the MUSE system enabled?	Determine if the eDoc Connect option is enabled. If it is not, it will need to be temporarily enabled and then must be disabled (if not purchased/ in use by customer for other data/report type imports) after the CardioDay to MUSE communication configuration is complete. The eDoc Connect option can be enabled by modifying the installed MUSE configuration.
MUSE site number	CardioDay data imports data to this MUSE site number.

Information Needed	*Description*
MUSE site location	CardioDay data imports data to this MUSE site location.
MUSE share folder location	The folder location that MUSE Generacq monitors for CardioDay data. To be able to transfer CardioDay tests to MUSE, a share folder must be created. Ideally, the share is a local folder on the MUSE application server that is shared to the CardioDay system. The user account configured to start the MUSE Generacq service must have both read and delete file and/or share permission access to the location.

Optional CardioDay System Prerequisites

To enable optional features for the CardioDay-to-MUSE interface, the following requirements must be met.

Feature	*System*	*Prerequisite*
Orders Interface/Report Export	CardioDay	License and activate the CardioDay MUSE Connection option.
		Identify the MUSE site number used to query Holter Orders and to import data from CardioDay Holter Report.
	MUSE Cardiology Information System	Install the latest version of the MUSE system.
	CardioDay and the MUSE Cardiology Information System	Enable the MUSE system Holter Data Storage.
Orders Interface	MUSE Cardiology Information System	Install and configure the MUSE Web API interface.
		Activate the ADT/ORM Holter Orders interface for CardioDay/MUSE Holter Orders.
	CardioDay and the MUSE Cardiology Information System	Active the standard MUSE Web API HTTPS network connection between the CardioDay and MUSE systems on the configured TCP port (default 443).
		Identify the MUSE user account and password.

Feature	*System*	*Prerequisite*
Report Export	MUSE Cardiology Information System	Enable the MUSE eDoc Connect option to configure the CardioDay acquisition profile. (This can be disabled after configuration.)
	CardioDay and the MUSE Cardiology Information System	Permit **Full Control** (read, write, delete) access to the shared MUSE import folder using Windows user authentication and the SMB protocol.

Configure CardioDay and MUSE Interface Settings

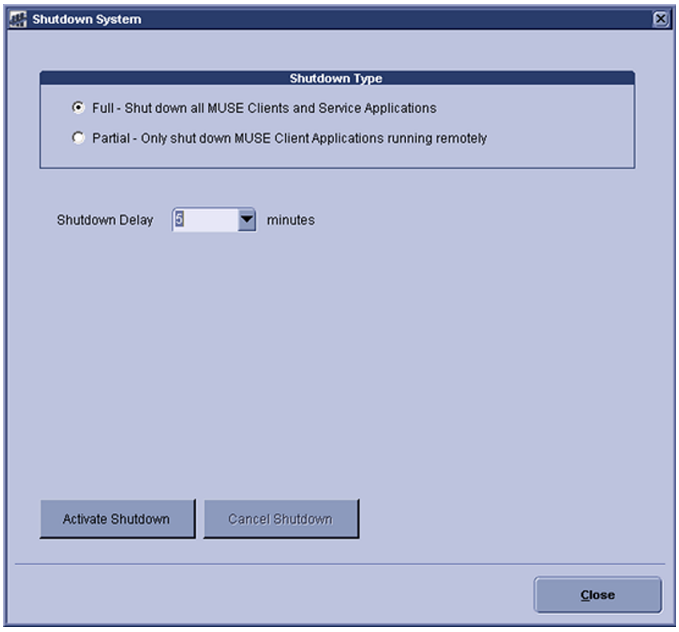
To configure the setting for the CardioDay and MUSE interface, perform the following procedures in the order that they are listed.

1. *"Schedule a System Shutdown" on page 18*
2. *"Verify or Add the HIS Orders Interface and HL7 ADT Query Interface Options" on page 19*
3. *"Cancel the System Shutdown" on page 20*
4. *"Enable the Holter Test Type for Each MUSE Site" on page 21*
5. *"Enable the HIS Interface Settings" on page 22*
6. *"Create a CardioDay Acquisition Profile" on page 22*
7. *"Create a CardioDay Share Folder in the MUSE System" on page 24*
8. *"Create a Dedicated MUSE User Account for CardioDay Holter Orders Query" on page 24*
9. *"Configure the CardioDay System with the MUSE System" on page 26*
10. *"Disable the eDoc Connect Option" on page 26*

Schedule a System Shutdown

1. Log on to the MUSE application server as an administrator.
2. In the MUSE application, go to **System** > **Setup**.
3. In the **Setup** window, select **System**.
4. Right-click on the **Product name** and select **Shutdown System**.

   The **Shutdown System** window opens.



5. Select the **Shutdown Type**.
   - Select **Full** to close the MUSE client application and stop MUSE services.
   - Select **Partial** to disconnect all remote connections to the MUSE clients. The MUSE clients and the MUSE services continue to run.

     NOTE:
     If the MUSE application stays open on a remote client workstation, the application disconnects from the MUSE server.
6. Select the time for the **Shutdown Delay**.
7. Select **Activate Shutdown**.
   The top of the MUSE client application shows when the shutdown occurs.

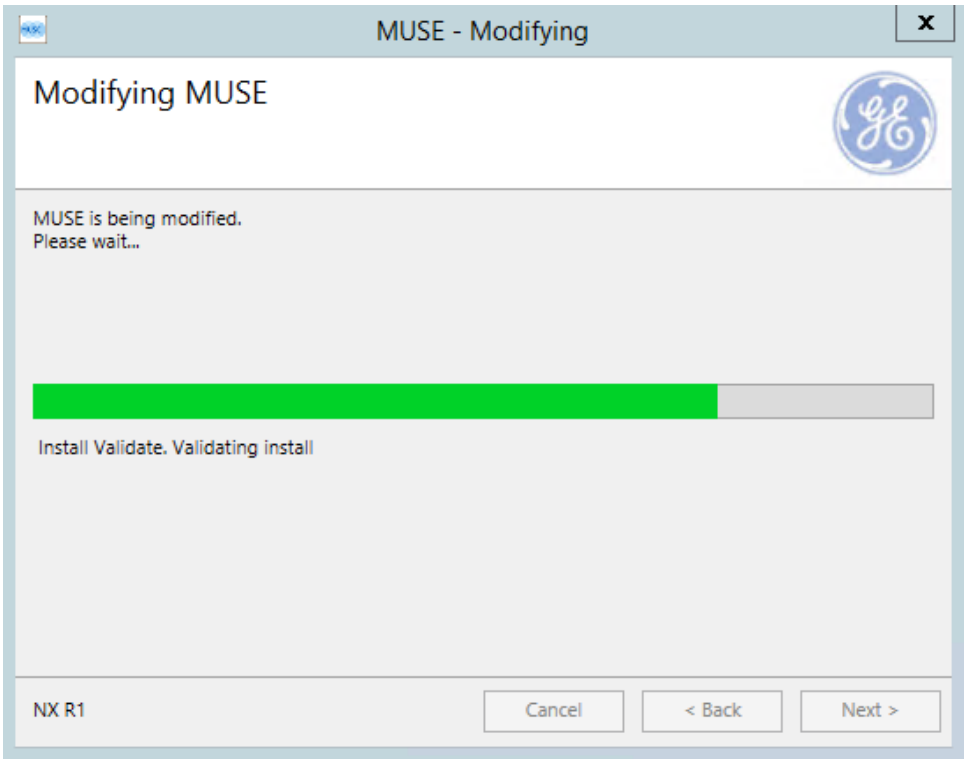
Verify or Add the HIS Orders Interface and HL7 ADT Query Interface Options

1. Go to **Control Panel** > **Programs** > **Programs and Features**.
2. Right-click on **MUSE** and select **Change**.
3. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**.
4. Select **Next >** until you reach the **Select Options** screen.
5. On **Select Options** screen, view the **HIS Orders Interface** and **HL7 ADT Query Interface** options.
   - If the option is enabled (checked), select **Cancel** to exit the installation wizard.

- If the option is disabled (unchecked), check the box for the option and complete the modification to the installed MUSE system configuration.

6. Select **Next >** to bypass the **Select Features** screen. No changes to features
7. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
8. Select **Next >**.
9. Enter the **Options Configuration Password**. The **Serial Number** should be pre-populated. If you need to manually enter the serial number, refer to your *Product Activation Sheet*. Then, select **Next >**.

   NOTE:
   Only a qualified GE Healthcare service representative has access to the Options Configuration Password. This password cannot be provided to customers.
10. Select **Next >**.
11. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



12. On the **Modify Complete** screen, select **Close**.

Cancel the System Shutdown

1. Go to **Services**.

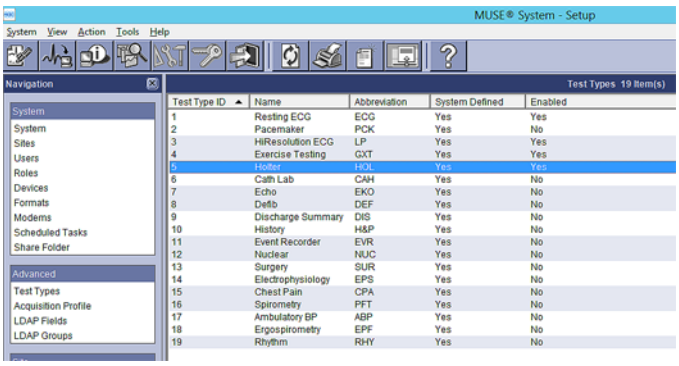
2. Right-click on the **MUSE** service and select **Start**.
   This starts the MUSE MT host service and allows you to log on.
3. Log on to the MUSE application on the MUSE application server.
   The application displays the current shutdown status at the top of the window.

4. In the MUSE application, go to **System** > **Setup**.
5. Select **System**.
6. Right-click on the **Product name** and select **Shutdown System**.
7. In the **Shutdown System** window, select **Cancel Shutdown**.
   If the MUSE services were stopped, they are now restarted and remote connectivity is restored.
   The system does not automatically notify users that the MUSE system is available.

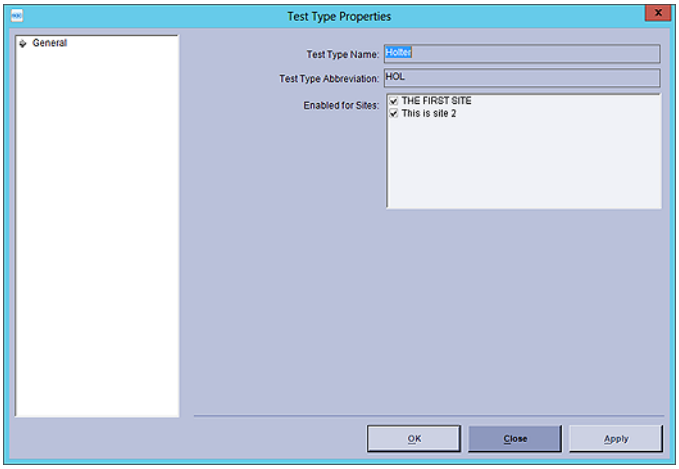
Enable the Holter Test Type for Each MUSE Site

Enable a MUSE Holter Test Type for each site that will be using the CardioDay/MUSE Holter orders or reports.

1. From within the MUSE application, go to **System** > **Setup**.
2. Under the **Advanced** section, select **Test Types**.
3. Right-click the **Holter Test Type** and select **Properties**.



4. In the **Test Type Properties** window, go to **Enabled for Sites** and select each site that will use the Holter orders or report data interfaces.

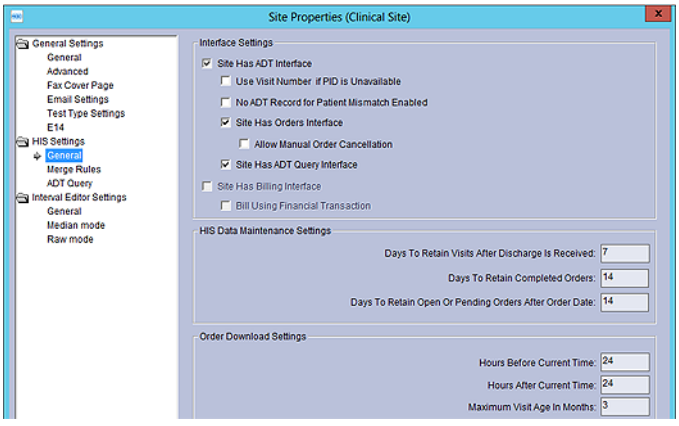


5. Select **OK**.

Enable the HIS Interface Settings

1. From within the MUSE application, go to **System** > **Setup** > **Sites**.
2. Right-click on the site and select **Properties**.
3. Go to **HIS Settings** > **General**.
4. In **Interface Settings**, make sure that the following settings are enabled:
   - **Site Has ADT Interface**
   - **Site Has Orders Interface**

   NOTE:
   If these settings are not enabled, contact your GE Healthcare HL7 Integrator.



5. Select **OK**.

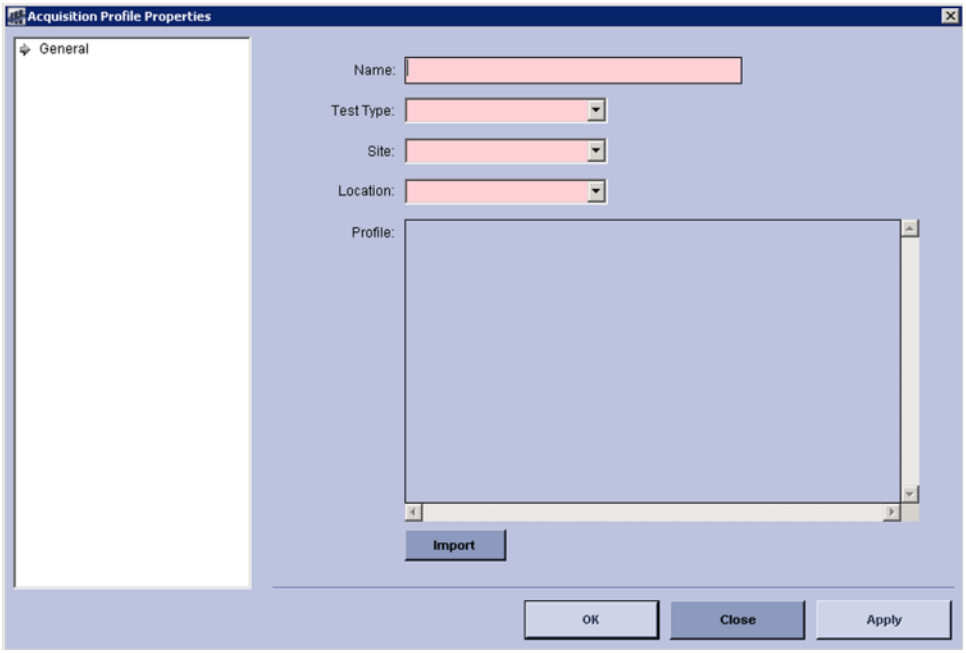
Create a CardioDay Acquisition Profile

1. From within the MUSE application, go to **System** > **Setup**.
2. In the **Advanced** section, select **Acquisition Profile**.

The list of the existing acquisition profiles display. If this is the first acquisition profile, the list is empty.

3. Right-click on the right side of the screen and choose **New**.

4. On the **Acquisition Profile Properties**, enter the profile properties.



Field	*Description*
Name	Type a descriptive name, such as **Site0001--Loc 12--CardioDay Holter**.
Test Type	Select **Holter** from the drop-down list.
Site	Select the MUSE site to receive CardioDay data.
Location	Select the MUSE share location-CardioDay data will import data to this MUSE site number. **NOTE**: **DEFAULT** may be the only selection available.
Profile	1. Select **Import**. The file window opens to the MUSE program folder. 2. Browse to ***AcquisitionProfiles\CardioDay Acquisition Profile.xml***. 3. Select **Open**.

5. Select **OK**.

Create a CardioDay Share Folder in the MUSE System

The folder can exist on the CardioDay system, the MUSE system, or an external system. It is recommended that the share folder exists with the MUSE installation directory. The share folder must grant full access to both the CardioDay and MUSE systems.

1. From within the MUSE application, go to **System** > **Setup** > **Share Folder**.
   A list of existing share folders display.
2. Right-click on the right side of the screen and select **New**.
3. In the **Share Folder Properties** window, enter the share folder properties.

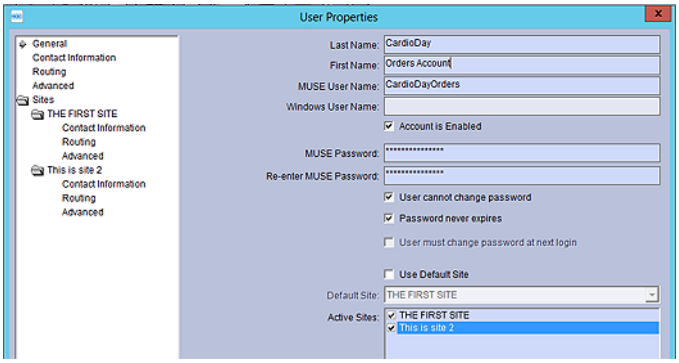
Field	*Description*
Entry	Enter the MUSE share folder name for the location that the MUSE Generacq service will monitor for CardioDay data.
File Name Filter	Enter ***.txt***.
Profile Name	Select the name of the CardioDay acquisition profile.

4. Select **OK**.

Create a Dedicated MUSE User Account for CardioDay Holter Orders Query

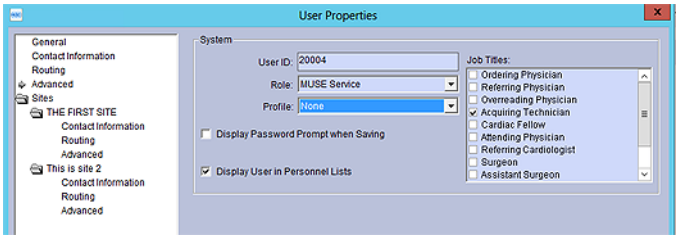
Create a new user and password for CardioDay to query the MUSE Orders interface through the MUSE Web API. Enable this user for all sites which will use the Holter orders query.

1. From within the MUSE application, go to **System** > **Setup**.
2. Select **Users**.
3. Right-click on the right side and select **New**.
4. In the **User Properties** window, enter CardioDay user account details for the identified fields.



Field	*Description*
Last Name	Type an appropriate user name, such as **CardioDay**.
First Name	Type an appropriate user name, such as **OrdersAccount**.
MUSE User Name	Type the appropriate MUSE user name to allow access to the system when logging in with MUSE authentication such as **CardioDayOrders**.
Account is Enabled	Check this box to enable this user account for CardioDay Holter Orders query.
MUSE Password	Type a password with a maximum of 15 characters. Characters can be alpha or numeric.
Re-enter MUSE Password	Retype the same password as you entered in the **MUSE Password** field.
Account is Enabled	Check this box to enable sites to use the CardioDay Holter Orders Query.
User cannot change password	Check this box to block users from changing the MUSE password.
Password never expires	Check this box so that the password for this user never expires and does not have to be changed.

5. In **Active Sites** panel, select all the sites that will be using the Holter Orders Query.
6. From the left pane, select **Advanced**.
7. Enter the **System** details.



Field	*Description*
User ID	Type a unique ID for the CardioDay Orders account.
Role	Select **MUSE Service**.
Profile	Select **None**.

Field	*Description*
Display Password Prompt when Saving	Do not check.
Display User in Personnel Lists	Uncheck. This option is checked by default.

8. Select **OK**.

Configure the CardioDay System with the MUSE System

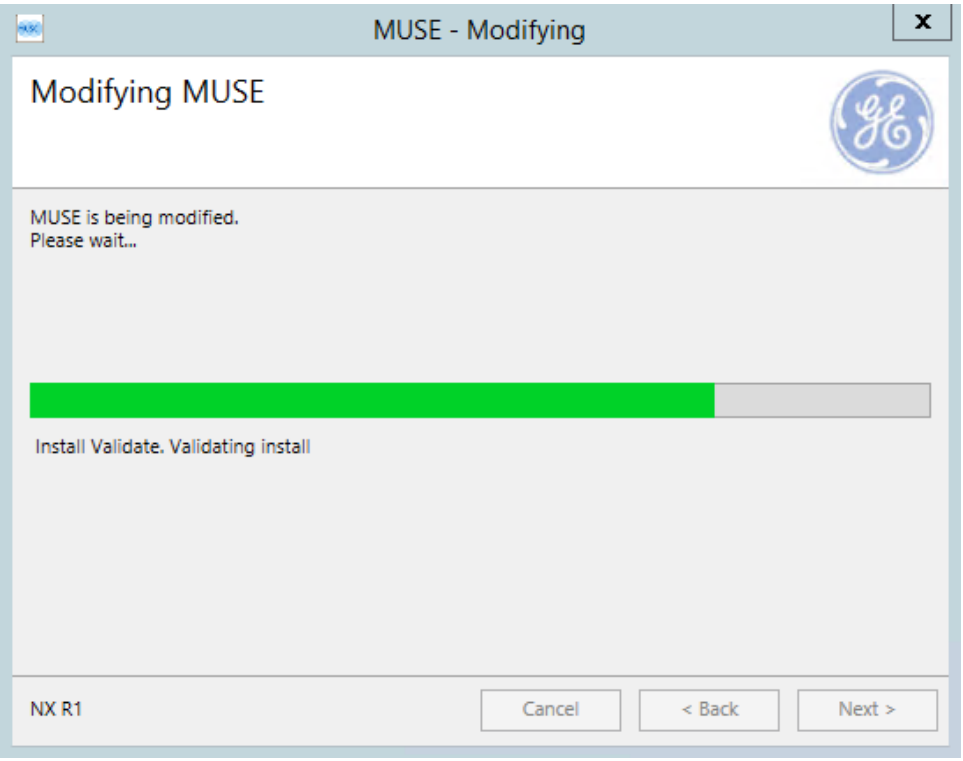
Go to the *CardioDay v2.5 Installation and Field Service Manual* for instructions to:

- Query Holter orders from the MUSE system.
- Export data to the MUSE system in a compatible format to the CardioDay share folder.

Disable the eDoc Connect Option

Disable the eDoc Connect option if the customer has not purchased eDoc Connect.

1. *"Schedule a system shutdown."*
2. Go to **Control Panel** > **Programs** > **Programs and Features**.
3. Right-click on **MUSE** and select **Change**.
4. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**.
5. Select **Next >** until you reach the **Select Options** screen.
6. On **Select Options** screen, uncheck the **eDoc Connect** option.
7. Select **Next >** to bypass the **Select Features** screen. No changes to features
8. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
9. Select **Next >**.
10. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



11. On the **Modify Complete** screen, select **Close**.
12. *"Cancel the system shutdown."*

System Checkout

1. Make sure that the Holter reports export correctly to the MUSE system.
   a) Export a CardioDay Holter report to the CardioDay share folder defined in the MUSE system.
   b) Log on to the MUSE application.
   c) Make sure the CardioDay Holter report displays in the MUSE system **Edit List** for the appropriate site.
   d) Open the CardioDay Holter report.

   NOTE:
   For more information about the usage and checkout of CardioDay report export to the MUSE system, see the *CardioDay Installation and Field Service Manual*.
2. Go to the *CardioDay Installation and Field Service Manual* to make sure the MUSE system can import MUSE orders.

Troubleshooting

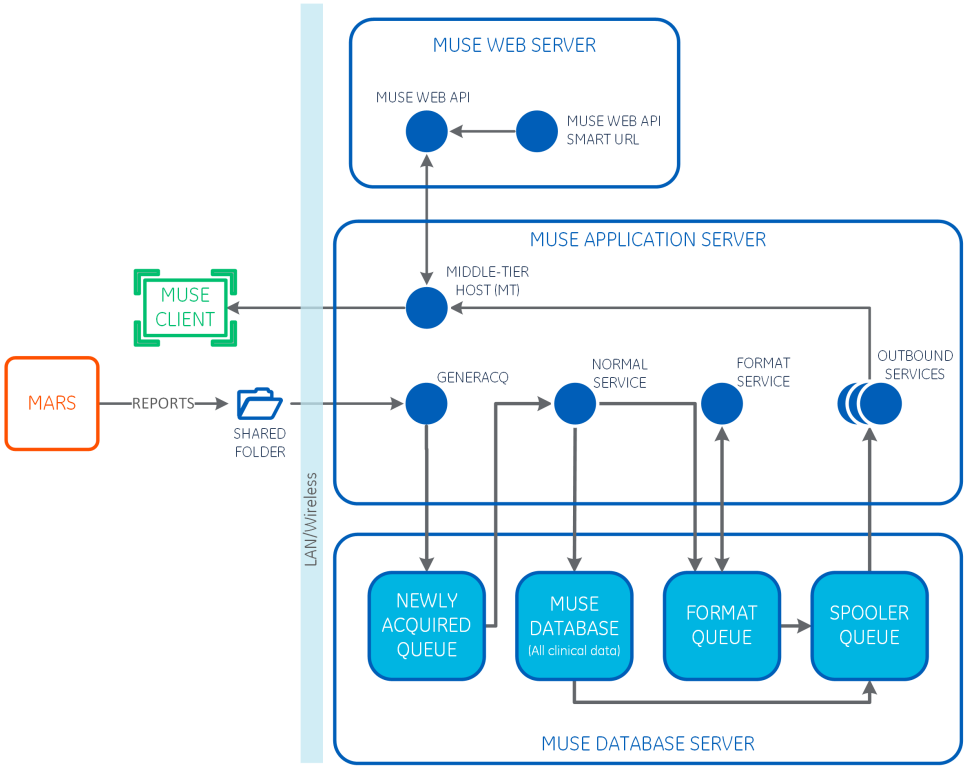
Symptom	*Cause*	*Recommendation*
Cannot export Holter report to the MUSE system.	There is an issue with the eDoc Connect configuration.	See *MUSE Cardiology Information System eDoc Connect Manual* for a resolution.
MUSE Connection Test failure during setup.	Wrong hostname or IP address.	Confirm proper hostname and/or IP address of the MUSE System.
Query Orders button missing from **Add Patient** tab.	Hostname to IP address lookup (DNS) not functioning.	Confirm hostname resolution/ lookup is working on iOS device. Try entering the IP address of the MUSE system in the URL.
	Wrong IP port used for MUSE Web API.	The proper listening IP port number of the MUSE Web API (default 443) must be included as part of URL configuration.
	MUSE web client or app pool are not running in the MUSE web server (IIS).	Confirm with MUSE administrator or GE Healthcare service representative that the MUSE web client and app pool are configured properly and running without errors on the MUSE web server (IIS).
	User name or password is not a valid MUSE user.	Confirm that the configured **User Name** and **Password** match that of a valid MUSE user.
	Other network communication fault or port blocking.	Check for other network communication faults, restrictions, and firewalls.
	Improper **Site Number** in configuration.	Confirm the presence of MUSE orders with the proper **Site Number**.
No MUSE patient/exam orders displayed in **Order List**.	No Holter orders with **Open** order status.	Confirm the presence of MUSE order using: Test Type=**Holter** Status=**OPEN**

MARS

The Multi-function Ambulatory Review System (MARS) is software that provides the tools to analyze, review, and generate reports for ECG data acquired from Holter recorders and bedside monitors.

MARS system to MUSE system communication allows you to transfer stored MARS reports from the MARS system to the MUSE system for viewing, editing, printing, and storage. At the MUSE system, you can view the strip pages and edit patient demographics, diagnosis statements, and findings.

Data Transmission



The MARS system transfers the complete Holter report. The Holter test is stored in the reports folder on the MARS system with a ***.mrs*** extension. The **MUSE Generacq** service searches that folder for ****.mrs*** files. Tests are then normalized on the MUSE system and stored in the database. MARS stored reports do not contain full disclosure information.

Tests are also processed through the MARS Formatter during acquisition to generate a PDF that can be viewed in the MUSE Editor.

NOTE:

While tests are being processed by the MARS Formatter during acquisition, you cannot view or edit them in the test editor. The following message is displayed while the Holter report is being formatted after normalization:
The Holter record acquired for patient is currently checked out by Admin.

MUSE Services

MARS system to MUSE system communication uses the following two MUSE services: MUSE Generacq and MUSE Format.

Service	*Description*
MUSE Generacq	The MUSE Generacq service handles acquisitions from other systems or devices. In MARS system to MUSE system communication, it searches the reports share on the MARS system for stored reports (files with the ***.mrs** file extension) and pulls the reports to the MUSE system for processing.
MUSE Format	The MUSE Format service(s) launch the MARS Formatter program. The MARS Formatter program formats the output to match the format from the MARS system.

Customer Requirements

The customer is responsible for supplying appropriate network connectivity, including name resolution, between the MARS systems and the MUSE application server.

Configure MARS with the MUSE System

To configure the settings for MARS and the MUSE system interface, perform the following procedures in the recommended order that they are listed:

1. *"Configure the MARS System Network Settings" on page 30*
2. *"Verify the MARS Software Version" on page 30*
3. *"Record the IP Address or Host Name of the MARS System" on page 31*
4. *"Verify the MARS Reports Share" on page 31*
5. *"Activate the MARS to MUSE Option on the MARS System" on page 31*
6. *"Set Up the Site Information on the MARS System(s)" on page 31*
7. *"Add the MARS System to the MUSE Generacq Configuration" on page 35*
8. *"MARS Print Formatter" on page 36*
9. *"Create the site.ini File for the MARS Print Formatter" on page 37*
10. *"Copy the rusty.ini Configuration File from the MARS System" on page 38*

Configure the MARS System Network Settings

For the MARS and MUSE systems to communicate, the MARS system must conform to the network settings in effect at the installation site. Contact the site's system administrator to obtain required information or to assist in configuring the system.

Make sure that networking is enabled on all MARS systems that need to communicate with the MUSE system. Additionally, confirm that Windows network settings on the MARS systems are appropriately configured to communicate with the MUSE application server.

Verify the MARS Software Version

To determine your MARS software version:

1. From the MARS system menu bar, select **Help** > **About**.

The **About** window opens.

2. Record the software version listed on the **About** window.

Record the IP Address or Host Name of the MARS System

Record the computer name or IP address of each MARS system that will interface with the MUSE system.

If you want to use the IP address, it must be static.

Verify the MARS Reports Share

Make sure that the MARS reports folder (default is ***c:\gemsit\reports***) is shared and has a share name of **Reports**. You must establish and give file and share permissions of **Full Control** to the user account that is configured to start the **MUSE Generacq** service on the MUSE application server.

Activate the MARS to MUSE Option on the MARS System

1. Locate the MARS software activator sheet.
2. From the MARS application menu bar, select **System** > **System Setup** > **Software Activators**.

   A list of task names opens along with their corresponding modes and statuses.
3. If the **MARS to MUSE** task name is disabled, click **MARS to MUSE**.

   A list of available modes is displayed in the **Change Mode To** list box.
4. Click **Activate**.
5. Type the access code from the activator sheet into the **Enter Activator Code Here** text box.
6. Click **Save Changes**.

   If the code is incorrect or incomplete, an error message is displayed.
7. Select **OK**.
8. Click **Quit** to close the window.
9. Repeat steps *"2"* through *"8"* on all systems requiring MARS system to MUSE system communication.

Set Up the Site Information on the MARS System(s)

Site setup is necessary to transfer Holter data to a MUSE system. The sites and locations entered in each MARS system must match the sites and locations used on the MUSE system.

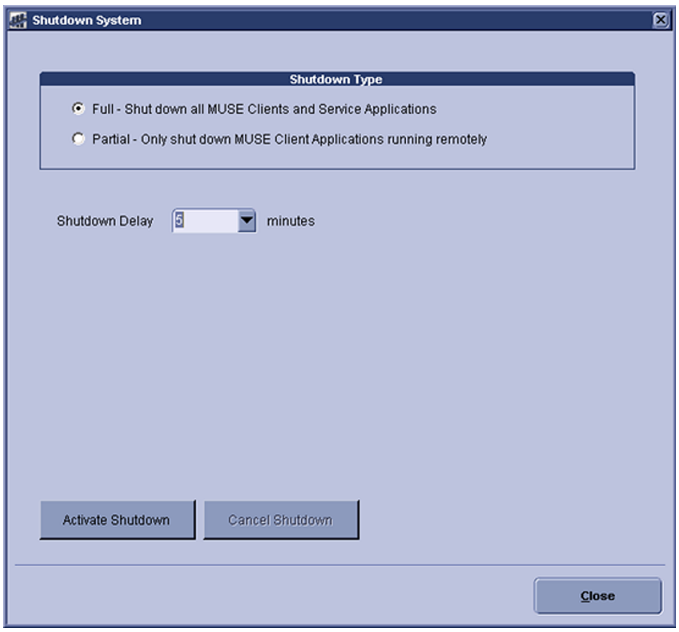
NOTE:
Contact the MUSE system owner for the site and location information you need to use for the MARS system.

Repeat the following steps for each MARS system that is communicating with the MUSE system.

1. From the MARS main window, select **System** > **System Setup** > **Site**.
   The **System: Site and Locations Setup** window opens.
2. Select the appropriate **Site #**.
3. Enter the corresponding **Site Name**.
4. Select the appropriate **Location #**.
5. Enter the corresponding **Location Name**.
6. Click **Add**.
7. Repeat steps *"2"* through *"6"* as necessary.
8. Click **OK**.
9. At the *Changes made. Save them?* prompt, click **Yes** to save your changes.

Schedule a System Shutdown

1. Log on to the MUSE application server as an administrator.
2. In the MUSE application, go to **System** > **Setup**.
3. In the **Setup** window, select **System**.
4. Right-click on the **Product name** and select **Shutdown System**.
   The **Shutdown System** window opens.



5. Select the **Shutdown Type**.
   - Select **Full** to close the MUSE client application and stop MUSE services.

- Select **Partial** to disconnect all remote connections to the MUSE clients. The MUSE clients and the MUSE services continue to run.

  NOTE:
  If the MUSE application stays open on a remote client workstation, the application disconnects from the MUSE server.

6. Select the time for the **Shutdown Delay**.
7. Select **Activate Shutdown**.
   The top of the MUSE client application shows when the shutdown occurs.

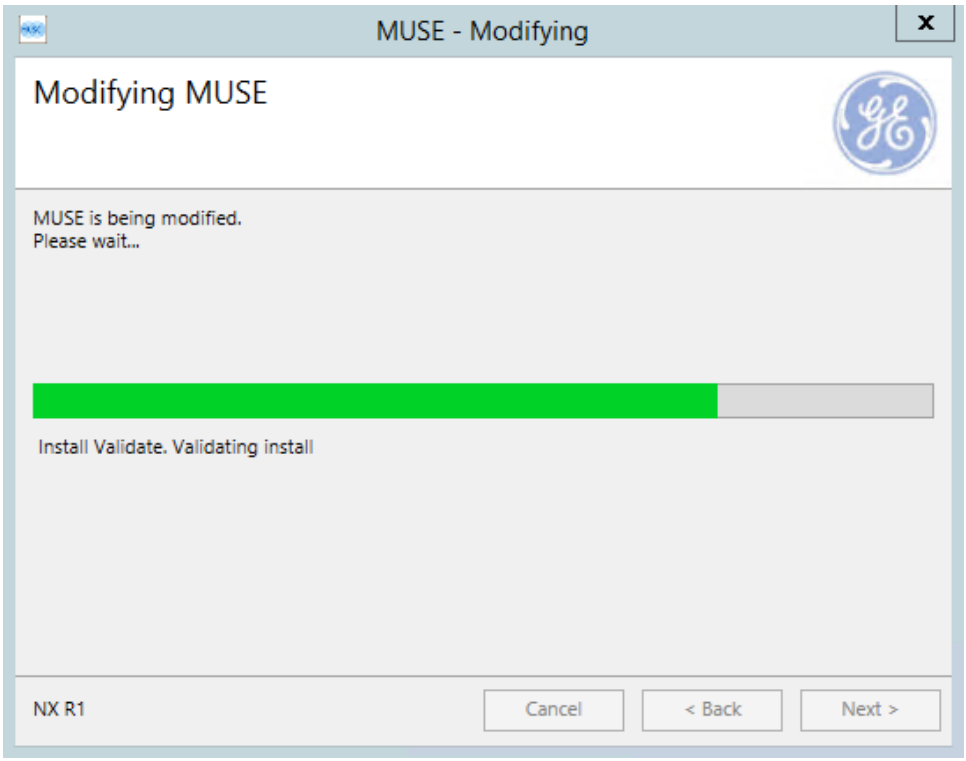
Verify or Add the Holter Data Storage and eDoc Connect Options

1. Go to **Control Panel** > **Programs** > **Programs and Features**.
2. Right-click on **MUSE** and select **Change**.
3. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**.
4. Select **Next >** until you reach the **Select Options** screen.
5. On **Select Options** screen, view the **eDoc Connect** and **Holter Data Storage** options.
   - If the option is enabled (checked), select **Cancel** to exit the installation wizard.
   - If the option is disabled (unchecked), check the box for the **eDoc Connect** and/or the **Holter Data Storage** option and complete the modification to the installed MUSE system configuration.

   NOTE:
   If the customer has not purchased the eDoc Connect option, it must only be temporarily enabled for the setup of the CardioDay v2.5. This option should be disabled once the CardioDay v2.5 has been setup.
6. Select **Next >** to bypass the **Select Features** screen. No changes to features
7. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
8. Select **Next >**.
9. Enter the **Options Configuration Password**. The **Serial Number** should be pre-populated. If you need to manually enter the serial number, refer to your *Product Activation Sheet*. Then, select **Next >**.

   NOTE:
   Only a qualified GE Healthcare service representative has access to the Options Configuration Password. This password cannot be provided to customers.

10. Select **Next >**.
11. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



12. On the **Modify Complete** screen, select **Close**.

Cancel the System Shutdown

1. Go to **Services**.
2. Right-click on the **MUSE** service and select **Start**.
   This starts the MUSE MT host service and allows you to log on.
3. Log on to the MUSE application on the MUSE application server.
   The application displays the current shutdown status at the top of the window.

4. In the MUSE application, go to **System** > **Setup**.
5. Select **System**.
6. Right-click on the **Product name** and select **Shutdown System**.
7. In the **Shutdown System** window, select **Cancel Shutdown**.

If the MUSE services were stopped, they are now restarted and remote connectivity is restored.

The system does not automatically notify users that the MUSE system is available.

Add the MARS System to the MUSE Generacq Configuration

To ensure the MUSE system can locate and communicate with the MARS system(s), use the following procedures to add, modify, or remove paths to the MARS system(s) as needed.

Add the Path of Each MARS System to the MUSE Database

Complete the following procedure to add the path of each MARS system to the MUSE database.

1. From within the MUSE application, go to **Setup**.
2. Select **Share Folder**.

   The list of existing **Share Folders** is displayed.

   The **Share Folder** option within MUSE is where **MUSE Generacq** folders and file name filters are configured.
3. Select **Action** > **New**.

   The **Share Folder Properties** dialog opens.
4. Complete the fields as described in the following table:

Field	*Task*
Entry	Enter the UNC path of the MARS reports share on the MARS system, for example ***\\servername\reports***.
File Name Filter	Enter ****.MRS***.
Profile Name	Select ***None***.

5. Select **OK**.

Modify an Existing Share Folder Entry

The following procedure can be used to modify an existing **Share Folder** entry.

1. From within the MUSE application, go to **Setup**.
2. Select **Share Folder**.

   The list of existing share folders is displayed.
3. Right-click on the **Share Folder** you want to modify and choose **Properties**.

   The **Share Folder Properties** window opens.
4. Complete the fields as described in the following table:

Field	*Value*
Entry	Enter the UNC path of the MARS reports share on the MARS system, for example ***\\servername\reports***.
File Name Filter	Enter ***.MRS**.
Profile Name	Select **None**.

5. Select **OK**.

Remove an Existing Share Folder Entry

The following procedure can be used to delete an existing **Share Folder** entry if necessary.

1. From within the MUSE application, go to **Setup**.
2. Select **Share Folder**.
   The list of existing share folders is displayed
3. Right-click on the share folder you want to remove and choose **Delete**.

MARS Print Formatter

The MARS Print Formatter allows Holter reports that are viewed and printed from the MUSE system to look the same as when they are printed from the MARS system. Starting with the MUSE system, the MARS Print Formatter is automatically installed when the MUSE application is installed on the MUSE application server.

The version of the MARS Print Formatter installed with the MUSE system is MARS v8.0 SP7. The print formatter is backward compatible with previous versions of MARS, however it may not be forward compatible. If the MARS Print Formatter version is later than v8.0 SP7, you may need to install it to ensure compatibility with MARS Holter reports from MARS versions newer than MARS v8.0 SP7.

Uninstall an Older Version of the MARS Print Formatter

An updated version of the MARS Print Formatter is automatically installed during the MUSE system installation process. These steps tell you how to uninstall the MARS Print Formatter version older than v8.0 SP7.

1. Log on to the MUSE application server as an administrator.
2. Go to Windows **Control Panel** > **Programs** > **Programs and Features**.
3. Select **MUSE-MARS** and choose **Uninstall**.
   The **MARS InstallShield Wizard** is displayed and prompts you to confirm the uninstall.
4. Select **OK**.
5. At the **InstallShield Wizard Complete** screen, click **Finish**.

6. Confirm that the ***<drive>:\gemsit*** folder no longer exists, where <drive>is the is the letter of the drive on which the MARS Print Formatter software was previously installed.

   If the ***<drive>:\gemsit*** folder still exists, rename or delete it.

Create the site.ini File for the MARS Print Formatter

Use the following instructions to create the ***site.ini*** file on the MUSE Application server. The ***site.ini*** file is used by the MARS Print Formatter for outputting the MUSE site and location name on MARS formatted reports. If these steps are not performed, the MARS formatted reports viewed and printed from the MUSE system will show **Unknown** for site names and locations.

NOTE:
This process will need to be repeated each time a MUSE site or location that is used by a MARS formatted Holter report is added to MUSE system.

1. Log on to the MUSE application server as the MUSE Administrator user.
2. Insert the MUSE installation media into the optical drive of the system.

   If any **Autorun** or **AutoPlay** screens appear, close or cancel them.
3. Browse the optical drive in Windows Explorer and perform one of the following:
   - If the MUSE Application and Support DVD is inserted, navigate to the ***\MUSE Support\MARS Site INI Update*** folder.
   - If the MUSE Support ISO is being used, navigate to the ***\MARS Site INI Update*** folder.
4. Copy **SiteIniUpdate.exe** from the MUSE support media to the location where the MUSE application is installed. The default location of the MUSE application is: ***C:\Program Files (x86)\MUSE***.
5. Run **Siteiniupdate.exe** from the MUSE installation folder using **Run as Administrator**.

   When **Siteiniupdate.exe** runs, a command prompt window will open and close. There will be no on-screen messages if it completes successfully.
6. Verify the ***C:\gemsit\var\MarsNT\system\site.ini*** is created or updated.

   The contents of the file will reflect the MUSE site and location configuration of the MUSE system. See the following ***site.ini*** file basics.

   site.ini File Basics

   The ***site.ini*** file is made up of at least three sections.
   - The **[Site List]** section lists all of the site numbers.
   - Each site will have a **[Site]** section that lists the location numbers and the site name. If there are multiple sites, there will be multiple **[Site]** sections.

- Each site and location combination will have its own **[Site Location]** section containing the location name. If there are multiple locations for each site, there will be multiple **[Site Location]** sections.

Following is an example of a **site.ini** file:

```
[Site List]
Site Numbers= 1 2
[Site 1]
Location Numbers= 1 2
Site Name= "Memorial Hospital"
[Site 1 Location 1]
Location Name= "Holter Scanning"
[Site 1 Location 2]
Location Name= "ECG Department"
[Site 2]
Location Numbers= 1 2
Site Name= "General Hospital"
[Site 2 Location 1]
Location Name= "Mary's Office"
[Site 2 Location 2]
Location Name= "John's Office"
```

Copy the rusty.ini Configuration File from the MARS System

To maintain proper MARS Holter report formatting on the MUSE system, copy the ***Rusty.ini*** configuration file from the primary MARS Server (or standalone workstation) to the MUSE system.

This file is located in the default installation folder on the MARS system: ***C:\gemsit\var\MarsNT\system***.

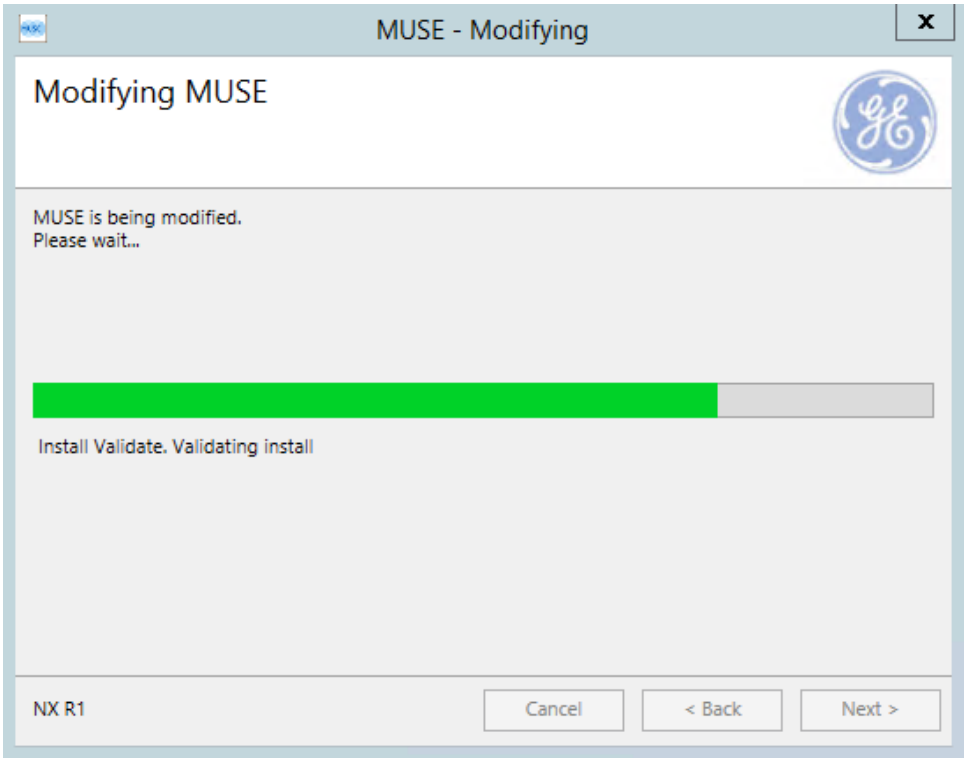
This task should be completed any time there are changes to the MARS system configuration.

Disable the eDoc Connect Option

Disable the eDoc Connect option if the customer has not purchased eDoc Connect.

1. *"Schedule a system shutdown."*
2. Go to **Control Panel** > **Programs** > **Programs and Features**.
3. Right-click on **MUSE** and select **Change**.
4. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**.
5. Select **Next >** until you reach the **Select Options** screen.
6. On **Select Options** screen, uncheck the **eDoc Connect** option.
7. Select **Next >** to bypass the **Select Features** screen. No changes to features

8. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
9. Select **Next >**.
10. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



11. On the **Modify Complete** screen, select **Close**.
12. *"Cancel the system shutdown."*

System Checkout

To ensure that the MARS system to MUSE system communication is functioning properly, you need to save a report on each MARS workstation, send those reports to the MUSE application server, and then retrieve and print those reports on the MUSE application server.

Save a Report on the MARS System

Complete the following steps to save a report on the MARS system. These steps are performed on the MARS system.

1. Click the **Patient Select** icon.
2. In the **Patient Select** window, select **Holter** from the **Data Type** list.
3. Select a patient in the list.
4. Click the **Patient Information** icon.

5. Verify that the **Site** and **Location** information is filled in for this patient.
6. Click the **Report Review** icon.
7. Click **Save Report**.
   The following message is displayed: **Report successfully stored.**
8. Click **OK**.
9. Click **Close**.
   The **Report Review** tool closes.

Send a MARS Holter Report to the MUSE System

Complete the following steps to send a MARS report to the MUSE system. These steps are performed on the MARS system.

1. Click the **Patient Select** icon.
2. In the **Patient Select** window, select **Stored Reports** from the **Data Type** list.
3. Select the stored report you saved using the steps in *"Save a Report on the MARS System" on page 39*.
4. Click **Tools**.
5. Click **Store to MUSE**.
   The following message is displayed: **You have selected 1 file(s) for MUSE storage. Are you sure you want to store the selected file(s) to MUSE?**
6. Click **Yes**.
   The following message is displayed: **1 report(s) queued for storage to MUSE.**
7. Click **OK**.
8. After a brief delay, verify that the report is listed as **Stored to MUSE**.

   NOTE:
   If the **Delete Reports After Transfer to MUSE** option is enabled on the MARS system, the patient report will automatically be removed from the **Stored Reports** list.
9. Click **Close**.

View a MARS Holter Report in the MUSE Editor

With the MUSE system there is a **Report Preview** tab available within the MUSE Editor. This **Report Preview** displays the Holter Report as it would look if printed from the MARS system.

1. Open the Holter report stored to the MUSE system using the steps in *"Send a MARS Holter Report to the MUSE System" on page 40*.
2. Verify the **Report Preview** tab displays the MARS Holter report.

NOTE:

Be aware of the following when viewing Holter reports on the MUSE system:

- Created reports are not displayed in the **Report Preview** tab until the associated electronic document data is manually imported.
- Holter reports acquired by earlier versions of the MUSE system cannot be previewed until they have been opened in the MUSE Editor at least once. The following message displays the first time you open a Holter report in the MUSE system that does not have a **Report Preview: The Full Report is currently not present for this test, but will be available the next time the study is opened in the editor**.

Print the MARS Holter Reports from the MUSE System

1. Select the **Holter** report from the **MUSE Edit** List.
2. On the tool bar, click **Print Test**.
3. From the **Available Printers** list, select a **Laser** printer or **PDF Folder** device.
4. Click **OK**.
5. Verify that the report was generated, then confirm that it is formatted properly based on the configuration:
   - If the MARS Format Holter specific format setting is enabled, the report should look like a MARS report.
   - If the MARS Format Holter specific format setting is not enabled, the report should look like a MUSE report.

Troubleshooting

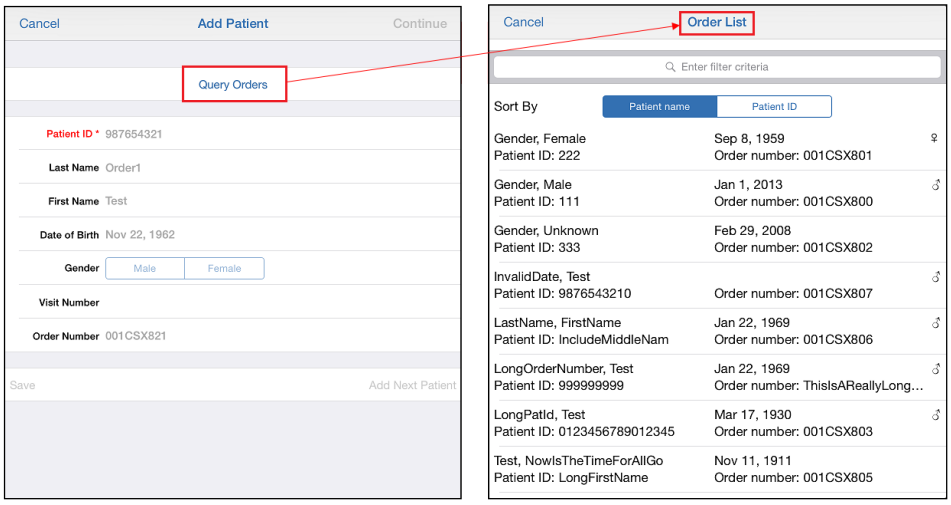
Symptom	*Possible Cause*	*Recommendations*
Unable to store tests from the MARS system to the MUSE system.	The **Holter Data Storage** option is not enabled on the MUSE system.	Enable the **Holter Data Storage** option on the MUSE system.
	The **MARS to MUSE** option is not activated on the MARS system.	Activate the **MARS to MUSE** option on the MARS system. The **MARS to MUSE** option must be activated on each MARS system that needs to store data to the MUSE system.
	The user account configured to start the **MUSE Generacq** service on the MUSE application server does not have access to the reports share on the MARS system.	Ensure the user account configured to start the **MUSE Generacq** service on the MUSE application server has access to the reports share on the MARS system.
	The reports share on the MARS system is not defined correctly.	Ensure the reports share on the MARS system is set up correctly.

Symptom	*Possible Cause*	*Recommendations*
	The **Share Folder** is not set up correctly for the MARS system in the MUSE **System Setup**.	Ensure the **Share Folder** setup in MUSE **System Setup** is correctly defined.
The **Site** and/or **Location** on MARS reports display as **Unknown** when viewed on the MUSE system.	The ***site.ini*** has not been correctly configured on the MUSE system for the MARS Print Formatter.	Ensure the ***site.ini*** exists and is correctly defined on the MUSE system.
The following message appears when attempting to view a recently acquired Holter report in the MUSE application: **The Holter record acquired for patient is currently checked out by Admin.**	The Holter report is being processed by the MARS Print Formatter.	Wait for the test to be processed by the MUSE system and MARS Print Formatter and then open the test in the MUSE application.
The following message appears when attempting to view a Holter report that was acquired before the MUSE system was upgraded: **The Full Report is currently not present for this test, but will be available the next time the study is opened in the editor.**	The Holter report has not been processed by the MARS Print Formatter yet.	Wait for the test to be processed by the MARS Print Formatter and then open it again in the MUSE application.

SEER 1000 iOS/Mobile App

For additional information on the SEER 1000 Recorder, see *SEER™ 1000 ECG Recorder and Mobile Application Operating Manual*.

SEER 1000 iOS/Mobile App Option for MUSE Orders



The SEER 1000 Holter iOS/Mobile App retrieves open Holter orders from the MUSE system, allowing the transfer of patient demographic and order information to the SEER 1000 recorder.

If your SEER 1000 iOS/Mobile App is configured to query and retrieve patient demographic and order data from the MUSE system, the **Query Orders** option is displayed in the **Add Patient** window. Select **Query Orders** to view the **Order List**.

NOTE:
Only MUSE orders for **Holter** test types with an **OPEN** status are displayed. If no MUSE orders meet this criteria, the list will be empty.

Prerequisites

The SEER 1000 iOS/Mobile App MUSE Order option requires the MUSE Web API to communicate with the MUSE system.

The MUSE systems must be configured with the required components:

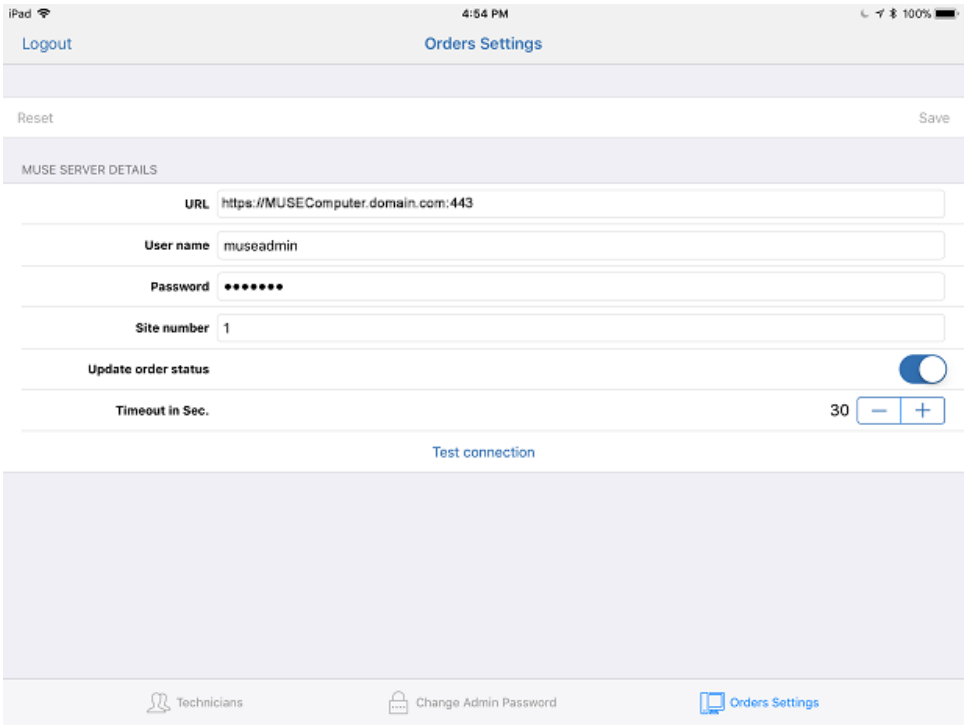
- HIS Order Interface (This is an Enterprise Configuration option.)
- MUSE Web API
- MUSE system network hostname
- MUSE system network port for HTTPS service endpoint (default is 443)
- MUSE system user account and password

  NOTE:
  It is recommended that a dedicated MUSE system user is created for communication to the MUSE orders interface.

Consult your local GE Healthcare service representative for proper MUSE system configuration settings.

Configure the MUSE Orders for the SEER 1000 iOS/Mobile App

1. Log in to the SEER 1000 application as an administrator. Select **Administration** in the upper right corner and enter the administrator password.
2. Select **Order Settings** from the menu bar at the bottom of the window.



3. Enter the **MUSE SERVER DETAILS** to connect to the MUSE Web API interface.

   a) For the **URL**, enter the base URL for the MUSE Web API HTTPS service endpoint followed by the port number (default is 443). This URL has to match the URL created on the MUSE Web Server certificate.

   Only URLs with a hostname are support, not IP addresses. For example, the URL address ***https://MUSEComputer.domain.com:443*** is permitted, whereas ***https://192.168.0.20:443*** is not.

   b) For **User name** and **Password**, enter the MUSE service account login information.

   c) For **Site number**, enter the site number.

   d) Enable the **Update order status** option.

   The **Update order status** button in the MUSE configuration settings controls if the order status is changed when the order is downloaded to a recorder and the recording is started.

   - If this setting is switched **OFF**, the order state remains **OPEN** and will not change when a recording is started from this MUSE order. Orders with an **OPEN** state remain in the results of subsequent MUSE queries. Additional recordings may be started from this order in this workflow mode.
   - If this setting is switched **ON** when a recording is started from a MUSE order, the MUSE order changes from an **OPEN** state to a **PENDING** state. Only MUSE orders that are flagged in an **OPEN** state are included in MUSE query operations. Orders with the **PENDING** state do not display

in subsequent MUSE queries. The MUSE order status must be manually updated after sending a report to MUSE.

e) For **Timeout in Sec.**, adjust the value.

The MUSE orders timeout setting by default is set to 30 seconds. This is the configured timeout for the open MUSE Holter orders to be received from the configured MUSE system.

This value can be adjusted for system environments with a large number of **Holter** test types with an **OPEN** status or if network performance is inadequate.

4. Select **Test Connection** to test the configured MUSE orders connection through the MUSE Web API interface.

   The test returns a **MUSE connection successful** or **MUSE connection failed** message.

5. Select **Save**.

NOTE:
Typically, the CA certificate automatically installs on the SEER 1000 device. If the CA certificate does not automatically install, see *https://support.apple.com/en-us/HT204477* for additional details.

Troubleshooting

Issue	*Cause*	*Recommendation*
MUSE Connection Test failure during setup. The **Query Orders** button missing from the **Add Patient** tab.	Improper URL.	The URL to be entered needs to be the base URL for the MUSE Web API followed by the port number. For example, http://MUSEComputer.domain.com:443.
	Wrong hostname	Confirm the proper hostname of the MUSE system.
	Hostname to IP address lookup (DNS) not functioning.	Confirm hostname resolution/ lookup is working on the iOS device.
	Wrong hostname port used for MUSE Web API.	The proper listening hostname port number of the MUSE Web API service (default 443) must be included as part of URL configuration.

Issue	*Cause*	*Recommendation*
	The MUSE web site or application pool are not running in IIS.	Confirm with the MUSE administrator or GE Healthcare service representative that the MUSE Web API and application pool services are configured properly and running on in IIS on the MUSE web server.
	User name or password is not a valid MUSE user.	Confirm that the configured user and password match that of a valid MUSE User.
	Other network communication fault or port blocking.	Check for other network communication faults, restrictions, and firewalls.
No MUSE patient/exam orders displayed in the **Order List**.	Improper **Site Number** in the configuration.	Confirm the presence of MUSE orders with proper site number.
	No Holter orders with the **OPEN** order status.	Confirm the presence of MUSE orders with: **Test Type**=**Holter** **Status**=**OPEN**

3

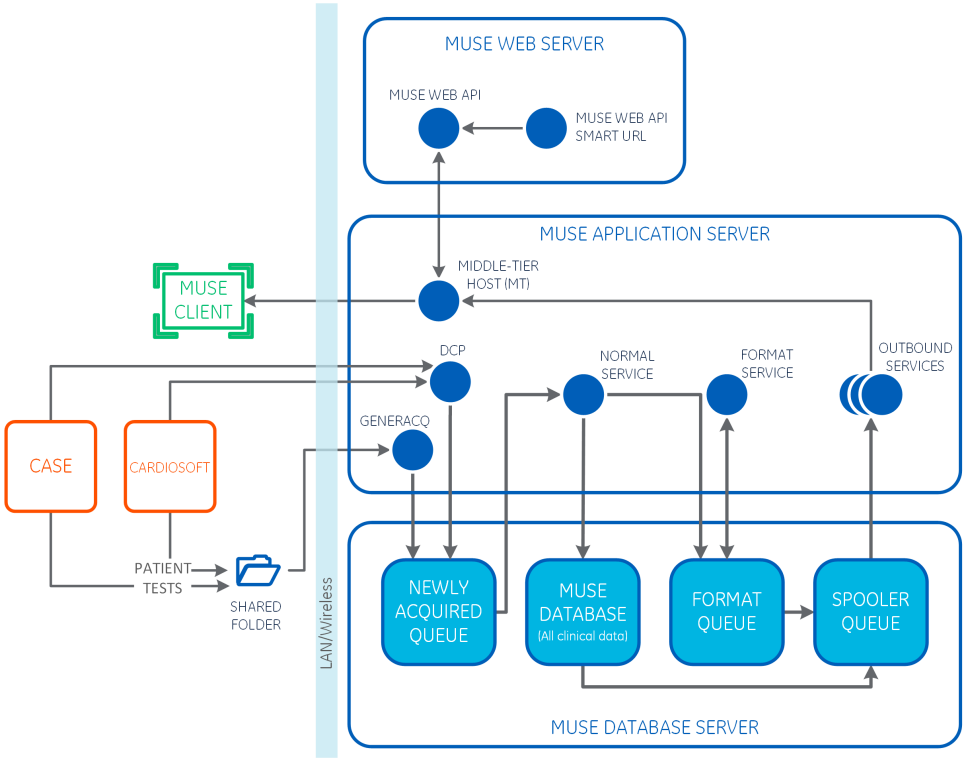
CASE/CardioSoft

The CASE System (Cardiac Assessment System for Exercise) runs on GE Healthcare hardware and analyzes cardiac functions for Exercise/Stress tests and Resting ECGs. CardioSoft performs the same tests, but runs on customer-provided personal computers.

Patient list and orders can be downloaded from the MUSE system. The final report and ECG reports can be transferred to the MUSE system.

The information provided applies to both CASE and CardioSoft systems.

Data Transmission



The CASE/CardioSoft system sends tests to a shared folder on the MUSE application server. The MUSE Generacq service monitors this shared folder for files and pulls

them to the MUSE system. Tests are formatted for the MUSE system and stored in the database.

The CASE/CardioSoft system can get patient tests or order information from the MUSE system with the MUSE Web API.

CASE and MUSE System Compatibility Matrix

CASE Software Version	*CASE Platform (ID)*	*Operating System*	*Years Produced*	*Interoperability with MUSE*
6.x	Bimini (1)	Windows NT 32-bit	2001-2003	None
6.x	Radisys (2)	Windows NT 32-bit	2003-2004	eDOC only
6.x	Radisys (3)	Windows XP 32-bit	2005-2010	eDOC only
6.x-7.x	Kontron (4)	Windows XP 32-bit	2011-2015	eDOC only Purchasable upgrade to Windows 7 Enterprise 64-bit or to Advantech Windows 10 CASE v7.x
6.x-7.x	Kontron (5)	Windows 7 Enterprise 64-bit	2011-2015	Full MUSE operability
7.x	Advantech (6)	Windows 8.1 Professional 64-bit	2016-2018	Full MUSE operability
7.x	Advantech (7)	Windows 10	2018	Full MUSE operability

Customer Requirements

The customer must have the applicable network connectivity and name resolution between the CASE/CardioSoft system and the MUSE application server.

Considerations for Multiple CASE Systems

With multiple CASE/CardioSoft systems, use the same Windows CASE8000 user name and password.

If you add a new CASE/CardioSoft system to an existing MUSE system with multiple CASE/CardioSoft systems, some of the steps in this section may have already been completed.

Communication Levels

Configure the CASE/CardioSoft to MUSE system interface with one of the three communication levels to share data for CASE/CardioSoft reports (Level 1), MUSE reports and patient data (Level 2), or patient orders (Level 3).

Each level builds on the features and requirements of the previous level. For example, for MUSE reports and patient data (Level 2), the CASE/CardioSoft to MUSE interface must have a shared folder and a network connection (MUSE Web API) with the MUSE Exercise Testing Data Storage option enabled.

Table 1: CASE/CardioSoft Communication Levels with the MUSE System

Communication Level Details	***Level 1: CASE/CardioSoft Reports***	***Level 2: MUSE Reports, Patient Data***	***Level 3: Order Data***
Data Direction	CASE/CardioSoft → MUSE	MUSE/CardioSoft → CASE	MUSE → CASE/ CardioSoft
Transfer Method	Shared folder	Network	Network
Required Components	MUSE Exercise Testing Data Storage option	MUSE Web API[1]	HIS Orders Interface option[2]

[1] For confirmed MUSE reports and patient data, you must install the MUSE web client. See the *MUSE Cardiology Information System Installation and Upgrade Manual* for instructions.

[2] For patient order data, you must install and configure the HIS Orders Interface option. The HIS Orders Interface is configured by a trained HL7 implementation person. Contact a GE Healthcare HL7 service representative for more information.

Configure CASE/CardioSoft with the MUSE System

To configure the settings for the CASE/CardioSoft and MUSE system interface, perform the following procedures in the recommended order that they are listed:

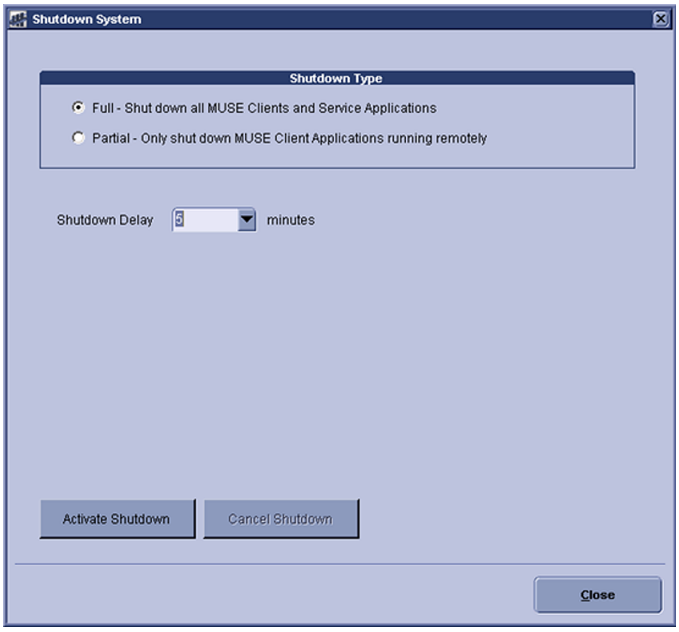
1. *"Schedule a System Shutdown" on page 50*
2. *"Verify or Add the Stress Exercise Option to the MUSE System" on page 51*
3. *"Cancel the System Shutdown" on page 52*
4. *"Set Up the CASE8000 User Account" on page 53*
    a. *"Create the CASE8000 User in Windows" on page 53*
    b. *"Create the MUSE Acq Users Local Windows Group" on page 54*
    c. *"Create the CASE8000 Windows Share" on page 56*
    d. *"Create the CASE8000 User in the MUSE System" on page 57*
5. *"Configure the CASE/CardioSoft System Network Settings" on page 58*

6. *"Configure the MUSE System Settings on the CASE/CardioSoft System v6.x without DCP (Older Version)" on page 58*
7. *"Configure the MUSE System Settings on the CASE/CardioSoft System v7.x" on page 61*
8. *"Import the Server CA Certificate" on page 65*
9. *"Configure CASE/CardioSoft Reports on the MUSE File Server" on page 69*

Schedule a System Shutdown

1. Log on to the MUSE application server as an administrator.
2. In the MUSE application, go to **System** > **Setup**.
3. In the **Setup** window, select **System**.
4. Right-click on the **Product name** and select **Shutdown System**.

   The **Shutdown System** window opens.



5. Select the **Shutdown Type**.
   - Select **Full** to close the MUSE client application and stop MUSE services.
   - Select **Partial** to disconnect all remote connections to the MUSE clients. The MUSE clients and the MUSE services continue to run.

     NOTE:
     If the MUSE application stays open on a remote client workstation, the application disconnects from the MUSE server.
6. Select the time for the **Shutdown Delay**.
7. Select **Activate Shutdown**.

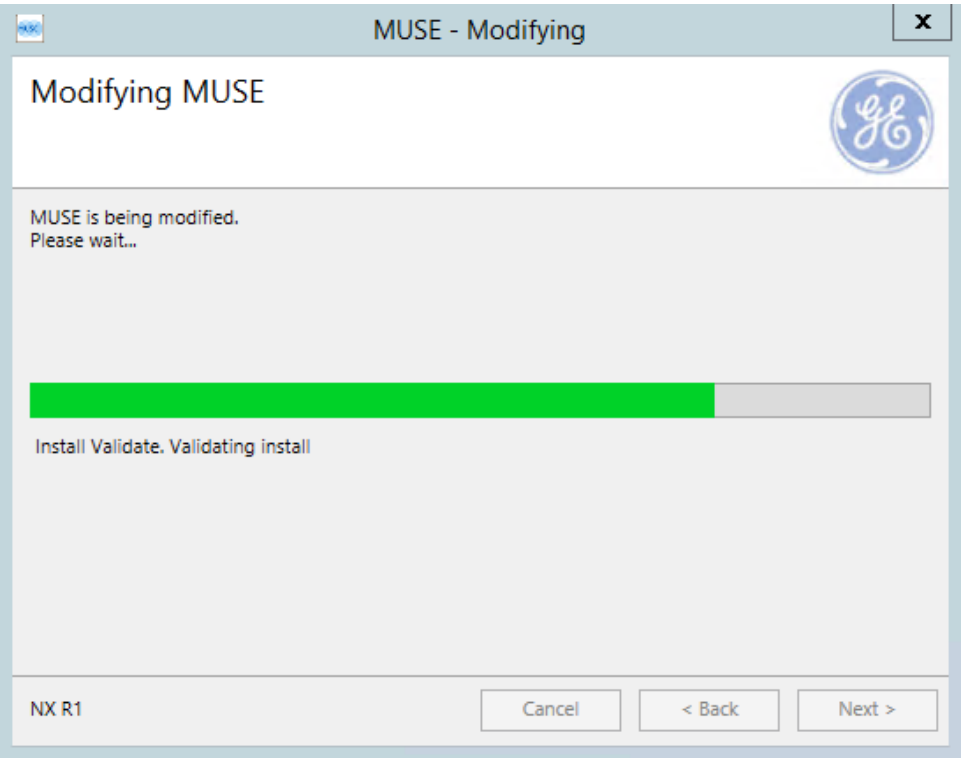
The top of the MUSE client application shows when the shutdown occurs.

Verify or Add the Stress Exercise Option to the MUSE System

Only a qualified GE Healthcare service representative can do this procedure.

1. Go to **Control Panel** > **Programs** > **Programs and Features**.
2. Right-click on **MUSE** and select **Change**.
3. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**.
4. Select **Next >** until you reach the **Select Options** screen.
5. On **Select Options** screen, view the **Exercise Testing Data Storage** option.
   - If the option is enabled (checked), select **Cancel** to exit the installation wizard.
   - If the option is disabled (unchecked), check the box for the **Exercise Testing Data Storage** option and complete the modification to the installed MUSE system configuration.
6. Select **Next >** to bypass the **Select Features** screen. No changes to features
7. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
8. Select **Next >**.
9. Enter the **Options Configuration Password**. The **Serial Number** should be pre-populated. If you need to manually enter the serial number, refer to your *Product Activation Sheet*. Then, select **Next >**.

   NOTE:
   Only a qualified GE Healthcare service representative has access to the Options Configuration Password. This password cannot be provided to customers.
10. Select **Next >**.
11. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



12. On the **Modify Complete** screen, select **Close**.

Cancel the System Shutdown

1. Go to **Services**.
2. Right-click on the **MUSE** service and select **Start**.
   This starts the MUSE MT host service and allows you to log on.
3. Log on to the MUSE application on the MUSE application server.
   The application displays the current shutdown status at the top of the window.

4. In the MUSE application, go to **System** > **Setup**.
5. Select **System**.
6. Right-click on the **Product name** and select **Shutdown System**.
7. In the **Shutdown System** window, select **Cancel Shutdown**.

   If the MUSE services were stopped, they are now restarted and remote connectivity is restored.

   The system does not automatically notify users that the MUSE system is available.

Set Up the CASE8000 User Account

If the CASE8000 user does not already exist, create the CASE8000 user account in Windows and the MUSE system, then add the CASE8000 user to the MUSE Acq Users group.

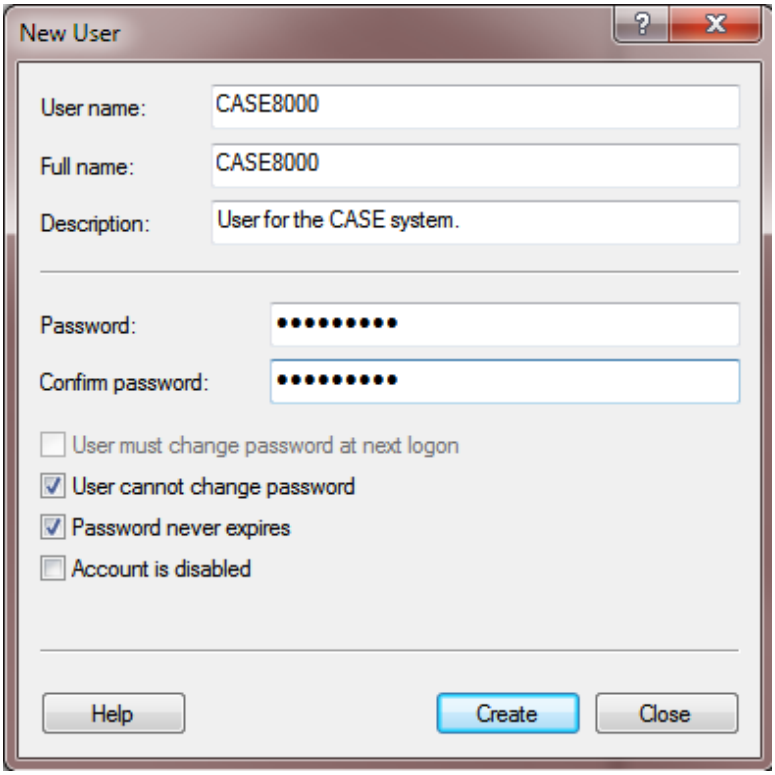
A CASE8000 user account is requried in the MUSE application if you want to transfer exercise/stress or resting ECG tests. The CASE8000 user account must be part of the MUSE Acq Users group to access the MUSE system to transfer MUSE reports from a CASE/CardioSoft system to the MUSE system.

A CASE8000 user account is not necessary for orders transferred via DCP.

Create the CASE8000 User in Windows

If a **CASE8000** user does not already exist on the MUSE system, create a local user named **CASE8000** on the MUSE application.

1. In Windows, go to **Computer Management**.
2. From the left pane, select **Local Users and Groups** > **Users**.
3. Right-click in an open area and select **New User**.
4. In the **New User** window, enter the user details.



Field	*Description*
User name	Enter ***CASE8000***.

Field	*Description*
Full name	Enter ***CASE8000***.
Description	Enter the description: ***User for the CASE system.***
Password	Enter ***case!8000***. **NOTE**: The password can be modified, but cannot exceed 15 characters. If the password changes, share the modified password with GE Healthcare Service for support.
Confirm Password	Enter the password again to confirm correct entry.
User must change password at next logon	Not selected.
User cannot change password	Check
Password never expires	Check
Account is disabled	Not selected.

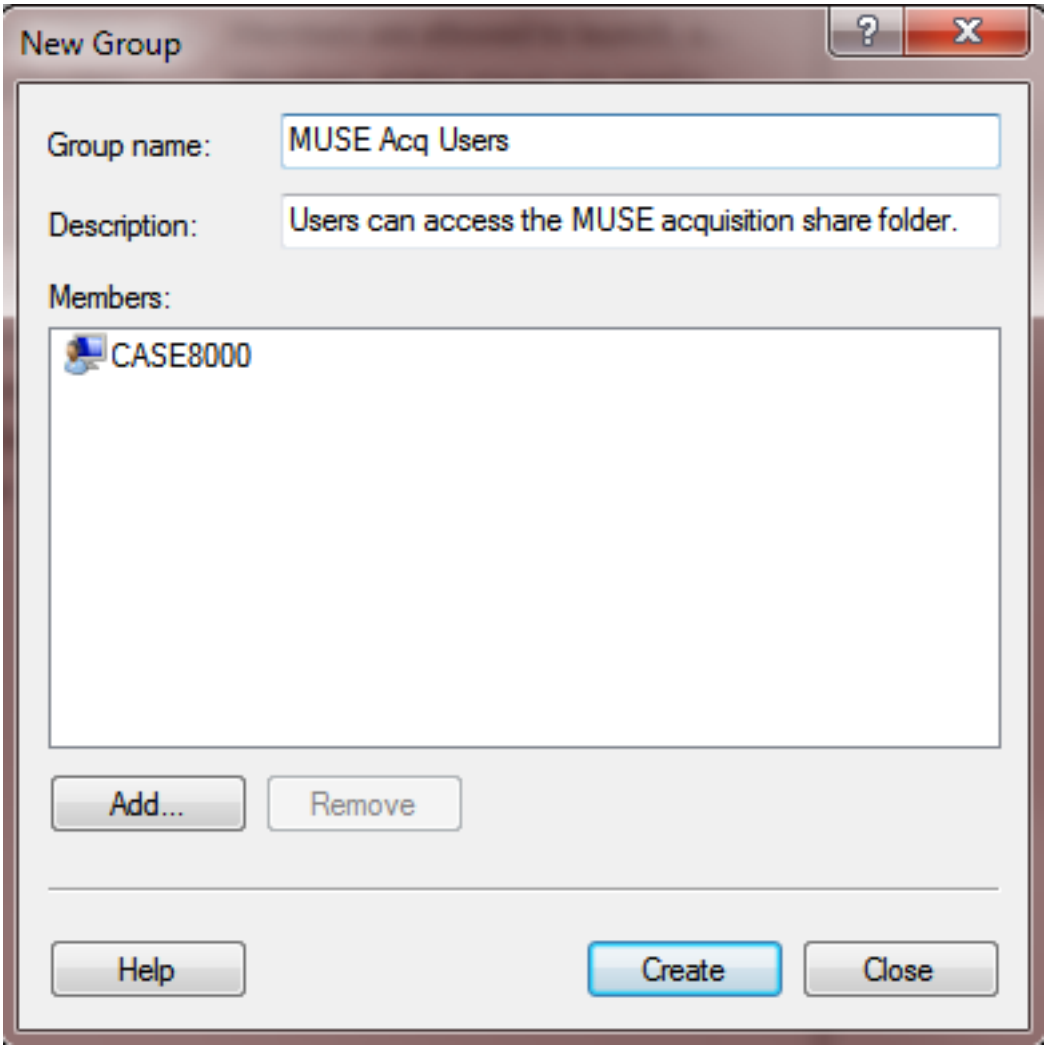
5. Select **Create**.
6. Close the **Computer Management** window.

Create the MUSE Acq Users Local Windows Group

To transfer MUSE reports from a CASE/CardioSoft system to the MUSE system, you need to give CASE/CardioSoft users access to the MUSE system. The first part of this access is the creation of the **MUSE Acq Users** local Windows group.

If one does not already exist, create a local group on the MUSE application server named **MUSE Acq Users**.

1. In Windows, go to **Computer Management**.
2. From the left pane, select **Local Users and Groups** > **Groups**.
3. Look for the **MUSE Acq Users** in the display list.
   - If the **MUSE Acq Users** group displays, double-click to view the properties. Verify that CASE800 is a member of this group.
   - If the **MUSE Acq Users** does not display in the list, right-click in the open area and select **New Group**.
4. In the **New Group** window, enter the group details.



Field	*Description*
Group name	Enter ***MUSE Acq Users***.
Description	Enter the description: ***Users can access the MUSE acquisition share folder.***

Field	*Description*
Members	1. Select **Add**. 2. In the **Select Users, Computer, Service Accounts, or Groups** window, complete the following fields: • For the **Select this object type** field, leave the default selection. • For **From this location**, select the MUSE application server. • For **Enter the object names to select**, enter ***CASE8000***. 3. Select **OK**.

5. Select **Create**.
6. Close the **Computer Management** window.

Create the CASE8000 Windows Share

Create a user share for CASE8000 to transfer MUSE reports from a CASE/CardioSoft system to the MUSE system.

By default, the **MUSE Generacq** service on the MUSE application server is configured to check the ***acq$*** folder (default location is ***<drive>:\Muse\acq$***) for incoming files to process. In order to transfer records from the CASE system to the MUSE system, this location must be shared.

NOTE:
The ***C:*** drive is the default for the SQL database server. If the MUSE system is on a single server, the ***D:*** drive is the default.

1. Go to ***<drive>:\Muse\acq***.
2. Right-click on the folder and select **Properties**.
3. From the **acq Properties** window, select **Sharing** > **Advanced Sharing...**
4. Select **Share this folder**.
5. In the **Share name** field, enter ***ACQ$*** or ***CASE8000***.
6. Select **Permissions** and add the CASE8000 user and the MUSE Acq Users group.
   a) Type ***CASE8000*** or select the CASE user from the drop-down list. Select **Add**.
   b) Type ***MUSE Acq Users*** or select the user group from the drop-down list. Select **Add**.
7. For **Permission Level**, select **Read/Write** or **Change** (depending on the OS) for each added user/group.
8. If the **Everyone** group is listed with share permissions, remove it.
9. When complete, select **Share**.

10. The **File Sharing** window displays a confirmation message that the folder has been shared. Select **Done**.
11. This folder should be shared with two user groups: ACQ$ and CASE8000. Repeat steps *"5"*-*"10"* to ensure that both user groups have access and permissions with the ***acq*** folder.
12. Select **Close** to exit **acq Properties**.

Create the CASE8000 User in the MUSE System

If a **CASE8000** user does not already exist on the MUSE system, create a user named **CASE8000** on the MUSE application.

1. Go to **System** > **Setup**.
2. Under **System**, select **Users**.
3. Select **Action** > **New**.
4. Enter the following information:

   NOTE:
   You may use a different password if desired, however, the password specified on the CASE system must match the password used here.

Category	*Field*	*Value*
General	**Last Name**	***8000***
	First Name	***CASE***
	MUSE User Name	***CASE8000***
	Windows User Name	***<servername_or_domain>\CASE8000*** For local accounts, use the name of the MUSE file server for server name or domain.
	Account is Enabled	Check
	MUSE Password	***case!8000*** **NOTE**: The password can be modified, but cannot exceed 15 characters. If the password changes, share the modified password with GE Healthcare Service for support.
	User cannot change password	Check

Category	*Field*	*Value*
	Password never expires	Check
	Active Sites	Select sites to grant user access.
Advanced	**User ID**	Enter an available numerical identifier for a system user.
	Role	**View Only**
	Job Titles	Deselect all boxes.
	Display User in Personnel Lists	Leave as is. Default is checked.

5. Select **OK**.

Configure the CASE/CardioSoft System Network Settings

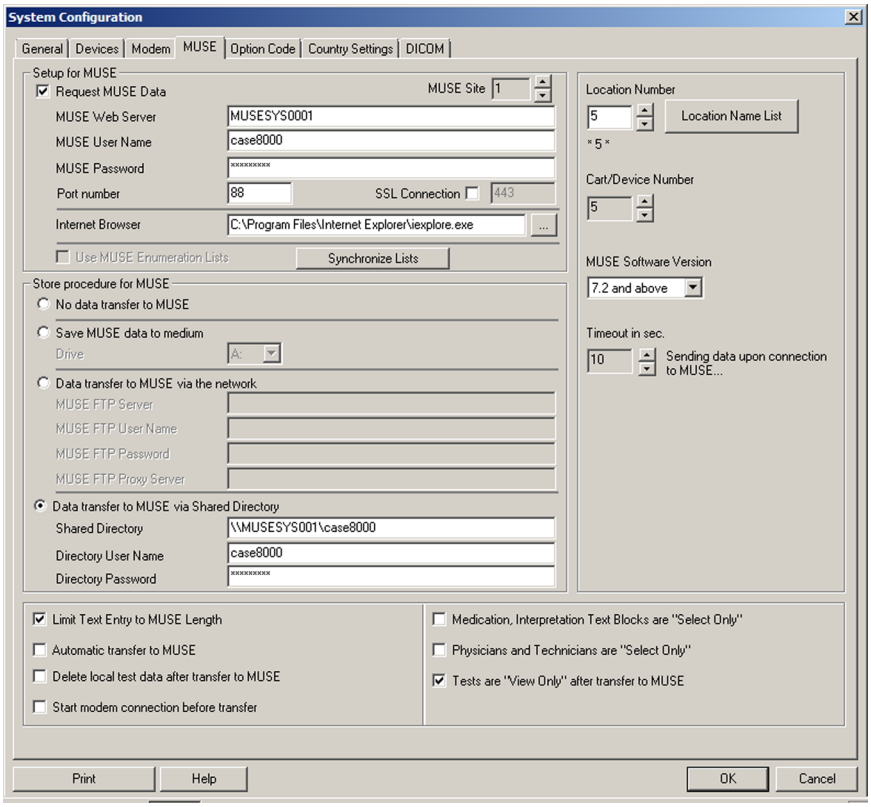
For the CASE/CardioSoft systems and MUSE system to communicate, the CASE/CardioSoft systems must conform to the facility's network settings. Contact the site's system administrator to obtain required information and assist in system configuration.

Make sure the network is enabled on all CASE/CardioSoft systems that communicate with the MUSE system. Windows network settings on the CASE/CardioSoft systems must be appropriately configured to communicate with the MUSE application and the MUSE website via TCP/IP.

Configure the MUSE System Settings on the CASE/CardioSoft System v6.x without DCP (Older Version)

The MUSE system configuration on the CASE/CardioSoft system must be complete before you can fully integrate CASE/CardioSoft systems with the MUSE system.

1. Start the CASE/CardioSoft application.
2. Select **System Configuration**.
3. In the **System Configuration** window, select the **MUSE** tab.



4. Complete the **Setup for MUSE** section by performing the tasks in the table following the screen capture.

Section	*Field*	*Task*
Setup for MUSE	**Request MUSE Data**	Check
	MUSE Web Server	Enter the name or IP address of the MUSE application server.
	MUSE User Name	Enter ***CASE8000***. **NOTE**: If the MUSE website is configured with a default domain, and a local case8000 user is being used, you may need to specify the **MUSE User Name** as **<muse_server_name>\case8000** where <***muse_server_name***> is the computer name of the MUSE application server.
	MUSE Password	Enter the password ***case!8000***. **NOTE**: The password can be modified, but cannot exceed 15 characters. If the password changes, share the modified password with GE Healthcare Service for support.

Section	*Field*	*Task*
	Port number	Enter the port for the website on the MUSE system. This is typically ***80***.
	Port number and **SSL Connection**	Check the **SSL Connection** box and enter the SSL port number for the MUSE web server. The SSL port is typically ***443***.
	Internet Browser	Use the browse button to find the executable for Internet Explorer (IE). IE is typically located in the following path: ***C:\Program Files \Internet Explorer\Iexplore.exe***. Adjust the path accordingly for non-English operating systems. **NOTE**: While multiple browsers are supported for the MUSE web client, the current release of the CASE/CardioSoft system only supports the use of IE.
Store procedure for MUSE	**Data transfer to MUSE via Shared Directory**	Select this radio button.
	Shared Directory	Enter the UNC path of the shared folder on the MUSE application server. This is typically ***\\<muse_server_name>\case8000*** where <***muse_server_name***> is the computer name of the MUSE application server.
	Directory User Name	Enter ***CASE8000***.
	Directory Password	Enter the password ***case!8000***. **NOTE**: The password can be modified, but cannot exceed 15 characters. If the password changes, share the modified password with GE Healthcare Service for support.
Additional system information (right pane)	**Location Number**	Enter or select the desired MUSE location for the CASE/CardioSoft system. This location should match the appropriate location defined in the MUSE system.
	Cart/Device Number	Choose a unique device number for this CASE/CardioSoft system (and all future CASE/CardioSoft systems), to ensure that all records sent to the MUSE system have unique file names.
	MUSE Software Version	Select **7.2 and above** from the drop-down list.

5. Select **OK**.

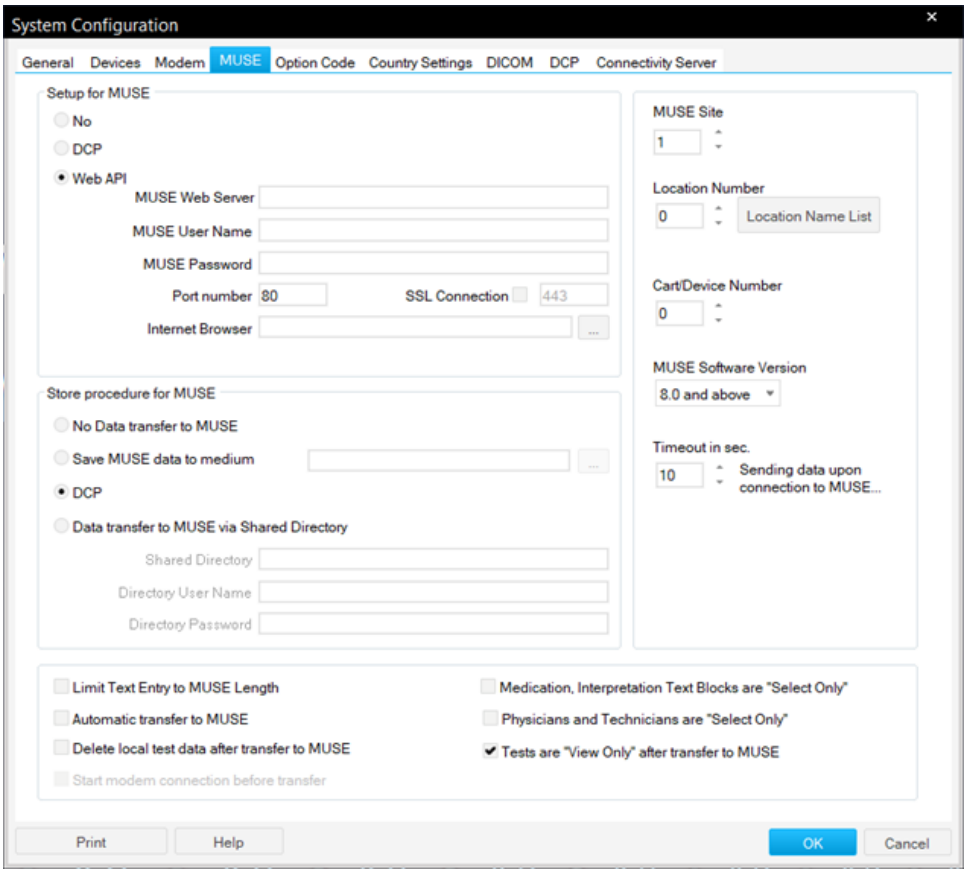
NOTE:
For information regarding all other options on the **MUSE** tab of the **System Configuration** window, see CASE/CardioSoft system documentation.

Configure the MUSE System Settings on the CASE/CardioSoft System v7.x

The MUSE system configuration on the CASE/CardioSoft system must be complete before you can fully integrate CASE/CardioSoft systems with the MUSE system.

1. Start the CASE/CardioSoft application.
2. Select **System Configuration**.
3. In the **System Configuration** window, select the **MUSE** tab.
4. Enter the configuration details to interface with the MUSE system.

Figure 1: CASE/CardioSoft System Configuration for the MUSE System



The configuration details how the system will interface with MUSE, how to store data, location information, and additional configuration options.

Section	*Field*	*Task*
Setup for MUSE Enter how you will be connecting to the MUSE system.	**No**	This must be unchecked to interface with the MUSE system.
	DCP	Check this option if you want to connect to the MUSE system with DCP.
	Web API	Check this option if you want to connect to the MUSE system with the MUSE Web API.
	MUSE Web Server	Enter the name or IP address of the MUSE application server.
	MUSE User Name	Enter ***CASE8000***. **NOTE**: For systems with the DCP option that will be transferring patient tests, you may need to specify the MUSE User Name as <muse_server_name>\case8000 where <muse_server_name> is the computer name of the MUSE application server.
	MUSE Password	Enter the password. The default value is ***case!8000***. **NOTE**: The password should match the password of the CASE8000 Windows user. Make sure to use the correct password if it is was modified from the default suggested value. Password cannot exceed 15 characters and must be shared with GE Healthcare Service for support.
	Port number	Enter the port for the website on the MUSE system. This is typically ***80***.
	SSL Connection	Check the **SSL Connection** box and enter the SSL port number for the MUSE web server. The SSL port is typically ***443***.

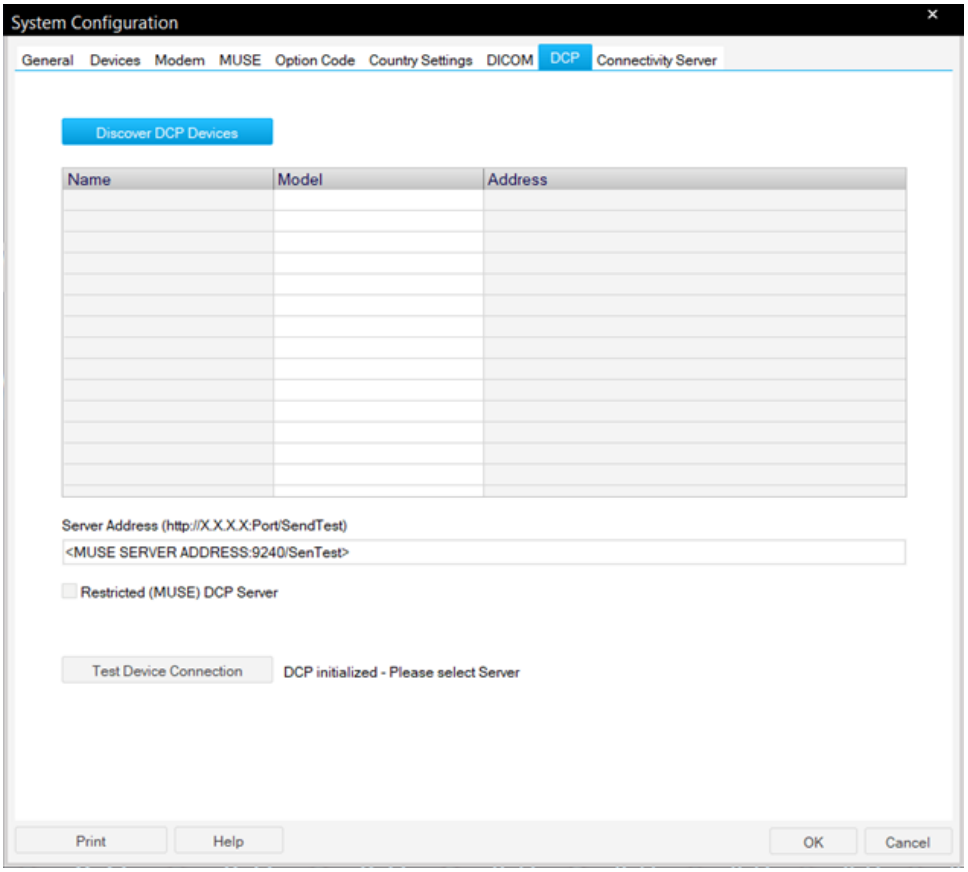
Section	*Field*	*Task*
	Internet Browser	Use the browse button to find the executable for Internet Explorer (IE). IE is typically located in the following path: ***C:\Program Files\Internet Explorer\Iexplore.exe***. Adjust the path accordingly for non-English operating systems. **NOTE**: While multiple browsers are supported for the MUSE web client, the current release of the CASE/CardioSoft system only supports the use of IE.
Store procedure for MUSE Enter how to save and store data from CASE/CardioSoft.	**No Data transfer to MUSE**	Uncheck to send patient data to the MUSE system.
	Save MUSE data to medium	Select this button to save data to a CD/DVD or USB. This external medium is then connected to a MUSE workstation.
	DCP	Select this button to send data to the MUSE system with DCP.
	Data transfer to MUSE directory	Select this button to send data to a shared folder connected to a MUSE system
	Shared Directory	Enter the UNC path of the shared folder on the MUSE application server. This is typically **\\<*muse_server_name*>\acq$** where <***muse_server_name***> is the computer name of the MUSE application server.
	Directory User Name	Enter ***CASE8000***.
	Directory Password	Enter the password ***case!8000***.
Location information (right pane)	**MUSE Site**	Enter the MUSE site number for the facility.
	Location Number	Enter or select the desired MUSE location for the CASE/CardioSoft system. This location should match the appropriate location defined in the MUSE system.
	Cart/Device Number	Choose a unique device number for this CASE/CardioSoft system (and all future CASE/CardioSoft systems), to ensure that all records sent to the MUSE system have unique file names.
	MUSE Software Version	For CASE v7.x, select **8.0 and above** from the drop-down list.

Section	*Field*	*Task*
	Timeout in sec	Select the timeout duration in seconds for the amount of time before another attempt is made to connect with the MUSE system.
Additional options (bottom pane)	**Tests are "View Only" after transfer to MUSE**	Select this option to have patient tests read-only on the CASE/CardioSoft application and to use the MUSE system to edit patient tests.

NOTE:
For information on the other options, see the CASE/CardioSoft system documentation.

5. If you are connecting to the MUSE system by DCP, select the **DCP** tab. If you are connecting with the MUSE Web API, continue to step "6".

Figure 2: CASE/CardioSoft System Configuration for DCP



a) Select **Discover DCP Devices** or enter the **Server Address** for the MUSE system. The format is ***<MuseServerAddress:ServerPort/SendTest***.

You can select **Test Device Connection** to verify that the CASE/CardioSoft system is connected to the MUSE system.

b) Select **Restricted (MUSE) DCP Server**.

6. Select **OK** to save your changes.

Import the Server CA Certificate

All MUSE Web interfaces now require HTTPS with certificates.

Import a copy of the CA cerificate file to each device communicating with MUSE. Depending on configuration, web clients not on the same domain as the web server may also require certificate importation.

NOTE:
Third party interfaces to the MUSE Web API will require similar certificate importation, but are beyond the scope of this documentation and should be discussed with the third-party vendor.

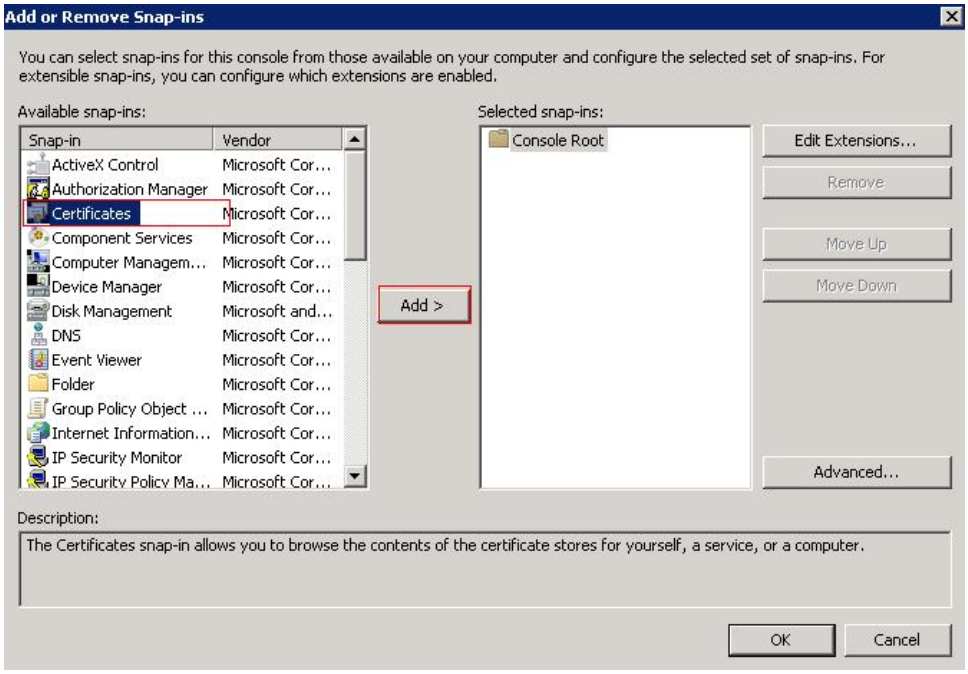
If the MUSE web client is on the same domain as the web server, you do not need to import a certificate.

NOTE:
If the certificate is being modified, the binding may need to be updated. For additional details, see the *Update the Certificate Binding (Not for New Installations)* topic in the *Troubleshooting* chapter of the *MUSE Cardiology Information System Installation and Upgrade Manual*.

1. Start **Microsoft Management Console (MMC) Tool** by selecting **Start** > **Run**. Enter ***MMC*** and select **OK**.

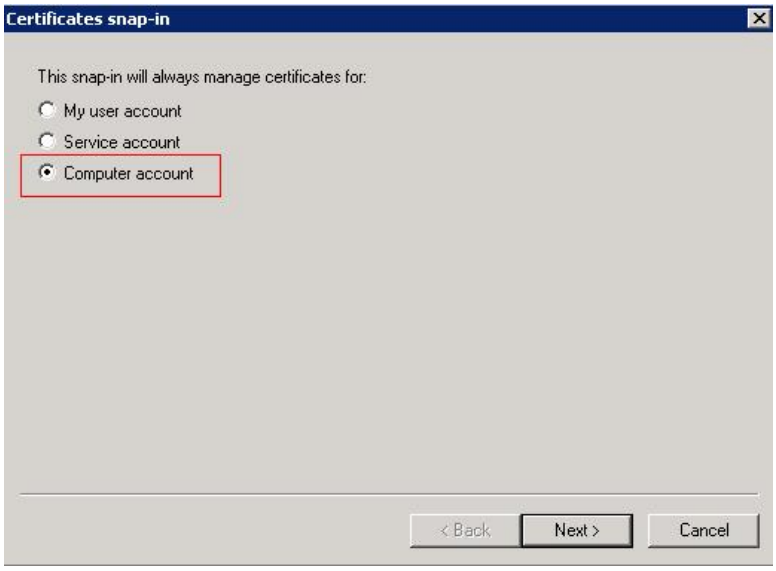
2. Select **File** > **Add/Remove Snap-in...**

a) From the **Available snap-ins** (left-side panel), select **Certificates**. Then, select **Add >**.

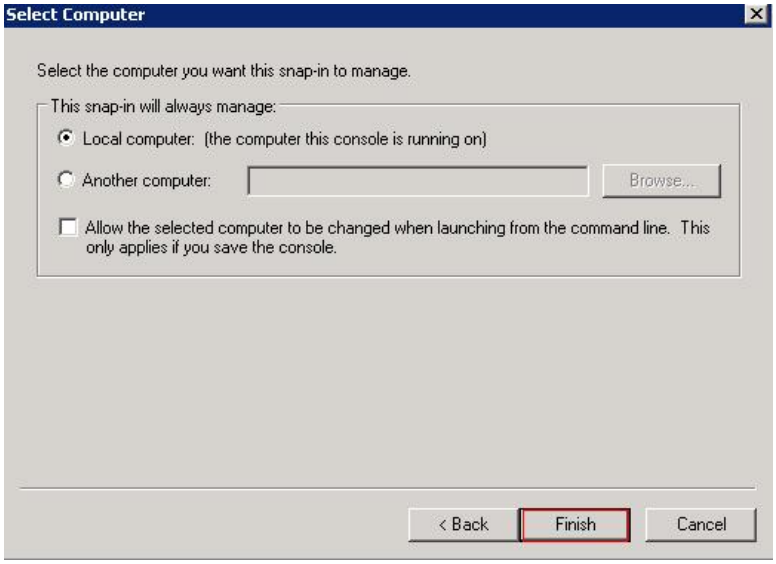


The **Certificates** snap-in option displays in the **Select snap-ins** (right-side panel).

b) The **Certificates snap-in** window displays. Select **Computer account** and select **Next >** .



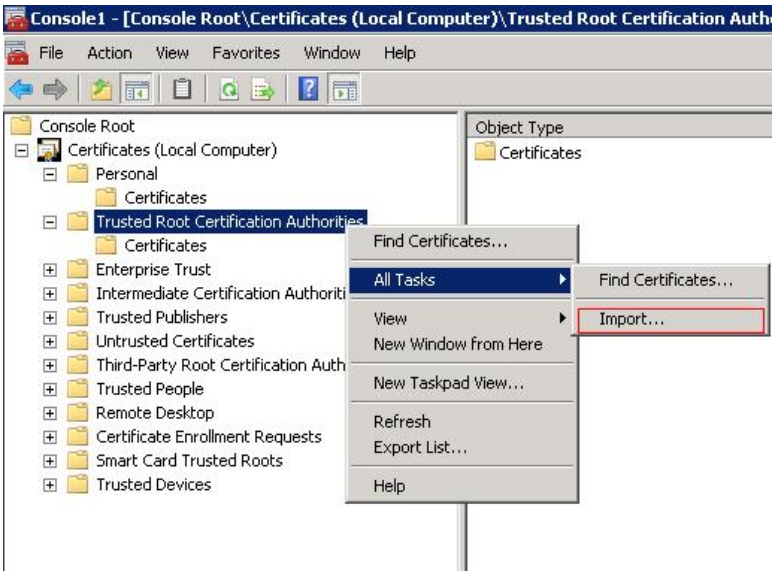
c) Select **Local computer: (the computer this console is running on)**.



d) Select **Finish**.

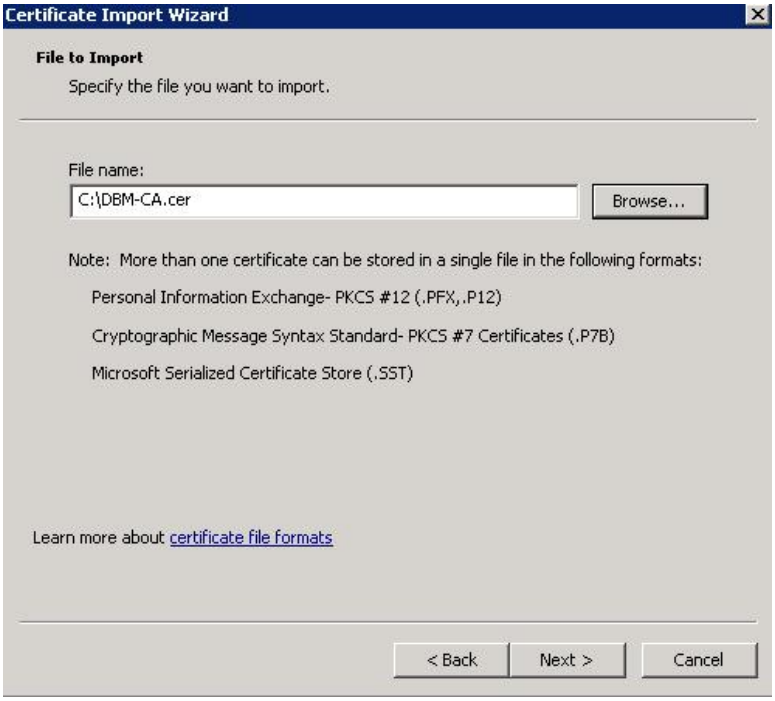
e) Select **OK**.

3. From the left panel, expand **Certificates (Local Computer)**. Right-click on **Trusted Root Certification Authorities** and select **All Tasks** > **Import**.

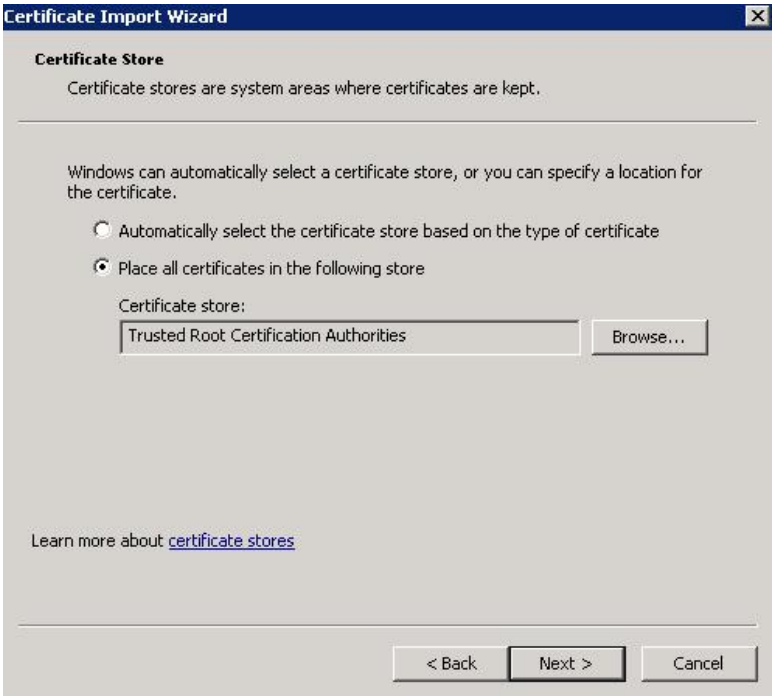


4. The **Certificate Import Wizard** opens. On the Welcome page, select **Next**.

5. Select **Browse** and navigate to the downloaded CA certificate file. Select **Next >**.



6. Select **Next >**.



The **Place all certificates in the following store** option should be selected with the identified **Certificate store** as **Trusted Root Certifcation Authorities.**

7. Select **Finish**.

8. A import confirmation message window displays. Select **OK**.

Configure CASE/CardioSoft Reports on the MUSE File Server

To correctly format CASE/CardioSoft reports sent to the MUSE share folder, the MUSE system must use the same report templates. CASE/CardioSoft report templates are created on the CASE/CardioSoft systems and then copied to the MUSE system.

Refer to your CASE/CardioSoft system documentation for instructions on creating the report templates.

NOTE:
If the certificate is being modified, the binding may need to be updated. For additional details, see the *Update the Certificate Binding (Not for New Installations)* topic in the *Troubleshooting* chapter of the *MUSE Cardiology Information System Installation and Upgrade Manual*.

1. After creating the templates on the CASE/CardioSoft system, copy the ***NARRATIV*** folder from the CASE/CardioSoft system to removable media or a network share.

   The default location is ***D:\CASE\NARRATIV*** or ***C:\CARDIO\NARRATIV***.

2. Log on to the MUSE application server as MuseAdmin.

3. On the MUSE system, copy the ***NARRATIV*** folder from the removable media or network share to a temporary location on the MUSE application server such as ***C:\CASE1\NARRATIV***.

   NOTE:
   If you are copying report templates from multiple CASE/CardioSoft systems, create a separate temporary location for each system, such as ***C:\CASE1\NARRATIV***, ***C:\CASE2\NARRATIV***, and so on.

4. On the MUSE system, open a command prompt.

5. Change to the location of the MUSE application files (default is ***C:\Program Files (x86)\Muse***).

6. Type this command with your defined parameters: ***loadtemplate -path:"<path to narrativ folder>" -test:4 -lang:<language> -db:<dbname>***. Use the table below.

Table 2: Command Options

Command Option	*Description*
-path	Required. The path to the CASE/CardioSoft report templates. For example: ***C:\CASE1\NARRATIV***.
-lang	Optional. This is the report language. If you do not include this switch, the language defaults to **en** (English). The language you enter should match the language of the CASE system. See the following table for other language codes.
-db	Optional. Database name and prefix (for example **Server\Instance.Prefix**). The default is **\.MUSE**.

Table 3: Language Codes

Code	*Language*
da	Danish
de	German
en	English
es	Spanish
fi	Finnish
fr	French
it	Italian
ja	Japanese
nl	Dutch
no	Norwegian
ru	Russian
sv	Swedish
zh-chs	Simplified Chinese
zh-cht	Traditional Chinese

Examples:

- For an English language CASE system with a local MUSE database:
  loadtemplate -path:"C:\CASE1\NARRATIV" -test:4

NOTE:
Notice that in this example neither the language nor the database name was specified. Because the default language is English and the database is local with a default prefix of MUSE, it was not necessary to specify either of these in the command.

- For a Spanish language CASE system, a remote MUSE database named **SQLSERVER1**, and a default prefix of MUSE: **loadtemplate -path:"C:\CASE1\NARRATIV" -test:4 -lang:es -db:SQLSERVER1\.MUSE**
- For a Swedish language CASE system, a remote MUSE database, an instance name of **SQLSERVER1\MUSE**, and a default prefix of MUSE: **loadtemplate -path:"C:\CASE1\NARRATIV" -test:4 -lang:sv -db:SQLSERVER1\MUSE.MUSE**

7. Press **Enter**.
   The templates are loaded into the MUSE database.
8. Repeat this procedure to load templates from each CASE/CardioSoft system as desired.

   NOTE:
   If more than one CASE/CardioSoft system has the same **Report Template** name, the last **Report Template** with that name loaded into the MUSE database will be the **Report Template** used in the MUSE database. Use unique **Report Template** names at the CASE/CardioSoft systems to avoid overwriting report templates already loaded into the MUSE database.
9. Verify the report templates are loaded into the MUSE database.
   a) Open a stress exercise test in the MUSE Editor.
   b) Go to the **Clerical** tab and select the down arrow in the **Report Template** drop-down list.
   c) Verify the report templates loaded from the CASE/CardioSoft systems are listed there.

System Checkout

After system setup, make sure the CASE/CardioSoft system to MUSE system communication is set up correctly.

1. Verify that the CASE/CardioSoft system can transfer reports to the MUSE share folder and that the MUSE system can import CASE/CardioSoft reports.
   a) In CASE/CardioSoft application, select **Local Database**.
   b) Highlight a patient name and select **Examinations**.
   c) In the **Select Test** window, select a test record. Select **Transfer to MUSE**.
   d) Select **Save**.

e) Log on to MUSE and verify the test record displays in the MUSE system's **Edit List**.

2. Test the web connection between the CASE/CardioSoft system and MUSE system.
   a) In the CASE/CardioSoft application, select **MUSE Browser**.

      The CASE system launches with the specified web browser defined in the **System Configuration** settings. The browser connects to the MUSE web client home page.

   b) Sign in to the MUSE web client with the CASE/CardioSoft username and password.

   c) Submit a request query and view the results to make sure the web connection responds.

3. Verify that the CASE/CardioSoft system can view the patient list from the MUSE system.
   a) In the CASE/CardioSoft application, select **New Test**.

   b) Review the patient list. Make sure the patient list is from the MUSE system and not only the local CASE system.

4. Verify that the CASE/CardioSoft system can view open orders from the MUSE system.
   a) In the CASE/CardioSoft application, select **New Test**.

   b) Select **Order List**.

   c) Make sure that the open orders from the MUSE system display.

Troubleshooting

Symptom	*Cause*	*Recommendation*
Unable to view patients or orders on the MUSE system from the CASE/CardioSoft system.	The **MUSE User Name** and/or **MUSE Password** specified in the **Setup for MUSE** on the CASE/CardioSoft system is incorrect.	Ensure the **MUSE User Name** and/or **MUSE Password** are entered correctly in the **CASE System Configuration**.
	The MUSE Web API stopped on the MUSE application server.	Ensure the MUSE Web API service is running.
	The MUSE system currently shutdown.	Cancel the system shutdown.
Unable to transfer tests from a CASE/CardioSoft system to the MUSE system.	The **Exercise Testing Data Storage** option is not enabled on the MUSE system.	Enable the **Exercise Testing Data Storage** option on the MUSE system.

Symptom	*Cause*	*Recommendation*
	The **Directory User Name** and/or **Directory Password** defined in the **Store procedure for MUSE** on the CASE/CardioSoft system is incorrect.	Ensure the **Directory User Name** and/or **Directory Password** are entered correctly in the **CASE System Configuration**.
	The **Shared Directory** defined in the **Store procedure for MUSE** on the CASE/CardioSoft system is incorrect.	Ensure the **Shared Directory** is entered correctly in the **CASE System Configuration**.
	The **Directory User Name** defined in the **Store procedure for MUSE** on the CASE/CardioSoft system does not have access to the MUSE share.	Ensure the **Directory User Name** defined on the CASE/CardioSoft system is a member of the **MUSE Acq Users** group on the MUSE application server.
	The share on the MUSE application server is not defined correctly.	Ensure the **acq$** folder (default is ***<drive>:\Muse\acqS***) is correctly shared on the MUSE application server.

4

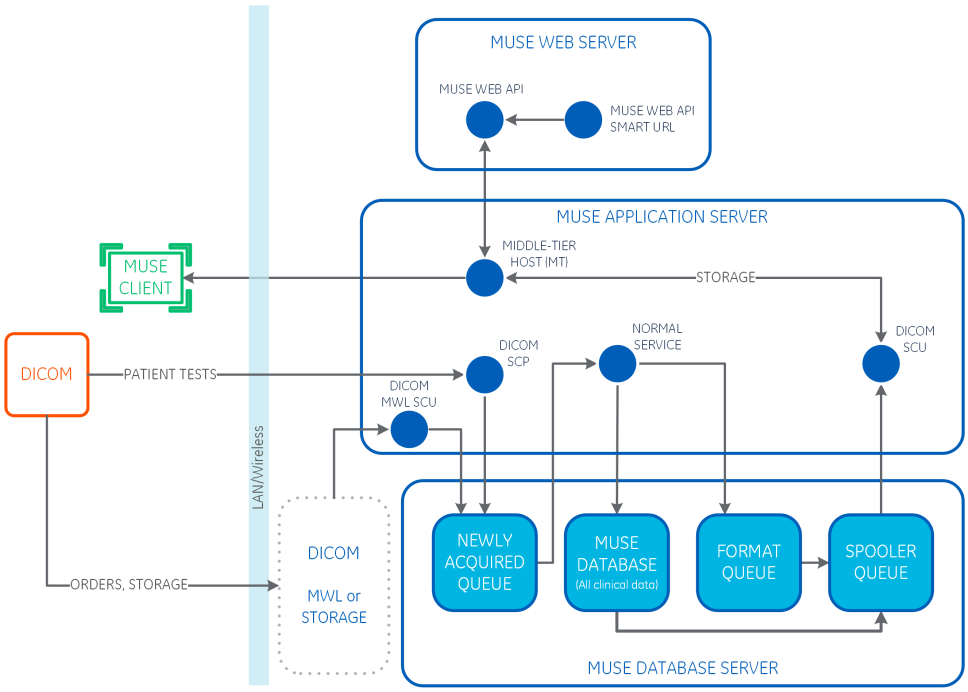
DICOM Communication

The MUSE system supports DICOM functionality with three different features: Storage Service Class Provider (SCP), Storage Service Class User (SCU), and Modality Worklist (MWL) SCU.

Feature	*Description*
DICOM Storage SCP	Allows DICOM ECG tests to be received by the MUSE system. Storage Commitment is supported. The MUSE system acts as a DICOM Storage Service Class Provider. **NOTE**: Inbound DICOM tests can only be acquired into MUSE Site 1 and will be acquired without any MUSE location information. This means that tests acquired via DICOM and intended for a MUSE Site other than 1 must be discarded and recovered to the correct site. Furthermore, non-default report distribution locations cannot be used for routing the test when it is acquired. The location of the test, however, can be changed in the MUSE Editor.
DICOM Storage SCU	Allows tests to be sent from the MUSE system to DICOM devices. Storage Commitment is supported. The system acts as a DICOM Storage Service Class User.
DICOM MWL SCU	Allows the system to receive orders from DICOM Modality Worklist Service Class Providers. The system queries Modality Worklist Service Class Provider (SCP) for Modality Worklist orders and updates the system orders database. The system acts as a DICOM Modality Worklist Service Class User.

For detailed information on DICOM conformance, see the *MUSE Cardiology Information System DICOM Conformance Statement*.

Data Transmission



The DICOM system shares data with the MUSE system one of three transmission routes:

- The DICOM SCU sends data to the MUSE DICOM SCP
- The MUSE DICOM SCU sends data to the DICOM SCP
- MUSE MWL SCU exchanges data with the DICOM MWL SCP

DICOM SCU to MUSE DICOM SCP

The DICOM device Storage Service Class User transmits a DICOM test across the network to the MUSE DICOM Storage Service Class Provider service. The test is then normalized on the MUSE system and stored in the database. If storage commitment is enabled, a DICOM SCU sends a storage commitment request to the MUSE system and the MUSE system returns a storage commitment response to the DICOM SCU.

MUSE DICOM SCU TO DICOM SCP

The MUSE DICOM device Storage Service Class User transmits a DICOM test across the network to a receiving DICOM Storage Service Class Provider. If storage commitment is enabled, the MUSE system sends a storage commitment request to the DICOM SCP, and the DICOM SCP returns a storage commitment response to the system.

MUSE MWL SCU and DICOM MWL SCU

The DICOM Modality Worklist Service Class User service queries the DICOM Modality Worklist Service Class Provider for orders. Orders that are returned are created/updated in the system orders database. These orders behave the same as orders received via the MUSE HL7 Parser.

MUSE Services

Each system DICOM function has its own MUSE service on the system application server, as described in the following table.

MUSE Service Name	*DICOM Function*
MUSE DICOM Modality Worklist Client	DICOM Modality Worklist (MWL) Service Class User (SCU)
MUSE DICOM Storage Provider	DICOM Storage Service Class Provider (SCP)
MUSE DICOM Storage User	DICOM Storage Service Class User (SCU)

In addition to these services, the **MUSE Normal** service is used to normalize all inbound test data, including DICOM, and the **MUSE Format** service is used to format all outbound data, including DICOM IOD and DICOM Encapsulated PDF.

Customer Requirements

The customer is responsible for supplying the following:

- Network connectivity between the system and the non-system DICOM services and devices.
- AE titles, IP addresses, and ports for all non-system DICOM services and devices.

Configure DICOM with the MUSE System

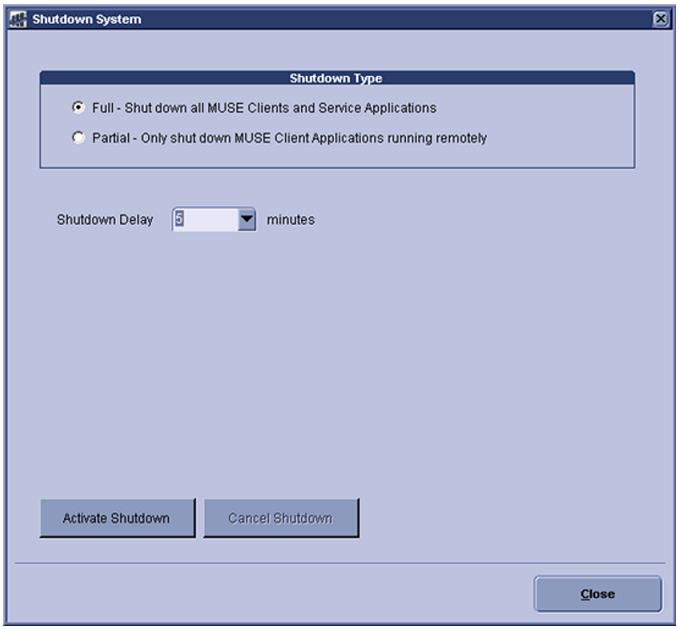
To configure the settings for DICOM and the MUSE system interface, perform the following procedures in the recommended order that they are listed:

1. *"Schedule a System Shutdown" on page 77*
2. *"Verify or Add the DICOM Service(s) and Option to the MUSE System" on page 77*
3. *"Cancel the System Shutdown" on page 79*
4. *"Configure MUSE Services to Receive and Send DICOM Tests" on page 80*
5. *"Configure Inbound DICOM Device(s)" on page 82*
6. *"Configure Outbound DICOM Devices in the MUSE System" on page 83*
7. *"Configure the DICOM Modality Worklist Client Service on the MUSE System" on page 85*

Schedule a System Shutdown

1. Log on to the MUSE application server as an administrator.
2. In the MUSE application, go to **System** > **Setup**.
3. In the **Setup** window, select **System**.
4. Right-click on the **Product name** and select **Shutdown System**.

   The **Shutdown System** window opens.



5. Select the **Shutdown Type**.
   - Select **Full** to close the MUSE client application and stop MUSE services.
   - Select **Partial** to disconnect all remote connections to the MUSE clients. The MUSE clients and the MUSE services continue to run.

     NOTE:
     If the MUSE application stays open on a remote client workstation, the application disconnects from the MUSE server.
6. Select the time for the **Shutdown Delay**.
7. Select **Activate Shutdown**.

   The top of the MUSE client application shows when the shutdown occurs.

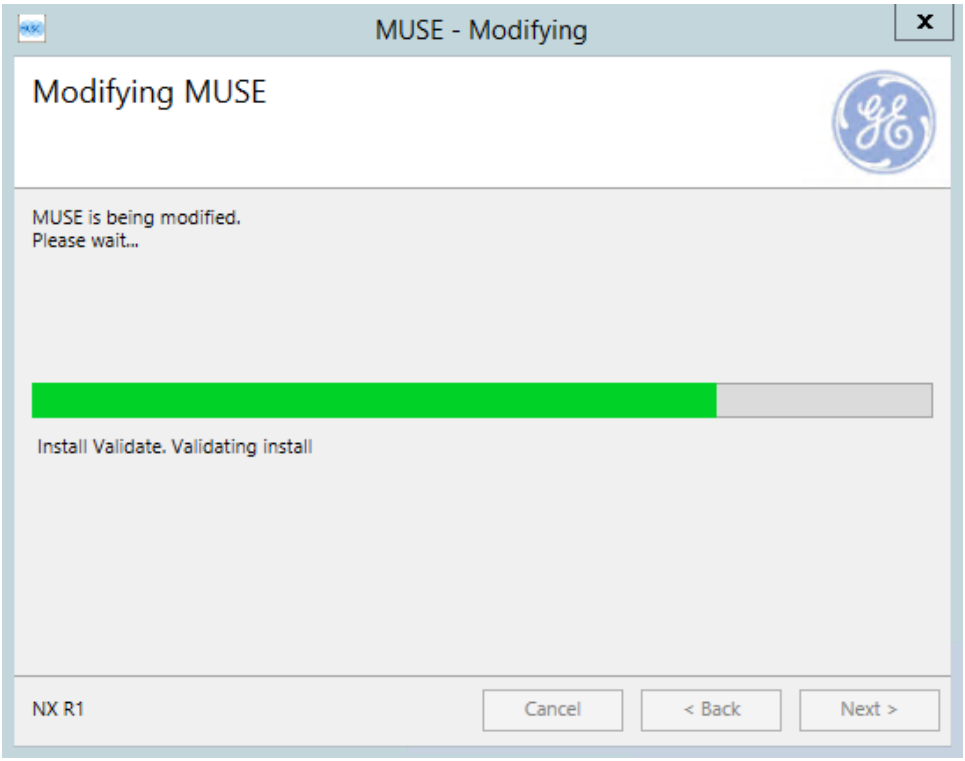
Verify or Add the DICOM Service(s) and Option to the MUSE System

Use the following procedure to add the DICOM option and service to the MUSE system.

NOTE:
This procedure can only be performed by a qualified GE Healthcare service representative.

1. Go to **Control Panel** > **Programs** > **Programs and Features**.
2. Right-click on **MUSE** and select **Change**.
3. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**. Continue to select **Next >** until you reach the **Select Options** screen.
4. On the **Select Options** screen, view the **DICOM** option.
   - If the option is enabled (checked), select **Cancel** to exit the installation wizard.
   - If the option is disabled (unchecked), check the box for the **DICOM** option.

     Selecting DICOM automatically selects all DICOM services.
5. Select **Next >** to view the **Select Features** screen.
6. On **Select Features** screen, under **Server** > **Services**, view the **DICOM** feature.
   - If the feature is enabled (checked), select **Cancel** to exit the installation wizard.
   - If the feature is disabled (unchecked), select **< Back** and make sure the **DICOM** option is selected.
7. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
8. Select **Next >**.
9. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



10. On the **Modify Complete** screen, select **Close**.

Cancel the System Shutdown

1. Go to **Services**.
2. Right-click on the **MUSE** service and select **Start**.
   This starts the MUSE MT host service and allows you to log on.
3. Log on to the MUSE application on the MUSE application server.
   The application displays the current shutdown status at the top of the window.

4. In the MUSE application, go to **System** > **Setup**.
5. Select **System**.
6. Right-click on the **Product name** and select **Shutdown System**.
7. In the **Shutdown System** window, select **Cancel Shutdown**.

   If the MUSE services were stopped, they are now restarted and remote connectivity is restored.

   The system does not automatically notify users that the MUSE system is available.

Configure MUSE Services to Receive and Send DICOM Tests

Configure MUSE system services for DICOM.

- **DICOM STORE SCP** is the MUSE service for the DICOM Storage SCP. This service receives DICOM tests from the DICOM Storage SCU.
- **DICOM STORE SCU** is the MUSE service for the DICOM Storage SCU. This service sends DICOM tests to DICOM Storage SCP.

MUSE services for DICOM communication are configured with a default AE title and port.

1. Log on to the MUSE application.
2. Go to **System** > **Setup**.
3. From the **Advanced** section, select **DICOM Services**.
4. Review and set the properties to receive DICOM tests from the DICOM Storage SCU.
   a) Right-click on **DICOM STORE SCP** and select **Properties**.
   b) From the left pane, select **General**. Review and modify the DICOM SCP Configuration fields.

Field	*Description*
IP Address	Enter the name or IP address of the MUSE application server. The default is **localhost**. This should not need to be changed.
AE Title	Enter the DICOM Application Entity (AE) title of the MUSE Storage SCP. The default is **MuseStoreSCP**.
Port	Enter the port that the **MUSE Storage Provider** service will listen on. The default port is **104**.
Enable Storage Commitment	Check this box to provide storage commitment responses from the MUSE system. The **MUSE Storage Provider** service listens for storage commitment messages on the same IP address and port as DICOM tests.
Retry Interval for sending N-Report (in seconds)	**NOTE**: This field can only be modified if the **Enable Storage Commitment** is checked. Enter the time between attempts to send a storage commitment status to the DICOM Storage SCU. The default is **60**.

Field	*Description*
Maximum wait time before failure	**NOTE**: This field can only be modified if the **Enable Storage Commitment** is checked. Enter the maximum time the **MUSE Storage Provider** service should wait for a storage commitment response. The default is **180**.

c) From the left pane, select **DICOM Association Settings** to verify the default settings.

Field	*Default Setting*
Maximum Length of PDU	28672
Association Open Timeout (in seconds)	120
Association Idle Timeout (in seconds)	30
Maximum No. of Concurrent Associations	5

d) Select **OK** to save your changes.

To ignore any changes made, select **Close**.

5. Review and set the properties to send tests to the DICOM Storage SCP.

a) Right-click on **DICOM STORE SCU** and select **Properties**.

b) From the left pane, select **General**. Review and modify the DICOM SCU Configuration fields.

Field	*Description*
AE Title	Enter the DICOM AE title of the System Storage SCU. The default is **MuseStoreSCU**.
Storage commitment port (for receiving responses)	Enter the port that the system **DICOM STORE SCU** service listens on for storage commitment responses. The default port is **105**.
Maximum Wait Time	Enter the maximum time in seconds that the system waits for storage commitment responses. Default is **60**.
Maximum retries	Enter the maximum number of storage commitment requests that the system makes if previous requests fail. Default is **3**.

c) From the left pane, select **DICOM Association Settings** to verify the default settings.

Field	*Default Setting*
Maximum Length of PDU	28672
Association Open Timeout (in seconds)	120
Association Idle Timeout (in seconds)	30
Maximum No. of Concurrent Associations	5

d) Select **OK** to save your changes.

To ignore any changes made, select **Close**.

6. If any changes were made, these services will need to be restarted on the system application server.

Configure Inbound DICOM Device(s)

Each inbound DICOM Storage SCU Device needs to be configured in the MUSE system prior to the device being able to associate with and send DICOM tests to it.

Use the following steps to configure an inbound DICOM device in the MUSE system. Repeat these steps for each inbound DICOM device that needs to send tests to the MUSE system.

1. Log on to the MUSE application.
2. Go to **System** > **Setup**.
3. Select **DICOM Devices**.
4. Configure an existing device or add a new device.
   - To view the properties of an existing DICOM device, right-click on the entry for the device and select **Properties**.
   - To add a new device, right-click in an open area, and select **New**.
5. Select **General** and complete the following fields as appropriate.

Field	*Description*	*Actions*
AE Title	The DICOM Application Entity Title of the MUSE Storage Service Class User device.	Type the AE Title of the DICOM Device that sends tests to the MUSE system.
IP Address	The name or IP address of the DICOM device.	Type the IP address of the DICOM Device that sends tests to the MUSE system.
Description	This field can be used to describe the device.	Type a description of the device into this field.

Field	*Description*	*Actions*
Storage Commitment	If storage commitment is enabled, the MUSE system sends storage commitment responses to the DICOM device storage commitment service using information configured here.	If the DICOM device supports storage commitment, select this box to enable it.
AE Title	The DICOM Application Entity Title of the storage commitment service on the DICOM device.	Type the AE Title of the storage commitment service on the DICOM Device.
IP Address	The IP Address of the storage commitment service on the DICOM device.	Type the IP Address of the storage commitment service on the DICOM Device.
Port	The port number of the storage commitment service on the DICOM device.	Type the port number of the storage commitment service on the DICOM Device.

NOTE:

To send DICOM tests to the MUSE system, configure the DICOM Storage SCU device to use the MUSE DICOM Storage SCP AE Title, IP Address, and Port as defined in the **Setup** > **DICOM Services** > **DICOM STORE SCP**.

Use this same information for storage commitment, if that option is enabled for the MUSE Storage Provider service.

6. Select **OK** to save your change.

   To ignore any changes made, select **Close**.

Configure Outbound DICOM Devices in the MUSE System

All DICOM devices must be configured in the MUSE system before you can send or receive DICOM tests in the MUSE system.

1. Log on to the MUSE application.
2. Go to **System** > **Setup**.
3. From the **System** section, select **Devices**.
4. Configure an existing DICOM device or add a new device.
   - To view the properties of an existing DICOM device, right-click on the entry for the device and select **Properties**.
   - To add a new device, right-click in an open area, and select **New**.
     - Select **DICOM IOD** (Information Object Definition) for ECG test types sent to DICOM IOD devices.
     - Select **DICOM PDF** to add the DICOM encapsulated PDF device.

5. From the left pane, select **General**. Review and modify the device properties.

Field	*Action*
Device Name	Enter the name of the system device.
Device AE Title	Enter the DICOM AE Title of the DICOM storage SCP that receives tests from the system.
IP Address	Enter the IP address of the receiving DICOM storage SCP that receives tests from the system.
Port	Enter the port number of the receiving DICOM storage SCP. This is the DICOM storage service class provider that receives tests from the system.
Send Original IOD if available **NOTE**: This option is only available for DICOM IOD device types.	To export the original unedited DICOM test data, check this option. To export the edited DICOM test, uncheck this option.
Supports Storage Commitment	Check this box to provide storage commitment responses from the MUSE system. The system sends storage commitment requests to the DICOM device storage commitment service using information configured here. Uncheck this option to disable this function or if the device does not support storage commitment.
Storage Commitment AE Title	Enter the DICOM Application Entity Title of the storage commitment service on the DICOM device.
Storage Commitment IP Address	Enter the IP address of the storage commitment service on the DICOM device.
Storage Commitment Port	Enter the port number of the storage commitment service on the DICOM device.

NOTE:

To receive DICOM tests from the MUSE system, the receiving DICOM Storage SCP might need to be configured with the DICOM Storage SCU AE title and IP address defined in **Setup** > **DICOM Services** > **DICOM STORE SCU**

If storage commitment is enabled, specify the MUSE system's DICOM STORE SCU storage commitment port on the receiving DICOM Storage SCP.

6. Select **DICOM Echo** to make sure that the system can associate with the DICOM Storage SCP.
   - If the association is successful, the system displays: **DICOM Echo Successful**.
   - If the association fails, the system displays: **DICOM Echo Failed**. Check the settings and try again.
7. From the left pane, select **Hours of Operation** to configure time range by week day to receive DICOM tests from the added device.

8. From the left pane, select **Advanced** apply the DICOM device configuration settings for either all sites or specific individual sites.

   For a new DICOM PDF device, the **Advanced** section has format options for the PDF based on test type.

9. Select **OK** to save your changes.

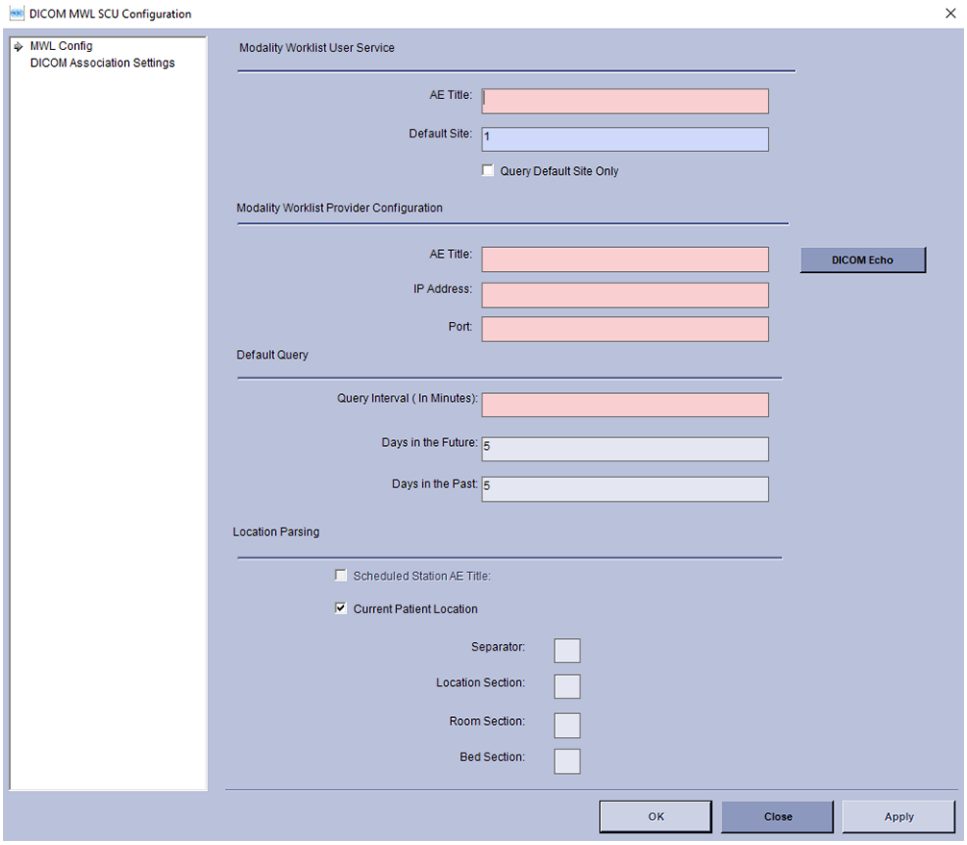
   To ignore any changes made, select **Close**.

Configure the DICOM Modality Worklist Client Service on the MUSE System

The system DICOM modality worklist client service queries a DICOM modality worklist service class provider for DICOM orders.

Use the following steps to configure the system DICOM modality worklist client service to query for DICOM orders. Repeat these steps for each system site that needs to query for DICOM orders.

1. Log on to the system application.
2. Go to **System** > **Setup**.
3. From the **Advanced** section, select **DICOM Services**.
4. Perform one of the following steps:
   - To create a new DICOM MWL SCU service, go to **Action** > **New** > **MWL Server**.
   - To modify an existing DICOM MWL SCU service, right-click on the entry and select **Properties**.
5. From the left pane, select **MWL Config** and set up the following fields as appropriate:



Field	*Description*
Modality Worklist User Service	
AE Title	Enter the DICOM AE Title of the system MWL SCU.
Default Site	Enter the system site number. Orders received via DMWL with a value in the DICOM **Institution Name** (0008,0080) that matches a configured MUSE **Site** name are stored under that site. If the DICOM **Institution Name** is either blank, or does not match a configured MUSE **Site** name, the Order is stored in this **Default Site**.
Query Default Site Only	Check this box to enable queries to be only for orders that have a DICOM Institution Name that matched the name of the Default MUSE Site.
Modality Worklist Provider Configuration	
AE Title	Enter the DICOM AE Title of the DICOM MWL SCP that the system queries for orders.
IP Address	Enter the IP address of the DICOM MWL SCP that the system queries for orders.

Field	*Description*
Port	Enter the port of the DICOM MWL SCP that the system queries for orders.
Default Query	
Query Interval (In Minutes)	Enter the number (in minutes) to specify the frequency the system queries for orders.
Days in the Future	Enter the number of days in the future (from the current time) to query for Scheduled Procedure Start Date/Time. The default is five.
Days in the Past	Enter the number of days in the past (from current time) to query for Scheduled Procedure Start Date/Time. The default is five.
Location Parsing	
Scheduled Station AE Title	This option can only be enabled if the **Current Patient Location** is not checked. This is one of two fields from the orders received through DICOM MWL used to match a configured MUSE **HIS Location Full Name**. The matched orders will be stored under that location.

Field	*Description*
Current Patient Location	This option can only be enabled if the **Scheduled Station AE Title** is not checked. This is one of two fields from the orders received through DICOM MWL used to match a configured MUSE **HIS Location Full Name**. The matched orders will be stored under that location. In the **Separator** and **Location Section** fields, enter the parsing multi-segment values for the **Current_Patient_Location** stings. When parsing location from the **Current Patient Location** field, orders received through the DICOM MWL with a value in the DICOM **Current Patient Location** (0038,0300) that match a configured MUSE **HIS Location Full Name**, the order is stored under that location. If both a **Location Separator** and **Location Segment#** are configured, the **Current Patient Location** is parsed prior to matching the MUSE **HIS Location Full Name**. For example, if the **Current Patient Location** value contains the string '**General Hospital-Cardiac ICU-Room 204-Bed 1**' and the **Location Separator** is configured as '-' and the **Location Segment** is configured as '**2**', the parsed result of '**Cardiac ICU**' is used for matching to the MUSE **HIS Location Full Name**. If a match is not made to a MUSE **HIS Location Full Name**, the order is not associated with any MUSE Location. The **Room Section** and **Bed Section** fields are similarly used for parsing out the room number and bed number from the **Current Patient Location** value. In the above example, the room number would be parsed as **"204"** and the bed number would be parsed as **"1"**.

NOTE:
To receive DICOM modality worklist queries from the system, the DICOM modality worklist service class provider might need to be configured with the system modality worklist service class user AE title defined in the DICOM MWL SCU entry in DICOM services in the system setup.

6. Select **DICOM Echo** to make sure that the system can associate with the DICOM device.
   - If the association is successful, the system displays: **DICOM Echo Successful**.
   - If the association fails, the system displays: **DICOM Echo Failed**. Check the settings and try again.
7. From the left pane, select **DICOM Association Settings** to verify the default settings.
8. Select **OK** to save your changes.

   To ignore any changes made, select **Cancel**.

9. Restart the **MUSE DICOM Modality Worklist Client** service on the system application server.

System Checkout

1. Verify that the MUSE system is receiving DICOM tests.
   a) From the DICOM Storage Service Class User device, send a DICOM ECG test to the MUSE system.
   b) On the MUSE system, verify the test is visible in the **MUSE Edit List**.
2. Verify that the MUSE system can send DICOM tests.
   a) From the MUSE system, print an ECG to a DICOM IOD or PDF device.
   b) On the DICOM device, verify the test is transmitted successfully.
3. Verify that orders from the DICOM MWL SCP are visible in the MUSE system.

Troubleshooting

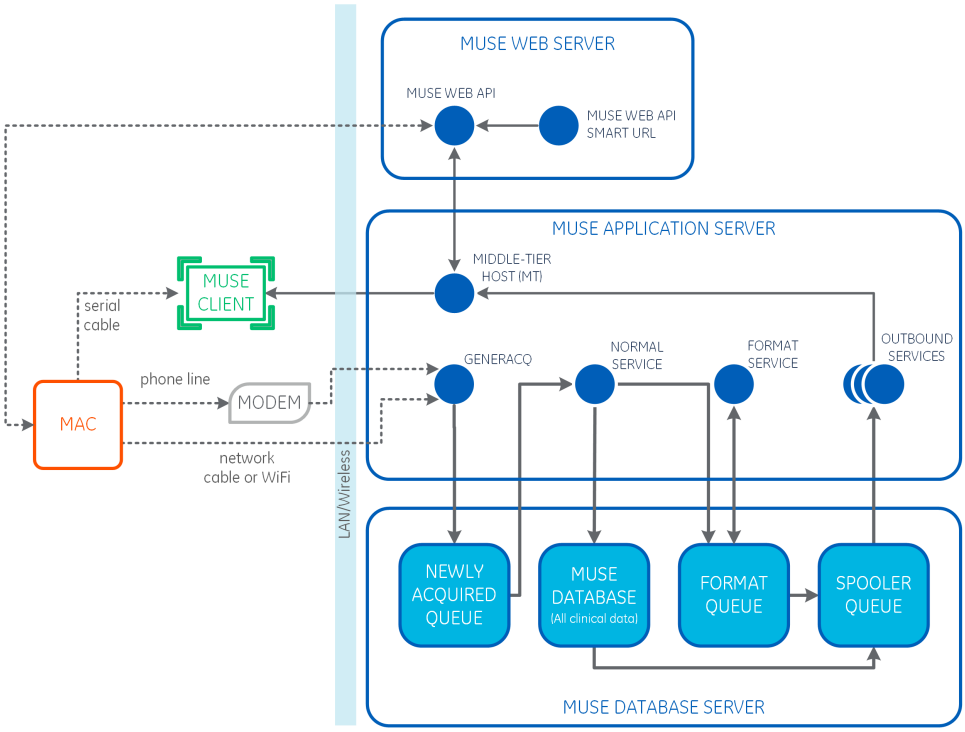
Symptom	*Condition*	*Action*
Unable to send tests from a DICOM device to the MUSE system.	The sending DICOM device has not been defined as a DICOM Device in the MUSE system.	Confirm that the DICOM device has been defined in the MUSE system. Each DICOM device that sends DICOM tests to the MUSE system must be defined in **MUSE Setup** > **DICOM Devices** with a valid configuration.
	The MUSE DICOM Storage Provider service is not started.	Start the MUSE DICOM Storage Provider service.
Unable to send tests from the MUSE system to a DICOM Device.	The test is a non-ECG test.	Only ECG tests can be sent to a DICOM IOD device. ECG and non-ECG tests may be sent to a DICOM PDF device.
	The MUSE DICOM Storage User service is not started.	Start the MUSE DICOM Storage User service.
Unable to receive DICOM MWL orders in the MUSE system.	The MUSE DICOM Modality Worklist Client service is not started.	Start the MUSE DICOM Modality Worklist Client service.

5

MAC ECG Systems

The Microprocessor Augmented Cardiograph (MAC) ECG systems provide diagnostic care with the Marquette™ 12SL™ ECG Analysis Program. When the MAC ECGs communicate with the MUSE system, the MAC ECG systems transfer tests to the MUSE system for viewing, editing, printing, and storage. The MAC ECG systems also receive orders and/or patient demographics information from the MUSE system. Additionally, remote query allows a MAC ECG system to query for and receive tests from the MUSE system, while reverse transmission allows MUSE to send data to a MAC ECG system.

Data Transmission



MAC ECG devices can communicate with the MUSE system via direct serial cable, modem, wireless network, or local area network.

The following table provides the methods available for transferring data from the acquiring ECG device to the system. Many of the methods listed require a premium feature (the purchase and activation of an option) on the acquiring ECG device. Refer to your GE Healthcare sales representative for more information.

Table 4: Acquiring ECG Device Interface Features

MAC Devices	*CSI Modem*	*CSI Network*		*CSI Direct*	*DCP*	*USB/ USB Flash Drive*	*SD Card*	*Remote Query*[2]	*ADT Query*
		Wireless	*LAN*						
MAC 600	✓			✓			✓		
MAC 800	✓	✓	✓	✓	✓[1]		✓		✓[1]
MAC 1200	✓			✓					
MAC 1600	✓		✓	✓			✓		
MAC 2000	✓	✓	✓	✓	✓		✓	✓	✓
MAC 3500	✓	✓	✓	✓			✓		✓
MAC 5500	✓	✓	✓	✓			✓	✓	✓
MAC VU360					✓	✓			✓

[1] **MAC 800 v2 required for DCP.**

[2] **Remote Query is a premium feature that enables an acquisition device to retrieve a patient record directly from the MUSE system. This feature has advanced security controls to enable/ disable Remote Query by site within the MUSE system.**

Customer Requirements

The customer is responsible for appropriate serial, telephony, or network connectivity between the MAC ECG systems and the MUSE systems that have been configured for MAC system to MUSE system communication.

Wireless/LAN Communication Requirements

The Wireless and LAN options are automatically installed and enabled with the latest MUSE system.

Communication Protocols

Two different communication protocols can be used to support LAN communication between a MAC system and a MUSE system: CSI and DCP.

Protocol	*Requirements*
CSI	• Static IP address or hostname for the MAC system • A modem is defined in MUSE for each MAC system • Wireless/LAN communication option enabled in MUSE
DCP	• Static or dynamic IP address for the MAC system • DCP communication option enabled in MUSE

Supported MAC Systems

Only the following MAC systems are supported with the latest version of the MUSE system:

System	*Software Version*
MAC 800	1.0 or higher
MAC 1600	
MAC 2000	1.1 or higher
MAC 3500	v009A or higher
MAC 5500	
MAC VU360	See MAC VU360 compatibility documentation.

MAC System Communication Option

Make sure that the communication option is enabled for the MAC system.

System	*Communication Option*
MAC 800	**LANM**
MAC 1600	
MAC 2000	**LANM** **WIFM**
MAC 3500	**ELAN**
MAC 5500	**WIFI**
MAC VU360	**WRLS**

Configure MAC ECG Systems with the MUSE System

To configure the settings for MAC ECG systems and the MUSE system interface, perform the following procedures in the recommended order that they are listed:

1. *"Set Up the MUSE Modem Feature" on page 93*
2. *"Set Up the MUSE Server for DCP Communication" on page 99*
3. *"MobileLink Configuration"*
4. *"Import the Server CA Certificate for MAC Systems" on page 106*
5. *"Disable the eDoc Connect Option" on page 26*

Set Up the MUSE Modem Feature

The MUSE system uses the following modem types to send and receive data:

Table 5: MUSE Modem Types

Modem Type	*Description*
FAX Modem	Supports outgoing fax transmission. Requires physical modem.
CSI Modem	Supports Plain Old Telephone Service (POTS) modem communication to compatible MAC systems. Requires physical modem.
CSI Direct	Supports direct serial cable communication with compatible MAC systems. Requires physical serial cable.
CSI Network	Supports wireless and/or LAN cart connections with compatible MAC systems.

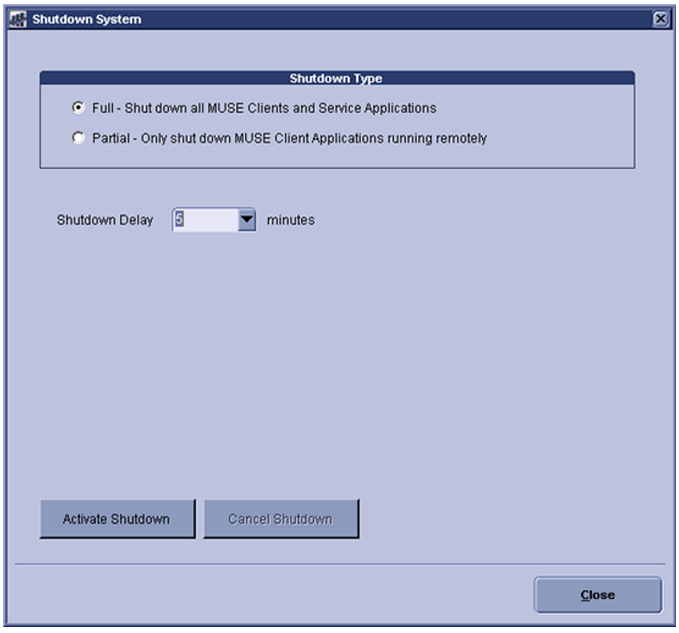
To support any of the available modem types on MUSE, the MUSE **Modem** feature must be installed and the MUSE **Modem** service must be running.

NOTE:
During an upgrade from MUSE v7.x, all CSI Wireless modems are converted to CSI Network modems. If you see a CSI Wireless entry in the **Modem Setup** list, the modem server for that modem was not upgraded or is missing. Refer to the *MUSE Cardiology System Installation and Upgrade Manual* for information on performing a wireless modem migration during a MUSE v7 upgrade.

Schedule a System Shutdown

1. Log on to the MUSE application server as an administrator.
2. In the MUSE application, go to **System** > **Setup**.
3. In the **Setup** window, select **System**.
4. Right-click on the **Product name** and select **Shutdown System**.

The **Shutdown System** window opens.



5. Select the **Shutdown Type**.
   - Select **Full** to close the MUSE client application and stop MUSE services.
   - Select **Partial** to disconnect all remote connections to the MUSE clients. The MUSE clients and the MUSE services continue to run.

     NOTE:
     If the MUSE application stays open on a remote client workstation, the application disconnects from the MUSE server.
6. Select the time for the **Shutdown Delay**.
7. Select **Activate Shutdown**.

   The top of the MUSE client application shows when the shutdown occurs.

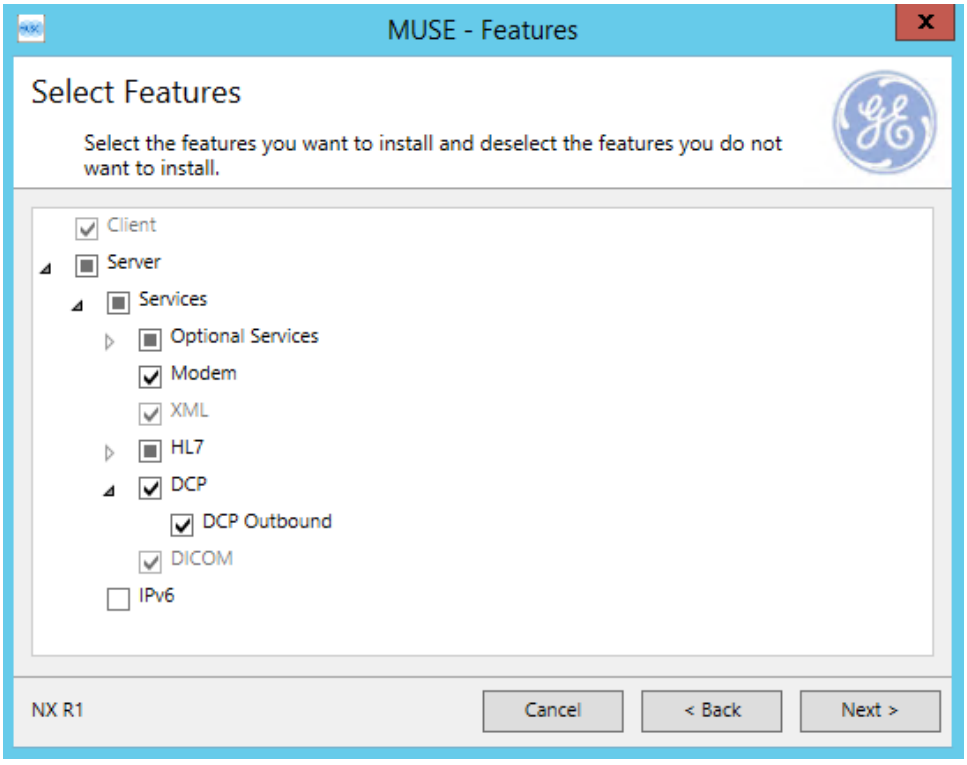
Verify or Add the MUSE Modem Service

The MUSE **Modem** feature and service are typically installed during the initial installation of the MUSE client. Use the following instructions to verify whether the MUSE **Modem** feature and service are installed on the MUSE system and to install them if they are not. These steps can be performed on the MUSE application server or MUSE workstation.

1. Log on to the MUSE system you want to configure as the MUSE Administrator user.
2. Go to **Control Panel** > **Programs** > **Programs and Features**.

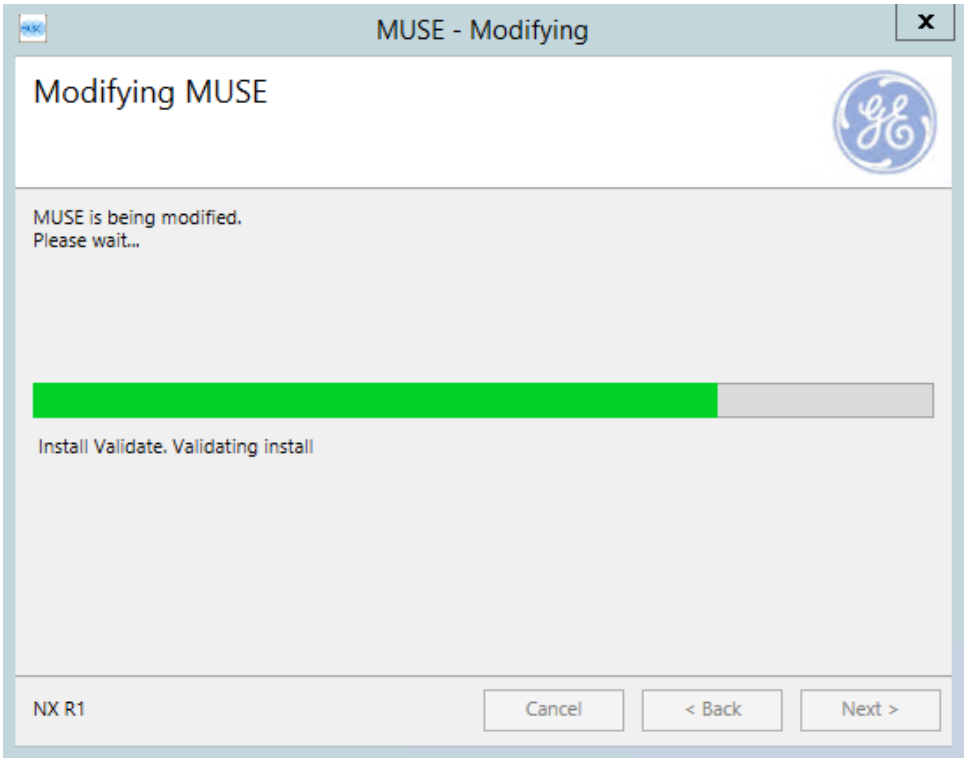
3. Right-click on **MUSE** and select **Change**.
4. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**.
5. On **Select Options** screen, view the **eDoc Connect**.
   - If the option is enabled (checked), select **Cancel** to exit the installation wizard.
   - If the option is disabled (unchecked), check the box for the **eDoc Connect**.

   NOTE:
   If the customer has not purchased the eDoc Connect option, it must only be temporarily enabled for this setup procedure. This option should be disabled once the setup is complete.
6. Select **Next >** until you reach the **Select Features** screen.
7. Expand **Server** > **Services** and do one of the following:
   - If the check box next to **Modem** is already checked, select **Cancel**. The **Modem** feature is already installed. Proceed to *"Setup a Modem Device" on page 97*.
   - If the check box next to **Modem** is not checked, check the box and select **Next**.



8. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
9. Select **Next >**.

10. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



11. On the **Modify Complete** screen, select **Close**.

Cancel the System Shutdown

1. Go to **Services**.
2. Right-click on the **MUSE** service and select **Start**.
   This starts the MUSE MT host service and allows you to log on.
3. Log on to the MUSE application on the MUSE application server.
   The application displays the current shutdown status at the top of the window.

4. In the MUSE application, go to **System** > **Setup**.
5. Select **System**.
6. Right-click on the **Product name** and select **Shutdown System**.
7. In the **Shutdown System** window, select **Cancel Shutdown**.
   If the MUSE services were stopped, they are now restarted and remote connectivity is restored.

The system does not automatically notify users that the MUSE system is available.

Verify MUSE Services

Verify that the **MUSE** and **MUSE Modem** services are started.

Setup a Modem Device

1. Log on to the MUSE system as a user with privileges to modify settings in **MUSE Setup**.
2. Go to **System** > **Setup**.
3. In the **Navigation** pane, select **Modems**.
4. Perform one of the following:
   a) To create a new modem, go to **Action** > **New** and select one of the following:

Modem	*Description*
Fax Modem	Used for physical FAX modems
CSI Modem	Used for physical CSI modems
CSI Direct	Used for direct serial cable at a MUSE client
CSI Network	Used for CSI LAN or Wireless Carts

   The appropriate **Modem Properties** window opens.

   b) To modify an existing modem, right-click on an existing entry and choose **Properties**.
   The appropriate **Modem Properties** window opens.
5. Enter the appropriate values described in the following tables.

Table 6: FAX, CSI, or CSI Direct Modem Properties

Field	*Description*
Computer Name	Name of the computer where the modem is physically installed.
Port	For FAX modems and CSI modems, this is the port where the modem is physically connected. For CSI Direct, this is the port where the serial cable is physically connected.
Baud Rate	115.2K (CSI Direct), 9600 (CSI, FAX)[1]
[1] If the FAX modem encounters problems at 9600 baud, use 4800 baud.	

Table 7: CSI Network Modem Properties

Field	*Description*
Computer Name	The name of the computer where the modem service is installed. This is normally the MUSE application server, but could be a MUSE client if the number of cart connections exceeds the number of connections the MUSE server can handle. See the *MUSE Cardiology Information System Pre-installation Manual*.
IP Address or Hostname	For static IP and reserved DHCP addressing schemes, type the IP address of the cart. For the hostname addressing scheme, type the system name of the cart.
Port	The port configured at the cart for data transmission.
Retry Interval in Seconds	Defines the upper limit of the time delay between the cart's attempts to communicate with the MUSE system. The default is 30 seconds. The recommended retry interval is 5 seconds.

NOTE:
Refer to the appropriate document referenced below for detailed installation and configuration information for the CSI Network modem types when used with compatible MAC ECG systems:

- *MobileLink Wireless Communication Installation Manual*
- *LAN Option for MAC Resting ECG Systems Installation and Troubleshooting Guide*

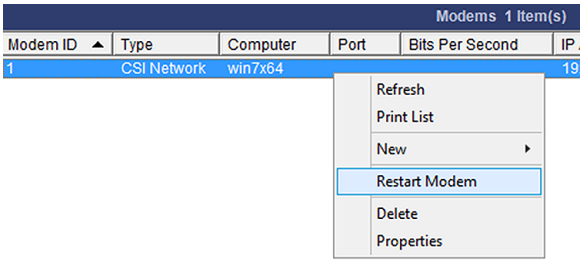
6. Select **OK** to save your changes or **Close/Cancel** to ignore your changes.

NOTE:
When a new modem is set up, the **MUSE Modem** service is notified and automatically starts a new thread to support the connection. You do not need to restart the **MUSE Modem** service after defining a new modem.

Restart the Modems

The individual threads running to support each connection are designed to automatically restart if they stop for any reason. Use the following procedure if you need to restart them manually.

1. Log on to the MUSE application.
2. Select **Setup** > **Modems**.
3. Select the modem(s) that you want to restart, right-click on it/them, and select **Restart Modem**.



NOTE:

There is also a **Restart Modem** icon on the toolbar that can be used to restart a modem.

A message displays that the modems were successfully restarted.

NOTE:

If you do not receive this message, the **MUSE MT Host** service was not able to communicate to the **MUSE Modem** services. There are two possible causes for this:

- The **MUSE Modem** service is not running.
- The firewall settings on the **MUSE Modem** service's host system are not configured correctly.

For more information about the modems, including when they start or restart, refer to the **MUSE Application** log.

If the connection to a cart fails, the **MUSE Modem** service immediately attempts to restart it. The failure and restart are logged in the **Application Log**.

If the restart fails within one minute, the service does not wait until the one minute interval is up before trying again.

If there are three consecutive failures within one minute, a message is logged indicating that error message logging for this modem has been stopped until the modem is working again. Halting error message logging prevents the **Application Log** from filling up with repetitive error messages. While no messages are being logged, the service continues to restart the modem in the background. Once the modem is restarted and continues running for at least one minute, logging resumes for this modem. Manually restarting the modem from the user interface also resumes logging.

Set Up the MUSE Server for DCP Communication

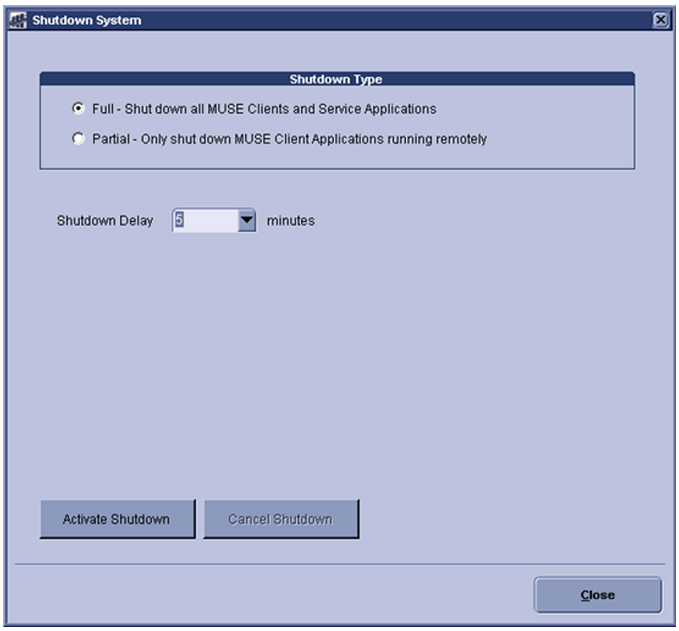
Use the following procedures to set up a MUSE server for DCP communication.

Schedule a System Shutdown

1. Log on to the MUSE application server as an administrator.
2. In the MUSE application, go to **System** > **Setup**.

3. In the **Setup** window, select **System**.
4. Right-click on the **Product name** and select **Shutdown System**.

   The **Shutdown System** window opens.



5. Select the **Shutdown Type**.
   - Select **Full** to close the MUSE client application and stop MUSE services.
   - Select **Partial** to disconnect all remote connections to the MUSE clients. The MUSE clients and the MUSE services continue to run.

     NOTE:
     If the MUSE application stays open on a remote client workstation, the application disconnects from the MUSE server.
6. Select the time for the **Shutdown Delay**.
7. Select **Activate Shutdown**.

   The top of the MUSE client application shows when the shutdown occurs.

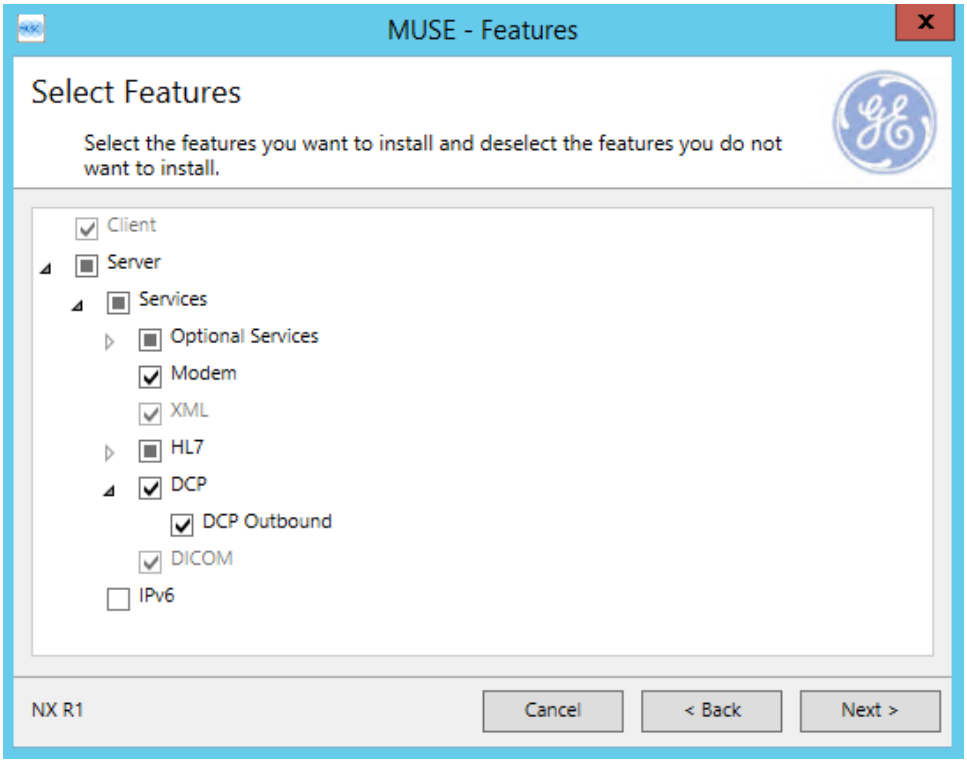
Verify or Add the DCP Feature to the MUSE System

Use the following procedure to verify, and if necessary, add the MUSE DCP services and DCP communication option to the MUSE system.

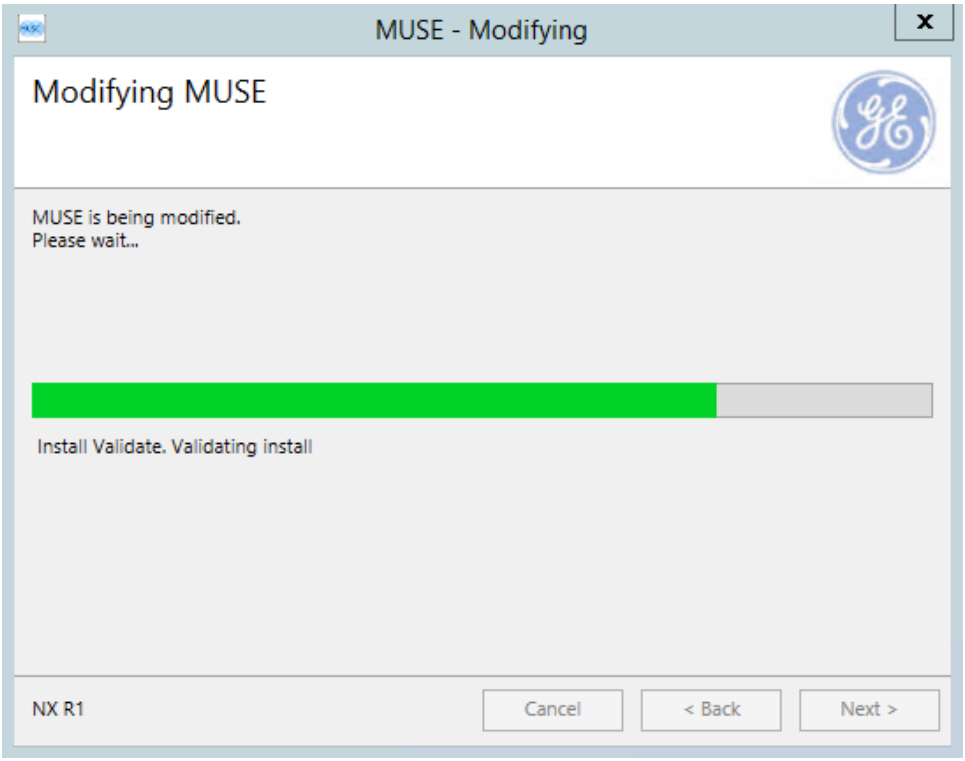
1. Log on to the MUSE application server as an administrator.
2. Go to **Control Panel** > **Programs** > **Programs and Features**.
3. Right-click on **MUSE** and select **Change**.

4. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**.
5. On **Select Options** screen, view the **eDoc Connect** option.
   - If the option is enabled (checked), select **Cancel** to exit the installation wizard.
   - If the option is disabled (unchecked), check the box for the **eDoc Connect**.

   NOTE:
   If the customer has not purchased the eDoc Connect option, it must only be temporarily enabled for this setup procedure. This option should be disabled once the setup is complete.
6. Select **Next >** until you reach the **Select Features** screen.
7. On **Select Features** screen, under **Server** > **Services**, view the **DCP** feature.
   - If the feature is enabled (checked), select **Cancel** to exit the installation wizard.
   - If the feature is disabled (unchecked), check the box for the **DCP** service and complete the modification to the installed MUSE system configuration.



8. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
9. Select **Next >**.
10. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



11. On the **Modify Complete** screen, select **Close**.

Cancel the System Shutdown

1. Go to **Services**.
2. Right-click on the **MUSE** service and select **Start**.
   This starts the MUSE MT host service and allows you to log on.
3. Log on to the MUSE application on the MUSE application server.
   The application displays the current shutdown status at the top of the window.

4. In the MUSE application, go to **System** > **Setup**.
5. Select **System**.
6. Right-click on the **Product name** and select **Shutdown System**.
7. In the **Shutdown System** window, select **Cancel Shutdown**.

   If the MUSE services were stopped, they are now restarted and remote connectivity is restored.

   The system does not automatically notify users that the MUSE system is available.

Configure the DCP Service in the MUSE System

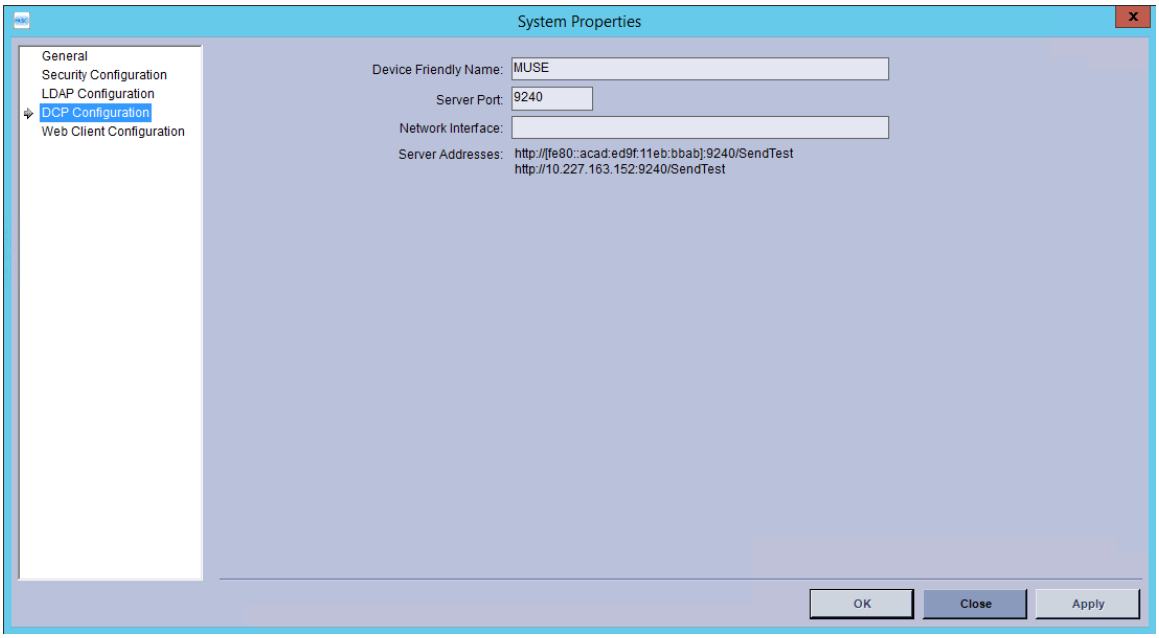
NOTE:
If the MUSE system is connected to the MAC ECG device by direct serial cable, wireless network with CSI, or local area network with CSI, see *"Set Up the MUSE Modem Feature" on page 93*.

Set up the DCP server for wireless or local area network with DCP (DCAR Communication Protocol) connections to a modem.

The MUSE system can receive inbound tests and requests for orders via DCP Inbound communication. Compatible GE Healthcare MAC ECG systems can use the protocol to communicate directly with the MUSE application server wirelessly or via LAN.

By default, the **DCP Inbound** service has a **Device Friendly Name** of MUSE and listens on port 9240 of all network interfaces on the MUSE application server.

1. Log on to the MUSE system as a user with privileges to modify settings in **MUSE Setup**.
2. Go to **System** > **Setup**.
3. In the **Navigation** pane, select **System**.
4. Right-click on the MUSE entry and choose **Properties**.
   The **System Properties** window opens.
5. Select **DCP Configuration**.
6. Modify the fields using the information in the following table.



Field	*Description/Action*
Device Friendly Name	This is the name the compatible device will see when finding DCP servers. The default is **MUSE**. Change this if desired.
Server Port	This is the port on which the DCP Inbound service is listening for inbound connections. The default is 9240. Change this if necessary.
Network Interface	This is where you can specify which network interface the DCP server should listen on. This field is blank by default so it will listen on all network interfaces on the MUSE application server. To configure the DCP Server to listen only on a single network interface, for example IPv4, you can type the IPv4 IP address into this field.
Server Addresses	This is a read-only output indicating the Server Address(es) that the **DCP Inbound** service is currently listening on. This is the full DCP URL that can be used to define this MUSE system on a compatible DCP client device such as a MAC 2000. Multiple server addresses may be listed if the **Network Interfaces**' field is blank.

7. Select **OK** to save your changes or **Close/Cancel** to ignore your changes.

   NOTE:
   Refer to the *LAN Option for MAC Installation and Troubleshooting Guide* for detailed installation and configuration information regarding the use of the DCP Protocol on compatible MAC ECG systems.

8. If any configuration changes were made, restart the MUSE **DCP Inbound** service on the MUSE application server.

MobileLink Configuration

Print the MobileLink Configuration Capture File

Make sure all the information about this system has been accurately entered into the Configuration Capture file. Prior to this installation, you may have received a copy of this file from Project Management with information gathered during pre-installation. If so, use that copy of the Configuration Capture file. If you have not received a Configuration Capture file, you can obtain a blank version on the MobileLink CD. Print a copy of this file as a reference to use during the installation.

During installation, you will be adding information to this file and storing the completed file on the MUSE file server. If the site already has existing carts configured for LAN or MobileLink and you are configuring more carts with the LAN option, you will be asked to append this information to the existing file on the MUSE file server.

```
MobileLink Configuration

The IP Address, Subnet Mask, and Gateway Address
If this information cannot be acquired ahead of t
After completion, this file should be saved on th

Site Name:
IS Contact Name:
IS Contact Phone:
Notes:

Configuration Information

IP Address:
Subnet Mask:
Gateway Address:
SSID:
Station Name: MAC5K001
Port Number: 3001
MAC Address:
Client Bridge Serial Number:
Encryption Information:
```

The **Station Name** and **Port Number** have been pre-entered in this file with the following convention.

Station Name	*Port Number*
MAC5K001	3001
MAC5K002	3002
MAC5K003	3003
etc	etc

NOTE:
The **Station Name** and **Port Numbering** system is a suggested convention.

Copy the Configuration Capture File to the MUSE Application Server

After all information is accurately recorded in the Configuration Capture file, copy the file to the following location on the MUSE file server: ***C:\mei\profile\2002783-067.txt***.

This file is available to GE Healthcare service personnel if the system requires remote service support.

Import the Server CA Certificate for MAC Systems

For all MAC ECG systems except MAC VU360, see *"Import the Server CA Certificate" on page 65*.

To import a server CA certificate for a MAC VU360 system, see the *MAC VU360 Setup and Configuration Manual* . Refer to *Chapter 3: Configuring Settings* > *Configuring Orders*> *Configuring MUSE Server Settings*.

Import the Server CA Certificate

All MUSE Web interfaces now require HTTPS with certificates.

Import a copy of the CA cerificate file to each device communicating with MUSE. Depending on configuration, web clients not on the same domain as the web server may also require certificate importation.

NOTE:
Third party interfaces to the MUSE Web API will require similar certificate importation, but are beyond the scope of this documentation and should be discussed with the third-party vendor.

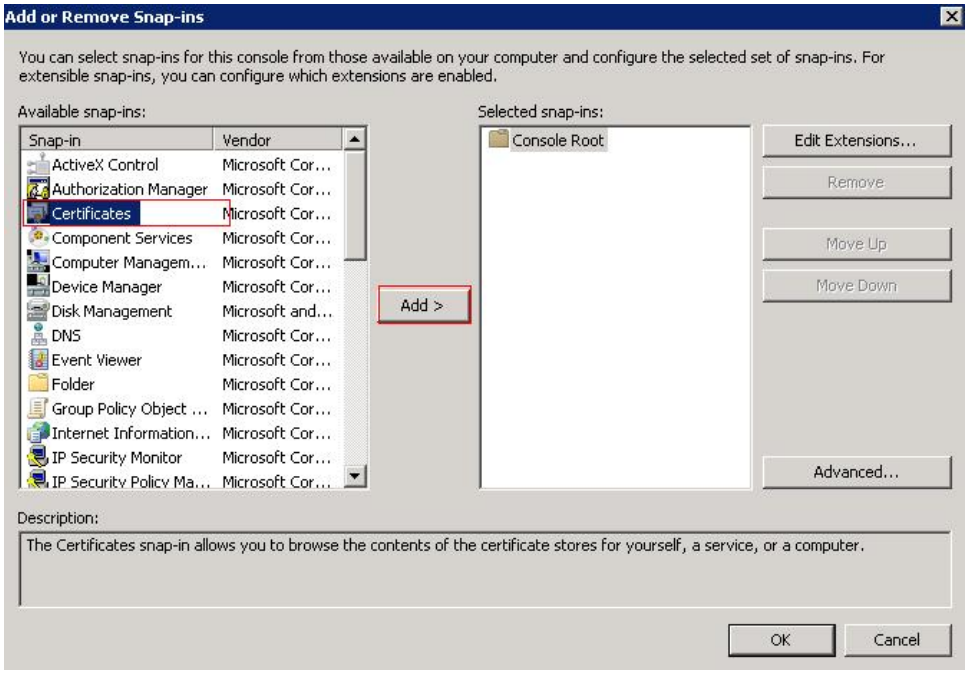
If the MUSE web client is on the same domain as the web server, you do not need to import a certificate.

NOTE:
If the certificate is being modified, the binding may need to be updated. For additional details, see the *Update the Certificate Binding (Not for New Installations)* topic in the *Troubleshooting* chapter of the *MUSE Cardiology Information System Installation and Upgrade Manual*.

1. Start **Microsoft Management Console (MMC) Tool** by selecting **Start** > **Run**. Enter ***MMC*** and select **OK**.

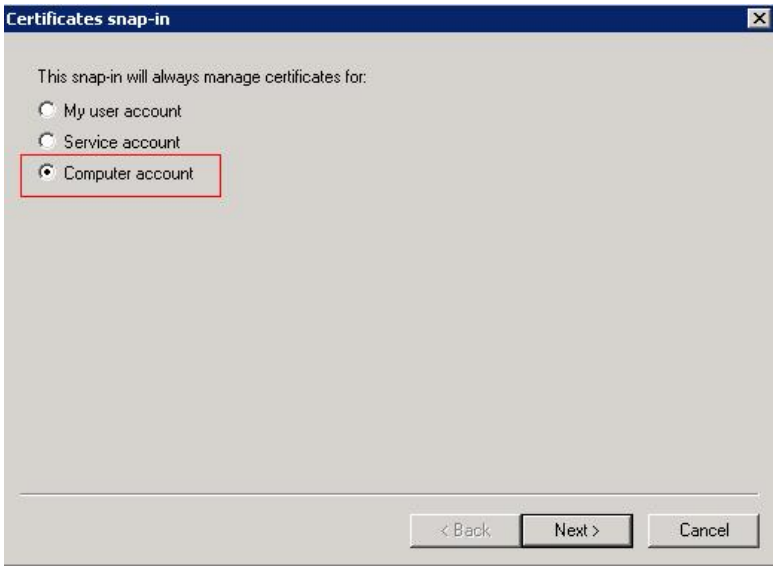
2. Select **File** > **Add/Remove Snap-in...**

   a) From the **Available snap-ins** (left-side panel), select **Certificates**. Then, select **Add >**.

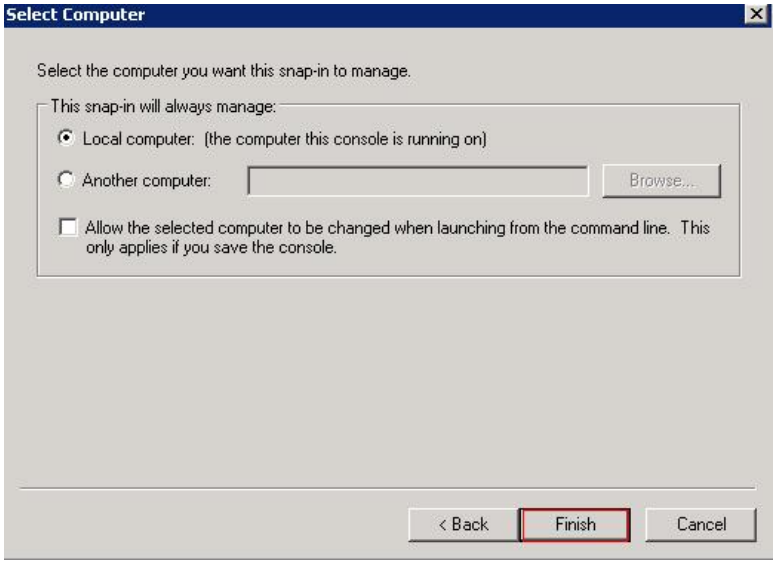


The **Certificates** snap-in option displays in the **Select snap-ins** (right-side panel).

b) The **Certificates snap-in** window displays. Select **Computer account** and select **Next >** .



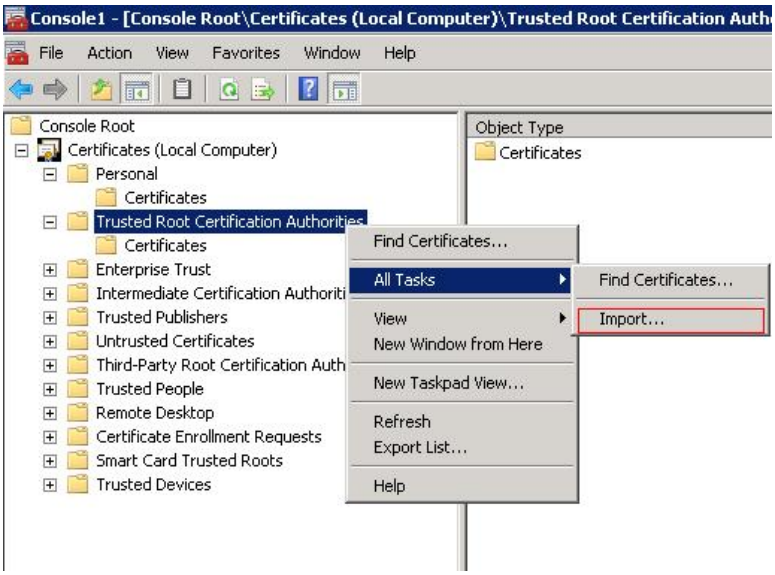
c) Select **Local computer: (the computer this console is running on)**.



d) Select **Finish**.

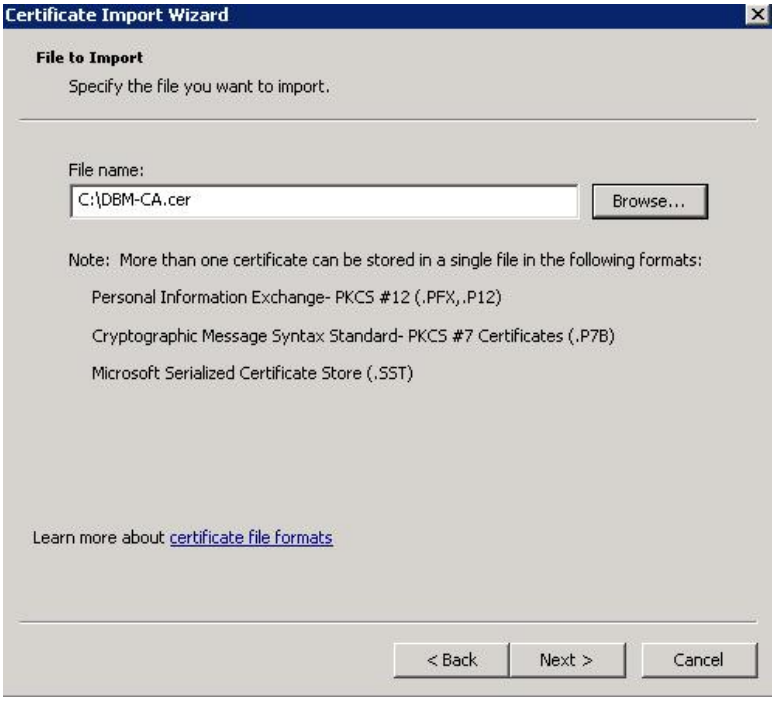
e) Select **OK**.

3. From the left panel, expand **Certificates (Local Computer)**. Right-click on **Trusted Root Certification Authorities** and select **All Tasks** > **Import**.

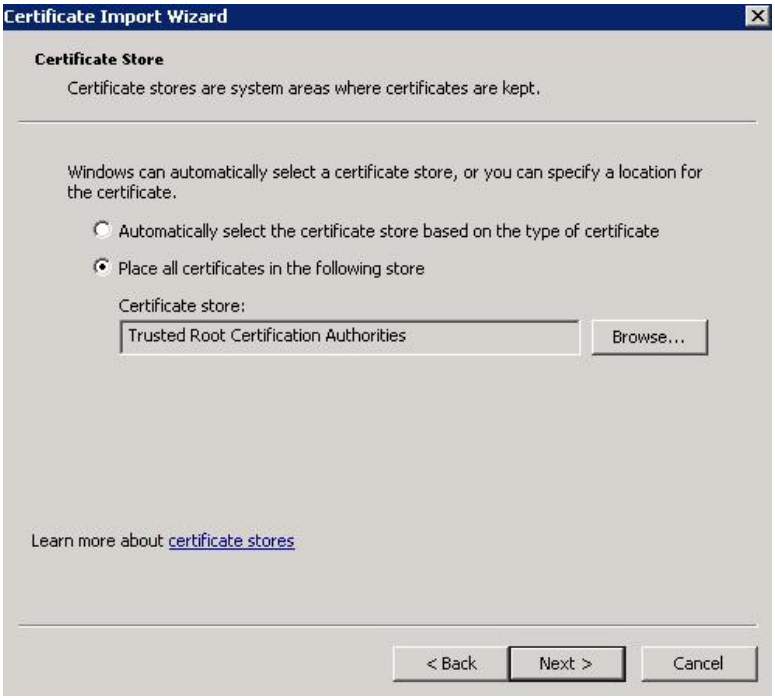


4. The **Certificate Import Wizard** opens. On the Welcome page, select **Next**.

5. Select **Browse** and navigate to the downloaded CA certificate file. Select **Next >**.



6. Select **Next >**.



The **Place all certificates in the following store** option should be selected with the identified **Certificate store** as **Trusted Root Certifcation Authorities.**

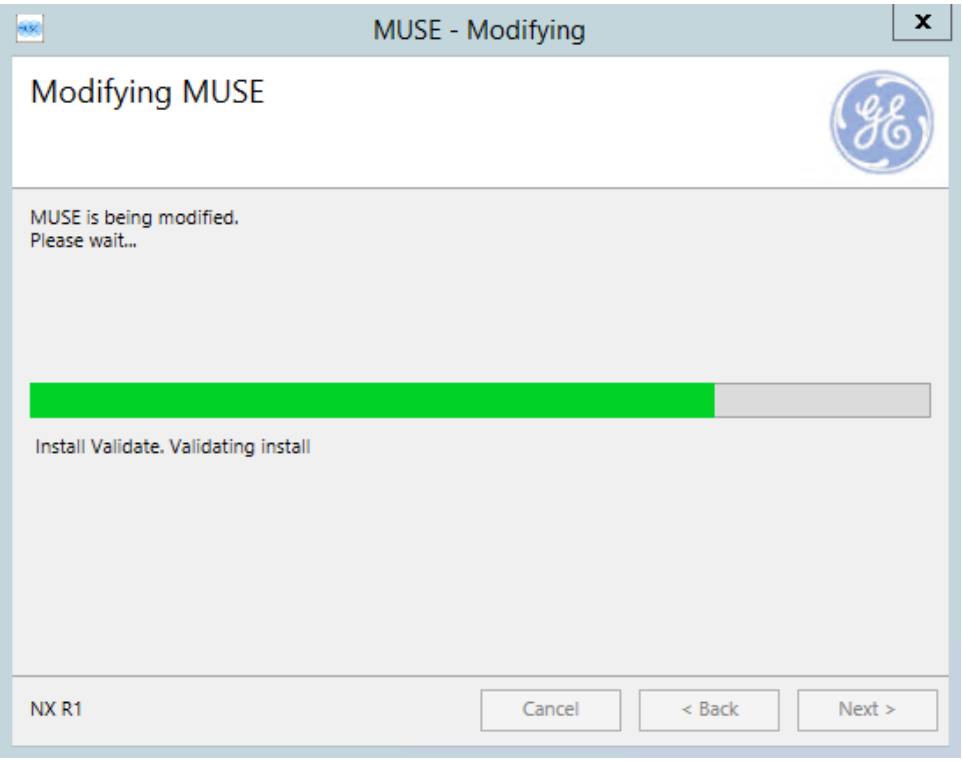
7. Select **Finish**.

8. A import confirmation message window displays. Select **OK**.

Disable the eDoc Connect Option

Disable the eDoc Connect option if the customer has not purchased eDoc Connect.

1. *"Schedule a system shutdown."*
2. Go to **Control Panel** > **Programs** > **Programs and Features**.
3. Right-click on **MUSE** and select **Change**.
4. On the **Welcome to the MUSE Setup Wizard** window, select **Next >**.
5. Select **Next >** until you reach the **Select Options** screen.
6. On **Select Options** screen, uncheck the **eDoc Connect** option.
7. Select **Next >** to bypass the **Select Features** screen. No changes to features
8. On the **MUSE Services Configuration** screen, enter the **Background User Password**.
9. Select **Next >**.
10. Select **Next >** to confirm installation with the modified settings. The **Modifying MUSE** screen displays installation progress.



11. On the **Modify Complete** screen, select **Close**.
12. *"Cancel the system shutdown."*

System Checkout

After configuring the MAC ECG devices, make sure that each MAC ECG device can successfully transmit tests to the MUSE system and download orders from the MUSE system based on data transmission type (CSI or DCP).

1. Verify that data is transmitting to the MUSE system.
   a) Turn on the MAC resting ECG analysis system.
   b) View the ECG files.
      - For all MAC ECG systems except MAC VU360, press **File Manager**.
      - For MAC VU360 systems, press **File**.
   c) Select the ECG you would like to transmit.

      NOTE:
      If no ECG is available for the verification, insert a floppy disc or SD card with an ECG stored on it or take a flat line ECG with no patient ID number and store it to the SD card.
   d) Transmit an ECG test from the MAC ECG device to the MUSE system using the CSI or DCP protocol.

e) Verify the test is successfully acquired into the MUSE system. The test should display in the **MUSE Edit** list.

For more information on how to transmit an ECG from the cart, refer to the operator manual for the cart you are using.

2. Verify that the MAC cart can download orders (if applicable).

   a) From the MAC ECG device, download an order from the MUSE system using the CSI or DCP protocol.

   b) Verify the order is successfully downloaded to the MAC ECG device.

Troubleshooting

For additional information to troubleshoot and configure MAC systems with MUSE, refer to the appropriate manual.

- For help with wireless system communication, see the *MobileLink Installation Manual*.
- For help with LAN system communication, see *LAN Option for MAC Installation and Troubleshooting Guide*.

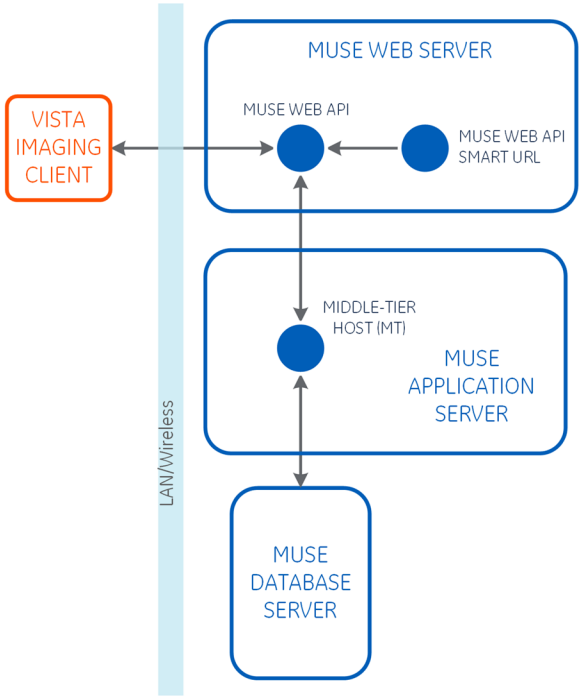
6

VA VistA Imaging

VistA Imaging is the software the US Veterans Administration (VA) hospitals use to interface with the MUSE system. VistA Imaging requires the MUSE Web API Smart URL module to operate. Installation of the MUSE Web API at VA facilities must be closely coordinated with the local IT department, since it requires the MUSE Web API Smart URL, the VistA Imaging client, and any appropriate VistA Imaging client patches or setup.

GE Healthcare service personnel are responsible for installing the MUSE Web API on the MUSE system.

Data Transmission



The VA VistA Imaging Client requests test information from the MUSE Web API. (The MUSE Web API Smart Module is backward compatible for legacy systems configured with MACCRA or MUSEAPI3.) The VA VistA client sends that request to the MUSE Web

API to connect to the Middle-Tier Host service on the MUSE application server, which requests the test information from the MUSE database. The results of the request are then sent back through the MUSE Web API to the VA VistA Imaging Client.

Customer Requirements

The customer is responsible for meeting the minimum requirements for the VA VistA Imaging clients.

- Patch version P188
- Network connectivity between the VA VistA Imaging clients and the MUSE application server.
- Installation of the MUSE Web API on each VA VistA Imaging client.
- System is configured with MUSEIU credentials.

Create the VA VistA User in the MUSE System

NOTE:
The VA Vista team is typically responsible for the creation of the MUSE IU user account in the MUSE system.

1. Go to **System** > **Setup**.
2. Under **System**, select **Users**.
3. Select **Action** > **New**.
4. Enter the following information:

Category	*Field*	*Value*
General	**Last Name**	***MUSEUI*** (or customer preferred name)
	First Name	***MUSEUI*** (or customer preferred name)
	MUSE User Name	***MUSEUI***
	Windows User Name	Not applicable
	Account is Enabled	Check
	MUSE Password	***MUSEUI***
	User cannot change password	Check
	Password never expires	Check
	Active Sites	Select all sites.

Category	*Field*	*Value*
Advanced	**User ID**	Enter an available numerical identifier for a system user.
	Role	**View Only**
	Job Titles	Deselect all boxes.
	Display User in Personnel Lists	Leave as is. Default is checked.

5. Select **OK**.

Verfiy the VA VistA Imaging Formats for MUSE Test Types

The VA VistA Imaging interface to MUSE systems uses the MUSE system's format settings to determine the format for each of the four data types (ECG, HiRes, Stress, and Holter).

NOTE:
Only a VA VistA administrator with VA FileMan privileges can create custom format settings and override the MUSE system settings.

If a format ID is not correctly associated with a MUSE test type, the MUSE system will not format the test for the VistA system. An error is logged for tests that fail to format. In the MUSE application log, the error details the test ID that failed to format (testID) and the MUSE Format ID used (formatSetting).

Example Error Log Message

Severity: Error
Module File Name: MUSE.MiddleTier.Server.dll
Status: 2
Description: PrintLib_PrintRecord: returns 5011 testID:1234 formatType:pdf formatSettingID:8

1. In the MUSE system, go to **System** > **Setup**.
2. In the **System** section, select **Formats**.
3. Verify that the MUSE test types are associated with the correct **Format ID**.

   You can change the format properties for any test type that is not system defined. MUSE format IDs for 6-9 are system defined. MUSE format IDs for 12-15 are not system defined and may not match the definitions as in the table.

   Double-click on any entry to view additional format properties.

MUSE Format ID	*Test Type*	*Default*[1]
6	Resting ECG	Yes
7	Stress	Yes

MUSE Format ID	*Test Type*	*Default*[1]
8	Holter	Yes
9	HiRes	Yes
12	Resting ECG	No
13	HiRes	No
14	Stress	No
15	Holter	No

[1] The **Default** field is for Grid Type and indicates if the grid is disabled (**No**) or enabled (**Yes**).

System Checkout

The customer is responsible for performing the system checkout on the VA VistA Imaging interface and for verifying that the MUSE Web API is communicating correctly with the VistA Imaging client.

Troubleshooting

If the VA VistA system is not responding correctly, review the MUSE application log for errors related to username/password failures or issues exporting an ECG to PDF in the correct format.

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Related Documents

The following documents provide additional information that can be helpful in the planning, installation, configuration, maintenance, and use of this system.

Part Number	*Document Title*
2056246-002	*MUSE NX Cardiology Information System 12SL Physician's Guide*
2059568-023	*DICOM Conformance Statement for MUSE and MUSE DICOM Gateway Pro*
2102027-001	*MUSE NX Cardiology Information System User Manual*
2102027-002	*MUSE NX Cardiology Information System User Manual – Web Client*
2102027-003	*MUSE NX Cardiology Information System Regulatory and Safety Manual*
2102027-004	*MUSE NX Cardiology Information System Pre-Installation Guide*
2102027-005	*MUSE NX Cardiology Information System Administrator's Guide*
2102027-006	*MUSE NX Cardiology Information System Service Manual*
2102027-007	*MUSE NX Cardiology Information System Installation and Upgrade Manual*
2102027-008	*MUSE NX Cardiology Information System Centricity Clinical Gateway (CCG) Manual*
2102027-009	*MUSE NX Cardiology Information System Enterprise Integration Manual*
2102027-010	*MUSE NX Cardiology Information System Devices and Interfaces Instruction Manual*
2102027-014	*MUSE NX Cardiology Information System Privacy and Security Guide*
2102027-016	*MUSE NX Cardiology Information System eDoc Connect Installation Manual*
2102027-226	*MUSE NX Cardiology Information System Monitoring Gateway Software Installation*
2102027-227	*MUSE NX Cardiology Information System HL7 Interface Reference Manual*
2102027-228	*MUSE NX Cardiology Information System XML Manual*

Part Number	*Document Title*
2102027-300	*MUSE NX Cardiology Information System Interval Editor Manual*

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