

NORTHSTAR HEALTH CLINICS- EHR DISRUPTION SCENARIO

Lecturer:

Hanim Maria Astuti, S.Kom., M.Sc.

Part 1: Incident, Problem, Change

IT Service Management

Grup 11 - MLTI (B)

Ananda Donelly Reksana (5026231149)

Muhammad Razan Parisya Putra (5026231174)

Astrid Meilendra (5026231183)

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Summary

This report documents the end-to-end handling of recurring disruptions in the Electronic Health Record (EHR) system at Northstar Health Clinics. The team completed a full ITIL-aligned workflow consisting of Incident Management, Problem Management, and Change Management to restore system stability and prevent future outages. Five incidents were analyzed and consolidated into a single problem record, leading to the identification of instability within the EHR Application and Database servers as the root cause. A Normal Change Request was then designed, approved, scheduled, and implemented to deliver a permanent fix. This structured approach ensured service restoration, minimized clinical impact, and reinforced alignment with ITIL 4 practices for effective service management.

Learning Objectives

This final project is designed to achieve the following learning objectives:

- a. Apply ITIL 4 practices, specifically Incident Management, Problem Management, and Change Enablement, to a real-world service disruption scenario.
- b. Configure and utilize ServiceNow modules, including CMDB, incident forms, problem records, and change requests to demonstrate practical ITSM workflows.
- c. Perform structured analysis, including root cause identification, impact assessment, and mapping of incidents to related CIs.

Understand the integration of ITIL concepts, such as the service value system, guiding principles, and continual improvement, within operational IT service delivery.

Background of the Scenario

Northstar Health Clinics relies heavily on its Electronic Health Record (EHR) system to support day-to-day healthcare operations, including patient documentation, clinical decision-making, appointment scheduling, and laboratory order processing. Due to the critical role of the EHR, even short periods of downtime can directly interrupt clinical workflows, delay patient care, and reduce operational efficiency. Over several days,

multiple users reported performance degradations, login failures, and brief service outages. These recurring disruptions indicated a systemic issue requiring structured investigation and coordinated response across Incident, Problem, and Change Management processes.

Approach

The approach used in this project follows the ITIL 4 Service Value System (SVS), ensuring that activities are interconnected and value-driven. The methodology consisted of:

1. **Incident Management**

Each user-reported issue was logged, categorized, prioritized, and linked to the appropriate Configuration Item (CI). Five incidents were documented, highlighting patterns of performance degradation and system instability.

2. **Problem Management**

After recognizing recurring symptoms, the team created a consolidated problem record, conducted root cause analysis, documented workarounds, and linked all related incidents and CIs for full visibility and traceability.

3. **Change Management**

A Normal Change Request was developed to implement a permanent fix based on the identified root cause. The change was authorized, scheduled, executed, and reviewed using a controlled, auditable process in ServiceNow.

4. **CMDB Utilization**

Manually created EHR-related CIs provided a consistent foundation for tracking service dependencies and ensuring accurate impact analysis.

This structured workflow ensured alignment between practices and demonstrated how ITIL 4 enables coordinated service restoration.

CI Preparation Step

PDI Link : <https://dev306806.service-now.com>

username : admin

password : l10Spkd*ZjT+

Before creating any incidents, our group first prepared the required Configuration Items (CIs) in the CMDB. Since the EHR-related CIs are not available in the default PDI, we manually created three entries:

1. **EHR Service** (Class *Business Service*)
2. **EHR Application Server** (Class *Application Server*)
3. **EHR Database Server** (Class *Database Server*)

EHR Service

FavoritesHistoryWorkspacesAdmin

Configuration Item - EHR Service ☆

Search

Open in CMDB WorkspaceUpdateDelete

< Configuration Item EHR Service

NameEHR Service

Asset tag

Assigned to

CategoryBusiness Service

Fault count0

Installed2025-12-01 08:33:40

Install StatusInstalled

Open in CMDB WorkspaceUpdateDelete

Related Links

Subscribe

EHR Application Server

FavoritesHistoryWorkspacesAdmin

Configuration Item - EHR Application Server ☆

Search

Open in CMDB WorkspaceUpdateDelete

< Configuration Item EHR Application Server

NameEHR Application Server

Asset tag

Assigned to

CategoryApplication Server

Fault count0

Installed2025-12-01 08:36:46

Install StatusInstalled

Open in CMDB WorkspaceUpdateDelete

Related Links

Subscribe

EHR Database Server

Configuration Item

New record

Submit

Name

EHR Database Server

Asset tag

Assigned to

Category

Database Server

Fault count

0

Installed

2025-12-02 08:51:48

Install Status

Installed

Submit

Configuration Item List

servicenow

All Favorites History Workspaces Admin

Configuration Items

Search

Search

Actions on selected rows...

New

All > Name >= EHR

Configuration Items

Name

Search

Name

Manufacturer

Location

Description

Class

Updated

Maintenance schedule

Search

Search

Search

Search

Search

Search

EHR Application Server	(empty)	(empty)		Configuration Item	2025-12-01 17:37:19	(empty)
EHR Database Server	(empty)	(empty)		Configuration Item	2025-12-01 17:52:25	(empty)
EHR Service	(empty)	(empty)		Configuration Item	2025-12-01 17:35:38	(empty)

Each with install status set to ***In Use***. After saving these records, we verified that all three CIs appeared in the Configuration Item lookup field on the Incident form. These CIs were then reused consistently in every Incident, in the consolidated Problem record, and in the Change Request, ensuring traceability between technical components and service disruptions.

5

Incident Management

The five incidents collectively indicate that the EHR system is experiencing repeated stability problems. In the first incident, users encounter sluggish page responses that slow down their work. The second incident is characterized by intermittent database connectivity issues that make users repeatedly reload the page. In the third case, several staff members are unable to log in during a particular time period, prompting escalation to the Application Support team. The fourth incident notes that the EHR becomes unresponsive in the middle of clinical activities and that this behavior occurs multiple times in a single week, directly interrupting patient services. The fifth incident records a brief system outage that generates error messages for all users before normal service is restored a few minutes later.

Incident 1 - Slow EHR Pages

Dr. Emily Carter reported experiencing significant latency where patient charts are taking over 30 seconds to load, starting from 8 AM. This performance issue hampers workflow efficiency and is linked to the **EHR Service**, classified as a **P3** priority.

Incident 2 - Database Connection Error

Sarah Lopez reported encountering a "Database not responding" error message while attempting to schedule patients, requiring multiple page refreshes to proceed. This connectivity issue points to instability in the **EHR Database Server** and is assigned a **P3** priority.

Incident 3 - Login Failures (Escalation Required)

John Miller reported that several staff members were unable to log in to the EHR system during the peak window of 8-9 AM, only gaining access after repeated attempts. This access issue involves the **EHR Application Server**, is classified as **P2**, and requires escalation to Application Support.

Incident 4 - EHR Freezes During Patient Care

Dr. Alex Nguyen reported that the EHR system froze repeatedly while entering lab orders, directly causing delays in patient care. Since this freezing has occurred multiple times throughout the week, it is associated with the **EHR Service** and designated as a **P2** priority.

Incident 5 – Five-Minute Outage

Karen Patel reported a complete system outage where the EHR was unavailable for approximately five minutes around 8:30 AM, displaying error messages to all users. This service disruption is attributed to the **EHR Application Server** and is categorized as a **P2** priority.

Incident 1 – Slow EHR Pages

servicenow

All Favorites History Workspaces Admin

User - Emily Carter

Search

Update Set Password Delete

User ID: NS500

First name: Emily

Last name: Carter

Title: Dr

Department:

Password needs reset: ☐

Locked out: ☐

Active: ☒

Internal Integration User: ☐

Email: emilycarter@hospitala.org

Identity type: -

Language: --None--

Calendar integration: Outlook

Time zone: System (America/Los_Angeles)

Date format: System (yyyy-MM-dd)

Business phone:

Mobile phone:

Photo: [Click to add...](#)

Update Set Password Delete

Related Links

[View linked accounts](#)

[View Subscriptions](#)

[Reset a password](#)

Entitled Custom Tables Roles (1) Groups Delegates Subscriptions User Client Certificates

Role Search

Actions on selected rows... Edit...

Role	State	Inherited	Inheritance Count
user	Active	false	

servicenow

All Favorites History Workspaces Admin

Incident - INC0010021

Search

Discuss Follow Update Resolve Delete

Number: INC0010021

* Caller: Emily Carter

Category: Software

Subcategory: --None--

Service:

Service offering:

Configuration item: EHR Service

* Short description: EHR running very slow

Description: Patient charts are taking 30 seconds or more to load this morning. Started around 8 AM.

Channel: --None--

State: New

Impact: 3 - Low

Urgency: 3 - Low

Priority: 5 - Planning

Assignment group:

Assigned to:

Related Search Results

Notes Related Records Resolution Information

Watch list Work notes list

Work notes: Work notes

Additional comments (Customer visible) Post

Activities: 1

System Administrator

Configuration Item EHR Service

Field changes • 2025-12-01 18:54:49

Incident 2 - Database Connection Error

servicenow

All

Favorites

History

Workspaces

Admin

User - Sarah Lopez

Search

User Sarah Lopez

Update

Set Password

Delete

User ID

NS502

First name

Sarah

Last name

Lopez

Title

Department

Password needs reset

Locked out

Active

☒

Internal Integration User

Email

sarahlopez@gmail.com

Identity type

Human

Language

-- None --

Calendar integration

Outlook

Time zone

System (America/Los_Angeles)

Date format

System (yyyy-MM-dd)

Business phone

Mobile phone

Photo

Click to add...

Update

Set Password

Delete

Related Links

[View linked accounts](#)

[View Subscriptions](#)

[Reset a password](#)

Entitled Custom Tables

Roles (1)

Groups

Delegates

Subscriptions

User Client Certificates

Role

Search

Actions on selected rows...

Edit...

User = Sarah Lopez

Role	State	Inherited	Inheritance Count
user	Active	false	

Incident INC0010020

Discuss

Follow

Update

Resolve

Delete

Number

INC0010020

* Caller

Sarah Lopez

Category

Software

Subcategory

--None--

Service

Service offering

Configuration item

EHR Database Server

* Short description

Database not responding

Description

I received a 'Database not responding' message while scheduling patients. I had to refresh twice.

Channel

--None--

State

New

Impact

2 - Medium

Urgency

2 - Medium

Priority

3 - Moderate

Assignment group

Assigned to

Related Search Results

Notes

Related Records

Resolution Information

Knowledge

☐

Resolution code

--None--

Resolved by

Resolved

Resolution notes

Update

Resolve

Delete

Related Links

[Show SLA Timeline](#)

[Reopen SLAs](#)

Task SLAs (1)

Affected CIs

Impacted Services/CIs

Child Incidents

SLA definition

Search

Actions on selected rows...

Task = INC0010020

SLA definition	Type	Target	Stage	Business time left	Business elapsed time	Business elapsed percentage	Start time	Stop time
Priority 3 resolution (1 day)	SLA	Resolution	In progress	1 Day	0 Seconds	0%	2025-12-01 18:49:28	(empty)

8

Incident 3 – Login Failures (Escalation Required)

servicenow

All Favorites History Workspaces Admin

User - John Miller

Search

User John Miller

Update Set Password Delete

User ID NSC08

First name John

Last name Miller

Title

Department

Password needs reset

Locked out

Active

Internal Integration User

Email john.miller@gmail.com

Identity type Human

Language --None--

Calendar integration Outlook

Time zone System (America/Los_Angeles)

Date format System (yyyy-MM-dd)

Business phone

Mobile phone

Photo Click to add...

Update Set Password Delete

Related Links

View linked accounts

View Subscriptions

Reset a password

Entitled Custom Tables Roles (1) Groups Delegates Subscriptions User Client Certificates

Role Search

Actions on selected rows... Edit...

User = John Miller

Role	State	Inherited	Inheritance Count
user	Active	false	

1 to 1 of 1

servicenow

All Favorites History Workspaces Admin

Incident - INC0010016

Search

Incident INC0010016

Discuss Follow Update Resolve Delete

Number INC0010016

* Caller John Miller

Category Software

Subcategory --None--

Service

Service offering

Configuration item EHR Application Server

* Short description Staff unable to log in

Description

Channel --None--

State In Progress

Impact 2 - Medium

Urgency 1 - High

Priority 2 - High

Assignment group Application Development

Assigned to Andrew Och

Related Search Results

Notes Related Records Resolution Information

Knowledge

Resolution code --None--

Resolution notes

Resolved by

Resolved

Update Resolve Delete

Related Links

Show SLA Timeline

Repair SLAs

Task SLAs (2) Affected CIs (1) Impacted Services/CIs Child Incidents

Task SLAs (2)

SLA definition Search

Actions on selected rows...

Task = INC0010016

SLA definition	Type	Target	Stage	Business time left	Business elapsed time	Business elapsed percentage	Start time	Stop time
Priority 2 resolution (8 hour)	SLA	Resolution	In progress	8 Hours	0 Seconds	0%	2025-12-01 18:39:40	(empty)
Priority 4 resolution (2 day)	SLA	Resolution	Cancelled	2 Days	0 Seconds	0%	2025-12-01 18:39:40	2025-12-01 19:03:22

Incident 4 - EHR Freezes During Patient Care

[Favorites](#) [History](#) [Workspaces](#) [Admin](#) [User - New Record](#) [Search](#) [Globe](#) [Share](#)

[User](#) [New record](#) [Share](#)

① To set up the User's password, save the record and then click Set Password.

User ID

NSC-05

First name

Alex

Last name

Nguyen

Title

Dr.

Department

Password needs reset

☐

Locked out

☐

Active

☒

Internal Integration User

☐

Email

alexnguyen@example.com

Identity type

Human

Language

-- None --

Calendar integration

Outlook

Time zone

System (America/Los_Angeles)

Date format

System (yyyy-MM-dd)

Business phone

Mobile phone

Photo

[Click to add...](#)

Submit

[Favorites](#) [History](#) [Workspaces](#) [Admin](#) [Incident - INC0010013](#) [Search](#) [Globe](#) [Share](#)

[Incident](#) [INC0010013](#) [Share](#) [Discuss](#) [Follow](#) [Update](#) [Resolve](#)

Number

INC0010013

* Caller

Alex Nguyen

Category

Software

Subcategory

-- None --

Service

Service offering

Configuration item

EHR Service

* Short description

EHR freezing during visit

Description

The EHR froze when entering lab orders, delaying patient care. This has happened multiple times this week.

Channel

-- None --

State

New

Impact

2 - Medium

Urgency

1 - High

Priority

2 - High

Assignment group

Assigned to

Related Search Results

Notes

Related Records

Resolution Information

Watch list

[Add](#) [Remove](#)

Work notes list

[Add](#) [Remove](#)

Work notes

Work notes

Incident 5 - Five-Minute Outage

[Favorites](#) [History](#) [Workspaces](#) [Admin](#) User - Karen Patel

[<](#) [User Karen Patel](#) [Update](#) [Set Password](#) [Delete](#) [↑](#) [↓](#)

User ID	<input type="text" value="NSC-10"/>	Email	<input type="text" value="karenpatel@example.com"/>
First name	<input type="text" value="Karen"/>	Identity type	<input type="text" value="Human"/>
Last name	<input type="text" value="Patel"/>	Language	<input type="text" value="-- None --"/>
Title	<input type="text"/>	Calendar integration	<input type="text" value="Outlook"/>
Department	<input type="text"/>	Time zone	<input type="text" value="System (America/Los Angeles)"/>
Password needs reset	<input checked="" type="checkbox"/>	Date format	<input type="text" value="System (yyyy-MM-dd)"/>
Locked out	<input type="checkbox"/>	Business phone	<input type="text"/>
Active	<input checked="" type="checkbox"/>	Mobile phone	<input type="text"/>
Internal Integration User	<input type="checkbox"/>	Photo	Click to add...

[Update](#) [Set Password](#) [Delete](#)

[Favorites](#) [History](#) [Workspaces](#) [Admin](#) Incident - INC0010022

[<](#) [Incident INC0010022](#) [Discuss](#) [Follow](#) [Update](#) [Resolve](#) [Delete](#) [↑](#) [↓](#)

Number	<input type="text" value="INC0010022"/>	Channel	<input type="text" value="Email"/>
* Caller	<input type="text" value="Karen Patel"/>	State	<input type="text" value="New"/>
Category	<input type="text" value="Software"/>	Impact	<input type="text" value="1 - High"/>
Subcategory	<input type="text" value="-- None --"/>	Urgency	<input type="text" value="2 - Medium"/>
Service	<input type="text"/>	Priority	<input type="text" value="2 - High"/>
Service offering	<input type="text"/>	Assignment group	<input type="text"/>
Configuration item	<input type="text" value="EHR Application Server"/>	Assigned to	<input type="text"/>
* Short description	<input type="text" value="EHR outage"/>		
Description	<input type="text" value="The EHR was down for about five minutes today around 8:30 AM. Everyone saw error messages."/>		

[Related Search Results >](#)

[Notes](#) [Related Records](#) [Resolution Information](#)

Watch list

Work notes list

Work notes Work notes

Problem Management

Problem Management in this case was used to step back from individual tickets and look for one common source behind the disruptions in the EHR service. Rather than treating slow screens, failed logins during peak hours, frozen sessions in the middle of clinical work, and database connection issues as separate events, the team recognized them as a single pattern that suggested a broader weakness in the system. To support this analysis, they opened one consolidated Problem record and attached all relevant incidents to it. The investigation that followed pointed to instability on the EHR Database Server as the main driver of these symptoms, resulting in response delays, sporadic failures, and brief periods when the system was unavailable.

As an immediate response, the team applied short-term measures such as controlled restarts and adjustments to load balancing to lessen the impact felt by users. For a more sustainable outcome, they designed a planned change that included database performance tuning and regular, scheduled maintenance so similar issues would be less likely to reappear. All associated incidents were linked back to the Problem record, creating a clear chain from user-facing symptoms to technical root cause and documented corrective actions. This structured approach helped restore stability to the EHR service and reinforced the alignment between the Incident Management, Problem Management, and Change Management processes.

Step 1: Create the Problem Record

Step 2: Conduct Root Cause Analysis

Step 3: Link Related Records

Step 1 - Create the Problem Record

New

Assess

Root Cause Analysis

Fix in Progress

Resolved

Closed

Number	PRB0040004	Model	General
Origin task	<input type="text"/>	State	New
Category	Software	Impact	2 - Medium
Subcategory	Operating System	Urgency	1 - High
Service	<input type="text"/>	Priority	2 - High
Service offering	<input type="text"/>	Assignment group	Application Support - EHR
Configuration item	EHR Service	Assigned to	<input type="text"/>
* Problem statement	Recurring EHR slowness and login failures		
Description	Summary of the multiple issues occurring across clinics		

Create for new change request. Set all the fields into the specified problems.

*the screenshots is PRB0040004 but in the next step is PRB0040005.

We were unable to capture a screenshot of PRB0040005, but the steps and fields are identical to those in PRB0040004.

New

Assess

Root Cause Analysis

Fix in Progress

Resolved

Closed

Number	PRB0040004	Model	General
Origin task	<input type="text"/>	State	Assess
Category	Software	Impact	2 - Medium
Subcategory	Operating System	Urgency	1 - High
Service	<input type="text"/>	Priority	2 - High
Service offering	<input type="text"/>	Assignment group	Application Support - EHR
Configuration item	EHR Service	* Assigned to	Application Support EHR
* Problem statement	Recurring EHR slowness and login failures		
Description	Summary of the multiple issues occurring across clinics		

Related Search Results >

Set the assigned to fields.

*the screenshots is PRB0040004 but in the next step is PRB0040005.

We were unable to capture a screenshot of PRB0040005, but the steps and fields are identical to those in PRB0040004.

New ✓

Assess

Root Cause Analysis

Change State to Root Cause Analysis

Fix in Progress

Resolved

Closed

Number

PRB0040004

Model

General

Origin task

State

Assess

Category

Software

Impact

2 - Medium

Subcategory

Operating System

Urgency

1 - High

Service

Priority

2 - High

Service offering

Assignment group

Application Support - EHR

Configuration item

EHR Service

* Assigned to

Application Support EHR

* Problem statement

Recurring EHR slowness and login failures

Description

Summary of the multiple issues occurring across clinics

Related Search Results >

*the screenshots is PRB0040004 but in the next step is PRB0040005.

We were unable to capture a screenshot of PRB0040005, but the steps and fields are identical to those in PRB0040004.

Step 2 - Conduct Root Cause Analysis

servicenow

All Favorites

Problem - PRB0040005

Search

Problem PRB0040005

Discuss

Follow

Fix

Mark Duplicate

Cancel

Accept Risk

Update

Delete

Notes

Analysis Information

Resolution Information

Other Information

Work notes list

Work notes

Reviewed five related incidents involving EHR slowness, login failures, and brief outages. All incidents show a consistent pattern occurring during peak hours across multiple clinics.

Post

Activities: 3

System Administrator

Field changes • 2025-12-04 02:03:49

State

Root Cause Analysis was Assess

System Administrator

Field changes • 2025-12-04 02:03:15

Assigned to

Application Support EHR

State

Assess was New

System Administrator

Field changes • 2025-12-04 02:02:02

Assignment group

Application Support - EHR

Configuration item

EHR Service

Impact

1 - High

Priority

2 - High

State

New

Urgency

2 - Medium

Add the worknotes on the problem records.

servicenow All Favorites **Problem - PRB0040005** Search

Problem PRB0040005 Discuss Follow **Fix** Mark Duplicate Cancel Accept Risk Update Delete

Notes Analysis Information **Resolution Information** Other Information

Resolved by Resolved

Fix notes

Restart and reconfigure the EHR Application Server to optimize performance.

p

Add the proposed fix notes for the problems and set the state into Fix.

servicenow All Favorites **Problem - PRB0040005** Search

Problem PRB0040005 Discuss Follow **Resolve** Re-Analyze Accept Risk Update Delete

New ✓ Assess ✓ Root Cause Analysis ✓ **Fix in Progress** Resolved Closed

Number PRB0040005 Model General

Origin task State Fix in Progress

Category Software Impact 1 - High

Subcategory -- None -- Urgency 2 - Medium

Service Priority 2 - High

Service offering Assignment group Application Support - EHR

Configuration item EHR Service * Assigned to Application Support EHR

* Problem statement Recurring EHR slowness and login failures

Description Summary of the multiple issues occurring across clinics

Related Search Results >

Make sure the status has changed into Fix in Progress.

Step 3 - Link Related Records

Problem PRB0040005

Discuss Follow **Resolve** Re-Analyze Accept Risk Update Delete

Add Incidents

Add Selected Add All (58)

Incidents for text Search

All > Problem is empty

	Number	Opened	Short description	Caller	Priority	State	Category	Assignment group
<input checked="" type="checkbox"/>	INC0010021	2025-12-01 18:46:21	EHR running very slow	Emily Carter	5 - Planning	New	Software	
<input checked="" type="checkbox"/>	INC0010022	2025-12-01 18:47:07	EHR outage	Karen Patel	2 - High	New	Software	
<input checked="" type="checkbox"/>	INC0010020	2025-12-01 18:44:27	Database not responding	Sarah Lopez	3 - Moderate	New	Software	
<input checked="" type="checkbox"/>	INC0010013	2025-12-01 18:21:09	EHR freezing during visit	Alex Nguyen	2 - High	New	Software	
<input checked="" type="checkbox"/>	INC0010016	2025-12-01 18:36:16	Staff unable to log in	John Miller	2 - High	In Progress	Software	Application Development
<input type="checkbox"/>	INC0010010	2025-12-01 17:58:06	qweqweqweqweqweqwe	Admin	3 - Moderate	New	Inquiry / Help	
<input type="checkbox"/>	INC0000047	2025-08-01 13:53:18	Issue with email	Joe Employee	3 - Moderate	In Progress	Inquiry / Help	Software

Choose and link all related incidents.

Related Links

[Communicate Workaround](#)
[Communicate Fix](#)
[Create Known Error article](#)

Incidents (5) Affected CIs (1) Problem Tasks Change Requests Outages Attached Knowledge

for text Search

Problem = PRB0040005

	Number	Opened	Short description	Caller	Priority	State	Category	Assignment group	Assign
<input type="checkbox"/>	INC0010016	2025-12-01 18:36:16	Staff unable to log in	John Miller	2 - High	In Progress	Software	Application Development	Andre
<input type="checkbox"/>	INC0010013	2025-12-01 18:21:09	EHR freezing during visit	Alex Nguyen	2 - High	New	Software	(empty)	(empt
<input type="checkbox"/>	INC0010020	2025-12-01 18:44:27	Database not responding	Sarah Lopez	3 - Moderate	New	Software	(empty)	(empt
<input type="checkbox"/>	INC0010022	2025-12-01 18:47:07	EHR outage	Karen Patel	2 - High	New	Software	(empty)	(empt
<input type="checkbox"/>	INC0010021	2025-12-01 18:46:21	EHR running very slow	Emily Carter	5 - Planning	New	Software	(empty)	(empt

1 to 5 of 5

Make sure the incident is appears.

Add Affected CIs

To decrease load time, the list of Configuration Items has been configured to load without any records. Use the filter to configure and fetch the data as required

Configuration Class: Configuration Item

☐ ☐ Configuration Items

All > Name >= EHR

<input type="checkbox"/>	<input type="text" value="Search"/>	Name	Manufacturer	Location	Description	Class	Updated	Maintenance schedule
<input checked="" type="checkbox"/>	<input type="text" value="Search"/>	EHR Application Server				Configuration Item	2025-12-01 17:37:19	
<input checked="" type="checkbox"/>	<input type="text" value="Search"/>	EHR Database Server				Configuration Item	2025-12-01 17:52:25	
<input checked="" type="checkbox"/>	<input type="text" value="Search"/>	EHR Service				Configuration Item	2025-12-01 17:35:38	
<input type="checkbox"/>	<input type="text" value="Search"/>	Electronic Messaging				Service	2012-01-21 11:00:12	
<input type="checkbox"/>	<input type="text" value="Search"/>	Email				Service	2012-01-21 11:00:12	

Choose and link all the affected Configuration Items.

Related Links

[Communicate Workaround](#)
[Communicate Fix](#)
[Create Known Error article](#)

Incidents (5) **Affected CIs (3)** Problem Tasks Change Requests Outages Attached Knowledge

☐ ☐ Configuration Item

Task = PRB0040005

<input type="checkbox"/>	<input type="text" value="Search"/>	Configuration Item	Class	Support group	Owned by	Applied	Applied date	Manual proposed change
<input type="checkbox"/>	<input type="text" value="Search"/>	EHR Application Server	Configuration Item	(empty)	(empty)	false	(empty)	false
<input type="checkbox"/>	<input type="text" value="Search"/>	EHR Database Server	Configuration Item	(empty)	(empty)	false	(empty)	false
<input type="checkbox"/>	<input type="text" value="Search"/>	EHR Service	Configuration Item	(empty)	(empty)	false	(empty)	false

1 to 3 of 3

Make sure the Configuration Items are selected.

Add Change Requests

Change Requests Number Search Actions on selected rows...

All > Parent is empty

<input type="checkbox"/>	Number	Short description	Type	State	Planned start date	Planned end date	Requested by
<input type="radio"/>	CHG0000093	include name servers 8.8.8.8 & 8.8.4.4	Normal	Authorize	2025-11-15 18:30:00	2025-11-15 18:45:00	Administrator
<input type="radio"/>	CHG0000094	Increase db_block_buffers from 5000 to 7500	Normal	Authorize	2025-11-16 04:30:00	2025-11-16 05:00:00	System Administrator
<input type="radio"/>	CHG0000095	Upgrade OWA-SD-01 to MS Windows Server 2016	Normal	Authorize	2025-11-16 06:30:00	2025-11-16 10:29:59	System Administrator
<input type="radio"/>	CHG0000096	Change default router on unlx201	Normal	Authorize	2025-11-16 06:30:00	2025-11-16 07:00:00	System Administrator
<input type="radio"/>	CHG0002000	Upgrade MySql 5.6 to 5.7	Emergency	New	(empty)	(empty)	User ITIL
<input type="radio"/>	CHG0002001	Upgrade Tomcat server to 4.0	Emergency	New	(empty)	(empty)	User ITIL
<input checked="" type="radio"/>	CHG0030001	Apply configuration fix to improve EHR performance	Normal	Closed	2025-12-07 06:00:00	2025-12-07 07:00:00	System Administrator
<input type="radio"/>	CHG0040001	Add network switch to cabinet	Standard	New	(empty)	(empty)	System Administrator
<input type="radio"/>	CHG0040002	Add network switch to cabinet	Standard	New	(empty)	(empty)	System Administrator
<input type="radio"/>	CHG0040003	Please reboot	Standard	New	(empty)	(empty)	System Administrator

Choose and Link the Change Request to the Problem
(Created in Change Management).

Related Links

[Communicate Workaround](#)
[Communicate Fix](#)
[Create Known Error article](#)

Incidents (5) Affected CIs (3) Problem Tasks **Change Requests (1)** Outages Attached Knowledge

Number Search Actions on selected rows... Add New

Parent = PRB0040005

<input type="checkbox"/>	Number	Short description	Type	State	Planned start date	Planned end date	Requested by	Assigned to
<input type="checkbox"/>	CHG0030001	Apply configuration fix to improve EHR performance	Normal	Closed	2025-12-07 06:00:00	2025-12-07 07:00:00	System Administrator	(empty)

1 to 1 of 1

Make sure the Change Request is selected.

Problem PRB0040005

Discuss Follow **Resolve** Re-Analyze Accept Risk Update Delete

New Assess Root Cause Analysis **Fix in Progress** Resolved Closed

Number PRB0040005

Origin task

Category Software

Subcategory -- None --

Service

Service offering

Configuration Item EHR Service

* Problem statement Recurring EHR slowness and login failures

Description Summary of the multiple issues occurring across clinics

Model General

State Fix in Progress

Impact 1-High

Urgency 2-Medium

Priority 2-High

Assignment group Application Support - EHR

* Assigned to Application Support EHR

Related Search Results

Problem PRB0040005

Discuss Follow Complete Re-Analyze Update Delete

New ✓ Assess ✓ Root Cause Analysis ✓ Fix In Progress ✓ **Resolved** Closed

Number PRB0040005

Origin task

Category Software

Subcategory -- None --

Service

Service offering

Configuration item EHR Service

Model General

State Resolved

Resolution code Fix Applied

Impact 1 - High

Urgency 2 - Medium

Priority 2 - High

Assignment group Application Support - EHR

* Assigned to Application Support EHR

* Problem statement Recurring EHR slowness and login failures

Description Summary of the multiple issues occurring across clinics

Related Search Results

Resolve the problems.

Discuss Follow Complete Re-Analyze Upd

New ✓ Assess ✓ Root Cause Analysis ✓ Fix In Progress ✓ **Resolved** **Complete the Problem** Closed

Number PRB0040005

Origin task

Category Software

Subcategory -- None --

Service

Service offering

Configuration item EHR Service

Model General

State Resolved

Resolution code Fix Applied

Impact 1 - High

Urgency 2 - Medium

Priority 2 - High

Assignment group Application Support - EHR

* Assigned to Application Support EHR

* Problem statement Recurring EHR slowness and login failures

Description Summary of the multiple issues occurring across clinics

Related Search Results

servicenow All Favorites History Workspaces Admin Problem - PRB0040005

Search

Problem - PRB0040005

Discuss Follow Re-Analyze Update Delete

New ✓ Assess ✓ Root Cause Analysis ✓ Fix In Progress ✓ **Resolved** **Closed**

Number PRB0040005

Origin task

Category Software

Subcategory -- None --

Service

Service offering

Configuration item EHR Service

Model General

State Closed

Resolution code Fix Applied

Impact 1 - High

Urgency 2 - Medium

Priority 2 - High

Assignment group Application Support - EHR

* Assigned to Application Support EHR

* Problem statement Recurring EHR slowness and login failures

Description Summary of the multiple issues occurring across clinics

Notes Analysis Information Resolution Information Other Information

Work notes list

Work notes

Post

Activities: 7

System Administrator State Closed was Resolved Field changes • 2025-12-04 03:08:14

System Administrator Resolution code Fix Applied State Resolved was Fix In Progress Field changes • 2025-12-04 03:07:19

System Administrator

Complete the closed the problem.

Change Management

Change Management in this scenario is used to deliver a permanent fix for the recurring performance and login issues affecting the EHR system. After Problem Management identified instability on the EHR Application Server as a contributing factor, a Normal Change Request was raised to implement updated configuration settings that would improve stability and responsiveness.

The change follows a structured process to ensure that the actions taken are controlled, approved, and properly documented. First, the Change Request is created with all required details, including the affected Configuration Item, the description of the issue, and the proposed implementation plan. Once submitted, the request enters the authorization phase, where all approvers in the workflow must review and formally approve the change before any work can begin. This step ensures safety, compliance, and proper risk evaluation.

After approval, the change is scheduled during a Sunday maintenance window to minimize disruption to clinical operations. The implementation is then broken down into multiple tasks—backing up the existing server configuration, applying the updated connection settings, and conducting functional tests such as verifying login access and page loading times. Each task includes work notes to maintain traceability and demonstrate how the change was executed.

When all tasks are completed successfully, the change is reviewed to confirm that the update resolved the issues without introducing new problems. The Change Request is then closed with a successful status, and the final Change ID is recorded. This structured approach ensures that the EHR environment becomes more stable while maintaining alignment between Incident, Problem, and Change Management processes.

Step 1 - Create the Change Request

Step 2 - Approvals (Authorize)

Step 3 - Schedule the Change

Step 5: Review and Closure

Step 6: Record the Change ID

Step 1 - Create the Change Request

servicenow All Favorites History Workspaces Admin Change Request - Create CHG0000001

Change Request New record

New Assess Authorize Scheduled Implement Review Closed Canceled

Number: CHG0000001
Requested by: System Administrator
Category: Other
Service:
Configuration item: EHR Application Server
Priority: 2 - High
Risk: Moderate
Impact: 1 - High
Model: Normal
Type: Normal
State: New
Conflict status: Not Run
Conflict last run:
Assignment group: Application Support - EHR
Assigned to:
Short description: Apply configuration fix to improve EHR performance
Description: Restart and apply updated configuration settings
Justification: Resolve recurring slowness and login failures
Implementation plan:
Planning Schedule Conflicts Notes Closure Information

Submit and reopen the Change

Step 2 - Approvals (Authorize)

Implement Update Delete

Related Links
Calculate Risk
Show Flow

Affected CIs (1) Impacted Services/CIs Approvers (6) Change Tasks Problems Incidents Fixed By Change Incidents Caused By Change Task SLAs Outages

Approval for CHG0000001

State	Approver	Assignment group	Comments	Created
Approved	Luke Wilson	CAB Approval		2025-12-04 02:33:47
Approved	cab approver	CAB Approval		2025-12-04 02:33:48
Approved	Christen Mitchell	CAB Approval		2025-12-04 02:33:48
Approved	Howard Johnson	CAB Approval		2025-12-04 02:33:47
Approved	Bernard Laboy	CAB Approval		2025-12-04 02:33:48
Approved	Ron Kattaring	CAB Approval		2025-12-04 02:33:47

1 to 6 of 6

Approve all approvers in the Approvals related list.

Step 3 - Schedule the Change

Planning Schedule Conflicts Notes Closure Information

Planned start date and Planned end date are the approved change window

Planned start date: 2025-12-07 06:00:00
Planned end date: 2025-12-07 07:00:00
CAB required: ☒
CAB data/time:
Actual start date:
Actual end date:
CAB delegate:
CAB recommendation:
Implement Update Delete

Filled the form as the study case.

Planning	Schedule	Conflicts	Notes	Closure Information
Justification	Resolve recurring slowness and login failures			
Implementation plan	1. Restart the EHR Application Server 2. Apply updated configuration settings 3. Test login functionality			
Risk and impact analysis	dummy			
Backout plan	Revert configuration file and restart the server.			
Test plan	Verify login, page loading, and database connectivity.			

Filled the planning notes

Step 4 - Implementing the Change

servicenow All Favorites History Workspaces Admin

Change Task - CTASK0010003

Number: CTASK0010003 Type: Planning

Change request: CHG0030001 State: In Progress

Configuration item: Configuration item

Planned start date: Planned end date:

On hold: ☐

Assignment group: Assigned to:

* Short description: Backup Application Server Configuration

* Description: Backup Application Server Configuration

Notes Closure Information

Work notes list: Work notes:

Activities: 2

System Administrator Configuration backup saved to secure storage. Work notes • 2025-12-04 02:40:25

System Administrator Field changes • 2025-12-04 02:39:07

Impact: 3 - Low
Opened by: System Administrator
Priority: 4 - Low
State: Open

Create new task and add worknotes Backup Application Server Configuration

servicenow All Favorites History Workspaces Admin Change Task - CTASK0010004 Search Discuss Follow Update Close Task Delete

Change Task: CTASK0010004

Number: CTASK0010004 Type: Planning

Change request: CHG0030001 State: In Progress

Configuration item: On hold: ☐

Planned start date: Assignment group:

Planned end date: Assigned to:

* Short description: Apply Updated Connection Settings

* Description: Apply Updated Connection Settings

Notes **Closure Information**

Work notes list:

Work notes:

Activities: 2

System Administrator: Updated connection configuration file with new parameters as per change plan. Work notes: 2025-12-04 02:42:53

System Administrator: Field changes: 2025-12-04 02:39:04

Impact: 3 - Low
Opened by: System Administrator
Priority: 4 - Low
State: Open

Create new task and add worknotes Apply Updated Connection Settings

servicenow All Favorites History Workspaces Admin Change Task - CTASK0010005 Search Discuss Follow Update Close Task Delete

Change Task: CTASK0010005

Number: CTASK0010005 Type: Planning

Change request: CHG0030001 State: In Progress

Configuration item: On hold: ☐

Planned start date: Assignment group:

Planned end date: Assigned to:

* Short description: Test EHR Login and Page Loading

* Description: Test EHR Login and Page Loading

Notes **Closure Information**

Work notes list:

Work notes:

Activities: 2

System Administrator: Verified dashboard and patient list pages load correctly with normal response time. Work notes: 2025-12-04 02:43:28

System Administrator: Field changes: 2025-12-04 02:39:37

Impact: 3 - Low
Opened by: System Administrator
Priority: 4 - Low
State: Open

Create new task and add worknotes Test EHR Login and Page Loading

Affected CIs (1) Impacted Services/CIs Approvers (5) **Change Tasks (5)** Problems Incidents Fixed By Change Incidents Caused By Change Task SLAs Outages

Change request: CHG0030001

Number	Short description	Type	State	Planned start date	Planned end date	Assignment group	Assigned to
CTASK0010001	Post Implementation testing	Testing	Open	(empty)	(empty)	(empty)	(empty)
CTASK0010002	Implement	Implementation	Open	(empty)	(empty)	(empty)	(empty)
CTASK0010003	Backup Application Server Configuration	Planning	In Progress	(empty)	(empty)	(empty)	(empty)
CTASK0010004	Apply Updated Connection Settings	Planning	In Progress	(empty)	(empty)	(empty)	(empty)
CTASK0010005	Test EHR Login and Page Loading	Planning	In Progress	(empty)	(empty)	(empty)	(empty)

1 to 5 of 5

When the work described in each task is complete, update the State = Closed
Complete

[View all logs](#)

Affected CIs (1)	Impacted Services/CIs	Approvers (6)	Change Tasks (5)	Problems	Incidents Fixed By Change	Incidents Caused By Change	Task SLAs	Outages
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Change request = CHG0030001

Number	Short description	Type	State	Planned start date	Planned end date	Assignment group	Assigned to
CTASK0010001	Post implementation testing	Testing	Open	(empty)	(empty)	(empty)	(empty)
CTASK0010002	Implement	Implementation	Open	(empty)	(empty)	(empty)	(empty)
CTASK0010003	Backup Application Server Configuration	Planning	Closed	(empty)	(empty)	(empty)	(empty)
CTASK0010004	Apply Updated Connection Settings	Planning	Closed	(empty)	(empty)	(empty)	(empty)
CTASK0010005	Test EHR Login and Page Loading	Planning	Closed	(empty)	(empty)	(empty)	(empty)

1 to 5 of 5

Return to the parent Change record.

Step 5: Review and Closure

Planning

Schedule

Conflicts

Notes

Closure Information

Closure code

Successful

Closure notes

Change completed within the maintenance window. System verified post-implementation and no further incidents reported.

Close

Conflict Calendar

Update

Delete

Fill the Closure code to successful and add the Closure notes.

Step 6: Record the Change ID

servicenow

All

Favorites

History

Workspaces

Admin

Change Request - CHG0030001

Search

Discuss

Follow

Conflict Calendar

Update

Delete

New

Access

Authorize

Scheduled

Implement

Review

Closed

Cancelled

Number

CHG0030001

Requested by

System Administrator

Category

Other

Service

Service offering

Configuration item

EHR Application Server

Priority

2 - High

Risk

Moderate

Impact

1 - High

Short description

Apply configuration fix to improve EHR performance

Description

Restart and apply updated configuration settings

Model

Normal

Type

Normal

State

Closed

Conflict status

Conflict

Conflict last run

2025-12-04 02:48:03

Assignment group

Application Support - EHR

Assigned to

Planning

Schedule

Conflicts

Notes

Closure Information

Closure code

Successful

Closure notes

Change completed within the maintenance window. System verified post-implementation and no further incidents reported.

Conflict Calendar

Update

Delete

Related Links

CHG0030001

Reflection and Key Takeaways

This project illustrates how ITIL 4 practices form a cohesive framework for managing complex service disruptions. By integrating Incident, Problem, and Change Management, the team was able to move beyond temporary fixes and deliver a sustainable, system-wide improvement. The exercise also reinforced the importance of accurate CMDB data, effective cross-team collaboration, and clear documentation for visibility across all stages of the service lifecycle. Ultimately, this scenario demonstrates how ITIL 4 enables organizations to protect service quality, reduce operational risks, and enhance the reliability of critical systems such as healthcare applications.