



Next Generation Support Services

By Jakob Sassersen
AVP

nnIT

NNIT Participants



Jakob Sassersen

Associate Vice President

- In NNIT since 2006
- Global head of Service Support Center
- Previous positions in NNIT
 - General Manager NNIT Czech Republic
 - Global Lead Infrastructure Platform Services
 - Executive Assistant to NNIT CEO
- Outside NNIT (Oticon, EY, Self Employed)
- Dane, but living in Prague since 2014

NNIT Service Support Centre

- We take responsibility for our customers' challenges as if they were our own

300+
Employees
in **6**
countries

14
Languages
supported

35+
On-site
Countries

692.813
Inbound tickets
(2018)

USat:
4.4 (2018)

**KCS &
Digital**
Frontrunner



LIFE SCIENCES



FINANCE



PUBLIC



ENTERPRISE



INTERNAL

NNIT

NNIT Service Support Center

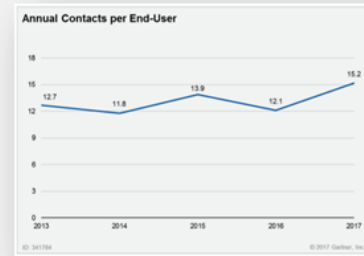
- 2 Key market trends

Demand for omnichannel support

- New technologies as well as new generation of users demand additional support channels for swift service from no matter where they are
 - Chat
 - Self Help portals
 - Password reset
 - Phone apps
- This can easily become very expensive to create and operation

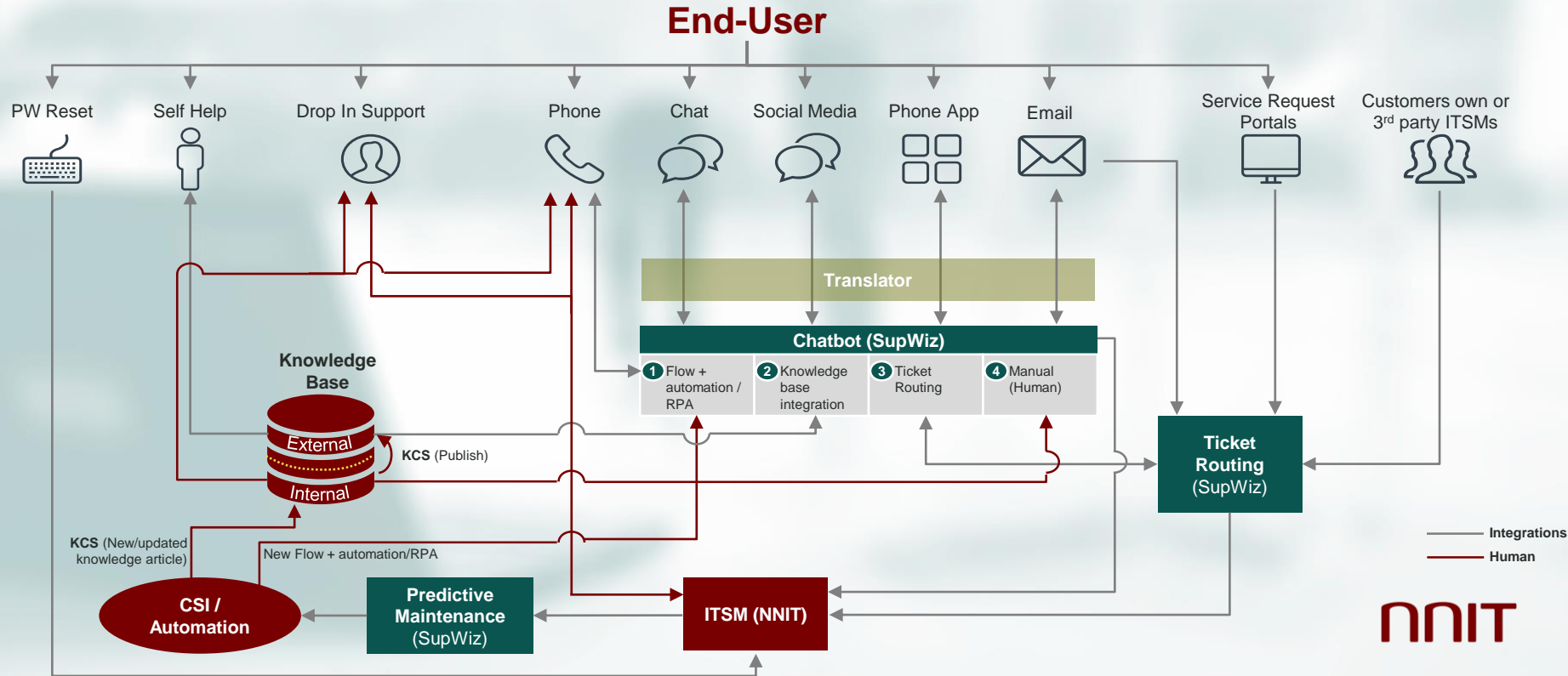
Increasing ticket load

- Expectations have been new technologies like Windows 7/10, cloud applications etc. Would reduce the load on Service Desk but the opposite has happened:
 - Agile development
 - Higher complexity in IT



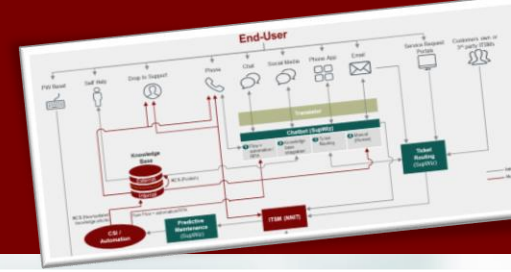
Next Generation Support Services

- Omnichannel Support Vision



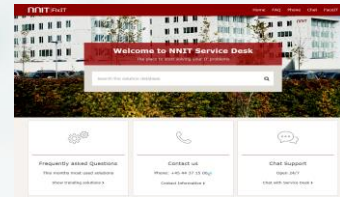
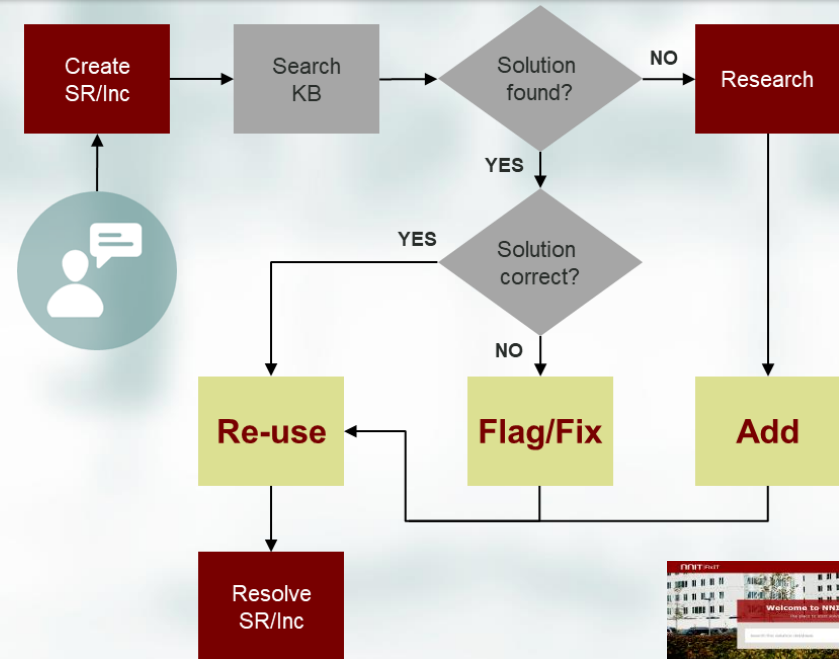
Next Generation Support Services

- Knowledge Centered Services (KCS)



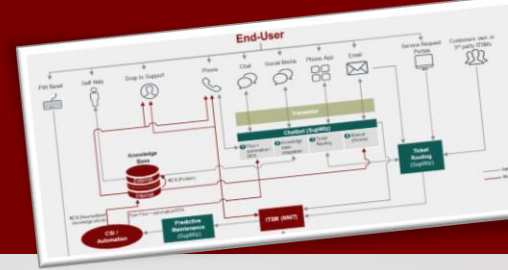
Knowledge sharing integrated in the support process • Knowledge made available to the users

- Content is created as a by-product of problem-solving
- Knowledge articles updated and created based on real issues received by Supplier
- KCS process secures that we dynamically evolve KnowIT continually as well as push the knowledge articles to end-users and chatbot



Next Generation Support Services

- AI / Machine learning



Ticket routing

Functionality

- Improve ticket accuracy through predicting next assignment group
- Predict correct categorization of tickets
- Automate use of ticket routing functionality
- "Self solving" incidents/SRs

Benefits

- Reduce Time to Resolve
- Reduce cost of operation
- Improved employee satisfaction



Omni channel / Chat bot

Functionality

- Knowledge base integrated chatbot based on customer specific wordings / abbreviations linked to our KCS driven knowledge base
- Flow creation including integration to systems

Benefits

- Secure a consistent high quality
- Increase scalability
- Reduce cost for support



Predictive maintenance & CSI

Functionality

- Clustering/trending of tickets to do faster problem identification and removal of pains
- Forecasting potential downtime on systems and infrastructure components

Benefits

- Reduced downtime for customer end users
- Reduce Major Incidents
- Reduce cost of operation

Next Generation Support Services

- Ticket Routing (How does it work)

The screenshot displays a ticket routing interface. On the left, a sidebar lists various actions like 'Create Relationship', 'Select Product', and 'Email System'. The main area shows a ticket details form for 'Incident ID: ITNC000401179'. The 'Assigned Group' is set to 'NNIT-OCO-Windows-Services'. A red arrow points from this group to a list of service desks on the right, which includes 'NNIT-OCO-Windows-Services' and 'NNIT-CN-Windows-Services'. The list also includes other service desks like 'A.P. Møller - Mærsk', 'Abbott', 'Alka', 'Ambu', 'Arla', 'Atea', 'coop', 'Digitaliseringsstyrelsen', 'DSB', 'Getronics', 'HK', 'NN China', 'NN Europe', 'NN International Operations', 'NN Japan & Korea', 'NN North America', 'NN Product Supply', 'NNIT', 'Novo Nordisk', 'Novozymes', 'Pandora', 'PenSam', and 'PFA Pension'.

Service*

CI+

Target Date: 20/08/2018 16:00:00

Impact*: 4-Minor/Localized

Urgency*: 4-Low

Priority*: Low

Incident Type*: User Service Restoration

Reported Source: User Service Request

Assigned Group*

Assignee+: Infrastructure Restoration

Vendor Group+: Infrastructure Event

Vendor Ticket Number: (clear)

#PostIT: Pending

Status*: Client Action Required

Resolution: Resolution

Assigned Group*

Assignee+: NNIT-ServiceDesk

Vendor Group+: kfh - Kenneth Finnerup

Vendor Ticket Number:

#PostIT:

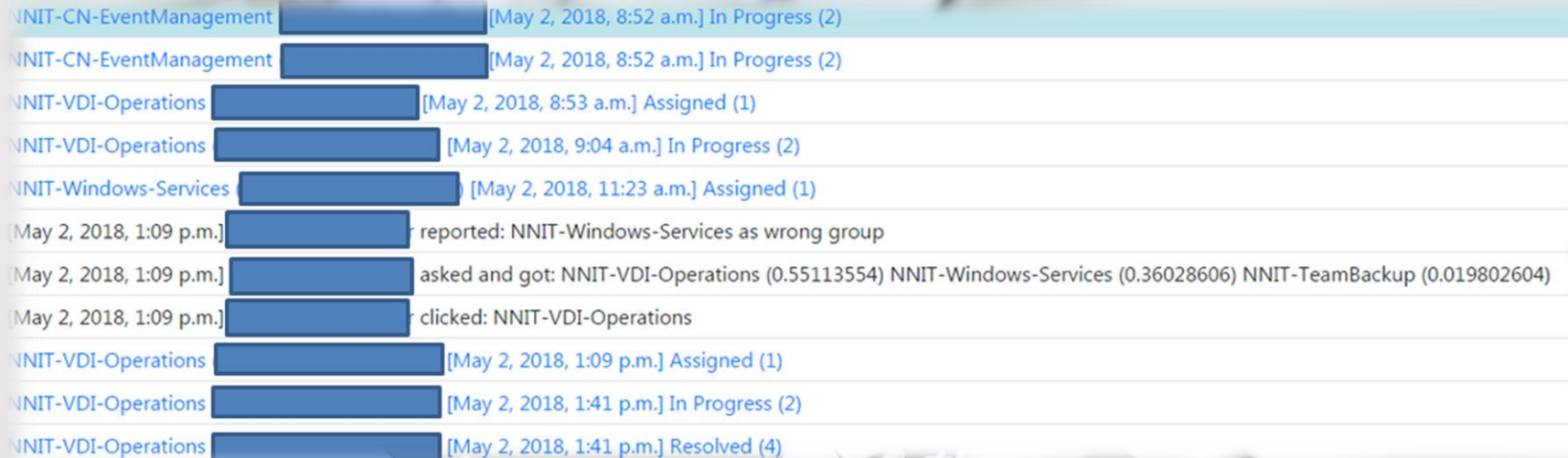
Status*: In Progress

Status Reason:

Resolution:

Next Generation Support Services

- Ticket Routing (How does it work)



NNIT-CN-EventManagement	[Redacted]	[May 2, 2018, 8:52 a.m.] In Progress (2)
NNIT-CN-EventManagement	[Redacted]	[May 2, 2018, 8:52 a.m.] In Progress (2)
NNIT-VDI-Operations	[Redacted]	[May 2, 2018, 8:53 a.m.] Assigned (1)
NNIT-VDI-Operations	[Redacted]	[May 2, 2018, 9:04 a.m.] In Progress (2)
NNIT-Windows-Services	[Redacted]	[May 2, 2018, 11:23 a.m.] Assigned (1)
[May 2, 2018, 1:09 p.m.]	[Redacted]	reported: NNIT-Windows-Services as wrong group
[May 2, 2018, 1:09 p.m.]	[Redacted]	asked and got: NNIT-VDI-Operations (0.55113554) NNIT-Windows-Services (0.36028606) NNIT-TeamBackup (0.019802604)
[May 2, 2018, 1:09 p.m.]	[Redacted]	clicked: NNIT-VDI-Operations
NNIT-VDI-Operations	[Redacted]	[May 2, 2018, 1:09 p.m.] Assigned (1)
NNIT-VDI-Operations	[Redacted]	[May 2, 2018, 1:41 p.m.] In Progress (2)
NNIT-VDI-Operations	[Redacted]	[May 2, 2018, 1:41 p.m.] Resolved (4)

The 'not for me' button

Next Generation Support Services

- Ticket Routing (Results of first phase)



Results*

Time to Resolve

- Median TTR reduced by 24% compared to same period last year
- 90% quartile TTR improved by 17% compared to same period last year

Cost of operation

- With more than 1 million tickets yearly in NNIT we have saved 66.000 jumps which corresponds to around 5.500 hours saved

Employee satisfaction

- Survey about our ability to remove pains improved from 3.44 to 3.60

Next steps:

- Increase usage of functionality
- Implement additional functionality

* Savings is a sum of initiatives but with the Ticket Routing as key driver

Next Generation Support Services

- Chatbot (How we will succeed)

Chatbot (SupWiz)			
1 Flow + automation / RPA	2 Knowledge base integration	3 Ticket Routing	4 Manual (Human)



Key drivers to success

Understanding customer specific language and abbreviations

Flows generated for most frequent issues/request

Process automation activated from chat bot

Continuously updated Knowledge base through KCS

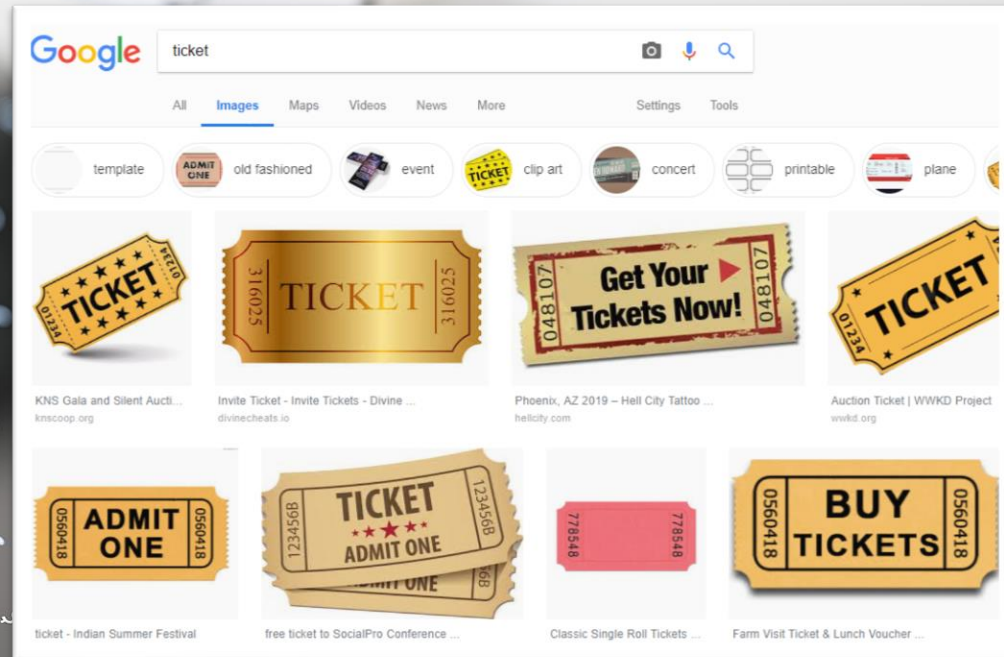
Organizational support to secure sufficient usage of chat bot

Internal prototype Go-live planned for end June 2019

Next Generation Support Services

- Chatbot (Dilemma understanding language)

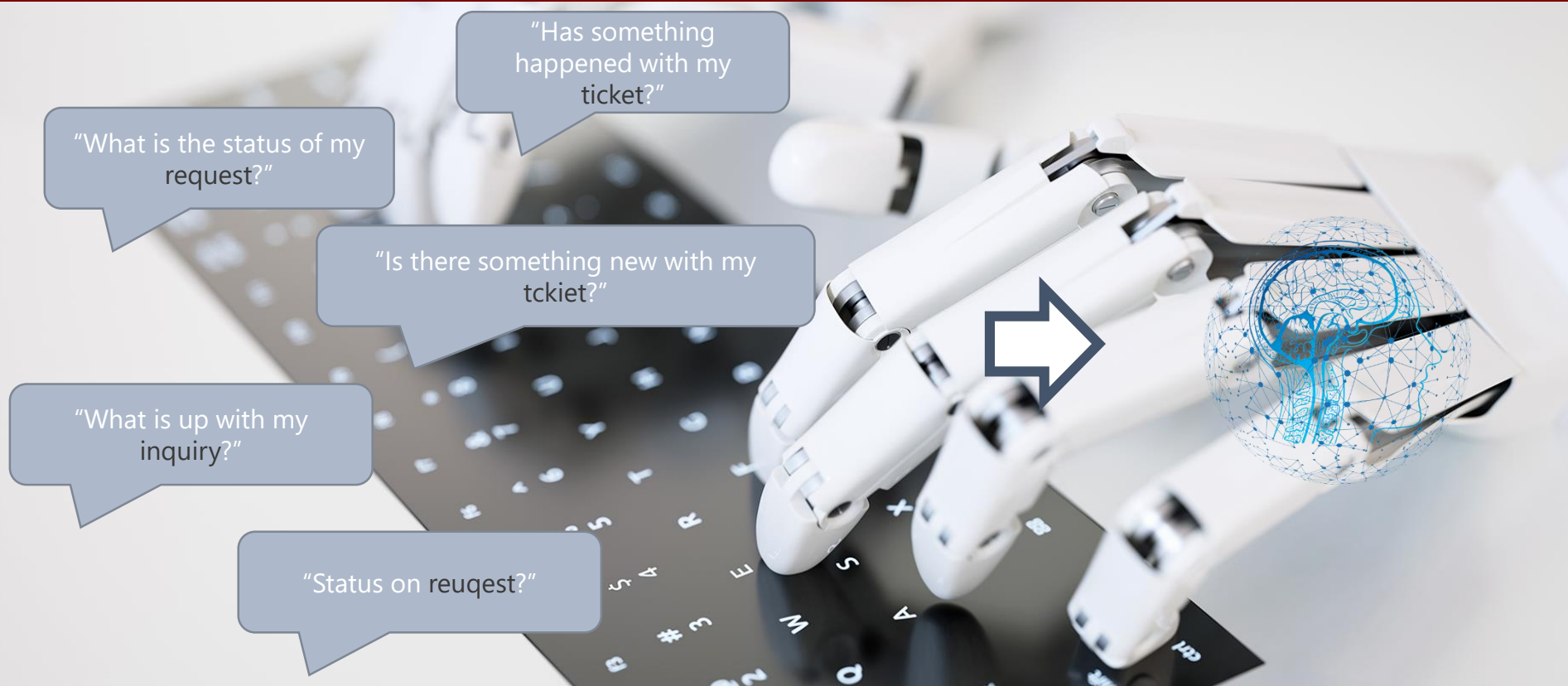
"Has something happened with my ticket?"



Chatbot (SupWiz)			
1 Flow + automation / RPA	2 Knowledge base integration	3 Ticket Routing	4 Manual (Human)

Next Generation Support Services

- Chatbot (SupWiz language model)



Next Generation Support Services

- Chatbot (Flow generation and automation)

Chatbot (SupWiz)

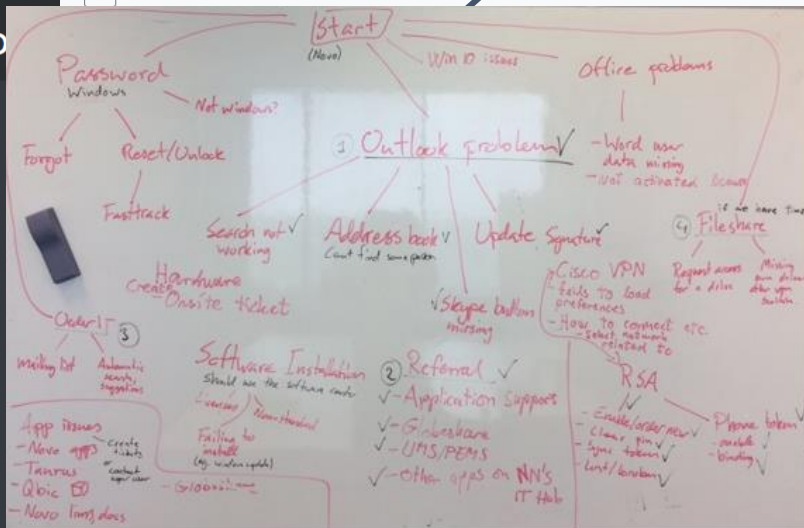
- | | | | |
|---------------------------|------------------------------|------------------|------------------|
| 1 Flow + automation / RPA | 2 Knowledge base integration | 3 Ticket Routing | 4 Manual (Human) |
|---------------------------|------------------------------|------------------|------------------|

Control different aspects of the chatbot

Edit the flow of the chatbot

Bot Studio

- HOME
- Edit
- Config
- API
- Entities
- Subflows
- Statistics
- Debug
- Log



ServiceDeskBot Logout

Conversation with ServiceDeskBot

ende
What is the status of my RSA token?
bot
Welcome to the Service Desk, I am a chatbot
to will help you solve your problem.
Please wait while I check the status of your
RSA token.

Live-demo the bot while building it

Next Generation Support Services

- Chatbot (Flow generation and automation)

Chatbot (SupWiz)			
1 Flow + automation / RPA	2 Knowledge base integration	3 Ticket Routing	4 Manual (Human)

Change how this node matches (e.g. "if the user types X" or "if RSA token is disabled")

Decide what actions the chatbot should perform

... and much more

Bot Studio

HOME
Edit
Config
API
Entities
Subflows
Statistics
Debug
Log

Get RSA Token Status [← Back](#)

Graph

Matching

Actions [↑](#)

Action name Edit/Delete

CheckRSAStatus [Show Parameters](#) [Delete](#)

CheckRSAStatus [Add action](#)

Variables

Response

ServiceDeskBot Logout

Conversation with ServiceDeskBot

Kunde

What is the status of my RSA token?

Robot

Welcome to the Service Desk, I am a chatbot who will help you solve your problem.

Please wait while I check the status of your RSA token.

Status: ready

Next Generation Support Services

- Chatbot (Knowledge base integrated chatbot)

Natural language input

Let user know they are talking to a robot and give them a "way out"

Identify problem and ask follow-up question



Conversation with ServiceDeskBot

Kunde

Hi I can't see my drives

Robot

Hello and welcome to the IT Service Desk chat.

While we are waiting for a supporter I'll do my best to help you solve your problem. If you at any point want to close me down just write 'stop assistant'.

Are you working from home?

Kunde

no

Robot

Do you have issues with all of your drives or only the N drive?

Next Generation Support Services

- Chatbot (Knowledge base integrated chatbot)

Understand natural language

Present solution from Knowledge base

Ask follow-up question to improve AI

Kunde

just the N drive

Robot

Try the following:

1. Click [Start]->[Computer] and double-click on the N drive
2. Click [Work Online] within the Windows Explorer window
3. The N-drive will now reconnect and files/folders should be available again
4. If the [Work online] button is missing or if the button states [Work Offline] click [Start] and in the "Search programs and files" box type "gpupdate.exe", hit <Enter> and restart computer after the polices update completes

Did that help?

Next Generation Support Services

- Chatbot (Knowledge base integrated chatbot)

Chatbot (SupWiz)			
1 Flow + automation / RPA	2 Knowledge base integration	3 Ticket Routing	4 Manual (Human)

Kunde

just the N drive

Robot

Try the following:

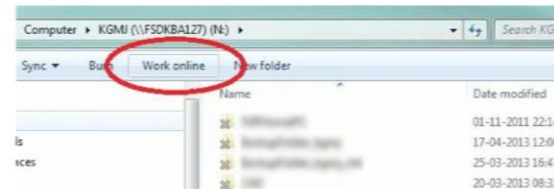
1. Click [Start]->[Computer] and double-click on the N drive
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3. The N-drive will now reconnect and files/folders should be available again
4. If the [Work online] button is missing or if the button states [Work Offline] click [Start] and in the "Search programs and files" box type "gpupdate.exe", hit <Enter> and restart computer after the polices update completes

Did that help?

Resolving N drive issue in Windows

To resolve the issue when already logged into Windows, follow these steps:

1. Navigate to your N-drive -> click [Start] -> [Computer]-> click on your "N:" drive
2. Click [Work Online] on the top menu bar
3. The N-drive will now reconnect and files/folders will be available again



4. If the button is missing or if the button says [Work Offline] -> try remapping the N-drive

1. To remap your N drive, click [Start]
2. In "Search programs and files" field copy and paste: [\\system02\Inst\Corp\Client\Tools\remapN\remapN.bat](#)
3. Press <Enter> on your keyboard and wait for the black box to disappear
4. Check to see if your N drive is now available
5. If the issue persists, please contact the Service Desk via email (servicedesk@novonordisk.com), phone (+45 444 26000) or by writing CHAT in your browser

Keywords

n drive homedir network drive unavailable inaccessible work offline online No data access ndrive n: cannot open can not mv document documents

Next Generation Support Services

- Predictive maintenance, CSI & Automation

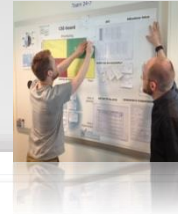


Focus areas

Clustering/trending of tickets to do faster problem identification

CSI integrated part of daily work, driven by service managers

Allocate time for technical SD people to be trained and do scripting of manual tasks



Tickets in Orbit

Tickets with many jumps

(Showing only the 1000 tickets with most jumps)

ID	# of jumps	Summary	Last modified date
ITNC000714368	46	Spies - application support sales, allocation and delivery creation	Nov. 5, 2016, 7:08 a.m.
ITNC000729929	37	New Ticket Andro Printer config	Oct. 26, 2016, 9:07 a.m.
ITNC000697751	36	Unlocking of Microsofts hotdesk.com booking.com etc.	Sept. 16, 2016, 12:53 p.m.
ITNC000746436	26	iDoc failure	Nov. 5, 2016, 7:08 p.m.
ITNC000737914	26	Can't open Chris App AFM 140116160220932	Nov. 5, 2016, 11:54 a.m.
ITNC0006937279	24	Bangladesh computers very slow after Windows 10 update	Nov. 1, 2016, 3:21 p.m.
ITNC0007403975	24	Bouncing mail	Nov. 9, 2016, 19:09 a.m.
ITNC000737568	23	Reactivation of Visa - Cannot remote to user	Oct. 9, 2016, 2:42 p.m.
ITNC0007189102	22	Outsured - Slow Internet	Oct. 31, 2016, 10:17 a.m.
ITNC0007423050	22	Dispute Managements in SAP (PS1) layout	Oct. 29, 2016, 8:52 a.m.
NNNC0002717607	21	Change of test	Sept. 26, 2016, 12:33 p.m.

Ticket id

Ticket text

blue screen

Search

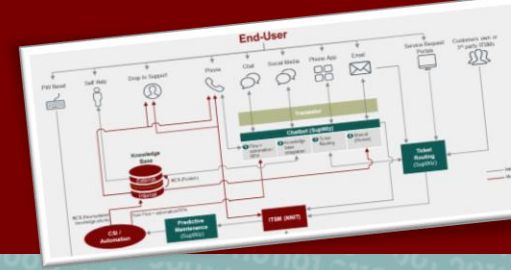
ID	Summary	Notes	Last modified date
	blue screen		

Results

ID	Summary	Notes	Last modified date
ITNC0006189909	Blue Screen Error	None	Feb. 2, 2016, 5:16 a.m.
ITNC0006335572	*TN Black screen	Black screen	March 4, 2016, 10 a.m.
ITNC0006573088	OK: Random blue screen	OK: Random blue screen	April 2, 2016, 8:22 a.m.
ITNC0006551142	Computer blank blue screen	None	May 14, 2016, 6:48 a.m.
ITNC0006796295	laptop, blue screen	None	June 15, 2016, 6:24 a.m.
ITNC0007143076	Blue Screen	None	Aug. 31, 2016, 6:07 a.m.
ITNC0007205044	laptop, blue screen	None	Sept. 11, 2016, 5:49 a.m.
ITNC0007302944	Blue screen error	None	Oct. 1, 2016, 5:47 a.m.
ITNC0007310007	Blue screen	None	Oct. 9, 2016, 10:42 a.m.
NNNC0002693717	Blue screen	None	Oct. 20, 2016, 3:25 a.m.

Next Generation support services

- Key learnings and statements



Learning #1

Focus on your business and make a strategy that might include AI / Machine Learning, not the other way around

Learning #2

Secure management support for the investment – results might not come right away

Learning #3

Make sure you have access to the right people internally / externally to support the implementation of the Digital Transformation



Statement #1

ITSM tools will increasingly become a container for information and you might need to accept lower ITSM data quality for improved efficiency & improved end user satisfaction

Statement #2

Next Generation Support Services do not only cover IT but also other business areas like HR, Quality, Procurement & your end customers within the same framework

Statement #3

AI / Machine Learning technologies are still in the early phases and mainstream adoption will come later than people expect – but it will come