
IT
OT/IOT
SECURING THINGS
FOR SMART & SAFER SOCIETY
Microsoft DCOM Vulnerability & Hardening Advisory (Risks, Mitigation & Preparation)
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MS DCOM Vulnerability & Hardening Advisory – Risk, Mitigation & Preparation

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MS DCOM Hardening Brief

DCOM Security Advisory Background and Timelines	14th May 2023 - DCOM Hardening Windows Updates Applied by Microsoft. Disabling it, is no longer an option.	"Distributed Component Object Model" (DCOM) a technology used by Windows Applications to enable inter-process communication over a network.	Impacts = Both IT & OT/ICS Production Systems! Caution = Ensure Updates/Upgrades are planned.

MS DCOM Hardening Patch – Risks & Impact Simplified

MS - DCOM Vulnerability	June 8, 2021 - Microsoft revealed Windows DCOM Server Security Feature Bypass vulnerability - https://msrc.microsoft.com/update-guide/vulnerability/CVE-2021-26414
MS – DCOM Patch (Fix)	Microsoft Fix called "DCOM Hardening" – Enforces DCOM Authentication on Server Side. Microsoft approach was a 3 phased roll-out. 14th March 2023 was final phase. Post 14th March 2023, disabling the hardening is no longer an option for an updated system. Doesn't impact local connections / MS Win XP systems / OPC UA.
MS DCOM Hardening Explained	Microsoft DCOM hardening patch = prevents unauthorized access to computers via DCOM protocols, which may potentially lead to malicious attacks or data breaches. Once installed, this patch limits communications between different devices and applications; and may potentially cause disruptions to production systems.
MS DCOM Usage	DCOM Remote Protocol is a protocol for exposing application objects using remote procedure calls (RPCs), used for comms b/w software components of network devices. Many Application software and automation instrument vendors have used DCOM to send / transfer data through the industrial network to HMIs, Historians, and the like.
Impact on OT/IT Systems	Elevation of Privileges exploit | At Risk Win 7, 2008 SP2 or above, Non-Win DCOM clients/servers | All network devices under same security authority maybe exposed | unauthorized privilege access to modify settings, files, non-sensitive resources. May result in loss of integrity / protection of network devices & users files & settings.
Recommendations	(a) Contact your IT/OT App Software vendor for a patch to mitigate any hardening disruption | (b) Upgrade from OPC-DA protocol to OPC-UA (UA don't use DCOM | (C) Install OPC Tunnellers (Converts protocol to more secure protocol to continue communications) | (d) use alternate controls like EDR Solution until upgrade/update.
Reference / Example Guidance for Businesses from SIs / OEM Vendors	• Siemens Guidance on MS DCOM Hardening • Siemens SIMATIC PCS7 Microsoft Update compatibility • Rockwell Automation Product Notification (login required) • AVEVA DataHub Tunneller for OPC & AVEVA Tech Alert • Yokogawa DCOM Hardening • Microsoft DCOM hardening patch insights • KB5004442—Manage changes for Windows DCOM Server Security Feature Bypass (CVE-2021-26414) • OPC Data Client Apps & DCOM Hardening (CVE-2021-26414, KB5004442) • DCOM Authentication Hardening: What you need to know • Microsoft Distributed Component Object Model (DCOM) Hardening Toolkit

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DCOM Hardening Playbook Recommendations

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Intended Audience = **IT Security and OT/ICS Security Team**

Use Automated tools or Manual means to discover DCOM on the network

Recommended Steps	Description of Activities
1 – Discovery & Inventory	• Identify list of (existing in production) applications using DCOM functionality both in IT & OT networks (e.g. OPC DA / Classic, and others) (also identify vendor and app version) • Identify app owner and deployment type (central or by plant/site)
2 – Remediation Preparation	• Identify Impact for each app using DCOM • Identify vendor support contracts, contact lists, • Identify Remediation Plan (i.e., Upgrade, Patch, protocol change etc.) & stakeholders (systems owner, vendor, implementor, tester etc.) • Plan downtime and prepare documentation.
3 – Test & Assess	• Review Event IDs (10036, 10037, 10038) for DCOM events • Test on systems with latest patch and supported OS based on remediation plan and assess outcomes.
4 – Implement Change (Install Patch / Upgrade / Change protocol)	• Prioritize and roll-out phased implementation of changes to targeted systems specific to your environment (use maintenance windows to implement).
5 – Verify & Complete Remediation	• Once implemented, verify the communications between network systems and complete the remediation tasks with any other application specific or OS specific patches to be applied.

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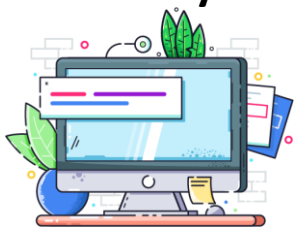
Securing Things Limited (STL) - Services Offerings (In Brief)

Services Focus = IT & OT Cybersecurity & Technology Services & Solutions (Certain services spans across all 3 services pillars)

vCISO / Awareness Trainings

IT Cybersecurity Services



OT/ICS Cybersecurity Services

vCISO & Awareness Training = IT & OT Cybersecurity Strategy/Program Development, awareness training, workshops, Partner On-Demand AppSec Training

GRC Advisory & Consulting = IT & OT Strategy/Policy development, Assessments/Discovery/Reviews/Audits/Gap Analysis for compliance e.g., IEC 62443, ISO 27001, PCI DSS, NIST CSF, CSC, other local/regional/global security standards & frameworks, STL OT Security Dozen and more) & Other customized services.

Threat & Vulnerability Management = Configuration Hardening Reviews, IT Vulnerability Scans (/OT passive discovery) and OSINT/Pen-testing (+via partners).

For Service Providers/Consulting Firms = Business Development (BDaaS) | Presales (PaaS) | Advisory/Consulting (ACaaS) Delivery - as a service model

Custom Project Needs = For Client/End user specific requirements & / combination of service offerings

IT Security Solutions = Select / Architect / Deploy / Review (Partner Solutions)

OT IDS/AD Solution = Select / Architect / Deploy / Review (Partner Solutions)

Delivery Model = Global / Remote (per time zone needs) – with occasional onsite visits/delivery where required.

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Thanks

It’s a great day to start …

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For IT & OT Operations..

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