

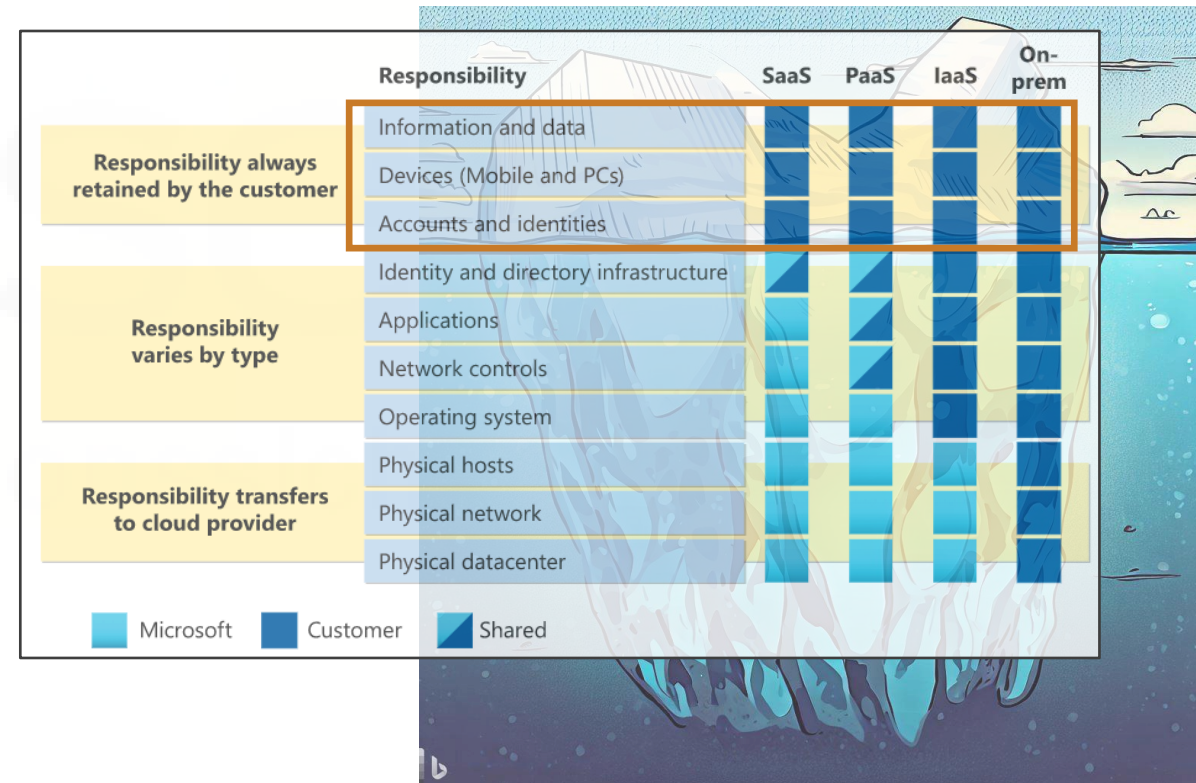
Microsoft 365 – Secure by default?

Basishärtung für Microsoft Entra ID / M365 Tenant

Bild: <https://www.bing.com/images/create/ein-microsoft-azure-logo-auf-einer-gr3bcnen-wiese-d/653a3e7614e04fdf9e393076f5cdd488?id=iU2jttwXwq1UQPZ41vLrIA%3d%3d&view=detailv2&idpp=genimg&FORM=GCRIDP&mode=overlay>

Cloud - Verantwortlichkeiten

- Auch mit Entra ID behalten Unternehmen die Verantwortung für Ihre Daten
- Sie müssen sich um Härtung und sichere Konfiguration kümmern
- Sie sind für Benutzerverwaltung, Awareness und den Umgang mit Zugangsdaten zuständig



Quelle: <https://docs.microsoft.com/de-de/azure/security/fundamentals/shared-responsibility>

M365 – Nicht sicher per Default

- Wer einen Microsoft Tenant betreibt, der muss nahezu alle Einstellungen anfassen, um einen **sicheren** Betrieb zu gewährleisten
- Es gibt einige Self-Assessment-Tools und gute Ressourcen, um sich dem Thema zu nähern – diese decken aber oft nicht alle Teilbereiche und Themen ab



Was muss ich tun für einen **sicheren** Tenant?

IT- & Informationssicherheit

Muss ich wirklich was tun?!

The image shows a screenshot of the Microsoft Entra ID 'Devices | Device settings' page. The page is annotated with yellow boxes and text explaining various settings. The settings are organized into sections: Default user role permissions, Guest user access, Administration portal, LinkedIn account connections, Show keep user signed in, User consent for applications, Group owner consent for apps accessing data, Microsoft Entra join and registration settings, Local administrator settings, and Other settings. The 'User consent for applications' section is highlighted with a blue box and contains a warning message: 'When user consent for applications is disabled, users may still be able to connect to manage LinkedIn account connects in User Settings.' The 'Microsoft Entra join and registration settings' section includes a warning: 'We recommend that you require Multifactor Authentication to register or join devices with Microsoft Entra using Conditional Access. Set this device setting to No if you require Multifactor Authentication using Conditional Access.' The 'Local administrator settings' section includes a warning: 'Enable Microsoft Entra Local Administrator Password Solution (LAPS)'. The 'Other settings' section includes a warning: 'Restrict users from recovering the BitLocker key(s) for their owned devices'.

Default user role permissions

- Learn more
- Users can register applications: Yes
- Restrict non-admin users from creating tenants: No
- Users can create security groups: No

Guest user access

- Learn more
- Guest user access restrictions: Guest users have the same access as members (most common)
- Guest users have limited access to properties and resources
- Guest user access is restricted to properties and resources

Administration portal

- Learn more
- Restrict access to Azure AD administration portal: Yes

LinkedIn account connections

- Learn more
- Allow users to connect their work or school account with LinkedIn: Yes, Selected group, No

Show keep user signed in

- Show keep user signed in: No

User consent for applications

Control when end users and group owners are allowed to grant consent to applications, and administrator review and approval. Allowing users to grant apps access to data helps them work more easily, but it can represent a risk in some situations if it's not monitored and controlled carefully.

Configure whether users are allowed to consent for applications to access your organization's data.

- Do not allow user consent
An administrator will be required for all apps.
- Allow user consent for apps from verified publishers, for selected permissions (Recommended)
- Allow user consent for apps from verified publishers, for all permissions
- Allow user consent for apps from verified publishers, for all permissions (All users can consent for permissions classified as "low impact", for apps from verified publishers)
- Allow user consent for apps from verified publishers, for all permissions (All users can consent for any app to access the organization's data.)

Group owner consent for apps accessing data

Configure whether group owners are allowed to consent for applications to access data for the groups they manage.

- Do not allow group owner consent
Group owners cannot allow applications to access data for the groups they manage.
- Allow group owner consent for selected group owners
Only selected group owners can allow applications to access data for the groups they manage.
- Allow group owner consent for all group owners
All group owners can allow applications to access data for the groups they manage.

Microsoft Entra join and registration settings

- Users may join devices to Microsoft Entra: All
- Users may register their devices with Microsoft Entra: All
- Require Multifactor Authentication to register or join devices with Microsoft Entra: No
- Maximum number of devices per user: 50

Local administrator settings

- Enable Microsoft Entra Local Administrator Password Solution (LAPS): No

Other settings

- Restrict users from recovering the BitLocker key(s) for their owned devices: No

Azure und M365 absichern – das tun? *)**)

Benutzer-Berechtigungen anpassen

- Tenant Erstellung durch Nutzer einschränken
- Subscription Ein- / Ausbringen verhindern
- LinkedIn-Verbindung unterbinden
- Portal-Zugriff einschränken
- Datenspeicherstandort festlegen

Gäste / B2B – Einstellungen anpassen

- Gäste erlaubt / verbieten / einschränken
- Einladung auf Domänen begrenzen
- B2B-Collaboration Defaults anpassen
- B2B-Trust-Settings anpassen
- Gästen das Verlassen des Tenant unterbinden

Gruppen-Konfiguration anpassen

- Security-Gruppen-Erstellung begrenzen
- M365-Gruppen-Erstellung einschränken
- Pre-/Suffix für M365-Gruppen vorgeben
- Dynamic Groups für: Gäste, bestimmte Geräte, Compliance, Usage Locations ... einrichten

Geräte-Konfiguration anpassen

- Benutzer dürfen registrieren
- Benutzer dürfen joinen
- Benutzer dürfen BitLocker-Keys auslesen
- Max. Anzahl Geräte pro Nutzer festlegen
- Registrierung ohne MFA unterbinden (+ CA)

Enterprise Applications / App Registrierungen anpassen

- Registrierung durch Nutzer einschränken
- Consent durch Nutzer konfigurieren
- ServicePrincipal Zuweisungen prüfen
- Externe Verwendung von Apps prüfen
- Rollenzuweisungen für die Apps prüfen
- User-Assignments für kritische Apps vorgeben
- Graph-Berechtigungen der Apps prüfen

Zugriff prüfen und anpassen

- Passwort-Einstellungen anpassen
- Passwort-Reset konfigurieren
- Multifaktorauthentifizierung vorgeben
- Admin-Passwort-Reset absichern
- CA-Regelwerk sicher gestalten
- Admin-Zugriffe absichern (FIDO2)
- Admin-Tier-Modell / Admin-Accounts umsetzen
- Break-Glass-User (FIDO2), Role-Assigned-Groups konfigurieren
- Umgang mit Unmanaged Devices in CA festlegen
- Umgang mit App Limitations über CA erzwingen
- MFA Strength für CA vorgeben
- Whatif für CA durchprobieren
- Trusted Locations definieren

Exchange, SharePoint, Teams, ... kontrollieren und anpassen

- PowerAutomate deaktivieren / kontrollieren
- Teams Apps aussperren
- Teams Recording, Steuerungübergabe, etc. deaktivieren, ...
- Gäste in Teams steuern
- Freigaben in SharePoint limitieren
- Sensitivity Labels / App Limitations konfigurieren
- EXO: Send-Domains, Anti-Spam, Anti-Phishing, Auto-Forward, Attachment-Filters konfigurieren

Logging

- Einrichtung Log-Sammlung
- Einrichtung automatisierter Alarme definieren
- Deception / „Canary“ User / E-Mail für Alarm hinterlegen

Aufräumen / „Hygiene“

- Management Groups für Subscriptions einrichten
- Nicht benutzte Gastaccounts entfernen
- Accounts ohne Manager auflösen
- Accounts ohne Usage Location auflösen
- Nicht benötigte App Registrations löschen
- Private registrierte Geräte löschen
- Geräte ohne Besitzer löschen
- Gruppen ohne Mitglieder und Besitzer löschen

* Die Auflistung erhebt keinen Anspruch auf Vollständigkeit

** Unterstrichene Punkte sind komplexe eigenständige Themengebiete

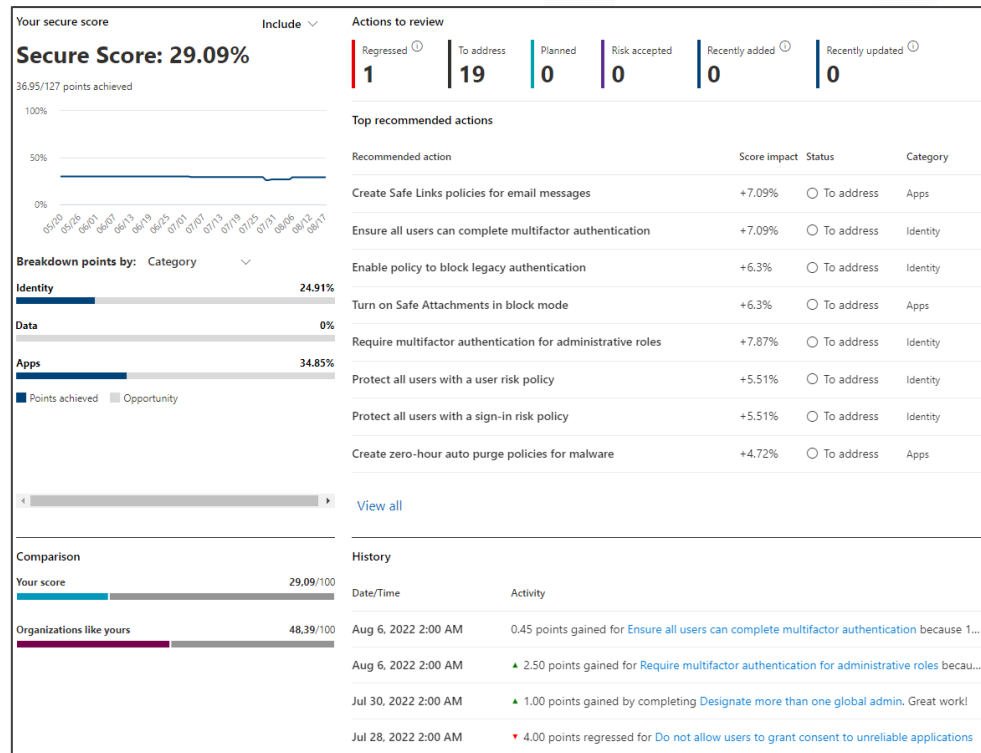
Ausgewählte Tools für Self-Assessments

IT- & Informationssicherheit

Microsoft 365 – Self-Assessments

„Build-in“ & Free

Microsoft Security Score



Fokussiert alle Bereiche im M365-Universum. Viele MS-Feature-Empfehlungen (Defender *).



Gewichtete Ergebnisse und „Workflow“ zum Tracking des Bearbeitungsstands.

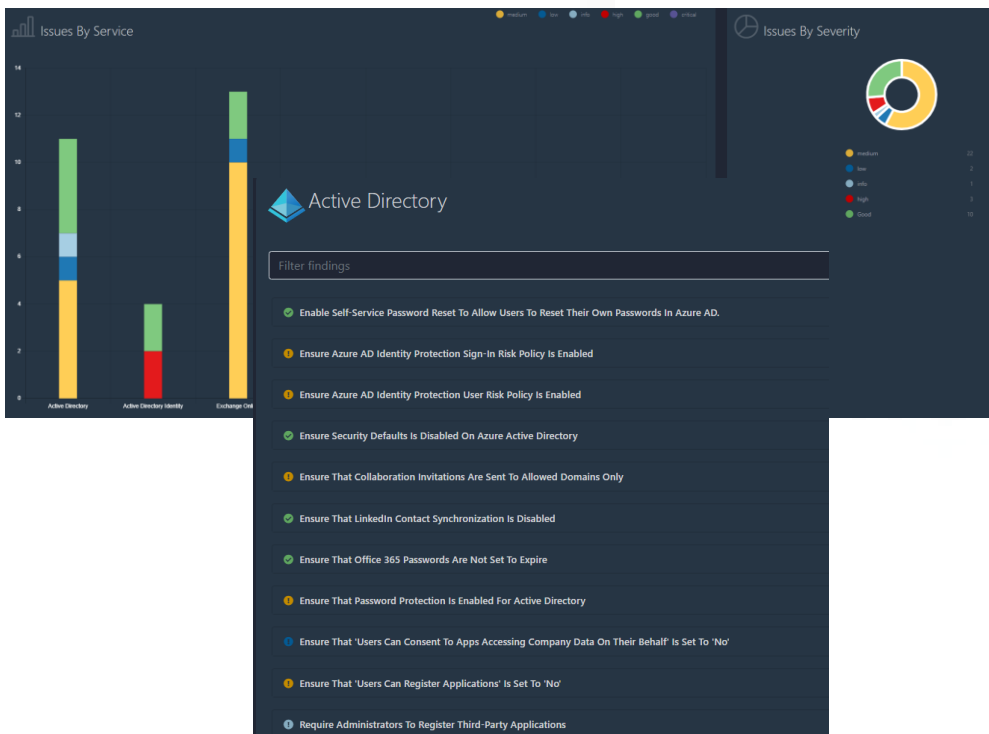


<https://security.microsoft.com/securescore>

Gute Grundlage, um die Empfehlungen von Microsoft durcharbeiten.

Microsoft 365 – Self-Assessments

Monkey 365



Fokus auf M365-SaaS-Dienste Exchange, Active Directory, Teams und co.



Ergebnisse mit Abschätzung der Kritikalität und ausführlichen Empfehlungen zur Behebung.



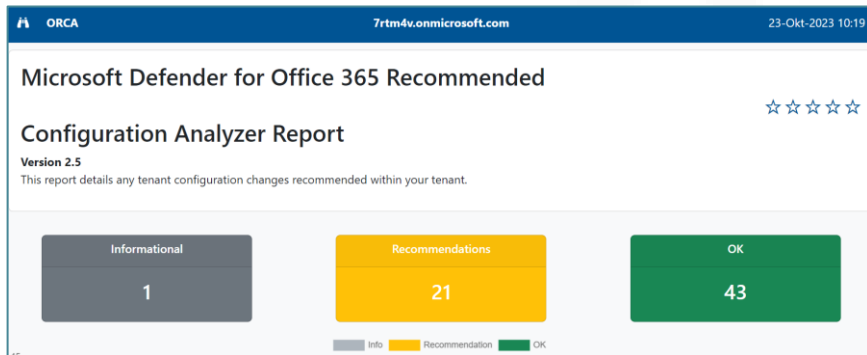
<https://github.com/silverhack/monkey365>

Liefert einige nützliche Empfehlungen zur Härtung einzelner Microsoft-365-Dienste.

Microsoft 365 – Self-Assessments

Einfaches Setup über PowerShell-Galerie

The Office 365 Recommended Configuration Analyzer – ORCA



```
10/23/2023 10:19:10 Getting Connectors
10/23/2023 10:19:10 Getting Outlook External Settings
10/23/2023 10:19:11 Getting MX Reports for all domains
10/23/2023 10:19:11 Determining applied policy states
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Domain Allowlist
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Spam Action
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Domain Allowlisting
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Allowed Senders
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - IP Allow Lists
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Safety Tips
10/23/2023 10:19:12 Skipping - Safety Tips - No longer part of Anti-Spam Policies
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Anti-Spam Policy Rules
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Phish Action
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - High Confidence Spam Action
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Bulk Action
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Mark Bulk as Spam
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - High Confidence Phish Action
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Quarantine retention period
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Outbound spam filter settings
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Advanced Spam Filter (ASF)
10/23/2023 10:19:12 Analysis - Anti-Spam Policies - Bulk Complaint Level
```



Fokus auf Exchange Online Security – mit vielen Details.



Ergebnisse in HTML-Form mit ausführlichen Empfehlungen und Gesamt-Score.



<https://www.powershellgallery.com/packages/ORCA/2.2/Content/ORCA.psm1>

Die wahrscheinlich detailliertesten Ergebnisse zur Nutzung der Sicherheitsfeatures rund um Defender in Exchange und co.

Microsoft 365 – Self-Assessments

365 Inspect

Findings Summary

ID	Finding Name	Inherent Risk
1	Azure PowerShell Service Principal Assignment Not Enforced	Critical
2	Azure PowerShell Service Principal Configuration Missing	Critical
3	Dangerous Attachment Extensions are Not Filtered	Critical
4	Dangerous Default Permissions	Critical
5	Do Not Byp	
6	Exchange M	
7	Exchange M	
8	No Transp Attachmen	
9	Safe Links c	
10	Third-Party	
11	Users with	
12	Users with Enforced	
13	Anti-Doma	Critical
14	Email Secu on Sender	
15	Microsoft T Policies	

1: Azure PowerShell Service Principal Assignment Not Enforced

Returned Value:

- No Service Principals Found

Finding:
Dangerous default configuration settings were found in the Tenant. By default, Azure tenants allow all users to access the Azure Active Directory and Microsoft Graph PowerShell Modules. This allows any authenticated user or guest the ability to abuse Dangerous Default Permissions, as well as enumerate the entire tenant.

Default Value:
None

Expected Value:
Assigned Users, Groups, or Directory Roles

Inherent Risk:
Critical

Remediation:
These permissions can be mitigated by creating and assigning Service Principals for the applications using the instructions in the linked blog post and setting the AppRoleAssignmentRequired attribute to \$true for each Service Principal.

References:

- [Azure AD Default Configuration Blunders](#)



Rundumblick auf Entra ID und typische Fehler in Exchange und co.



HTML-Bericht mit über 80 Prüfpunkten und Einschätzung der Kritikalität



<https://github.com/soteria-security/365Inspect>

Detaillierte Ergebnisse zur Nutzung der Sicherheitsfeatures für Defender, Exchange und co.

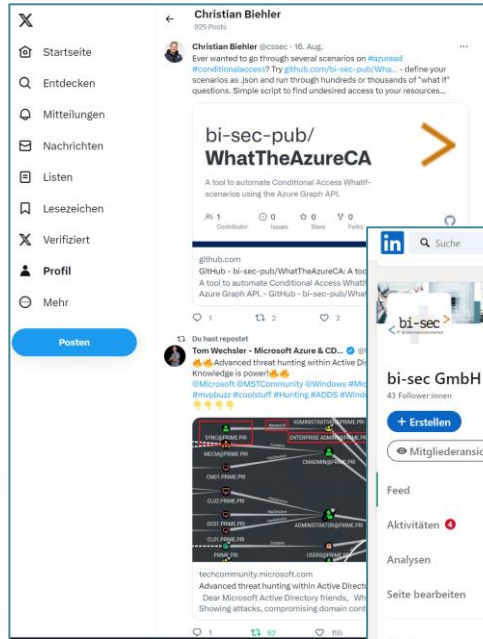


Mehr Infos und Links

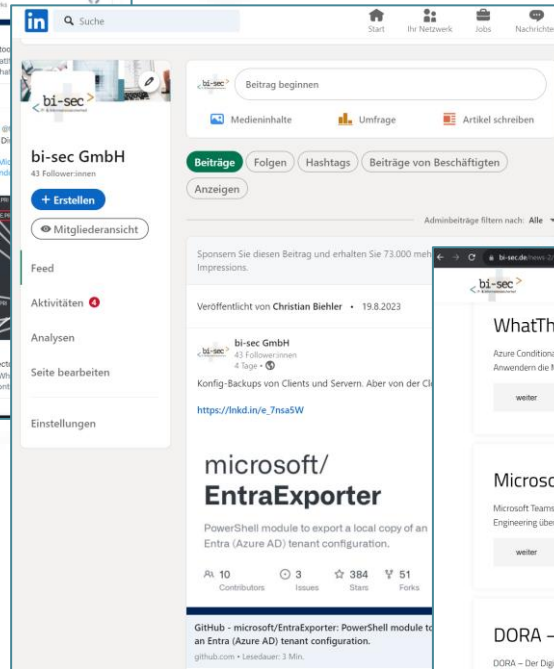
Tool- & Linkliste

- Azure-Red-Team – Sammlung von Tools und Commands:
 - <https://github.com/rootsecdev/Azure-Red-Team>
- TREVORspray – Info-Sammlung & Brutef-Force Tool:
 - <https://github.com/blacklanternsecurity/TREVORspray>
- ROADtools – Token-Spiel- und Angriffswerkzeug:
 - <https://github.com/dirkjanm/ROADtools>
- GraphRunner – Automatisiertes Recon- und Angriffswerkzeug:
 - <https://github.com/dafthack/GraphRunner>
- AADInternals – Must-Know Azure AD Toolkit:
 - <https://github.com/Gerenios/AADInternals>
- DCToolbox – Azure AD Audit und Angriffs-Toolkit mit super Conditional Access POC:
 - <https://github.com/DanielChronlund/DCToolbox>
- Scriptlets zur Sammlung einzelner Infos:
 - <https://github.com/bi-sec-pub/azure>
- WhatTheAzureCA – Automatisiertes Durchprobieren von WhatIf-Regeln:
 - <https://github.com/bi-sec-pub/WhatTheAzureCA>

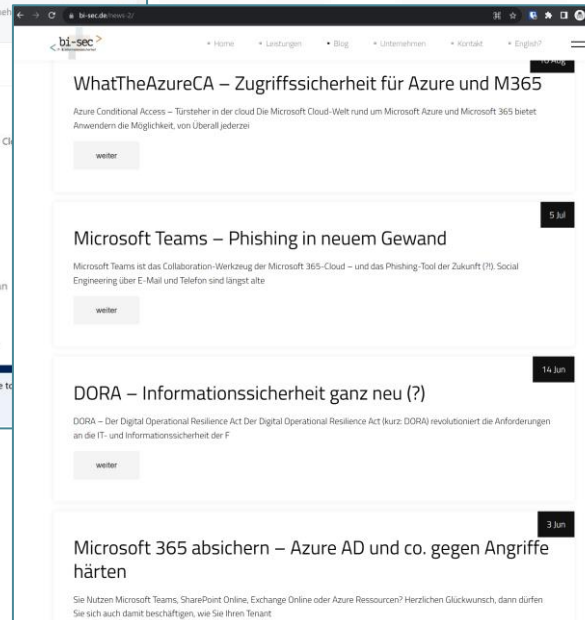
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