# Gold Finger

*Active Directory Token-size Calculator*

Datasheet

# Gold Finger

## Active Directory Token-size Calculator

At the foundation of cyber security of all organizations that operate on the Microsoft Windows Server platform lie their foundational Active Directory (AD) deployments.

In environments where domain accounts belong to a large number of groups, when the number of groups a user belongs to exceeds the number of security identifiers (SIDs) that can fit in a Windows access token, it results in token-bloat and prevents the user's logon.

Organizations that have a large number of groups can benefit from the ability to compute Kerberos token-sizes of all accounts to identify accounts that may be at risk of token-bloat.

Architected by former Microsoft Program Manager for Active Directory Security, and endorsed by Microsoft, the *Active Directory Token-size Calculator* from Paramount Defenses is the world's only professional-grade token-size calculator for Active Directory.

> *"We are very pleased to see Paramount Defenses, a valued Microsoft partner, offer an innovative security solution (in Gold Finger) that helps enhance security and compliance in Active Directory environments."*

- Charles Coates, Senior Product Manager
Identity and Security Business Group

**Microsoft**

# *Active Directory Token-size Calculator*

## Technical Overview

In Active Directory environments where domain user or computer accounts could belong to a large number (i.e. hundreds) of Active Directory security groups, there could be situations where the number of groups to which a domain account belongs exceeds the number of security identifiers (SIDs) that can fit in a Windows access token.

In such situations, during logon, when Windows attempts to create an access token for the user, because the number of SIDs exceeds the number that fit in a Windows access token, the system is unable to successfully create an access token for the user, and as a result the user is unable to logon, resulting in an issue generally known as token-bloat.

Organizations that have or use a large number of groups can benefit from computing the Kerberos token sizes of all accounts to identify accounts that may be at risk of token-bloat.

The accurate computation of Kerberos token-sizes is sophisticated because it requires accurately simulating the creation of a Windows access token for a domain user account, since a Windows access token is always specific to a domain, and differs in each domain.

The *Active Directory Kerberos Token-size Calculator* completely automates the accurate computation of domain specific Kerberos token-sizes for all domain user accounts. It can –

✓ Automatically calculate the Kerberos token-sizes of all domain user accounts

✓ Compute and display domain-specific token-sizes of all domain user accounts

✓ Identify and reveal the list of SIDs that show up in any domain account's access token

It thus enables organizations to easily identify all domain accounts that may be at a risk of token bloat, thus helping them identify all such accounts, enabling proactive mitigation.

# Active Directory Token-size Calculator

## Features

The *Active Directory Token-size Calculator* embodies numerous thoughtful features specially designed to help IT personnel easily compute Kerberos token-sizes, domain-wide –

1. Fully Automated Token-size Calculation – Automatically calculate the Kerberos token-sizes of all or specific domain user accounts in a specific OU or an entire domain

2. Domain-wide Computation – Calculate Kerberos token-sizes of all domain user accounts

3. Domain-specific Computation – Calculate domain-specific Kerberos token-sizes

4. Access Token Contents Insight – View the complete list of all SIDs in any user's token

5. Based on Microsoft Formula – All token-size calculations are based on Microsoft's formula



## Benefits

The *Active Directory Token-size Calculator* delivers numerous tangible benefits that have a real and measurable impact on the organization's foundational cyber security posture –

1. Identify Accounts at Risk of Token-bloat – Proactively identify all "*at-risk*" domain accounts

2. Prevent Token-bloat – Proactively enact mitigation measures to prevent token-bloat

3. Save Substantial Time – Leverage the power of automation to save substantial time

4. Gain Accurate Insights – Eliminate risk of inaccurate results from non-professional scripts

5. Enhance Security – Use ability to view SIDs in any user's token for security investigations

# Active Directory Token-size Calculator

## Audit/Reporting Capabilities

The *Active Directory Token-size Calculator* lets organizations accurately, easily and instantly generate domain-wide Kerberos token-size calculation reports, such as –

1.  Automatically compute the Kerberos token-sizes of all domain user accounts

2.  Verify whether or not specific domain user accounts may be at risk of token-bloat

3.  Identify all security groups and types that may be contributing to a user's token bloat

4.  View the list of all SIDs that show up in the access token of any domain user account

5.  See how a specific user's access token differs when he/she logs-on in different domains



## Audience

- ✓ IT Managers
- ✓ Domain and Network Admins
- ✓ Cyber Security Analysts
- ✓ IT and Cyber Security Auditors
- ✓ Internal Application Developers
- ✓ Pen Testers and Ethical Hackers

## Requirements

- ✓ Any computer running Windows
- ✓ Any domain-user credentials
- ✓ Network access to Active Directory
- ✓ No privileged access required
- ✓ No installation on DCs required
- ✓ No deployment of services/agents

# Gold Finger

*Gold Finger* is the world's most capable, valuable and trustworthy suite of access assessment tools for Microsoft Active Directory, and is the gold standard for Active Directory Assessment.



The *Gold Finger* Suite is architected by former Microsoft Program Manager for Active Directory Security, endorsed by Microsoft, trusted worldwide, and comprised of 8 specialized tools –

1.  Active Directory Security Auditor

2.  Active Directory Membership Auditor

3.  Active Directory ACL Analyzer

4.  Active Directory ACL Exporter

5.  Active Directory Permissions Analyzer

6.  The world's only accurate Active Directory Effective Permissions Calculator

7.  The world's only accurate Active Directory Effective Access Auditor

8.  The world's only accurate Active Directory Privileged Access Assessor

Today these tools deliver paramount cyber security insight to organizations worldwide.

Gold Finger's uniqueness is in its unrivaled ability to deliver accurate effective permissions and privileged access insight, which are paramount for Active Directory security and cyber security.

For more information, please visit – www.paramountdefenses.com/products/goldfinger

# About Paramount Defenses

Paramount Defenses is the world's only cyber security company that possesses the paramount capability to be able to accurately assess privileged access in Active Directory deployments.



Microsoft Active Directory Domain Services are the foundation of cyber security and the heart of privileged access at 85% of all business and government organizations worldwide.

Paramount Defenses was founded by and is led by former Microsoft Program Manager for Active Directory Security. The company's unique, innovative, patented technology governs the accurate assessment of all access, including privileged access, in IT environments worldwide.

Its unrivaled solutions can accomplish the remarkable feat of being able to automatically and accurately assess privileged access across entire Active Directory domains, at a button's touch.

From the United States of America to Australia, its global customer base spans six continents and includes numerous prominent business and government organizations across the world.

www.paramountdefenses.com