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A. Hour
IBM
E. Aoki
AOL LLC
T. Rang
Microsoft Corporation
June 19, 2006

RTC Provisioning Requirements
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Abstract

Real Time Communications (RTC) tools are becoming as prevalent and essential for users on the Internet as email. While RTC tools can, like email, be implemented directly by users in a point-to-point fashion, they are often provided for or on behalf of a community of users within an administrative domain. As the use of these tools

grows, users increasingly have the need to communicate with users not only within their own community but with those in other communities as well. In practice, each community is controlled by some authority, and so there is a need to provide for easier establishment of connectivity between communities, and the management of the inter-community link. This document contains an initial list of requirements for provisioning and managing connectivity between communities.

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1. Requirements notation

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [[RFC2119](#)].

2. Introduction

Real Time Communications (RTC) tools are becoming as prevalent and essential for users on the Internet as email. While RTC tools can, like email, be implemented directly by users in a point-to-point fashion, they are often provided for or on behalf of a community of users within an administrative domain. As the use of these tools grows, users increasingly have the need to communicate with users not only within their own community but with those in other communities as well. In practice, each community is controlled by some authority, and so there is a need to provide for easier establishment of connectivity between communities, and the management of the inter-community link. This document contains an initial list of requirements for provisioning and managing connectivity between communities.

The following terminology will be used in the document:

- o Single community - A server or a set of servers (e.g. an enterprise or a consumer domain) that provides service to a single community of users. Users connect to a server within the community in order to get RTC services from the community.
- o Clearing house - A service that facilitates interaction between multiple communities. The communities connect to the clearing house and this clearinghouse provides transitive connectivity to any of the other communities connected to and receiving service from the clearing house.
- o Provisioning - The ability to supply in whatever means or protocols a set of attributes that are required for smoother and safer establishment of connectivity between communities. The requirements that are provided in this document are targeted to enable two communities to connect to each other while knowing in advance what is the expectation of the other community regarding connectivity and other features that are part of the federation between the communities. In the clearing house model the intention is to enable each community that connects to the clearing house to know what services to accept from the clearing house.

The requirements in this document are divided into core requirements and requirements that are nice to have or can be implemented in the future.

The following categories of requirements are considered as out of scope requirements for this document (at least for this version):

- o The establishment of any out of band agreements agreement between the various communities that participate in the federation
- o Quality of Service (QoS) requirements
- o Billing requirements

3. Core Requirements

The requirements that are listed in this section are considered as core requirements and are intended to enable easier and safer connectivity between communities

CORE-REQ-001: It should be possible to push and pull provisioning data between communities

CORE-REQ-002: It should be possible to secure the pushing and pulling of provisioning data. Provisioning data should be provided only to the appropriate community and only on a need to know basis.

CORE-REQ-003: It should be possible to provide the FQDN of the edge proxies of the other community.

CORE-REQ-004: It should be possible to provide necessary details regarding firewall and NAT that will enable easier connection of other communities to the community

CORE-REQ-005: It should be possible to provide the details of the how to contact the other community's administrator(s). Phone number, email etc.

CORE-REQ-006: It should be possible to provide the details of the certificates that are expected by the other community. I.e. common name, certificate issuer and expiration.

CORE-REQ-007: It should be possible to provide the details of the certificates that are acceptable by the community. E.g. certificate authority.

CORE-REQ-008: It should be possible to provide the possible encryption methods that are expected by the community.

CORE-REQ-009: It should be possible to provide the possible compression methods that are expected by the community.

CORE-REQ-010: It should be possible to provide the maximum number of allowed concurrent connection that are acceptable by the community.

4. Additional Requirements

The requirements that are listed in this section are more "nice to have" requirements. Although the services can be established without them, these requirements can increase the quality and reduce the overhead of providing services between communities.

ADD-REQ-001: It should be possible to provide the list of services that are provided by the community. E.g. N- way chat, file transfer.

ADD-REQ-002: It should be possible to provide the characteristic for each service that is provided by the community. These characteristic should include additional info on each service provided

ADD-REQ-003: It should be possible to provide the expected policy regarding various parameters that may affect the service between the communities. These SHOULD include the following:

- o A flag if the community supports polling (fetches i.e. SUBSCRIBE with duration 0) for presence information
- o The time limits for periodic operations as re-subscriptions
- o The time period in which a user-ID that was removed from the community will not be reassigned to another user. This period can affect the maximum duration of subscription. for example a community may keep subscription open for half of the above period and reassert it every half of the period
- o The error codes that are to be expected for certain conditions

ADD-REQ-004: it should be possible to provide the intended usage profile. for example the expected number of subscriptions, message rate per second and more. These parameters should be the highest limit and provisioning requests that are below this limit should be expected to succeed, and could be performed automatically without user intervention.

ADD-REQ-005: It should be possible to provide updates regarding changes to provisioning parameters immediately as they are changed

ADD-REQ-006: A clearing house should be able to provide the list of communities that are enabled to connect to it

ADD-REQ-007: It should be possible for a community that connects the clearing house to provide whether it should be listed in the list of the communities that can connect to the clearing house

ADD-REQ-008: It should be possible for a community that connects the clearing house to provide a white or a black list of communities to the clearing house. if the community provides a white list then only the communities that are listed in the white list are allowed to connect to that community. if the community provides a black list then only the communities that are not listed in the black list are allowed to connect to that community. if neither a white or nor black list is provided then the community imposes no restrictions on connecting to it from the clearing house

5. Security Considerations

This document discusses requirements for provisioning between communities. Some of these requirements may have security implications when they are provided for. for example the ability to securely connect between communities and making sure that the other community is the community it claims to be. When these requirements will be addressed the security implications of them should be addressed also.

6. References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

Authors' Addresses

Avshalom Houri
IBM
Science Park Building 18/D
Rehovot,
Israel

Email: avshalom@il.ibm.com

Edwin Aoki
AOL LLC
360 W. Caribbean Drive
Sunnyvale, CA 94089
USA

Email: aoki@aol.net

Tim Rang
Microsoft Corporation
One Microsoft Way
Redmond, WA 98052
USA

Email: timrang@microsoft.com

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