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Sharma Venkata Satya Kanchinadham Subramanya

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INTELLIGENT REDUNDANT CALLING APPLICATION OVERLAYS FOR A UNIQUE DEVICE PROFILE FOR ENHANCED CALLING REDUNDANCY

AUTHORS:

Sharma Venkata Satya Kanchinadham Subramanya

ABSTRACT

Calling is a very important, critical, and basic service. Some users may employ a single client application to serve their critical calling needs. However, in the event of a software defect or a crash, such an application may not function properly, thus impacting the critical calling service. Commonly, there is no built-in backup application overlay that may be automatically invoked when an application fails, thus resulting in a loss of service. Techniques are presented herein that strengthen calling application reliability by introducing redundant application overlays using the same user, device, and network profile. Such techniques may catapult calling service provider reliability to best-in-class and may provide a significant competitive advantage. Additionally, edge application overlays may be further customized depending upon the surrounding environmental parameters. As one example, a home environment may employ application 1 on a personal computer (PC) edge form factor, a car environment may employ application 2 on a mobile form factor, etc.

DETAILED DESCRIPTION

As an initial matter, it will be helpful to confirm the meaning of two important terms that will be found in the narrative that follows. The first term is an online communication and collaboration platform, which for simplicity of exposition may be referred to herein as an online platform. Such a platform brings together capabilities such as video conferencing, online meetings, screen sharing, webinars, Web conferencing, and calling. The second term is a collaboration application. Such an application is an easy-to-use collaboration solution that keeps people connected anytime, anywhere and which brings together capabilities such as messaging, file sharing, video meetings, white boarding, calling, and other tools that may be used to streamline teamwork and produce faster results.

Calling is a very important, critical, and basic service. Some users may employ a single client application (such as, for example, a collaboration client) to serve their critical calling needs. However, in the event of a software defect or a crash, such an application may not function properly thus impacting the critical calling service. Commonly, there is no built-in backup application overlay that may be automatically invoked when an application fails, thus resulting in a loss of service.

Redundancy may be available for certain situations such as Session Border Controller (SBC) redundancy (through a Domain Name System (DNS) service (SRV) resource record), network redundancy (through survivable remote site telephony functionality), application switching between networks (through, for example, switching from a Wi-Fi network to a cellular network), an application providing limited functionality in the event of network profile unavailability, etc. However, application redundancy at the edge through the creation of multiple application overlays, leveraging a unique device and user profile in the network, is not widely implemented (e.g., sometimes a desire to keep costs at minimum levels may override such an approach) but could provide a further opportunity for innovation. This is one of the key reasons for a potential loss of reliability and reduced customer satisfaction.

Techniques are presented herein that address the type of challenge that was noted above. Those techniques will be described and illustrated in the below narrative. It is important to note that aspects of the presented techniques may be extended to, among other things, further enhance a user's experience and apply intelligence to application overlays depending upon various parameters (e.g., an environment, recent data learnings, network, and backend capabilities, etc.).

According to aspects of the techniques presented herein, a unique application profile encompasses a client application profile and may be applicable to different form factors such as, for example, a personal computer (PC), a mobile device, etc. Such a unique application profile may run multiple application overlays. Examples of such overlays may include a collaboration application overlay and an online platform calling application overlay. The application overlays may be network-resident, but a predefined application profile may also be locally-resident at the edge of a network.

An edge application installation may, according to aspects of the techniques presented herein, be bundled in such a way that the redundant calling application profiles are prepackaged and installed and thus made available for a user. The redundant overlays may include a primary overlay and a backup overlay. As one example, a collaboration application overlay may comprise a primary application overlay that users can employ. However, if due to any reason (such as, for example, a crash, an inability to call, no calling service, etc.) the collaboration application is not usable then the edge may automatically detect such an event and provide a user with the ability to run the backup application profile (such as, for example, an online platform calling application).

Under aspects of the techniques presented herein, an authentication mechanism may be common across the multiple calling application overlays. For example, a user may be able to log into an online platform calling application (with an authentication token either cached or made available through an equivalent alternative mechanism) so that no new login or authentication mechanism would be needed.

Under further aspects of the techniques presented herein, a user may employ the backup application overlay (for example, an online platform calling application) to consume and deliver a service (i.e., to make and receive calls). The underlying user profile and user identity (such as, for example, a telephone number) may be the same across the redundant calling application overlays.

Figure 1, below, illustrates elements of one exemplary arrangement that is possible according to aspects of the techniques presented herein and reflective of the above discussion.

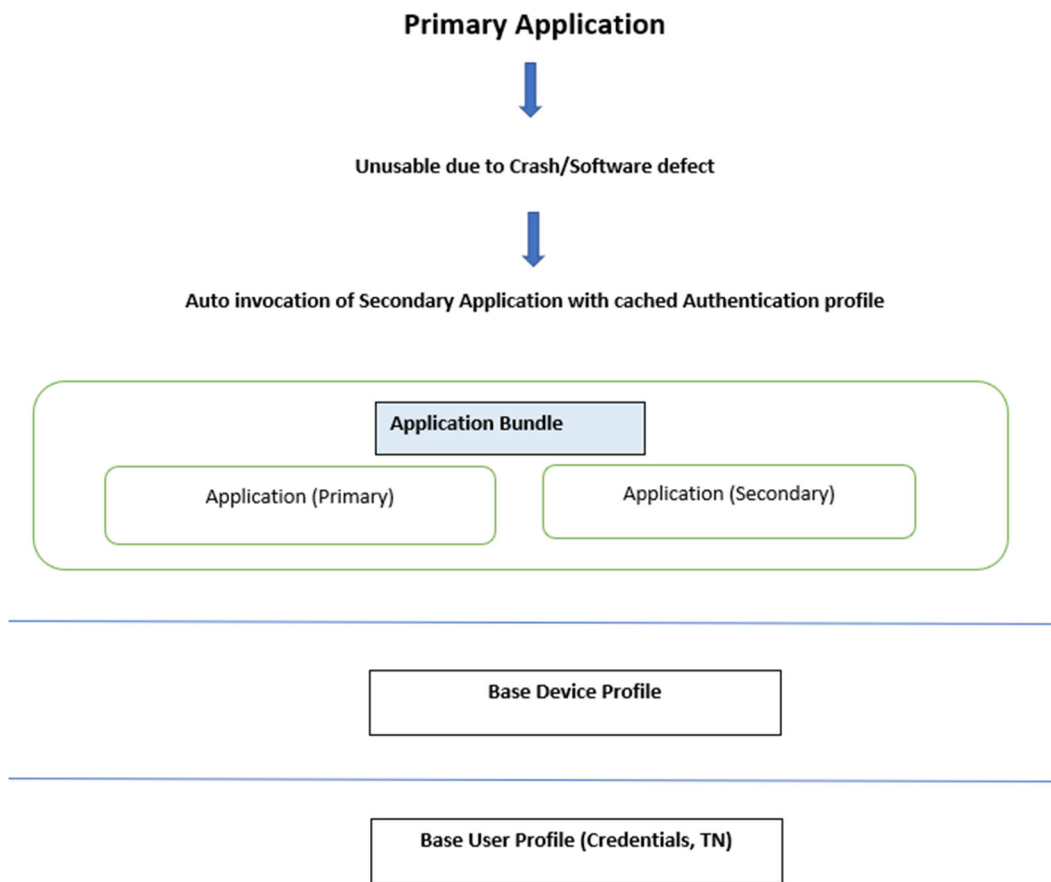


Figure 1: Exemplary Arrangement

Aspects of the techniques presented herein may be further explicated with reference to an illustrative example that considers a PC-based calling application. A backend may support two different applications for the user with the same user profile that is agnostic to the user. Under the example, the calling application, such as a collaboration application, may employ a `config-wxt.xml` configuration in the backend. The other application overlay (e.g., an online platform calling application) may employ a `config.xml` configuration in the backend. The basic user-related calling characteristics involving the telephone number, voicemail details, etc. may be common across the application overlays. At the same time, there is flexibility offered to customize certain features to the individual application overlays.

Figure 2, below, depicts elements of the illustrative example that was described above according to aspects of the techniques presented herein.



Figure 2: Illustrative Example

The techniques presented herein may be employed in any number of use cases. Such use cases encompass, among other things, calling customers, enterprise customers, hospitals, governmental agencies, critical business needs customers, and anyone for whom calling reliability is important.

In summary, techniques have been presented herein that strengthen calling application reliability by introducing redundant application overlays using the same user, device, and network profile. Such techniques may catapult calling service provider reliability to best-in-class and may become a significant competitive advantage. Additionally, edge application overlays may be further customized depending upon the surrounding environmental parameters. As one example, a home environment may employ application 1 on a PC edge form factor, a car environment may employ application 2 on a mobile form factor, etc.